The Case 2017
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Water scarcity is one of the most pressing global issues. Natural resources are under more pressure than ever before. Energy and water consumption is skyrocketing as a consequence of population growth, urbanization, and increasing living standards. Natural water supplies can no longer cope with increasing demand, and climate change is making distribution of water more unequal than ever. Globally, 663 million people currently live without access to clean water, and by 2050, at least one in four will likely live in a country affected by chronic or recurrent shortages of fresh water. While lack of water, especially from extreme droughts, challenges people’s way of living, causing displacement and conflicts at unprecedented rates, flash floods are also becoming increasingly common and causing displacement and conflicts at unprecedented rates, flash floods are also becoming increasingly common and causing displacement and conflicts at unprecedented rates.

Current water management solutions are unsustainable. While extreme weather events receive much attention in the media, most people are unaware of the challenges and costs of water management, such as procuring and distributing clean water and sustainably handling wastewater. As consumers, we demand clean, high-quality water directly from the tap and we expect that wastewater is cleansed before being released back into nature. However, the high-quality demands are costly, as they require energy-intensive processes. When natural water supplies cannot keep up with demand, especially in densely populated areas, clean water needs to be transported over long distances. Alternatively, local water has to be recycled or purified. The higher living standards and regulation also mean that more wastewater needs to be transported and treated. Further, inadequately water infrastructure makes water leakage a huge problem, even in modern cities like London, where 25% of water is lost or unaccounted for during transport between water utilities and consumers. Globally, the value of water lost amounts to an estimated 97 billion DKK.

In all these processes, pumps are at the center of moving water. Currently, pumps account for a massive 10% of world electricity consumption, but 9 out of 10 pumps in operation waste energy because they are either old or cheap, or not optimized for their application. Grundfos is the world’s largest pump manufacturer.

With an annual production of more than 16 million pump units, Grundfos is the world’s leading pump manufacturer. This position has been developed from the company’s history of being at the forefront of innovation with the development of several breakthrough technologies. Grundfos serves three core segments: Buildings, Industry, and Water Utility, and is the market leader in the maturing buildings segment. Grundfos faces new threats that will change the industry. After initiating a turnaround in 2014 that successfully re-established profitability, Grundfos is now taking a more balanced focus between profit improvement and revenue growth. The current 2020 strategy is in place for top-line growth to happen, but changing dynamics in the global pump industry complicate the effort. Growth rates are low and the overall industry is at risk of being commoditized, as pumps usually only are components in large, complex systems. Chinese manufacturers are catching up with the incumbents by producing increasingly sophisticated and cheap replica products. At the same time, Grundfos is facing an industry of software giants and disruptive, fast-moving companies such as the Internet of Things. This changing environment puts traditional manufacturers like Grundfos in the squeeze between cheap hardware manufacturers and new digital competitors. Consequently, Grundfos is racing against the other global incumbents to differentiate itself by leveraging data and its unique pump expertise to deliver holistic and data-driven solutions.

“Water Utility is the business area with the greatest growth potential. The importance of the water agenda will only increase and the need for new radical solutions is paramount.”

Mads Nipper, Group President & CEO

Grundfos faces new threats that will change the industry. After initiating a turnaround in 2014 that successfully re-established profitability, Grundfos is now taking a more balanced focus between profit improvement and revenue growth. The current 2020 strategy is in place for top-line growth to happen, but changing dynamics in the global pump industry complicate the effort. Growth rates are low and the overall industry is at risk of being commoditized, as pumps usually only are components in large, complex systems. Chinese manufacturers are catching up with the incumbents by producing increasingly sophisticated and cheap replica products. At the same time, Grundfos is facing an industry of software giants and disruptive, fast-moving companies such as the Internet of Things. This changing environment puts traditional manufacturers like Grundfos in the squeeze between cheap hardware manufacturers and new digital competitors. Consequently, Grundfos is racing against the other global incumbents to differentiate itself by leveraging data and its unique pump expertise to deliver holistic and data-driven solutions.

Now, Grundfos needs to move faster than its competitors to overcome the threats and to keep its position as a market leader. To secure future growth, Grundfos is eager to pick up creative ideas on how to realize the high potential of the Water Utility business.

“How should Grundfos leverage digitalization, services, and new business models to sustainably grow revenue in its Water Utility business by the end of 2020?”

You are asked to formulate a business plan, by either focusing on a few key elements within the case, or by encompassing several elements and connecting them in a holistic business plan. The business plan has to build on new creative ideas, but at the same time fit with the core values of Grundfos and enable them to remain a leader in the pump industry given the new digital agenda.
The low-lying areas in Florida are very sensitive to sea level rise, as large parts of the American state are located less than three metres above sea level. This makes the need for flood protection solutions increasingly important here - and in other American coastal areas, too.
The Global Pump Industry

The global pump market is valued at around 306 billion DKK. It is a mature industry that is essentially stagnating, with low European growth and the slowdown in China. The last couple of years have been characterized by an unstable and unpredictable global economy and it is expected that compound annual growth rate (CAGR) until 2020 in the industry will only be around 0%-2%.

The pump industry is fragmented, with more than 9,000 manufacturers existing worldwide and only few players having global presence. Besides Grundfos, the largest manufacturers are Xylem, Pentair, KSB and Viessmann. Additionally, approximately 50 companies serve as major competitors within either buildings, industry, or water utility. Despite the vast opportunities within software and digital solutions, the industry is conservative and has limited innovation. So far, only a few manufacturers are moving away from only providing hardware and are investing in digital capabilities.

It is a complex industry with a vast number of different types and sizes of pumps, reflecting the countless purposes that pumps fulfill. Most of us rarely think about it, but pumps are essential for us in our daily life and it is almost impossible to find an industry that does not use pumps. Industries using pumps include transportation, food and beverages, oil and biofuels, pharmaceuticals, mining, and manufacturing. Industrial pumps are used to handle water and other liquids such as oils, chemicals, beverages, and cooling agents. In buildings, pumps are used in multiple areas, from residential buildings, hotels, and offices to hospitals and airports. The typical applications in buildings are distributing water and providing a comfortable indoor climate. Furthermore, pumps are used by water utilities to supply citizens with clean water and to handle wastewater, ensuring that the most basic infrastructure of modern societies functions.

The pump markets face the threat of becoming commoditized today, replica products have moved beyond the threshold of being mere noise and are exhibiting a substantial threat to the largest incumbents in the pump industry. Replica products are spreading to most segments and, with improved performance, they have become widely accepted in not only emerging markets but also the mature markets. The best Chinese manufacturers are becoming quicker at adopting advanced pump technologies and are rapidly closing the gap to the incumbent’s state-of-the-art technology. Energy efficiency of single components is a dying differentiator, as the potential for making the individual pump more energy efficient is close to exhausted.

Therefore, the leading pump manufacturers are working to make their pumps smarter and better at operating as part of intelligent systems, as intelligent solutions are becoming the new differentiators.

Digitalization and new competitors are disrupting the industry

Since intelligence does not necessarily have to be embedded in the pump, but rather can be a part of the overall system supported by intelligent digital management, software giants and fast-moving IT companies are keen to enter the market. These companies excel at delivering digital solutions and at leveraging their data and analytical capabilities to provide new services. The services include automation, monitoring, and control of entire systems to ensure that plants, buildings, and water utilities run reliably and cost-efficiently.

“Our traditional competitors can maybe take 5% market share from us. But the threat from digitalization can potentially mean that Grundfos does not exist in 10 years.”

Mads Nipper, Group President & CEO

However, digital solutions such as those enabled by the Internet of Things and better data processing technologies also represent new opportunities for the pump industry. As digitalization has become a key enabler for new revenue streams, it is also gaining traction by the established global pump manufacturers.

Besides increasing energy efficiency by making pumps interact across holistic systems, digital solutions can reduce the cost of activities such as monitoring and maintenance. Automated monitoring can reduce the need for labor by using online sensors in the pump systems to generate data and automate management, while predictive maintenance can increase operational reliability and reduce maintenance cost and time. Because disturbances and breaks in operations are costly, both commercial and private end-users demand high uptime.

To avoid the risk of becoming redundant or simply hardware commodity manufacturers, the incumbents need to leverage their pump expertise and relationships with end-users to differentiate themselves from the new entrants when developing digital solutions.
Grundfos Group is a global leader in advanced pump solutions and a trendsetter in water technology. The company makes products and solutions that help customers conserve water and energy, reducing climate impact and saving money.

Grundfos strategically serves around 60% of the total pump market with a market share of around 12%-14% of the market served. Grundfos has strategically decided to focus only on the part of the pump market that caters to its core capabilities. The markets it does not serve for instance demand pumps for petrochemicals and power plants, where other technical specifications are required.

Today, the Poul Due Jensen Foundation owns 88.1% of the shares in Grundfos. Grundfos employees own 1.3% and the remaining 10.6% belong to the founder’s descendants. The chairman of the foundation is Niels Due Jensen, the son of the founder. The main purpose of the foundation is to ensure and support healthy economic growth and development of the Grundfos Group, while preserving the founding values that have shaped the culture of the company. Six core values have embodied Grundfos’ business for decades.

Sustainability has and will always be at the heart of the business. This core value has evolved from technological leadership within energy efficient and environmentally friendly solutions. If all pumps currently installed worldwide were converted to Grundfos pumps, global electricity consumption could be reduced by a staggering 4%-5%. By following its founding values, Grundfos is committed to actively improving the environment, both in terms of impacting the world around them, and by reducing its own climate footprint.

Foundation ownership is a widespread ownership form among large Danish industrial companies. Compared with key competitors, this has uniquely positioned Grundfos to focus on long-term goals. Consequently, business decisions are financially sustainable and do not put the ownership at risk. Long-term ambitions have ensured Grundfos’ position as a technological leader by keeping a strict focus on innovation and responsible leadership. This has built the platform of the global growth of the company. Since Grundfos has been comfortably ahead technologically, a culture has followed of expecting growth to come almost effortlessly. However, as the industry and technology are changing at an unprecedented speed, the company needs to adapt.

"I believe that we all want to deliver the world to the next generation in a better state than we inherited it.”
Niels Due Jensen, Chairman of the Poul Due Jensen Foundation

"The main reason that Grundfos exists is to help solve the world’s water and climate challenges.”
Mads Nipper, Group President & CEO

A Quick Introduction to the Grundfos Group

Grundfos is founded by Poul Due Jensen. Poul Due Jensen produces his first pump for a local farmer’s water work.

Grundfos starts exporting.

Poul Due Jensen establishes the Poul Due Jensen Foundation as the new owner of Grundfos.

Grundfos introduces the world’s first intelligent pump.

Grundfos introduces the K100, a unique technology that allowed electronic pumps to be configured, diagnosed, and serviced remotely.

Grundfos truly enters and invests in growing the wastewater business through a combination of acquisition and own product development, after having produced wastewater pumps since 1984.

Grundfos introduces a decentralized wastewater treatment system enabling industrial manufacturers to treat wastewater on-site.

Grundfos establishes Grundfos Lifelink, a new business unit with the purpose of developing sustainable water systems, primarily for rural areas in developing countries.

A largely new group management is established to initiate a strategy journey to return Grundfos to profitability.

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History and Development

1945 Grundfos is founded by Poul Due Jensen. Poul Due Jensen produces his first pump for a local farmer’s water work.
1949 Grundfos starts exporting.
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1991 Grundfos introduces the world’s first intelligent pump.
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Grundfos runs its business in a responsible and ever more sustainable way. We make products and solutions that help our customers save natural resources and reduce climate impact. We take an active role in the society around us. Grundfos is a socially responsible company. We take care of our people - also those with special needs.

Grundfos is our people. We develop the individual. Everyone in Grundfos has passion and potential. Everyone has the power to influence. Everyone must feel respected and valued.

The main shareholder of Grundfos – now and in the future – is the Poul Due Jensen Foundation. Profit is a means to growth – not a goal in itself. We ensure a healthy financial foundation at all times.

Grundfos creates value through close relations with customers, suppliers and other stakeholders. We are a global company building on local entrepreneurship. We believe that diversity drives innovation and growth.

In Grundfos we never stop challenging ourselves to create better solutions faster. We take pride in delivering premium quality in everything we do. We show leadership and innovate the future.
Islands like this one are threatened by rising water levels and intensified weather systems. Seawater levels have already risen by around 20 centimetres. Should this trend continue, with continuously rising sea levels, 2,000 islands and 42 million Indonesians living in coastal areas are at risk.
I
n 2014, a new group management was set in place, led by Mads Nipper who came from the LEGO Group and joined Grundfos as Chief Executive Officer. At the time, Grundfos was in a tough position: operating profits had been declining from 2,011 million DKK in 2011 to 881 million DKK in 2014. Since then, Grundfos has delivered a significant improvement in profitability, doubling earnings before interest and taxes (EBIT) from 2014 to 2015, and enhancing it further by operational improvements in 2016.

A new strategy was launched in 2015 to strengthen Grundfos’ future position in the industry. “Strategy 2020” was built to leverage the clear match between Grundfos’ core capabilities and the market development in water management, digitalization, services, and holistic project sales.

Strategy 2020 introduced five must-win battles to set a clear direction for the coming years: Grundfos must build a simpler and leaner business system with faster decisions, expand the product leadership, and build competitiveness and differentiation beyond products, with supply chain and service as the highest priority. Also, an internal collaborative culture that spans geographies and departments, as well as a focus on customer centricity, were deemed the secret ingredients that would make the strategy a success.

The initial ambition of Strategy 2020 was to secure stronger financial results with average revenue growth of 6% and profit before taxes equal to at least 10% of net turnover. Though Grundfos has started to fund the journey for Strategy 2020 by making operational improvements, the revenue growth target has recently been reduced to a CAGR of 3% for 2017-2020 due to the flat market development. Though Grundfos has seen a small organic sales growth in 2016, the group still needs to intensify efforts within digitalization, services, and holistic project sales to fulfill its ambitions of revenue growth.

MEKONG DELTA, VIETNAM

Rising sea levels increases salinity in the Mekong Delta rivers and agricultural areas. This challenges the people earning their livelihood from fish farms and agriculture based on fresh water. The issue’s seriousness increases by the fact that roughly half of all food produced in Vietnam come from there.
Grundfos is structured as a matrix organization around the three main business segments: Building Services, Industry, and Water Utility, and across the four main regions: Europe, the Middle East, and Africa (EMEA); the Americas; Asia Pacific; and China. There is an overlap in the types of pumps used across the segments.

Building Services is Grundfos’ legacy business but Water Utility presents exciting prospects. Building Services sells pump solutions to family homes, commercial buildings, district energy, and components to heating, ventilation, and air-conditioning manufacturers. At the core of all solutions are pump technologies that reduce energy and water consumption and improve indoor climate and comfortability. This segment accounts for around 42% of sales, and growth mainly comes from the Americas and China, where holistic solutions are in demand.

Industry sells pump solutions for industrial processes, industrial utilities, system builders, and original equipment manufacturers (OEMs). This segment accounts for around 20% of total sales and, with Building Services, it comprises the backbone of the company. However, markets are relatively mature and growth does not seem to be re-emerging after the global financial crisis.

Water Utility sells pump solutions for procurement, treatment, transport, and distribution of water and wastewater, and for agriculture and flood control. The segment accounts for around 12% of sales and has the potential of double-digit growth rates. The growth potential arises from the increased recognition of water scarcity and climate change as global issues by consumers, businesses, and policy-makers who are demanding sustainable solutions.

Beyond the three main business segments of the organization, Grundfos has a unit that works with emerging water technologies. This part of the organization serves as a playground for solving some of the world’s largest issues around water. This has for instance led to a solar powered and decentralized water pump solution that can deliver clean, safe water to rural villages and informal settlements in low-income areas of the developing world. Grundfos Lifelink solutions have proven that radical new solutions can both deliver water to those most in need and be viable business models.

Grundfos owns subsidiary sales companies globally. The Grundfos Group is represented by 83 subsidiaries in 16 countries. In addition, Grundfos products are sold in many countries by local distributors. Generally, the subsidiaries have developed competencies depending on how sales have grown historically in different segments. However, each sales company has several functional departments, such as Industry, Buildings, Water Utility, IT, Marketing, and Service to be able to cover the necessary competencies demanded, both internally and externally. In some countries with sufficient critical mass and demand for more tailor-made products, the sales companies also own assembly operations.

As Grundfos traditionally has been a pump manufacturer, the sales organization has been geared toward selling standardized products to distributors. As a major part of sales still go through distributors, prioritizing investments in service competencies of local sales organizations have been limited. Training the sales force to sell services and solutions takes time, as such sales are significantly more complex, and require the right internal infrastructure to deliver cost effectively.

**TOTAL SALES PER SEGMENT**

*In 2015, Grundfos WU had an exceptional large order in Americas of 75 mDKK.*
Compared to its competitors, Grundfos’ value proposition has always been the energy efficiency and quality of pumps. The Grundfos brand is viewed as strong and sustainable to stakeholders, therefore, pumps are also offered at a premium price. Generally, the investment in a pump only covers 5% of its lifecycle costs, with running costs (i.e., energy costs) accounting for 85% and maintenance for 10%. This is also closely linked to the fact that a pump has a rather long lifetime of around 10-15 years. If it is highly exposed, the pump may need spare parts and service once a year.

Grundfos has a long-standing track record of innovation for optimizing water and energy use for pump systems and solutions, and innovative product technologies and design are core capabilities. However, though technology and category leadership are still important differentiating factors to distance Grundfos from the commodity trap, the importance of the most distinctive technical capabilities are expected to decrease in the future.

Therefore, while Grundfos continuously works on the core offering of quality and energy efficiency, it is also working on intelligence. Essentially, intelligence enables the optimization and monitoring of systems. This can ensure energy efficiency and reliability, which is valuable to customers because downtime is costly. Today, part of Grundfos’ portfolio includes intelligent, so-called SMART pumps. They have sensors and microchips and generate large amounts of data on different activities, for example, water pressure, the amount of water passing through pipes, and places where possible leakages may occur. Significant possibilities with data exist, especially if numerous sources of data can be combined. For example, supply and consumption data can be combined with weather data to predict the need to make room for massive rainfall in city drainage systems to avoid flooding. The primary problem with the large amount of data is that it needs to be analyzed and commercialized to create value to customers. Furthermore, the questions arise of who will own the data in the future, and what the implications will be if competitors can access Grundfos’ unique data pool.

The Core Product and Grundfos’ Current Capabilities

"We are near the limit of how energy efficient a pump can get. Now, we need smarter systems to become more energy efficient. Pump energy efficiency is really a dying differentiator."

Lars Enevoldsen, Group VP, Global Technology and Innovation

"Technology is not a problem in Grundfos. The problem is commercialization and understanding what customers really need and want to pay for."

Marianne Kjeldgaard Knudsen, Senior Director, Commercial Digital Offerings and Digital Taskforce
The Global Water Utility Market

The global water utility market is valued at 3,900 billion DKK, accounting for a massive 81% of the total water market. The water utility industry manages the lifecycle of water, from extraction and distribution of clean water, to the handling of wastewater. Globally, there are approximately 300,000 water and wastewater utilities, but globally little uniformity exists in the services that they offer; some municipalities have separate bodies responsible for water, wastewater, and drainage, whereas others manage all three under the same organization.

Though pumps are an integral part of water systems, the majority of expenditures in water utility systems is operational and includes costs such as energy, water, labor, and maintenance. Historically, water utilities have used a range of services from total or partial outsourcing to own management of operations in an attempt to maximize efficiency. Some companies may be world champions at operating small parts of the systems while other companies can manage entire systems. The different operating models are largely anchored in the contracting model chosen when developing new projects. Regardless of contracting model, numerous opportunities exist for water utilities in any part of the world to save money by using smart technologies. It is estimated that water utilities can achieve energy savings between 30%-60% by applying smart pumps.

Regulation and efficiency improvements drive growth in the developed part of the world

Most developed countries have had well-developed water infrastructure for many years. However, the infrastructure wastes energy and water as it is becoming outdated due to new technology, wear and tear, and growing cities. Intelligent solutions can reduce the costly need for installing new pipes and other infrastructure. Water utilities can employ solutions that manage water pressure to fit demand while reducing pipe bursts and thus water leakage. Monitoring solutions enable better performance and preventive maintenance to abate breakdowns to increase reliability, which is essential for customers. Consequently, intelligent control and monitoring solutions are expected to grow in the coming years.

However, new technologies represent change and uncertainty for operations managers who prioritize reliability and are comfortable with their existing installed systems. This makes the industry slow at adopting new technologies despite the incentives for cost savings.

Therefore, regulation is also an important driver of growth. Increasingly higher standards for drinking water quality, wastewater discharge, and climate resilience can push water utilities to adopt new technologies to achieve compliance with regulation while enabling long-term cost savings. Regulation also drives the market for sensors to measure water and wastewater quality. Further, smart solutions can also improve customer service by providing utilities and the end-users of water with more detailed information about water quality and consumption. The contract model used for new investments is often Design-Build or Design-Build-Operate, where a consultant engineer is appointed by the client to draw up a broad specification for a project on which contractors can bid. Depending on the type of contracting model, operations are either included in the contract or undertaken by the clients themselves.

Population growth, urbanization, and increasing living standards are driving growth in developing countries

The water utility market in the developing world is dramatically different than in the developed world. Here, growth is largely driven by new investments to support the growing demand from population growth, urbanization, and higher living standards. The demands are even more basic in undeveloped areas that completely lack the infrastructure to support treatment and distribution of clean water and handling of wastewater. Here, most people lack safe water and basic sanitation such as toilets. Children are particularly affected by the lack of safe water. It is causing sicknesses that prevent children from going to school, and around 160 million children globally suffer from chronic malnutrition linked to water and sanitation issues. For governments, this means that investments in water infrastructure can be more than just a sound business model when water is sold to end-users. It can also have significant long-term effects on labor productivity, education, and welfare.

As the developing regions are often cash constrained, the main contracting models in water utility are the so-called Build-Operate-Transfer or Build-Own-Operate. In these models, a private developer builds, owns, and operates a facility for a contract period and then either transfers the plant back to the client or continues to operate it.
The competitive landscape is changing. Competition in the water utility industry is fragmented, with many players offering individual components necessary for water utilities to function — that being equipment, systems, engineering, chemicals, or operations management. However, the industry has experienced a growing trend of consolidation and collaboration, especially with the increase in large infrastructural projects in developing countries. Despite an internal effort in several of the larger companies to develop smart water capabilities, recent acquisitions have generally been aimed at acquiring knowledge, rather than getting market access, since the incumbents already have global reach. Partnerships are also arising across the water value chain and intelligence layers, because incumbents cannot keep up with the rapid development in digitalization on their own. The companies who operate across the value chain with both the construction and operation of plants and systems also have the advantage when large projects are put out for bid and the contracting Build-Ow n-Transfer and Build-Ow n-Operate variants are applicable.

The dominating players within the modern water utility industry operate in different intelligence layers, from covering the tools market with pumps to the digital solutions market, which is also where new non-competitors are entering.

Grundfos primarily operates in the first layer, the tools market, which delivers the components that water utilities use, e.g., pumps and valves. Grundfos’ closest competitors in the water utility pump market are the global players Xylem, KSB, Sulzer, and Wilo. Grundfos not only sells its pumps to water utilities but also to other pump suppliers who provide services on Grundfos pumps; as an example, Xylem is both one of its largest competitors and an important customer. Generally, the top industrial pump manufacturers share the same agendas and have broad portfolios, process and project sales capabilities. They are all moving away from only providing hardware to water utilities, and working toward providing solutions centered around software and digital offerings.

“Unlike the buildings and industry segments, pumps are the core of a water utility, like the CPU in a computer.”

Wid Nippet, Group President & CEO

The second layer is the automation, control, and monitoring market, where the most significant shift lies in the opening of communication protocols to promote interoperability between devices. The hardware components are now being supported by software applications to increase efficiency and reliability. The automation, control, and monitoring market within water utility has a size of 127 billion DKK and is expected to grow with a CAGR of 7.2% by 2021. The large traditional pump manufacturers have all ventured into monitoring and automation and with the recent acquisition of Sensus, Xylem is moving aggressively, adding metering and further data analytics capabilities into its portfolio.

“Grundfos invests heavily in digital and analytical capabilities. Our R&D department has more software people than hardware people.”

Lars R. Enevoldsen, Group VP, Global Technology and Innovation

The third layer consists of the digital services market, where companies sell advanced software as a service that can provide utilities with a total view of systems and inputs to improve performance. Services are sold with the use of digital tools and include predictive maintenance and uptime management. The business model applied is often outcome-based and today, many of Grundfos’ customers, such as Veolia, an international service company, are actually operating in the digital services market. For Grundfos, moving into the digital services market may be seen as a threat from many of its large existing clients such as Veolia and Suez.

Lastly, in the fourth layer of the digital solutions market, companies such as GE, IBM, Tata, and a number of smaller start-ups have entered the market. The layer is premature and characterized by a high degree of intelligence, where the offering has no physical component. Partnerships are essential in this layer, because the intelligent players often are non-component companies, which have limited access to data. For example, IBM is using partnerships with co-suppliers and end-users to bring about comprehensive water utility solutions, which are completely software based. The market is very competitive and fast moving, and the business models are largely based on subscriptions.

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**MARKET**

**PUMP CO’S**

**RESIDENT PLAYERS**

| Description | Grundfos is a private Danish company with legacy business in buildings | Xylem is a listed American company and the largest and most aggressive player in water utility | KSB is a listed German pump and valve manufacturer | Sulzer is a listed Swiss company | Wilo is a German pump manufacturer, with legacy business in buildings |
| Description | TO ‘15 bnDKK | 25.8 (12%) | 23.1 (62%) | 17.4 (39%) | 201 (7%) | 9.7 (20%) |
| Market focus | Water intake, distribution & wastewater transportation | Complete offerings for plants and networks, and growing business in analytics and rentals | Comparable to Grundfos but more engineered solutions | Dominant part of WU business relates to wastewater solutions and service | Pump offering largely comparable to Grundfos and also strong ambitions to grow in water utility |
| Intelligence portfolio & service set-up | Demand Driven Distribution (DDD), Grundfos Remote Management (GRM) Service only a minor part | Several monitoring offerings, predictive maintenance, Web SCADA (similar to GRM), strong end-user relations & service setup | Pump surveillance service, monitoring devices, Sonolizer app, strong end-user relations and service set-up | Wastewater remote monitoring services, (GRM for WU) preventive maintenance, and relative strong service setup | Limited intelligence offerings but increasing service focus |
| Partnership/acquisitions linked to digitalization | Primarily built own competencies | Acquisition of Sensus (meters), and Vincenti (analyticals) | Rapidly building own capabilities and partnering with SAP | Partnership with Sentrige (Controls) | Stake in German iEnergy but only links to Smart Home solutions for now |
Water Utility in Grundfos

THE WATER CYCLE

Raw water intake, Drinking water treatment, Drinking water distribution, Wastewater transport, Wastewater treatment

Though the Water Utility area is closest to the values of sustainability in Grundfos, it has only recently been solidified as the third key segment in the company. Water Utility takes care of the entire lifecycle of water, which enables Grundfos to fully integrate water supply systems. To realize the high potential for growth, Grundfos is investing in five main application areas within Water Utility.

Raw water intake is about collection and transportation of water from springs, surface intakes, or groundwater wells to water utilities, waterworks, or water treatment plants. The main drivers of growth in the segment are increasing demand for water, construction of new water utilities, especially in emerging markets, and replacements in mature markets, which are driven by the need to reduce maintenance and energy costs.

Drinking water treatment concerns waterworks and water treatment plants handling the purification of water to make it suitable for consumption or drinking. The main drivers of growth are the growing global need for clean drinking water.

Drinking water distribution is the distribution of clean water from waterworks or water treatment plants to the point of use, it being residential, commercial, industrial, or public buildings. The main drivers of growth are drought and overextraction of groundwater, reduction in water leakages and energy usage, and the need to replace or increase the length of network pipes due to urbanisation, age and quality. For drinking water distribution, Grundfos has launched Demand Driven Distribution, a system that controls network water pressure to reduce water leakage, energy consumption, and expensive pipe replacement by intelligently learning about local water consumption patterns.

Wastewater transport is the movement of wastewater, drainage, and surface water from households and industries and rainfall to treatment plants. The main drivers of growth stem from the fact that 80% of worldwide water is neither being collected nor treated before being discharged into nature, and that there is a need for operational stability to reduce energy or maintenance cost.

Wastewater treatment plants treat and purify wastewater for discharge into nature or reuse for various purposes. Just as collecting and transporting wastewater, wastewater treatment is all about keeping reliability high. The growth in wastewater treatment is driven by increasingly strict regulation and by water recycling, which locally can be required to close the gap in water supply. The wastewater market is very conservative and customers very loyal, and with the strength of Grundfos’ closest competitors in wastewater treatment, Grundfos has traditionally had difficulty getting a strong foothold into the market.

In addition to the five core application areas, Grundfos also offers solutions within irrigation and flood control. Grundfos seeks to maintain market share within irrigation, where Grundfos provides solutions to mega farmers. Agriculture accounts for 70% of global water consumption, and while food production is growing rapidly, water extraction is already being over exploited. Flood control delivers solutions to reduce or eliminate the impact of flooding events, which are the most common and fastest growing cause of disaster in the world due to climate change. Recent extreme floods in Western Europe and the USA have been multibillion dollar disasters.

“We are world champions in transporting water, but we can get better at treating it.”

Kenth Hvid Nielsen, Group VP
Global Water Utility

GRUNDFOS SALES PER WU AREA

<table>
<thead>
<tr>
<th>Area</th>
<th>2014</th>
<th>2015</th>
<th>2016E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater Treatment</td>
<td>557</td>
<td>356</td>
<td>486</td>
</tr>
<tr>
<td>Flood control</td>
<td>577</td>
<td>577</td>
<td>567</td>
</tr>
<tr>
<td>Wastewater Transport</td>
<td>392</td>
<td>676</td>
<td>664</td>
</tr>
<tr>
<td>Irrigation</td>
<td>394</td>
<td>384</td>
<td>441</td>
</tr>
<tr>
<td>Water Distribution</td>
<td>391</td>
<td>441</td>
<td>441</td>
</tr>
<tr>
<td>Drinking Water Treatment</td>
<td>568</td>
<td>640</td>
<td>567</td>
</tr>
<tr>
<td>Raw Water Intake</td>
<td>1,702</td>
<td>1,634</td>
<td>1,438</td>
</tr>
</tbody>
</table>

GRUNDFOS WU SALES PER REGION

<table>
<thead>
<tr>
<th>Region</th>
<th>2014</th>
<th>2015</th>
<th>2016E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>445</td>
<td>808</td>
<td>654</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>549</td>
<td>536</td>
<td>172</td>
</tr>
<tr>
<td>China</td>
<td>270</td>
<td>328</td>
<td>107</td>
</tr>
<tr>
<td>EMEA</td>
<td>328</td>
<td>391</td>
<td>486</td>
</tr>
</tbody>
</table>
In the Saudi desert areas, farming takes substantial amounts of water. Much of the irrigation relies on groundwater resources created in the course of 100 million years. If the use continues, the sources risk exhaustion within a near future. The fields are circular, because they are pivot irrigated.
“If we cannot deliver the solutions quickly enough, someone else will do it!”

Kenth Hvid Nielsen, Group Vice President, Water Utility

Grundfos’ market position in the water utility industry differs depending on the region. EMEA, including Russia, has historically been the most important region for Grundfos. However, growth is stagnant in Western Europe, while sales have dropped in Russia following the economic downturn. The Middle East has a huge potential within water treatment with the growing challenge of scarcity and clean water, but sales are stagnant due to low oil prices. Africa also has a high potential on the longer term, but currently the sales are flat. The primary growth in the region comes from the less developed markets. Here, opportunities for services are also larger than in the established markets where third parties perform services on Grundfos pumps.

“The Buildings segment is taking a lot of focus, because this is where we earn our money and are market leaders. Water Utility remains difficult in the countries where we have not had a long history in water management.”

Kim Jersin, Group Senior VP & Regional Managing Director EMEA

The Americas is an important growth market for Grundfos. The US is the largest market in the world within wastewater pumps, which is the most traditional area of the Water Utility segment. A general development toward sustainability in the US may open doors to Grundfos’ core competencies, and improvements are expected in both federal and state budgets following years of under investments in infrastructure. However, with an unpredictable political environment likely to continue in 2017, the market outlook for the Americas, alongside all foreign markets, is uncertain.

In China, sales have decreased in the previous year following the economic slowdown. China is the second largest market in Water Utility and has a substantial growth potential with the initiation of large water infrastructure projects. However, competition is also fierce for stakes in the Chinese market, and Chinese manufacturers with strong relations to Chinese stakeholders are proving to be able to present fair alternatives in the tools market. To tap into the Chinese market, Grundfos has made large investments to specifically support an enhanced Water Utility effort.

Asia Pacific was the only region to show stable Water Utility sales in 2016. The region is comprised of highly diverse countries, ranging from India and Bangladesh to Singapore, Japan, and Australia. Sales have seen solid growth in India, Taiwan, and Vietnam while declining in the largest regional market Australia. Opportunities exist in Asia Pacific with high demand for clean water, sanitation and protection from flooding. Compared with the wealthier western markets, the pump market in the region is highly contested with many local and regional players and is to a large extent commoditized. With local authorities beginning to prioritize water infrastructure, large water supply projects are on the way.

“Typically the tenders from government or municipalities are for full-scale solutions. Here Grundfos is disadvantaged as it predominantly is a product supplier and not a full-scale system integrator/contractor.”

Okay Barutcu, Group Senior VP & Regional Managing Director Asia Pacific

The 2020 Water Utility Strategy

The 2020 Water Utility strategy set up prioritizations of key initiatives to ensure that the most critical initiatives were implemented across the regions. The Must-Win Battles (MWB) for Water Utility were closely linked to the Group Must-Win Battles to ensure that Water Utility supported the implementation of the Grundfos Strategy 2020.

The Water Utility sales organization is challenged by limited relationships with key decision makers, especially at director level. To deliver on the growth opportunities in Water Utility, the first MWB entailed building stronger project capabilities and relationships with end-users like water utilities. This is a prerequisite to build an installed base and by that gain access to the important aftermarket. Currently, Grundfos is a technological leader in raw water intake, distribution of drinking water, and wastewater transportation, and the Water Utility MWBs solidified that this position should be maintained. An expansion of the wastewater transport position was to be achieved by upgrading sewage pumps, intelligent solutions, and advanced, high performing prefabricated pumping stations. Furthermore, the MWBs identified service offerings to be key in supporting replacement sales. With the development of services, the sales capabilities must also be improved to ensure the transition of moving sales beyond the pump. Investing in the front-end of solutions, Grundfos’ intelligent solutions, was also deemed important to ensure that Grundfos can gain momentum and leverage the current market perception.
The current service setup in Grundfos is outdated
Currently, the service business in Grundfos is built up around the pump and 80% of sales come from spare parts. The sale of spare parts is essential for Grundfos, but it does not support a more service-oriented business, and at the moment, services are mostly reactive.

“Grundfos is a leader on the product side. With only 4%-5% of revenue currently coming from services, there is a huge potential.”
Thomas Rosenkilde Anderson, Group VP of Services

Grundfos Remote Management (GRM) has been developed to capitalize on the potential of services. It is a secure, Internet-based system for monitoring and managing pump installations in commercial buildings, water supply networks, wastewater plants, etc. GRM can track and document changes in pump performance and energy consumption using automatically generated reports and trend graphs. This can give indications of wear or damage, and service and maintenance can be planned accordingly to avoid costly break-downs and energy waste. Though GRM is a step into the future regarding services and digitalization, the revenue stream it has produced is limited. However, customers seem to value GRM, which has often been given as an add-on to enable project sales. Here, sales have been registered as pump and project sales, rather than GRM sales, in part because this supports the incentives schemes of the sales personnel.

"Service accounts for 8.5% of Grundfos’ sales in the Water Utility segment. The sales of services and service processes are different from country to country. In some countries, Grundfos is delivering service through certified partners; in others, it uses partners mixed with its own employees. Sometimes, the places where Grundfos has the most services are actually the most unprofitable areas. Generally, Grundfos delivers most service where no third-party service organizations are present, as in many Eastern European countries. In markets where competition on services is fierce, it is difficult for Grundfos to build up its service organizations, as many of the service companies are Grundfos’ customers. As the sales organizations work independently, different decentralized initiatives to develop and sell services have been carried out with varying success, since developing the infrastructure to support services and new solutions are costly.

Xylem appears to be the only competitor in the water utility market that has managed to transition into a service provider and Xylem expects a quarter of its revenue to come from analytics and services in 2017.

Digitalization, Services and New Business Models

The pump will always be a central part of Grundfos’ offerings; however, with the vast amount of data that Grundfos pumps are capable of producing, there is potential to deliver value for customers through analytics and services. Digitalization is an enabler of services and new business models and Grundfos has created four Lighthouses to lead the digital direction of the company: 1) direct, real-time, and relevant relations, 2) connectivity and optimization, 3) new business models, and 4) a digital value chain. Services and digitalization are essential and a prerequisite for being a solution provider in the water and wastewater business, to capture the high margin service and replacement sales, and to be customer centric in terms of solving customer problems.
The closer Grundfos is to the end-user, the easier it is to deliver value to customers through insights and services. As project sales and holistic solutions are in high demand within water utility, the distance to the end-user is smaller compared with the buildings segment, where distributors are the dominating sales channel and Grundfos rarely knows the end-user. Currently, around 50% of WU revenue comes from project sales. However, 80% of these are small projects worth less than 1 million DKK, while 15% are worth 1-5 million DKK and just 5% are worth more than 5 million DKK.

New business models are needed to ensure sales growth in Water Utility

While digitalization has enabled entirely new service offerings, it is also enabling new business models. This is critical, as new business models need to be developed to sell services since the current business models used for selling pumps will not be adequate.

“Some of our competitors are capitalizing on their sizeable and very profitable service business to be very aggressive in project sales. Here, Grundfos may benefit from new business models to establish a more level playing field and new streams of revenue.”

Keld Fensten Madsen, Senior Director Planning & Intelligence

In other industries, the move toward services has transformed sales from typical one-time transactions for hardware, spare parts, or services to payments over time, such as the license or subscription models that many software companies use. As such, examples of successful uses of alternative revenue models across different industries include renting, licenses, subscriptions models for services and analytics, leasing, and pay-per-water, a performance scheme where the customer pays for the volume of water processed by the pump system rather than paying upfront for the system and for maintenance and service when needed. Another model is the “pay-as-you-save” scheme, where cash-constrained water utilities can buy pump solutions by paying over time as they realize the cost-savings from lower energy usage, instead of paying up front. Industry proof shows some success with pay-per-water schemes and performance contracts for larger systems, as they can quantify what they are selling. Another example is audits, where consultants can audit water utilities’ systems to advice and identify costs savings potentials. Besides the potential to charge a fee for their services, this could also provide an opportunity to sell more pump solutions.

With the vast amount of opportunities within services, digitalization, and new business models, complexity and uncertainty are guaranteed to increase. Though opportunities within digitalization may be endless, it remains imperative to be customer centric and to ensure customer acceptance, appreciation, and buy-in.

“It is critical to understand that our WU customers in many instances are not advanced professionals – so our customer proposition must be clear, simple, and compelling to even get attention.”

Mads Nipper, Group President & CEO

To develop and test its service and digital offerings, Grundfos often uses pilot projects. For example, Poland has been used as an iSolutions sandbox with an ambition to develop 100 different cases to find profitable combinations of digital service offerings that customers are willing to pay for and that Grundfos is good at delivering.

An example of a pilot is the public-private partnership between the National University of Singapore and Grundfos, partly financed by the Singaporean government. This project to develop filtering solutions to handle heavy, dirty wastewater is now in large-scale testing.
Navigating the water utility market is highly problematic due to the large number of stakeholders and national differences for how water is managed. The stakeholders include not only public and private utilities managing water supply and/or wastewater on a community, regional, or national level, but also all the diverse intermediaries to which Grundfos sells pumps. Historically, direct sales to the public water utilities have been limited because Grundfos has not had sufficient project capabilities and contact with decision makers and advisors, since most sales were generated from distributors. Pump sales to private water utilities have been led by the larger key accounts, e.g., Veolia and Suez.

Customers often demand holistic solutions for entire projects when public or private water utilities invest in installing or renewing facilities. Currently, since Grundfos lacks the capabilities to bid on major tenders, it either bids for subcontracts or partners with global or local contractors. However, Grundfos has traditionally been treating partnerships as close customer-supplier relationships, which do not fully utilize the potential of collaboration. If Grundfos is to truly enter the market for entire projects to enable sales of major service contracts, it will also be entering the market of some of its biggest customers, such as Suez and Veolia. In such Grundfos will be competing against its own customers.

Grundfos’ most important stakeholders within WU are distributors, operations managers, technical directors, and contractors and consulting engineers. Distributors/wholesalers need water and wastewater pumps with high turnover rates and attractive margins. The distributors sell Grundfos pumps to installers and end-users, who request timely deliveries in the event of accidents. Installers include well drillers that install pumps in water infrastructure. More than 50% of Grundfos’ sales in WU is through distributors. Compared to other suppliers, Grundfos maintains a strong brand loyalty, which creates a pull from end-users and installers of the products. One issue with distributors is that Grundfos rarely establishes relationships with end-users and does not know where its products are in operation, which makes it difficult to provide services. However, if all pumps become connected to the Internet of Things in the future, then Grundfos will be able to collect data and provide predictive maintenance.

Operation managers are municipal end-users and their concerns revolve around keeping their systems running. They need trouble-free and effective operation of their water and wastewater network and plants, and quick assistance with problem solving if operational problems should occur.

Digitalization may bring forth opportunities within monitoring and automation, but currently the operation managers rely on doing rounds, because they don’t trust the monitoring systems. Reliability is key, and as such, operation managers tend to rely on the solutions and products they are used to.

Technical directors of public and private water utilities hold the ultimate decision-making power when making new large investments for their utility networks. This means that though operation managers are the end-users, they need approval when incorporating often large and complex monitoring and control systems. Though the installment of smart systems can provide large operational cost savings, the water utility director may primarily be considering the up front capital expenditure due to an incentive scheme, and therefore, long term savings are not always taken into account.

Consulting engineers and contractors handle the planning and construction of water and wastewater infrastructure projects and plants. They seek smooth project handling, on-time delivery and prompt technical support for problem solving from pump suppliers. General contractors work across sectors and others are specialized in water as engineering, procurement, and construction (EPCs). With the water market becoming more demanding, approximately 35 new EPCs have emerged, led by Veolia and Suez. The consulting engineers working with water utilities want to provide holistic solutions to their customers, who are often contractors and need support to find the most optimal solution quickly and easily. Globally, the consulting engineer is a very uniform stakeholder group, and though sales are rarely performed directly through this channel, the consulting engineers remain one of the most important stakeholders. They are an important part of the decision-making process, especially regarding larger and more advanced projects.

Chile’s Esnaiz-Nuevosur waterworks has reduced energy consumption by 32%, eliminated breakdowns, lowered non-revenue water loss and kept a stable pressure across its grid with Grundfos Demand Driven Distribution.

Customers and Stakeholders

**Grundfos WU Sales Per Channel**

<table>
<thead>
<tr>
<th>Channel</th>
<th>2014</th>
<th>2015</th>
<th>2016E</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEM</td>
<td>54</td>
<td>65</td>
<td>61</td>
</tr>
<tr>
<td>Installer</td>
<td>97</td>
<td>102</td>
<td>102</td>
</tr>
<tr>
<td>Other</td>
<td>593</td>
<td>598</td>
<td>586</td>
</tr>
<tr>
<td>Service partner</td>
<td>412</td>
<td>435</td>
<td>369</td>
</tr>
<tr>
<td>Contractor</td>
<td>1,578</td>
<td>1,836</td>
<td>1,644</td>
</tr>
<tr>
<td>Operations manager</td>
<td>369</td>
<td>381</td>
<td>381</td>
</tr>
<tr>
<td>Wholesaler</td>
<td>527</td>
<td>527</td>
<td>527</td>
</tr>
</tbody>
</table>

“Digitalization is not always a good thing. It creates uncertainty because there is a potential that the end-users of our products lose their jobs.”

Kim Jensen, Senior VP, Regional Managing Director EMEA

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CBS CASE COMPETITION 2017 | 37
The world Grundfos is doing business in is increasingly digital and digital touch points with stakeholders have more than tripled over the last 5 years. Consequently, the sales operating model today where representatives are at the core of building relations is gradually shifting towards a model where digital interaction is at the core.

“Grundfos has 100,000 touch points with customers every day, and of these, 60% are digital. We believe that the digital touch points will reach 80% in the near future.”

Morten Bach Jensen, Group VP Marketing & Sales Development

It is Grundfos’ ambition to make direct and relevant relations with customers, but currently, the customer journey for the very diverse stakeholders is not supported seamlessly. Digital, face-to-face, and telephonic touch points are scattered and not standardized. The digital and analog touch points with customers arise both when purchases are made and when end-users need to troubleshoot problems.

At the moment, Grundfos has 800,000 product numbers, which makes it difficult to navigate everything that Grundfos has to offer. Every year, Grundfos websites have 8.3 million visits, and 2 million unique customers use the Grundfos Product Center (GPC), an online search and sizing tool, which has been rated number one in the industry by external consultants. GPC is used to make the right choice when either buying spare parts, new pumps, or replacing old pumps. But Grundfos also receives 4 million phone calls and has half a million face-to-face interactions annually. Although this is costlier than digital interactions, customers are clearly demanding it, cementing the fact that direct channels are still important.

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Morten Bach Jensen, Group VP Marketing & Sales Development

With the water challenge becoming a larger concern in the future, opportunities exist for Grundfos to further expand its business. However, the water utility industry is a fragmented and difficult landscape to operate in and Grundfos has not yet found the winning formula to tap into the market’s growth.

With low growth rates, the threat of commoditization, strong competitors, and new digital entrants in the industry, Grundfos is aware that relying on old achievements is not enough, and that it must take action now to remain a leader in the industry and to realize the company’s ambitions to help solve the water challenge. With the current situation, putting Grundfos back on the growth path will be no easy task.

In this context, you are asked to develop a business plan for how to sustainably grow revenue in the Water Utility segment by leveraging digitalization, services, and new business models.

New business models can, for instance, be new revenue and financing models, new customers, new types of products and services using software, data, or partnerships. Leveraging digitalization could entail using data from pumps and pump systems, changing product offerings, or enhancing the customer experience.

When undertaking this task, remember to clearly specify the assumptions you make in your analyses to ensure that your solution is implementable and in line with Grundfos’ core capabilities and values.

“"We need to move our focus from profit to growth and make huge leaps on the service and digital agenda, in order to succeed in general and especially in our water utility business. Digitalization and new business models provide a world of opportunities for us to create value for our stakeholders in the years to come.""

Mads Nipper, Group President & CEO

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GLACIAL STREAMS ON TOP OF THE ICECAP, GREENLAND

The Arctic area covered in snow and ice has been reduced by 4 percent per decade since the 1950s. According to NASA, about 90 percent of the world’s freshwater ice is bound in the ice sheets of the Arctic and Greenland. The full melting of these ice sheets could raise sea level by seven metres.
Appendices

Key figures and financial ratios

Amounts in mDKK

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Income statement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net turnover</td>
<td>24,800</td>
<td>23,618</td>
<td>23,254</td>
<td>22,590</td>
<td>21,166</td>
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<tr>
<td>Operating profit</td>
<td>1,900</td>
<td>860</td>
<td>1,403</td>
<td>1,801</td>
<td>2,035</td>
</tr>
<tr>
<td>EBIT</td>
<td>2,054</td>
<td>861</td>
<td>1,405</td>
<td>1,805</td>
<td>2,039</td>
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<td>Result of financials</td>
<td>4</td>
<td>20</td>
<td>70</td>
<td>76</td>
<td>(28)</td>
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<tr>
<td>Profit/loss before tax</td>
<td>2,018</td>
<td>881</td>
<td>1,475</td>
<td>1,881</td>
<td>2,011</td>
</tr>
<tr>
<td>Consolidated profit after tax</td>
<td>1,450</td>
<td>503</td>
<td>1,049</td>
<td>1,336</td>
<td>1,421</td>
</tr>
<tr>
<td>Profit/loss for the year</td>
<td>1,286</td>
<td>443</td>
<td>931</td>
<td>1,175</td>
<td>1,250</td>
</tr>
</tbody>
</table>

Financial ratios

|                      |       |       |       |       |       |
| Capital investments  | 1,235 | 1,434 | 1,761 | 1,963 | 1,515 |
| R&D costs, incl. capitalised | 1,106 | 1,293 | 1,302 | 1,367 | 1,224 |
| Sales growth         | 5.0%  | 1.6%  | 2.9%  | 6.7%  | 7.9%  |
| Return on equity     | 9.4%  | 3.5%  | 7.5%  | 10.3% | 11.9% |

FTES (end-of-year)

|                      |       |       |       |       |       |
| FTES (end-of-year)   | 17,945| 18,878| 18,776| 17,964| 17,481|

Selected KPIs

|                      |       |       |       |       |
| Customer loyalty     | 85    | 86    | N/A   | N/A   | N/A   |
| Employee motivation and satisfaction | 69    | 73    | N/A   | N/A   | N/A   |

The Five Must-Win Battles of Strategy 2020

Funding the journey
Lowering our cost base across the business to remain competitive, offer transparency in value creation, and have faster and more effective decision making.

Supply chain
Make supply chain a competitive advantage, providing world-class delivery services and using our supply chain as a showcase for sustainable manufacturing, empowerment and interdependence.

Product leadership
Maintain category leadership in eight defined "critical to succeed" product families, increase speed in product development and lower cost base by product cost-out activities in our existing product portfolio. New creative business models and stronger digitalization will be key components in this battle.

Service
Develop service as a commercial differentiator with particular focus on the Water Utility segment and become a global spare parts supplier through dedicated regional setups.

Customer and collaboration
Build a customer-centric and highly collaborative culture while simultaneously insisting on empowerment and interdependence.
Water Utility Market Areas – Size and Growth Projections

Market size and adjusted growth projections
Served market, MDKK

**RAW WATER INTAKE**

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2020E</th>
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</thead>
<tbody>
<tr>
<td>EMEA</td>
<td>5,653</td>
<td>7,566</td>
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<tr>
<td>AMERICAS</td>
<td>2,526</td>
<td>3,372</td>
</tr>
<tr>
<td>APREG</td>
<td>983</td>
<td>1,284</td>
</tr>
<tr>
<td>CHINA</td>
<td>1,326</td>
<td>1,140</td>
</tr>
</tbody>
</table>

**CAGR 2017-20** 4%

**DRINKING WATER TREATMENT**

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMEA</td>
<td>6,519</td>
<td>9,251</td>
</tr>
<tr>
<td>AMERICAS</td>
<td>2,347</td>
<td>3,326</td>
</tr>
<tr>
<td>APREG</td>
<td>1,058</td>
<td>1,468</td>
</tr>
<tr>
<td>CHINA</td>
<td>2,272</td>
<td>3,289</td>
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</table>

**CAGR 2017-20** 5%

**WASTEWATER TRANSPORT**

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMEA</td>
<td>9,552</td>
<td>13,450</td>
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<tr>
<td>AMERICAS</td>
<td>3,494</td>
<td>4,641</td>
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<tr>
<td>APREG</td>
<td>1,468</td>
<td>1,742</td>
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<tr>
<td>CHINA</td>
<td>3,361</td>
<td>5,075</td>
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**CAGR 2017-20** 5%

**IRRIGATION**

<table>
<thead>
<tr>
<th>Region</th>
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<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMEA</td>
<td>7,644</td>
<td>10,392</td>
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<tr>
<td>AMERICAS</td>
<td>3,055</td>
<td>3,991</td>
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<tr>
<td>APREG</td>
<td>1,019</td>
<td>1,061</td>
</tr>
<tr>
<td>CHINA</td>
<td>2,758</td>
<td>4,008</td>
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</table>

**CAGR 2017-20** 4%

**Total Water Utility Pump Market Growth Rates 2017-2020**

*Note size of 2020 markets are based on 2013-2020 growth projections, but these have since been readjusted

**FLOODCONTROL**

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2020E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMEA</td>
<td>1,967</td>
<td>703</td>
</tr>
<tr>
<td>AMERICAS</td>
<td>507</td>
<td>525</td>
</tr>
<tr>
<td>APREG</td>
<td>395</td>
<td>572</td>
</tr>
<tr>
<td>CHINA</td>
<td>678</td>
<td>1,024</td>
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</tbody>
</table>

**CAGR 2017-20** 5%

**Grundfos KSB Wilo Xylem Sulzer Chinese producer**

<table>
<thead>
<tr>
<th>Region</th>
<th>Grundfos</th>
<th>KSB</th>
<th>Wilo</th>
<th>Xylem</th>
<th>Sulzer</th>
<th>Chinese producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMERICAS</td>
<td>100</td>
<td>84</td>
<td>78</td>
<td>87</td>
<td>81</td>
<td>65</td>
</tr>
<tr>
<td>APREG</td>
<td>100</td>
<td>68</td>
<td>81</td>
<td>99</td>
<td>95</td>
<td>70</td>
</tr>
<tr>
<td>CHINA</td>
<td>100</td>
<td>87</td>
<td>89</td>
<td>90</td>
<td>90</td>
<td>50</td>
</tr>
<tr>
<td>EMEA</td>
<td>100</td>
<td>90</td>
<td>89</td>
<td>94</td>
<td>88</td>
<td>65</td>
</tr>
<tr>
<td>Grand Total</td>
<td>100</td>
<td>86</td>
<td>89</td>
<td>92</td>
<td>85</td>
<td>65</td>
</tr>
</tbody>
</table>

* Source: Grundfos analysis
** Chinese low cost producers are not yet a significant competitor in the water utility segment
STREET MARKET IN MEXICO CITY, MEXICO

In the megacity, flooding and water shortages are commonplace. Creaking water infrastructure is part of the explanation why, as well as a need for flood control solutions. The 20 million-plus inhabitants of the city find ways around this and get water for the open-air markets, the Tianguis.

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