

ANNUAL REPORT 2017

It's all about **the chemistry™**



What we stand for is

Passion

SONGWON's team of committed chemical professionals is dedicated to advancing the interests of customers and the industry.

Entrepreneurship

SONGWON is a global leader in chemical specialties that has retained the spirit of its early years: a lean, innovative and flexible organization that seeks and drives new opportunities and sets new trends.

Accessibility

SONGWON people act as extended teams for their clients: they are readily available and always within reach.

Credibility

SONGWON's past, people, products and processes bear the hallmark of reliability, trust and confidence in the future.

Expertise

SONGWON offers a specialty chemicals knowhow pool to facilitate and accelerate business and industry growth in a sustainable and environmentally responsible manner.

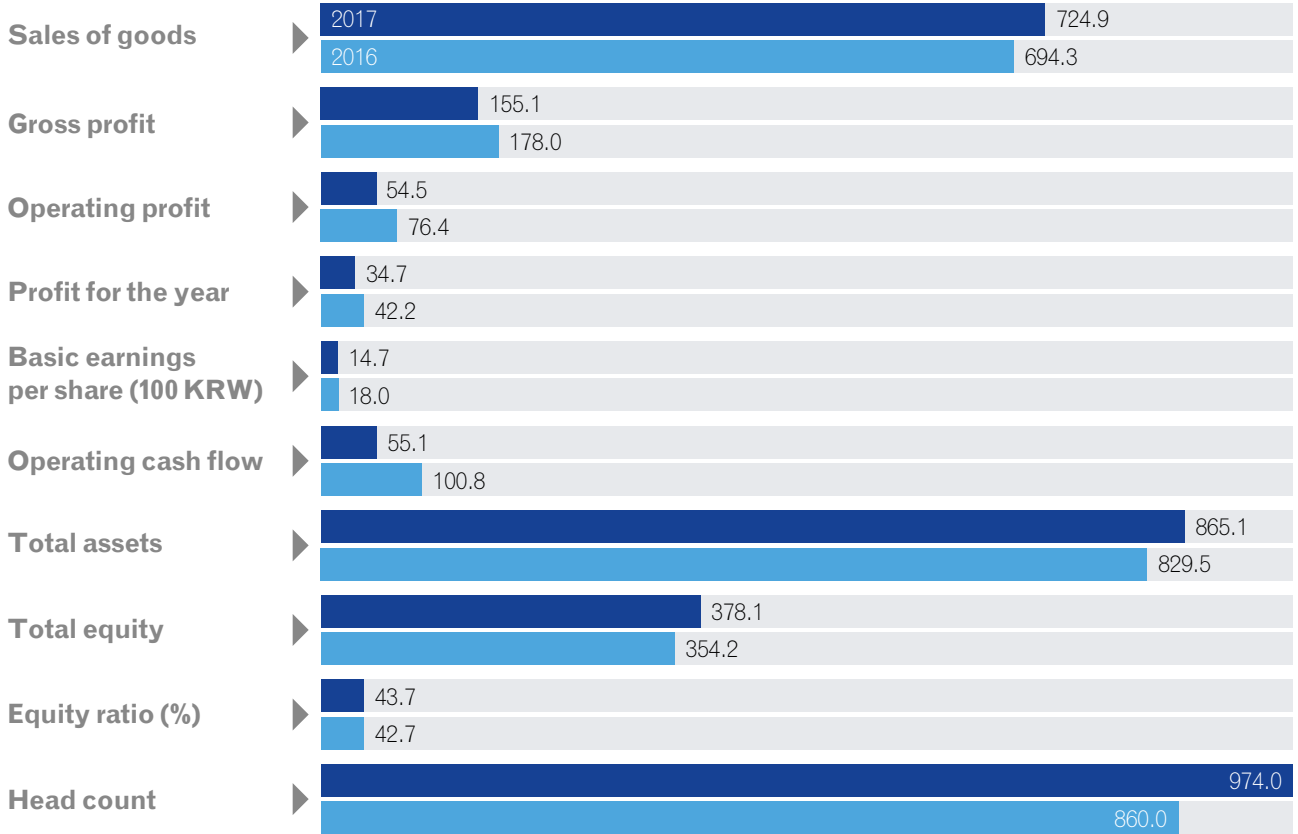
A photograph of an industrial facility, likely a factory or warehouse, with a warm, yellowish-orange lighting. In the foreground, several large white bags are stacked on a metal platform. Each bag has the number '2450' printed on it in black. In the background, there is a complex structure of metal beams, pipes, and machinery. A large white bag is suspended from a crane or hoist in the center. The overall scene conveys a sense of industrial scale and production.

value...

... to be the supplier of choice for all our product lines by delivering unique expertise, outstanding value, reliable service and innovation all over the world.

Key Financial Data 2017

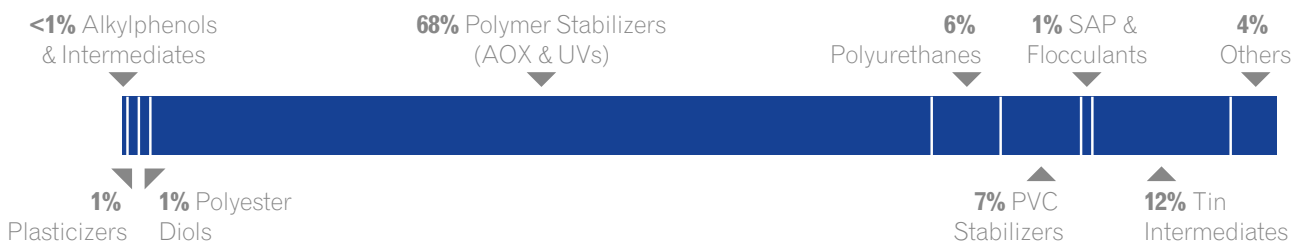
Billion KRW



SALES BY REGION IN 2017



SALES BY PRODUCT GROUP IN 2017



SONGWON Industrial Group

2017 overview

34.7

*Profit for the year
(Billion KRW)*

54.5

*Operating profit
(Billion KRW)*

29

*Female employees
Europe, Middle East
& India*

1

*SAP &
Flocculants sales (%)*

95

*Total female employees
worldwide*

68

*Polymer
Stabilizers sales
(AOX & UVs) (%)*

43.7

Equity ratio (%)

987

*Direct energy
consumption (×1000 GJ)*

27

*Sales by
South Korea (%)*

11

*Newly hired
nationalities*

1,475

*Basis earnings
per share (KRW)*

172

*Employees working
20+ years*

7

*PVC Stabilizers
sales (%)*

55.1

*Operating cash flow
(Billion KRW)*

19

*Sales by North &
South America (%)*

21

Sales by Europe (%)

9

Manufacturing plants

378

*Total equity
(Billion KRW)*

0.13

*Lost Day Rate
(LDR) (%)*

26

*Sales by
Rest of Asia (%)*

865.1

*Total assets
(Billion KRW)*

0.45

*Total recordable case
rate (TRCR) (%)*

12

*Tin Intermediates
sales (%)*

974

Total head count

February
SONGWON starts up
2nd production site in
Suwon (South Korea)

June
Songwon Industrial
Co., Ltd. becomes
publicly traded
company (South Korea)

March
Songwon
Japan K.K.
established in
Tokyo (Japan)

December
Songwon Brilliant
Chemicals Co.,
Ltd. established
in Shanghai
(China)

April
SONGWON
opens office in
Tokyo (Japan)

November
SONGWON
establishes first
R&D Center
in Ulsan with
approval from
the Ministry
of Science and
Technology
(South Korea)

April
Company
moves to new
SONGWON
Building in Seoul
(South Korea)

November
SONGWON opens
office in Seoul
(South Korea)

1968

1977

1987

2005

2001

1965

2000

1980

1986

1995

1973

December
SONGWON is
granted its Trader's
License by the
South Korean
Ministry of
Commerce and
Industry

May
SONGWON's
Ulsan plant
(South Korea)
comes on stream

July
ISO-9002
certification
awarded
to SONGWON

1965

1988

2002

December
Songwon Industrial
Co., Ltd. founded in
South Korea with
a Head Office and
plant in Busan

1979

December
Songwon Moolsan Co., Ltd.
(holding company)
is founded in Seoul
(South Korea)

March
SONGWON
moves Head
Office and plant
from Busan to
Ulsan (South Korea)

December
SONGWON
opens office in
Maeam
(South Korea)

June
Maeam (South Korea)
plant for main
Antioxidants comes
on stream

December
SONGWON's Ulsan
(South Korea) plant
receives ISO 14001
Environment
Management System
Certification



2007

February
ChemService Asia
Co., Ltd. established in
Seoul (South Korea)

April
Songwon China Ltd.
established in
Hong Kong
(China SAR)

April
Songwon
International-India
Pvt. Ltd. established
in Mumbai (India)

July
Songwon Trading
Shanghai Ltd.
established in
Shanghai (China)



2010

August
Songwon Baifu
Chemicals (Tangshan)
Co., Ltd. established
in Tangshan (China)

October
To start producing one
pack system (OPS)
products in Houston,
(USA), Songwon
Additive Technologies-
Americas, Inc. is
established

2012

Q1
SONGWON
makes green field
investment for OPS
plant in Abu Dhabi
(UAE)

August
SONGWON Industrial
Group acquires
Sequent Specialty
Chemicals, Ltd.
in Panoli (India)

2014

January
SONGWON opens
new OPS plant in
Abu Dhabi (UAE)

November
SONGWON OPS
plant in Qingdao
starts up in China



2016

2015

2017

2006



June
Songwon
International AG
established in
Frauenfeld near
Zurich (Switzerland)

August
Songwon
International –
Americas, Inc.
established in
Friendswood,
Texas (USA)

2009



June
IBL plant starts up in
Maeam (South Korea)

July
SONGWON's Maeam
(South Korea) plant awarded
ISO 14001 Environment
Management System
Certification

2011

January
Songwon Holdings AG
ex Mantenere Holding AG
acquired in Frauenfeld
(Switzerland)

August
New AO 1076 production
line starts up in the Maeam
(South Korea) plant

October
Songwon Chemicals
Co., Ltd. established in
Shanghai (China)

November
Songwon Additive
Technologies AG established
in Frauenfeld (Switzerland)

December
SONGWON acquires ATG
Additive Technology Greiz
GmbH in Greiz (Germany)

2013

Q1
Songwon Additive Technologies
– Middle East FZE established
in Dubai and Polysys Additive
Technologies – Middle East LLC in
Abu Dhabi (UAE)

2015

August
SONGWON
establishes
Qingdao Long
Fortune Songwon
Chemical Co.,
Ltd. JV in Qingdao
(China)

2017



March
SONGWON's
new Technology
Innovation Center
officially opened in
Maeam
(South Korea)

May
New world-
scale aminic
AOX plant for
lube applications
starts up
in Ulsan
(South Korea)



resilient...

... our ability to continue to deliver a strong performance.

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A blurred yellow train car is the central focus of the image, moving horizontally across the frame. The background shows a subway station with overhead lights and a tiled floor. The text 'For our Shareholders' is overlaid in a blue, sans-serif font.

For our
Shareholders



Maurizio Butti | Chief Executive Officer

Dear Shareholders,

2017 was another good year for SONGWON Industrial Group, proving that our reliable business model delivers very solid results. Although not at the same level as 2016, this year's outcomes were achieved in a far more challenging environment and demonstrate SONGWON's resilience and ability to continue to deliver a good performance for shareholders.

SONGWON generated consolidated revenues of 724.9 Billion KRW with a 4.4% increase year-over-year, and a consolidated net profit of 34.7 Billion KRW, compared to a net profit of 42.2 Billion KRW in 2016. The Group's operating profit reached 54.5 Billion KRW in comparison to 76.4 Billion KRW in 2016, while EBITDA performance was around 12.0% of sales compared to 16.4% of sales in 2016.

In addition to the continued general uncertainty of the global economic, financial and political situation throughout the year and across the globe, SONGWON's main challenges in 2017 were:

- pressure on sales prices at the beginning of the year, as contract renewals were taking place
- increasing raw material prices throughout the year, following the stable and low prices during 2016
- negative foreign exchange developments in general, particularly the Korean won strengthening against the USD

In response to the situation, SONGWON announced and implemented price increases. Although successful, the price increases were not sufficient to completely cover the negative cost developments which accelerated throughout the year. Therefore, towards the end of 2017, SONGWON announced another round of price increases, with the results only expected in 2018.

Despite the challenges, it has been a milestone year for SONGWON, particularly for further developing our strategic goal to become a major global specialty chemicals company, committed to innovation. In 2017, we opened our new Technical Innovation Center located in Maeam, South Korea which is fully dedicated to R&D and Applications. The building includes application labs for SONGWON's new businesses currently under development and are designed to boost our capability to innovate. Furthermore, we completed construction of our new pilot plant located at our Indian facility in Panoli. Now operational, the plant will be used to scale-up new processes and accelerate the introduction of new SONGWON products in line with our overall expansion strategy.

Polymer Stabilizers

The positive growth trend of SONGWON's Polymer Stabilizer business continued in 2017 in terms of volumes and revenues, consolidating our global number 2 position, despite the difficult raw material and currency situation. Here again, price increases have been implemented in 2017, but they have not been enough to cover the accelerating raw material prices. For this reason, we announced a further price increase in the fourth quarter of 2017 which is currently being implemented.

Throughout the year, we continued to focus on improved processes and the optimization of production costs, while selectively investing in the expansion of our manufacturing footprint. In 2017, we established a new production line for our latest niche antioxidant (SONGNOX® 5650) in our Panoli facility and focused on further expanding our activities in China, especially our OPS operations in Pingdu.

Tin Intermediates, PVC Stabilizers & Polymers (TPP)

We continued the repositioning of our TPU business towards the production and sale of more value-added solutions in 2017 by leveraging our long-established industry knowledge and manufacturing experience. In order to support this, we brought a new production line on stream in our Suwon plant in South Korea, which almost doubled our production capacity in the 4th quarter of the year. We also focused on pushing the expansion of the business beyond our traditional markets in South Korea.

In our Tin Intermediates business, we have concentrated our efforts on the ongoing improvement of our cost position. We have several initiatives dedicated to this purpose, some of which have already been successfully implemented while others are still in the process of being implemented. We expect these to deliver positive results in 2018. For PVC stabilizers, our efforts this year have been centered on introducing new high-performance products and geographically expanding our presence in Asia.

New Businesses

Our success is due to the development of the new businesses we identified for their potential, favorable competitive situation and the opportunities for us to leverage our strengths through our high quality products, technologies, customer base, well-known levels of service, as well as SONGWON's first-rate capabilities in R&D and process development. Our development journey only began in 2014. 2017 has already been a real milestone year and we have made outstanding progress in these new areas. With the help of R&D, process development, manufacturing and engineering, we have successfully established a manufacturing footprint and brought several new products to the market ahead of the targets we set for ourselves at the start. In light of this, we are expecting to see a significant contribution from these businesses in 2018.

SONGWON's strategy has always been to create profitable growth and establish a balanced business portfolio.



Fuel & Lubricant Antioxidants (F&LA)

Of all of SONGWON's new businesses, F&LA is the most advanced and in 2017, we achieved several important milestones. This year, we were able to introduce new products successfully and invested in the construction of two new world-scale plants, which both came on stream on schedule without any issues. The market's reaction to SONGWON as a supplier with a full range of key antioxidants has been very positive, and we have seen rapid growth in sales. With this trend continuing, we already expect to become one of the key players in this market in 2018.

Specialty Chemicals

We have continued our co-operation in the area of electronic chemicals with Heraeus—a global technology group headquartered in Germany, which has enabled us to develop and introduce several new and innovative products. Furthermore, we have also invested in a dedicated production line for electronic chemicals in our South Korean Maeam plant, which is a necessary step to being successful leader in a market with such stringent quality requirements.

We also expanded our production of electronic chemical products at our plant in Panoli, India. Our R&D has also been successful at developing new and interesting process technologies which may also lead to good results for other businesses. We expect the growth in this area to continue and even accelerate in the next few years.

In the area of coatings additives, we have spent 2017 expanding our product offering and customer base. These efforts are bringing us the expected results and although the business is still small, it is already showing interesting growth prospects especially for the coming year.

In 2017, we were successful in identifying a number of functional monomers of interest to us and we have already produced them in our pilot plant in Panoli. We are also currently investing in a new production line at our Ulsan site in South Korea, which will be dedicated to these new products.

Parallel to this, we have directed our attention to other new businesses and have subsequently identified interesting proprietary products, which we plan to further develop and bring to the market in the next couple of years.

Operational Excellence

Operational excellence has always been a key focus for us at SONGWON, and all of our efforts related to this have enabled us to maintain our leadership position in the industry. Competitiveness and best-in-class business processes are also prerequisites of being a global leader, together with the capability to swiftly adapt to the ever-changing market conditions and having the ability to respond to global challenges.

At SONGWON, we translate this into continuously improving, developing and implementing tools to achieve greater efficiencies, improve costs, efficiently manage stocks and increase our capacities. It is also evident to us that the chemical industry as a whole is in a phase of transformation (Industry 4.0). For this reason, we started to develop concepts for SONGWON to move in this direction, starting with plant automation in 2017. This will remain the focus of our operations for the next few years.

Sustainability

Sustainability is at the core of all of SONGWON's activities and greatly influences the way we do business. Our organization operates in sectors that can have a significant impact on the environment and therefore we recognize that SONGWON must assume even greater responsibility to make sure that we use our resources wisely. By consistently carrying out a detailed analysis on the environmental impact of our products, we strive for sustainable development.

Although, we already have best-in-class performances at SONGWON, which was again confirmed in 2017, we continue to strive for better EH&S results. Furthermore, as a responsible company, we want to ensure that we fulfill our obligations towards all of our stakeholders. The investments we have made this year have reflected our long-term commitment to sustainable growth. Even though we have already completed a major part of this effort, risk assessment and mitigation will continue to be one of SONGWON's key areas of focus in future.

In 2017, we have:

- integrated EH&S into all our processes & practices
 - proactively continued reviewing our plant risk profiles
 - further invested considerable resources to improve overall plant safety
-

At SONGWON, we understand that sustainability also means seeking to add value for all our stakeholders, by successfully balancing our economic success, environmental stewardship, social progress for the benefit of our stakeholders.

Once again in 2017, we focused on ensuring that our business conduct continues to be irreproachable and that all of our products and activities fully comply with international standards. In addition to this, by controlling and reducing energy and water consumption, as well as increasing the use of renewable raw materials whenever possible, we endeavor to reduce the environmental impact of our business.

Corporate Governance

Our commitment to creating sustainable long-term value for our shareholders requires us to continue to be recognized as a trusted and reliable business partner. And most importantly, that we also consistently maintain competitive and sustainable operations worldwide. We know that this is only achievable when strong and sound governance practices are in place and that we conduct our business with the highest level of integrity. Moreover, the establishment of an open dialogue with our shareholders through constant and direct engagement is also essential.

We believe that SONGWON'S new Corporate Governance structure which was implemented after being approved by the Annual General Meeting of Shareholders in 2016, and then fully experienced in 2017 provides us with the right foundation. Having a larger Board of Directors comprising internal and external, Executive and Non-Executive Directors, as well as the clear separation between the Board and Executive Committee responsibilities, has given us a much stronger corporate governance and the highest required levels of transparency, controls and accountability.

Our People & Organization

People have always been considered SONGWON's most important asset. In line with this, in 2017, we have continued to add the necessary key competencies to strengthen our business and activities—particularly for the new businesses which are still being developed. We also strengthened and introduced new processes to ensure that our people can deliver to their full potential, and that our key resources and high potentials are retained, rewarded and given the chance to develop further. In addition to this, we have placed extra emphasis on making sure that we have the right resources available to take over key positions in a very short time, should the need ever arise.



Looking ahead

Jongho Park,
Chairman of the Board

At SONGWON, we are committed to delivering profitable growth by continuing to play an important role in our existing markets. We are also aiming to establish an even more significant position in the new markets SONGWON has entered, and those we have plans to enter in the near future.

We are very pleased to see that the results of our drive to establish SONGWON's presence in new markets, businesses and applications are already starting to become visible. We anticipate that our most recent efforts will significantly contribute to growth in 2018, and the years thereafter.

By working hard and drawing on the great potential within our global organization, we also want to further build upon our reputation as a company known for its collaborative, long-lasting relationships with customers, best-in-class solutions and services, and talented team of experts who are dedicated to delivering their very best for all SONGWON's stakeholders.

Although this year, the overall economic situation has improved in general, the levels of unpredictability and volatility have increased. The global political scenario remains unstable and there are still ongoing conflicts which continue to affect various regions. With the chemical industry showing good signs of growth after struggling for several years, we are cautiously positive as we expect the growth to accelerate in the years to come. We also anticipate the demand in our key market to continue expanding and the fundamental megatrends (e.g. population growth, demand for end-use products in emerging markets and inter-material competition) will remain unaffected and will drive demand and growth going forward.

We believe that we are steadily laying a strong foundation for further profitable growth by continuing to leverage SONGWON's proprietary technologies, the quality, service and reliability we deliver, our robust and growing portfolio, as well as the expansion of our manufacturing footprint and our geographical presence. In doing so, we are also convinced that we can fortify SONGWON's position in the industry as a world-class, globally diversified specialty chemicals organization.

We are confident in SONGWON's ability to meet the needs of our multiple stakeholders through the consistent delivery of solid results. The fundamental pillars of SONGWON's business are steadfast and strong. Over the years, we have developed the flexibility and resilience that are needed to compete in today's demanding markets and create superior value for our shareholders in the process. All of this has been possible thanks to the relentless dedication of our employees, management and Board of Directors.

SONGWON is well-equipped to face the future and we are looking forward to making the next stage of our journey even more successful. On behalf of the Board, the Executive Committee and the entire SONGWON team worldwide, we thank you, our shareholders for your valuable trust, continued confidence and support.



Maurizio Butti
Chief Executive Officer



Jongho Park
Chairman of the Board



DOUG EXCELL



PHILIPPE SCHLÄPFER

Executive Committee



GIACOMO SASSELLI



MAURIZIO BUTTI



HANS-PETER WÜEST

Board of Directors



From left to right: HANS-PETER WÜEST, YUNG-KU HA, DIETER MORATH, JONGHO PARK, GERHARD SCHLOSSER, CHOONG-SIK KIM, MAURIZIO BUTTI

The SONGWON Industrial Group Executive Committee and Board of Directors

MAURIZIO BUTTI

Chief Executive Officer and Executive Board Member

In his role as CEO, Maurizio Butti leads the organization and oversees the implementation of all SONGWON's business and operating activities, including revenue and sales growth, expenses, cost and margin control to monthly, quarterly and annual financial goal management. Prior to SONGWON, he was EVP Polymer Stabilizers and a Chief Executive Council Member of Great Lakes Chemical Corporation. In the past, he has also held various marketing, business, strategic planning and corporate development management positions at Great Lakes, EniChem and SOL Industries.

HANS-PETER WÜEST

Chief Financial Officer and Executive Board Member

Hans-Peter Wüest is responsible for the areas of Finance, IT and HR at SONGWON. Before taking up his key financial role at SONGWON, Hans-Peter Wüest gained a wealth of international experience in a wide variety of financial positions in the manufacturing and service industries. He also held finance leadership positions with DHL/Deutsche Post and Great Lakes Chemicals before SONGWON.

PHILIPPE SCHLÄPFER

Leader Performance Chemicals

Philippe Schlöpfer brought over 20 years of experience as a key contributor to Ciba's Polymer Additives business with him to SONGWON. During his time with Ciba, he led their global antioxidant product portfolio for the polymer industry and also acquired 15 years of invaluable experience in the Asia Pacific region. His role as Leader Performance Chemicals at SONGWON covers both TPP and Specialty Chemicals.

GIACOMO SASSELLI

Leader Operations*

Prior to joining SONGWON, Giacomo Sasselli gained vast experience in a number of key technology positions with the EniChem Group and as Site Manager. Later, he headed the operations of Great Lakes Corporation's global network of polymer additive manufacturing facilities. A true industry veteran, Giacomo Sasselli ensures that SONGWON's operations are efficient, effective and in line with SONGWON's sustainability strategy.

DOUG EXCELL

Leader QA, Regulatory & Best Practices

Throughout his professional career before SONGWON, Doug Excell held a number of supply chain, business management, marketing, procurement and corporate development positions at Compass Minerals, Chemtura, Great Lakes Chemical and Amcol International. He combines vast industry experience with a strong record of achievements in business analysis and strategic planning.

JONGHO PARK

Chairman of the Board

Jongho Park has been a major player in SONGWON's global journey. By successfully steering international expansion, he has contributed greatly to transforming the company from a local South Korean manufacturer into the global specialty chemicals leader SONGWON is today. With a deep commitment to fulfilling SONGWON's vision, he advises and puts forward recommendations to the Board regarding organizational changes and new opportunities. Jongho Park's role in investor relations and fostering solid relationships with all stakeholders is paramount to securing an even brighter future for SONGWON.

CHOONG-SIK KIM

Executive Board Member

Choong-Sik Kim is responsible for ensuring that the organization remains fully compliant and in line with South Korean laws and regulations. He also ensures that all SONGWON Industrial Co., Ltd.'s operations are completely aligned and integrated with the organization's policies and strategies. By clearly communicating and explaining Group policies, strategies and critical decisions to SONGWON's Korean employees, Choong-Sik Kim is able to gain the full alignment of each functional group and achieve the appropriate implementation of the related processes.

DIETER MORATH

Non-Executive Board Member

Dieter Morath, the former Executive President Global Sales SONGWON Industrial Group, has shifted his focus to guiding the company's future development. This involves exploring and pursuing both organic and inorganic opportunities that support SONGWON's long-term strategy for growth.

YUNG-KU HA

Non-Executive Board Member

Bringing decades of economy and finance experience to the Board, Yung-Ku Ha has an advisory role and supports SONGWON's growth strategy by overseeing the financial drivers of the business and tracking progress against strategic objectives. Furthermore, he shares his know-how and significant expertise in financing, investor interaction and strategic planning with respect to the current economic outlook in Korea and global trends.

* In December, Byungsoo (BS) Boo (Manufacturing Leader) was appointed as the new Leader Operations starting January 2018

Share Price Development

Solid performance & strong market interest

On December 31, 2017, SONGWON ended the year with a market cap of 648bn KRW. This marks a 58% increase over the market cap level at the end of FY2016. When benchmarked against the Korea Composite Stock Price Index (KOSPI), this can be considered to be an exceptional performance by SONGWON, in light of the fact that the KOSPI only gained 22% in 2017.

Throughout 2017, SONGWON saw its stock price steadily rise with it reaching an all-time high for the year in December, where it peaked at KRW 28,900. The lowest stock price for the year was recorded in January 2017 where it stood at KRW 15,150. From this point onwards, SONGWON's share price moved strongly upwards throughout the first half of 2017, with growth in both earnings and sales. Also contributing to the positive trend was the fact that investors began viewing SONGWON favorably as a manufacturer that was benefitting from the expanding production capacity of its customers.

In Q3/2017, investors displayed concerns that the polymer industry would suffer an overall slowdown in the aftermath of Hurricane Harvey. This assumption, combined with the rise in raw material prices negatively affected SONGWON's share price which remained weak for a short period of time. However, the overall situation normalized much faster than the market expected and SONGWON's share price picked up again heading into the last months of the year.

“Going forward, we will focus on further improving SONGWON’s operational excellence and continuing to strengthen our development capability while expanding our well-balanced portfolio. At the same time, we will keep a close eye on growth and on delivering a solid industry-leading performance for our investors and our customers.”

In the final quarter of 2017, SONGWON's share price performed very strongly. Despite the global forex uncertainty and steady rise in raw material prices, the price increases announced by SONGWON, BASF and Addivant quickly restored investor confidence in the industry, and positively impacted SONGWON's share price which rose strongly.

SONGWON ended the year very positively with a stock price of 27,000 KRW on December 31, 2017. Looking ahead, the company anticipates an equally strong start to the year with investor confidence continuing and positive performance from its businesses.

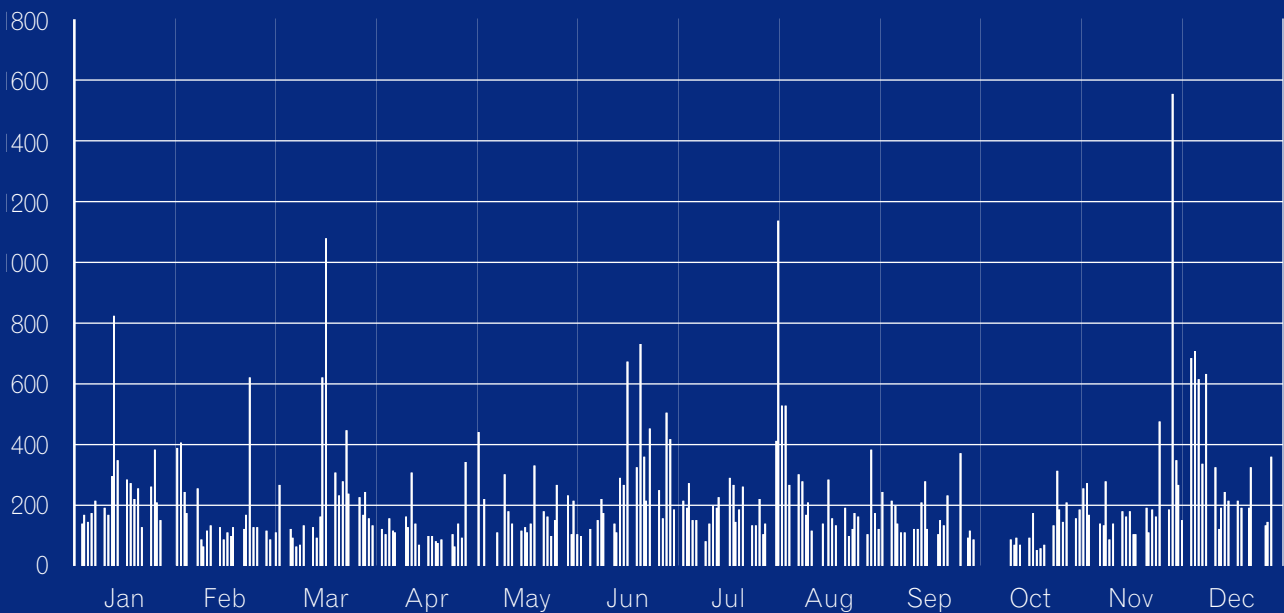
SONGWON share price 2017

(×1000 KRW)



SONGWON share volume 2017

(×1000 KRW)



Ticker:	KOSE: A004430	Share price (31.12.2017):	27,000 KRW
Stock exchange:	Korea	52-week low:	15,150 KRW
Listed since:	1977	52-week high:	28,900 KRW
Shares outstanding:	24 million	Free float:	64.45%
Market capitalization: (million KRW)	648,000	Dividend per share (2017): (28% of nominal share value)	140 KRW

pacesetting...

*... our power to set the pace
in the industry.*

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Business Report

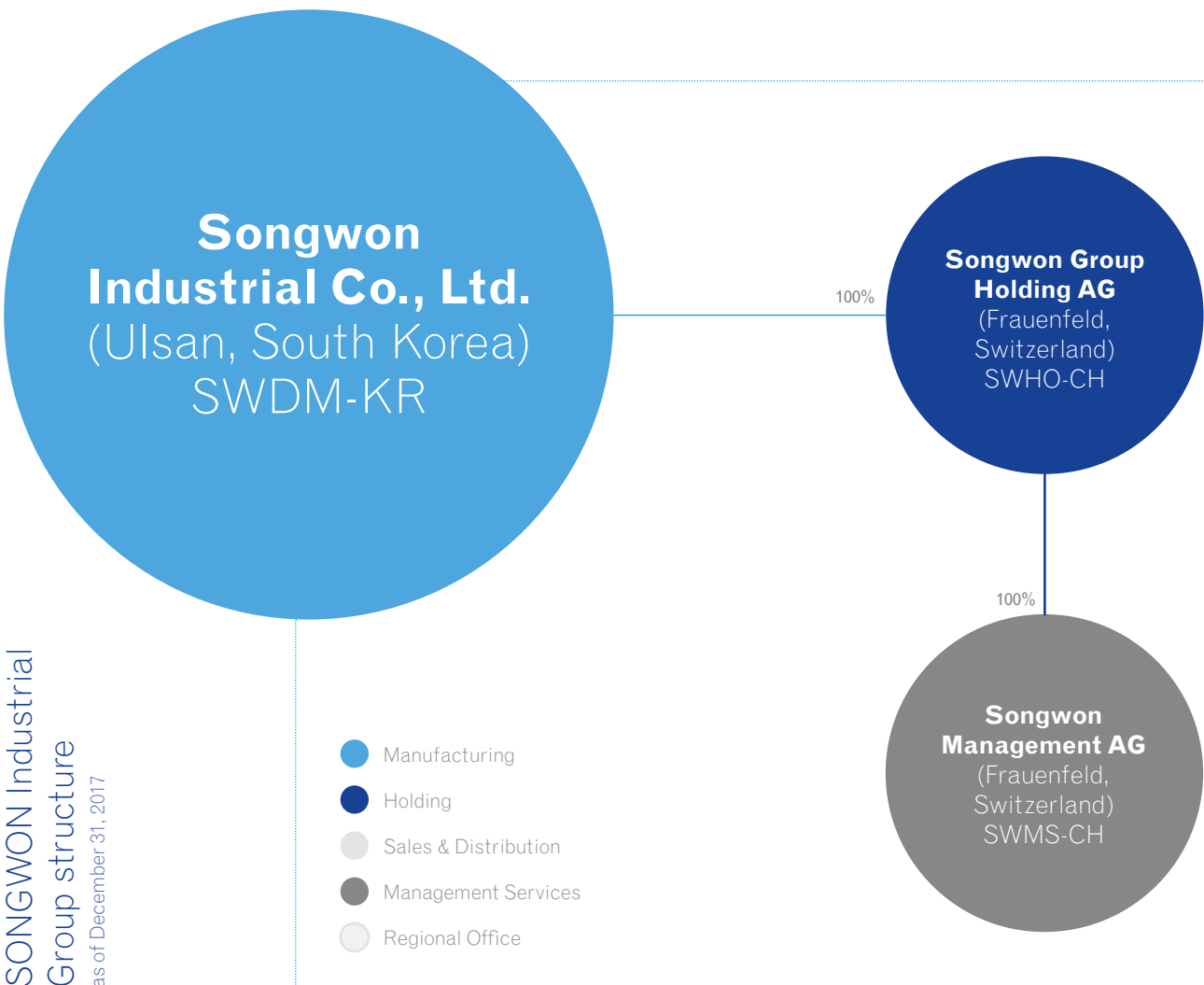
SONGWON Industrial Group

Global strength but local focus

SONGWON, founded in 1965 and headquartered in Ulsan, South Korea, is a leader in the development, production and supply of specialty chemicals.

The second largest manufacturer of polymer stabilizers worldwide, SONGWON has group companies operating all over the world, and offers the combined benefits of a global organization and readily accessible local companies. Dedicated experts work closely together with customers to develop tailor-made solutions that meet specific requirements.

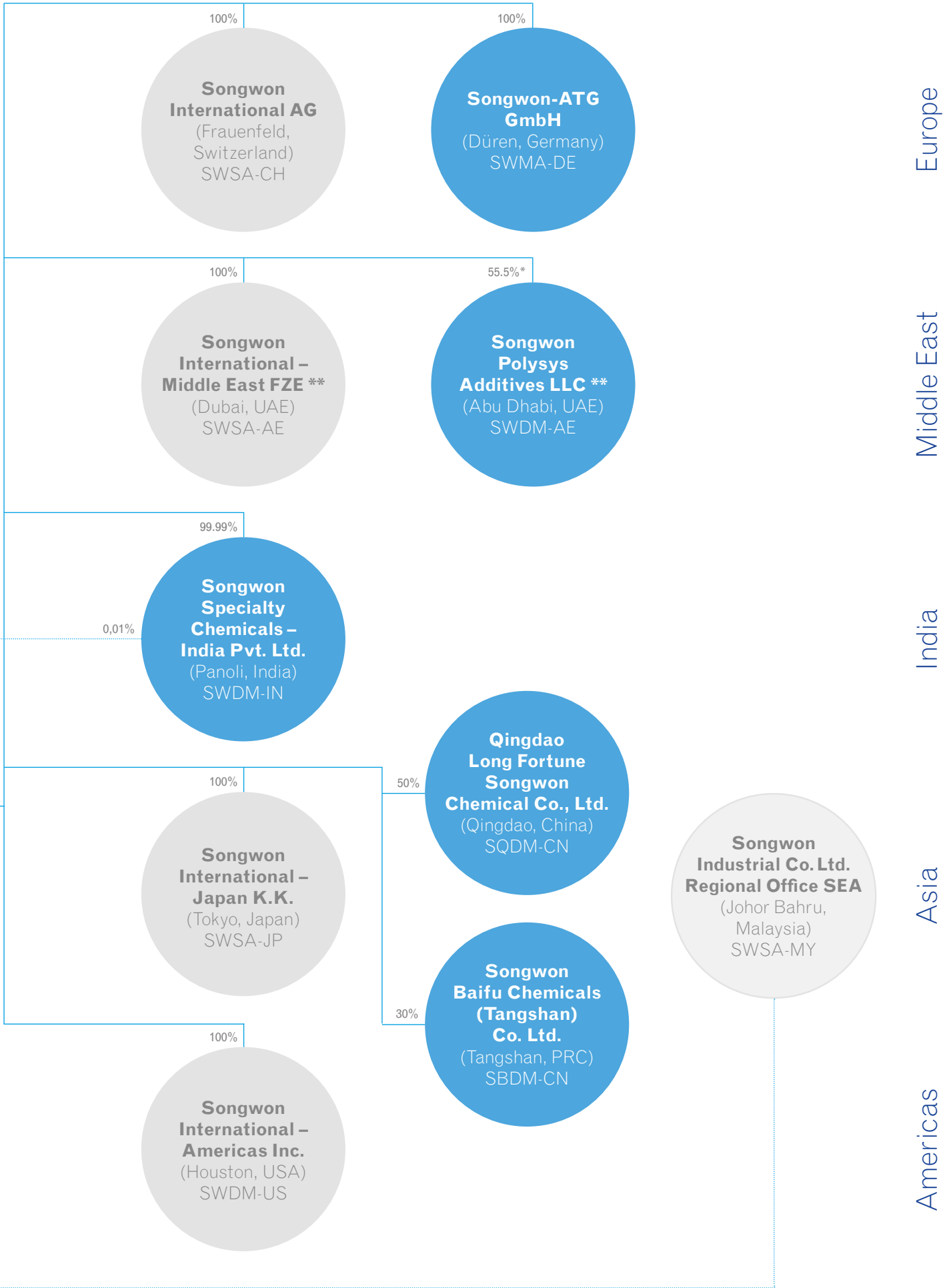
The ongoing efforts to strengthen the foundation of SONGWON Industrial Group's global position are paying off. SONGWON has proprietary technologies and excellent economics. With its combination of wholly or partly owned subsidiaries and joint ventures, SONGWON is well-balanced to continue expanding internationally. Joint ventures are facilitated by holding companies which enable the organizations to manage risk and also provide further market access and economies of scale.



SONGWON Industrial Group structure as of December 31, 2017

* 36.75% share holding plus 18.75% economical interest } in total 55.5%

** Name change in preparation





Global Locations

Headquarters & Affiliates
 Manufacturing
 Applications (GAC)
 Technical Service
 R&D

Headquarters & Affiliates
 Manufacturing
 Applications (GAC)
 Technical Service
 R&D

1	Germany, Greiz		●	●	●	
2	India, Mumbai				●	
3	India, Panoli	●	●			●
4	Japan, Tokyo	●			●	
5	PR China, Qingdao	●	●			
6	PR China, Tangshan		●			
7	South Korea, Maeam		●	●	●	●

8	South Korea, Suwon			●		●
9	South Korea, Ulsan		●	●		●
10	Switzerland, Frauenfeld		●			●
11	UAE, Abu Dhabi		●	●		
12	UAE, Dubai		●			●
13	USA, Houston		●	●		●



Global sales in **58** countries

Logistic hubs & warehouses in **40** countries worldwide

SONGWON Product Portfolio

Solutions that offer maximum value

SONGWON has been a successful leader in the industry for more than five decades and is well-known for providing customer-focused high value solutions that maximize long-term market advantage. Aiming to be a preferred supplier to our customers in over 58 countries, we use the full spectrum of our expertise and in-depth understanding of the industries we serve, to provide our wide base of customers with one of the broadest product portfolios on the market.

Serving multinational and regional market leaders, as well as leading global manufacturers of industrial and consumer products, we focus on meeting the demands of the industry by constantly seeking new materials and versatile solutions. By applying innovative thinking combined with leading-edge technologies to develop targeted high performance products, our ultimate aim is to maximize our customers' market success and help them to overcome the challenges they face in their application area.

SONGWON's products offer customers:

- improved mechanical performances, durability and recyclability
- extended life cycles and maintenance cost reductions
- innovatively designed, ecologically sound solutions
- solutions focused on environmental and energy efficiency

In recent years, we have directed our efforts towards building an even more balanced business portfolio. With our most recent innovations and technological advances, SONGWON is well-positioned to win an additional share of existing markets, and to continue successfully expanding into new markets where we have identified great growth potential. Going forward, we will continue to focus on optimizing our portfolio to maintain our solid leadership position in the industry and maximizing our customers' market success.

“We understand our customers’ technological demands, business challenges and the intricacies of their markets, and dedicate our efforts to identifying, developing and offering the best, most versatile materials to address their specific needs.”

Philippe Schläpfer, Leader Performance Chemicals

Offering one of the broadest portfolios in the industry, SONGWON's high performance solutions are used in industries such as:

adhesives

agriculture

automotive

building & construction

coatings

durable & consumer goods

electrical & electronics

lubricants

packaging

textiles & fibers

& ...



SONGWON Product Groups

Customer-oriented, high performance solutions

All the products in our extensive portfolio were developed with our customers' needs in mind. As a leader in specialty chemicals, our aim is to supply our customers with high performance leading-edge solutions that enable them to meet their most diverse and complex challenges, and deliver a competitive advantage.

SONGWON's products have been organized into 4 main groups to best meet the diverse needs of our customers:

1. **Polymer Stabilizers**
2. **Fuel & Lubricant Antioxidants**
3. **Tin Intermediates, PVC Stabilizers & Polymers**
4. **Specialty Chemicals**

1. Polymer Stabilizers

To prevent degradation when exposed to heat, cold and light, plastics need to be stabilized. SONGWON's stabilizers are specially developed to provide the best protection for polymers during processing and to extend the life of the plastic end products by making sure that they retain their physical properties.

SONGWON's comprehensive range of processing, heat and light stabilizers are available in a variety of blends and physical forms which facilitate handling and application use.

2. Fuel & Lubricant Antioxidants

The extensive SONGWON range of aminic, phenolic and phosphite antioxidants for fuels and lubricants mainly come in liquid form. SONGWON continues to develop even more high-performance solutions by collaborating closely with customers.

SONGWON's economy-of-scale production facilities in South Korea make it the largest producer of antioxidants in Asia which is, in fact currently the region that is showing the most promising growth in fuel and lubricant additives.

SONGWON ensures reliability of supply and adds value to the production chain with its backward integration of the key raw materials for phenolic antioxidants.

3. Tin Intermediates, PVC Stabilizers & Polymers

SONGWON has grouped together a number of businesses under TPP, which stands for Tin intermediates, PVC stabilizers and Polymers.

Tin intermediates are designed for the applications in the coatings industry such as automotive paints and glass coatings. They can also be used as catalysts in various plastics.

Developed for use in the PVC industry, PVC stabilizers and plasticizers provide protection during processing against the damage caused by heat e.g. in lubrication systems.

Polymers, such as polyester diols, "solution" (thermo-setting and/or thermoplastic) polyurethanes (PUs) and thermoplastic polyurethanes (TPUs) based on esterification technology are used in ink binders, adhesives, and other applications requiring solution PUs and TPUs.

With their quick, high water absorbance, Super Absorbent Polymers (SAP) exhibit excellent stability, regardless of heat and light.

4. Specialty Chemicals

The specialty chemicals area of development is for fast-moving industries such as electronics, as well as coatings additives and functional monomers for a wide variety of applications.

In order for them to be manufactured or to function, electrical and electronic devices require numerous different chemicals and SONGWON's broad offering meets these requirements.

SONGWON's comprehensive range of high-value, high-performance coating additives for numerous substrates protect coatings against the harmful effects of light and heat.

SONGWON offers a wide selection of functional monomers which provides standard polymers with additional, enhanced performance features. When they are incorporated in polymerization process, they significantly improve processing performance.



In 2017, **SONGWON** extended the joint development agreement with **SABO*** to increase market penetration, enhance the profitability of light stabilizers and facilitate the development of next generation solutions. Since our cooperation began in 2012, we have successfully developed and introduced new light stabilizers for the automotive industry such as **SABO®STAB UV 228 50PP** light stabilizer and **SABO®STAB UV 229 50PP** light stabilizer.

* Sabo S.p.A. (www.sabo.com), a world leader in the development and manufacturing of hindered amine light stabilizers (HALS)

Market, Risks & Opportunities

The global landscape

Operating as a global player, SONGWON is continually exposed to many risk-related forces e.g. political, climatic, economic and market which are inherently connected to our business. The characteristic unpredictability of these forces, and the fact that most are completely beyond the control of our organization, makes them particularly dangerous. However, as much as these risks are always present in all of our business activities, they also carry the potential for being turned into opportunities. By understanding and predicting them as best we can, enables us to manage the subsequent effects of such forces and turn them into our advantage.

Economic volatility and political instability can have a direct or indirect affect on companies. For example, a recession or lack of growth can be reasons which can directly affect an organization, while failing to see challenges emerging on the horizon and taking the necessary steps to prepare well ahead can be the cause of a detrimental indirect affect. However, while it is important to work on minimizing any negative impacts and seizing short-term opportunities when they arise, a business cannot be managed successfully by only reacting to the uncertainties, instability or volatility that surround it. In order to secure the long lasting-success of a business, it is also vital to continue to keep in mind both the medium and long-term success factors, and to carry on working in this direction.

At SONGWON, the direction we want to follow is very clear, and we strive to develop the capabilities, products, skills, competitive advantages and market understanding to make the most of any of the opportunities which emerge from the risks. We understand that in order for us to achieve growth and meet and/or exceed our investors' expectations, we must remain vigilant and look beyond what everyone else in the industry is doing, and focus instead on what our business can offer that our competitors cannot.

The Global GDP growth was around 3.4% in 2017 which, after many years, indicates a recovery from the recurring, cyclical, global crises of 2008-2009 and 2011-2012. According to the World Bank, "a broad-based cyclical global recovery is underway, aided by a rebound in investment and trade, against the backdrop of benign financing conditions, generally accommodative policies, improved confidence, and the dissipating impact of the earlier commodity price collapse".

Over the next couple of years, due to synchronized expansion across developed and emerging markets, global growth is expected to be sustained and even accelerate. Looking towards 2018, a global GDP growth as high as 4% is expected for the year. Although on the upside, near-term growth could still surprise, the global outlook is nevertheless expected to be subjected to substantial downside risks, including the possibility of financial stress, rising levels of protectionism, and increasing geopolitical tensions. The longer-term risks and challenges associated with subdued productivity and potential growth are particularly worrying. Using cyclical policies to support the accumulative demand is becoming less of a priority as the output gaps are closing, or are already closed in many countries. For this reason, the focus should now turn towards the structural policies required to boost potential growth and general living standards.

USA

Supported by strengthening private investment, growth picked up in 2017 to an estimated 2.3% in the USA. This recovery was a reflection of rising profits and a weakening dollar combined with robust external demand. In September, the disruption caused by Hurricane Harvey was only minor. Despite modest real income gains and moderate wage growth, private consumption continued to flourish at a robust pace, as personal savings rates fell further. Although inflation was running below target, with the economy moving closer to full employment, the U.S. Federal Reserve continued to raise interest rates in 2017 and normalize its monetary policy.

The new U.S. administration generated a lot of concern relating to the potential protectionist policies it might implement, but much of its approach and plans to address some serious foreign policy issues, were not realized in 2017. Apart from the recently legislated corporate and personal income tax cuts, there were no major steps undertaken in 2017. Due to the fact that the economy is already operating at near full capacity and the pace of monetary policy normalization might accelerate slightly, the benefits of fiscal stimulus will most likely be constrained. The U.S. administration's other policy initiatives, including those in the areas of healthcare and infrastructure, have made limited headway in 2017, and the outcome of the North American Free Trade Agreement (NAFTA) renegotiations remains uncertain.

In 2018, excluding any major additional policy changes, U.S. growth is expected to reach 2.5% above previous expectations, but moderate to an average of 2.1% in the year 2019-20. Over the long term, the most significant drag on U.S. growth continues to remain low labor participation and weak productivity trends.

Europe

Tensions continued to grow across Europe in 2017, particularly with regard to immigration policies, the EU community's role, the emergence of strong populist and nationalistic sentiments in several countries and the unpredictability surrounding Brexit. Despite these tensions, growth in the euro area gained substantial momentum and reached an estimated 2.4%—a 0.7 percentage point higher than was previously expected—with broad-based improvements across member countries. This growth was based on policy stimulus and the strengthening global demand with both domestic demand and import growth remaining robust throughout the year.

The unemployment rate dropped to its lowest level since 2009, and in some countries labor shortages became increasingly common place despite wage growth remaining subdued. The appreciation of the euro during 2017 is likely to result in further delaying a pickup in inflation in 2018, due to its downward pressure on import prices. In 2018, interest rates are also likely to remain unchanged, with inflation still sitting below target. The positive momentum is expected to continue in 2018 and beyond, albeit at a slower, more restrained pace, with domestic demand losing some of its impetus as a result of strong gains in 2017, and the gradual unwinding of policy stimulus. GDP growth is expected to be 2.1% in 2018, which is down from the previous year but notably stronger than it was previously projected to be. Looking at the longer term, with the shrinking of the working-age population in most of European economies and persistence of the productivity and competitiveness gaps among peripheral euro area members, growth prospects are expected to remain constrained.

Middle East

In 2017, growth in this region slowed considerably to 1.8%—a 0.3 percentage point below previous projections. The low oil prices, OPEC oil production

cuts and the increased geopolitical tensions throughout the region, led to growth deterioration. However, as reforms across the region gain momentum, and fiscal adjustments ease, the forecast for regional growth is set to pick up over the medium term amid a projected rise in oil prices. The current external conditions and improved competitiveness are expected to further support growth. The key risks to the region's outlook are tilted towards the downside and include the continued geopolitical conflicts and oil price weakness.

Asia

The outlook in Asia is as varied as its many different components.

Japan

Domestic demand was firm in 2017, with growth picking up to an estimated 1.7%. This was supported by a gradual recovery in consumer spending and investments, and as a result of Japan's implementation of a fiscal stimulus package. During the year, the general strengthening of global demand led to the acceleration of exports. Amid growing labor shortages and an unemployment rate sitting at a 22-year low, the Japanese labor market conditions continued to tighten. Growth is expected to slow to 1.3% in 2018, when fiscal stimulus is withdrawn and export growth moderates. A growth of 0.8% is forecasted for 2019, with the long-term growth prospects continuing to be affected by the aging population and a shrinking labor force.

East Asia and Pacific

Regional growth edged up a 0.2% point from previous forecasts to an estimated 6.4% in 2017, which reflects an improving external environment. Regardless of this cyclical upturn, and as a structural slowdown in China offsets a modest pickup in the rest of the region, growth is projected to moderate to 6.2% in 2018, and to an average of 6.1% in 2019-20. With near-term growth in advanced-economy trading partners possibly stronger than expected, risks to the forecast have become more balanced. However, the downside risks still prevail and include sudden tightening of global financing conditions, increasing geopolitical pressures, rising global protectionism, and a steeper-than-anticipated slowdown in China or other major economies.

South Asia

At an estimated 6.5%—below forecasts, growth slowed down but remained strong in 2017. This was mainly due to the temporary disruptions associated with the largest tax reform in India's history, when the new Goods and Services Tax adjustments were implemented in June. In 2018, regional growth is expected to rise to 6.9% and remain stable around 7.2%, on average in 2019-20, with consumption remaining strong, exports recovering, and a revival of investment as a result of ongoing policy reforms and improvements to the infrastructure. Included among the main downside risks to the outlook is a setback in reform implementation to improve corporate and financial sector balance sheets, fiscal slippages, an abrupt increase in volatility on the global financial market, and disruptions caused by natural disasters. However, near term stronger-than-expected global growth could result in positive spillovers to the region's more open economies and thus to the attainment of years of double-digit expansion.

The chemical industry in 2017

After many years of lagging behind, 2017 was a good year for the chemical industry worldwide. Its growth which surpassed that of the Global GDP was fueled by the overall increase in demand and the rising price of oil, which subsequently also led to a general increase in chemical prices.

The growth in 2017 was spread across different economies. European chemical players closed the margin gap to U.S. peers as a result of the focus on specialties enjoying higher margins. Nevertheless, the prime volume and price driver is the sustained economic growth in the U.S. and across Asia, particularly in China.

The global chemical industry in future

From a medium-term perspective, the chemical industry is still looking positive and is being sustained by the global growth in demand while currently experiencing a series of structural changes:

- A massive consolidation effort is being made within the entire chemical industry, which has generated competition concerns worldwide and regulatory investigation. Aimed at reducing costs, increasing efficiencies and competitiveness, mega mergers have been announced and are currently underway. At the same time, there is a shift towards a refocus on key functions and a splitting off of underperforming peripheral segments which is leading to an increased specialization, with the intention of simplifying and optimizing portfolios. Both of these directions taken are aimed at creating a more profitable, manageable and focused industry. Whether streamlined chemical businesses might encounter difficulty generating growth through innovation in new areas or technology remains to be seen. Growth could be limited especially in very consolidated markets by being too homogeneous or overly focused.
- With or without the political support, sustainability, efforts directed at curbing the emissions of CO₂ and other harmful pollutants is becoming a major focus for the industry globally. In China, the government is continuing to enforce closures and sanctions on companies that do not adhere to and respect air and water pollution regulations. This policy has seen thousands closed or affected, and the Chinese chemical industry will emerge from this situation dramatically changed. On the one hand, there will be a significant reduction in the overall number of chemical companies in China, and on the other hand, those who survive will be stronger, face less unfair competition and be close and ready to contribute in the international markets. The European commission is continuing to push a set of new limits for the CO₂ emissions. In the U.S., individual major companies are autonomously implementing new measures to curtail emissions despite the decision by the U.S. to withdraw from the Paris Climate Accord.

As a result of these structural alterations, the global chemical industry will emerge changed and possibly stronger, more cost competitive and focused on environment and sustainability. In turn, this is also likely to create a positive shift in public perception on the role of the industry in the years to come.



The need for strategic choices

The global chemical industry is, and always will continually be impacted by a very wide spectrum of diverse issues and events – from geopolitical risks and economic volatility to fluctuating customer demands and stricter regional policies. This together with the current unstable landscape and results of the past few years are an indication of the new global hyper competitive environment that lies ahead for the chemical industry. One in which companies are forced to strive for profitable growth in markets with often significant deficiencies and ones that offer little or no support.

Ensuring that the best strategic choices are made will be critical to the future of every organization operating in the industry. Additionally, they will be the key to creating advantage and maintaining market position in the near future. The next few years will be crucial for many of the industry's established players, towards determining their share of the market. To emerge as an industry leader, each chemical company must set its priorities and focus its actions, but most importantly these organizations will also need to concentrate on identifying and developing new approaches to how they operate and innovate.

Profiting from the positives & minimizing the negatives

Although there are positive expectations for the chemical industry's near future, and it is performing better than in previous years, it is still not an area of high growth and unexpected events, as well as uncertainty and volatility in the global economy should not be underestimated or disregarded. SONGWON is continually taking actions to improve performance and reduce risks. The organization is particularly focusing on its areas of strength and on the development of a more balanced and extended business portfolio. SONGWON is also seeking to enter newly identified business segments, which are showing healthy, long-term demand growth forecasts within the chemical industry.

SONGWON's response to the somewhat difficult to predict and volatile economic situation is to work on ensuring it has the essential basics in place such as clear strategic targets with a focus on high growth areas and continually improving both overall competitiveness and its product offering. By doing so, we are confident that we can reduce the impact of any negatives which may arise, while ensuring that SONGWON can profit from the "positives" and capitalize on the opportunities.

SONGWON focuses on:



Extending our product portfolio

Although we already offer one of the broadest, most comprehensive and cost-effective product portfolios on the market, we continually seek to expand our offering by developing high quality, high performance solutions for new markets and applications.



Meeting our customers' current & future needs

We listen closely to what our customers need. By doing so, we can consistently provide them with new products and solutions for high-end applications that improve processing efficiencies and offer them a return on their investment.



Remaining competitive & reliably supplying

We successfully retain our competitive edge by creating economic advantages through proprietary technology, economies of scale and backward integration.



Providing best-in-class & comprehensive customer support

Our customers are well taken care of. We cover all service areas, from customer service to logistics and from technical service to regulatory support, while also placing great importance on regulatory issues and using regulatory development to drive our innovation efforts.



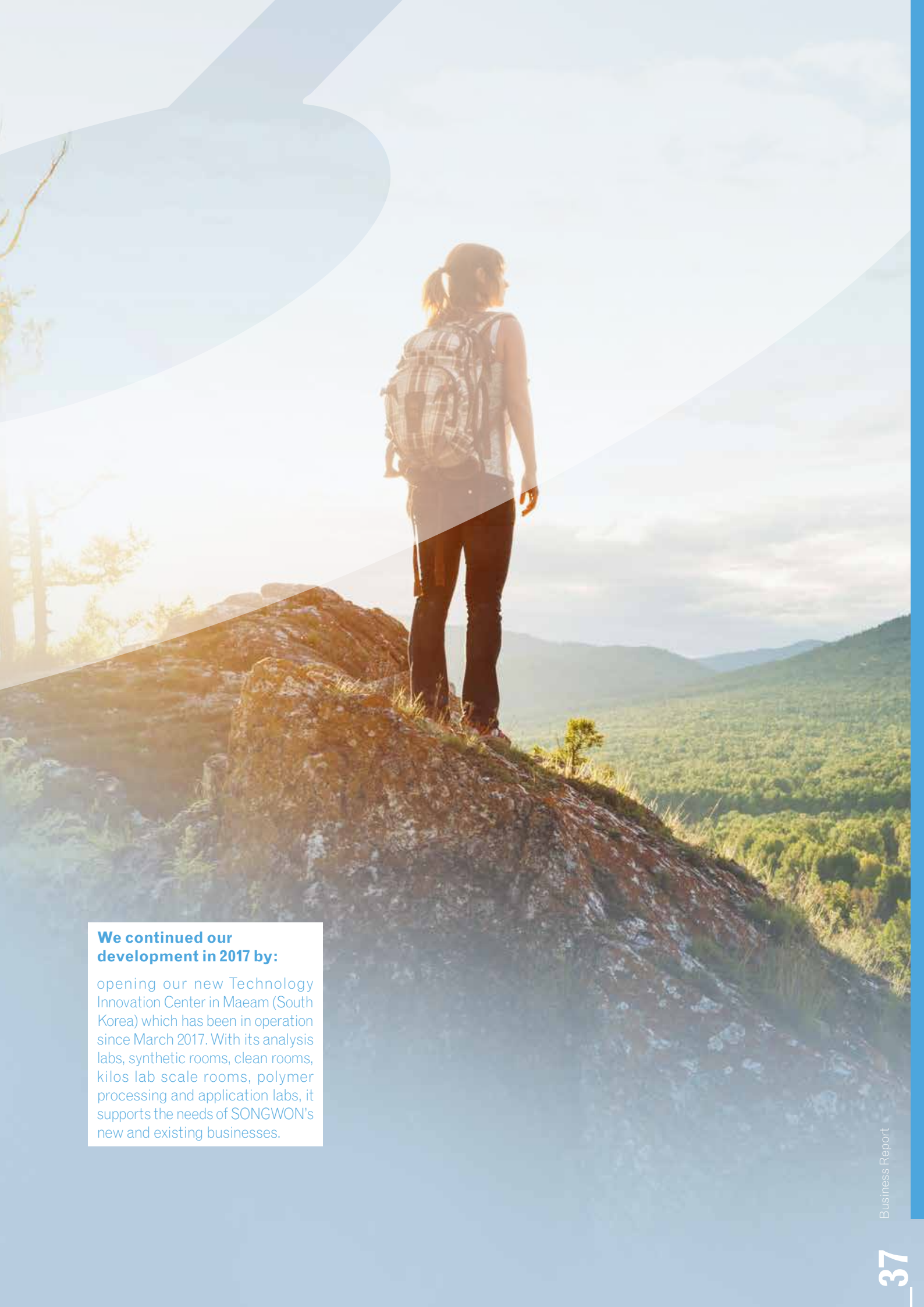
Offering global coverage with local operations

Being a global player with manufacturing facilities in all key areas across the globe, enables us to operate locally. It also allows us to minimize the level of risks to our organization like economic downturns or negative currency developments in specific areas, while enabling us to take advantage of any existing growth opportunities at the same time.



Expanding our team of international professionals

The core of SONGWON's success lies in the hands of a strong talented team of committed, ambitious and loyal people. We are dedicated to creating the best working conditions for our entire global team and ensure that they know that they are considered to be true assets to SONGWON's ongoing success. Continually strengthening our organization with new key talents and improving, our already outstanding EH&S performance each year is also very important to us.



We continued our development in 2017 by:

opening our new Technology Innovation Center in Maeam (South Korea) which has been in operation since March 2017. With its analysis labs, synthetic rooms, clean rooms, kilos lab scale rooms, polymer processing and application labs, it supports the needs of SONGWON's new and existing businesses.

2017 HIGHLIGHTS

INNOVATION

New Technology Innovation Center opened at the Maeam site, South Korea

COMPLIANCE

3 new substances registered under REACH
23 new substances registered under K-REACH

HR

148 new people representing 25 different nationalities joined the global team

PRODUCTION

New world-scale aminic AOX plant for lube applications (Ulsan, South Korea)

New pilot plant strengthens specialty chemicals development capability (Panoli, India)

R&D

5 new innovations introduced to the market

CSR

Awarded gold recognition level for CSR by EcoVadis for the 2nd year in a row

PARTNERSHIP

SONGWON & SABO extend partnership & joint development agreement

EH&S

New site safety videos produced for Ulsan, Maeam & Suwon plants

Sales Strategy

Customer-focused & solutions-oriented

Since the very start, combining our high-quality solutions and services with our customer-oriented approach has been a pivotal aspect to SONGWON's leadership position and growth in the industry. We know that nurturing solid, long-lasting relationships with our customers based on transparency, respect and trust, and providing them with the innovative solutions, quality products, and reliable supply solutions is fundamental to the success of our business.

The personalized nature of our sales approach and our commitment to service excellence has always set us apart from our competitors. By getting close to our customers, we gain the valuable insight into their challenges and needs and this informs the business decisions we take. It also helps us to align our offering with the demands of the market. Furthermore, this in-depth knowledge guides us to focus on where we can provide the most value. Most importantly, we never forget that our customers always have a choice and this drives our passion to focus on where our customers see the greatest value.

Passion is one of SONGWON's corporate values. Together with entrepreneurship, accessibility, credibility and expertise, these values influence everything we do at SONGWON, including our sales process. For us, they are not just words on a back wall somewhere; they form the very foundation of our decision framework which we use every day.

A key principle at SONGWON is also transparency. It is a common thread among all levels of our organization, and also an important part of our sales teams' interactions with both internal, as well as external stakeholders. Through transparency, we are able to establish an open dialogue which helps us to earn customers' confidence in our organization. Within SONGWON, clear communication between our sales team and internal stakeholders contributes to improving our responsiveness and adaptability to change, as well as ensuring the we remain agile, competitive, relevant and able react to market trends quickly.

A highly professional approach

SONGWON's sales organization is solutions-focused and strategically positioned worldwide. Made up of world-class determined experts, every one of them has an outstanding reputation for their professional attitude and customer-focused approach. Moreover, sales teams who are locally based are also specialists with a broad, solid understanding of market challenges and trends, as well as customers' requirements in their respective regions.

Our global sales team speaks the language of SONGWON's customers and is driven to deliver the right solutions at the right time. It is the team's willingness and ambition to exceed expectations, combined with their product expertise and ability to deliver value-added services and insights into customers' businesses that are the keys to their success. Fully equipped with the most up-to-date industry knowledge and the capability required to identify, and provide guidance to help our customers solve their distinctive challenges, helps them to make precise technology decisions and succeed in differentiating SONGWON's place in the market.

At SONGWON, we consistently benchmark our sales approach against key industry players and apply best global and local practices to guide all of our activities. By immediately addressing any weaknesses and building on our strengths, we are able to stay focused on assisting customers in realizing their strategic objectives and ensuring they remain competitive in their sector. We challenge the status quo and address any concerns proactively while aiming to exceed and not just meet expectations.

With total commitment to SONGWON's goal of being the supplier of choice for our customers and a co-leader along the whole industry value chain, we continued our efforts to optimize SONGWON's sales channels in 2017. This included further improving our service and partnering with new distributors. Furthermore, in close cooperation with our strategic customers and leaders in the industry, we worked on the development of new innovative solutions for specific applications.

SONGWON's Sales organization offers customers:

- high-quality products that add value to maintain their competitive edge
 - expertise to help identify solutions to their specific challenges
 - access to the latest innovative materials and leading edge technologies
 - years of industry experience and know-how
 - a commitment to supporting them grow their business
-

Expanding our position

Throughout 2017, we continued to benefit from our customer-focused, solutions-oriented approach and our global sales model with committed customer interactions and outcome generating initiatives. By paying close attention to product quality, innovation and service excellence, we managed to achieve greater flexibility to meet the needs of the market, and especially of our newer businesses. Once again this year, we were able to build up SONGWON's image as a leading reliable supplier and expand our position in the market. Consistent with our strategic plans, our outstanding sales team successfully contributed to overall growth despite sometimes facing adverse conditions and strong competition.


With its understanding of our markets, technologies, industry players, business drivers and competition, our sales organization has greatly contributed to making excellent progress in our newer businesses. Using the insight provided by our sales experts, we have been able to respond to potential market requirements and align our supply with both the current and future demand.

To maintain the positive momentum, and aligned with our strategic objectives, we further strengthened the global team in 2017, with additional resources in growth areas such as China. By hiring top talent who share our vision, we have invigorated the team, sharpened our focus and made it possible for us to better match the increasing demands going forward. This year, to focus on driving broader and deeper penetration with existing customers and adding new ones, we also concentrated on increasing the knowledge of our sales teams by providing dedicated webinars and training programs.

Sales committed collaboration with customers and dedication to our strategic initiatives, paid off with excellent results in 2017, and the team identified many promising areas for further growth in 2018. The highly engaged and determined efforts of our sales team continued to drive our share in the market this year, particularly in our more recently entered market segments:

- Long-term thermal stabilizers (LTTS)
- Coatings additives solutions
- Thermoplastic polyurethanes (TPU)
- Functional monomers
- Electronic chemicals
- Fuel & lubricant antioxidants

Looking forward to the years ahead, we are confident that we can build on the solid foundation that our world-class sales force has established during 2017, by empowering our local teams to respond even more quickly to customers' needs and deliver the forward-thinking solutions that will benefit both SONGWON and the industry players we serve.



“In moments of tight supply and demand balance for several products, SONGWON’s global team of experts was still able to support our customers with a reliable and continuous on-time supply. In 2017, SONGWON also confirmed its outstanding investment track record to support industry growth.”

SONGWON continues to extend its global reach and support the sales teams through:

Training

Ongoing market-relevant training comprising best practices from the different regions, markets and cultures equips the team for operating in a variety of environments and enhances their ability to serve a wide range of customers.

Expansion

Adding valuable distributors to our network this year selected for their expertise, strategic local market knowledge and their ability to reliably service our customers further drives our successful entry into new markets.

Synergy

Proactively supporting and encouraging collaboration between sales, our technical and business teams, as well as customers, enhances the effectiveness and efficiency of our efforts, and SONGWON's ability to provide customer-focused solutions.



Key exposure

In 2017, the sales team sought opportunities to maximize SONGWON's exposure and presence in the market.

SONGWON strengthened its market presence across all regions at various trade shows and conferences, exhibiting, presenting papers or co-exhibiting with its distributors. Here is an overview of just a few of the many per product group:

Polymer Stabilizers:

ArabPlast, UAE
Chinaplas, China
Feiplastic, Brazil
ICMBA, India
Iran Plast, Iran
Plast Eurasia, Turkey
Thermoplastic Concentrates, U.S.

Fuel and Lubricant Antioxidants:

STLE, U.S.

Tin Intermediates, PVC Stabilizers and Polymers:

NAPIM/NPIRI, U.S.
ICWS, U.S.

Specialty Chemicals:

Aitivaday, Italy
Chinacoat, China
European Coatings Show, Germany

Product strategy & development

Business activity overview in 2017

It was a good year for SONGWON with respect to sales. Building on last year's success, all four of SONGWON product groups made substantial progress which was well in line with our expectations. This positive outcome confirms that SONGWON's product differentiation, as well as our flexibility and responsiveness to the ever-changing needs of today's plastics industry are well-received by customers.

Polymer Stabilizers (PS) highlights

SONGWON saw the strong demand for PS to continue throughout 2017. Overall, the global antioxidants market witnessed steady growth and was balanced to short-marking a fundamental change compared to the previous years. By prioritizing profitability versus volume, we focused on maintaining an optimal balance between growth and profitability and we were able to achieve a solid financial result with major increases in volume throughout the entire product portfolio.

In 2017, there were no major changes to SONGWON's polymer stabilizer portfolio but we did carry on with the pursuit of economy of scale for our large antioxidants and remained committed to supporting industry growth. Exceeding market growth, we realized the target price increases needed to ensure the desired reinvestment levels. SONGWON remains 100% committed to the plastic additives market, and in 2017 we continued with our impressive track record of investing in our PS capacity for existing and new products.

In line with SONGWON's strategic objectives, and to promote solutions for meeting the more demanding requirements of our customers, the PS team furthered its efforts both with commercial products (i.e. SONGXTEND® 1301, SABO®STAB UV228 and 229) and with new experimental products.

In particular, we helped customers producing XPS to smoothly switch from HBCD flame retardant to new polymeric flame retardants. With our SONGXTEND® 1301, SONGWON has supported customers to satisfactorily replace hexabromocyclododecane (HBCD), which has now been banned in many countries. SONGXTEND® 1301 offers customers valuable benefits such as maintaining the molecular weight and color of EPS and XPS/XEPS compounds and masterbatches containing polymeric flame retardants. This year, we also delivered on our ambitious growth plans in OPS, as well as in UVs.

Tin Intermediates, PVC Stabilizers and Polymers (TPP) highlights

For SONGWON's TPP business, 2017 was also a good year and remained in tune with the strategy plan set for the first year, despite the negative impact of the raw material prices on our sales profit. Based on the foundation laid this year, we developed a strategy plan for TPP for the next 5 years.

Keeping our strategic aims in sight, we continued to collaborate with partners and promote our products in the global market. To increase our impact and efficiency, we selected and split the product groups for promotion in the different regions among the Business Unit. In 2017, we dedicated our efforts into promoting our:

- PVC stabilizers in the Asian market
- SPU (ink binders / PU adhesives) and TPU (wire & cable, film) in SEA and the U.S. market

Furthermore, we:

- finalized a long term contact for tin intermediates for the Japanese market
- began selling segmented polyether polyurethane SPU into the Philippines after successfully completing a lengthy evaluation test
- promoted TPU products by taking advantage of events such as the NAPIM (National Association of Printing Ink Manufacturers) conference in the U.S.
- ramped up of the co-producer (tin intermediates) and tolling co-operation (tin PVC stabilizers) with the PMC Group
- further promoted our urethane business in the SEA region
- installed the new production line for TPU in SONGWON's Suwon plant in South Korea which doubled our TPU capacity

In 2017, we added new talent to the team; experts with solid industry experience who will drive even more growth for our business. Looking at the progress we have made this year, we believe that we have established a very good basis for continued success in the TPP business across all regions.



Fuel & Lubricant antioxidants (F&LA) highlights

2017 was also a positive year for F&LA, with the business enjoying growth that was significantly above the GDP. This is a confirmation that SONGWON's ability to deliver the solutions customers need exactly when they need them, and the team's efforts to deepen relationships with leading customers in the industry are paying off. Customers are responding to our personalized approach of listening closely and understanding their challenges, and now recognize SONGWON as a key supplier with high quality products accompanied by excellent customer service.

In response to the positive growth this year, we invested in plant expansion to increase the current lube additive product capacities and broadened our range of phenolic and aminic AOs. Furthermore, we also made investments in technology, R&D and new products. By establishing a dedicated lube applications lab and a GAC dedicated applications technical function, we have strengthened our R&D expertise and enhanced the innovation capabilities needed to provide market required solutions.

To support growth going forward to optimize our operations and identify new opportunities we:

- selected a pan-European distributor
- entered an exclusive distributor agreement in India, with a possibility to extend to other Asian countries as required
- added key, industry-experienced talent to our team
- held our first F&LA business meeting to engage all direct and indirect team members
- optimized operations and identified new opportunities

In the near future, our plan is to maintain sustainable growth by continuing to build long-term relationships and evaluating the potential in new markets to gain relevant information on regional needs. Our strategy in the coming year will be to focus our marketing efforts on the expansion of our antioxidants and other lube related products, as well as advancing SONGWON's position in the market as a key F&LA player.

Specialty Chemicals highlights

An exciting year for Specialty Chemicals, 2017 saw us further enrich our comprehensive, state-of-the-art portfolio with important high-performance solutions. Demonstrating our commitment to the industry, we exhibited at the European Coatings Show (ECS) for the first time, and presented the two new additions to our line of ultraviolet absorbers (SONGSORB® CS 400 and SONGSORB® CS 384-2)— which were both positively received by customers. Our efforts and dedication have already delivered great results with SONGWON gaining important global approvals and being selected as the preferred supplier to a large customer in the industry.

Throughout the year, we also continued our efforts to expand our specialty chemicals offering, as well as our reach into new geographical areas in Europe (Eastern Europe), the Middle East and South East Asia. To support this and further consolidate sales, we added key distributors to our distribution network in key countries in South America.

This year, we also invested in the expansion of our team and supported the collaboration among the team and our distributors with webinars and dedicated distributor trainings. To ensure that our team had the best support possible in the field, we also continued creating sales tools and promotional materials.

Looking confidently towards the future, we are convinced that with our fully empowered and motivated team, and our cutting edge solutions we can gain an even greater market share and see even more success in the coming years.

"By empowering and motivating our highly determined teams, and remaining ahead of developments in the industry by identifying future market trends and anticipating the needs of our customers, we will continue to strengthen our foothold in the market and become an even bigger player in the industry."



“Customer Service is not just another business function within our organization; it is a mindset that is embedded at the very center of SONGWON’s corporate culture and it is apparent in all of our activities. We always aim to do our best to meet our customers’ specific needs while continuing to surpass their expectations and helping them build their businesses by adding value.”

Stefan Wehrli,
Customer Service Manager, Europe

Customer Service

Putting the customer first

Building long-term partnerships with our global customers and placing their requirements at the heart of our business, has earned us a sound reputation in the industry for customer service excellence. We have always been passionate about understanding our customers' business challenges and working closely with them. The valuable information we gain from customers guides our business activities and allows us to focus on areas with the greatest value for them. Above all, it enables us to deliver the highest quality solutions and provide a service that surpasses customers' expectations.

One of our main goals at SONGWON is to be the partner of choice in all of our business relationships. In everything we do, we aim to operate in a way that achieves mutual trust and respect. Really listening to customers and investing in building relationships with them often leads to other business possibilities, expansion opportunities or reveals new ways of meeting current industry demands. We contribute to the success of our customers spread across more than 58 countries with our expertise and the support we offer them before, during and after they have purchased our products.

More than an "extra mile"

In 2017, one of our customers ordered more than 250 tons of product. When the dozens of containers were already on the ship to Europe, the customer had a logistical problem arise suddenly and requested that we reroute the shipment to one of our warehouses and store the product temporarily. Although, it involved a great deal of work, Customer Service took care of the request promptly and smoothly to the full satisfaction of the customer and also highlighted the fact that we are always willing to go the "extra mile" when we can.

In 2017, Customer Service began reporting directly to Sales. Now the team has a clearer overview and deeper insight into what is happening within Sales. This shift also brings Customer Service even closer to customers and enables them to forge even deeper relationships.

This year in several SONGWON entities, we also implemented an Internal Control System (ICS)—an integrated control and monitoring system, designed to manage the opportunities and risks of future business development and to guarantee timely, comparable and accurate accounting for all SONGWON businesses.

The ICS revealed that some of the important checks were not yet fully implemented and aligned in all of SONGWON's entities. This information made it possible for Customer Service to quickly rectify the situation and ensure the complete alignment and implementation across SONGWON.

To effectively meet local needs by applying global and regional best practices, SONGWON has Customer Service Centers in:

- China, Qingdao
- India, Panoli
- Japan, Tokyo
- South Korea, Ulsan & Seoul
- Switzerland, Frauenfeld
- UAE*, Dubai
- USA, Houston



* SONGWON Industrial Group JV



“Remaining successfully resilient amid the high volatility and instability this year was possible due to the solid BCP we have in place and thanks to our dedicated, experienced procurement professionals and our competent, strategic suppliers who went above and beyond to support us.”

Deughee (DH) Gi,
Director of Procurement, South Korea

Procurement

Contributing value & maintaining a competitive edge

Over the years, as SONGWON has grown to become a leading player in the industry, Procurement's role has expanded as well. Today, its focus lies well beyond just procuring materials. Apart from ensuring that SONGWON's global production locations are always supplied with the raw materials they require, our Procurement team invests its efforts into making our supply chain stronger and more efficient while fostering sustainability at every stage.

Aligned with the organization's global strategy, Procurement contributes significant value to the continued growth of the company. Most importantly, our dedicated Procurement professionals help to mitigate supply risks and maintain SONGWON's competitive edge, as well as profitability in relation to costs, quality and services by selecting and working together with innovative, reliable suppliers.

Selecting the best in the business

Working with the right partners is important to our success. In keeping with SONGWON's strategy, we regularly check the performance and competitiveness of our suppliers by assessing each supplier's performance according to aspects such as flexibility, reliable on-time delivery and quality.

Furthermore, in order to cooperate with SONGWON, suppliers must comply with all applicable laws and regulations, as well as meet SONGWON's sustainable sourcing objectives.

On a regular basis, the team also evaluates suppliers' sustainability performance based on key factors such as labor, EH&S, business ethics etc. In this way, we can be sure that we work with the best in the business worldwide and can contribute to a healthier, controlled, more transparent, and ecologically sound supply chain.

Successfully meeting challenges

At SONGWON, our key suppliers are strategic partners. By collaborating closely with them, the Procurement team benefits from information sharing related to their local knowledge and expertise, business trends, new regulations and levels of demand in the various regions.

In 2017, we experienced another year where price volatility affected most of the raw materials we use. With the situation expected to remain the same in the foreseeable future, it is vital that we continue developing and investing in our risk management capabilities. Our procurement approach supports this by giving us the scale, market insights, and the required level of global expertise we need to manage instability successfully.

Procurement is well-prepared for confronting any supply/demand issues. With a solid Business Continuity Plan (BCP) in place, the team is able to anticipate events with the potential to seriously disrupt the smooth running of our supply chain process. It is also in a position to set up a strategy to limit the overall impact or even avoid it altogether.

Constantly monitoring and working closely with suppliers also helps the team to detect problems at an early stage so that they can react quickly to changes or take the necessary steps to bypass any obstacles. To support this, the team continues to diversify SONGWON's supplier base in order to have alternative and multiple sources in different regions.

Throughout 2017, Procurement had to manage various challenging situations within the market and climate-related disruptions:

- the unprecedented pollution crackdown by the Chinese government that closed tens of thousands of factories for failing to meet environmental regulations
- the volatility of the price of oil which SONGWON highly depends upon for its products made from oil derivatives (>80%)
- the shortage of natural resources e.g. palm kernel oil, mainly in the South East Asia region resulting from severe weather conditions due to global warming (e.g. La Niña and El Niño)
- the shutdown of the petrochemical industries in Texas after Hurricane Harvey which affected the global supply/demand balances and drove up the commodity prices

Despite these challenges Procurement was able secure the raw materials SONGWON required throughout the year with no disruptions and continue to contribute to the growth of the company.

Expanded competence

Every year, to support the increased demand within SONGWON, the organization also invests in strengthening the procurement organization, upgrading the existing tools and expanding the skill set within the team.

In 2017, SONGWON:

- added new talent to the team to better support growth of the company, extend best-in-class expertise and investment into new businesses
 - created the new function “strategic sourcing” in order to better explore and take advantage of global sourcing opportunities
 - reorganized the procurement team to better deal with the increase in sourcing complexities
 - upgraded purchase ordering process to increase internal efficiencies and effectiveness
-

Supply Chain

Committed to reliable supply

Customers count on us to reliably supply them with high-performance solutions when and where they need them. This is especially true for our customers whose manufacturing operations and success are heavily dependent on reliable supplies and on-time deliveries. Most importantly, customers today must be sure that their sustainability aims, as well as their safety and cost requirements are met.

For this reason, our challenge at SONGWON is to continually improve our integrated and efficient supply chain so that we can provide competitive solutions to our customers with regards to cost, quality and delivery. Today's competitive and volatile global environment also makes it crucial for us to uphold our ability to react and adapt quickly to ever-changing customer demands and circumstances.

Through careful planning and the optimization of our processes, SONGWON has established an integrated supply chain which is constantly being improved. With state-of-the-art IT systems, it extends all the way from best-in-class sales, forecasting, raw materials purchases and production planning to the distribution of finished products. In addition, SONGWON's dedicated international supply & logistics (ISL) team consists of highly-experienced experts who understand the complexities of end-to-end supply chains.

The team is driven to maximize value and ensure that SONGWON can deliver a robust, effective supply chain process that offers stability, predictability, as well as excellence in quality, timing, cost and delivery to our broad industry customer base. A key success factor lies at the heart of the ISL team's competencies in logistics and warehouse management which create a strong basis for SONGWON's sustained competitive differentiation, as well as long-term market advantages. In 2017, ISL managed to transfer 100,000MT of shipping volume across the globe without any incidents and complaint-free.

World-class competence

ISL can:

- efficiently supply material to all the countries and ports in the world
 - adapt global logistic capacities to directly reflect order trends
 - create better solutions by capitalizing on teamwork, effectively communicating and working closely with internal stakeholders, suppliers and logistic agents
 - respond swiftly with professional ideas to new policies such as FTA, export/import rule updates etc. due to the structured subdivision of the regions (EU, MEA, Americas and Asia)
-

Global coverage

SONGWON's progressive expansion over the past several years has increased the complexity for ISL, and not only in terms of the number of customers. The growth of the organization has led to the addition of more countries and regions, and as a result ISL is managing a much wider offering of products and services, as well as increased responsibility.

With today's businesses also facing higher unpredictability and an ever-more rapid pace of change, it is essential that we continue to ensure that SONGWON's supply chain is able to remain flexible and ready to respond to the challenging fluctuations in demand and supply. Due to their skillful ability to collaborate across all SONGWON's divisions and with our external partners, the ISL team is successful at working across the globe, meeting international supply chain regulations and handling unexpected situations.

**2 years
with “0” delivery
complaints**

Some of the challenges overcome:

When SONGWON was in the process of penetrating the fuel and lubricant industry, ISL were able to successfully meet the challenges that resulted from the dramatic increase of shipping liquid products around the world. The valuable competencies they developed and the skills they acquired along the way were put to good use again this year. For SONGWON's phenolic and aminic antioxidant product line, ISL successfully established and scaled up the supply chain for handling over 30,000MT of liquid shipments to our global customer base.

After the collapse of South Korea's Hanjin Shipping Co. in August 2016, shockwaves went through the shipping industry. Global transportation was slow moving and under the extreme pressure, international shipping costs increased, services were affected and profit margins exacerbated. Once again this year, the team successfully mitigated the difficult environment affecting the global transportation logistics of shipping SONGWON's products by setting up a flexible availability for diverting a destination from only one port to others.

In addition, ISL always makes sure that our regional local warehouses are resupplied and stocked with the right levels of inventory so that SONGWON's solutions are available exactly when they are needed. To meet our customers' growing environmental, sustainability, safety requirements and delivery times, they also aim to ensure that SONGWON's finished products are always delivered on time at the lowest possible cost.

Avoiding risk through transparency

As a global leader, our supply chain crosses many legal jurisdictions, industries, markets and cultures. To keep up-to-date with the latest developments, it is essential for us to upgrade our own technology and streamline SONGWON's supply chain processes. Transparency is also vital for managing risks.

By having clear visibility into the extended supply chain, ISL is able to access, learn from and act upon the information gained. This places them in a much stronger position to manage any potential risks which might affect SONGWON's business. However, SONGWON is not alone in its need for the most optimal levels of transparency. Customers are also demanding higher levels of transparency and clearer reporting within their own supply chains. We see it as our responsibility to support them with this.

“Our goal at SONGWON is to be the most trusted and reliable supplier while striving to exceed expectations and implementing sustainable strategies. Achieving two years of complaint-free deliveries in such a challenging global environment is testament to ISL’s vast experience, flexibility and effective collaboration with both SONGWON’s partners and customers.”

Daekeun (DK) Lim,
International Supply & Logistics Manager,
South Korea

Reliability through strong relationships

Once again in 2017, by focusing on understanding the dynamics of the market, the ISL team continued to secure the best advantages for us, in terms of strong, reliable suppliers, productive collaboration and the development of key sustainability positions with respect to the overall ecological footprint for both SONGWON and for customers.

Just as our ability to reliably supply materials to customers is a key contributor to their success, SONGWON's success is connected to our own suppliers' ability to deliver the materials and services; we need to manufacture the high performance solutions that our customers expect from us. Always seeking to build relationships based on the principles of social responsibility, we expect our supply partners to abide by the highest social, ethical and environmental performance and safety standards as SONGWON. ISL ensures that all SONGWON's suppliers are aware of our sustainability targets and share our principles that encourage the establishment of sustainable standards for business.

ISL's strategy in 2017 involved:

- **Diversification:** to ensure that SONGWON has a diversified network of cooperation partners (shipping lines, tank operators, logistics companies) and management
 - **Efficiency:** the inbound logistics process of entering materials, customs clearance and document handling have been advanced and made more efficient
 - **Investment:** continuous investments were made to develop technology and increase knowledge via external trainers, fair attendance etc.
-



Global Application Community (GAC) & Technical Service

Extending our expertise & competence

The fast pace of the global markets and the rapidly developing industry which we serve have led customers to seek much more than just high quality products. To meet the demanding performance required today, while adhering to the industry's rules, regulations and safety stipulations, customers are looking beyond innovative solutions to comprehensive application support and technical service.

Our customers' needs have always been at the center of all of SONGWON's activities. This commitment extends to using our years of knowledge and experience to offer our customers what they demand. By combining creative innovation with technical competency, we aim to bring their product development visions to reality while providing them with best-in-class support.

Strengthening our innovation capability

SONGWON's GAC is like a bridge that connects the needs of our customers with SONGWON's application development process. Partnering with customers, the GAC team works to develop new solutions. These include important aspects such as increased performance and value-creating features that contribute to technological advancements in a variety of applications.

GAC develops new ideas that match the demand by selecting the most interesting opportunities from the information relating to customer needs and the various market segments identified by Sales and Technical Service. Then, after the GAC experts finish establishing the most suitable platform technology, the process for commercializing new individual products begins.

In 2017, GAC moved into SONGWON's new Technology Innovation Center which has positively enhanced the synergy with R&D and Technical Service, as well as strengthened GAC's capability to innovate and apply its expertise.

In 2017, GAC

- contributed to a new lab design to facilitate the support of SONGWON's new BUs
- gained new compounding capabilities for polyolefins, styrenics, engineering thermoplastics and thermoplastic polyurethanes making it possible for compounding to be done with high levels of additives (10- 30%)
- strengthened application development with a focus on packaging, as well as building and construction applications
- contributed to filing IP and patent applications
- began making plans to expand SONGWON's application development capabilities for the coatings and lubricants industries

Comprehensive support

Working closely with GAC and invaluable to our organization, SONGWON's Technical Service helps our customers identify new market segments, make product improvements and optimize their applications' performance. Facilitating between our customers, our sales teams, as well as GAC, R&D, Business Management and Manufacturing, Technical Service generates ideas, drive project efficiency and provide guidance for optimizing processes.

At SONGWON, Technical Service is based on a Center of Excellence model, and our team of experts is there to make sure that our customers get the most value out of the products they purchase. In collaboration with the customers, the Technical Service experts develop tailor-made solutions to meet their unique demands and offer them in-depth support. The Technical Service team's ability to offer such comprehensive and extensive support was extended this year when they also moved into the new Technology Innovation Center.

“SONGWON’s Technical Service sets us apart. Our experts provide comprehensive answers to technical questions and share their valuable application knowledge to help our customers fully utilize all the benefits that SONGWON’s high performance products offer.”

Thomas Schmutz, Leader Global Technical Service & Application Development

“Providing the most advanced customer-focused solutions is only possible with GAC’s innovation competency and experience combined with the outstanding dedication of our Technical Service professionals.”

Klaus Keck, Leader Global Application Community

In 2017, Technical Service:

- successfully increased the sales of a special AO blend with a partner in the downstream PUR market
- built on the successful launch of SONGXTEND® 1301 to support the use of polymeric flame retardants in XPS applications, and acquired a new important customer in South America
- launched a global campaign to expand SONGXTEND® 2124 sales in the long-glass fiber re-enforced PP market
- made additional new sales of SABO®STAB UV 228 50 PP (a JDA product with SABO*) from an automotive compounder
- achieved the first sales of SABO®STAB UV 229 50 PP (a JDA product with SABO*) from a compounder in South Korea
- presented the first data from rotational molding applications (a JDA project with SABO*) at the ICMBA 2017 (Indian Convention on Compounds, Masterbatches & Additives Conference) showing that these new experimental light stabilizers can achieve ratings up to UV 16

* In 2011, SONGWON established a partnership with SABO SpA – a leader in the development and manufacturing of hindered amine light stabilizers (HALS). The partnership extends to joining resources in research and development and applications.

Close at hand

Our dedicated and highly experienced Technical Service professionals are located close to the customer across the globe. Strategically, this enables them to remain as well-informed as possible about our customers’ challenges, and the latest trends but also highlights the fact that wherever our customers are located in the world, we are close at hand to offer them outstanding technical support.

SONGWON has dedicated support centers in 8 countries:

- China, Qingdao
 - Germany, Greiz
 - India, Panoli
 - Japan, Tokyo
 - South Korea, Ulsan & Suwon
 - Switzerland, Frauenfeld
 - UAE, Dubai
 - USA, Houston
-

Research & Development (R&D)

Customer-focused innovation

Right from the very beginning of our organization, we have understood that focused innovation is key to keeping SONGWON a step ahead in our competitive industry. For this reason, SONGWON's strategy for ensuring continued innovation has always been based upon developing the strongest competence in R&D.

At SONGWON, we are committed to the development of innovative products that meet the demands of our wide range of customers operating in highly diverse environments and sectors around the world. Over the years, as customers' needs become more specific and complex and regulations stricter each year, maintaining our leading position in the chemical industry has become increasingly more challenging.

This is why making sure that R&D has the necessary resources and conditions to continue developing new and advanced solutions is one of our top priorities. Apart from hiring the best expertise in the industry, we ensure that R&D has the resources it needs to offer essential strategic support, innovation and technology to all the functions within SONGWON. This year with our new Technology Innovation Center, we also provided a fresh environment for team collaboration and innovation to flourish.

Patent strategy in 2017

One of R&D's most important activities is keeping on top of the latest developments and demands in the market. Focusing on the areas where innovation is needed and implementing a solidly effective patent strategy to secure SONGWON's innovations is essential to our ongoing business success.

In 2017, R&D:

- filed 2 patent applications
- successfully registered 1 patent
- maintained 26 patents

Furthermore, throughout 2017, R&D carried out patent investigations and made sure that an FTO (freedom-to-operate) analysis was done for all new products and technologies that the team aimed to develop.

Aligned expertise

Fully in line with all of SONGWON's businesses, R&D has a valuable, in-depth understanding of the organization's strategic areas of focus, and thus has always been a key contributor to the company's growth. Based on the latest technologies, and providing analysis development and regulatory affairs support, the team develops new products requested from across the business. Our highly motivated experts manage the whole "life" of the products from documentation, in the lab and to final production in the plant.

In the past few years alone, R&D has made it possible for SONGWON to introduce several innovations to the market and in 2017, R&D developed new products and optimized processes for all of our product groups.

“A pacesetter within SONGWON, R&D is the driving force that steers us into product and technology areas well ahead of others. Challenged by overcoming all barriers facing them, the team strengthens our competitive position in these areas by continually optimizing processes and introducing a wide range of innovative high value solutions.”

Dongkyung (DK) Park,
Leader Research & Development





SONGWON

investing in

TECHNOLOGY
INNOVATION
CENTER



innovation...

... our new Technology Innovation Center

This year in March 2017, we opened our new Technology Innovation Center at SONGWON's Maeam plant in South Korea. A milestone for our organization, the center is part of our strategic aim to strengthen SONGWON's position on the global specialty chemicals playing field.

It is also another key step forward and supports our aim to enter new business areas with high value and sophisticated technology. Offering 3,120 m² of space and designed with a view to expansion, the new center has made it possible for us to consolidate our technology, shorten development times and to also create a strong future in innovation.

With specialized labs and equipment for organic synthesis, the center is aimed at supporting R&D, Global Application Community and Technical Service. Furthermore, it enables us to leverage synergies between these three important groups. In addition, it makes it possible for them to translate market needs into innovative product solutions more quickly and efficiently.



“By evolving SONGWON’s unique manufacturing capability and combining it with our flexibility, we are able to develop, design and successfully run production lines on a global scale for commodities with several ten thousand tons/year to electronic specialties of a few kg/year.”

Giacomo Sasselli, Leader Operations

Manufacturing

Production expertise & consistent quality

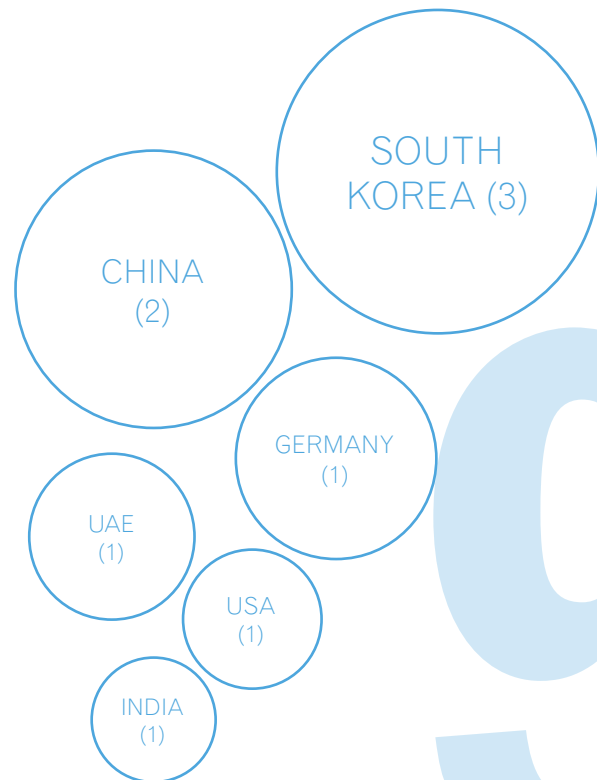
At SONGWON, we are proud of our manufacturing heritage, state-of-the-art facilities and ability to produce the highest quality products consistently. Our production process expertise, proprietary technology and backward integration are core strengths that provide us with a solid foundation for continued success and they support SONGWON's growth ambitions. As our business environment becomes increasingly more competitive, we understand how important continual improvement is to maintaining our manufacturing excellence and strengthening SONGWON's position as a leader in the industry.

By investing in and adopting new, even more efficient processes and technology every year, we seek to optimize SONGWON's operations to lower costs, minimize the use of natural resources, increase our safety performance and ultimately reduce our impact on the environment. Furthermore, our ever-increasing production capacity signifies SONGWON's commitment to supporting our very important customer base and ensuring that they benefit from our position at the forefront of the latest developments in manufacturing.

Well-equipped for the future

The investments we make annually in manufacturing help us to remain competitive and position SONGWON to meet the requirements of today and the demands of the future. In line with this, we make sure that our production facilities are equipped with all the latest technology.

This year, we installed the FFS (Form, Feed and Seal) technology into our Maeam plant in South Korea that we developed in 2016. It represents a significant step forward in our drive for increased flexibility and supports us to meet the demands of the market while adhering to our sustainability targets.



Manufacturing

Matching manufacturing with growth

Our world-class facilities are strategically placed across the globe and use the same leading-edge technology. This enables us to reliably supply the same levels of quality to our customers anywhere in the world. We take pride in the quality we produce for customers with our 9 manufacturing plants located in South Korea (3), China (2), Germany (1), USA (1), India (1) and in UAE (1).

As SONGWON's business expands and we penetrate new markets, we continually increase our manufacturing capabilities and capacity to match the growing needs of our global customers. Focusing on automation and process improvement supports our ability to maintain the right capacity levels in line with the pace of SONGWON's growth.

We also never forget that high quality and reliability are key to successful manufacturing. Aligned with this, we strive to make sure that we are flexible and able to adapt to fluctuations in demand while always remaining consistent and delivering the same high quality our customers expect. Technological innovations, improved automation and reduced complexities all contribute to our streamlined, highly productive facilities and help us maintain a competitive edge.

Aligning our capacities

In the past three years, we have continued to invest in our Panoli plant in Gujarat, India to develop it into a hub for SONGWON's specialty chemicals. These investments and preparations made it possible for us to successfully begin producing our multifunctional phenolic antioxidant, SONGNOX® 5650, at the plant in September this year.

Furthermore, we have also expanded the capacity and secured the reliable supply of 3-4-ethylene-dioxythiophene (EDOT). In 2017, we increased capacities and product production in other plants as well. At our Suwon plant in South Korea, we installed an additional production line which doubled our thermoplastic polyurethane (TPU) capacity and in Ulsan, we upped our Fuel & Lubricant capacity.

Thanks to the collaboration with the PMC Group, we also increased our PVC stabilizers capacity and started up the production of new electronics products. In Houston, we assumed direct responsibility for our OPS facility, which gives us greater clarity, more flexibility and also allows SONGWON to capitalize on opportunities more quickly.

Over the past three years, we stopped several production lines in Ulsan because they were either no longer competitive or part of our core business. This rationalization process is still ongoing and in 2017, we successfully implemented new production capability in large volumes to facilitate our entrance into the fuel and lubricant market. For example, the impressive unit located in Ulsan and dedicated to the production of SONGNOX® L670, houses the six largest reactors within SONGWON's production family. Furthermore, we have developed the required technologies for new products such as SONGNOX® L-570, SONGNOX® 1330, SONGNOX® 5750 and our Functional Monomers, that will be manufactured in the previously discontinued lines in Ulsan.

Safe operations

With EH&S a top priority at SONGWON, we ensure that our employees, contractors or visitors who spend time at our manufacturing site stay safe and we implement every precaution to ensure accidents are avoided. Anyone entering one of our sites must comply with the same stringent EH&S guidelines we have in place for our employees.

In 2017, to support our high commitment, we updated our safety procedures. In accordance with this, we created comprehensive safety videos for each of our plants in South Korea that are now included in the orientation people receive before going on site. Plans are underway to create videos for our other global facilities. These videos are also available on our website.

SONGWON's manufacturing strategy is focused on:

- reliably supplying customers with exceptional product quality according to their needs
 - looking for continuous improvement and efficiency to achieve operational excellence
 - leveraging our know-how and assets to produce economies of scale
 - seeking sustainable solutions and being environmentally responsible
 - maintaining a clean, safe manufacturing environment
 - implementing automated systems to efficiently manage growing volume
-

INCREASED PROTECTION

tightly sealed bags offer excellent protection against moisture or contamination

HIGHLY EFFICIENT

full automation increases operating efficiency, provides production flexibility and offers higher capacities at faster speeds

REDUCED PACKAGING

adjustable to specific batch requirements leading to a reduction in the overall amount of packaging material needed leading to less waste

IMPROVED SAFETY

provides a cleaner, dust-free environment and sterility guarantees product quality

IMPROVED STORAGE

optimum, cost-effective storage due to easily stackable compact bags, increased product life

LOW MAINTENANCE

less maintenance time is required and the necessity for cleaning is lower

A closed system and single step process, FFS technology offers us a wide range of sustainable advantages



proactive...

... our capability to proactively share insights, knowledge and best practices.

Quality Assurance (QA)

Collectively committed to quality

At SONGWON, Quality Assurance (QA) means more than simply ensuring that we obtain official certifications or just limited to the quality control of our products before they are shipped. For us, it is about effective systems, intensive attention to detail and a systematic approach to supporting our customers in all their QA efforts—from their operations to supplying high quality products. We see QA as an enormous responsibility which is why all aspects of QA at SONGWON are supervised at the highest level of our organization.

QA is embedded in SONGWON's company policy and reflected in the personal commitment of every member of our QA team. Trained in the latest methodologies, the team is skilled in a broad spectrum of QA tools and best practices. Each expert also has a strong technical background and a vast amount of experience working on many different projects with both internal stakeholders, and customers in a wide range of industries.

The team is engaged in all aspects of the supply chain and ensures that SONGWON's products meet the stringent specifications demanded, as well as making quick turnarounds and faster time-to-market for our products possible. In 2017, the QA team concentrated their efforts on making sure that quality standards were met for new product developments in our Specialty Chemicals business, and properly implemented for the industries SONGWON recently entered.

Maintaining the best levels of quality

We take great pride in SONGWON's reputation for assuring the highest levels of quality and service to our global customers. In order to maintain this top standard, our QM system monitors QA's effectiveness so that we can continually make important improvements.

Through the internal and external audits which are carried out in regular intervals, we document and evaluate all of SONGWON's processes. Monthly meetings are also conducted to discuss, analyze and evaluate any quality issues which have occurred. The representatives from Business Management, Sales, Manufacturing and Supply Chain who attend these meetings then share the relevant information with others in the organization.

Since its introduction in 2016, our online complaint management system (CMS) has delivered invaluable support to the QA team. Most importantly, the system has helped us to fulfill SONGWON's commitment to quality while reducing the overall workload of everyone involved.

Offering essential transparency, it manages both internal and external complaints, tracks progress in real time, provides the team with important information and makes an assessment of the time needed for each individual step in the process. The statistical built-in data also offers quick insight into trends and patterns relating to complaints and this knowledge enables the team to proactively find solutions to avoid them reoccurring.

“The QA team’s proactive approach to identifying and meeting the needs of our customers combined with the strong line of exchange and communication between all our functions and regions is the key to SONGWON’s high level of quality assurance.”

Doug Excell, Leader QA, Regulatory & Best Practices

At SONGWON, complaints are always taken very seriously and we address them immediately. Any complaints we receive are outlined in detail in a Non-Conformance Report (NCR) which also summarizes the appropriate corrective actions needed. QA has a dedicated complaint task force team which collects and analyzes all internal, supplier and customer complaints in order to find ways of eliminating their causes and resolving them quickly.

Meeting our commitments

Equally important to meeting our customers' needs is our compliance to highly recognized and well-regarded industry standards for overall quality management, environmental stewardship and the market specific requirements our customers set. QA is fundamental to SONGWON's commercial success and we do all that we can to secure the highest quality at every stage in the process.

Our strong commitment to continual improvement drives our efforts to maximize quality and service levels for all of our customers. Realizing this commitment is a primary objective at SONGWON, and the individual and collective responsibility of all employees. This is one of the reasons we place great importance on 3rd party assessments to verify that SONGWON conforms to the industry's norms.

Certified quality

Since SONGWON first obtained ISO certification in 1995, we have had a rigorous set of operating procedures in place and our experienced QA professionals implement extensive, well-documented quality control measures. ISO certification highlights SONGWON's uncompromising focus on quality and our efforts to continually improve operations so that we continue to consistently meet the increasing expectations and changing needs of our customers.

Throughout 2017, QA set about revising all the ISO procedures within SONGWON according to ISO 9001:2015 and will start to implement them in 2018. To comply with the most recent ISO standard's requirements, it was necessary for us to plan and implement actions to address risks and opportunities. By addressing both risks and opportunities we have established a basis for increasing the effectiveness of the QMS to achieve improved results and prevent any negative effects.

As a global leader, SONGWON also endeavors to make sure that all products have the necessary certifications for each of our market segments. There are markets around the world that we would not be able to export to unless our products had specific certifications such as Kosher or Halal. Having these certifications also contributes to generating additional sales revenue by providing a path for gaining access to new markets and customers.

SONGWON's CMS:

- handles both internal and external complaints effectively
 - tracks the progress of the complaint process in real time
 - delivers more transparency
 - reduces the workload
 - analyzes the time required for each process
 - provides built-in statistical data
-

SONGWON's memberships

- 1** SPE
Society of Plastics Engineers Korea)
www.spekorea.org
- 2** KCS
The Korean Chemical Society
www.kcsnet.or.kr
- 3** KISA
Korea Industrial Safety Association
www.safety.or.kr
- 4** ELISANA
European Light Stabilisers and
Anti-Oxydants
www.elisana.org
- 5** LiSAO – REACH Consortium
Light Stabilisers and Antioxidants
www.reachcentrum.eu
- 6** OrganoTin REACH Consortium
www.reachcentrum.eu
- 7** EPCA
European Petrochemical Association
www.epca.eu
- 8** GPCA
Gulf Petrochemicals and Chemicals Association
www.gpca.org.ae
- 9** AFPM
American Fuel and Petrochemical Manufacturers
www.afpm.org
- 10** JHPA
Japan Hygienic PVC Association
www.jhpa.jp
- 11** JHOSPA
Japan Hygienic Olefin and Styrene Plastics
Association
www.jhospa.gr.jp
- 12** KSCIA
Korea Specialty Chemical Industry Association
www.kscia.or.kr
- 13** KCMA
Korea Chemicals Management Association
www.kcma.or.kr
- 14** CEFIC
The European Chemical Industry Council
www.cefic.org
- 15** FCA
CEFIC Food Contact Additives Group
fca.cefic.org
- 16** CEPAD
The European Alkylphenols and Derivatives
Association
cepad.cefic.org



Our People

A committed global team

The driving force behind SONGWON's success is our global team of high-performing, committed individuals. Engaged, empowered and efficient experts in their areas, they are what sets us apart in the industry as a best-in-class leader. At every level of the organization, the fundamental thread that unites the entire team is the dedication and commitment to meeting and exceeding our customers' expectations.

We consider ourselves very fortunate to have such a talented team of 974 people of over 25 different nationalities. Directly reflecting SONGWON's global customer base, our employees also come from diverse international backgrounds. The unique and familiar company atmosphere within SONGWON stems from a constructive blend of long-standing employees with years of experience and young, innovative new talents. This mix of talents and expertise also supports the entrepreneurial spirit and collaborative culture that exists within our global organization.

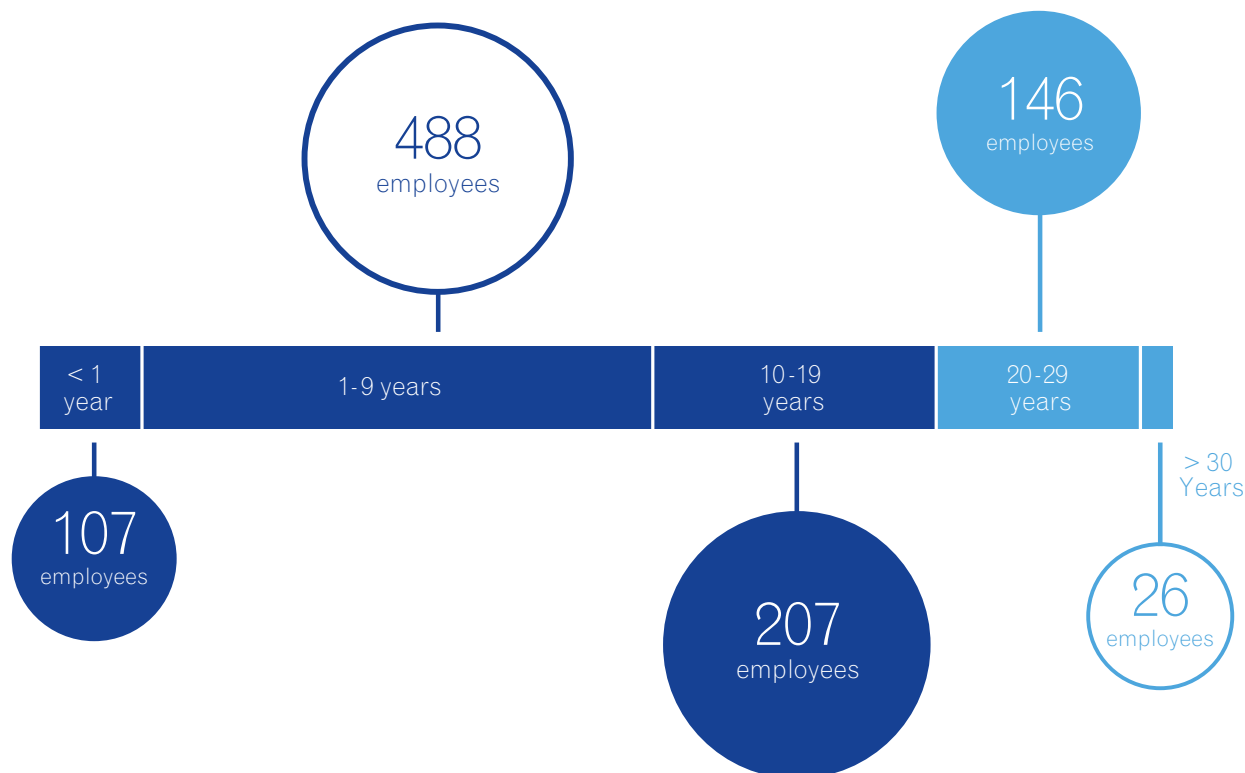
Employees age span



Whether new or a long-standing member, each individual is focused on delivering SONGWON's strategy and possesses a drive to succeed for our customers, our business and for themselves. United as one, SONGWON's strong global team members are always striving to do their best which is what makes it possible for us to expertly combine global reach with a personal approach, and thereby sustain our competitive edge.

172

employees have been working at SONGWON for more than 20 years



HR's key focus areas in 2017

- using and effectively leveraging multi-national expertise worldwide within SONGWON (e.g. international assignments, exchange programs etc.)
 - attracting, developing and retaining people with the highest functional expertise and best "fit" to the SONGWON culture
 - working with a strategic framework for SONGWON's future goals and identifying the essential positions for sustaining our operations and advancing our growth
 - establishing an internal talent pool in combination with effective performance assessments
-

Building capability

At SONGWON, we are proud of our talent and we invest significantly in the development of our people. Our people are really at the very heart of what we do, and we know that investing in them, along with fostering a positive, proactive culture, leads to better business outcomes and greater success. We ensure that our employees have the chance to continually learn and share knowledge and use their experience to make valuable contributions to SONGWON's overall growth. As our most valuable resource, we are committed to ensuring that our global team members can realize their maximum potential.

With the entrepreneurial spirit and collaborative culture that exists at SONGWON, we can ensure that our employees are engaged, driven by measurable results and are able to 'live' their creative ideas. We know that personal development is an integral part of employee satisfaction, and of feeling personally successful. This is why it is firmly integrated into our company culture, and in our performance review system (PRS). We believe that a path to success can be created by making it possible for our employees to take pride in what they do and by establishing the environment and conditions for them to contribute to fulfilling SONGWON's strategic aims.

One of the most important contributors to this is our PRS. With this system in place, we aim to help our people realize SONGWON's strategy, targets and growth ambitions. At SONGWON, we motivate and develop our people by aligning work to be done with organizational goals and then assessing performance against a clear set of leadership expectations, targets and measures.

In line with this, SONGWON's HR philosophy is built around acknowledging the essential role each individual plays within our organization and the way in which they add value to everything SONGWON does. Most importantly, it involves ensuring that whatever their function, our employees feel valued themselves. The PRS process at SONGWON provides both context and purpose for each employee's area of work and helps them to clearly understand the scope of their contribution to SONGWON's global team. Our ultimate aim is that the results and discussions provide 2-way feedback between managers and employees that is fair, accurate and inspirational, as well as supporting development for both.

Investing in the potential of our people

At SONGWON, we aim to foster and develop our culture of continuous learning and development. Today, we are seeing the rate of change rapidly increasing, whether in relation to customer demands, our business landscape or technology. SONGWON is also growing and expanding further into new areas of business. This means that we need our people to also master new skills and approaches at a faster rate. Learning is the key to SONGWON staying both competitive and relevant.

We center our investment in continuous learning around structured, results-oriented training and development that is delivered in a number of different ways. In 2017, we continued to implement a range of initiatives to support SONGWON's culture of learning that values performance, innovation, professional development, flexibility and well-being. According to an individual's role and responsibility, development and training varies at SONGWON, from site to site worldwide. In addition to this, we conduct internal trainings including webinars to locally implement the policies we create within our corporate teams across our entities.

SONGWON's Employee Exchange Initiative

Professional development and sharing experience are two important aspects which are embedded in SONGWON's HR strategy. Employee exchange assignments enable our employees to gain international experience through working at another SONGWON location and supports them to further expand their skill set. This initiative also serves to strengthen our global SONGWON team.

In 2017, Hyunjung Gang, Head of HR South Korea and Okgon Kim, Accounting Manager South Korea, who are both based at SONGWON's Ulsan headquarters, took part in the exchange initiative. They spent two and three months respectively with the SONGWON team in Frauenfeld, Switzerland.



SONGWON's Year Abroad Program

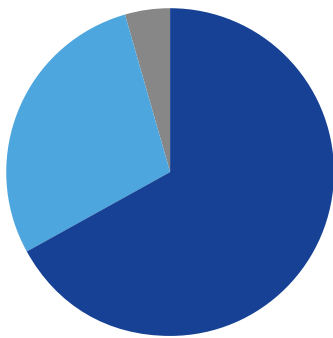
This program gives employees the opportunity to work alongside another SONGWON team in different country and culture. Not only does it support cultural understanding and provide more insight into other processes and methods, it also gives the employee the opportunity to strengthen their language and international business skills. The experience of getting a chance to familiarize themselves with different approaches and build stronger ties with global team colleagues also benefits their local colleagues when they return to their SONGWON base location. Strengthening the communication between locations and promoting the sharing of best practices is valuable to SONGWON on many levels going forward. Most importantly, it helps us to cultivate a global mindset and build on our diversified culture.



“Being based at SONGWON’s headquarters in Ulsan for a year is a valuable opportunity for me to learn from my Korean colleagues and see first-hand how things are done. It also gives me a chance to positively support the local team here in South Korea.”

Kazi Shahnawaz, Procurement & Supply Chain, India, who took part in the Year Abroad Program

In 2017, we hired talented people of 11 different nationalities



974

Employees in total

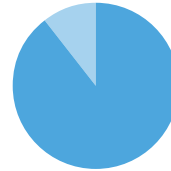
3 women took parental leave during 2017 and have returned back to work.



43

Americas

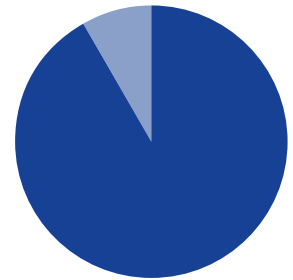
■ Women (14)
■ Men (29)



276

EMEA

■ Women (29)
■ Men (247)



654

Asia

■ Women (53)
■ Men (601)

Adding new talent

As well as investing in and developing the talent already within SONGWON, we continue to hire exceptional people to ensure that SONGWON is well-placed to meet our customers' future needs and support their success. Our HR strategy is to hire the best talent and give them the environment to grow and thrive. We do this by delivering excellent career development opportunities, where people are supported by experienced, motivating managers in a workplace that cares deeply about the success of its people. It's this approach that helped position us as an attractive employer for key talent.

When looking out for the "best", HR not only seeks those with the right qualifications and experience or those who will just help us maintain the rich diversity of our people and add value to our multi-cultural environment; HR looks for those who have SONGWON's key values.

At SONGWON, our people work with customers and colleagues from different cultures throughout the world. We operate in an international and dynamic environment which allows our employees to expand their horizons both professionally and personally. As a leading global organization, we offer challenging opportunities to self-motivated, customer-focused and talented individuals in all areas of our organization.

Being a member of our global team means:

- working with others committed to doing their best – and to being the best
- earning the trust of SONGWON's global customers
- becoming an expert in one's own specific area
- shaping the future of SONGWON

Generally, and in accordance with SONGWON's global HR policies, we always do our best to 'hire from within wherever possible.' For mid- to lower-level positions at SONGWON, we look locally to find a qualified candidate first. If we are unable to find the someone locally, then we widen our search until we find the "right" person for the job.

We have a similar 'looking locally' approach for senior management roles because we understand the value of leveraging a local managers' astute cultural understanding of customers and employees in their particular region. However, our top priority is always to seek to fill a management position with the most suitable person. This person may or may not come from one of the communities where we have a local presence.

Remaining in compliance with regional and local laws and regulations, we are committed to providing a working environment which encourages people of all backgrounds and beliefs to work well together with tolerance in the pursuit of excellence. As an equal opportunities employer, we place great importance on treating all of our employees with fairness.

Most importantly, at the core of our organization is an inclusive culture where colleagues feel like part of a family. In accordance with this, all of our policies and practices (such as maternity or sick leave) focus on fostering diversity, respecting human rights, offering equal opportunities and supporting non-discrimination.

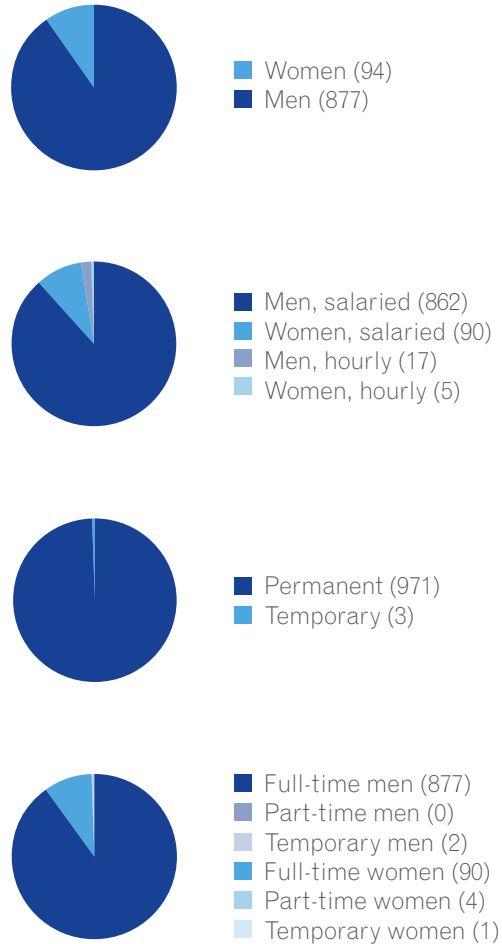
Maintaining a culture of responsibility

At SONGWON, acting honestly, fairly and in good faith with SONGWON's customers, suppliers, competitors, the public, as well as with our employees is one of our deepest commitments. Being a successful organization is about SONGWON's performance and achievements; but it is also about acting in a responsible, ethical and law-abiding way. For us, it's important that our employees are engaged and proud to be part of a global organization that maintains the highest standards of integrity and protects its people, assets and reputation with passion.

Our culture of responsibility towards each other and to all of SONGWON's stakeholders demonstrates the commitment among everyone in the organization to really living our values on a day-to-day basis. We have clearly summarized all of our principal company values, ethical principles, compliance with laws, rules and regulations, as well as the guidelines and procedures for the company in SONGWON's comprehensive Code of Conduct.

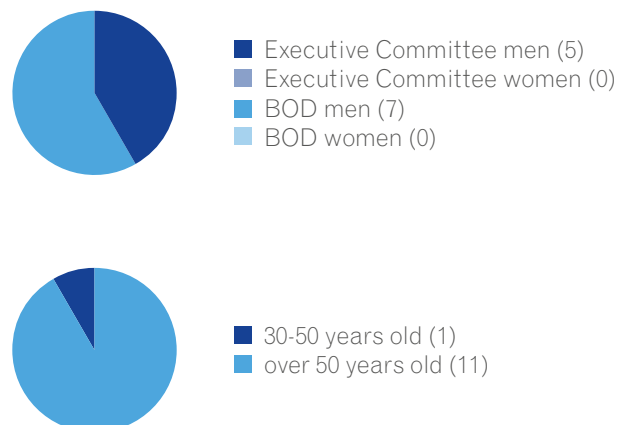
Every individual employee working for SONGWON understands that they are personally responsible for complying with all applicable laws, directives, policies and regulations. From the very moment they join our team, we make sure that all of our employees are trained in and aware of SONGWON's values. We are proud of the fact that once again this year, we had no incidents to report that go against our principles, such as corruption. SONGWON also had no significant fines (of either monetary or non-monetary value) for non-compliance with laws and regulations.

974 Employees in total



Employees	Left	Hired
By gender		
Total	38	148
Men	26	133
Women	12	15
By age		
Total	38	148
> 50 years	4	5
From 30 to 50 years	20	64
< 30 years	14	79

Executive Committee & BOD



Looking to the future

HR plays an increasingly strategic role in driving SONGWON's business performance and success. Going forward, we are looking at where we can increase its overall effectiveness and further optimize to better align HR's efforts with SONGWON's goals.

Looking ahead, HR will continue to direct its efforts into significantly optimizing SONGWON's HR processes and systems, by specifically focusing on:

- the further development of SONGWON's key people
- continuing to recruit experts that "fit" to SONGWON's culture
- making sure new employees integrate quickly using systematic onboarding
- getting the benefits from integrated performance management
- recording management systems

Improving these processes will position SONGWON's local and global HR management professionals as valued partners to SONGWON's leaders across all the areas of the company

“HR’s key strategic activities focus on creating competitive working conditions, securing the loyalty of our people, empowering employees and developing the talent within SONGWON. We already have strong foundations in place for taking our global team from strength to strength and ensuring SONGWON’s success.”

Beatrice Iuorno, Global HR Director

How SONGWON values & supports employees at all levels



EMPOWER

Providing an environment for innovating, contributing & collaborating



SUPPORT

Inspiring innovative creativity & entrepreneurial team spirit



ENCOURAGE

Creating the “room” for expressing ideas and opinions



ENABLE

Granting the “space” for taking responsibility & decision-making



VALUE

Applauding diversity & unique perspectives



ENDORSE

Establishing an open atmosphere for honest 2-way communication & trust-building



CHALLENGE

Stimulating individual development, learning & realizing full potential



ACKNOWLEDGE

Commending efforts, hard work & achievements

Nationalities hired by SONGWON Industrial Group





responsive...

*... our essence to behave in
a responsive, respectful and
result-driven way.*

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**Corporate Social
Responsibility underpins
our strategy and helps
us to manage our impact
on society, and it
contributes towards a
more sustainable way of
doing business.**

SONGWON awarded
GOLD level recognition for
CSR by EcoVadis

For the 2nd consecutive year, EcoVadis awarded SONGWON gold recognition level for Corporate Social Responsibility (CSR). An independent rating agency specializing in sustainable development and performance monitoring, EcoVadis is highly regarded around the world. Their detailed rating methodology is built on international CSR standards, including the Global Reporting Initiative, United Nations Global Compact and ISO 26000.

This year, EcoVadis placed SONGWON among the top 5% of all businesses assessed. Receiving this recognition for our commitment to CSR, highlights to the industry that SONGWON is a top performing supplier, with regards to Environment, Labor Practices, Fair Business Practices, and Responsible and Sustainable Procurement.

For more information, see: www.ecovadis.com

Corporate Social Responsibility (CSR)

More than just compliance

SONGWON's ongoing commitment to sustainability, compliance and social responsibility is ongoing and represents the very core of what we stand for. For us, CSR is not just an afterthought or a question of compliance at SONGWON. It is as important to us as delivering innovative solutions and top service to our customers.

As an intrinsic part of our business, CSR underpins our strategy and helps us to manage SONGWON's impact on society by contributing to a more sustainable way of doing business. For us, CSR is imperative to our success and to maintaining SONGWON's reputation in the global marketplace as an organization operating with the utmost integrity, and as a key player committed to continually improving our ecological footprint, as well as taking care of our people and the communities we serve.

From the beginning, CSR has always been a fundamental part of how we do business. SONGWON's approach to CSR is founded on the values of passion, integrity, excellence, credibility and teamwork, and focused on understanding the needs of our customers and our communities. To support this, we have integrated CSR into our company values and operations. Our business and organizational decisions are always made mindful of the short- and long-term impact on all stakeholders: from our employees, customers and business partners to our communities and society at large.

CSR guides us to adopt environmentally aware, ethical and socially-responsible management approaches. At SONGWON, we are dedicated to not only improving our performance and the quality of our broad range of products, but also to optimizing the way we treat our global team of talented people, the communities we serve and the environment around us. We believe that performance and responsibility are inseparable. For us they belong together, and this belief is a key part of SONGWON's culture. We understand that the better we are at being responsible today, the better our business will be in the future.

Committed to giving back

Social responsibility takes place on various levels, comes in many forms and can mean different things to different people. For us at SONGWON, it means doing our part responsibly in all of our endeavors and sustainably shaping the future. In simple terms, we live up to our commitments and take ownership for what we do.

Although we believe SONGWON's business is the best example of our CSR, our commitment extends beyond the positive contribution that our products are making every day. We look beyond our organization to see where we can make a positive contribution to humanity and give back to the vulnerable and less privileged in our communities. Addressing some of the wider issues that affect us as global citizens, SONGWON supports a variety of socio-economic, educational and health initiatives and programs.



“For us, CRS is like a compass that ensures SONGWON grows in a responsible way. As one of the leaders in our industry, we strive to conduct our business in a socially and environmentally responsible manner while benevolently reaching out and looking for ways to give back and support the communities in which we operate.”

Choong-Sik Kim,
President of SONGWON Industrial Co., Ltd.



Caring for those in need

It is estimated that 400 million people around the world have no access to healthcare, even though health is one of our basic human rights. Once again in 2017, to help efforts that enable people to lead better, healthier lives, SONGWON supported the efforts of a number of healthcare initiatives and medical missions.

For several years, SONGWON has supported medical missions to the Siem Reap Province in northwestern Cambodia. The second poorest province in the country with the mortality rates almost double those of the regional average (according to WHO Western Pacific Region); the extreme poverty is drastically detrimental to the health of many Cambodians, most of who live in the country's most isolated rural regions. SONGWON's financial support of medical missions enables medical professionals from South Korea to travel to Cambodia and provide free basic medical treatment and necessary surgery to people in need there.

Again this year, SONGWON supported the Dr. Jang Gi-ryeo Surgery Mission at the Hebron Medical Center. Although the center is located in Phnom Penh, the capital of Cambodia, there are also many underprivileged people here too who have very limited or no access healthcare. SONGWON's sponsorship makes it possible for medical experts specialized in cancer treatment from other countries, to perform necessary cancer-related operations on Cambodians who would not have been able to get this treatment otherwise. This mission is named after the renowned Korean surgeon, educator, and philanthropist, Dr. Jang Gi-ryeo and run by his grandson, Dr. Jang Yeogoo.

Dr. Jang Gi-ryeo (August 14, 1911 – December 25, 1995) is known as the greatest doctor of all time in Korea. He devoted his life to helping the poor and during his lifetime, established many free medical clinics and founded the Blue Cross Medical Cooperative – Korea's first medical insurance union.

"I've never forgotten my responsibility for poor patients since the day I became a doctor."
Dr. Jang Gi-ryeo

In 2017, we also continued our support of initiatives in the developing country of Laos. Similar to the medical missions to Cambodia, SONGWON's contribution to the Laos Medical Camp makes it possible for volunteering experts, working for the Korean Blue Cross Medical Corps to provide medical treatment free-of-charge to those in need in Laos.

Another initiative we have supported for a number of years is the Dr. Jang Gi-ryeo memorial initiative of the Korean Blue Cross Medical Cooperative's medical camp which also makes free medical treatment possible for those who are unable to afford it themselves.

In addition to this, we also support the charitable program in memory of Dr. Jang Gi-ryeo referred to as "Healing Shoes" for underprivileged children in Laos and Cambodia which takes place during the medical camp. Apart from the program's various educational activities, the young people are provided with shoes and school materials like books and pens.

Raising awareness

In 2017, we extended our CSR efforts to include new initiatives aimed at raising awareness of health-related issues. In keeping with this, we donated to the Red Tie Challenge campaign. Initiated in the U.S. in 2016 by the National Hemophilia Foundation, the campaign aims to raise awareness and advance the fight against inheritable bleeding disorders. By raising funds for research, education and advocacy initiatives, the Foundation highlights the issues surrounding these types of illnesses. To make people more aware of them, campaigners wear a red tie during the month of March, which has been selected as the Bleeding Disorder Month.



Cleanliness is an essential element to remaining healthy and this year SONGWON supported a South Korean health and welfare initiative called "Cleaning Hands". The program provides students with valuable information on the importance of keeping hands as clean as possible. We also supported the Blue Cross Youth Corps program which educates medical healthcare students in South Korea on how to handle various types of medicine but also on ways to discard medicine waste properly to prevent polluting and damaging the environment.

Out-of-hospital cardiac arrest (OHCA) is considered to be an important health issue worldwide, and early defibrillation increases the chances of favorable prognosis. In 2007, South Korea initiated public access defibrillation (PAD) programs and automatic emergency defibrillators (AEDs) were installed in the towns close to SONGWON's Korean locations. So, in 2017, we supported an initiative that created AED maps with information to ensure people knew where they could be found and how to use them in emergencies.



Supporting local communities

Our commitment to helping humanity has always been reflected in our core values at SONGWON and those of our employees. Last year, we supported charitable efforts in Pakistan initiated by one of our Songwon Polysys Additive employees. We decided to split our donation between two projects in 2017.

The first project is called "Street to School-STS| پروگرام کفالت (Sponsorship Program)". Songwon Polysys Additives LLC partnered with the Open for Everyone (O4E) Welfare Organization to provide an Early Childhood Education (ECE) Methodology learning skills program for kindergarten children. The program is free for all the children from a local community in Pakistan where there are no established schools in their area. With an interactive curriculum and classroom materials, it is especially designed to prepare the children for further primary and secondary education. The program was successfully carried out for the first time in 2017.

The second project involves supplying water to a local community in Karachi, Pakistan. With no access to clean water, the community has suffered from related disease and poor health conditions. SONGWON's donation is being used to support the installation of a pump and the creation of a well which will enable the community to access the fresh water supply available some 61 meters underground. Digging was started this year and when the project is completed in the early part of 2018, it will benefit approximately 400 people on a daily basis.





Regulatory Affairs & REACH

Committed to compliance

Ensuring compliance is imperative to SONGWON's operations and to our customers. Without it, we cannot do business. However, in our industry today, the task of remaining compliant is becoming ever more complex. Doing business globally subjects us to a multitude of international and local laws, regulations, policies authorities and cultural differences. Therefore, it is essential that we focus our efforts on ensuring that our products fulfill the necessary requirements and that all of our business operations are carried out in accordance with the highest ethical principles.

Our commitment to compliance is reflected in every aspect of our day-to-day business and it is engrained in our culture. Every SONGWON employee takes the issue of compliance seriously. With a heightened awareness of their responsibility and contribution to ensuring that SONGWON's business activities adhere to the regulatory standards, laws and regulations in our industry, each person at SONGWON is driven to be a good, ethical 'corporate citizen'.

The scrutiny and general skepticism surrounding the chemical industry overall remains strong, along with the widespread presumption that all chemicals are toxic, unsafe and pollute the environment. This makes it a necessity for industry players to assume sufficient responsibility and implement effective product stewardship strategies. Furthermore, in order to support both new and existing registrations, as well as certifications worldwide, it is also imperative that we ensure scientific integrity and compliance through all development phases. As a leader in the industry, we also focus on making sure that we have the required resources in place to support the ongoing development and production of more efficient and safer chemical substances.

Sharing our expertise

One of our highest priorities is making sure that SONGWON's complete range of products meets our global customers' environmental, health and safety goals. We want our customers to feel confident knowing that they can rely on the fact that each SONGWON product has the quality level to comply with the industry's regulations and quality standards.

Beyond this, we also see it as our duty to share the most up-to-date information on industry standards and regulatory issues with SONGWON's customers, as well as the latest compliance requirements relating to technology and quality. We make a point of proactively anticipating future regulatory changes by participating in relevant industry associations where we work together with competitors and industry experts. Making sure that SONGWON remains fully compliant, our service provider, Chemservice helps us to quickly adapt to any new regulations we identify. We also inform our customers as soon as possible, so that they too, can prepare ahead.

Supporting customers

Offering SONGWON customers our expertise and support, including assisting them to manage the complex aspects of regulatory compliance, registration and certification is also something that we take very seriously.

It is standard practice across the industry to provide customers with three types of essential product information such as the specification/CoA, a technical data sheet (TDS) and a safety data sheet (SDS). We supply an additional fourth one, the SONGWON regulatory data sheet (RDS) which concisely outlines key global product regulatory approval information.

In 2017, SONGWON:

- issued approximately 150 new SDSs
 - updated over 450 SDSs
 - produced & updated 5250 different translations
 - created 14 new RDSs
 - updated a total of 72 RDSs
-



The feedback we receive from SONGWON customers is very positive. They are highly appreciative of getting the regulatory information they require. By offering our SDSs in such a broad spectrum of languages, we make it easier for our globally operating customers to comply with their local hazard communications requirements. Customers can also find the answers to their most common regulatory questions in our RDSs and if not, our team of experts has extensive experience with global regulatory issues. If SONGWON's experts don't know the answers, then they know where to find them. In 2017, steps were started to make SDSs in additional Asian languages available on SONGWON's website in 2018.

Ensuring that we have the level of support we need is also a prerequisite to our ability of making sure SONGWON remains compliant. This year, new members joined the commercial team for Specialty Chemicals to increase the expertise in this area. The Regulatory Team helped familiarize them with the regulatory aspects of their products and now they are fully able to offer their support to this segment.

“2017 marked another demanding but successful year for SONGWON’s Regulatory Affairs team. It is their valuable expertise and dedication combined with smooth collaboration with the talented individuals across the businesses, R&D and manufacturing that enables SONGWON to meet its regulatory obligations and ensure that our customers continue to benefit from timely, cost-effective and efficient product compliance.”

Bob Campbell, Director of Global Regulatory Affairs

REACH and K-REACH in 2017

At SONGWON, we want to be known as a responsible producer that is highly committed to people's health and safety and for taking care of the environment by minimizing all risks associated with our manufacturing activities. We also seek ways to improve the safety and environmental performance of all the products we produce.

For our organization, compliance is at the top of our list of priorities and we have always fully supported regulatory intervention, the development of new regulations and all the REACH (EU Regulation on Registration, Evaluation Authorization and Restriction of Chemicals) objectives. We also engage and cooperate with co-producers, suppliers and customers to achieve our REACH-related goals. Even at the time that REACH was first launched, we knew that it was a way for us to make a positive contribution to our common future.

As has become the norm, the global chemical control laws continued to change and evolve this year as well.

For example:

- a year after the Frank R. Lautenberg Chemical Safety for the 21st Century Act ("TSCA Reform" Act) came into effect, the U.S. EPA launched a number of initiatives that will have a long-term impact on the way existing and new chemicals are prioritized and assessed for safety in the U.S.
- China updated its regulations on substances found in food contact
- Korea revised its requirements for K-REACH
- Brazil and numerous other developing economies continued to develop their own similar chemical control legislation

With regard to REACH and K-REACH, we proceeded to evaluate our products in relation to the registration requirements in the EU and South Korea, and addressed them as needed. Once again in 2017, working together with Chemservice, we prepared and submitted registrations dossiers well-in advance of registration deadlines for 2018.

Up to the year 2017, Regulatory Affairs registered

- 34 substances for EU REACH; 3 of them in 2017
- 75 substances for K-REACH; 23 of them in 2017

Expertise highlights in 2017

Australia

In 2017, SONGWON's Regulatory Team was confronted with a legislative obstacle in Australia involving SONGNOX® PQ, a high performance secondary antioxidant for organic polymers used to effectively stabilize polyolefins, elastomers, engineering plastic and adhesives. The product was not being offered in Australia due to the "mistaken" belief that it was considered a "new chemical" under the Australian Chemical Management system (NICNAS).

Due to the relatively small size of the Australian market and the costly and time-consuming approvals process, the team sought to find another solution. With the help of the experts in Panoli, who provided a better outline of the chemical components within this complex product and some intensive research in the Australian Inventory of Chemical Substances (AICS) – a database of chemicals available for industrial use in Australia, the team was able to confirm that all of the components in SONGNOX® PQ were in fact existing chemicals. This effort and discovery by the team made it possible for SONGNOX® PQ to be offered to customers in Australia without the expense or delay of approvals.

South Korea

After the PMC Group announced it was shutting its plant in China, SONGWON signed an agreement to take on the manufacturing of PMC's products. However, before all of the raw materials, intermediates and finished products could be handled by SONGWON's Ulsan plant, the appropriate approvals and clearances needed to be obtained. In collaboration with PMC's team, our team worked quickly and efficiently to register the necessary substances with the Korean authorities so that the regulatory requirements were fulfilled within a few months and SONGWON could begin manufacturing in full compliance with legislation in South Korea.



식회사

EH&S & Sustainability

Creating sustainable value

Right at the very core of what we stand for as an industry leader, is our long-term commitment to sustainability. We strive to operate our global organization in a socially responsible way, guided day-in, day-out by our sustainability vision, objectives and corporate values. In accordance with this, it is our aim to align economics with ecological awareness and social responsibility across all our business activities.

For us at SONGWON, success is only possible when we put health and safety first, ensure we are environmentally responsible and support the communities in which we operate. With full recognition of our business, environmental and social responsibilities at every level, we focus on sustainably harmonizing SONGWON's businesses, structures, processes and systems.

As a globally diverse organization, our responsibilities are extensive and spread across many countries, stakeholders and sectors. By responsibly managing our business activities, operations and portfolio, we aim to meet the ever-changing demands of our customers, markets, shareholders and the communities we serve. We are able to add value through our continuous efforts and focus on the optimization of SONGWON's manufacturing processes, and in the development of more innovations that bring savings in energy and resources.

Our main strategic objective is to be a leading organization – one that uses the resources available to us as efficiently and sustainably as possible, while generating profitable growth for our investors, remaining aligned with our customers' needs and adding value for society and future. By focusing on reducing SONGWON's environmental impact and carbon footprint, and ensuring the safety of our employees and neighbors, we help grow our supplier and customer businesses by providing them with sustainable solutions and ensuring safe product stewardship.

Committed to EH&S

At SONGWON, we know that to be a truly sustainable organization with the ability to create value for stakeholders, we need environmental stewardship, as well as a healthy, safe and injury-free working environment. Health and safety is, and always will be, a top priority. To underpin SONGWON's commitment

to sustainability leadership and to ensure that EH&S remains paramount for everyone, we make sure that SONGWON's policies regarding EH&S are proactively implemented.

Regardless in which area of SONGWON's operations, our commitment to health and safety is non-negotiable and we make sure it remains uncompromised. It is fundamental to our core values, at the forefront of our business focus and embedded in all aspects of our global business operations—whether in relation to our operational practices, general working conditions or the safe handling, transport and storage of our products.

To successfully operate a leading specialty chemicals company requires the dedicated commitment to EH&S from every member of our global organization. Over the past decade, we have made tremendous progress and improvements in EH&S by increasing the awareness of its importance across our entire global organization. In every one of SONGWON's plants, we have well-established EH&S safety policies, procedures and performance standards in place that encompass a great deal more than the minimum necessary for complying with laws and regulations.

Providing safe and healthy work environments for all of our stakeholders (employees, contractors, neighbors), is an obligation we take very seriously. It is also of great importance to us to be seen as a trustworthy organization with a high level of safety awareness and clear safety processes. In line with this, we focused our attention once again on making sure that EH&S was also a priority in 2017 across all of our 9 manufacturing facilities—including our newer sites, and that our EH&S indicators were also implemented.

Each SONGWON employee is fully committed to contributing to ensuring the long-term health and safety of everyone in our organization, as well as protecting the environment in which we operate. We are proud of our global team and their active engagement in identifying and managing risks, and their relentless dedication to continually seeking new ways to protect the environment and improve the health and safety of our operations. Their efforts are vitally important to the overall success of our sustainability strategy, and we look forward to continuing to build on this going forward.

Ensuring zero accidents

At SONGWON, we inherently believe that all accidents are preventable and that hazards can be safeguarded either physically or through safe working procedures. We also believe that the ability to achieve efficiency in production and preventing injuries go together. However, we know that accident-free manufacturing can only be achieved by having highly committed, safety-aware employees working in healthy and safe facilities.

We know that world-class safety levels are only attainable when we combine the right attitude, make the right decisions and carry out the right actions. Every SONGWON employee always keeps an eye out for anything that could possibly threaten the health, safety or well-being of others. They are also focused on eliminating or controlling risks. Addressing the root causes of workplace injuries, such as the incorrect handling of equipment and encouraging safe behavior, such as following the appropriate safety procedures and best practices, are of the highest priority for all of us at SONGWON.

Our efforts to increase EH&S awareness among all of our employees, continued in 2017. In monthly safety trainings and various online lectures, we provide comprehensive training on the issues of health, safety and the environment, including extensive guidance for hazardous chemical management safety. For this purpose, we use chemical accident videos and the EH&S materials created both by SONGWON and by official external authorities.

In this way, the intensive EH&S education and trainings support us to instill a higher level of awareness of these critical issues among all the levels of SONGWON's global organization, and foster a sense of responsible care and a proactive attitude throughout the company. EH&S awareness and responsibility is also supported and stressed by SONGWON's top management, and constantly emphasized as a top priority by SONGWON's managers across our organization.

Again this year, an extensive and deep EHS audit was carried out in SONGWON's South Korean facilities by the external accredited engineering company (KFPA). These audits are conducted every three years. After the audit, we were granted an improved rating over the previous audit and these positive results were confirmed by the same audit done by our insurance company. Both audits have provided us with good recommendations for where we still have room for improvement. In line with SONGWON's continuous improvement strategy, we have taken the results on board and will continue to use them to further improve our risk management.

In addition to the stringent procedures in place, we continuously investigate and assess all possible risks within SONGWON to improve our existing operating procedures.

In 2017, we:

- completely renewed and enhanced the safety briefing for visitors to our sites with new presentation tools
 - enforced a ban on the use of the cellphones inside all our sites
 - completed main EH&S care and risk management projects in our Maeam and Ulsan plants
 - continued the ongoing upgrade and improvements on our Suwon site
-

Accident reporting

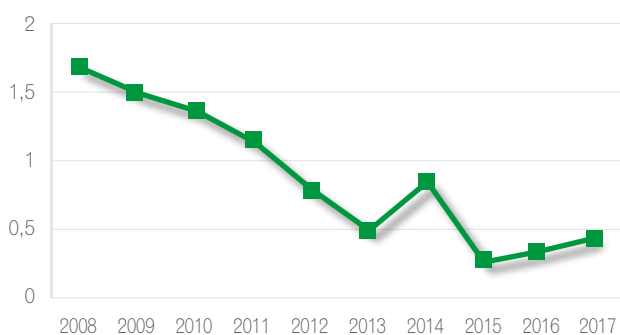
At SONGWON, any accidents which occur must be reported. In our global database, we collect the accident report data and diligently classify any resulting injuries in accordance with the local laws and record-keeping criteria. The report data we compile includes all accidents involving Songwon Industrial Co., Ltd. employees, as well as any contractors operating in our plants.

The total recordable accidents have steadily decreased over the past few years due to the increased safety awareness of our plant operators' and overall higher focus on safe operations throughout SONGWON. This year, there were 6 recordable accidents across all our manufacturing sites (includes both SONGWON employees and contractors).

In 2017, as part of our ongoing efforts to minimize manual operations, a completely new bagging system (FFS=Form/Feed/Seal) was installed in our Maeam site, providing us with the best possible automation for packaging SONGWON's powder products. Looking ahead, our plan is to implement this new technology across all SONGWON's production lines after the consolidation of the first one has been completed.

TRCR: Total Recordable Case Rate

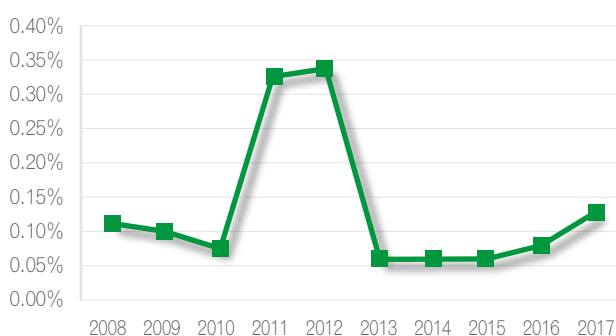
Recordable accidents *200,000 / total working hours



The Total Recordable Case Rate (TRCR) reached 0.45 in 2017 and we registered a 0.13% Total Lost Day Rate (LDR). There were no fatalities and for the seventh continuous year, we achieved a zero Occupational Diseases Rate (ODR) and zero Absentee Rate (AR).

LDR: Lost Day Rate

total lost days/total worked hours



Environmental awareness

We are deeply committed to continually reducing the environmental impact of SONGWON's business activities. To ensure that we meet our long-standing commitment to contributing to a better world, SONGWON's leadership team fully supports the development of processes that save energy, lower emissions and reduce SONGWON's overall carbon footprint.

To improve processes and increase our competitiveness by lowering costs, as well as significantly reducing energy consumption, waste production and CO₂ emissions, we have a well-established and rigorous program in place. Throughout 2017, we centered our efforts on achieving a considerable reduction of the organic content in our wastewater and solid salts to reduce the overall pollution impact of our manufacturing technologies.

In keeping with our on-going EH&S performance improvement strategy, we have started to implement the necessary technical improvements to ensure that by 2019 SONGWON is fully compliant with the recently introduced South Korean EH&S rules. This year, local authorities in South Korea accepted our updated PSM (process safety management) upgrade level in both our Ulsan and Suwon plants.

One of our most important efforts in 2017 was testing and developing the new technology for reducing the moisture and sludge generated by the biological waste water treatment at our Ulsan plant in South Korea. The new technology will make it possible for us to half the amount of sludge needing to be landfilled and our plan is to install it in our Ulsan facility during the first quarter of 2018.

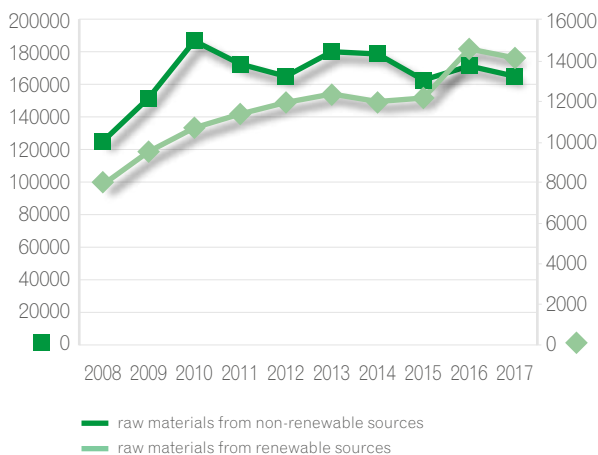
Materials

Raw materials

At SONGWON, we always seek to find opportunities to use raw materials from renewable sources. However, the majority of the raw materials SONGWON requires are metals or oil derivatives and so unfortunately, this means that there are actually very few key raw materials that we can obtain like this. Stearic acid and stearyl alcohol are the only raw materials available from renewable sources. Both are derived from palm kernel oil and represent circa 8% of the total raw materials we use.

Used Raw Materials

in tons



Recycled materials

We successfully consolidated the technology to recover the raw materials that were previously disposed of as a final product in the organic wastes, by applying a reverse reaction. In the areas where the technology has been a success, we have seen the double benefit of reducing the environmental impact and recycling ca. 8% of the material. This corresponds to approximately 3500 t/y, of the raw material that was used in the production.

Energy

On January 1, 2015, South Korea launched its national ETS (KETS, Korea Emission Trading System) – a cap-and-trade program. For operating companies, this type of ETS is mandatory (threshold: company > 125,000 tCO₂/year, installation > 25,000 tCO₂/year) with voluntary opt in. Participation is mandatory for SONGWON.

SONGWON's initiatives

We have a range of initiatives at SONGWON that have enabled us to reduce our energy needs and resulted in providing us with energy-efficient or renewable energy-based products and services.

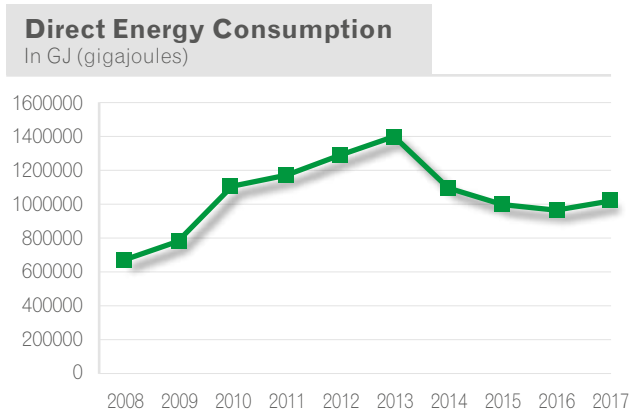
Annually, we engage in energy consumption reduction program which once again this year involved the incineration of all the volatile organic compounds (VOC) produced in the plants. In this way, it is possible for us to generate all the steam we require for our manufacturing process. In our Maeam plant, we have had 3 incinerators in operation since 2012, and an efficient steam generator based on the LNG use since 2013.

In addition, SONGWON also has several energy consumption reduction initiatives in place to improve the long-term efficiency of our operations and products. In 2017, we increased SONGWON's total annual energy consumption for generating power by 7% compared to 2016, notwithstanding an increase of the production volumes of almost 12% over 2016:



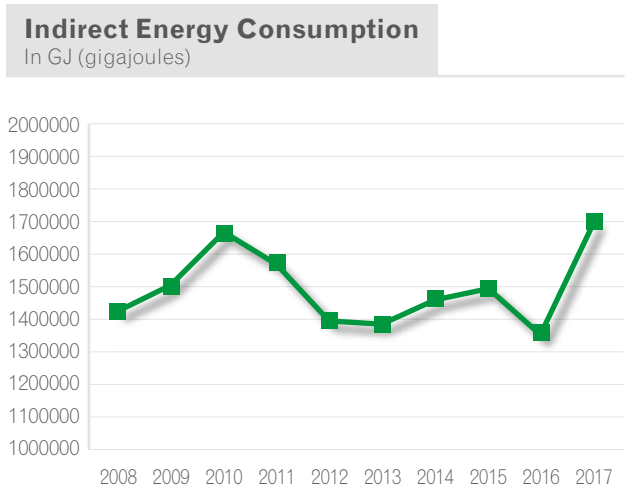
Direct energy consumption

Almost 100% of SONGWON's direct energy consumption is in the form of natural gas. The majority is used for generating steam and heating oil and in 2017, we consumed 987'159 GJ, which is in line with our consumption in 2015 and 2016, again notwithstanding an average 12% increased produced intermediates and final volumes.



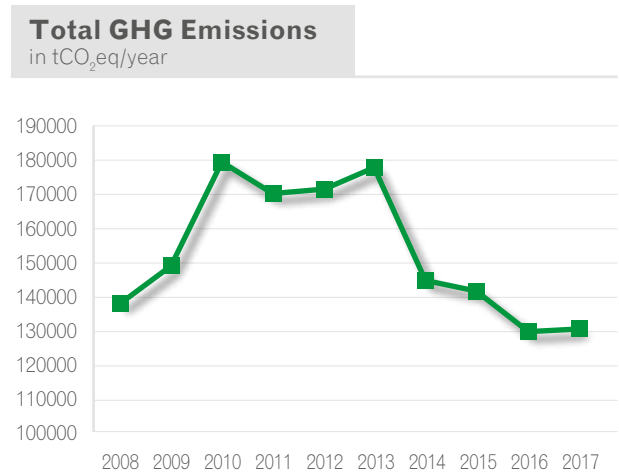
Indirect energy consumption

We also purchase almost 70% of SONGWON's electricity and steam for our plants from the local utility companies who are using renewable energy sources.



Emissions

In South Korea, individual energy reduction measuring activities are not calculated singly and separate from each other but as follows:
Emission reduction = Emission allowance – Actual Emission (Unit: tCO₂eq/year)



Actual emissions are measured according to the "Guideline for the Greenhouse Gas Target Management System" and "The Allocation and Trade of Emission Allowance of Greenhouse Gas Act" under South Korean law.

This is applied as follows:
Emission = Fuel consumption × NCV × EF × GWP, where:

- NCV = Net Calorific Value
- EF = Emission Factor
- GWP = Global Warming Potential

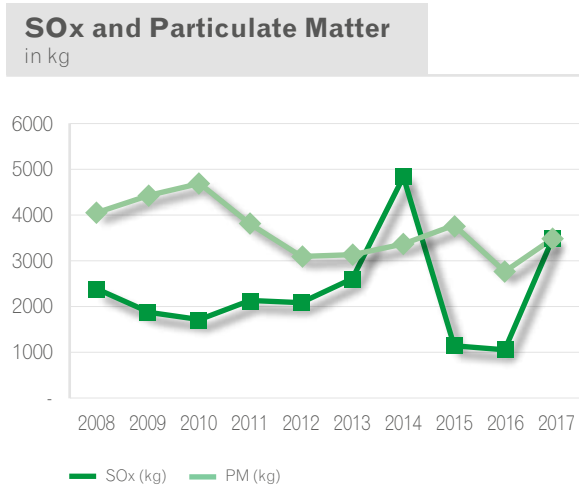
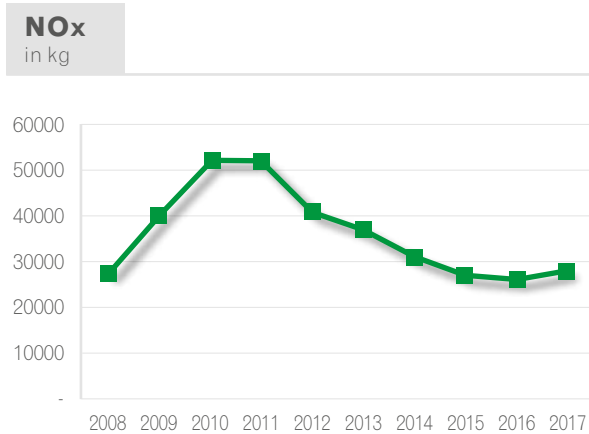
Direct & indirect greenhouse gas emissions

SONGWON's overall objective is to work progressively towards a reduction in carbon emissions, and we have confirmed our commitment in 2017 by reducing the general greenhouse gas (GHG) emissions by 8% compared to 2015. This is the same level as 2016, notwithstanding 12% higher production volumes in 2017 over 2016. This positive achievement was made possible once again, thanks to the purchase of steam generated from renewable energy and waste heat via an exothermic chemical reaction.

The data reported here does include the direct emissions and the indirect emissions from our electricity and steam purchasing. However, this year there are no other indirect emissions to be recorded.

Significant air emissions

In SONGWON's plants, nitrogen oxide (NOx), sulfur oxide (SOx) and particulate matter (PM) emissions are measured automatically by in-line analyzers, and the values are sent in real-time to the relevant government agencies.



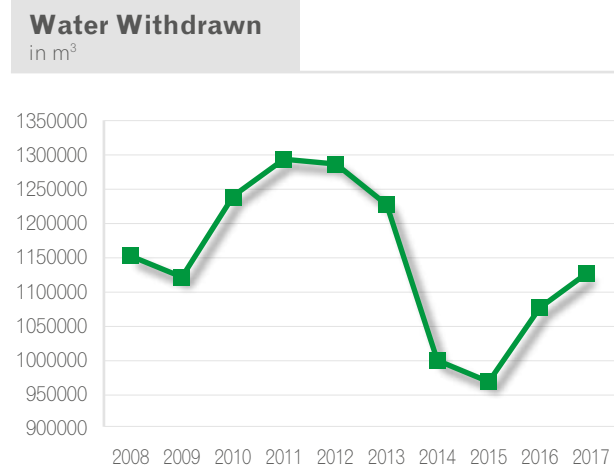
In 2017, we had an average increase of air emissions of 7% compared to the 2016. This is partially due to the increased manufactured volumes and the greater demand of steam generated by our incinerators, but also to the new analytical equipment installed at our sites which enables us to continuously make more accurate assessments of the very low SOx concentrations in the air emissions. Nevertheless, we still have an ongoing action plan in place for improving the future situation.

Water

Total withdrawal of water by source

SONGWON's total water consumption decreased in 2017 by 2% compared to 2016, according to direct measurements made onsite.

We purchase water we need from the local municipality and suppliers for SONGWON's Ulsan, Maeam and Panoli plants. For our Suwon plant, the water is sourced from underground.



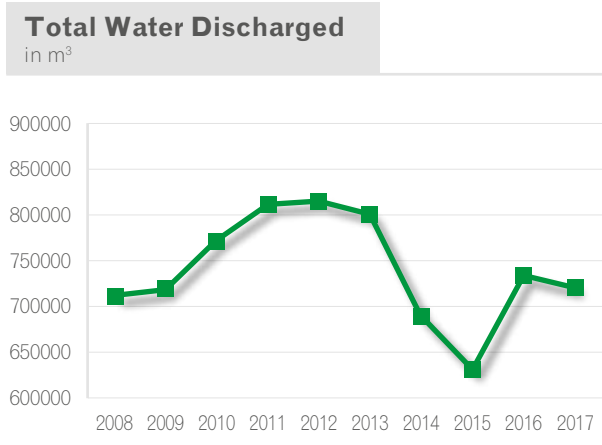
“For us, sustainability means meeting the needs of today without compromising the world of tomorrow. That is why we have made sustainability one of our core values. It provides us with a framework for all our decisions, priorities and actions, as well as an opportunity to continuously improve our competitiveness.”



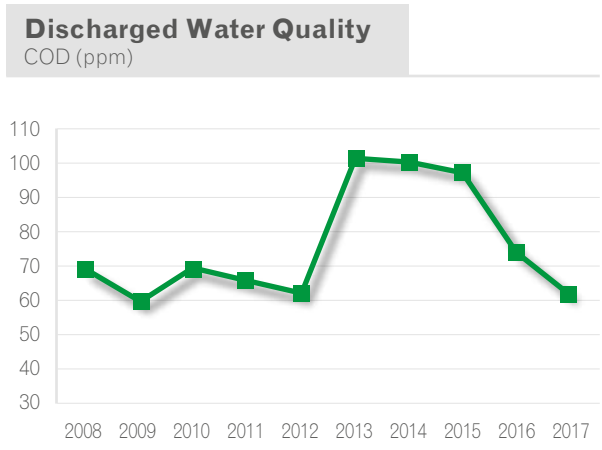
Effluents & Wastes

Total water discharged

All the water which is discharged by SONGWON's manufacturing facilities is internally treated and then conveyed to the central water treatment plants in the local municipalities. There, the organic content is reduced further and then released into the sea or discharged to a regional water treatment facility (e.g. as in Panoli, India).



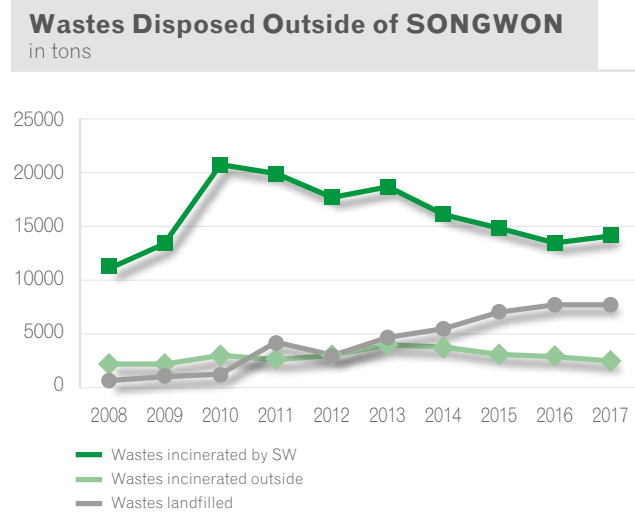
In 2017, we continued to significantly improve the quality of the water discharged during the year, and subsequently reduced the average COD (chemical oxygen demand) of SONGWON's manufacturing sites from 74 to 62 ppm. We were able to achieve this decrease as a result of the outstanding additional improvement of the average quality of the water discharged from our Panoli site in India, where COD was reduced by 50% compared to 2016.



Other wastes

In 2017, SONGWON'S operations generated 23'800 tons of hazardous wastes. The increase over 2016 is due this year's 12% increased manufacturing volumes.

Approximately half of the liquid organic wastes are currently incinerated onsite and the other half is incinerated offsite. Solid wastes are all disposed of offsite via landfilling.



Significant spills

SONGWON has not had any spills to record or report since 2008. There were also none to record or required to report in 2017.

Biodiversity

SONGWON does not own, lease or manage anything that is in, or near protected areas or areas of high biodiversity. Also, to the best of our knowledge, none of SONGWON's activities, products or services significantly impact biodiversity.

Non-compliance

In 2017, SONGWON has been fully compliant with all environmental rules and regulations and also received no fines this year.

Global Reporting Initiative Guidelines (GRI)

Reporting method

The Board, the Executive Committee and the Senior Management are all in agreement that the topic of sustainability needs to be communicated not only internally, but also externally.

We want to send a clear signal and make our contribution to sustainable development in our industry. For this reason, we have decided to publish a sustainability report annually in accordance with the Guidelines of the international Global Reporting Initiative (GRI). The current report follows the GRI's G4 Guidelines, 'in accordance' Core option (SONGWON's 2016 Annual Report followed GRI's G4 Guidelines, 'in accordance' Core option). This will make it possible to compile comparable values and continuously improve upon them.

The GRI G4 Content Index lists information on GRI indicators and topics relevant for SONGWON.

- **General standard disclosures**
The general standard disclosures offer a general strategic overview of the organization's sustainability. They are divided up into seven parts: strategy and analysis, organizational profile, identified material aspects and boundaries, stakeholder engagement, report profile, governance, and ethics and integrity.
- **Specific standard disclosures**
The guidelines organize specific standard disclosures into three categories: economic, environmental and social. Within the specific standard disclosures, each indicator is allocated to the material topics.

Prior to selecting the relevant indicators, we looked at SONGWON's stakeholders, their requirements and their expectations of us as a globally operating company. In our selection of the relevant indicators, our assessment of the individual aspects was carried out from two separate perspectives. We divided the identified stakeholders into groups based on whether they were directly or indirectly influenced by SONGWON's activities. We also raised questions in relation to our organization with respect to identifying the goals that promise SONGWON sustainable success.

Our management discussed each GRI indicator individually and evaluated it using a point system. It was a process that included various stages, and which ultimately resulted in defining the aspects and indicators most relevant for SONGWON as an organization and for all of our stakeholders.

Fundamentally important for this step was the comprehensive expertise of our managing executives combined with SONGWON's years of experience interacting with a wide spectrum of different stakeholder groups. An overview of all the GRI indicators (incl. the UN Global Compact principles) and the relevant text sections can be found in the GRI G4 Content Index.

Materiality analysis

This analysis shows a condensed summary of all of the individually assessed indicators. The number of indicators per category is reflected in the size of the circles in the graph on the following page. The x-axis shows the significance of the respective category in relation to its economic, environmental and social impacts, while the evaluated impact of this specific category on the assessment performed by our stakeholders is indicated by the y-axis. The average value for the individually assessed indicators in the categories determines the x and y values. From SONGWON's perspective, the economic, environmental, social categories appear to be of particularly high relevance to our stakeholders.

At SONGWON, we understand that our commitment to sustainability should not be restricted solely to our organization because true sustainability is only possible when all those involved work together. For this reason, we encourage our suppliers and partners to launch their own initiatives that highlight their commitment to the environment and resources protection, while upholding human rights and complying with labor laws just as we do.

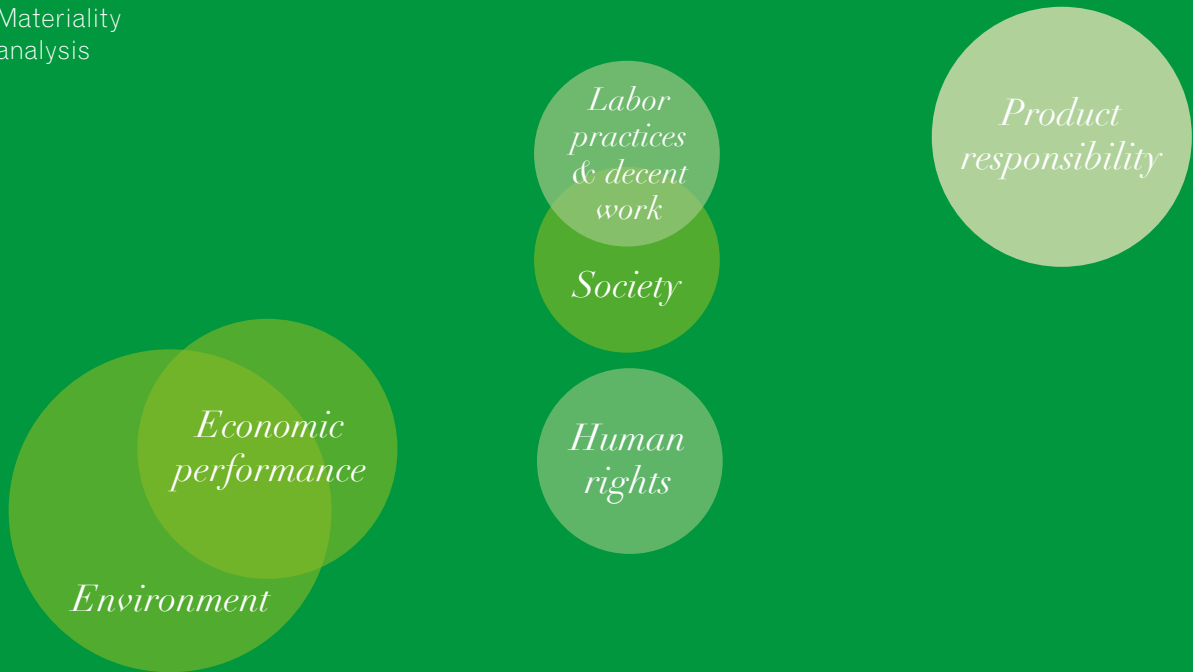
Operating internationally, we see it as our utmost obligation to act sustainably at both a global and local level. This is the reason that this report covers the entire SONGWON Industrial Group, unless indicated otherwise.

The scope of application is indicated in the respective chapters. Furthermore, we would like to emphasize that we have used gender-neutral terms and pronouns wherever possible for the sake of simplicity, but these should be understood to refer to both males and females alike without discrimination.

SONGWON's categories/aspects/indicators:

Impact on the assessment performed by our stakeholders >

Materiality analysis



Significance for economical, environmental and social aspects >

Category: Economic

Through all of SONGWON's operations, we aim to secure the organization's financial success and thus long-term value creation for our stakeholders. We know this can be achieved through implementing our long-term strategy, recognizing and managing risks and opportunities, as well as providing transparent information to our stakeholders.

Our strategy has four key focus areas: business focus, growth, geographical focus, and innovation.

SONGWON provides expertise and high-quality products to different industries, for a myriad of important applications. We are dedicated to creating long-term value, providing sustainable solutions, and strengthening the competitive position of our customers.

At SONGWON, we are focused on building a balanced product portfolio in order to support targeted growth and we are continuing with our expansion strategy to strengthen our presence in emerging markets and consolidating our position in existing ones.

Aspect: Economic performance

G4-EC1

Direct economic value generated and distributed

G4-EC2

Financial implications and other risks and opportunities for the organization's activities due to climate change

G4-EC3

Overage of the organization's defined benefit plan obligations

Category: Environmental

Our sustainability strategy supports SONGWON's business goals and enables us to continuously reduce our environmental footprint. At the same time, we are working to ensure that we give something back to both our employees and society as a whole. Our global sustainability commitment is directly managed by our Executive Committee. The committee is also responsible for overseeing the execution of all activities relating to achieving our sustainability goals.

All of SONGWON's initiatives are designed to ensure that we focus on those areas where we, as a company, have the greatest impact. They also provide us with a clear direction that enables us to strive for a better performance.

Aspect: Materials

G4-EN1

Materials used by weight or volume

G4-EN2

Percentage of materials used that are recycled input materials

Aspect: Energy

G4-EN3

Energy consumption within the organization

G4-EN4

Energy consumption outside of the organization

G4-EN6

Reduction of energy consumption

Aspect: Water

G4-EN8

Total water withdrawal by source

G4-EN10

Percentage and total volume of water recycled and reused



All of SONGWON's initiatives are designed to ensure that we focus on those areas where we, as a company, have the greatest impact. They also provide us with a clear direction that enables us to strive for even better performance.

Aspect: Biodiversity

G4-EN11

Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

Aspect: Emissions

G4-EN15

Direct greenhouse gas (GHG) emissions (Scope 1)

G4-EN16

Energy indirect greenhouse gas (GHG) emissions (Scope 2)

G4-EN19

Reduction of greenhouse gas (GHG) emissions

G4-EN21

NOx, SOx, and other significant air emissions

Aspect: Effluents and waste

G4-EN22

Total water discharge by quality and destination

G4-EN23

Total weight of waste by type and disposal method

G4-EN24

Total number and volume of significant spills

Aspect: Compliance

G4-EN29

Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations

Category: Social

At SONGWON, we emphasize the importance of our people for the company's long-term success: they manage strong brands, develop innovative products and support our customers around the world. Building and sustaining long-term, trustful relationships with our employees and all those who work for or with SONGWON is essential to our organizational success.

Sub-category: Labor practices and decent work

Aspect: Employment

G4-LA1

Total number and rates of new employee hires and employee turnover by age group, gender and region

G4-LA3

Return to work and retention rates after parental leave, by gender

Aspect: Occupational health and safety

G4-LA6

Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender

Aspect: Training and education

G4-LA10

Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings

Aspect: Diversity and equal opportunity

G4-LA12

Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity

Sub-category: Human rights

Aspect: Non-discrimination

G4-HR3

Total number of incidents of discrimination and corrective actions taken

Sub-category: Society

Aspect: Anti-corruption

G4-SO4

Communication and training on anti-corruption policies and procedures

G4-SO5

Confirmed incidents of corruption and actions taken

Aspect: Anti-competitive behavior

G4-SO7

Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes

Aspect: Compliance

G4-SO8

Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations

Sub-category: Product responsibility

Aspect: Product and service labelling

G4-PR3

Type of product and service and service information is required by the organization's procedures for product and service information and labeling

Aspect: Compliance

G4-PR9

Total monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services

SONGWON's GRI G4 Content Index – 'in accordance' Core

This GRI G4 Content Index provides an overview of the G4 Standard Disclosures based on the selections made.



General standard disclosures

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Corporate Governance

Corporate Governance

Committed to transparent, accountable management

Sound corporate governance is the foundation of SONGWON's sustainable success. From the very beginning of our organization, we have been committed to doing what is right. One of our top priorities is conducting our affairs in compliance with all relevant laws and regulations and in accordance with the highest ethical standards.

At the center of our organization, is a dedicated team of talented individuals. All of us measure our contribution to the success of the Group not only on the basis of business growth, but by how well we can meet the highest standards of accountability and create value for all of our stakeholders. We place the highest priority on responsible corporate governance in all of our day-to-day activities.

Our efficient and responsible decision-making and control processes are of central importance to SONGWON's operations and are directed towards long-term corporate success. Everything we do is managed in the fairest and most transparent manner. We build and maintain valuable relationships with all of our customers, partners, investors and stakeholders and seek to ensure that SONGWON's performance is always guided by the utmost integrity. This responsible management approach has been a key factor in our sustained success and helped us to preserve and strengthen the trust that our employees, business partners and shareholders invest in us.

Using sound judgement, SONGWON's Executive Committee and Board of Directors (BOD) effectively manage opportunities and risks. Cooperating in a transparent and goal-oriented manner, they also support the sustainable increase in the Group's value, while taking into account the interests of all SONGWON's shareholders and employees. Most importantly, they always endeavor to align their management and supervision with internationally recognized standards of good corporate governance.

Annual Shareholders Meeting

Each year, SONGWON invites all shareholders to attend the Annual Shareholders Meeting at which decisions are made on matters concerning SONGWON Industrial Co., Ltd. and the Group. Traditionally, the meeting is centered on the annual report and financial accounts and shareholders are always invited to put forth any questions they may have relating to the agenda.

In addition to this, there are mechanisms for shareholders provided by South Korean law that make it a requirement for company directors to organize a shareholders' meeting and to propose resolutions submitted by the shareholders.

This year, SONGWON's Annual General Meeting was held on March 24, 2017. During the meeting, the Annual Report for the financial year 2016 was adopted, as well as the proposal for the distribution of profits.

SONGWON Group's structure encompasses:

Monitor & advise the Executive Committee



7 Board of Directors Members

7 members (including the Chairman) elected at the Annual Shareholders' Meeting for a period of 3 years.

The Board of Directors (BOD) & Executive Committee

- The Board of Directors consists of 3 executive members and 4 non-executive members who attend a face-to-face meeting 4 times a year. Overseeing the strategic direction of the Group and ensuring that good governance procedures are in place, the BOD supervises the decisions made by SONGWON's Executive Committee, the governing body that is responsible for making decisions relating to economic, environmental and social impacts. To support them to optimize the overseeing of the activities within these two important areas, the BOD has also established an Audit Committee* and an HR Committee.
- The Executive Committee, comprising 5 people who hold key managerial positions in the Group, comes together in person for a meeting once every quarter and also hold teleconferences at regular intervals, as well as communicating via email. Their responsibility is to manage all SONGWON's business, create policies and make key decisions relating to the organization's strategy, investments and employees, with the exception of specific decisions which are reserved for the BOD under the Korean Company Act.

When such instances arise, the Executive Committee prepares its proposals and submits them to the BOD for final approval.

At SONGWON, the positions of Chairman of Board and of the CEO are separated. The clear separation between the responsibilities of the larger BOD and those of the Executive Committee further strengthen the Group's corporate governance by ensuring greater transparency, controls and accountability.

Chairman of the Board, Chief Executive Officer (CEO) & Executive Management

The Chairman of the Board is a non-executive Director who is elected at SONGWON's Annual Shareholders' Meeting. The CEO is the Chair of the Executive Committee and exercises ongoing control of the Group. The CEO manages according to the BOD's instructions, and in line with the division of responsibilities between the CEO and BOD as approved by the BOD.

Remuneration for members of SONGWON's highest governance body, senior managers, and executives (which include departure arrangements) is in line with the overall performance of the company including the social, economic and environmental results.

External auditors

SONGWON's auditors are elected at the Annual Shareholders Meeting for a period of 3 years. Ernst & Young are the current auditors for SONGWON. Both the BOD and the Executive Committee seek to work closely with the auditors to ensure that they remain well-informed about relevant issues concerning the accounts, reporting procedures and management of the Group's assets.

**5 members appointed by
the Board of Directors**

**CEO is elected at the
Annual Shareholders'
Meeting**



**5 Executive
Committee
Members**

Report to the Board of Directors

* as per the IAA standard

Corporate governance framework

At SONGWON, we are committed to maintaining the highest level of integrity and ethical standards across all our operations. This commitment is reflected in our Vision and Mission statements and lies at the very heart of our transparent approach to business. To support this, we have clearly communicated both the Vision and Mission statements to all employees and released them publicly to all of our stakeholders worldwide. We also have a complete set of policies which relate to all aspects of SONGWON's business activities. Readily accessible to all employees, the policies outline our dedication to high ethical standards and our compliance with the applicable laws in the areas and regions we operate.

We give a copy of SONGWON's Code of Conduct to all employees when they are hired and have also made it available on our website. The code provides essential guidance to SONGWON's workforce on how to apply basic principles which are aligned with the organization's core values and 'safe, honest, trustworthy, professional, customer focused' culture. It also offers practical advice to employees on how best to comply with laws and regulations, as well as

how to relate to their colleagues and SONGWON's customers and communities. We have invested great efforts in ensuring that our Code of Conduct is in line with internationally agreed standards. All of our policies are applied and strictly enforced across the organization in all the regions.

Again this year, no incidents occurred which go against our principles, such as e.g. corruption, anti-trust or discrimination in 2017. Furthermore, we have no significant monetary or non-monetary fines to report for non-compliance with laws and regulations.

Internal control

Internal control is a fundamental aspect of SONGWON's corporate culture. It involves implementing a control system and follow up of all the Group's activities. In this way, we make sure that SONGWON's rules of business engagement are followed diligently with regard to external legislation and regulations, as well as internal guidelines and control documentation.



Another important aspect of internal control is identifying risks and then ensuring that they are managed effectively. Our main goal is to minimize SONGWON's exposure to risk as far as possible, while making sure that we can capitalize on desired opportunities at the same time.

The Group is organized in such a way as to meet the requirements for effective internal control. SONGWON's working methods are characterized by organizational transparency and a clear division of responsibilities. To enable us to achieve true and fair consolidated financial reporting, the Group also has the necessary financial and business reporting systems in place which are important control instruments.

Once a month, internal group reports are compiled, using well-established procedures, and then presented in a document which includes extensive analysis. A number of people from various Group departments and company levels are involved in working on the quarterly and annual accounts. The management team, the Executive Committee and the BOD review the summarized results and then approve them.

Should a conflict of interest arise, the member concerned will abstain from voting on the issues relating to the conflict of interest to make sure that the highest levels of corporate governance always prevail. SONGWON is not aware of any conflicts of interest arising in 2017, or of any which could have arisen during the year.

Clear communication

At SONGWON, we sincerely believe that effective internal communication is essential to achieving the Group's business and strategic objectives. For this reason, we encourage all employees to promote and contribute to maintaining an open, effective and transparent communication environment.

There are clear channels of communication in place for all consultation and engagement activity with SONGWON's stakeholders. These may take place as face-to-face meetings, group meetings, team briefings, meetings with union representatives, announcements, emails, letters, memos, notices and telephone calls.

The most appropriate form of communication and/or consultation method is selected based on the nature of the topic at hand.

Identifying stakeholders

SONGWON stakeholders are identified by each individual site and business operation as part of the communication process.

All the content within this document has been put together by taking into consideration the feedback and recommendations of all our stakeholders relating to the reported topics and their importance.





Financial Statements

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INTRODUCTION TO THE CONSOLIDATED FINANCIAL STATEMENTS

On the following pages (120 – 211), consolidated financial statements for the year 2017 are presented. The financial statements disclosed are prepared according to the Korean International Financial Reporting Standards (“K-IFRS”) and represent the statements submitted for approval to the Annual General Shareholders’ Meeting taking place on March 23, 2018 in Ulsan, South Korea.

While the management of the Group is responsible for the preparation and presentation of the financial statements, the independent Group auditor is responsible for expressing an opinion on these financial statements. The report on the consolidated financial statements – issued by our Group auditor, Ernst & Young Han Young – can be found on pages (118 – 119).

INDEPENDENT AUDITORS' REPORT



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Independent auditors' report

The Shareholders and Board of Directors Songwon Industrial Co., Ltd. and its subsidiaries

We have audited the accompanying consolidated financial statements of Songwon Industrial Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2017 and 2016, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Korean International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Group as at December 31, 2017 and 2016, and its financial performance and cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

A handwritten signature in black ink that reads 'Ernst & Young Han Young'.

February 27, 2018

This audit report is effective as at February 27, 2018, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditors' report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

as at December 31, 2017 and 2016

Assets	Notes	2017	2016
		Million KRW	Million KRW
Non-current assets		487,614	481,445
Property, plant and equipment	5.3, 6, 25, 26	441,721	431,484
Investment properties	5.3, 7, 25, 26	3,530	3,549
Intangible assets	5.3, 8, 9, 25	21,609	27,252
Investments accounted for using the equity method	1.2.3, 10	7,035	6,552
Available-for-sale financial investments	11, 24.2	900	1,473
Other non-current assets	20	33	0
Other non-current financial assets	12, 24, 31	10,265	7,198
Deferred tax assets	28	2,521	3,937
Current assets		377,507	348,078
Inventories	13, 25	166,641	155,735
Trade and other receivables	14, 24.2, 31	130,894	121,709
Income tax receivables		518	540
Other current assets	15	3,502	3,609
Other current financial assets	12, 24, 31	20,548	17,185
Cash and cash equivalents	16, 24.2	55,404	49,300
Total assets		865,121	829,523
Equity and liabilities			
Equity		378,127	354,189
<i>Non-controlling interests</i>		-2,733	-2,237
<i>Equity attributable to owners of the parent</i>		380,860	356,426
Issued capital	17	12,000	12,000
Capital surplus	17	24,361	24,361
Reserves	17.3	27,255	26,919
Retained earnings		322,085	290,544
Accumulated other comprehensive income	17.4	-4,841	2,602
Non-current liabilities		162,354	174,691
Interest-bearing loans and borrowings	18, 24, 25, 26	98,783	112,220
Pension liability	20	8,311	12,848
Other long-term employee-related liabilities	21	5,585	4,445
Other non-current financial liabilities	22, 24	4,625	110
Other non-current liabilities		40	43
Deferred tax liabilities	28	45,010	45,025
Current liabilities		324,640	300,643
Interest-bearing loans and borrowings	18, 24, 25, 26	208,754	188,907
Trade and other payables	23, 24, 31	109,538	99,662
Other current liabilities		1,801	3,782
Other current financial liabilities	22, 24	1,743	638
Income tax payable		2,804	7,654
Total liabilities		486,994	475,334
Total equity and liabilities		865,121	829,523

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

as at December 31, 2017 and 2016 (see Note 2.3)

	2017	2016
	Thousand USD	Thousand USD
Assets		
Non-current assets	456,452	450,675
Property, plant and equipment	413,491	403,908
Investment properties	3,304	3,322
Intangible assets	20,228	25,510
Investments accounted for using the equity method	6,585	6,133
Available-for-sale financial investments	842	1,379
Other non-current assets	31	-
Other non-current financial assets	9,609	6,738
Deferred tax assets	2,362	3,685
Current assets	353,379	325,832
Inventories	155,991	145,782
Trade and other receivables	122,530	113,931
Income tax receivables	485	505
Other current assets	3,278	3,378
Other current financial assets	19,235	16,087
Cash and cash equivalents	51,860	46,149
Total assets	809,831	776,507
Equity and liabilities		
Equity	353,961	331,552
<i>Non-controlling interests</i>	-2,559	-2,095
<i>Equity attributable to owners of the parent</i>	356,520	333,647
Issued capital	11,233	11,233
Capital surplus	22,804	22,804
Reserves	25,513	25,199
Retained earnings	301,501	271,975
Accumulated other comprehensive income	-4,531	2,436
Non-current liabilities	151,977	163,526
Interest-bearing loans and borrowings	92,470	105,048
Pension liability	7,780	12,027
Other long-term employee-related liabilities	5,228	4,161
Other non-current financial liabilities	4,329	103
Other non-current liabilities	37	40
Deferred tax liabilities	42,133	42,147
Current liabilities	303,893	281,429
Interest-bearing loans and borrowings	195,413	176,834
Trade and other payables	102,537	93,293
Other current liabilities	1,686	3,540
Other current financial liabilities	1,632	597
Income tax payable	2,625	7,165
Total liabilities	455,870	444,955
Total equity and liabilities	809,831	776,507

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

for the year ended December 31, 2017 and 2016

		2017	2016 (restated*)
	Notes	Million KRW	Million KRW
Sales of goods	5.1, 5.2, 31	724,853	694,326
Cost of sales	27.5, 31	-569,793	-516,277
Gross profit		155,060	178,049
Selling and administration costs	27.2, 27.5, 31	-100,594	-101,699
Operating profit		54,466	76,350
Other income*	27.3, 31	2,121	3,098
Other expenses*	27.3, 31	-2,102	-2,248
Share of result from investments accounted for using the equity method	10, 30	1,249	710
Finance income*	27.7, 31	24,948	27,010
Finance expenses*	27.6	-36,496	-41,308
Profit before tax		44,186	63,612
Income tax expenses	28	-9,480	-21,368
Profit for the period		34,706	42,244
Other comprehensive income, net of taxes			
<i>Net other comprehensive income to be reclassified to profit or loss in subsequent periods</i>		-7,251	1,099
Gain / (loss) on valuation of interest rate swaps	17.4	460	-188
Tax effects on valuation of interest rate swaps	17.4	-105	54
Exchange differences on translation of foreign operations	17.4	-7,606	1,233
<i>Net other comprehensive income not to be reclassified to profit or loss</i>		-157	-530
Re-measurement (losses) on defined benefit plans	17.4	-157	-530
Total other comprehensive income, net of taxes		-7,408	569
Total comprehensive income		27,298	42,813
Profit for the period attributable to:			
Owners of the parent	29	35,394	43,239
Non-controlling interests		-688	-995
Profit for the period		34,706	42,244
Total comprehensive income attributable to:			
Owners of the parent		27,794	43,954
Non-controlling interests		-496	-1,141
Total comprehensive income		27,298	42,813
Earnings per share		KRW	KRW
Basic / diluted, profit for the period attributable to ordinary equity holders of the parent	29	1,475	1,802

* refer to note 2.4 on page 135 for further details

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

for the year ended December 31, 2017 and 2016 (see Note 2.3)

	2017	2016 (restated*)
	Thousand USD	Thousand USD
Sales of goods	678,528	649,952
Cost of sales	-533,378	-483,282
Gross profit	145,150	166,670
Selling and administration costs	-94,165	-95,199
Operating profit	50,985	71,471
Other income*	1,985	2,900
Other expenses*	-1,968	-2,104
Share of result from investments accounted for using the equity method	1,169	665
Finance income*	23,354	25,284
Finance expenses*	-34,164	-38,668
Profit before tax	41,361	59,548
Income tax expenses	-8,874	-20,002
Profit for the period	32,487	39,546
Other comprehensive income, net of taxes		
<i>Net other comprehensive income to be reclassified to profit or loss in subsequent periods</i>	-6,787	1,029
Gain / (loss) on valuation of interest rate swaps	431	-176
Tax effects on valuation of interest rate swaps	-98	51
Exchange differences on translation of foreign operations	-7,120	1,154
<i>Net other comprehensive income not to be reclassified to profit or loss</i>	-147	-496
Re-measurement (losses) on defined benefit plans	-147	-496
Total other comprehensive income, net of taxes	-6,934	533
Total comprehensive income	25,553	40,079
Profit for the period attributable to:		
Owners of the parent	33,131	40,477
Non-controlling interests	-644	-931
Profit for the period	32,487	39,546
Total comprehensive income attributable to:		
Owners of the parent	26,017	41,147
Non-controlling interests	-464	-1,068
Total comprehensive income	25,553	40,079
Earnings per share	USD	USD
Basic / diluted, profit for the period attributable to ordinary equity holders of the parent	1.38	1.69

* refer to note 2.4 on page 135 for further details

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the year ended December 31, 2016 and 2017

	Attributable to owners of the parent						Non-controlling interests	Total equity
	Issued capital	Capital surplus	Reserves	Retained earnings	Accumulated OCI	Total		
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW		
As at January 1, 2016	12,000	24,361	26,751	250,000	1,357	314,469	1,944	316,413
Profit for the period	–	–	–	43,239	–	43,239	-995	42,244
Loss on valuation of interest rate swaps, net of tax	–	–	–	–	-134	-134	–	-134
Exchange differences on translation of foreign operations, net of tax	–	–	–	–	1,379	1,379	-146	1,233
Re-measurement loss on defined benefit plans, net of tax	–	–	–	-530	–	-530	–	-530
Total comprehensive income	–	–	–	42,709	1,245	43,954	-1,141	42,813
Dividends	–	–	–	-1,680	–	-1,680	–	-1,680
Acquisition of non-controlling interests	–	–	–	-317	–	-317	-3,785	-4,102
Disposal of non-controlling interests	–	–	–	–	–	–	745	745
Appropriation to reserves	–	–	168	-168	–	–	–	–
As at December 31, 2016	12,000	24,361	26,919	290,544	2,602	356,426	-2,237	354,189
As at January 1, 2017	12,000	24,361	26,919	290,544	2,602	356,426	-2,237	354,189
Profit for the period	–	–	–	35,394	–	35,394	-688	34,706
Gain on valuation of interest rate swaps, net of tax	–	–	–	–	355	355	–	355
Exchange differences on translation of foreign operations, net of tax	–	–	–	–	-7,798	-7,798	192	-7,606
Re-measurement loss on defined benefit plans, net of tax	–	–	–	-157	–	-157	–	-157
Total comprehensive income	–	–	–	35,237	-7,443	27,794	-496	27,298
Dividends	–	–	–	-3,360	–	-3,360	–	-3,360
Appropriation to reserves	–	–	336	-336	–	–	–	–
As at December 31, 2017	12,000	24,361	27,255	322,085	-4,841	380,860	-2,733	378,127

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the year ended December 31, 2016 and 2017 (see Note 2.3)

	Attributable to owners of the parent						Non- controlling interests	Total equity
	Issued capital	Capital surplus	Reserves	Retained earnings	Accumu- lated OCI	Total		
	Thousand USD	Thousand USD	Thousand USD	Thousand USD	Thousand USD	Thousand USD		
As at January 1, 2016	11,233	22,804	25,042	234,021	1,270	294,370	1,819	296,189
Profit for the period	–	–	–	40,477	–	40,477	-931	39,546
Loss on valuation of interest rate swaps, net of tax	–	–	–	–	-125	-125	–	-125
Exchange differences on translation of foreign operations, net of tax	–	–	–	–	1,291	1,291	-137	1,154
Re-measurement loss on defined benefit plans, net of tax	–	–	–	-496	–	-496	–	-496
Total comprehensive income	–	–	–	39,981	1,166	41,147	-1,068	40,079
Dividends	–	–	–	-1,573	–	-1,573	–	-1,573
Acquisition of non-controlling interests	–	–	–	-297	–	-297	-3,543	-3,840
Disposal of non-controlling interests	–	–	–	–	–	–	697	697
Appropriation to reserves	–	–	157	-157	–	–	–	–
As at December 31, 2016	11,233	22,804	25,199	271,975	2,436	333,647	-2,095	331,552
As at January 1, 2017	11,233	22,804	25,199	271,975	2,436	333,647	-2,095	331,552
Profit for the period	–	–	–	33,131	–	33,131	-644	32,487
Gain on valuation of interest rate swaps, net of tax	–	–	–	–	333	333	–	333
Exchange differences on translation of foreign operations, net of tax	–	–	–	–	-7,300	-7,300	180	-7,120
Re-measurement loss on defined benefit plans, net of tax	–	–	–	-147	–	-147	–	-147
Total comprehensive income	–	–	–	32,984	-6,967	26,017	-464	25,553
Dividends	–	–	–	-3,144	–	-3,144	–	-3,144
Appropriation to reserves	–	–	314	-314	–	–	–	–
As at December 31, 2017	11,233	22,804	25,513	301,501	-4,531	356,520	-2,559	353,961

CONSOLIDATED STATEMENT OF CASH FLOWS

for the year ended December 31, 2017 and 2016

	Notes	2017 Million KRW	2016 Million KRW
Profit for the period		34,706	42,244
Adjustments total	30	56,873	63,847
Changes in operating assets and liabilities	30	-24,842	23,798
Interest received		1,144	1,184
Payment of income tax		-12,826	-30,308
Dividends received from third parties		7	7
Net cash flow from operating activities		55,062	100,772
Proceeds from sale of property, plant and equipment	6, 30	86	149
Proceeds from sale of intangible assets	8, 30	48	-
Proceeds from sale of available-for-sale financial investments	30	628	-
Purchase of property, plant and equipment	6	-43,482	-23,292
Purchase of intangible assets	8	-624	-415
Purchase of available-for-sale financial investments		-5	-
Dividends received from investments using equity method	10	-	461
Investment in a joint venture	10	-	-1,579
Increase of other financial assets, net		-6,378	-11,319
Net cash flow from investing activities		-49,727	-35,995
Proceeds from borrowings (current)	30	404,387	474,861
Repayment of borrowings (current)	30	-403,340	-662,860
Proceeds from interest bearing borrowings (non-current)	30	10,570	123,763
Increase / (decrease) in other financial liabilities, net	30	-100	-4,604
Increase in deposits		5,890	-
Interest paid		-9,348	-10,541
Cash payments to non-controlling interests		-	-3,630
Dividends paid	17	-3,360	-1,680
Net cash flow from financing activities		4,699	-84,691
Increase in cash and cash equivalents		10,034	-19,914
Net foreign exchange differences		-3,930	812
Cash and cash equivalent at January 1	16	49,300	68,402
Cash and cash equivalent at December 31	16	55,404	49,300

CONSOLIDATED STATEMENT OF CASH FLOWS

for the year ended December 31, 2017 and 2016 (see Note 2.3)

	2017	2016
	Thousand USD	Thousand USD
Profit for the period	32,487	39,546
Adjustments total	53,238	59,767
Changes in operating assets and liabilities	-23,254	22,277
Interest received	1,071	1,108
Payment of income tax	-12,006	-28,371
Dividends received from third parties	7	7
Net cash flow from operating activities	51,542	94,333
Proceeds from sale of property, plant and equipment	81	139
Proceeds from sale of intangible assets	45	–
Proceeds from sale of available-for-sale financial investments	588	–
Purchase of property, plant and equipment	-40,703	-21,803
Purchase of intangible assets	-584	-388
Purchase of available-for-sale financial assets	-5	–
Dividends received from investments using equity method	–	432
Investment in a joint venture	–	-1,478
Increase of other financial assets, net	-5,970	-10,596
Net cash flow from investing activities	-46,548	-33,695
Proceeds from borrowings (current)	378,543	444,513
Repayment of borrowings (current)	-377,563	-620,497
Proceeds from interest bearing borrowings (non-current)	9,894	115,853
Increase / (decrease) in other financial liabilities, net	-94	-4,310
Increase in deposits	5,514	–
Interest paid	-8,751	-9,867
Cash payments to non-controlling interests	–	-3,398
Dividends paid	-3,145	-1,573
Net cash flow from financing activities	4,398	-79,278
Increase in cash and cash equivalents	9,392	-18,639
Net foreign exchange differences	-3,681	758
Cash and cash equivalent at January 1	46,149	64,030
Cash and cash equivalent at December 31	51,860	46,149

1. CORPORATE INFORMATION



1.1 THE GROUP

SONGWON Industrial Group (the “Group”) consists of the parent company Songwon Industrial Co., Ltd. (the “Company”) and its consolidated subsidiaries as listed below. The Company was incorporated on December 15, 1965 under the law of the Republic of Korea to engage in the manufacture and commercial sale of antioxidants, stabilizers and polyurethane. The Company’s main manufacturing plants are located in Ulsan, Maeam and Suwon, all in South Korea, and in Ankleshwar, India. The address of the registered office (Songwon Industrials Co., Ltd.) can be found at the end of the annual report.

The Company listed its common shares on the Korea Exchange in June 1977 pursuant to the provisions of the Korean Securities and Exchange Act.

1.2 SCOPE OF CONSOLIDATION

1.2.1 CHANGE IN THE SCOPE OF CONSOLIDATION

As of December 31, 2017, the scope of consolidation for the consolidated financial statements encompasses 10 entities (2016: 9 entities). Additionally, two entities are classified as joint ventures (2016: 2 entities) and accounted for using the equity method.

In the course of 2017, following changes in the legal structure of the Group and scope of consolidation have taken place:

- Liquidation of Songwon China Ltd.
- Establishment of Songwon EMEA AG and Songwon Management AG
- Renaming of Songwon International AG into Songwon Group Holding AG
- Renaming of Songwon EMEA AG into Songwon International AG

The consolidated financial statements include the financial statements of the Company and of the subsidiaries listed in the following table. The table also includes joint ventures which are accounted for using the equity method.

Consolidated entities	Location	2017		2016	
		Status	Interest	Status	Interest
Songwon Industrial Co., Ltd.	South Korea	Parent		Parent	
Songwon International-Japan KK	Japan	Subsidiary	100%	Subsidiary	100%
Songwon China Ltd.	Hong Kong	–	–	Subsidiary	100%
Songwon Specialty Chemicals-India Pvt. Ltd.	India	Subsidiary	100%	Subsidiary	100%
Songwon International-Americas Inc.	USA	Subsidiary	100%	Subsidiary	100%
Songwon International AG (Established in 2017 with former name Songwon EMEA AG)	Switzerland	Subsidiary	100%	–	–
Songwon Group Holding AG (Former: Songwon International AG)	Switzerland	Subsidiary	100%	Subsidiary	100%
Songwon Management AG	Switzerland	Subsidiary	100%	–	–
Songwon ATG GmbH	Germany	Subsidiary	100%	Subsidiary	100%
Songwon International Middle East FZE	UAE	Subsidiary	100%	Subsidiary	100%
Songwon Polysys Additives LLC	UAE	Subsidiary	55.5%	Subsidiary	55.5%

Entities accounted for using the equity method (joint ventures)

Songwon Baifu Chemicals (Tangshan) Co., Ltd.	China	Joint Venture	30%	Joint Venture	30%
Qingdao Long Fortune Songwon Chemical Co., Ltd.	China	Joint Venture	50%	Joint Venture	50%

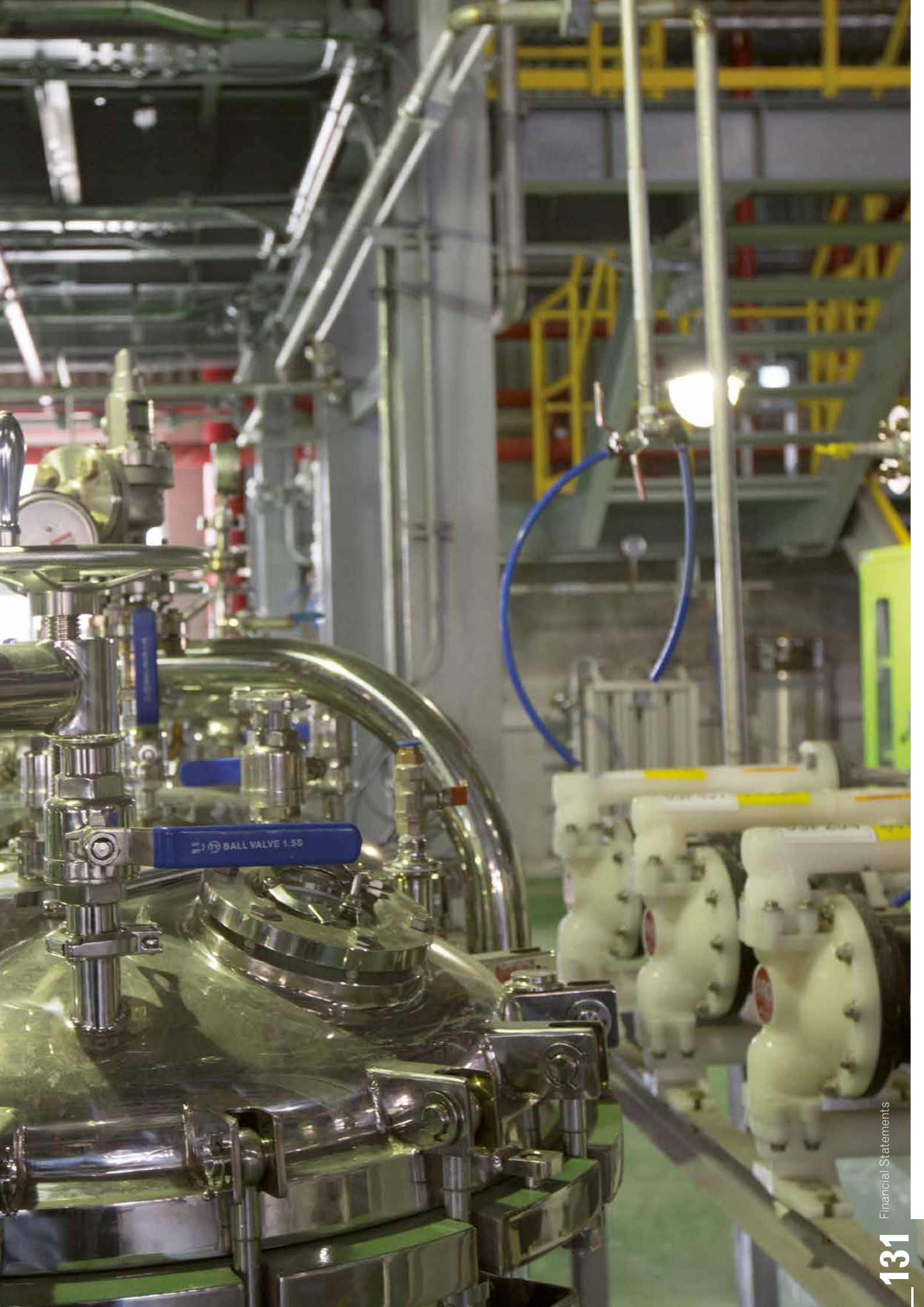
1.2.2 SUMMARIZED STATEMENTS OF FINANCIAL POSITION AND COMPREHENSIVE INCOME OF SUBSIDIARIES

The summarized statements of financial position and comprehensive income of subsidiaries are as follows:

	Total assets	Total liabilities	Total equity	Total revenue	Net income	Total comp. income
2017 as at December 31	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Songwon Industrial Co., Ltd.	845,204	433,883	411,321	581,987	28,117	28,335
Songwon International-Japan KK	35,438	29,267	6,171	88,733	1,886	1,886
Songwon China Ltd.	–	–	–	–	-910	-910
Songwon Specialty Chemicals-India Pvt. Ltd.	32,992	14,200	18,792	13,731	-228	-177
Songwon International-Americas Inc.	48,720	39,927	8,793	139,304	-1,806	-1,806
Songwon International AG	67,108	46,967	20,141	180,209	9,339	9,440
Songwon Group Holding AG	112,170	7,031	105,139	–	2,253	2,253
Songwon Management AG	18,381	18,389	-8	–	-229	-400
Songwon ATG GmbH	13,023	1,302	11,721	7,141	471	471
Songwon International Middle East FZE	9,002	7,967	1,035	24,654	727	727
Songwon Polysys Additives LLC	21,464	25,595	-4,131	12,891	-1,542	-1,542

2016 as at December 31

Songwon Industrial Co., Ltd.	799,009	412,663	386,346	561,119	56,445	56,243
Songwon International-Japan KK	27,834	23,068	4,766	85,481	708	708
Songwon China Ltd.	3,279	5	3,274	–	672	672
Songwon Trading Co., Ltd.	–	–	–	–	-422	-422
Songwon Chemicals Co., Ltd.	–	–	–	–	-79	-79
Songwon Specialty Chemicals-India Pvt. Ltd.	35,492	15,373	20,119	14,981	1,105	1,105
Songwon International-Americas Inc.	54,463	51,789	2,674	142,889	-958	-958
Songwon International AG	155,645	65,978	89,667	182,602	-14,786	-15,249
Songwon ATG GmbH	8,252	1,778	6,474	7,281	1,119	1,119
Songwon International Middle East FZE	8,658	8,303	355	36,117	225	225
Songwon Polysys Additives LLC	23,742	26,759	-3,017	8,602	-2,304	-2,304



1.2.3 INTEREST IN JOINT VENTURES

In August 2015, the Group established the joint venture Qingdao Long Fortune Songwon Chemical Co., Ltd., located in Qingdao, China. 50% of the established entity belongs to the Group and is involved in the production of One Pack System Blends. Moreover, the Group has a 30% interest in Songwon Baifu Chemicals (Tangshan) Co., Ltd., determined to be a jointly controlled entity involved in the production of thioesters. Determination was driven by contractually agreed sharing of control in regard to relevant activities, which require unanimous consent of the control-sharing parties.

The summarized statement of financial position and summarized statement of comprehensive income of joint ventures (accounted for using the equity method) are as follows:

Statement of financial position	Cash and cash equivalents	Total current assets	Total non-current assets	Current financial liabilities	Total current liabilities	Non-current financial liabilities	Total non-current liabilities	Equity	Carrying amount
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	1,631	7,678	7,333	1,913	2,180	–	–	12,831	3,849
Qingdao Long Fortune Songwon Chemical Co., Ltd.	2,802	13,151	3,216	7,482	7,482	3,479	3,479	5,406	2,703
December 31, 2016	4,433	20,829	10,549	9,395	9,662	3,479	3,479	18,237	6,552
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	2,365	9,584	7,108	2,164	2,590	–	–	14,102	4,231
Qingdao Long Fortune Songwon Chemical Co., Ltd.	2,488	12,917	3,085	6,760	7,066	3,328	3,328	5,608	2,804
December 31, 2017	4,853	22,501	10,193	8,924	9,656	3,328	3,328	19,710	7,035

Statement of comprehensive income	Revenue	Depreciation & Amortization	Interest income	Interest expense	Profit before tax	Income tax expenses	Profit for the period	Other comp. income	Total comp. income
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	21,204	-59	5	-64	4,457	-1,114	3,343	103	3,446
Qingdao Long Fortune Songwon Chemical Co., Ltd.	17,626	-100	7	-120	-704	118	-586	62	-524
December 31, 2016	38,830	-159	12	-184	3,753	-996	2,757	165	2,922
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	26,500	-83	13	-11	3,600	-915	2,685	-1,413	1,272
Qingdao Long Fortune Songwon Chemical Co., Ltd.	25,598	-235	17	-250	1,142	-256	886	-684	202
December 31, 2017	52,098	-318	30	-261	4,742	-1,171	3,571	-2,097	1,474

All joint ventures are measured using the equity method. All operations are continuing. The financial statements of all joint ventures have the same reporting dates as the Group. In 2017, no dividends were received from Songwon Baifu Chemicals (Tangshan) Co., Ltd. (2016: 461 Million KRW), refer to note 10.

1.2.4 NON-CONTROLLING INTERESTS

1.2.4.1 NON-CONTROLLING INTERESTS

No transactions with non-controlling interest with regards to acquisitions or disposals took place during the reporting period 2017.

In course of 2016, the following transactions took place:

Purchase of non-controlling economic interests in Songwon Additive Technologies AG, Switzerland (merged with Songwon Holdings AG on September 5, 2016, which later merged with Songwon International AG (renamed Songwon Group Holding AG during 2017) on December 6, 2016):

On April 30, 2016, the Group purchased an additional 25% of the economic interest in Songwon Additive Technologies AG, Switzerland and thereby increased the equity stake from 75% as of December 31, 2015 to 100% as of December 31, 2016. The consideration of 4,102 Million KRW was determined for the non-controlling shareholders. The amount recorded as non-controlling interests in the Group's equity amounted to 3,785 Million KRW. The effect of changes in the ownership interest of Songwon Additive Technologies AG on the equity attributable to owners of the Group during 2016 is summarized as follows:

	Million KRW
Cash consideration paid to non-controlling shareholders	-4,102
Carrying value of the additional interest in Songwon Additives Technologies	3,785
Decrease in parents equity	-317

Disposal of interest in Songwon Polysys Additives LLC, United Arab Emirates, without loss of control:

On April 30, 2016, the Group disposed an 18.5% economic interest out of the 74% economic interest held in Songwon Polysys Additives LLC, United Arab Emirates, at a consideration of 745 Million KRW. The carrying amount of the non-controlling economic interests in Songwon Polysys Additives LLC on the date of disposal was 745 Million KRW (representing 18.5% interest). This resulted in an increase in non-controlling economic interests of 745 Million KRW. No changes arose in equity attributable to owners of the parent as 18.5% were indirectly acquired by Songwon in the course of purchase of non-controlling economic interests in Songwon Additive Technologies AG, Switzerland on the same date (increase of interest in Songwon Polysys Additives LLC from 55.5% to 74%). The effect of changes in the ownership interest of Songwon Polysys Additives LLC on the equity attributable to owners of the Group during 2016 is summarized as follows:

	Million KRW
Carrying amount of non-controlling interests disposed of	-745
Consideration received from non-controlling interests	745
Decrease in parents equity	—

1.2.4.2 INTEREST OF NON-CONTROLLING INTERESTS

The Group has one subsidiary (Songwon Polysys Additives LLC, United Arab Emirates) with non-controlling interests representing an ownership of 44.5% as of December 31, 2017 and 2016. The net loss attributable to the non-controlling interests for the year 2017 is 688 Million KRW (2016: net loss of -995 Million KRW). Summarized cash flow information of the partly owned subsidiaries is as follows:

	2017 Million KRW	2016 Million KRW
Operating cash flow	-1,583	-5,092
Investing cash flow	-215	-236
Financing cash flow	1,747	5,292
Net cash flow	-51	-36

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

2.1 BASIS OF PREPARATION

The financial statements of the Group have been prepared in accordance with Korean International Financial Reporting Standards (“K-IFRS”) established adopting International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) in accordance with Item 1 of the 1st Clause of Article 13 of External Audit Law.

The financial statements have been prepared on a historical cost basis, except for certain items, such as financial instruments, which are mentioned separately in the following accounting principles. The financial statements are presented in Korean won (KRW) and all values are rounded to the nearest million (000,000), except when otherwise indicated.

The Group maintains its official accounting records in Korean won and prepares statutory financial statements in the Korean language in conformity with K-IFRS. In the event of any differences in interpreting the financial statements or the independent auditor’s report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

2.2 BASIS OF CONSOLIDATION

The consolidated financial statements comprise the financial statements of the Group and its subsidiaries as of December 31, 2017. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if, and only if, the Group has:

- Power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee)
- Exposure or rights to variable returns from its involvement with the investee
- The ability to use its power over the investee to affect its returns

Generally, there is a presumption that a majority of voting rights results in control. To support this presumption and when the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee
- Rights arising from other contractual arrangements
- The Group’s voting rights and potential voting rights

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when it loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the statement of comprehensive income from the date that the Group gains control until the date that it ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to align their accounting policies with the Group’s accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

2.3 CONVENIENCE TRANSLATION INTO UNITED STATES DOLLAR AMOUNTS

The Parent Company operates primarily in Korean won and its official accounting records are maintained in Korean won. The U.S. dollar amounts provided in the financial statements represent supplementary information solely for the convenience of the reader. All won amounts are expressed in U.S. dollars at the rate of KRW 1,068.27 to USD 1, the exchange rate in effect on December 31, 2017. Such a presentation is not in accordance with generally accepted accounting principles, and should not be construed as a representation that the won amounts shown could be readily converted, realized or settled in U.S. dollars at this or at any other rate.

2.4 RESTATEMENT OF PRIOR YEAR FIGURES IN CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

A decision was made in 2017 to reclassify foreign exchange impacts from other income and expenses into financial income and expenses in order to summarize the impacts of the foreign exchange resulting from the net working capital in the financial results. In 2016, the amount of reclassified gains on foreign exchange differences are 12,601 Million KRW (11,796 Thousand USD) and the reclassified losses on foreign exchange differences are -10,650 Million KRW (-9,969 Thousand USD) in total. As a result of the reclassifications, the EBIT, EBITDA and the corresponding margins decreased for 2016 by -1,951 Million KRW (-1,827 Thousand USD). However, operating profit, net profit and earnings per share remained unchanged.

2.5 BUSINESS COMBINATIONS AND GOODWILL

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, the acquirer measures the non-controlling interest in the acquiree – either at fair value, or at the proportionate share of the acquiree's identifiable net assets. Acquisition costs incurred are expensed and included in administrative expenses.

In business combinations achieved in stages, any previously held equity interest in the acquiree is re-measured to its acquisition date fair value.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration, which is deemed to be an asset or liability, will be recognized in profit or loss.

Goodwill is initially measured at cost being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interest over the net identifiable assets acquired and liabilities assumed. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

2.6 INTEREST IN JOINT ARRANGEMENTS

Joint ventures

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control. The considerations made in determining joint control are similar to those necessary to determine control over subsidiaries.

The Group's investments in its joint ventures are accounted for using the equity method. Under the equity method, the investment in a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the joint venture since the acquisition date.

The statement of profit or loss reflects the Group's share of the results of operations of the joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In addition, when there has been a change recognized directly in the equity of a joint venture, the Group recognizes its share of any changes, when applicable, in the statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the joint venture are eliminated to the extent of the interest in the joint venture.

The aggregate of the Group's share of profit or loss in a joint venture is shown on the face of the statement of profit or loss outside operating profit, and represents profit or loss after tax and non-controlling interests in the subsidiaries of the joint venture.

The financial statements of the joint venture are prepared for the same reporting period as the Group. When necessary, adjustments are made to align the accounting policies with those of the Group.

At each reporting date, the Group determines whether there is objective evidence that the investment in the joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the joint venture and its carrying value. It then recognizes the loss as "Share of profit of a joint venture" in the statement of profit.

Upon loss of significant influence over the joint venture, the Group measures and recognizes any retained investment at its fair value. Any difference between the carrying amount of the joint venture – upon loss of significant influence or joint control – and the fair value of the retained investment and proceeds from disposal is recognized in profit or loss.

Joint operations

A joint operation is defined as an arrangement in which the parties with joint control have rights to the assets and obligations for the liabilities relating to that arrangement. In respect of its interest in a joint operation, a joint operator must recognize all of its assets, liabilities, revenues and expenses, including its relative share of jointly controlled assets, liabilities, revenue and expenses.

The considerations made in determining joint control are similar to those necessary to determine control over subsidiaries.

2.7 FOREIGN CURRENCY TRANSLATION

The financial statements are presented in Korean won, which is the parent company's functional currency. Each entity in the Group determines its own functional currency, and items included in the financial statements of each entity are measured using that functional currency.

Transactions in foreign currencies are initially recorded by the Group companies at their respective functional currency rates prevailing at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange ruling at the reporting date. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

The assets, including goodwill and liabilities of foreign subsidiaries, where the functional currency is other than the Korean won, are translated using the exchange rate at the end of the reporting period, while the statements of income are translated using average exchange rates during the period. Differences arising from such translations are recognized within equity and reclassified to net income when the gain or loss on disposal of the foreign subsidiary is recognized.

2.8 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is valued at cost less accumulated depreciation and accumulated impairment losses. Such costs include the cost of replacing part of the property, plant and equipment and borrowing costs for long-term construction projects, if the recognition criteria are met. Other repair and maintenance costs are recognized in the income statement as incurred. If the costs of certain components of an item of property, plant and equipment are significant in relation to the total cost of the item, they are accounted for and depreciated separately.

Depreciation expense is recognized using the straight-line method. The following useful lives are assumed:

Land	No depreciation
Buildings	18-54 years
Structures	10-40 years
Machinery	10-20 years
Other	1-10 years

Residual values and useful lives are reviewed annually and, if expectations differ from previous estimates, adjusted accordingly.

The gain or loss arising from the derecognition of a property, plant or equipment shall be determined as the difference between the net disposal proceeds and the carrying amount of the asset. It shall be recognized in the income statement when the asset is derecognized.

2.9 INTANGIBLE ASSETS

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as at the date of acquisition. Following initial recognition, intangible assets are carried at cost, less any accumulated amortization and accumulated impairment losses.

Intangible assets with useful finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Changes in the expected useful life or the expected consumption pattern of future economic benefits embodied in the asset are accounted for by changing the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite lives is recognized in the income statement under cost of sales and selling and administration costs in the expense category that is consistent with the function of the intangible assets.

Intangible assets with indefinite useful lives (such as goodwill and memberships) are not amortized, but are tested for impairment annually either individually, or at the cash-generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset, and are recognized in the income statement when the asset is derecognized.

Intangible assets with finite useful lives are amortized using the straight-line method with the following useful lives:

Software	3-10 years
Industrial rights	10 years
Useful lives of items recognized in business combinations	Over its useful life between 5-9 years
Customer relationships	5-9 years
Non-compete agreements	6 years
Process technologies	5-6 years

2.10 INVESTMENT PROPERTY

The Group classifies the property to earn rentals or for capital appreciation, or both, as investment properties. As investment properties are accounted for using a cost model, the same accounting policies applied to property, plant and equipment are used for their accounting treatment, except for their classification and presentation.

2.11 LEASES

The determination of whether an arrangement is, or contains, a lease is based on the substance of the arrangement at inception date, whether fulfillment of the arrangement is dependent on the use of a specific asset or assets, and the arrangement conveys a right to use the asset, even if that right is not explicitly specified in an arrangement.

Group as a lessee

Finance leases, which transfer substantially to the Group all the risks and benefits incidental to ownership of the leased item, are capitalized at the commencement of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability, so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are recognized in finance costs in the income statement.

A leased asset is depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of its estimated useful life and the lease term.

Operating lease payments are recognized as an operating expense in the income statement on a straight-line basis over the lease term.

Group as a lessor

Leases in which the Group does not transfer substantially all the risks and benefits of ownership of the asset are classified as operating leases. Initial direct costs incurred in negotiating an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned. The Group has not entered into finance lease agreements as a lessor.

2.12 IMPAIRMENT OF NON-FINANCIAL ASSETS

The Group reviews non-financial assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If any indication exists, or when annual impairment testing for assets, such as membership is required, the Group estimates the asset's recoverable amount. Recoverability of assets is measured by the comparison of the carrying amount of the asset to the recoverable amount, which is the higher of the asset's value in use and its fair value less costs to sell. If assets do not generate cash inflows that are largely independent of those from other assets or groups of assets, the impairment test is not performed at an individual asset level; instead, it is performed at the level of the cash-generating unit (CGU) that the asset belongs to.

Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, recent market transactions are taken into account, if available. If no such transactions can be identified, an appropriate valuation model is used.

For assets excluding goodwill, an assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or may have decreased. If such an indication exists, the Group estimates the asset or cash-generating unit's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited, so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such a reversal is recognized in the income statement.

The following criteria are also applied in assessing impairment of specific assets:

Goodwill

Goodwill is tested for impairment annually as of December 31, as well as whenever there are events or changes in circumstances (triggering events), which suggest that the carrying amount may not be recoverable. Goodwill is carried at cost less accumulated impairment losses.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to the (groups of) cash-generating unit(s) that is expected to benefit from the synergies of the business combination. If the carrying amount of the cash-generating unit(s), to which the goodwill is allocated, exceeds its recoverable amount, an impairment loss on goodwill is recognized. The recoverable amount is the higher of the cash-generating unit(s) fair value less costs to sell and its value in use.

Impairment losses relating to goodwill cannot be reversed in future periods.

Intangible assets with indefinite useful lives

Intangible assets with indefinite useful lives are tested for impairment annually as of December 31 either individually, or at the cash-generating unit level, as appropriate and when circumstances indicate that the carrying value may be impaired.

2.13 BORROWING COSTS

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective assets.

2.14 INVENTORIES

Inventory is valued at the lower of the acquisition or production cost and net realizable value, cost being generally determined on the basis of a weighted average. Production costs comprise direct material and labor and applicable manufacturing overheads, including depreciation charges based on normal operating capacity. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

2.15 CASH AND CASH EQUIVALENTS

Cash and cash equivalents in the statement of financial position comprise cash at banks, as well as on hand and short-term deposits with a maturity of three months or less.

2.16 PROVISIONS

A provision is recognized when the Group has a present legal or constructive obligation as a result of a past event. It is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. If the effect is material, provisions are recognized at present value by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money.

Greenhouse gas emissions

The Group receives free emission rights as a result of emission trading schemes. The rights are received on an annual basis and, in return, the Group is required to remit rights equal to its actual emissions. The Group has adopted the net liability approach to the emission rights granted. Therefore, a provision is recognized only when actual emissions exceed the emission rights granted and still held. The emission costs are recognized as other operating costs. Where emission rights are purchased from other parties, they are recorded at cost, and treated as a reimbursement right, whereby they are matched to the emission liabilities and remeasured to fair value. The changes in fair value are recognized in the statement of profit or loss and other comprehensive income.

2.17 PENSIONS AND OTHER LONG-TERM EMPLOYMENT BENEFITS

Pensions

The Group operates three defined benefit pension plans: one in Korea, one in Switzerland and one in India. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method.

Re-measurements, comprising actuarial gains and losses, the effect of the asset ceiling, excluding net interest and the return on plan assets (excluding net interest), are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Re-measurements are not reclassified to profit or loss in subsequent periods.

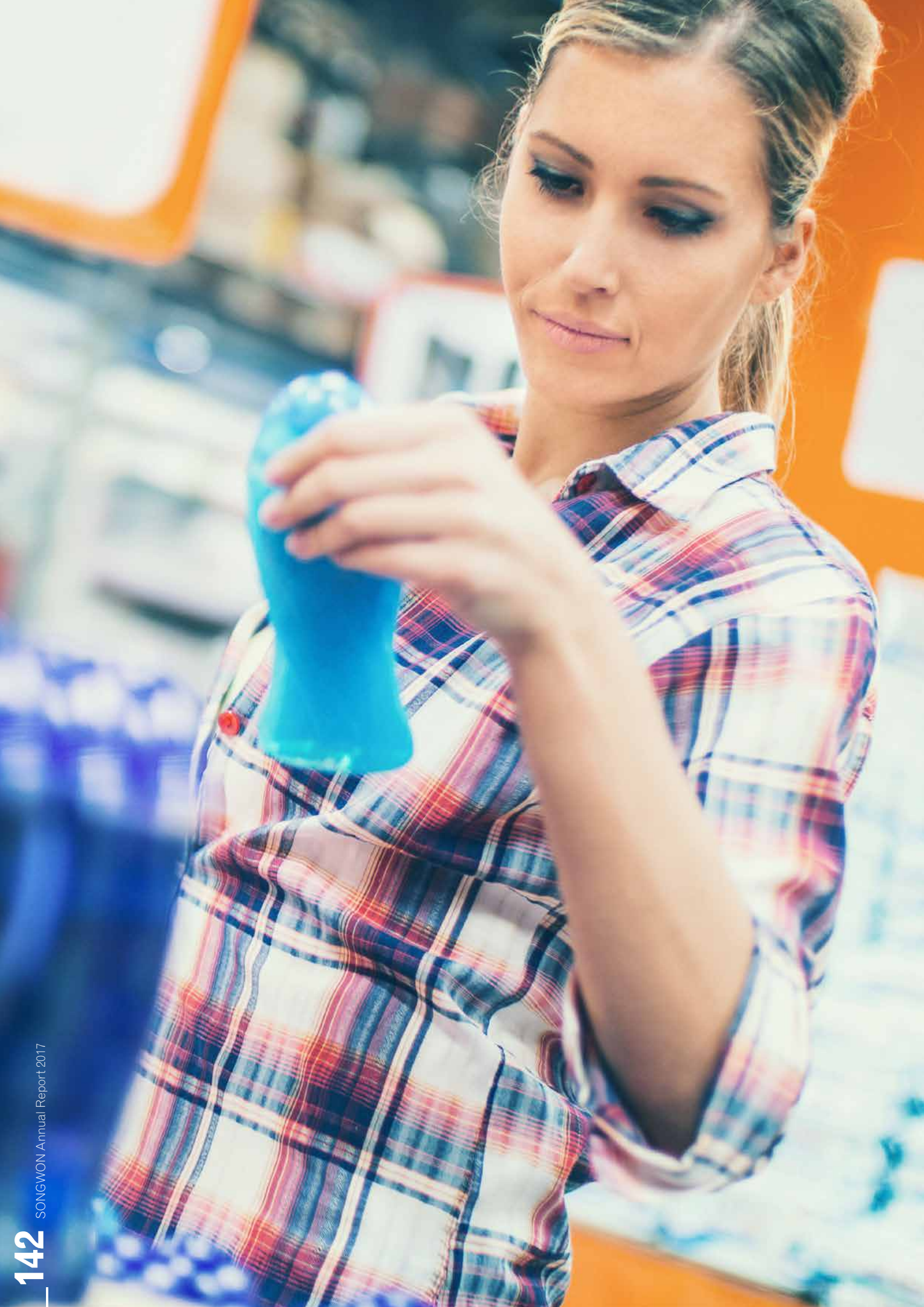
Past service costs are recognized in profit or loss on the earlier of:

- The date of the plan amendment or curtailment
- The date that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The pension expenses are recognized in the income statement under cost of sales and selling and administration costs.

Other long-term employment benefits

The parent company also implements a bonus plan designed to present a prescribed quantity of gold and entitles compensated vacation to long-term service employees. Accounting policies of the bonus plan are mostly the same as the defined benefit plan, except that re-measurements are recognized immediately in profit or loss.



2.18 TAXES

Current income tax

Current income tax assets and liabilities for the current period are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted, or substantively enacted, at the reporting date in the countries where the Group operates and generates taxable income.

Deferred tax

Deferred tax is provided using the liability method on temporary differences at the reporting date between the tax basis of assets and liabilities, and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- Where the deferred tax liability arises from the initial recognition of goodwill, or of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit, nor taxable profit or loss.
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized, except:

- Where the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit, nor taxable profit or loss.
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future, and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are reassessed at each reporting date, and recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction, either in other comprehensive income, or directly in equity.

Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

2.19 REVENUE RECOGNITION

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the Group and the revenue can be reliably measured. Revenue is measured at the fair value of the consideration received or receivable, taking into account contractually defined terms of payment and excluding taxes or duty. The following specific recognition criteria must also be met before revenue is recognized:

Sale of goods

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer.

Interest income

For all financial instruments measured at amortized cost and interest-bearing financial assets classified as available for sale, interest income or expense is recorded using the effective interest rate (EIR), which is the rate that exactly discounts the estimated future cash payments or receipts through the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income in the income statement.

Rental income

Rental income arising from operating leases on investment properties is accounted for on a straight-line basis over the lease terms and included in revenue due to its operating nature.

Dividends

Revenue is recognized when the Group's right to receive the payment is established.

2.20 FINANCIAL INSTRUMENTS

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets

All financial assets are recognized initially at fair value plus; in the case of investments not at fair value through profit or loss, directly attributable transaction costs apply. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognized on the trade date i.e. the date that the Group commits to purchase or sell the asset.

The subsequent measurement of financial assets depends on their classification as follows:

- At fair value through profit or loss
- Held to maturity
- Loans and receivables
- All other financial assets are classified as “available-for-sale”

The Group determines the classification of its financial assets at initial recognition.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. This category includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by K-IFRS 1039. Derivatives, including separated embedded derivatives, are also classified as held for trading unless they are designated as effective hedging instruments. Financial assets at fair value through profit and loss are carried in the statement of financial position at fair value with changes in fair value recognized in finance income or finance costs in the income statement.

The Group has not designated any financial assets upon initial recognition as at fair value through profit or loss.

Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortized cost using the effective interest rate method (EIR), less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included in finance income in the income statement. The losses arising from impairment are recognized in the income statement in finance costs.

Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held-to-maturity when the Group has the positive intention and ability to hold it to maturity. After initial measurement, held-to-maturity investments are measured at amortized cost using the effective interest method, less impairment. As for loans and receivables above the EIR, amortization is included in finance income in the income statement. The losses arising from impairment are recognized in the income statement in finance costs.

Available-for-sale financial investments

Available-for-sale financial investments include equity and debt securities. Equity investments classified as available-for-sale are those which are neither classified as held for trading, nor designated at fair value through profit or loss. Debt securities in this category are those which are intended to be held for an indefinite period of time and which may be sold in response to needs for liquidity, or in response to changes in the market conditions.

After initial measurement, available-for-sale financial investments are subsequently measured at fair value with unrealized gains or losses recognized as other comprehensive income in the available-for-sale reserve until the investment is derecognized, at which time the cumulative gain or loss is recognized in other income, or determined to be impaired, at which time the cumulative loss is reclassified to the income statement in finance costs and removed from the available-for-sale reserve.

Derecognition of financial assets

A financial asset (or where applicable a part of a financial asset or part of a Group of similar financial assets) is derecognized when:

- The rights to receive cash flows from the asset have expired.
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a pass-through arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred, nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, and has neither transferred, nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the asset is recognized to the extent of the Group's continuing involvement in the asset. In that case, the Group also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained. Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset, and the maximum amount of consideration that the Group could be required to repay.

Impairment of financial assets

Further disclosures relating to impairment of financial assets are also provided in the following notes:

- Note 3: Significant accounting judgments, estimates and assumptions
- Note 14: Trade and other receivables

The Group assesses, at each reporting date, whether there is objective evidence that a financial asset or a group of financial assets is impaired. An impairment exists if one or more events that has occurred since the initial recognition of the asset (an incurred 'loss event'), has an impact on the estimated future cash flows of the financial asset or the group of financial assets that can be reliably estimated. Evidence of impairment may include indications that the debtors or a group of debtors is experiencing significant financial difficulty, default or delinquency in interest or principal payments, the probability that they will enter bankruptcy or other financial reorganization and observable data indicating that there is a measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

Financial assets carried at amortized cost

For financial assets carried at amortized cost, the Group first assesses whether objective evidence of impairment exists individually for financial assets that are individually significant, or collectively for financial assets that are not individually significant. If the Group determines that no objective evidence of impairment exists for an individually assessed financial asset, whether significant or not, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Assets that are individually assessed for impairment and for which an impairment loss is, or continues to be, recognized are not included in a collective assessment of impairment.

Available-for-sale financial investments

In the case of equity investments, objective evidence would include a significant or prolonged decline in the fair value of the investment below its cost – a 'significant decline' is evaluated against the original cost of the investment and a 'prolonged decline' against the period in which the fair value has been below its original cost.

In the case of debt instruments, impairment is assessed based on the same criteria as financial assets carried at amortized cost. However, the amount recorded for impairment is the cumulative loss measured as the difference between the amortized cost and the current fair value, less any impairment loss on that investment previously recognized in the income statement.

Financial liabilities

All financial liabilities are recognized initially at fair value and in the case of loans and borrowings, including directly attributable transaction costs.

The measurement of financial liabilities depends on their classification as follows:

- Financial liabilities at fair value through profit or loss
- Loans and borrowings

The Group determines the classification of its financial liabilities at initial recognition.

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss. Financial liabilities are classified as held for trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships. Gains or losses on liabilities held for trading are recognized in the income statement. The Group has not designated any financial liabilities upon initial recognition as at fair value through profit or loss.

Loans and borrowings

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortized cost using the effective interest rate (EIR) method. Gains and losses are recognized in the income statement when the liabilities are derecognized, as well as through the effective interest rate method amortization process. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included in finance costs in the income statement.

Derecognition

A financial liability is derecognized when the obligation under the liability is discharged, cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the income statement.

Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount reported in the consolidated statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

Derivative financial instruments and hedge accounting

The Group uses derivative financial instruments, such as forward currency contracts and interest rate swaps, to hedge its foreign currency risks, interest rate risks and commodity price risks. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into, and are subsequently re-measured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

Cash flow hedges

Any gains or losses arising from changes in the fair value of derivatives are taken directly to the income statement, except for the effective portion of cash flow hedges, which is recognized in other comprehensive income. Amounts recognized as other comprehensive income are transferred to the income statement when the hedged transaction affects profit or loss, such as when the hedged financial income or financial expense is recognized.

If the forecast transaction or firm commitment is no longer expected to occur, the cumulative gain or loss previously recognized in equity is transferred to the income statement. If the hedging instrument expires or is sold, terminated or exercised without replacement or rollover, or if its designation as a hedge is revoked, any cumulative gain or loss previously recognized in other comprehensive income remains in other comprehensive income until the forecast transaction or firm commitment affects profit or loss.

The Group applies cash flow hedge accounting for interest rate swap contracts.

2.21 NEW AND AMENDED STANDARDS AND INTERPRETATIONS

The Group applied for the first time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2015. The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

The nature and the effect of these changes are disclosed below. Although these new standards and amendments were applied for the first time in 2015, they did not have a material impact on the annual consolidated financial statements of the Group. The nature and the impact of each new standard or amendment is described below:

Amendments to K-IFRS 1007 statement of cash flows: Disclosure initiative

The amendments require entities to provide disclosure of changes in their liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes (such as foreign exchange gains or losses). The Group has provided the information for both the current and the comparative period in Note 30.

Amendments to K-IFRS 1012 Recognition of Deferred Tax Assets for unrealized losses

The amendments clarify that an entity needs to consider whether tax law restricts the sources of taxable profits against which it may make deductions on the reversal of deductible temporary difference related to unrealized losses. Furthermore, the amendments provide guidance on how an entity should determine future taxable profits and explain the circumstances in which taxable profit may include the recovery of some assets for more than their carrying amount. However, their application has no effect on the Group's financial statements as the Group has no deductible temporary differences or assets that are in the scope of the amendments.

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Amendments to K-IFRS 1112 Disclosure of Interests in Other Entities: Clarification of the scope of disclosure requirements in K-IFRS 1112

The amendments clarify that the disclosure requirements in K-IFRS 1112, other than those in paragraphs B10–B16, apply to an entity's interest in a subsidiary, a joint venture or an associate (or a portion of its interest in a joint venture or an associate) that is classified (or included in a disposal group that is classified) as held for sale.

3. SIGNIFICANT ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The preparation of the Group's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods. The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below.

Notes	Description	Nature of estimation
6, 7, 8, 9	Impairment of non-financial assets / goodwill	Impairment exists when the carrying value of an asset or cash-generating unit exceeds its recoverable amount, which is the higher of its fair value less costs to sell and its value in use. The determination of the recoverable amount of a cash-generating unit involves the use of estimates by management. The fair value less costs to sell calculation is based on available data from binding sales transactions in an arm's length transaction of similar assets or observable market prices less incremental costs for disposing of the asset. The value in use calculation is based on a discounted cash flow model. The cash flows are derived from the expectations for the next three to five years and do not include restructuring activities that the Group is not yet committed to or significant future investments that will enhance the asset's performance of the cash-generating unit being tested. The recoverable amount based on the value in use is most sensitive to the discount rate used for the discounted cash flow model (WACC), as well as the expected future cash-inflows and the growth rate used for extrapolation purposes. The recoverable amount based on the fair value less cost to sell is most sensitive to the market prices, premiums and the estimate of cost to sell. These estimates, including the methodologies used, can have a material impact on the fair value and ultimately, the amount of any goodwill impairment.
8	Customer relations	Customer relations are depreciated over their estimated useful life. The estimated useful life is based on estimates of the time period during which this intangible asset generates cash flows, as well as historic empirical data concerning customer loyalty. Calculation of the present value of estimated future cash flows includes essential assumptions, especially of future sales. In addition, discounting is based on assumptions and estimations concerning business-specific capital costs, which are themselves dependent on national risks, and additional risks resulting from the volatility of the respective business.
20, 21	Pension and other employment benefits	The cost of defined benefit pension plans and other similar long-term employee benefits, and the present value of the pension obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions, which may differ from actual developments in the future. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Due to the complexity of the valuation, the underlying assumptions and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions.
28.2	Deferred tax assets	Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits together with future tax planning strategies.
24	Fair value of financial instruments	Where the fair value of financial assets and financial liabilities recorded in the statement of financial position cannot be derived from active markets, their fair value is determined using valuation techniques including the discounted cash flow model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs, such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

4. STANDARDS ISSUED BUT NOT YET EFFECTIVE

The standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below. The Group intends to adopt these standards, if applicable, when they become effective.

K-IFRS 1109 Financial Instruments

The KASB issued the final version of K-IFRS 1109 Financial Instruments that replaces K-IFRS 1039 Financial Instruments: Recognition and Measurement and all previous versions. K-IFRS 1109 brings together all three aspects of the accounting for financial instruments project: classification and measurement, impairment and hedge accounting. K-IFRS 1109 is effective for annual periods beginning on or after January 1, 2018, with early application permitted. Except for hedge accounting, retrospective application is required but providing comparative information is not compulsory. For hedge accounting, the requirements are generally applied prospectively, with some limited exceptions. The Group plans to adopt the new standard on the required effective date. The Group does not expect significant impact on its consolidated financial statements from applying K-IFRS 1109. However, the general impacts on the financial statements are as follows:

(1) Financial asset classification and measurement

The new K-IFRS 1109 requires a financial instrument to be classified and measured subsequently at amortized cost, fair value through other comprehensive income (FVOCI), or fair value through profit or loss (FVTPL), on the basis of the holder's business model and instrument's contractual cash flow characteristics as shown below. The requirements should be applied to an entire financial asset, even if it contains an embedded derivative. That is, in contrast with the requirements of K-IFRS 1039, a derivative embedded within a hybrid (combined) contract containing a financial asset host is not accounted for separately.

Business model	Contractual cash flow characteristics	
	Composed solely of principal and interest	For other cases
Purpose of collecting contractual cash flows	Measured at amortized cost (*1)	Measured at FVTPL (*2)
Purpose of collecting and selling contractual cash flows	Measured at FVOCI (*1)	
Purpose of selling, others	Measured at FVTPL	

(*1) can be designated at FVTPL in order to get rid of or reduce accounting mismatch (cannot cancel)

(*2) can be designated at FVOCI in case of equity securities not for held-for-trading purpose (cannot cancel)

The requirements in K-IFRS 1109 to classify financial assets measured at amortized costs or at FVOCI are stricter than K-IFRS 1039, and thus, the proportion of financial assets measured at FVTPL may increase, which may lead to a rise in profit or loss volatility at the adoption of K-IFRS 1109.

(2) Financial liabilities classification and measurement

In K-IFRS 1109, fair value changes of financial liabilities at FVTPL attributable to changes in credit risk of the liability shall be presented in other comprehensive income, not in profit or loss. Amounts presented in other comprehensive income shall not be subsequently transferred to profit or loss. However, the new standard allows the recognition of the full amount of changes in the fair value in profit or loss only if the presentation of the changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss.

The fair value changes of financial liabilities designated at FVTPL that were previously recognized as profit or loss in K-IFRS 1039 will partially be recorded as other comprehensive income and thus profit or loss related to the evaluation of financial liabilities may decrease.

(3) Impairment: financial assets and contract assets

In K-IFRS 1039, impairment is recognized only when there is objective evidence of impairment based on incurred loss model. In the new K-IFRS 1109, impairment of debt instruments, lease bonds, contract assets, loan commitments and financial guarantee contracts that are measured at amortized costs or at FVOCI is recognized based on the expected credit loss (ECL) impairment model.

K-IFRS 1109 outlines a 'three-stage' model for impairment based on changes in credit risk since initial recognition. Loss allowance is measured based on the 12-month ECL or life-time ECL which allows early recognition of credit loss compared to the incurred loss model of K-IFRS 1039.

	Classification	Loss allowance
Stage 1	Assets with no significant increase in credit risk since initial recognition (*1)	12-month ECL: expected credit losses that result from default events that are possible within 12 months after the reporting date.
Stage 2	Assets with significant increase in credit risk since initial recognition	Lifetime ECL: expected credit losses that result from all possible default events over the expected life of the financial instrument.
Stage 3	Credit-impaired assets	

(*1) Low credit risk at the end of reporting period may be considered as no significant increase in credit risk.

In K-IFRS 1109, only the accumulated changes in the life-time ECL after initial recognition are taken into account as loss allowance in case credit is impaired at initial recognition of financial assets.

(4) Hedge accounting

The new K-IFRS 1109 maintains mechanics of hedge accounting (fair value hedge, cash flow hedge, overseas operations net investment hedge) as set forth in K-IFRS 1039. However, unlike requirements in K-IFRS 1039 that are too complex and strict, K-IFRS 1109 is more practical, principle-based and less strict and focuses on the entity's risk management activities. Also, K-IFRS 1109 allows broader range of hedged items and hedging instruments. Under K-IFRS 1039, a hedge is assessed to be highly effective only if the offset is in the range of 80-125 percentage by performing numerical test of effectiveness. In K-IFRS 1109, such requirements are alleviated.

Transactions not qualifying for hedge accounting requirements of K-IFRS 1039 may now qualify for hedge accounting under K-IFRS 1109, resulting in less volatility in profit or loss.

K-IFRS 1110 and K-IFRS 1028: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

The amendments address the conflict between K-IFRS 1110 and K-IFRS 1028 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in K-IFRS 1103, between an investor and its associate or joint venture, is recognized in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognized only to the extent of unrelated investors' interests in the associate or joint venture. The IASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. The Group will apply these amendments when they become effective.

K-IFRS 1115 Revenue from Contracts with Customers

K-IFRS 1115 establishes a five-step model to account for revenue arising from contracts with customers. Under K-IFRS 1115, revenue is recognized at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The new revenue standard will supersede all current revenue recognition requirements under K-IFRS. Either a full retrospective application or a modified retrospective application is required for annual periods beginning on or after January 1, 2018. Early adoption is permitted. The Group plans to adopt the new standard on the required effective date using the modified retrospective method.

The new standard K-IFRS 1115 applies to all revenue arising from contracts with customers and replaces K-IFRS 1011 Construction Contracts, K-IFRS 1018 Revenue, K-IFRS 2113 Customer Loyalty Programs and relevant interpretations.

The principles in K-IFRS 1115 are applied using the following five steps:

1. Identify the contract(s) with a customer
2. Identify the performance obligations in the contract
3. Determine the transaction price
4. Allocate the transaction price to the performance obligations in the contract
5. Recognize revenue when (or as) the entity satisfies a performance obligation

The Group does not expect significant impact on revenue recognition applying K-IFRS 1115 except for certain changes in disclosure of revenues as per individual performance obligations - in particular, segregating revenues from sales of materials from revenues of related services paid by the Group (freight, transport insurance) under certain incoterms.

K-IFRS 1116 Leases

K-IFRS 1116 was issued in January 2016 and it replaces K-IFRS 1017 Leases, K-IFRS 2104 Determining whether an Arrangement contains a Lease, K-IFRS 2015 Operating Leases-Incentives and K-IFRS 2027 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. K-IFRS 1116 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under K-IFRS 1017. The standard includes two recognition exemptions for lessees – leases of 'low-value' assets (e.g., personal computers) and short-term leases (i.e., leases with a lease term of 12 months or less). At the commencement date of a lease, a lessee will recognize a liability to make lease payments (i.e., the lease liability) and an asset representing the right to use the underlying asset during the lease term (i.e., the right-of-use asset). Lessees will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset.

Lessees will be also required to remeasure the lease liability upon the occurrence of certain events (e.g., a change in the lease term, a change in future lease payments resulting from a change in an index or rate used to determine those payments). The lessee will generally recognize the amount of the remeasurement of the lease liability as an adjustment to the right-of-use asset.

Lessor accounting under K-IFRS 1116 is substantially unchanged from today's accounting under K-IFRS 1017. Lessors will continue to classify all leases using the same classification principle as in K-IFRS 1017 and distinguish between two types of leases: operating and finance leases.

K-IFRS 1116 also requires lessees and lessors to make more extensive disclosures than under K-IFRS 1017.

K-IFRS 1116 is effective for annual periods beginning on or after January 1, 2019. Early application is permitted, but not before an entity applies K-IFRS 1115. A lessee can choose to apply the standard using either a full retrospective or a modified retrospective approach. The standard's transition provisions permit certain reliefs.

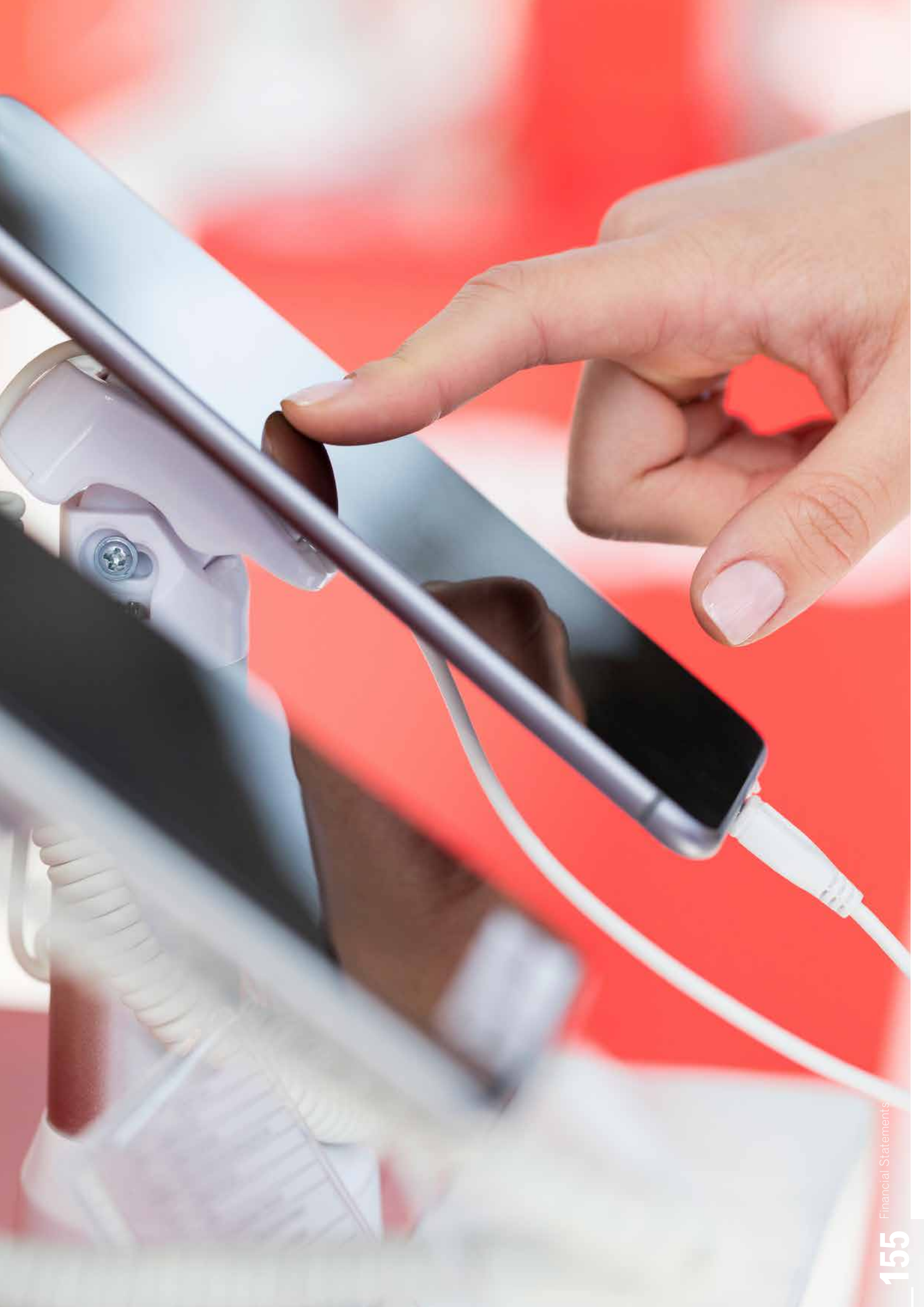
The Group is assessing the potential effect of the amendments on its consolidated financial statements. The Group will apply these amendments on the required effective date.

K-IFRS 2122 Foreign Currency Transactions and Advance Consideration

The Interpretation clarifies that, in determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, then the entity must determine the transaction date for each payment or receipt of advance consideration. Entities may apply the amendments on a fully retrospective basis. Alternatively, an entity may apply the Interpretation prospectively to all assets, expenses and income in its scope that are initially recognized on or after:

- (i) The beginning of the reporting period in which the entity first applies the interpretation, or
- (ii) The beginning of a prior reporting period presented as comparative information in the financial statements of the reporting period in which the entity first applies the interpretation.

The Interpretation is effective for annual periods beginning on or after January 1, 2018. Early application of interpretation is permitted and must be disclosed. However, since the Group's current practice is in line with the Interpretation, the Group does not expect any effect on its consolidated financial statements.



5. SEGMENT INFORMATION

For management purposes, SONGWON Industrial Group is organized into one main operating segment. All of the Group's activities are interrelated, and each activity is dependent on the others. Accordingly, all significant operating decisions are based upon analysis of the Group as one segment. The results from this operating segment are equivalent to the financial statements of the Group as a whole.

The Group is operating worldwide and therefore, discloses geographic segment information.

5.1 PRODUCT INFORMATION

	2017	2016
	Million KRW	Million KRW
Alkylphenols and Intermediates	1,670	1,956
Plasticizers	8,192	8,991
Polyester Diols	10,850	10,333
Polymer Stabilizers (AOX and UVs)	495,345	478,403
Polyurethanes	40,536	43,026
PVC Stabilizers	47,936	45,860
SAP and Flocculants	8,483	9,146
Tin Intermediates	84,117	79,494
Others	27,724	17,117
Total sales of goods	724,853	694,326

5.2 GEOGRAPHIC INFORMATION

	2017	2016
	Million KRW	Million KRW
Korea	194,963	187,353
Rest of Asia	192,072	166,526
Europe	150,549	148,395
North and South America	138,717	144,278
Australia	2,764	2,212
Middle East and Africa	45,788	45,562
Total sales of goods	724,853	694,326

The revenue information above is based on the location of the customer. Korea is disclosed separately due to the size of the material Korean home market whereas all other countries have been summarized to regions. Therefore, no country revenues are disclosed separately.

The Group is not recognizing more revenue than 10% of its total revenue with one client during the reporting periods.

5.3 NON-CURRENT ASSETS

	2017	2016
	Million KRW	Million KRW
Korea	407,183	395,583
Rest of Asia	22,509	22,836
Europe	16,033	20,313
North and South America	4,896	4,584
Middle East and Africa	16,239	18,969
Total	466,860	462,285

Non-current assets for this purpose consist of property, plant and equipment, investment properties and intangible assets.



6. PROPERTY, PLANT AND EQUIPMENT

Cost	Land	Buildings	Structures	Machinery	Other	Construction in progress	Total
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
At January 1, 2016	147,904	68,374	63,995	445,667	17,300	23,719	766,959
Additions	–	225	12	44	1,228	24,479	25,988
Disposals	–	–	–	-2,485	-965	–	-3,450
Reclassifications	–	16,774	1,634	19,522	331	-38,271	-10
Net exchange differences	–	-21	-1	79	1	610	668
At December 31, 2016	147,904	85,352	65,640	462,827	17,895	10,537	790,155
Additions	–	470	36	310	1,833	39,733	42,382
Disposals	–	–	-6	-1,843	-936	–	-2,785
Reclassification	–	4,866	524	40,193	212	-45,795	–
Net exchange differences	–	-1,972	1	-1,617	-212	-160	-3,960
At December 31, 2017	147,904	88,716	66,195	499,870	18,792	4,315	825,792

Depreciation

At January 1, 2016	–	-17,815	-31,201	-273,879	-11,568	–	-334,463
Depreciation charge	–	-2,297	-3,110	-20,483	-1,495	–	-27,385
Disposals	–	–	–	2,338	939	–	3,277
Net exchange differences	–	-20	–	-32	-48	–	-100
At December 31, 2016	–	-20,132	-34,311	-292,056	-12,172	–	-358,671
Depreciation charge	–	-2,404	-3,101	-20,675	-1,544	–	-27,724
Disposals	–	–	5	1,152	903	–	2,060
Net exchange differences	–	97	–	141	26	–	264
At December 31, 2017	–	-22,439	-37,407	-311,438	-12,787	–	-384,071

Net book value

At December 31, 2017	147,904	66,277	28,788	188,432	6,005	4,315	441,721
At December 31, 2016	147,904	65,220	31,329	170,771	5,723	10,537	431,484

No impairment of fixed assets has been recognized in 2017 as well as in 2016. Non-cash transactions amounting to 3,984 Million KRW (2016: 5,085 Million KRW) are included in the additions for year ending 2017.

Capitalized borrowing costs

Borrowing costs, which are directly attributable to the acquisition or production of a qualified asset, are capitalized as part of the cost of that asset. No borrowing costs have been capitalized during the 2017 and 2016 financial years.

Finance leases

There are no assets held under leasing agreements, which may be considered as an asset purchase in economic terms (finance lease), in the Group. Payment on leased assets defined as “operating lease” and having a rental character are expensed over the lease period.

Contractual commitments and pledged assets

A pledged asset is an asset that is transferred to a lender for the purpose of securing debt. The lender of the debt maintains possession of the pledged asset, but does not have ownership unless a default occurs (refer to note 26). For contractual commitments to purchase property, plant and equipment, refer to note 25.3.



7. INVESTMENT PROPERTIES

Cost	Land	Buildings	Structures	Total
	Million KRW	Million KRW	Million KRW	Million KRW
At January 1, 2016	3,277	499	32	3,808
Net exchange differences	2	6	–	8
At December 31, 2016	3,279	505	32	3,816
Net exchange differences	-1	-7	–	-8
At December 31, 2017	3,278	498	32	3,808

Depreciation

At January 1, 2016	–	-224	-22	-246
Depreciation charge	–	-15	-1	-16
Net exchange differences	–	-4	-1	-5
At December 31, 2016	–	-243	-24	-267
Depreciation charge	–	-16	-1	-17
Net exchange differences	–	6	–	6
At December 31, 2017	–	-253	-25	-278

Net book value

At December 31, 2017	3,278	245	7	3,530
At December 31, 2016	3,279	262	8	3,549

Investment properties are stated at cost less any accumulated depreciation and impairment losses, if any. The same useful lives have been used as for property, plant and equipment.

	2017	2016
	Million KRW	Million KRW
Rental income	16	18
Operational expenses	40	34

Songwon Industrial Co., Ltd. owns an office building in Busan which is subleased and the fair value of the office building amounts to 5,000 Million KRW. Moreover, Songwon Japan KK owns an object which is subleased. The fair value of the building and land is 38 Million KRW.

Furthermore, no investment properties were disposed during 2017 and 2016.

Disclosure of pledged assets can be found in note 26.

8. INTANGIBLE ASSETS

	Industrial rights	Software	Memberships	Customer relationships	Non-competes contracts	Capitalization process technology	Goodwill	Construction in progress	Total
Cost	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
At January 1, 2016	2,672	2,525	852	31,391	14,812	4,937	41,624	1,486	100,299
Additions	–	208	2	–	–	–	–	206	416
Disposals	-119	–	–	–	–	–	–	-331	-450
Reclassifications	776	–	–	–	–	-1,116	–	–	-340
Net exchange differences	–	39	-1	960	126	-3	3,266	–	4,387
At December 31, 2016	3,329	2,772	853	32,351	14,938	3,818	44,890	1,361	104,312
Additions	–	24	–	–	–	–	–	600	624
Disposals	–	-87	-20	–	–	–	–	-203	-310
Reclassifications	273	–	–	–	–	–	–	-273	–
Net exchange differences	-1	-108	-2	-4,724	–	-676	-4,099	–	-9,610
At December 31, 2017	3,601	2,601	831	27,627	14,938	3,142	40,791	1,485	95,016

Amortization

At January 1, 2016	-1,104	-2,161	–	-17,373	-12,025	-1,889	-31,059	–	-65,611
Amortization charge	-333	-201	–	-3,900	-2,442	-729	–	–	-7,605
Disposals	71	–	–	–	–	–	–	–	71
Reclassifications	–	–	–	–	–	340	–	–	340
Net exchange differences	1	-19	–	-487	-471	-23	-3,256	–	-4,255
At December 31, 2016	-1,365	-2,381	–	-21,760	-14,938	-2,301	-34,315	–	-77,060
Amortization charge	-335	-173	–	-3,529	–	-506	–	–	-4,543
Disposals	–	45	–	–	–	–	–	–	45
Net exchange differences	–	78	–	3,860	–	553	3,660	–	8,151
At December 31, 2017	-1,700	-2,431	–	-21,429	-14,938	-2,254	-30,655	–	-73,407

Net book value

At December 31, 2017	1,901	170	831	6,198	–	888	10,136	1,485	21,609
At December 31, 2016	1,964	391	853	10,591	–	1,517	10,575	1,361	27,252

The intangible assets (except for goodwill and memberships) are amortized over a finite useful life. The goodwill items consist of items acquired in a business combination. In the financial years 2017 and 2016, no business combination took place that led to a capitalization of intangible assets.

The intangible assets with indefinite useful lives are tested for impairment on an annual basis. An impairment test was carried out for goodwill and membership items on the basis of calculated value in use. For further details of the impairment test, refer to note 9.

8.1 DETAILS OF INDIVIDUALLY SIGNIFICANT INTANGIBLE ASSETS

Description	Remark	2017	2016	Remaining life
		December 31 Million KRW	December 31 Million KRW	
Industrial rights	REACH	1,240	1,206	4.5
Industrial rights	1330 Technology	621	652	8
Membership	New Seoul Country	778	778	Indefinite
Goodwill	Acquisition of Songwon Group Holding AG (former: Songwon International AG)	1,836	2,076	Indefinite
Goodwill	Acquisition of ATG Additive Technology Greiz GmbH	4,739	4,708	Indefinite
Goodwill	Acquisition of Songwon Polysys Additives LLC	118	133	Indefinite
Goodwill	Acquisition of Business SeQuent Scientific Limited	3,443	3,658	Indefinite
Intangible assets acquired in a business combination	Customer relationships	6,198	10,531	2
Intangible assets acquired in a business combination	Capitalization process technologies	888	1,517	2
Construction-in-progress	REACH	1,485	1,361	n/a
Significant intangible assets total		21,346	26,620	

9. IMPAIRMENT TESTING OF GOODWILL AND INTANGIBLES WITH INDEFINITE LIVES

9.1 IMPAIRMENT TEST ON GOODWILL AND INTANGIBLE ASSETS WITH INDEFINITE USEFUL LIFE

Goodwill acquired through business combinations and memberships with indefinite useful lives have been allocated to the cash-generating units (CGUs) according to their business activities. Goodwill acquired in a business combination is allocated to each cash-generating unit expected to benefit from the synergies of the business combination. The goodwill acquired during the acquisition of Songwon Group Holding AG (former: Songwon International AG), Songwon ATG GmbH, Songwon Polysys Additives LLC, as well as memberships are allocated to the CGU comprising the acquired entities and the parent company, which correspond almost to the entire Group. The goodwill resulting from the business acquisition of SeQuent Scientific Limited was allocated to the distinct CGU of Songwon Specialty Chemicals – India Pvt. Ltd., India (SWDM-IN).

The allocation of the goodwill and intangible assets with indefinite useful life to the cash generating unit is as follows:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Goodwill of Songwon Specialty Chemicals-India Pvt. Ltd., India (SWDM-IN)	3,443	3,658
Goodwill of the rest of the Group (main CGU)	6,693	6,917
Memberships with indefinite useful lives of the rest of the Group (main CGU)	778	778
Total tested goodwill and intangible assets with indefinite useful lives	10,914	11,353

The Group performed its annual impairment test in December 2017 and 2016. The recoverable amount of the CGUs – to which goodwill and intangible assets with indefinite lives are allocated – has been determined based on its value in use, calculated using the discounted cash flow (DCF) model.

As of December 31, 2017, the recoverable amount of the main CGU (rest of the Group) equals to 682,185 Million KRW (2016: 764,492 Million KRW). The recoverable amount of the CGU of Songwon Specialty Chemicals – India Pvt. Ltd., India amounts to 31,675 Million KRW or 1,889 Million INR (2016: 26,268 Million KRW or 1,474 Million INR).

There is no impairment loss recognized during 2017 according to the impairment test on goodwill and memberships. As of the measurement date, the recoverable amount based on the value in use in 2017 exceeded the carrying amount of the relevant CGUs.

9.2 KEY ASSUMPTIONS USED IN CALCULATION OF VALUE IN USE

The calculation of the CGU value in use reflects the future cash flows for the next three years for the main CGU and for the next five years for SWDM-IN discounted to the present value at the weighted average cost of capital (WACC) and an estimated residual value. The projected cash flows for the main and SWDM-IN CGUs are estimated on the basis of the Budget 2018 and the Business Plan 2018 - 2022 respectively, as approved by management, and mid-term assumptions. For the free cash flows extending beyond the detailed planning period, a terminal value was computed by capitalizing the normalized cash flows using a constant growth rate. The long-term growth rate is in line with blended long-term inflation expectations for relevant countries.

In addition, a market risk premium of 6.00% (2016: 6.00%) and a small cap premium of 3.67% (2016: 3.58%) were applied for the calculation of the WACC.

The key assumptions underlying the calculation are as follows:

Parameters for the determination of the recoverable amount of the CGU

Parameters for the determination of the recoverable amount of the CGU	Description
Average annual growth	Average annual growth is calculated on the basis of mid-term assumptions.
WACC	WACC is calculated using the Capital Asset Pricing Model (CAPM). The latter comprises the weighted cost of own equity and of external borrowing costs. The application of WACC pre-tax and WACC post-tax results in the same value in use.
Long-term growth rate	Long-term growth rate is calculated on the basis of expected inflation rates for currencies of relevant countries.

Parameters for the determination of the recoverable amount of the main CGU

	2017	2016
Average annual growth	4.40%	3.00%
Pre-tax WACC	10.50%	12.94%
Post-tax WACC	10.40%	10.42%
Long-term growth rate	2.49%	2.50%

Parameters for the determination of the recoverable amount of the CGU of SWDM-IN

	2017	2016
Average annual growth	2.60%	8.14%
Pre-tax WACC	16.38%	19.62%
Post-tax WACC	15.89%	15.73%
Long-term growth rate	4.80%	4.67%

The following changes in material assumptions led to a situation where the value in use equals the carrying amount:

Parameters for the determination of the recoverable amount of the CGU

Parameters for the determination of the recoverable amount of the CGU	Sensitivity analysis main CGU (rest of the Group)	Sensitivity analysis SWDM-IN
Average annual growth	0.00%	0.00%
Pre-tax WACC	10.81%	18.98%
Post-tax WACC	10.72%	18.49%
Long-term growth rate	2.14%	0.58%



10. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

The changes in the interest in joint ventures are summarized as follows:

	As of January 1	Additions	Share of result from equity method revaluation	Dividends	Exchange rate effects	As of December 31
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
2016						
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	3,276	-	1,003	-461	31	3,849
Qingdao Long Fortune Songwon Chemical Co., Ltd.	1,386	1,579	-293	-	31	2,703
Total	4,662	1,579	710	-461	62	6,552
2017						
Songwon Baifu Chemicals (Tangshan) Co., Ltd.	3,849	-	806	-	-424	4,231
Qingdao Long Fortune Songwon Chemical Co., Ltd.	2,703	-	443	-	-342	2,804
Total	6,552	-	1,249	-	-766	7,035

11. AVAILABLE-FOR-SALE FINANCIAL INVESTMENTS

Description	2017 December 31				2016 December 31			
	Number of shares	% to equity	Cost	Book value	Number of shares	% to equity	Cost	Book value
			Million KRW	Million KRW			Million KRW	Million KRW
Ulsan Broad-casting Corp.	180,000	3.00%	900	900	180,000	3.00%	900	900
Jin Yang Development	–	–	–	–	900	0.01%	450	450
Chemtura Corporation	–	–	–	–	4,527	–	123	123
Total			900	900			1,473	1,473

Investments in equity instruments that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured, are measured at cost.

Impairment on available-for-sale financial investments

For available-for-sale financial investments, the Group assesses at each reporting date whether there is objective evidence that an investment or a group of investments is impaired. In the case of equity investments classified as available-for-sale, objective evidence would include a significant or prolonged decline in the fair value of the investment below its cost.

Based on these criteria, the Group did not identify any impairment on available-for-sale investments as of December 31, 2017 and 2016.



12. OTHER FINANCIAL ASSETS

Description	2017		2016	
	December 31		December 31	
	Non-current Million KRW	Current Million KRW	Non-current Million KRW	Current Million KRW
Bank deposits (> 3 months)	8,187	2,009	5,223	2,881
Loans	1,641	18,000	1,739	14,000
Derivative financial assets (Note 24)	131	92	–	–
Guarantee deposits	306	447	236	304
Total	10,265	20,548	7,198	17,185

12.1 LOANS

Details of loans as of December 31, 2017 and 2016 are as follows:

Description	Annual interest rate (%)	2017	Annual interest rate (%)	2016
		December 31		December 31
		Million KRW		Million KRW
Loans to related party (Note 31)	3.00	18,000	3.00	14,000
Loans to related party (Note 31)	7.06	1,641	7.06	1,739
Total		19,641		15,739

13. INVENTORIES

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Raw materials and supplies	33,752	22,999
Work in progress	199	267
Finished goods	108,134	109,064
Goods in transit	24,438	23,228
Consignment stocks	118	177
Total inventories at the lower of cost and net realizable value	166,641	155,735

As of December 31, 2017, inventory write-off amounted to 3,480 Million KRW for raw material and finished goods (December 31, 2016: 1,924 Million KRW).



14. TRADE AND OTHER RECEIVABLES

Description	2017	2016
	December 31 Million KRW	December 31 Million KRW
Trade and notes receivables (net) – third parties	121,822	113,546
Trade and notes receivables (net) – related parties	4,876	4,840
Other receivables (net) – third parties	3,853	2,969
Other receivables (net) – related parties	268	163
Accrued income – third parties	35	137
Accrued income – related parties	40	54
Total	130,894	121,709

Other receivables third parties include customs, rental income receivables and others.

The movements of the allowance for doubtful receivables are as follows:

	Individually impaired	Collectively impaired	Total
	Million KRW	Million KRW	Million KRW
January 1, 2016	-343	-42	-385
Charge for the period	-458	-475	-933
Utilized	49	–	49
Unused amounts reversed	88	42	130
December 31, 2016	-664	-475	-1,139
January 1, 2017	-664	-475	-1,139
Charge for the period	-1,163	–	-1,163
Unused amounts reversed	109	380	489
December 31, 2017	-1,718	-95	-1,813

The ageing analysis of trade and other receivables is as follows:

Description	Total	Neither past due, nor impaired	Past due, but not impaired			
			≤ 90 days	91-120 days	121-180 days	> 180 days
	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
December 31, 2017	130,894	120,904	9,644	88	258	–
December 31, 2016	121,709	109,947	10,469	898	395	–

Refer to note 24.3.2 on credit risk of trade receivables, which discusses how the Group manages and measures credit quality of trade receivables that are neither past due, nor impaired.

15. OTHER CURRENT ASSETS

Other current assets as of December 31, 2017 and 2016 consist of the following:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Advance payments	185	730
Prepaid expenses	2,663	2,803
VAT refundable	654	76
Total	3,502	3,609

16. CASH AND CASH EQUIVALENT

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Cash on hand	95	101
Bank accounts	52,618	43,960
Time deposit (< 3 months)	2,691	5,239
Total	55,404	49,300

Cash at banks earns interest at floating rates based on daily bank deposit rates. Time deposits are made for varying periods of between one day and three months, depending on the Group's immediate cash requirements, and earn interest at the respective short-term deposit rates.

17. ISSUED CAPITAL AND RESERVES

17.1 SHARE CAPITAL

In accordance with the Articles of Incorporation, the company is authorized to issue 100,000,000 shares of common stock with a par value of 500 per share. As of December 31, 2017 and 2016, the company issued 24,000,000 shares of common stock with a carrying value of 12,000 Million KRW.

17.2 CAPITAL SURPLUS

As of December 31, 2017 and 2016, the company's capital surplus amounts to 24,361 Million KRW. It comprised paid-in capital in excess of par value of 20,065 Million KRW and gain on disposal of treasury stock of 4,296 Million KRW.

17.3 RESERVES

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Legal reserve	1,440	1,104
Asset revaluation surplus	25,815	25,815
Total	27,255	26,919

Legal reserves

In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of paid-in capital. The legal reserve may not be utilized for cash dividends, but may only be used to offset a deficit, if any, or be transferred to capital. Appropriation to the legal reserve from retained earnings, pursuant to the approval of the General Meeting of Shareholders during 2017 and 2016, amounted to 336 Million KRW and 168 Million KRW, respectively.

Asset revaluation reserve

The Group re-valued certain parts of its property, plant and equipment in accordance with the Korean Asset Revaluation Act on January 1, 1984 and January 1, 1999, resulting in a revaluation surplus of 2,884 Million KRW and 64,277 Million KRW, respectively. An asset revaluation surplus amounting to 62,343 Million KRW, net of related revaluation tax, was credited to capital surplus. As of December 31, 2017 and 2016, the asset revaluation surplus is 25,815 Million KRW – the asset revaluation surplus of 23,312 Million KRW and 13,216 Million KRW were utilized in disposition of accumulated deficit pursuant to the approval of the stockholders on March 6, 2009 and March 7, 2008, respectively. The asset revaluation surplus may not be utilized for cash dividends, but may only be used to offset a deficit, if any, or be transferred to capital.

Dividends

Dividends approved by the shareholders are as follows:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Subject to the year	2016	2015
Dividends on ordinary shares in KRW	3,360,000,000	1,680,000,000
Number of shares	24,000,000	24,000,000
Dividends per share in KRW	140	70

17.4 ACCUMULATED OTHER COMPREHENSIVE INCOME

Accumulated other comprehensive income, net of tax, as of December 31, 2017 and 2016 is composed of the following:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Exchange differences on translation of foreign operations	-5,014	2,784
Interest rate swaps	173	-182
Total	-4,841	2,602

Details of other comprehensive income for the year ended December 31, 2017 and 2016 are as follows:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Pre-tax amounts		
Gain / (loss) on valuation of interest rate swaps	460	-188
Exchange differences on translation of foreign operations	-7,606	1,233
Re-measurement (losses) on defined benefit plans	-190	-611
Pre-tax amounts total	-7,336	434
Tax effects		
(Gain) / loss on valuation of interest rate swaps	-105	54
Re-measurement losses on defined benefit plans	33	81
Tax effects total	-72	135
Net amounts		
Gain / (loss) on valuation of interest rate swaps	355	-134
Exchange differences on translation of foreign operations	-7,606	1,233
Re-measurement (losses) on defined benefit plans	-157	-530
Net amounts total	-7,408	569

18. INTEREST-BEARING LOANS AND BORROWINGS

Interest-bearing loans and borrowings as of December 31, 2017 and 2016 are as follows:

Description	2017	2016
	December 31 Million KRW	December 31 Million KRW
Long-term borrowings	98,783	112,220
Non-current interest bearing loans and borrowings	98,783	112,220
Current portion of long-term borrowings	21,454	23,720
Short-term borrowings	187,300	165,187
Current interest bearing loans and borrowings	208,754	188,907
Total	307,537	301,127

Details of long-term borrowings as of December 31, 2017 and 2016 are as follows:

Banks	Description	Maturity date	Annual interest rate (%)	2017	2016
				December 31 Million KRW	December 31 Million KRW
Woori Bank	General Loan	08.05.2019 ~ 03.07.2020	3MCD+1.57	55,167	54,000
Korea Development Bank	General Loan	15.09.2019 ~ 15.03.2020	1.75-3.00	4,331	12,053
Busan Bank	General Loan	08.05.2019	MOR+1.52	7,667	9,000
KEB Hana Bank	General Loan	08.05.2019	3MCD+1.90	32,000	37,333
Kyong Nam Bank	General Loan	08.05.2019	MOR+1.90	7,665	8,997
KEB Abu Dhabi	General Loan	14.05.2018*	3.00	5,661	5,798
Polysys Industries LLC	General Loan	31.12.2019	6.50	4,608	5,211
Pan Gulf Holding Company W.L.L.	General Loan	31.12.2019	6.50	3,138	3,548
Subtotal				120,237	135,940
Less current portion				-21,454	-23,720
Non-current portion				98,783	112,220

*Maturity date will be extended by one year (roll over is at the discretion of the entity), therefore categorized as long-term borrowing.

Details of short-term borrowings as of December 31, 2017 and 2016 are as follows:

Banks	Description	Annual interest rate (%)	2017	2016
			December 31 Million KRW	December 31 Million KRW
Woori Bank	Trade loan	1.33	26,230	32,629
KEB Hana Bank	General & trade loan	1.51-3.41	15,102	7,727
Korea Development Bank	General & trade loan	1.39-3.10	93,563	79,227
Busan Bank	General & trade loan	1.57-3.46	14,083	9,882
Kyong Nam Bank	General & trade loan	2.42-3.78	30,322	25,722
NH Bank	General loan	2.59	8,000	10,000
Subtotal			187,300	165,187

19. EMISSION RIGHTS AND EMISSION LIABILITIES

The Group [in accordance with the Act on Allocation and Trading of Emission Allowances] is issued emission allowances free of charge by government up to the allowable limit. During the year, as the Group emits gasses, a liability is recognized for the obligation to deliver allowances at the end of the year to cover those emissions. This liability is measured at the end of each reporting period by reference to the current market value of the allowances.

Allowances are derecognized on their sale (if sold into the market) or on their delivery to the government in settlement of the entity's obligation to deliver allowance to cover emissions. If the allowances are traded in an active market they are not amortized.

Where any unused allocated emission allowances after their delivery to the government, are sold, a gain or loss on disposal of the allocated emission allowances is subtracted from the cost of emissions; where emission allowances purchased are sold, the gain or loss on disposal is classified as non-operating income or expense; where the allocated emission allowances are sold when it is uncertain whether to achieve a reduction of emissions through the use of emission trading scheme, a difference between the book value and net sales price is recognized as deferred revenue which is offset against the cost of emissions over the period in which the allocated emission allowances pertain to.

A liability (emission obligation) is recognized only where actual emissions exceed the allocated emission allowances, and the cost of emissions is recognized as an operating cost. The liability is measured by adding the following (1) and (2).

- (1) The book value of emission allowances for the year to be delivered to the government
- (2) The best estimate of expenditures, as at the end of a reporting period, in performing emission obligations exceeding the above emission allowances

Where the Group borrows a part of the allocated emission allowances for any of future periods to deliver to the government, it recognizes the borrowed portion as deferred revenue when derecognizing the liability, and offsets the deferred revenue against the actual cost of emission, as it purchases the emission allowances to fill any shortfalls in the period which the borrowed emission allowances belong to.

The emission allowances, which are held to obtain short-term trading profits, are measured at fair value, and changes in fair value are recognized as current profit or loss, and changes in the fair value of the emission allowances and the gain or loss on disposal are classified as operating income or expense (or non-operating income or expense).

1) Details of annual quantity of allocated emission allowances as at December 31, 2017 are as follows
(Unit: Korean Allowance Unit - KAU):

	2015	2016	2017	Total
Allocated emission allowance	161,630	153,985	204,928	520,543

2) Changes in emission allowances during the current reporting period are as follows
(Units: KAU and Million KRW):

	2015		2016		2017		Total	
	Quantity	Book value	Quantity	Book value	Quantity	Book value	Quantity	Book value
Beginning	-	-	32,769	-	-	-	32,769	-
Allocation	161,693	-	154,498	-	151,361	-	467,552	-
Allocation cancel	-63	-	-513	-	-	-	-576	-
Additional allocation	-	-	-	-	53,567	-	53,567	-
Purchase	-	-	22,000	453	-	-	22,000	453
Borrowed	-	-	24,319	-	-24,319	-	-	-
Disposal	-	-	-110,581	-	-22,000	-	-132,581	-
Delivery to government	-128,861	-	-122,492	-453	-	-	-251,353	-453
Carryforward	-32,769	-	-	-	-	-	-32,769	-
Ending	-	-	-	-	158,609	-	158,609	-

3) There are no changes in emission liabilities during the periods ended December 31, 2017 and 2016.

4) Estimated greenhouse gas emissions in 2017 were 122,464 tCO₂-eq (122,464 tCO₂-eq 2016), and permitted greenhouse gas emissions in 2016 were 122,492.

20. PENSION LIABILITY

Pension plan	2017 Million KRW	2016 Million KRW
Net defined benefit liability	8,311	12,848
Korean	902	5,315
Swiss	7,409	7,508
Indian	–	25
Net defined benefit asset	33	–
Korean	–	–
Swiss	–	–
Indian	33	–

The Group has three defined benefit pension plans: one pension plan in Korea, one in Switzerland and one in India.

The following tables summarize the components of net benefit expense recognized in the income statement and the funded status and amounts recognized in the statement of financial position for the respective plans.



20.1 DEFINED BENEFIT OBLIGATION

Changes in the defined benefit obligation:

	Korean plan Million KRW	Swiss plan Million KRW	Indian plan Million KRW	Total Million KRW
Defined benefit obligation as of January 1, 2016	49,350	32,070	199	81,619
Pension cost charged to profit or loss				
Service costs	4,119	1,444	8	5,571
Interest	1,647	254	16	1,917
Sub-total included in profit or loss	5,766	1,698	24	7,488
Benefits (paid) / received	-644	-3,725	-6	-4,375
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	–	323	–	323
Actuarial changes arising from changes in financial assumptions	-595	518	12	-65
Experience adjustments	–	-128	-12	-140
Sub-total included in OCI	-595	713	–	118
Employee contributions	–	717	–	717
Exchange differences	–	-29	1	-28
Defined benefit obligation as of December 31, 2016	53,877	31,444	218	85,539
Pension cost charged to profit or loss				
Service costs	4,373	1,397	27	5,797
Interest	1,841	200	17	2,058
Sub-total included in profit or loss	6,214	1,597	44	7,855
Benefits (paid) / received	-755	1,925	-4	1,166
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	–	–	–	–
Actuarial changes arising from changes in financial assumptions	-1,726	-194	-74	-1,994
Experience adjustments	1,614	361	-4	1,971
Sub-total included in OCI	-112	167	-78	-23
Employee contributions	–	778	–	778
Exchange differences	–	-2,641	-9	-2,650
Defined benefit obligation as of December 31, 2017	59,224	33,270	171	92,665
Weighted average duration 2016 (years)	10.16	18.30	9.42	
Weighted average duration 2017 (years)	9.54	18.28	8.76	

20.2 PLAN ASSETS

Changes in the fair value of plan assets:

	Korean plan Million KRW	Swiss plan Million KRW	Indian plan Million KRW	Total Million KRW
Defined benefit obligation as of January 1, 2016	36,659	25,529	179	62,367
Pension cost charged to profit or loss				
Interest	1,216	201	14	1,431
Administration expenses	–	-60	–	-60
Sub-total included in profit or loss	1,216	141	14	1,371
Benefits (paid)	-631	-3,725	-6	-4,362
Re-measurement gains / (losses) in OCI				
Return on plan assets (excluding amounts included in interest expenses)	-682	189	–	-493
Sub-total included in OCI	-682	189	–	-493
Employer contributions	12,000	1,098	6	13,104
Employee contributions	–	717	–	717
Exchange differences	–	-13	–	-13
Defined benefit obligation as of December 31, 2016	48,562	23,936	193	72,691
Pension cost charged to profit or loss				
Interest	1,532	154	13	1,699
Administration expenses	–	-70	–	-70
Sub-total included in profit or loss	1,532	84	13	1,629
Benefits (paid)	-482	1,925	-4	1,439
Re-measurement gains / (losses) in OCI				
Return on plan assets (excluding amounts included in interest expense)	-290	76	1	-213
Sub-total included in OCI	-290	76	1	-213
Employer contributions	9,000	1,104	13	10,117
Employee contributions	–	778	–	778
Exchange differences	–	-2,042	-12	-2,054
Defined benefit obligation as of December 31, 2017	58,322	25,861	204	84,387

The Group expects to contribute comparable amounts (as in 2017) to its defined benefit pension plan in 2018.

20.3 NET PENSION LIABILITY

Changes in the net defined benefit liability are as follows:

	Korean plan Million KRW	Swiss plan Million KRW	Indian plan Million KRW	Total Million KRW
Net defined benefit liability as of January 1, 2016	-12,691	-6,541	-20	-19,252
Pension cost charged to profit or loss				
Service costs	-4,119	-1,444	-8	-5,571
Administration expenses	-	-60	-	-60
Net interests	-431	-53	-2	-486
Sub-total included in profit or loss	-4,550	-1,557	-10	-6,117
Benefits received	13	-	-	13
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	-	-323	-	-323
Actuarial changes arising from changes in financial assumptions	595	-518	-12	65
Return on plan assets (excluding amounts included in interest expenses)	-682	189	-	-493
Experience adjustments	-	128	12	140
Sub-total included in OCI	-87	-524	-	-611
Employer contributions	12,000	1,098	6	13,104
Employee contributions	-	-	-	-
Exchange differences	-	16	-1	15
Net defined benefit liability as of December 31, 2016	-5,315	-7,508	-25	-12,848
Pension cost charged to profit or loss				
Service costs	-4,373	-1,397	-27	-5,797
Administration expenses	-	-70	-	-70
Net interests	-309	-46	-4	-359
Sub-total included in profit or loss	-4,682	-1,513	-31	-6,226
Benefits (paid) / received	273	-	-	273
Re-measurement gains / (losses) in OCI				
Actuarial changes arising from changes in demographic assumptions	-	-	-	-
Actuarial changes arising from changes in financial assumptions	1,726	194	74	1,994
Return on plan assets (excluding amounts included in interest expenses)	-290	76	1	-213
Experience adjustments	-1,614	-361	4	-1,971
Sub-total included in OCI	-178	-91	79	-190
Employer contributions	9,000	1,104	13	10,117
Employee contributions	-	-	-	-
Exchange differences	-	599	-3	596
Net defined benefit asset as of December 31, 2017	-	-	33	33
Net defined benefit liability as of December 31, 2017	-902	-7,409	-	-8,311

The re-measurement losses recognized in the statement of comprehensive income were losses of -157 Million KRW (2016: losses of -530 Million KRW), net of tax. The total amount at December 31, 2017 of accumulated loss included in retained earnings is -22,011 Million KRW (2016: accumulated loss of -21,854 Million KRW), net of tax.

The principal assumptions used in determining pension benefit obligations for the Group's plans are shown below:

Discount rate	Determining net expense		Determining pension benefit obligation	
	2017 %	2016 %	December 31, 2017 %	December 31, 2016 %
Korean plan	3.50	3.40	3.80	3.50
Swiss plan	0.70	0.65	0.70	0.65
Indian plan	7.05	7.05	7.60	7.05
Future salary increases				
Korean plan	5.00	5.00	5.00	5.00
Swiss plan	2.00	2.00	2.00	2.00
Indian plan	10.00	10.00	5.00	10.00

A quantitative sensitivity analysis for significant assumptions as of December 31, 2017 is as follows:

Discount rate	Sensitivity level		Impact on net defined benefit obligation
	Change		Million KRW
Korean plan	+1.00%		-54,022
	-1.00%		65,319
Swiss plan	+0.25%		-980
	-0.25%		1,045
Indian plan	+1.00%		-163
	-1.00%		183
Salary increase			
Korean plan	+1.00%		65,182
	-1.00%		-54,032
Swiss plan	+0.25%		143
	-0.25%		-139
Indian plan	+1.00%		183
	-1.00%		-162

The sensitivity analysis above has been determined based on a method that extrapolates the impact on defined benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.



21. OTHER LONG-TERM EMPLOYEE-RELATED LIABILITIES

Other long-term employee-related liabilities consist of the following:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Other long-term employee benefits - Korea	2,252	2,053
Other long-term employee benefits - Others	260	222
Share-based payment-related liability	3,073	2,170
Total other long-term employee-related liabilities	5,585	4,445

21.1 OTHER LONG-TERM EMPLOYEE BENEFITS – KOREA

The parent company implements a bonus plan designed to present a prescribed quantity of gold and entitle compensated vacation to long-term service employees. Accounting policies of the bonus plan are mostly the same as that of the defined benefit plan, except that all the past service cost and actuarial variances are recognized immediately in profit or loss.

Description	Million KRW
As of January 1, 2016	1,779
Current service costs	192
Interest costs	53
Re-measurement gains	159
Total payment	-130
As of December 31, 2016	2,053
Current service costs	231
Interest costs	62
Re-measurement gains	28
Total payment	-122
As of December 31, 2017	2,252

Description	2017	2016
	December 31	December 31
Discount rate	3.50%	3.10%
Compensation increase	5.00%	5.00%
Compensation per day for vacation	KRW 77,360 - 185,440	KRW 56,000 - 181,760
Rate of increase in gold price	6.20%	5.60%
Gold price per 3.75 grams	KRW 175,000	KRW 175,000

21.2 OTHER LONG-TERM EMPLOYEE BENEFITS - OTHERS

The remaining other long-term employee benefits refer to legally established termination benefits of Group companies located in United Arab Emirates of 178 Million KRW (as of December 31, 2016: 151 Million KRW) and to expenses for the defined contribution plan of Songwon Specialty Chemicals India Pvt. Ltd. of 82 Million KRW (as of December 31, 2016: 71 Million KRW).

21.3 SHARE-BASED PAYMENT RELATED LIABILITY

On March 31, 2013, the Group granted virtual stock options to eligible employees of subsidiaries according to the Virtual Stock Option and Long-Term Incentive Plan ("LTIP"). The virtual stock options granted are an entitlement in money, and are neither a stock, nor any other listed or unlisted security and do not grant any right to physically acquire stocks. Settlement of options exercised is in cash only. Upon exercise, SONGWON shall pay the receiver the greater of the difference between the fair market value at the exercise date (listed stock price of Songwon Industrial Co., Ltd.) minus the strike price or 0 (zero). The virtual stock options, granted under the LTIP, are subject to a vesting period of two to four years during which the receiver of the options must be continuously employed by the Group.

The fair value of options, granted as of December 31, 2017 and 2016, was estimated using the following assumptions:

	2017	2016
Dividend yield	0.26%	0.41%
Expected volatility	45.00%	45.00%
Risk-free interest rate	2.15%	1.80%
Weighted average expected life of share options (years)	3.6	4.7
Model used	Binomial tree	Binomial tree

The carrying amount of the liability relating to the LTIP on December 31, 2017 was 3,073 Million KRW (December 31, 2016: 2,170 Million KRW). 38,775 share options vested as of December 31, 2017 and 37,650 vested as of December 31, 2016.

The expense for employee services received during the year 2017, recognized in the statement of comprehensive income, amounted to 1,424 Million KRW (2016: 1,094 Million KRW). There were no cancellations and modifications to the awards during the years 2017 and 2016.

Movements during the year

The following table illustrates the number and weighted average exercise prices (WAEP) of, and movements in, share options during the reporting period:

	2017		2016	
	December 31		December 31	
	Number	KRW	Number	KRW
Outstanding as of January 1	418,500	11,270	323,300	9,738
Granted during the year	100,751	17,100	143,250	11,215
Forfeited during the year	-151,125	10,955	-29,750	10,512
Exercised during the year	-49,450	10,645	-18,300	11,118
Outstanding as of December 31	318,676	13,359	418,500	11,270
Exercisable as of December 31	38,775	10,237	52,025	11,023

The weighted average remaining contractual life for the share options, outstanding as at December 31, 2017, was 8.0 years (December 31, 2016: 8.0 years). The weighted average fair value of options granted during the reporting period was 15,556 KRW (2016: 8,441 KRW).

The exercise price for options outstanding at the end of the reporting period was 8,120 KRW – 17,100 KRW (2016: 8,120 KRW – 14,550 KRW).

22. OTHER FINANCIAL LIABILITIES

Other financial liabilities as of December 31, 2017 and 2016 are as follows:

Description	2017 December 31		2016 December 31	
	Non-current Million KRW	Current Million KRW	Non-current Million KRW	Current Million KRW
Derivative liabilities (Note 24)	–	–	108	128
Deposits	4,625	1,237	2	–
Accrued interest expenses	–	504	–	508
Unpaid dividends	–	2	–	2
Total	4,625	1,743	110	638

23. TRADE AND OTHER PAYABLES

Description	2017 December 31		2016 December 31	
	Million KRW		Million KRW	
Trade payables	56,928		48,183	
Trade payables (related parties)	1,834		1,071	
Other accounts payables	26,026		21,711	
Other accounts payables (related parties)	4		84	
Withholdings	1,090		1,150	
Accrued expenses	23,607		27,417	
Guarantee deposits	49		46	
Total	109,538		99,662	

Trade and other payables do not bear interest and usually become due within 30-60 days.

24. ADDITIONAL INFORMATION ON FINANCIAL INSTRUMENTS

24.1 DERIVATIVES FINANCIAL INSTRUMENTS

Description	2017		2016	
	December 31		December 31	
	Assets	Liabilities	Assets	Liabilities
	Million KRW		Million KRW	
Forward foreign exchange contracts (current portion)	–	–	–	–
Interest rate swaps (current portion)	92	–	–	128
Interest rate swaps (non-current portion)	131	–	–	108
Total	223	–	–	236

24.1.1 CURRENCY FORWARDS

As of December 31, 2017 and 2016, there are no currency forward contracts, which the Group entered into in order to hedge the risk of foreign exchange rate fluctuation of assets denominated in foreign currencies.

24.1.2 INTEREST RATE SWAPS

As of December 31, 2017 and 2016 the Group has entered into the following interest rate swap contracts:

2017

As of December 31

Description	Bonds contract	Interest rate swap contract
Contract date	08.03.2016	08.03.2016
Maturity date	08.05.2019	08.05.2019
Contract amount	40,000 Million KRW	40,000 Million KRW
Fixed interest rate	n/a	3.48%
Floating interest rate	3MCD+1.90%	3MCD+1.90%
Contract date	08.03.2016	08.03.2016
Maturity date	08.05.2019	08.05.2019
Contract amount	60,000 Million KRW	60,000 Million KRW
Fixed interest rate	n/a	3.30%
Floating interest rate	3MCD+1.57%	3MCD+1.57%
Contract date	03.07.2017	03.07.2017
Maturity date	03.07.2020	03.07.2020
Contract amount	10,000 Million KRW	10,000 Million KRW
Fixed interest rate	n/a	2.73%
Floating interest rate	3MCD+1.02%	3MCD+1.02%

2016
As of December 31

Description	Bonds contract	Interest rate swap contract
Contract date	08.03.2016	08.03.2016
Maturity date	08.05.2019	08.05.2019
Contract amount	40,000 Million KRW	40,000 Million KRW
Fixed interest rate	n/a	3.48%
Floating interest rate	3MCD+1.90%	3MCD+1.90%
Contract date	08.03.2016	08.03.2016
Maturity date	08.05.2019	08.05.2019
Contract amount	60,000 Million KRW	60,000 Million KRW
Fixed interest rate	n/a	3.30%
Floating interest rate	3MCD+1.57%	3MCD+1.57%

The Group applies cash flow hedge accounting on interest rate swaps; in the current reporting period and in 2016 there was an interest rate swap designated as cash flow hedge. The balances included in accumulated other comprehensive income are 173 Million KRW as of December 31, 2017 and -182 Million KRW as of December 31, 2016, respectively (refer to Note 17.4), net of income tax.

24.2 FAIR VALUES

Set out below is a comparison by class of the carrying amounts and fair value of the Group's financial instruments that are carried in the financial statements:

Description	Carrying amount		Fair value	
	2017 December 31 Million KRW	2016 December 31 Million KRW	2017 December 31 Million KRW	2016 December 31 Million KRW
Financial assets at fair value through profit and loss	–	–	–	–
Other financial assets (Derivatives)	–	–	–	–
Thereof current	–	–	–	–
Financial assets at fair value through OCI	223	–	223	–
Other financial assets (Derivatives)	223	–	223	–
Thereof current	92	–	92	–
Thereof non-current	131	–	131	–
Loans and receivables	216,888	195,392	216,888	195,392
Other financial assets	30,590	24,383	30,590	24,383
Thereof current	20,456	17,185	20,456	17,185
Thereof non-current	10,134	7,198	10,134	7,198
Trade and other receivables	130,894	121,709	130,894	121,709
Thereof current	130,894	121,709	130,894	121,709
Cash and cash equivalent	55,404	49,300	55,404	49,300
Thereof current	55,404	49,300	55,404	49,300
Available-for-sale financial investments	900	1,473	900	1,473
Thereof non-current	900	1,473	900	1,473
Total	218,011	196,865	218,011	196,865
Financial liabilities at fair value through OCI	–	236	–	236
Other financial liabilities (Derivatives)	–	236	–	236
Thereof current	–	128	–	128
Thereof non-current	–	108	–	108
Financial liabilities measured at amortized costs	423,443	401,301	423,443	401,301
Interest bearing loans and borrowings	307,537	301,127	307,537	301,127
Thereof current	208,754	188,907	208,754	188,907
Thereof non-current	98,783	112,220	98,783	112,220
Other financial liabilities	6,368	512	6,368	512
Thereof current	1,743	510	1,743	510
Thereof non-current	4,625	2	4,625	2
Trade and other payables	109,538	99,662	109,538	99,662
Thereof current	109,538	99,662	109,538	99,662
Total	423,443	401,537	423,443	401,537

The fair value of the financial assets and liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The following methods and assumptions were used to estimate the fair values:

- Cash and cash equivalents, trade and other receivables, trade payables and other current liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments.
- Fair value of available-for-sale financial assets is derived from quoted market prices in active markets, if available.
- Fair value of unquoted available-for-sale financial assets is estimated using appropriate valuation techniques (refer to note 24.2.1).



24.2.1 FAIR VALUE HIERARCHY

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

Description	Valuation technique
Level 1	Quoted (unadjusted) prices in active markets for identical assets or liabilities
Level 2	Other techniques for which all inputs which have a significant effect on the recorded fair value are observable either directly or indirectly
Level 3	Techniques which use inputs that have a significant effect on the recorded fair value that are not based on observable market data

As of December 31, 2017 and 2016, the Group held the following financial instruments carried at fair value on the statement of financial position:

Description	December 31, 2017	Level 1	Level 2	Level 3
Assets measured at fair value	Million KRW	Million KRW	Million KRW	Million KRW
Financial assets at fair value through OCI	223	–	223	–
Derivatives	223	–	223	–

Liabilities measured at fair value

Financial liabilities at fair value through OCI	–	–	–	–
Derivatives	–	–	–	–

Description	December 31, 2016	Level 1	Level 2	Level 3
Assets measured at fair value	Million KRW	Million KRW	Million KRW	Million KRW
Available-for-sale financial assets	123	123	–	–
Chemtura Corporation	123	123	–	–

Liabilities measured at fair value

Financial liabilities at fair value through OCI	236	–	236	–
Derivatives	236	–	236	–

During the reporting periods ended December 31, 2017 and 2016, there were no transfers between Level 1 and Level 2 fair value measurements. For the financial assets and financial liabilities for which the fair value is disclosed (refer to Note 24.2) the carrying amount is a reasonable approximation of fair values and is measured using Level 3 measurement methods, except for cash and cash equivalent.

24.3 FINANCIAL RISK MANAGEMENT OBJECTIVES AND POLICIES

The Group's principal financial liabilities comprise loans and borrowings, trade and other payables, and other financial liabilities. The main purpose of these financial liabilities is to finance the Group's operations. The Group has trade accounts and other accounts receivables, cash and cash equivalents and other financial assets that arrive directly from its operations. The Group also holds available-for-sale investments and enters into derivative transactions and applies hedge accounting for cash flow hedges if applicable.

The Group is exposed to market, credit and liquidity risk. The Group's management oversees the management of these risks through appropriate risk assessment and monitoring activities to minimize their effects.

24.3.1 MARKET RISK

Market risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices. Market prices comprise two types of risk:

- Interest rate risk
- Foreign currency risk

Financial instruments affected by market risk include loans and borrowings, deposits, available-for-sale investments and derivative financial instruments. The sensitivity analyses in the following sections relate to the position as of December 31, 2017 and 2016.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing loans and borrowings and bank deposits with floating interest rates.

The Group's exposure to the risk of changes in market interest rates relates substantially to the Group's interest-bearing loans and borrowings with floating interest rates, which makes the Group expose to cash flows risk. Responsively, the Group is minimizing the risk partially through interest rate swap contract or choosing the best favorable financing instruments by switching to the loans with more favorable conditions or improving the Group's credit rating.

Interest rate sensitivity

The following table demonstrates the sensitivity to a reasonably possible change in interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's interest-bearing loans and borrowings as well as bank deposits with floating interest rates. With all other variables held constant, the Group's profit before tax is affected through the impact on floating rate borrowings as follows:

	Increase/(decrease) in %	Effect on profit before tax Million KRW
December 31, 2017	1.00	-1,144
	-1.00	1,144
December 31, 2016	1.00	-1,302
	-1.00	1,302

Foreign currency risk

The Group's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities. The risk of foreign exchange primarily relates to U.S. Dollars (USD), Euro (EUR), Japanese Yen (JPY), Chinese Yuan Renminbi (CNY), Swiss Francs (CHF), United Arab Emirates Dirham (AED) and to Indian Rupee (INR).

Foreign exchange risks arise when commercial transactions, recognized assets or liabilities are denominated in a currency that is not the entity's functional currency.

The objective of the management of foreign currency risk is to maximize the value of the firm through minimizing the fluctuation of net profit and uncertainty arising from the fluctuation in foreign currency. To accomplish this, the Group uses a strategy to accord the collection terms of receivables and payment terms of payables denominated in USD considering the similar volume of exports and imports. In regard to EUR, USD and JPY, the Group manages the risk through currency forward contracts.

Foreign currency sensitivity

The Group carries out a sensitivity analysis for the dominant foreign currencies: U.S. Dollars (USD), Euro (EUR), Japanese Yen (JPY), Chinese Yuan Renminbi (CNY), Swiss Francs (CHF), United Arab Emirates Dirham (AED) and to Indian Rupee (INR). The assumed possible currency fluctuations are based on historical observations and future prognoses. Incorporated into calculations are the financial instruments. The following table demonstrates the sensitivity of consolidated net profit before tax to a reasonably possible shift in exchange rates related to financial instruments held in the balance sheet. Assuming that the other variables are constant but only the foreign exchange rate changes by 10%, the impacts on net profit for the years ended on December 31, 2017 and 2016 are as follows:

Currency	2017 December 31		2016 December 31	
	10% increase Million KRW	10% decrease Million KRW	10% increase Million KRW	10% decrease Million KRW
USD	64	-64	674	-674
EUR	-1,056	1,056	-591	591
JPY	275	-275	-3	3
CNY	176	-176	-232	232
CHF	602	-602	28	-28
AED	-80	80	34	-34
INR	1,081	-1,081	1,149	-1,149
Total	1,062	-1,062	1,059	-1,059

The Group's exposure to foreign currency changes for all other currencies is not material.

24.3.2 CREDIT RISK

Credit risk is the risk that the counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group is exposed to credit risk from its operating activities (primarily for trade and other receivables) and investing activities.

The Group maintains a policy to keep trade relationship only with the customers with high credit rating assessed by credit assessment considering their financial position, past experience of defaults and other indicators of default. If the credit rating of a customer worsens, the Group sets an individual credit limit on that customer and intensively manages its credit risk. In addition, the Group minimizes the credit risk by maintaining the exposure to the credit risk at an insignificant level through ongoing management including periodical reviews of all the customers. The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets disclosed in note 9.

The Group is also exposed to the credit risk with regard to bank deposits, as well as cash and cash equivalents in which the maximum exposure to credit risk at the reporting date is the carrying value. The exposure to the related credit risk, however, is relatively restricted because the Group maintains relationships with the financial institutions with high credit ratings.

24.3.3 LIQUIDITY RISK

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with financial liabilities due to the unfavorable economy of the industry or financial markets.

The Group manages its liquidity risk through its own strategy and plans which consider the maturity of financial instruments and expected operating cash flows and include the policy to map out the maturity of financial assets and liabilities.

In addition, the Group maintains credit facilities with the banks including overdraft to respond to unexpected shortage in liquidity. The Group manages funding schedules and ongoing review procedures, considering the appropriate mix of long-term and short-term loans and borrowings, to maintain the consistency and flexibility in obtaining liquidity and stable financing in response to expansion of the business.

The details of maturity profile of the Group's financial liabilities, excluding financial derivative instruments, based on contractual undiscounted payments as of December 31, 2017 and 2016 are as follows:

	Less than a month	1 to 3 months	4 to 12 months	1 to 5 years	> 5 years	Total
2017	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
As of December 31						
Interest-bearing loans and borrowings	8,954	69,015	130,785	98,783	–	307,537
Other financial liabilities	429	1,252	62	4,625	–	6,368
Trade and other payables	77,555	25,485	6,498	–	–	109,538
Total	86,938	95,752	137,345	103,408	–	423,443

	Less than a month	1 to 3 months	4 to 12 months	1 to 5 years	> 5 years	Total
2016	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW	Million KRW
As of December 31						
Interest-bearing loans and borrowings	22,685	43,890	122,332	112,220	–	301,127
Other financial liabilities	435	75	–	2	–	512
Trade and other payables	59,274	39,217	1,171	–	–	99,662
Total	82,394	83,182	123,503	112,222	–	401,301

24.3.4 CAPITAL MANAGEMENT

The capital managed by the Group is identical to the total amount of equity presented in the consolidated statement of financial position. The primary objective of the Group's capital management is to ensure its continued ability to provide consistency for its equity shareholders through a combination of capital growth and distribution. In order to achieve this objective, the Group monitors its gearing to balance risk and returns at an acceptable level, and also maintains a sufficient funding base to enable the company to meet its working capital and strategic investment needs. To maintain or adjust the capital structure, the company may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares considering not only the short-term position, but also its long-term operational and strategic objectives. At Group level the debt ratio is reviewed regularly. The debt-equity ratio as of December 31, 2017 and 2016 is 129% and 134%, respectively.

On a monthly basis, all subsidiaries have to report key performance indicators, which also include capital management information.

25. COMMITMENTS AND CONTINGENCIES

25.1 CONTINGENT LIABILITY

There are no current proceedings of such as lawsuits, claims, investigations and negotiations due to product liability, mercantile law, environmental protection, health and safety etc. which could have significant influence on business operations, on the Group's financial position or income.

25.2 OPERATING LEASE COMMITMENTS

The Group has entered into commercial leases on certain motor vehicles, items of machinery and offices. These leases have duration between 1 and 30 years with a renewal option included in some contracts. There are no restrictions placed upon the Group by entering into these leases. Future minimum rentals payable under non-cancellable operating leases as of December 31, 2017 and 2016 are as follows:

Description	2017	2016
	December 31	December 31
	Million KRW	Million KRW
Within one year	-2,363	-2,121
After one year, but not more than five years	-8,259	-3,955
More than five years	-2,049	-752
Total	-12,671	-6,828

25.3 OTHER COMMITMENTS

As part of the ordinary business, the subsidiaries could enter into various contractual commitments for the purchase of tangible fixed assets and intangible assets as well as investment properties and promotion properties. As of December 31, 2017, commitments to purchase property, plant and equipment, as well as raw materials amounting to 11,274 Million KRW (December 31, 2016: 22,121 Million KRW) were entered.

The Group has provided one blank promissory note to Hanwha Chemical Co., Ltd. as security on the supply contracts.

One check and one promissory note which the Group received from KEB Hana Bank, are outstanding as of December 31, 2017 due to bankruptcy declared by the issuers of the check.

Details of the Group's available short-term credit line facilities (excluding general loans) as of December 31, 2017 are as follows:

Description	Currency	Credit limit	Used	Unused
USANCE and L/C for import	Thousand USD	23,900	6,851	17,049
D/A and D/P	Thousand USD	110,500	64,097	46,403
	Million KRW	32,000	15,322	16,678
Trade loans	Million KRW	20,000	8,524	11,476
Secured loan of credit sales	Million KRW	9,000	5,428	3,572
Derivatives	Thousand USD	7,000	417	6,583
Other foreign currency guarantees	Thousand USD	20,264	14,660	5,604
Total	Total Million KRW	61,000	29,274	31,726
Total	Total Thousand USD	161,664	86,025	75,639



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26. ASSETS PLEDGED AS COLLATERAL AND GUARANTEES

Details of property, plant and equipment and investment properties pledged by the Group as collateral for interest-bearing loans and borrowings as of December 31, 2017 and 2016, expressed in the maximum value registered to Korean court, are as follows:

Pledged to	Pledged assets		2017	2016
			December 31	December 31
Property, plant and equipment (Joint collateral in connection with long-term loan)				
Busan Bank	Land, buildings and machinery	MKRW	30,000	30,000
		TUSD	–	24,000
Kyong Nam Bank	Land, buildings and machinery	MKRW	18,000	18,000
Property, plant and equipment (Collateral for other than syndicated or long-term loan)				
Busan Bank	Land, buildings and machinery	TUSD	24,000	–
Korea Development Bank	Land, buildings, investment properties and machinery	MKRW	57,000	57,000
Woori Bank	Land, buildings and machinery	MKRW	120,000	120,000
KEB Hana Bank	Land, buildings and machinery	MKRW	60,000	60,000
Total		MKRW	285,000	285,000
		TUSD	24,000	24,000

No other items of property, plant and equipment are pledged as collateral for interest-bearing loans and borrowings as of December 31, 2017 and 2016.

The Group has received payment guarantees amounting to 307,530 Million KRW and 69,284 Thousand USD provided by Jongho Park, Chairman of the Board of Directors of the Group, in connection with the Group's borrowings from banks as of December 31, 2017.

The bank deposits pledged as collateral in connection with interest-bearing loans and borrowings as of December 31, 2017 and 2016 are as follows:

Description	2017	2016
	December 31	December 31
Bank deposits – current (in Thousand USD)	3,089	3,017
Bank deposits – non-current (in Thousand USD)	163	–

The Company is provided with a performance guarantee from Seoul Guarantee Insurance Co., Ltd. and the insured amount is 720 Million KRW.

27. OPERATING PROFIT AND OTHER INCOME / EXPENSES

27.1 RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses of 4,303 Million KRW (2016: 3,049 Million KRW) are recorded in the income statement. Development expenses are not capitalized because the conditions for capitalization have not been met.

27.2 SELLING AND ADMINISTRATION EXPENSES

Description	2017	2016
	Million KRW	Million KRW
Sales-related costs	-31,891	-28,005
Personnel expenses	-43,476	-45,302
Travelling and entertainment	-6,290	-6,524
Depreciation and amortization	-4,828	-7,878
Administration expenses	-8,388	-7,587
Bad debt loss	-674	-803
Others	-5,047	-5,600
Total	-100,594	-101,699

27.3 OTHER INCOME

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Fee income	95	95
Miscellaneous income	1,958	2,966
Gains on disposal of property, plant and equipment	25	19
Gain on disposal of intangible assets	27	-
Rental income (third parties)	16	18
Total	2,121	3,098

* refer to note 2.4 on page 135 for further details

27.4 OTHER EXPENSES

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Miscellaneous expenses	-1,194	-1,826
Loss on disposal of property, plant and equipment	-664	-43
Loss on disposal of intangible assets	-244	-379
Total	-2,102	-2,248

* refer to note 2.4 on page 135 for further details

27.5 EXPENSES CLASSIFIED BY NATURE

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Purchased material	-407,242	-368,664
Freight and logistic costs	-27,813	-26,290
Energy costs	-37,322	-31,329
Personnel expenses	-103,896	-99,989
Depreciation and amortization	-32,281	-35,028
Other expenses	-63,935	-58,924
Total	-672,489	-620,224
Thereof recorded in cost of sales	-569,793	-516,277
Thereof recorded in selling and administration costs	-100,594	-101,699
Thereof recorded in other expenses*	-2,102	-2,248
Total	-672,489	-620,224

* refer to note 2.4 on page 135 for further details

27.6 FINANCE EXPENSES

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Interest on borrowings	-9,902	-11,173
Total interest expenses	-9,902	-11,173
Losses on foreign exchange*	-25,031	-27,621
Losses on derivative transactions	-1,357	-2,260
Loss on valuation of derivatives	-	-
Bank charges	-206	-254
Total finance expenses	-36,496	-41,308

* refer to note 2.4 on page 135 for further details

27.7 FINANCE INCOME

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Gains on foreign exchange*	22,890	24,619
Gain on derivative transactions	801	1,311
Gain on disposal of available-for-sale financial investments	50	-
Interest on loans and receivables (third parties)	265	559
Interest on loan and receivalbes (related parties)	935	514
Dividends received from third parties	7	7
Total finance income	24,948	27,010

* refer to note 2.4 on page 135 for further details

27.8 NET GAINS AND LOSSES OF THE CLASSES OF FINANCIAL INSTRUMENTS

Description	2017	2016 (restated*)
	Million KRW	Million KRW
Financial assets measured at fair value through profit or loss	-555	-949
Loans and receivables*	24	565
Available-for-sale financial assets	57	-26
Financial liabilities measured at amortized costs*	-10,868	-13,634
Total	-11,342	-14,044
Finance expense*	-36,496	-41,308
Finance income*	24,948	27,010
Bank charges	206	254
Total	-11,342	-14,044

* refer to note 2.4 on page 135 for further details

28. INCOME TAX EXPENSES

The major components of income tax expense in the statement of comprehensive income are as follows:

28.1 CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Description	2017	2016
	Million KRW	Million KRW
Current income tax charge	-8,077	-17,087
Adjustments in respect of current income tax of previous year	105	-142
Deferred income taxes relating to changes of temporary differences, net	-2,357	-3,885
Deferred income taxes relating to tax loss carry forwards	921	-389
Deferred income taxes related to changes in tax rate	-	-
Deferred income taxes recognized directly in other comprehensive income	-72	135
Income tax expenses	-9,480	-21,368

Description	2017	2016
	Million KRW	Million KRW
Accounting profit before income taxes	44,186	63,612
At parent company's statutory income tax rate of 22.85% (2016: 23.60%)	-10,097	-15,014
Increase/ (decrease) in income taxes resulting from:		
Adjustments in respect of current income tax of previous years	105	-142
Non-temporary differences	-593	-553
Tax credits	835	632
Non-deductible expenses	-192	-1,120
Tax audit	399	-1,431
Effect of different tax rates in tax jurisdiction	295	-2,246
Others (re-assessment of impaired deferred tax assets, etc.)	-232	-1,494
At the effective income tax rate 21.45% (2016: 33.59%)	-9,480	-21,368

28.2 DEFERRED TAX

Deferred tax relates to the following:

Description	Consolidated statements of financial position		Consolidated statements of comprehensive income	
	2017	2016	2017	2016
	December 31 Million KRW	December 31 Million KRW	Million KRW	Million KRW
Pension obligation	1,229	790	437	-1,401
Other long-term employment benefits	784	567	217	119
Trade receivables	-68	36	-104	-
Inventories	492	2,872	-2,380	58
Fixed assets	-12,758	-13,554	796	7,010
Gain / (loss) on revaluation of land	-27,688	-27,283	-405	-5,584
Other current financial assets	-1,281	-	-1,281	-52
Other current assets	-	16	-16	-34
Accrued income	-12	-17	5	39
Prepaid expenses	-	-	-	-
Other current financial liabilities	387	347	40	161
Other current provisions	141	48	93	-46
Intangible assets	-	-537	-	664
Gain / (loss) on interest swaps	-263	-	274	-109
Loss available for offsetting against future taxable income	1,177	256	921	-389
Investments in subsidiaries	-4,629	-4,629	-	-4,629
Deferred tax (expenses) / income			-1,403	-4,193
Net deferred tax liabilities	-42,489	-41,088		

Reflected in the statement of financial positions as follows:

Deferred tax assets	2,521	3,937
Deferred tax liabilities	45,010	45,025

The Group offsets tax assets and liabilities if, and only if, it has a legally enforceable right to do so, and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same tax authority.

Reconciliation of deferred tax liabilities, net:

Description	2017	2016
	Million KRW	Million KRW
Opening balance as of January 1	-41,088	-37,009
Tax income during the period recognized in total comprehensive income	-1,180	-4,112
Exchange differences	-221	33
Closing balance as of December 31	-42,489	-41,088

Expecting sufficient taxable income, the Group recognized deferred income tax assets to the extent of future taxable income. For the following deductible temporary differences, no deferred tax assets as of December 31, 2017 and 2016 were recognized:

Description	2017	2016
	Million KRW	Million KRW
Temporary differences related to investments in subsidiaries	2,360	3,260
Total	2,360	3,260

Expected timing of expiration of recognized tax loss carry forwards and tax credit carry forwards, as of December 31, 2017 and 2016 are as follows:

2017	Recognized deferred tax assets	
	Tax loss carry forwards Million KRW	Tax credit carry forwards Million KRW
As of December 31		
less 1 year	-	-
1-5 years	-	-
5 years and later	1,177	-
Total	1,177	-

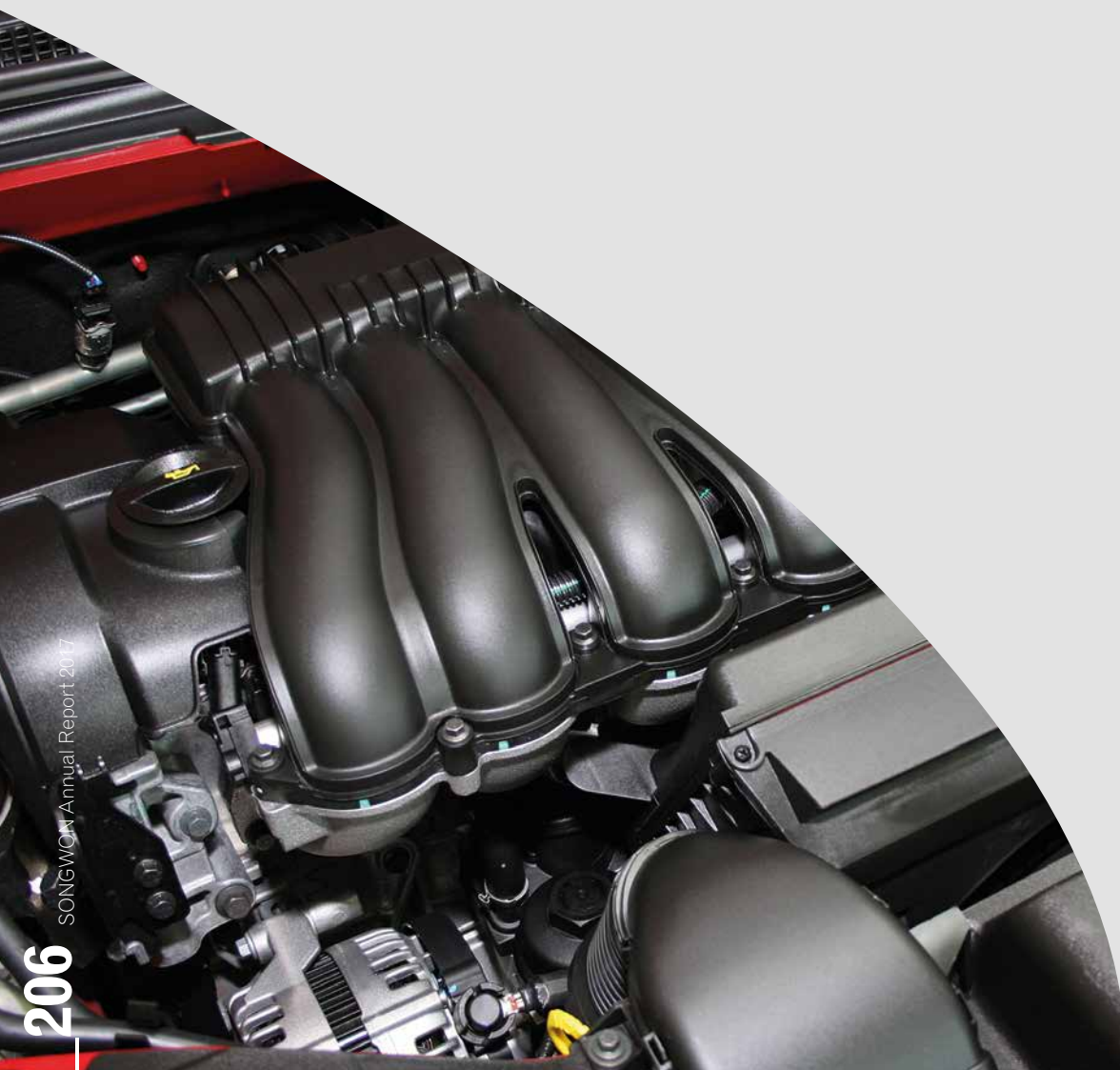
2016	Recognized deferred tax assets	
	Million KRW	Million KRW
As of December 31		
less 1 year	-	-
1-5 years	-	-
5 years and later	256	-
Total	256	-

29. EARNINGS PER SHARE

Basic earnings per share amounts are calculated by dividing net profit for the year attributable to ordinary equity holders of the parent company by the average number of ordinary shares outstanding during the year. There is no difference between basic and diluted earnings per share in 2017 and 2016.

The following reflects the income and share data used in the basic per share computations:

Description	2017	2016
	KRW	KRW
Net profit attributable to ordinary equity holders of the parent	35,393,839,500	43,238,976,682
Weighted average number of ordinary shares	24,000,000	24,000,000
Earnings per share (basic / diluted)	1,475	1,802



30. CASH FLOW STATEMENT

Cash and cash equivalent in the statement of cash flow are equal to those in the statement of financial position.

The Group's statement of cash flow is prepared using the indirect method. The adjustments to the net profit for the period of the non-cash and non-operating items and changes in operating assets and liabilities for the years ended December 31, 2017 and 2016 are as follows:

Description	Notes	2017	2016
		Million KRW	Million KRW
Adjustments of non-cash items			
Depreciation of property, plant and equipment	6	27,724	27,385
Depreciation of investment properties	7	17	16
Amortization of intangible assets	8	4,543	7,605
Losses on disposal of property, plant and equipment, net	6	639	24
Losses on disposal of intangible assets, net	8	217	379
Gain on disposal of available-for-sale financial investments		-50	-
Share of result from investments accounted using the equity method	10	-1,249	-710
Financial income		-7,303	-5,445
Financial expenses		22,855	13,225
Income tax expenses	28	9,480	21,368
Total		56,873	63,847

Description	2017	2016
	Million KRW	Million KRW
Changes in operating assets and liabilities		
Trade receivables	-16,294	-9,174
Other receivables	-818	995
Other current assets	-764	53
Other current financial assets	38	214
Inventories	-18,393	14,885
Trade payables	10,526	6,796
Other payables	4,529	12,767
Other current financial liabilities	226	-283
Other current liabilities	-1,579	2,561
Pension liabilities	-3,750	-6,432
Other long-term employment benefits	1,437	1,416
Total	-24,842	23,793

Changes in liabilities arising from financing activities for the years ended December 31, 2017 and 2016 are as follows:

	Short term liabilities	Long term liabilities	Other financial liabilities
	Million KRW	Million KRW	Million KRW
At January 1, 2016	332,773	29,551	5,361
Cash flows	-187,999	123,763	-4,604
Foreign exchange movement	9,742	-6,703	-9
Reclassification	34,391	-34,391	-
At December 31, 2016	188,907	112,220	748
Cash flows	1,047	10,570	5,790
Foreign exchange movement	-3,487	-1,720	-170
Reclassification	22,287	-22,287	-
At December 31, 2017	208,754	98,783	6,368

31. RELATED PARTY DISCLOSURES

The following table provides the total amount of transactions that have been entered into with related parties for the relevant financial years and balances as per year-end:

Related party	Description	2017	2016
		Million KRW	Million KRW
Jongho Park, Chairman of the Board of Directors	Finance income	817	453
Songwon Moolsan Co., Ltd. (refer to note 18.5)	Selling and administration costs	-52	-
Songwon Baifu Chemicals (Tangshan) Co., Ltd. (Joint Venture)	Cost of sales	-16,235	-13,354
Qingdao Long Fortune Songwon Chemical Co., Ltd. (Joint Venture)	Sales of goods	15,711	9,903
	Selling and administration costs	-562	-595
	Other income	147	169
	Finance income	118	61
Total	Sales of goods	15,711	9,903
	Cost of sales	-16,235	-13,354
	Selling and administration costs	-614	-595
	Other income	147	169
	Finance income	935	514

Related party	Description	2017	2016
		December 31 Million KRW	December 31 Million KRW
Jongho Park, Chairman of the Board of Directors	Trade and other receivables	40	54
	Other current financial assets	18,000	14,000
Songwon Moolsan Co., Ltd. (refer to note 18.5)	Other non-current financial assets	24	-
	Trade and other payables	4	-
Songwon Baifu Chemicals (Tangshan) Co., Ltd. (Joint Venture)	Trade and other payables	1,834	1,071
Qingdao Long Fortune Songwon Chemical Co., Ltd. (Joint Venture)	Other non-current financial assets	1,641	1,739
	Trade and other receivables	5,144	5,003
	Trade and other payables	-	79
Total	Other non-current financial assets	1,665	1,739
	Trade and other receivables	5,184	5,057
	Other current financial assets	18,000	14,000
	Trade and other payables	1,838	1,150

31.1 THE ULTIMATE PARENT

Songwon Industrial Co., Ltd. is the ultimate parent based and listed in Korea.

31.2 TERMS AND CONDITIONS OF TRANSACTIONS WITH RELATED PARTIES

The sales to and purchases from related parties are made at terms equivalent to those that prevail in arm's length transactions. Outstanding balances at the year-end are unsecured, interest free and settlement occurs in cash. There have been no guarantees provided or received for any related party receivables or payables. For the year ended December 31, 2017, the Group has not recorded any impairment of receivables relating to amounts owed by related parties (December 31, 2016: none). This assessment is undertaken periodically through examining the financial position of the related party and the market in which the related party operates.

31.3 TRANSACTIONS WITH KEY MANAGEMENT PERSONNEL

In the financial year 2017, the Group granted a loan of 14,000 Million KRW to the Chairman of the Board of Directors of the Group, Jongho Park at usual market conditions (2016: 21,000 Million KRW). In the financial year 2017 the Chairman of the Board of Directors repaid loans of in total 10,000 Million KRW (2016: 14,000 Million KRW). The total amount of loans outstanding as of December 31, 2017 is 18,000 Million KRW (December 31, 2016: 14,000 Million KRW).

31.4 COMPENSATION OF KEY MANAGEMENT PERSONNEL OF THE GROUP

Description	2017	2016
	Million KRW	Million KRW
Short-term employee benefits	15,586	14,930
Post-employment benefits	799	921
Other long-term benefits	1,497	2,713
Share based payments	239	304
Total compensation paid to key management personnel	18,121	18,868

The amounts disclosed in the table are the amounts recognized as an expense during the reporting period related to key management personnel. Key management personnel are those persons with authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including any director (whether executive or otherwise) of that entity.

31.5 OTHER RELATED PARTIES

Other related parties are Songwon Moolsan Co., Ltd. (Korea) which has significant influence on the Group due to the interest held in the share capital of the parent company of 23.88%. Further, the subsidiary of Songwon Moolsan Co., Ltd., Kyungshin Industrial Co., Ltd., which holds interest in the share capital of the parent company of 9.15%, is identified as a related party of the Group.

32. EVENTS AFTER THE REPORTING PERIOD

The consolidated financial statements for the year ended December 31, 2017 were approved by the Board of Directors of the parent company on January 31, 2018

Otherwise, no significant events occurred during the period from the statement of financial position date, up to the date upon which the annual consolidated financial statements were issued.

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SONGCAT™Organo-Tin
Intermediates**SONGSTAR™**Polyester
Diols**SONGNOX®**Stabilizers &
OPS Blends**SONGXTEND®**

Stabilizer Solutions

**SONGWON Brands
stand for excellence,
innovation & quality.**

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All of SONGWON's trademarks and product line brand names used in conjunction with SONGWON's business operations are registered (®) with the U.S. Patent and Trademark Office, and registered or subject to pending trademark applications (™) with the registries of many foreign countries, and/or are protected by common law.

Accordingly, SONGWON intends to keep its filings current and seek protection for new trademarks or product names on a country-by-country basis consistent with its business needs.

All other trademarks, service marks, logos and trade names referenced in any of SONGWON's material are the property of their respective owners.

SONGSTAB™

Acid Scavengers &
PVC Stabilizers

SONGSTOMER™

TPU Grades

SONGCURE®

Photoinitiators

SONGCIZER™

Plasticizers

HI-THANE™

Polyurethanes

SONGSORB®

Light Stabilizers

HI-SWELL™

Super Absorbent
Polymers



About this Report

This is SONGWON Industrial Group's most recent annual report. It aims to provide all of our stakeholders with comprehensive and transparent information relating to SONGWON's economic, environmental and social performance in 2017 (FY January-December 2017). The new annual report replaces the previous SONGWON Annual Report 2016, which was published in March 2017.

Unless otherwise specified, the new SONGWON Corporate Sustainability Report includes updates to the previous report that reflect data through end-of-year 2017. All the data for this report has been carefully measured according to industry standard measurement methods unless otherwise stated. There have been no significant changes in the reporting

period, scope, boundary or measurement methods applied in the Report.

Any restatements regarding the content of previous reports have been disclosed separately. SONGWON Industrial Group Structure and its countries of operations define the boundary for this report within the reporting period unless otherwise stated.

This Report follows the GRI's G4 Guidelines, 'in accordance' Core option. SONGWON does not currently engage an external agency or organization to audit its GRI responses.

Our Financial Statements are audited by a third party, the Group auditor, Ernst & Young.

Forward-Looking Statements

The SONGWON Annual Report 2017 contains forward-looking statements concerning the future plans, strategies and performance of the SONGWON Group. These statements reflect the views, expectations and assumptions of the SONGWON Group management and are based on the information that was currently available at the date of publication. Therefore, please be advised that such statements are subject to

risks and uncertainties, as well as various known and unknown factors that may cause the actual future results, financial situation, development or performance of the company to differ from the expectations expressed in the Report. SONGWON assumes no liability whatsoever to update the statements or forecasts included herein or to confirm them to future events or developments.

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