

DIGITA
LIZA
TION
FROM
A ————— Z

ANDRITZ 2017 ANNUAL REPORT

ANDRITZ

ENGINEERED SUCCESS

THE ANDRITZ GROUP

	Unit	2017	2016	2015	2014	2013
Order intake	MEUR	5,579.5	5,568.8	6,017.7	6,101.0	5,611.0
Order backlog (as of end of period)	MEUR	6,383.0	6,789.2	7,324.2	7,510.6	7,388.5
Sales	MEUR	5,889.1	6,039.0	6,377.2	5,859.3	5,710.8
EBITDA ¹	MEUR	541.7	542.4	534.7	472.0	255.2
EBITDA margin	%	9.2	9.0	8.4	8.1	4.5
EBITA ²	MEUR	444.0	442.1	429.0	379.5	164.1
EBITA margin	%	7.5	7.3	6.7	6.5	2.9
Earnings Before Interest and Taxes (EBIT)	MEUR	399.3	385.8	369.1	295.7	89.8
EBIT margin	%	6.8	6.4	5.8	5.0	1.6
Earnings Before Taxes (EBT)	MEUR	400.6	398.4	376.4	299.4	80.3
Net income (including non-controlling interests)	MEUR	265.6	274.8	270.4	210.0	53.2
Non-current assets	MEUR	1,860.8	1,913.7	1,844.7	2,007.4	1,851.2
Current assets	MEUR	4,404.5	4,284.9	3,933.3	3,987.8	3,720.2
Total shareholders' equity ³	MEUR	1,325.4	1,344.2	1,215.6	1,038.3	929.5
Provisions	MEUR	1,066.1	1,118.9	1,130.4	1,056.2	993.6
Liabilities	MEUR	3,873.8	3,735.5	3,432.0	3,900.7	3,648.3
Total assets	MEUR	6,265.3	6,198.6	5,778.0	5,995.2	5,571.4
Equity ratio ⁴	%	21.2	21.7	21.0	17.3	16.7
Liquid funds ⁵	MEUR	1,772.3	1,507.1	1,449.4	1,701.6	1,517.0
Net liquidity ⁶	MEUR	908.0	945.3	984.0	1,065.1	893.1
Cash flow from operating activities	MEUR	246.5	366.6	179.4	342.1	93.7
Capital expenditure ⁷	MEUR	116.8	119.5	101.4	106.5	111.4
Employees (as of end of period; without apprentices)	-	25,566	25,162	24,508	24,853	23,713

¹ Earnings Before Interest, Taxes, Depreciation, and Amortization. ² Earnings Before Interest, Taxes, Amortization of identifiable assets acquired in a business combination and recognized separately from goodwill at the amount of 38,301 TEUR (2016: 41,913 TEUR), and impairment of goodwill at the amount of 6,428 TEUR (2016: 14,379 TEUR). ³ Total shareholders' equity including non-controlling interests. ⁴ Total shareholders' equity/total assets. ⁵ Cash plus marketable securities plus Schuldscheindarlehen. ⁶ Liquid funds plus fair value of interest rate swaps minus financial liabilities. ⁷ Additions to intangible assets and property, plant, and equipment.

All figures according to IFRS. Due to the utilization of automatic calculation programs, differences can arise in the addition of rounded totals and percentages. MEUR = million euros, TEUR = thousand euros. The Schuler Group was consolidated into the consolidated financial statements of the ANDRITZ GROUP as of March 1, 2013 and is allocated to the Metals business area.

ANDRITZ is a globally leading supplier of plants, equipment, and services for hydropower stations, the pulp and paper industry, the metal working and steel industries, and for solid/liquid separation in the municipal and industrial segments. Other important fields of business are animal feed and biomass pelleting, as well as automation, where ANDRITZ offers a wide range of innovative products and services in the IIoT (Industrial Internet of Things) sector under the brand name of Metris. In addition, the international technology Group is active in power generation (steam boiler plants, biomass power plants, recovery boilers, and gasification plants) and environmental technology (flue gas cleaning plants) and offers equipment for the production of nonwovens, dissolving pulp, and panelboard, as well as recycling plants.

A passion for innovative technology, absolute customer focus, reliability, and integrity are the central values to which ANDRITZ commits. The listed Group is headquartered in Graz, Austria. With over 160 years of experience, 25,600 employees, and more than 250 locations in over 40 countries worldwide, ANDRITZ is a reliable and competent partner and helps its customers to achieve their corporate and sustainability goals.

HYDRO

	Unit	2017	2016	2015	2014	2013
Order intake	MEUR	1,317.2	1,500.3	1,718.7	1,816.7	1,865.4
Order backlog (as of end of period)	MEUR	2,921.8	3,269.6	3,640.9	3,708.6	3,722.4
Sales	MEUR	1,583.1	1,752.4	1,834.8	1,752.3	1,804.8
EBITDA	MEUR	154.1	167.2	183.6	177.2	176.8
EBITDA margin	%	9.7	9.5	10.0	10.1	9.8
EBITA	MEUR	123.0	127.6	145.3	144.8	146.9
EBITA margin	%	7.8	7.3	7.9	8.3	8.1
Capital expenditure	MEUR	36.3	26.1	27.4	39.4	44.5
Employees (as of end of period; without apprentices)	-	7,237	7,260	8,230	8,339	7,445

ANDRITZ Hydro is one of the leading global suppliers of electromechanical equipment for hydro-power plants. With over 175 years of accumulated experience and more than 31,000 turbines installed, totaling approximately 430,000 megawatts output, the business area provides the complete range of products, including turbines, generators, and additional equipment of all types and sizes – “from water to wire” for small hydro applications to large hydropower plants with outputs of more than 800 megawatts per turbine unit. ANDRITZ Hydro has a leading position in the growing modernization, refurbishment, and upgrade market for existing hydropower plants. Pumps (for water transport, irrigation of agricultural land, and applications in various industries) and turbogenerators for thermal power plants are also assigned to this business area.

PULP & PAPER

	Unit	2017	2016	2015	2014	2013
Order intake	MEUR	2,033.4	1,919.5	2,263.9	1,995.7	1,907.7
Order backlog (as of end of period)	MEUR	1,787.0	1,803.3	1,998.6	1,875.4	1,885.6
Sales	MEUR	2,059.7	2,094.4	2,196.3	1,969.3	2,005.3
EBITDA	MEUR	221.5	207.7	214.8	127.6	-11.5
EBITDA margin	%	10.8	9.9	9.8	6.5	-0.6
EBITA	MEUR	194.9	182.2	190.9	102.9	-35.7
EBITA margin	%	9.5	8.7	8.7	5.2	-1.8
Capital expenditure	MEUR	42.1	34.1	21.1	28.1	26.0
Employees (as of end of period; without apprentices)	-	8,002	7,522	7,324	7,236	7,136

ANDRITZ Pulp & Paper is a leading global supplier of complete plants, systems, equipment, and comprehensive services for the production and processing of all types of pulp, paper, board, and tissue. The technologies cover processing of logs, annual fibers, and waste paper; production of chemical pulp, mechanical pulp, and recycled fibers; recovery and reuse of chemicals; preparation of paper machine furnish; production of paper, board, and tissue; sizing, calendering and coating of paper; as well as treatment of reject materials and sludge. The service offering includes system and machine modernization, rebuilds, spare and wear parts, on-site and workshop services, optimization of process performance, maintenance and automation solutions, as well as machine relocation and second-hand equipment. Biomass, steam and recovery boilers for power production, gasification and flue gas cleaning plants, systems and plants for the production of nonwovens, dissolving pulp, and panelboard (MDF), as well as recycling and shredding solutions for various waste materials also form a part of this business area.

METALS

	Unit	2017	2016	2015	2014	2013
Order intake	MEUR	1,606.5	1,551.5	1,438.6	1,692.8	1,233.8
Order backlog (as of end of period)	MEUR	1,309.7	1,369.0	1,332.5	1,566.1	1,427.6
Sales	MEUR	1,643.5	1,598.4	1,718.1	1,550.4	1,311.0
EBITDA	MEUR	129.7	141.7	104.8	134.0	76.6
EBITDA margin	%	7.9	8.9	6.1	8.6	5.8
EBITA	MEUR	98.6	115.2	70.5	110.2	53.5
EBITA margin	%	6.0	7.2	4.1	7.1	4.1
Capital expenditure	MEUR	29.7	49.1	40.2	27.9	32.7
Employees (as of end of period; without apprentices)	-	7,573	7,608	6,160	6,432	6,300

The Schuler Group was consolidated into the consolidated financial statements of the ANDRITZ GROUP as of March 1, 2013 and is allocated to the Metals business area.

ANDRITZ Metals is the technology and global market leader in forming equipment through the Schuler Group, in which ANDRITZ has a stake of more than 95 percent. Schuler offers presses, automation solutions, dies, process know-how, and services for the entire metal forming industry. Its customers include car manufacturers and their suppliers, as well as companies in the forging, household appliance, packaging, energy, and electrical industries. Schuler is also the market leader in coin minting technology and offers system solutions for the aerospace industry, rail transport, and manufacture of large pipes. In addition, ANDRITZ Metals is one of the leading global suppliers of complete lines for the production and processing of cold-rolled strip made of carbon steel, stainless steel, aluminum, and other non-ferrous metals. The lines comprise equipment for pickling, cold rolling, annealing and heat treatment, surface finishing, strip coating and finishing, punching and deep drawing, and regeneration of pickling acids. The business area also supplies turnkey furnace systems for the steel, copper, and aluminum industries, burners and refractory products, as well as welding systems for the metal working industry.

SEPARATION

	Unit	2017	2016	2015	2014	2013
Order intake	MEUR	622.4	597.5	596.5	595.8	604.1
Order backlog (as of end of period)	MEUR	364.5	347.3	352.2	360.5	352.9
Sales	MEUR	602.8	593.8	628.0	587.3	589.7
EBITDA	MEUR	36.4	25.8	31.5	33.2	13.3
EBITDA margin	%	6.0	4.3	5.0	5.7	2.3
EBITA	MEUR	27.5	17.1	22.3	21.6	-0.6
EBITA margin	%	4.6	2.9	3.6	3.7	-0.1
Capital expenditure	MEUR	8.7	10.2	12.7	11.1	8.2
Employees (as of end of period; without apprentices)	-	2,754	2,772	2,794	2,846	2,832

ANDRITZ Separation is one of the leading separation technology specialists with the broadest technology portfolio in solid/liquid separation. The industries served include sectors ranging from environment to food, chemicals, and mining and minerals. The comprehensive product portfolio for solid/liquid separation comprises mechanical technologies such as centrifuges, filters, screens, thickeners, or separators, and thermal technologies such as dryers or coolers. The service sector focuses on customer support through local presence, prompt delivery of spare and wear parts, process monitoring and optimization, as well as operator training. In addition, the Separation business area offers technologies and services for the production of animal feed and biomass pellets.

DEAR READERS,

Digitalization is transforming the global economy at incredible speed and with amazing intensity. The acquisition, collection, and analysis of data produced every day in industrial production have become a decisive competitive factor in many branches of industry. By digital networking of industrial production using intelligent communication and information technology, value chains are becoming more stable, more productive, more profitable, and – very importantly – also more sustainable.

ANDRITZ is both intent and focusing on playing a proactive role in shaping these changes and making them suitable for optimum use. The aim is to equip customers' plants with a maximum of automation, efficiency, and intelligence by means of digitally supported products and solutions. A series of projects all around the world and described in the following reports document how successful we are in these endeavors.

This progress has been built on the over 25,500 employees we have worldwide, with different qualifications and comprehensive know-how. We are encouraging and utilizing this enormous potential for ideas and innovations in combination with a balanced blend of competence, experience, pioneering spirit, sense of proportion, and the necessary agility. Building the world's most modern research center for tissue in Graz in under 15 months is evidence of the innovative strength that ANDRITZ has at its disposal. The present Annual Report also bears witness to this.

Very truly yours,
Wolfgang Leitner

ACTIVE

NATURALLY
CURIOUS

DELIBERATING

RESOURCE
SAVING

INTERACTIVE

TECHNO
LOGICAL

ZONING IN ON
THE FUTURE

Why ANDRITZ is becoming more digital than ever, where the Group stands, and what the future will bring. An interview with President and CEO Wolfgang Leitner.

04

In Graz, ANDRITZ is running the world's most modern research center for tissue. Customers can test tomorrow's production concepts today.

12

The operators of the Montrose hydropower station in Canada rely on digital monitoring from ANDRITZ – this certainly pays off.

22

Modern industrial plants are distinguished by highest profitability and sustainability. Metris OPP from ANDRITZ makes a decisive contribution here.

28

How the smartphone app from Schuler – a member of the ANDRITZ GROUP – is optimizing production at the automotive supplier voestalpine.

38

Many ANDRITZ plants are setting world records in production, efficiency, and sustainability – for example in Finland and Brazil.

44

THE ANDRITZ GROUP

- 56 Letter to the shareholders
- 59 Executive Board and Supervisory Board of ANDRITZ AG
- 62 The 2017 financial year at a glance
- 64 Strategy
- 66 The ANDRITZ share
- 70 Sustainability and compliance
- 72 Publisher's note

54



ACTIVE

ANDRITZ focuses on providing the latest technologies and services so that its customers can achieve their profitability and sustainability goals. The ambition to set ever higher goals in order to generate optimum benefit for customers is what drives ANDRITZ forward. This approach has made the Group one of the leading suppliers of digital solutions in its user industries.



G
W

LIZ

RO ING

"We want our plants to take the lead worldwide in terms of automation, efficiency, and intelligence," says Wolfgang Leitner, President and CEO since 1994 and also largest ANDRITZ AG shareholder through the Custos Privatstiftung.

WITH DIGITA

Parts of society, the economy, and the working environment are changing fundamentally and faster than ever as a result of digitalization. Industrial and plant engineering are also undergoing rapid transformation. What is ANDRITZ's strategy in this sector, what has it achieved so far, and what plans does the Group have for the future? Answers from President and CEO Wolfgang Leitner.

ATION



Mr. Leitner, digitalization seems to be all around us. But to be honest, don't you get tired of this topic sometimes?

Not at all, the very opposite is true! First of all, digitalization is an evolutionary development for our industry segment, not a revolutionary one. Automation and remote maintenance, for example, began decades ago, but now both are becoming more intelligent – and this in large strides. There are some impressive examples of how industrial plants can be made more efficient, safer, and more stable, and some can even operate autonomously. ANDRITZ is leading this whole development. We want our plants to take the lead worldwide in terms of automation, efficiency, and intelligence.

What is ANDRITZ actually offering in the digitalization sector?

We have combined all of our digitalization activities under the Metris umbrella brand. Metris covers three large areas: firstly, innovative Industry 4.0 products largely relating to optimization of plants and processes by means of sensor equipment, sophisticated and highly complex data analysis, and augmented reality; secondly, "Smart Services" in order to make online ordering of spare parts, for example, more efficient for our customers; thirdly, the so-called "Ventures" segment, which combines our research and acquisition activities in the digital sector.

Which area has priority for you?

All activities are interlinked – we take a holistic approach to digitalization. As far as operative business is concerned, data analysis and digitally supported plant optimization probably have the greatest leverage. If you can increase production by a few percent or lower variable costs by several percent with a comprehensive software package, this provides a tangible benefit to customers that can be measured in monetary terms.

Can you put a figure on it?

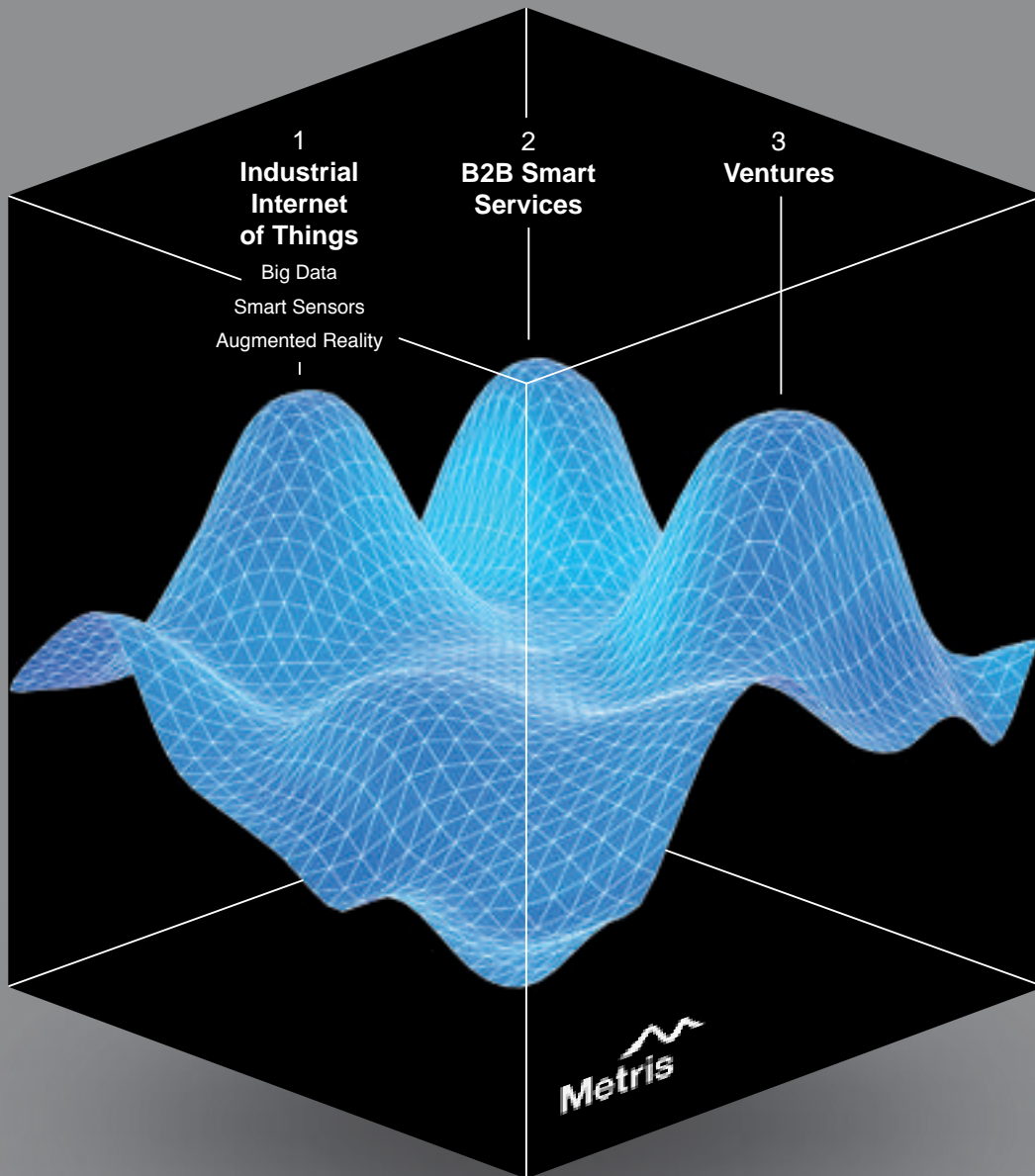
Yes, for our Metris OPP (Optimization of Process Performance) system, for example, which contains a series of digitally supported tools to enhance industrial processes. All in all, we are serving more than 30 customers so far in Brazil, Europe, and since recently also in the USA with this technology. In 2017 alone, we were able to achieve a total net benefit in excess of 30 million euros for all the customers who had an OPP contract with us.

The question remains whether the Industrial Internet of Things will also have a positive impact on the ANDRITZ balance sheet ...

If we offer our customers something that is really useful and yields a high return on investment, they are also willing to pay a reasonable price for it. Metris OPP costs significantly less than it contributes in terms of savings and additional production. The basis here is the well-proven software platform developed by ANDRITZ that detects possible optimization approaches from the plant data and implements them on site with the help of our staff. In addition, we have a back-up team of ANDRITZ specialists to provide support and guidance. Implementation and the results are monitored continuously and adapted if necessary – with clear added value for our customers. The goal is stable, optimized, and largely autonomous plant operation. Our customers can choose from a wide variety of products, extending as far as cooperation models. The feedback we have received from the market is very positive, and we are growing with increasing digitalization.

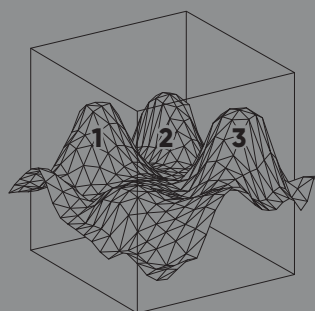
"More than 30 ANDRITZ customers in Brazil, Europe, and the United States are already using Metris OPP. The net benefit they achieved in 2017 thanks to our system was more than 30 million euros in total."

Metris: Digital, all-embracing, forward-looking, and adding value



The digital transformation is close to the top of the ANDRITZ agenda. As a worldwide supplier of cutting-edge technologies and services for selected industries, ANDRITZ has been offering a broad and constantly growing range of innovative products and services in the Industry 4.0 sector under the brand name Metris for many years now. This brand spans the Industrial Internet of Things, B2B Smart Services, and Ventures. All Metris activities are supported by a dataanalytics team that collects the machine and process data as well as gathering comprehensive engineering and process know-how and analyzing it all with the aid of software and algorithms.

Metris offers effective and intelligent solutions to lead industrial production successfully into the digital age. Processes and data are analyzed, and machines and systems are linked to one another. Custom-tailored, digital solutions that optimize industrial processes are created for customers. The result: Input of resources is kept to a minimum; product quality rises; and shutdowns in production are largely avoided or can be predicted in advance thanks to big data analyses. Plant efficiency and profitability then rise. Thus ANDRITZ makes an essential contribution towards customers achieving their production and profitability targets.



1 Industrial Internet of Things (IIoT)

IIoT is based on the three pillars of technology – Big Data, Smart Sensors, and Augmented Reality.

1. In the big data sector, Metris products calculate any deviations in production or shutdowns in advance by means of data analytics and use this to derive the control actions required. With OPP (Optimization of Process Performance), ANDRITZ has had a system for optimizing plant and equipment operation in the pulp and paper industry for many years. In the Hydro business area, ANDRITZ offers DiOMera – a digital solution for enhancing operation and maintenance of hydro-power plants. For the Separation business area, the addIQ product family was developed as a control system for processes and machines.

2. In addition to conventional smart sensor technologies for analysis of measurements and signals, the ANDRITZ portfolio also includes micro and wireless sensors that can be used to optimize operations by analyzing freely selectable machine and system parameters.

3. With augmented reality applications, information is made visible in context where it is needed – which is on the spot at the plant itself.

2 B2B Smart Services

With its global Smart Services initiative, ANDRITZ is offering its customers digital service modules such as the Online Spare Part Catalog. It helps customers and ANDRITZ service staff to order spare and wear parts efficiently. The main advantages for customers: All machine data, drawings,

operating manuals, and spare parts are available online; spare part offers are received very quickly; and information on the status of an order can be retrieved at any time.

3 Ventures

ANDRITZ invests extensively in research and development work on digital solutions that provide added value for the customer. In addition, ANDRITZ participates in startups or collaborates with sparring partners in the IIoT sector. The focus lies on technologies and software developments for large data volume analysis, intelligent sensors, deep learning, augmented reality, and cybersecurity.

"All data recorded in the plants is the property of the customer. We guarantee that this data is secure with us. That is why it is important to us to have the highest security standards and why we have invested correspondingly large amounts in cybersecurity."

So we can confirm that optimization and efficiency with the aid of digital tools is fundamental to ANDRITZ and its customers. But what is the situation with completely new digital business sectors and products?

First of all, we have a clear maxim: All of the data recorded in the plants is the property of the customer. We guarantee that this data is secure with us. That is why it is important to us to have the highest security standards and why we have invested correspondingly large amounts in the cybersecurity sector. In addition, we only consider business models that relate to the respective customers – for example if their aim is to operate the plant autonomously. Then we provide support in the form of concepts, know-how, technology, and implementation measures. We stick to our services and our business, which is characterized by systems, processes, and intelligence.

Digitalization also changes the inside of a company and the way in which the employees work. How do you experience this at ANDRITZ?

As an interesting challenge. It is important to make innovation – as a goal – a cornerstone of our organization on a broad basis. A great deal has happened in this respect in the past few years – in ANDRITZ Innovation Management for example, where each individual employee can contribute ideas for the development of new products or processes via a software platform. The feedback is very positive, and over 100 ideas are currently being pursued in the form of research and development projects.

What about acquisitions or ventures?

We are working externally with various incubators and startups and have earmarked a few million euros to promote new business models with internal startups. Parallel to this, we are creating an environment for fast tracking – a kind of freeway to bring digital projects forward quickly. However, a large company like ANDRITZ still needs the usual line organization as well. I see ANDRITZ as a company operating at two speeds that we select consciously, with due consideration, and according to the situation in hand.

Let's look ahead: What technological developments do you find specially promising?

There are quite a few that we are researching and pursuing intensely. Artificial intelligence is certainly very high up on the list. Self-learning systems and neural networks will play a role in our plants, but we must be very cautious here. The logic of a neural network obeys its own set of laws and is no longer easily visible from the outside. It is vital to take this into consideration. Another focus lies on augmented reality applications, which will soon become the standard approach, in maintenance for example.

Where do you see ANDRITZ in ten years' time, particularly in the age of digitalization?

The deciding factor is to remain basically flexible, curious, and hungry. There are many ways of getting even more out of the systems and thus providing crucial support for our customers so that they can achieve their profitability and sustainability goals. Digitalization can and will make a decisive contribution in this respect. I believe ANDRITZ will have many opportunities to grow in this sector. At the same time, we deliberately do not seek to diversify, but are remaining in our four business areas where we expect continuing, long-term growth potential, and we want to achieve organic growth as well as growing through acquisitions.





NATU RALLY CUR IOUS

Developing ideas, discovering, improving, and being curious: these are both the aspirations and the mission of all ANDRITZ employees. But the technology is never an end in itself. What ultimately counts is whether and how an innovative plant or an improved process can help customers to achieve their goals and operate successfully on the market.



BREAK

ING

NEW



Pleased with the successful teamwork
and proud of high-tech made by
ANDRITZ: Michael Pichler (left) leads
the ANDRITZ Paper and Tissue division,
Gerhard Schiefer heads the Group-
wide Automation department.

ANDRITZ operates the world's most modern research center for tissue in Graz. The heart of the so-called *Prime-LineTIAC* (Tissue Innovation and Application Center) is a tissue machine that integrates eight machine designs and the latest Internet of Things applications. The clear focus here is customer benefit.

Making things easy can sometimes be very difficult. Take the four plies of a normal paper tissue, for example. Each ply weighs only a few grams. If you hold it in your hand, it almost feels like a spider's web. When the tissue is made, the process takes place largely inside a machine. At some point, however, the paper tissue ply in the production process on the tissue machine has to be wound onto a reel. This is tricky, because the soft paper is sensitive to pressure and tension. If the tension is too high, the paper tears. Production then stops, and this is expensive for the paper producer.

"Thanks to the TIAC, as we call our research center here at ANDRITZ, we have solved this problem," says Michael Pichler and points over his shoulder with his thumb. Behind him in the workshop at the ANDRITZ factory in Graz is a 44-meter-long, 0.6-meter-wide and eight-meter-high tissue machine – a dense network of silver-colored piping, stairways, blue-and-yellow pumps, and generators, all humming softly as the sunlight shines through the upper windows.

"We have developed a completely new web guiding system to prevent folding and tears in the tissue," Michael Pichler, head of the Paper and Tissue division at ANDRITZ, continues. On the guide is an air cushion that travels at the same speed as the paper web. The paper never touches the guiding elements so no tension is generated and production runs smoothly. This solution patented by ANDRITZ is not just a success in the test plant. It also succeeded in convincing one customer right away and will make production operations there more stable in the future.

GR OUND

MORE WITH LESS: IS THAT POSSIBLE?

The paper tissue ply illustrates what the TIAC is all about. ANDRITZ invested 20 million euros in the world's most modern test center to conduct research on and also produce tissue. The tissue machine unites four conventional and four completely new machine technologies that can produce all of the tissue grades currently available on the market and some completely new ones as well. The TIAC is open to all stakeholders in the tissue industry: producers, suppliers, universities, and research institutes. They can try out many machine configurations in real-time operations, test and vary all the parameters in order to establish the optimum machine configuration for their product and their market, then produce the desired paper and also verify at any time how much energy and resources they need to do so. In addition, training concepts can be developed and tested.

The plant touches a nerve, because tissue producers worldwide are always looking to improve their production. On the one hand, it is an attractive business: The global market for tissue is growing annually by between three and four percent, and consumers in the USA and more than ever in Asia appreciate a wide, high-quality selection of tissue grades for the kitchen, bathroom, or for leisure time activities. On the other hand, there is intense competition in this sector: Hence, optimization of production to make tissue plants more efficient is a must for manufacturers at all times. What is more, they must reduce consumption of energy and resources, while maintaining the same high tissue quality.



Left:

Numerous test facilities are available for research and development work in the PrimeLineTIAC laboratory.

Right:

The TIAC tissue machine is 44 meters long and eight meters high. It can be operated at a design speed of 2,500 meters per minute and a web width of 600 millimeters.



ANDRIT

PrimeLine TIAC

KONECRANES

Unique worldwide: The TIAC tissue machine contains eight different concepts for the production of conventional, textured, and structured tissue. Four of these concepts are entirely new. Customers can now perform comprehensive trials for future machine configurations. All eight concepts will be available on the market as unit machines.

4
+
4

- 1 **PrimeLineTM**
(= CrescentFormer)
- 2 **PrimeLineTM with PrimePress XT Evo**
(= CrescentFormer with shoe press)
- 3 **PrimeLineTM VRT**
(= Vertical CrescentFormer)
- 4 **PrimeLine^{TEX}**
(= Textured tissue)
- 5 **PrimeLine^{TAD}**
(= TAD)
- 6–8 **PrimeLine^{VTAD}**
(= Vacuum-forced TAD)

Mission impossible? No. The challenges are certainly very complex, but they can be resolved, although this is not possible in meetings around a table, nor in computer simulations. "We need a place like the TIAC in order to plan processes, test different machine constellations, and produce the tissue under realistic everyday conditions," says Michael Pichler. The more extensively this can be done, the less risk there is for a producer. After all, there is a lot of money involved: 100 million euros and more have to be invested for a new tissue line. Reliable planning is worth a fortune.

The TIAC enables tissue producers to break new ground. And ANDRITZ has also left charted territory behind deliberately with this test center. "I am proud to say that we have succeeded in combining eight machine configurations in a very small space without having to make any technical or logistical compromises," says Michael Pichler, at the same time referring to the successful teamwork by the ANDRITZ crew; 17,000 hours of engineering design work have gone into the plant, and a staff of around 40 were involved in its installation. All at top speed: only 14 months between launching the project and starting up the plant in mid-2017.

VIRTUAL – AND VERY REAL

Gerhard Schiefer is the right person to explain in more detail how versatile the TIAC is. He heads Automation at ANDRITZ with a staff of around 2,000, dealing with machine and plant control as a topic linking electrical engineering, drive technology, and instrumentation. "We use new, digital processes here that can improve plant control systems so radically that fewer and fewer well-trained staff are needed to ensure smooth operations," says Schiefer. In other words, the TIAC helps to effectively address the problem of the shortage of skilled workers, but without having to make sacrifices in production capacity and quality.

Michael Pichler, head of the Paper and Tissue division: "Paper producers can plan processes, test various machine constellations, and produce paper under realistic everyday conditions with the TIAC."





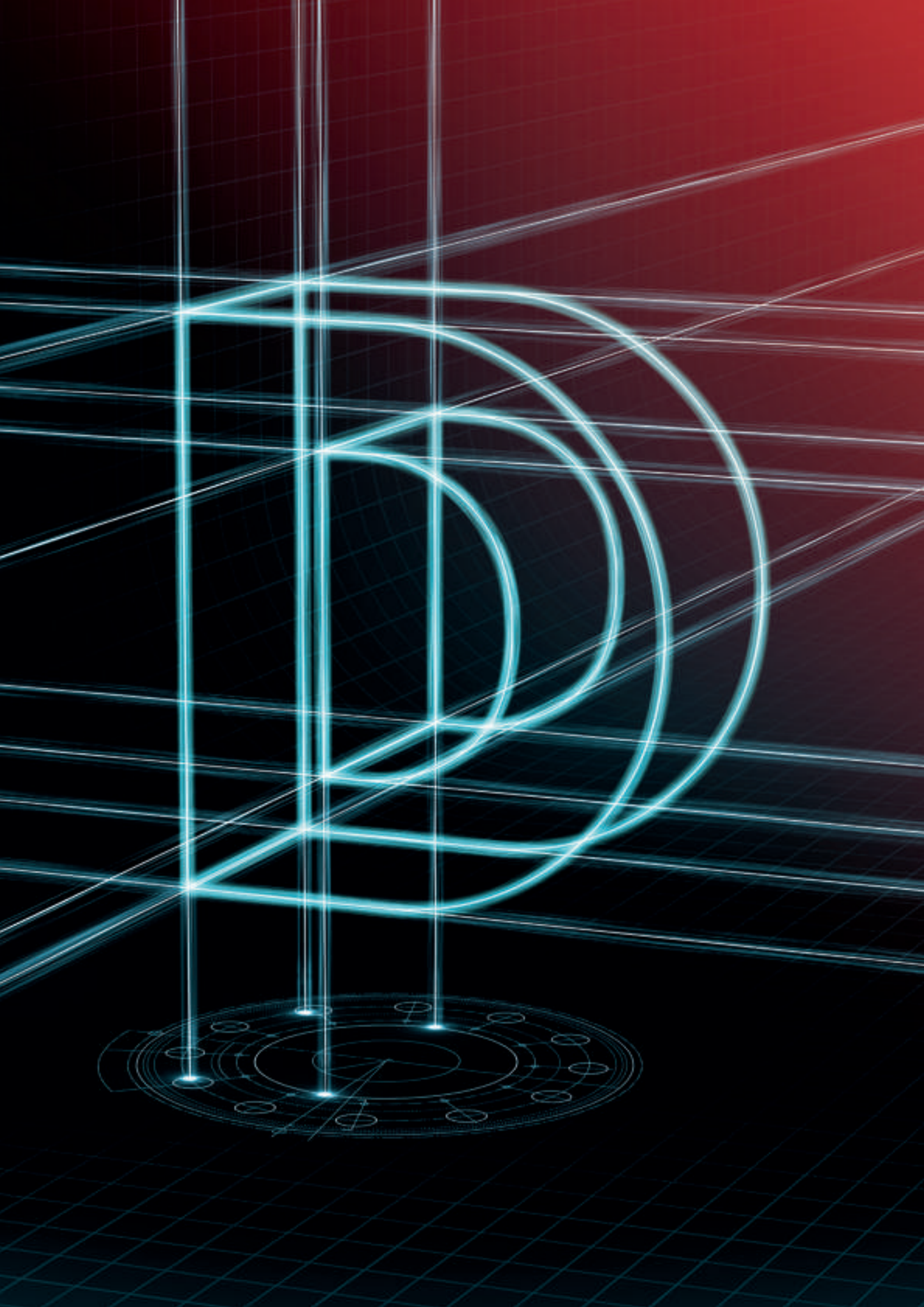
The eight tissue machine configurations cover all quality ranges.



Specifically, the situation could look like this: An alarm is triggered at a tissue machine because of a sensor error in a load cell – a well-hidden component because it is properly built in. In a new process used for the first time in the TIAC, there is a checklist with a clear and simple structure that tells the operator how to find and eliminate the fault quickly. This process also uses 3D glasses. Graphic instructions showing where the faulty part is installed are displayed in the technician's line of vision. When he presses a virtual button there, the glasses display exact instructions on how to disassemble the part. The documentation can be provided in a virtual space so the technician's hands are free. A replacement for the faulty component can then be ordered directly online. And if all else fails, the technician can even contact an ANDRITZ expert online: A single click sets up a connection to the service control center in order to get to the bottom of the problem.

Science fiction? "No, it's reality," says Gerhard Schiefer. "The technology works, and it is running here live as reality in the TIAC." Now it is time to get down to work with the customers: Processes are being refined and adapted to the real conditions and production needs in the respective cases. Interest in this process is running high, and the first "use cases" will be launched in 2018 according to Schiefer, who adds: "Ultimately, we want the paper machine to have a master alarm checklist to work through in a clear and logical process, just like in an aircraft cockpit. Big data and augmented reality are useful tools here."

All-embracing, efficient, and realistic: The TIAC provides a holistic view and increases the efficiency of tissue plants. The machines can be planned, tested, and optimized with care for continuous operation. Faults and problems are taken into consideration in the engineering design so they can be detected more quickly later in real-time operations, regardless of the competence of the electrician working the shift. "We see ourselves as process integrators who can offer the customer everything from a single source," as Gerhard Schiefer summarizes the ANDRITZ approach. "Our aim is to link the processes in the machine smoothly and efficiently with ergonomic operating equipment." Sounds easy after all, doesn't it?



DELIBERATE RATING

Hydropower is clean, sustainable, and the most important source of renewable energy. Producers of hydroelectric power are facing considerable challenges, such as fluctuations in demand and production and also cost pressure due to the changed general environment on the global energy markets. This can be countered effectively if hydropower plants are equipped with digital systems in order to plan and secure reliable and long-term operations as far as possible. This is exactly what Metris DiOMera does.

MORE

The Montrose hydroelectric power plant has been using the Metris DiOMera monitoring system from ANDRITZ since 2016. Tony Nott, Operations Director at Alterra Power, and Operations Engineer Nicholas Adams talk about their experiences and plans.

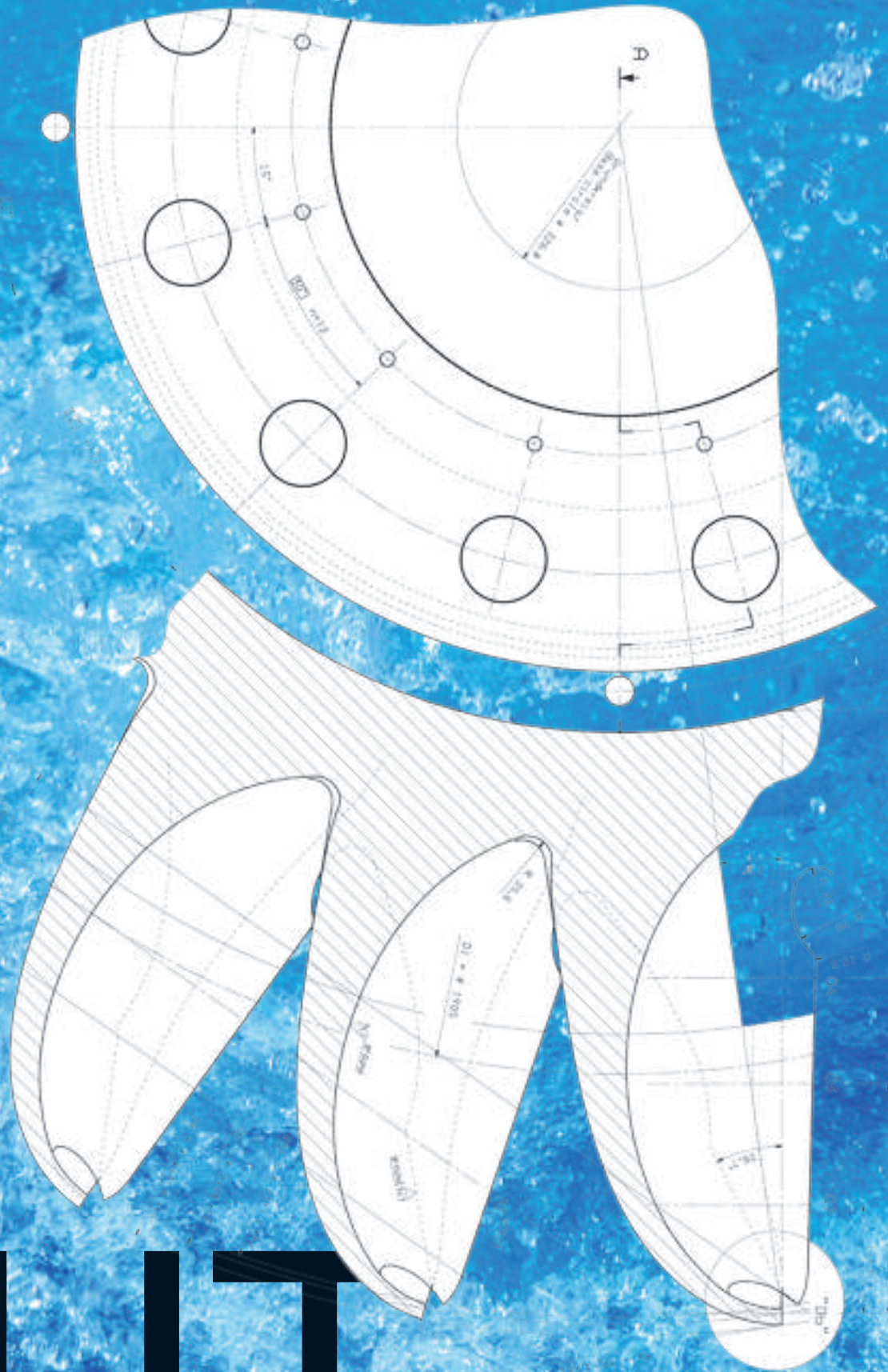


OUT



The countryside is impressive in British Columbia, Canada, and the ways of generating energy with the aid of hydro-power are certainly attractive.

Right: Sketch of a Pelton runner bucket.



PUT

Why do you use Metris DiOMera?

Tony Nott: The Montrose Creek has a high sediment content, which clogs our hydropower plant runners. They have to be refurbished every two to three years due to the wear this causes. On the one hand, refurbishment and maintenance account for a significant portion of our operating costs. On the other hand, we have to plan this work very carefully so that we have as little downtime as possible. DiOMera helps us to optimize the decisions on whether and when to refurbish a runner.

How does this work in practice?

Nicholas Adams: DiOMera tracks runner efficiencies to determine the optimum time to perform refurbishments. The efficiency assessments don't take long, and they are also very representative. Secondly, the system monitors plant operation and output, and it forecasts when runner inspections will be due. This forecast aids planning and optimizes the inspection intervals by taking account of part-load operation in winter. Thirdly, DiOMera has identified a slight performance difference between Unit 1 and Unit 2. This helped us to maximize output and to concentrate wear on only one of the runners.

What concrete benefits does this provide?

NA: We established that the nozzle jet configuration is less than optimal during part-load operation. It is important to note here that the units operate at part load for many months in the year. Changes to the nozzle jet configuration improve plant output and reduce runner and nozzle wear.

What is the next step? What are your plans and goals for the future?

TN: Turbidity monitoring and sediment sampling will be tied into DiOMera to correlate sediment content with erosion on the runner. This will further improve runner condition forecasting. The operator will be able to assess the impact of changes at the intake, such as head pond dredging, more accurately.

Would you say that digitalization is a powerful tool in general to optimize maintenance of hydropower plants?

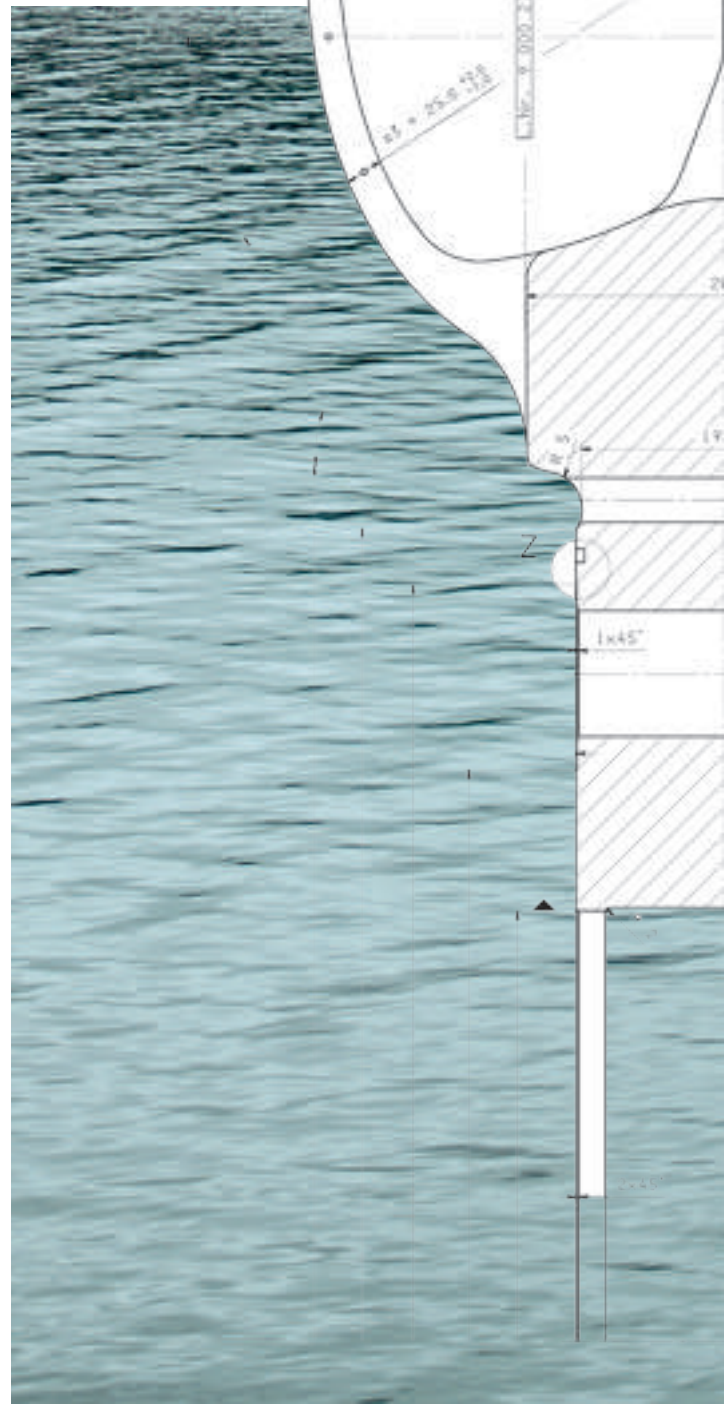
TN: Digitalization makes decision making easier simply because it allows the plant's current status to be assessed automatically. Some of the information incorporated into DiOMera was available prior to its installation, but reporting has now been automated, and this reduces the time required to assess plant condition. By standardizing data acquisition with DiOMera, we can also communicate more effectively with ANDRITZ and improve plant performance at the same time.

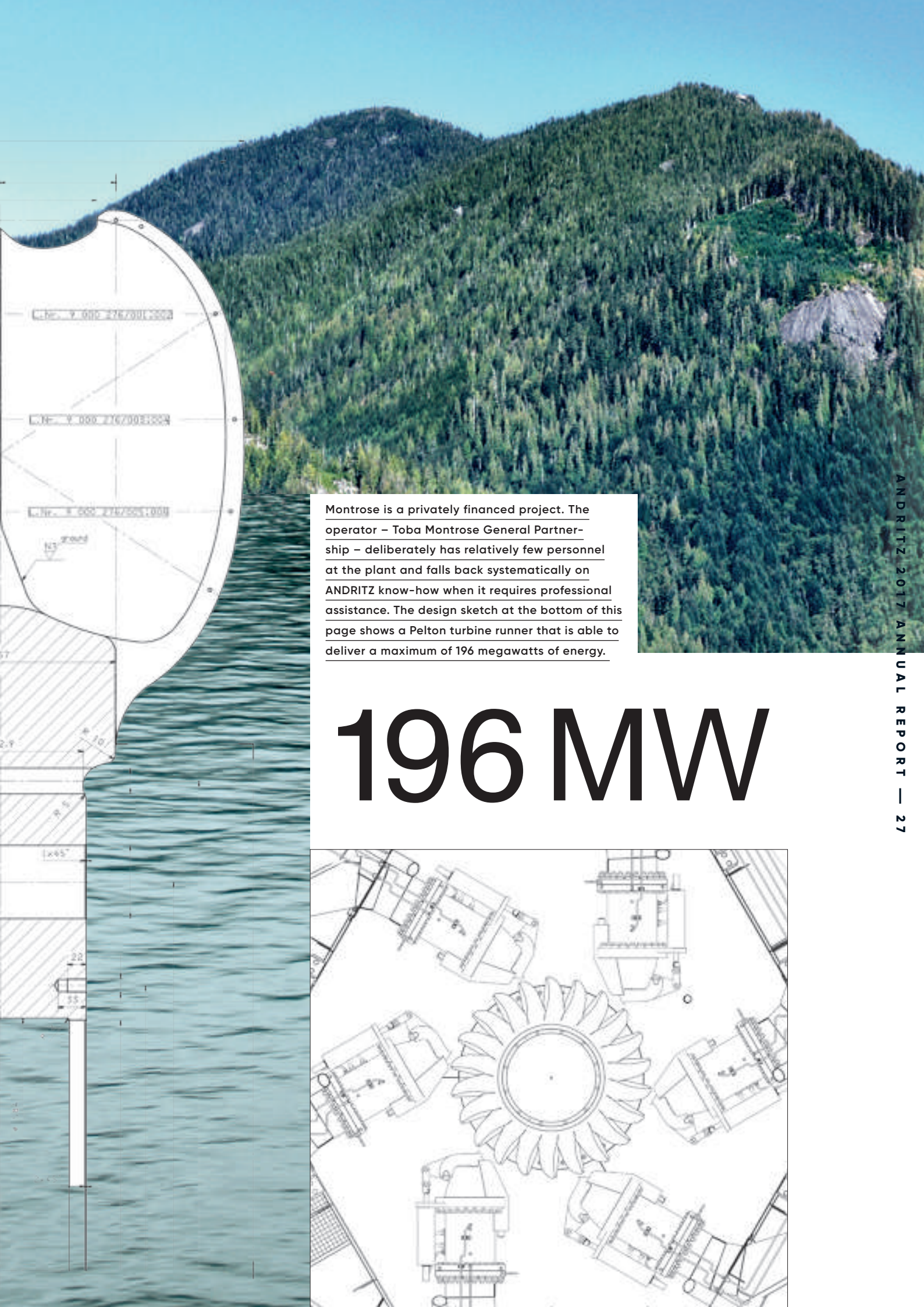
Speaking of collaboration with ANDRITZ, how would you assess this partnership?

NA: We are in close contact and, for example, we have discussed a standardized runner inspection process that could be incorporated into DiOMera. This would streamline the inspections and improve the consistency of reporting.

TN: The fact is, Toba Montrose General Partnership lacks resources with the technical experience to address major issues and optimize plant performance. With help from ANDRITZ, we have been able to maintain high availability, implement plant upgrades, and reduce operating costs – and we are also hoping to be able to increase annual production. In short: ANDRITZ makes a valuable contribution to our operations.

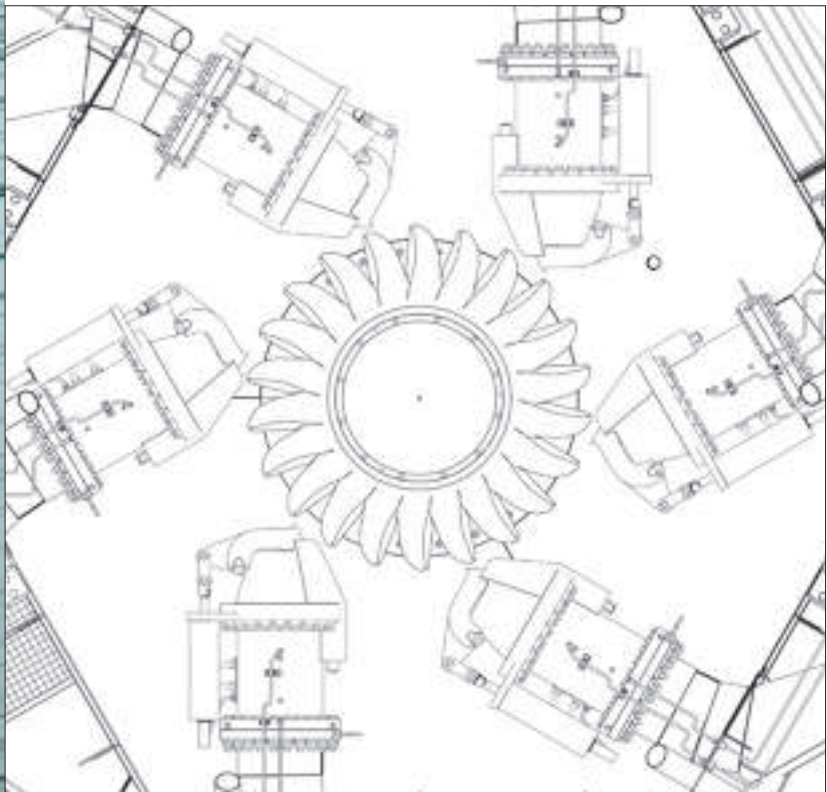
Montrose hydropower plant has been in operation since May 2010 and has an output of 88 megawatts. The plant consists of two Pelton turbines and its head is 466 meters.





Montrose is a privately financed project. The operator – Toba Montrose General Partnership – deliberately has relatively few personnel at the plant and falls back systematically on ANDRITZ know-how when it requires professional assistance. The design sketch at the bottom of this page shows a Pelton turbine runner that is able to deliver a maximum of 196 megawatts of energy.

196 MW





RE SOURCE SAVING

Modern industrial production focuses on sustainability. The goal is to minimize the use of such resources as energy and raw materials, but also to optimize production at the same time. The focus lies on operating plants sustainably, but also efficiently. This is where ANDRITZ's thoroughly tried-and-tested digital solution Metris OPP steps in. With Metris OPP, sheet breaks can be avoided in dryers and paper machines for example, consumption of resources in pulp mills can be reduced, and the production of green energy can be maximized.

AUTO

NO

MOUS

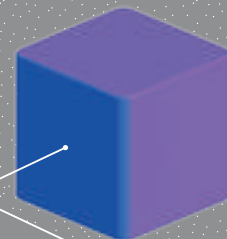
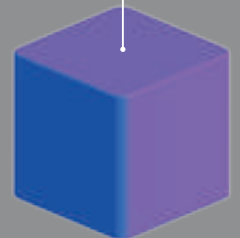
Increasing customer demands, stiffer competition, and an environment undergoing ever more rapid change – all these are challenges that modern industrial production operations today have to overcome. Digitalization and networking of entire value chains make a decisive contribution towards companies in this environment being able to achieve their efficiency and profitability goals more successfully and more effectively. The ANDRITZ answer to this digital transformation is: Optimization of Process Performance (OPP).

Metris OPP comprises a range of digitally supported tools based on big data analysis to improve industrial processes. This system developed by ANDRITZ has been used successfully for over a decade. More than two dozen long-term OPP contracts have been concluded with customers, mainly pulp mills, but also with some steel and chemical works. The customers' facilities include both older and some very modern mills and plants.

OPP can make both types of facility much more efficient, for example by avoiding sheet breaks in dryers or paper machines, reducing chemical consumption in bleach plants, selling surplus electricity to the grid thanks to a better steam-energy-balance, or preventing downtime by carrying out predictive maintenance.



The OPP system focuses on all elements that are associated with the production process in a plant – no matter how large or complex the plant is.



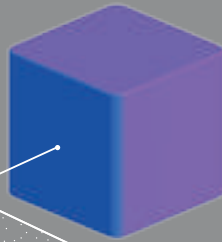
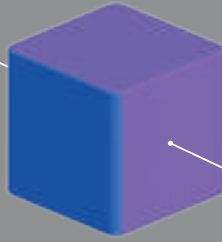
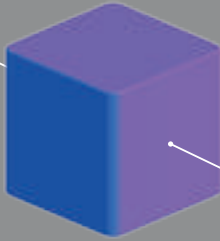
1

INSTALLATION

Intelligent sensors are installed wherever the customer wants to have them: in the plant itself – and also outside it at trouble spots in the process chain. They can be installed easily and flexibly in new and in older plants alike.



A large number of sensors send data independently via a wireless connection and with data protection to edge devices that are networked with the overall system.



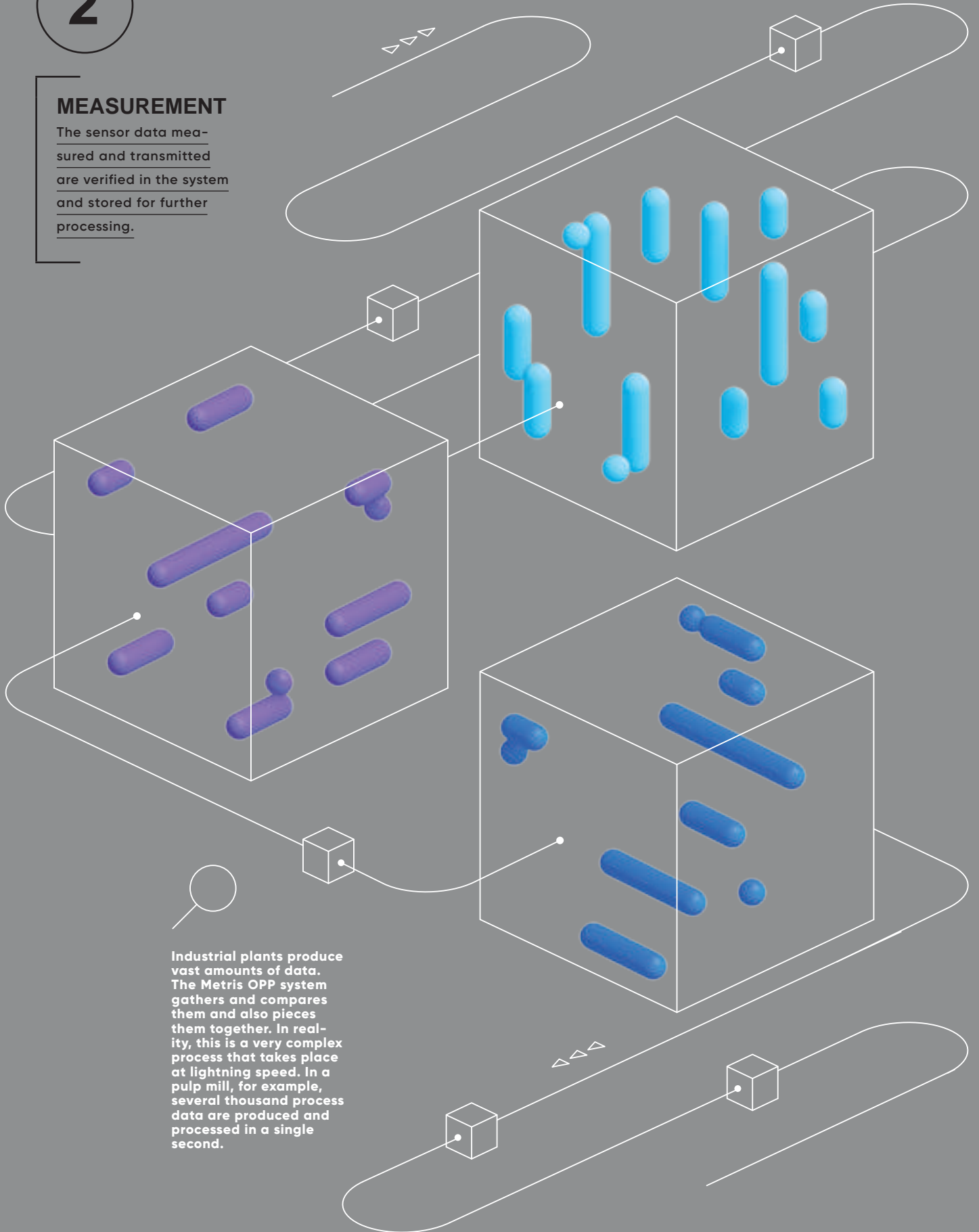
OPERATION

ACTION

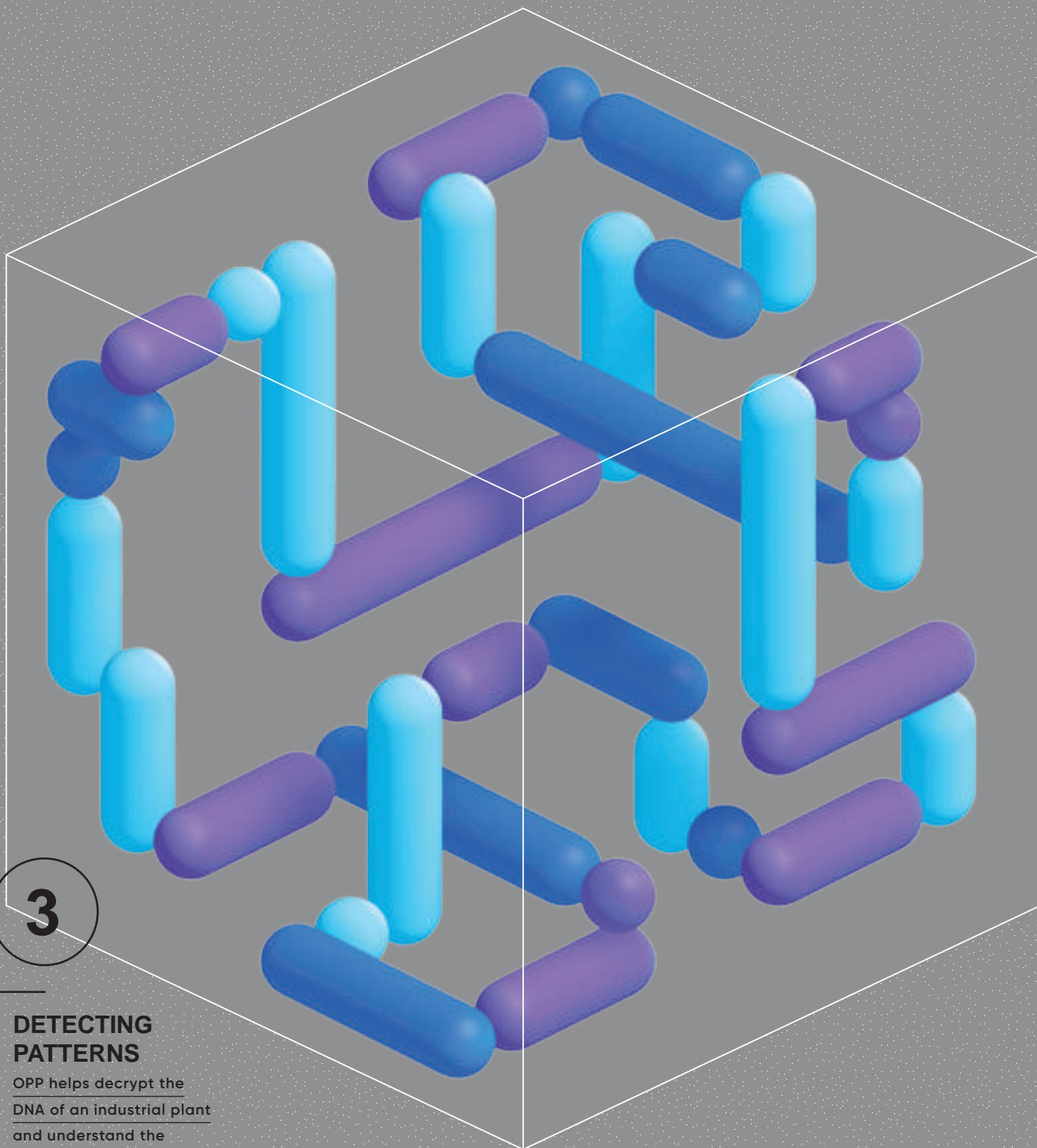
2

MEASUREMENT

The sensor data measured and transmitted are verified in the system and stored for further processing.



Industrial plants produce vast amounts of data. The Metris OPP system gathers and compares them and also pieces them together. In reality, this is a very complex process that takes place at lightning speed. In a pulp mill, for example, several thousand process data are produced and processed in a single second.



3

DETECTING PATTERNS

OPP helps decrypt the DNA of an industrial plant and understand the characteristic way in which it operates and functions. Various peculiarities and anomalies come to light during this process that can then be ironed out. Plant operation becomes more stable and consistent.

MEASURING AND OPTIMIZING PERFORMANCE

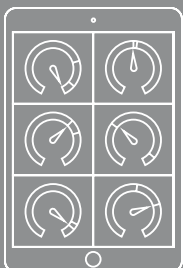
Metris OPP analyzes huge data volumes collected at numerous points in a plant's production systems in order to use them as a basis on which to improve performance. This sounds easy, but it is in fact complex because plant operation has many facets. The control system controls the plant, and the operating personnel take appropriate action. Fluctuating raw material quality and environmental factors can lead to a slow but steady deviation of performance from the target set.

In order to identify the causes in such a complex system, it is important to analyze both the structured data from the control system and also the unstructured data produced when the operating personnel take action. Interactions and control models can be derived from this and then applied in order to stabilize or increase the throughput. In addition, savings can be made on resources.

BIG DATA AND EXTENSIVE KNOW-HOW

Metris OPP masters this complexity and provides effective support to ANDRITZ customers. The system operates with 5,000 to 125,000 real-time process variables. These variables are collected via numerous sensors and the control systems in the plant and then analyzed statistically by the OPP software in order to detect any anomalies or potentials for improvement.

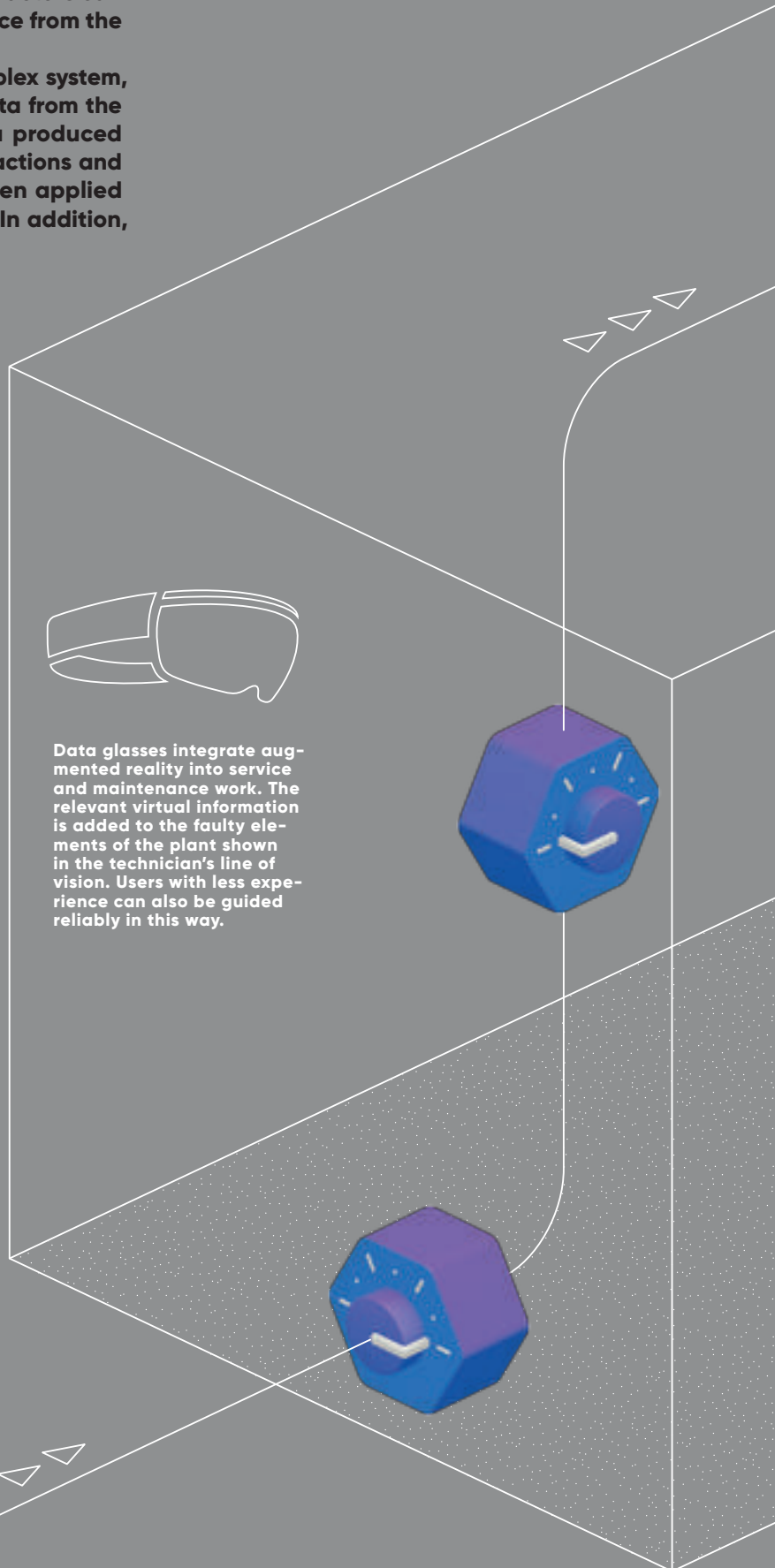
At the same time, a team of 50 ANDRITZ engineers helps out the plant technicians on the site and continues developing OPP further. The team consists of control system experts, electrical engineers, electronics engineers, computer scientists, and specialists in chemistry, mechatronics, and mechanics. In order to exchange knowledge and ideas and also address new challenges together, ANDRITZ has developed an online tool called Logbook, where experts can exchange views on the topics in hand.



OPP is monitored and controlled with the aid of a clearly arranged dashboard that can be mounted either on a desktop computer or a tablet PC. The display is easy to understand, and the tool can be operated intuitively.



Data glasses integrate augmented reality into service and maintenance work. The relevant virtual information is added to the faulty elements of the plant shown in the technician's line of vision. Users with less experience can also be guided reliably in this way.





OPP requires continuous measurement, adjustment, and optimization in order to be successful. As a holistic process, it is designed to be repetitive and reliable.

4

OPTIMIZATION

Every aspect of the production process monitored by OPP can be analyzed, regulated, and improved as desired and as necessary. Faults are reduced, and production is more stable, safe, and efficient.

A SYSTEM WITH A FUTURE

ANDRITZ is extending and refining OPP on a continuous basis, for example in the deep learning sector, a machine learning method based on the way in which the human brain functions. In addition, so-called Bots are used – computer programs that act as personal assistants when using the OPP software. There are already almost 40 apps in use, and many more new and mainly mobile apps are to be launched in 2018. In addition, ANDRITZ is closely reviewing a list of around 500 possible features, most of which have been suggested by customers.

And last, but not least, ANDRITZ has started an initiative to take a closer look at sensor technologies for machinery and plants. There are already very small wireless instruments available today that can be used to obtain more data from customer plants and, for example, to detect wear at an earlier stage. In this way, users are laying a solid foundation for predictive maintenance. Augmented reality is another focus. With the aid of modern mobile equipment like data glasses, information is provided exactly where it is needed.

WE ARE

Leonardo Pimenta is Technical Control Manager at Eldorado Celulose in Brazil. He manages process engineering, IT solutions, and quality control in the mill. There are over 40 people in his team. Eldorado has been using Metris OPP from ANDRITZ since the end of 2016. Has it proved successful?

Mr. Pimenta, why did you establish a partnership with ANDRITZ to use OPP services?

The main reason we started this service was a proposal from ANDRITZ for the launch of a pilot project to improve our fiberline performance. ANDRITZ came back with some clear targets to control all the main processes in the fiberline by using APC (Advanced Process Control) and to ensure that these control loops would stay in automatic mode 90 percent of the time. We know from our own experience that the mill achieves better performance using automatic control systems than it does in manual operation. In addition, we felt that if we could achieve those targets, our operational stability would increase and our variable costs would be reduced.

How did you then proceed?

We deliberately applied all the concepts and technologies that OPP offers all at the same time and fast. That's the Eldorado way. From the very beginning, we formed a joint team of ANDRITZ OPP analysts, Eldorado process engineers, and Eldorado maintenance engineers who collaborate constantly. The front-end work included analyzing and tuning all the control loops in the fiberline. Then we set up over 40 projects together using combinations of smart sensors, APC, loop tuning, and data mining.

That sounds rather complex. Where specifically did you start?

We started with APC for the fiberline and have since added the recausticizing and the drying plant to this process. Our fiberline progressed from basic control to "hands off" and even "eyes off", which left our operators free to work on other, more productive tasks.

Eldorado Celulose, one of the largest pulp manufacturers in the world, relies on Metris OPP with great success. Production and operating reliability have been increased significantly without incurring further investment costs.



FOCUSED



What Key Performance Indicators (KPIs) have you defined, and what results have you obtained so far?

The results in the first year have been impressive. Operating efficiency was increased from 89.2 to 93 percent. Variable costs were reduced by five percent, production was 38,000 tons over the budgeted amount, and APC controls ran in automatic mode for 95 percent of the operating time.

What effect did this have on the mill's productivity?

As already mentioned, we have achieved some important milestones in less than one year, including various production records. Every control loop that we operate with the aid of APC makes us money. Our 3.8 percent increase in operating efficiency has an enormous effect. The mill was designed to produce 1.5 million tons per year, and we are currently producing 1.7 million tons per year. That amounts to a revenue increase of many million Brazilian reals. And we have achieved this improvement with virtually no additional capital investment.

Is mill operation also more stable thanks to the use of OPP?

Yes. We were having issues with the hydraulic balances, which caused us to have to backwash a screen in the digester every three days. This cost us time and production. Ever since OPP was implemented and an APC routine was created, our digester has been running with excellent stability. We have not had to purge the screen in a year.

What about operating reliability?

We have three reliability engineers working on the OPP team who support the project to promote our risk-based maintenance program. In addition, the OPP analysts from ANDRITZ have tapped into our SAP maintenance planning system to obtain vital information from the 23,000 assets in this database. We have combined this data with info from our distributed control system. One glance at a computer screen shows us where the critical risks are. This enables us to avoid unnecessary shutdowns. All in all, we are operating at 95 percent equipment availability. That is excellent.

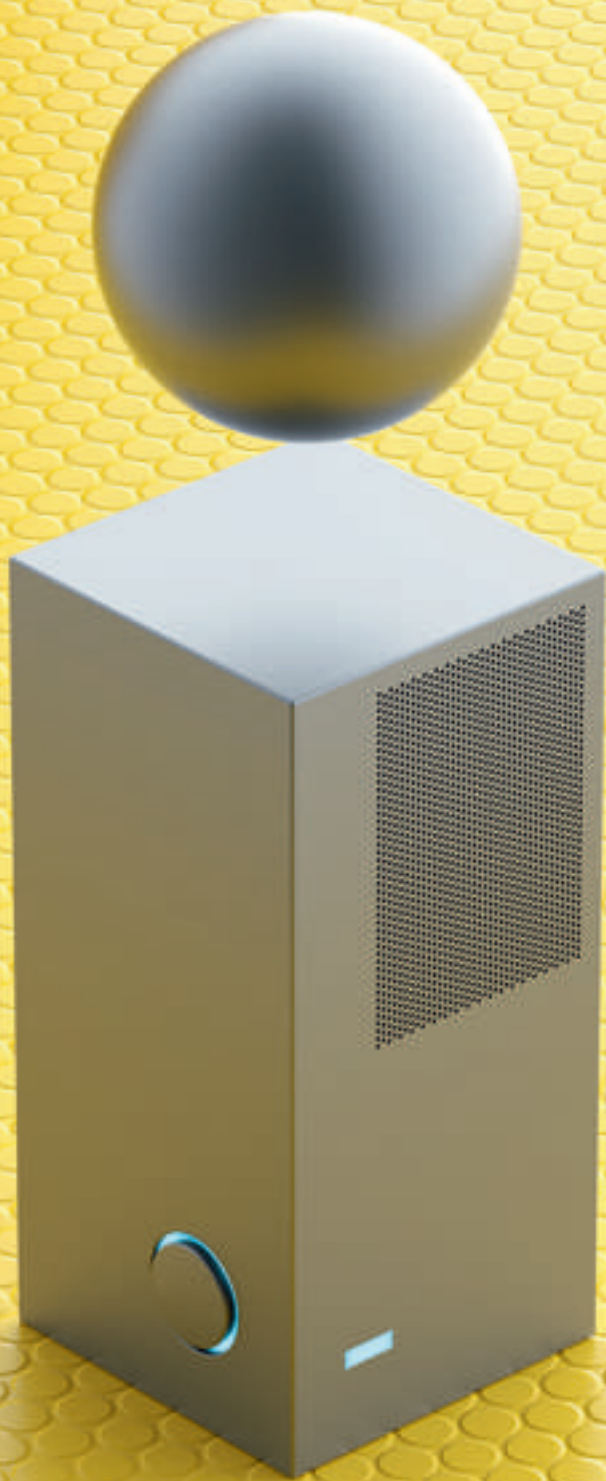
How difficult is it for you and your team to actually work with OPP?

Although there is really a lot to do, it is not complicated to work with OPP. ANDRITZ provides the programming that runs in the background. Our focus is on clearly defining our objectives – an increase in capacity or a reduction in variability for example. Then we define the variables that impact the outcome. Sometimes we have to add a new instrument so that we have reliable measurements for control purposes.

What plans do you have when it comes to Industrial Internet of Things?

We are very much focused on results. For example, we have an OPP project underway to assist our supervisors in adjusting the mill production in real time with the aid of computer-assisted algorithms. In addition, we are working with ANDRITZ on an augmented reality project. It will help maintenance staff obtain information in the field simply with the aid of augmented reality glasses. I am absolutely convinced that digitalization offers us many more opportunities for improvement.

ON RESULTS



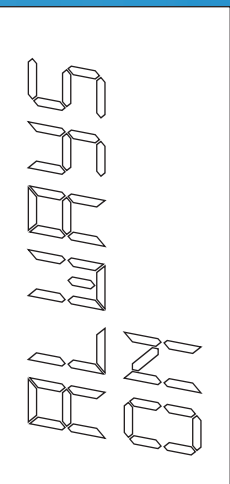
INTER ACTIVE

Digitalization accelerates and intensifies communication in all spheres of life and work. Questions, requests, and purchase orders can be transmitted in no time at all through the internet, usually in the expectation of an immediate reaction. ANDRITZ sees this development as an opportunity and offers innovative concepts to link production to the value chain in an intelligent way. With its Schuler Service App and Smart Assist, the ANDRITZ subsidiary Schuler is offering two products on the market that enable the customer to contact Schuler directly and obtain prompt expert assistance.

"With the Schuler Service App, we provide all-round support to our customers." Daniel Lang is Product Manager at Schuler and had the idea for the new software.



FF
FF



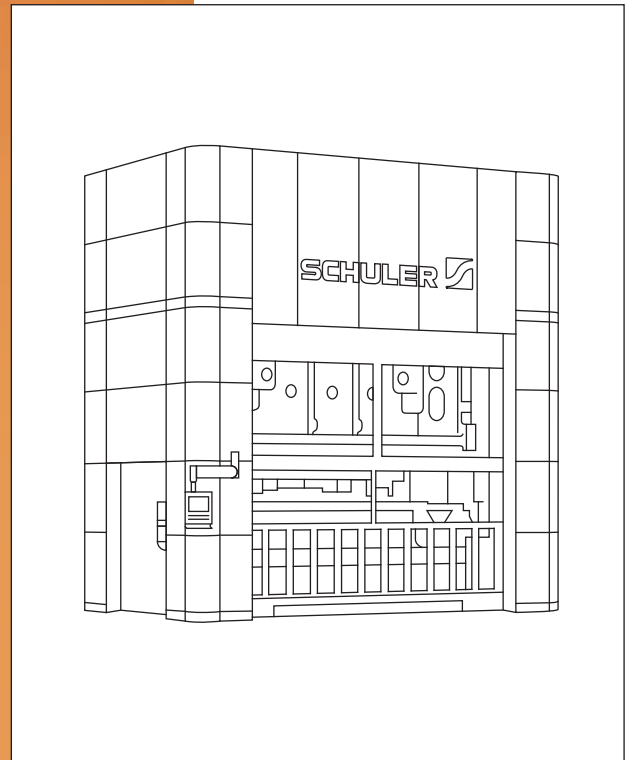
24/
7

Christian Schneider knows the way through the plant like the back of his hand. With rapid steps, he crosses the production shop of his employer voestalpine in Dettingen and heads for the door of a meeting room. The machines that he passes on the way are humming, hissing, clicking, and roaring. 750,000 parts made of steel and aluminum are produced in the Alb hills of Southern Germany every week for the automotive industry: punched and formed parts such as oil pans, but also complete group assemblies, gear and safety parts, as well as components that provide protection in the event of a collision. With its 700 employees, Dettingen is an important location for voestalpine Automotive Components. Car manufacturers can obtain everything from development work to large-scale manufacturing and quality assurance from a single source.

Christian Schneider is director of production. With a staff of 250, he is responsible for serial production and ensures that operations run continuously and smoothly as far as possible. The primary goal? "Fault-free and efficient production," says the 38-year-old, because breakdowns and outage ultimately cost money.

AULT - REE

voestalpine Automotive Components in Dettingen produces 750,000 parts for the car industry every week. The innovative smartphone app from Schuler – a member of the ANDRITZ GROUP – provides valuable assistance here.



Christian Schneider is responsible for serial production at voestalpine Automotive Components in Dettingen. He and his staff of 250 ensure that all plants and presses operate efficiently and as smoothly as possible.



Many press elements and components are marked with a QR code. Thanks to the scanner integrated into the Schuler Service App, the code can be scanned directly at the plant. The operator receives all the information on a replacement part immediately and can order it directly if needed.

A piece of software that appears unimposing at first glance has been helping Christian Schneider to achieve this goal recently: It is a smartphone app from Schuler, a member of the ANDRITZ GROUP and world market leader in metal forming technology. Daniel Lang, Schuler's product manager, awaits

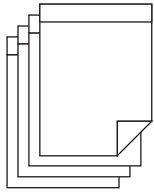
Christian Schneider in the meeting room. There are various Schuler presses operating here in Dettingen. "Our service app provides all-round assistance," the 35-year-old explains as he slides his finger over the screen of his smartphone and scrolls from top to bottom through the service history of a press. Texts, photos, and videos appear. "voestalpine can take photos or make videos of a fault directly at the machine where it is happening and send them to our service experts at the Schuler headquarters in order to obtain immediate assistance." If a component needs to be replaced, its QR code can be scanned directly with the smartphone's camera in order to submit an order query. At the same time, the customer can call the Schuler service hotline directly using the app.

"With this app, we are creating an effective, digital knowledge pool," says Christian Schneider. Using the app generates a complete digital service history of the press concerned.

All concerns and problems in connection with a machine are archived in sound, text, and images. "In this way, the app assists staff who do not have much experience or are less technically minded. It provides certainty in the diagnosis and in troubleshooting." Another advantage: Experienced staff like Schneider can be called in online at any time using the app's group function if there is a fault, regardless of whether they are at the plant or not. All users always have the latest information.

And Schneider also finds the further perspectives attractive. The machine data stored in the Schuler database in encrypted form and with several backups make it possible to provide comprehensive forecasts: Where is trouble brewing in the plant? When would be the best time for the next maintenance cycle? Which component could cause difficulties in the next few weeks? Schneider is convinced that "digitally supported, predictive maintenance will soon be the order of the day. So we are moving with the times – and this is exactly the right thing to do."

The Schuler Service App at a glance



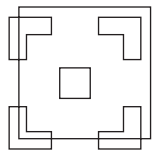
REMOTE SERVICE 24/7

If there is a fault, engineers or operating staff send information as well as sound and video recordings to Schuler's remote service center. Problems can be analyzed and solved immediately.



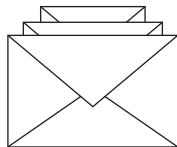
DIGITAL SERVICE HISTORY

A clearly laid out digital service booklet to which all machine operators have access. It logs work steps, actions, repairs, and information in the long term, in the form of text, photographs, or videos.



QR SCANNER

All the relevant information on the spare part can be retrieved directly at the plant using the integrated QR scanner. Inquiries to Schuler from customers can thus be processed effectively.



SCHULER NEWS

The latest information and news about plants, new developments, and events at Schuler.



TECH NOLOGICAL

Better, more efficient, more sustainable: Technological developments just keep on going. ANDRITZ is shaping this evolution and developing technologies that not only have economic goals, but are also sustainable in a broad sense and take account of social and ecological aspects. Many modern plants that ANDRITZ has installed worldwide are setting world records in production, efficiency, and sustainability. These plants bear witness to the know-how of the Group.

EFFICIENCY 4.0

In modern paper and pulp mills, technology, sustainability, and profitability form a dynamic entity. With its globally proven technologies and digital solutions, ANDRITZ is actively driving this development and setting standards for the performance of the machines supplied and processes established as well as for efficient use of energy and resources. For example, wood as a raw material and all of the resources used in production are used to optimum advantage and also recycled.



ANDRITZ supplied one of the largest recovery boilers in the world for Fibria's second pulp production line. The latest technology minimizes emissions and generates "green" electricity by fully utilizing the residual materials from pulp production. This makes the mill self-sufficient in energy, and it can even deliver surplus power to the public grid.



The ANDRITZ DD-Washers for Fibria's second pulp production line in Três Lagoas are the world's largest. They provide low operating costs, very high washing efficiency, and excellent fiber quality. The fiberline has the highest single-line capacity in the world.

Emissions and waste streams can be reduced significantly, and the energy balance is positive, which means that surplus electricity is produced in pulp mills that can be fed into the public grid.

In 2017, ANDRITZ concluded two very successful pulp mill projects that were unique worldwide: Fibria's Três Lagoas second pulp production line was started up in Brazil, and key production technologies were supplied for the Metsä Group's bioproduct mill in Finland.

Três Lagoas is a small town in the Brazilian state of Mato Grosso do Sul. Although the location may seem rather unimposing at first glance, it is all the more impressive when you take a closer look: Fibria, the world's largest producer of market pulp, started up one of the largest and most advanced pulp mills in the world here – supplied by ANDRITZ – in August 2017, ahead of the scheduled date. The second pulp production line sets new standards in many respects. With an annual production capacity of 1.95 million tons, this plant exceeds even Fibria's ambitious plans: The company had originally intended a maximum production of 1.75 million tons for the new line in the eucalyptus pulp mill. ANDRITZ supplied all of the technologies and systems for the plant, which can produce 3.25 million tons of pulp a year together with the existing mill. Fibria thus has one of the largest and most efficient pulp production locations in the world.

And the second pulp production line also sets an example when it comes to logistics: there were up to 6,300 employees working on the site under ANDRITZ's supervision, and goods had to be transported over a total of 2,650 kilometers in Brazil alone during the building phase. Nevertheless, the plant went into operation right on schedule.

ANDRITZ supplied a woodyard for the project with the world's biggest HHQ-Chippers, which guarantee excellent chip quality and thereby enable a high pulping yield. In addition, the supply included the world's largest single fiberline, two energy-efficient pulp drying lines, the largest evaporation plant in the western hemisphere for black liquor, and one of the world's largest and most energy-efficient white liquor plants, which meets the highest environmental standards.

Furthermore, ANDRITZ supplied the largest recovery boiler in Latin America. It can burn all harmful, non-condensable gases and also methanol, supplies steam and energy for the entire mill, and generates a substantial energy surplus that is fed to the public grid. In addition, ANDRITZ delivered a chloride and potassium removal system to enhance the chemical recovery process as well as a liquid methanol plant for production of biofuel.

Another mill that went into operation in 2017 is the one in Äänekoski, a small town in Central Finland. The Metsä Group, a Finnish forestry industry group, has built a bio-product mill with a particularly sustainable design. The mill produces 1.3 million tons of pulp a year. In addition to high-quality pulp, it generates a broad range of other bioproducts, such as tall oil, turpentine, bioelectricity, and wood fuel. Furthermore, 90 percent of the wood used is of certified origin and fully traceable.



For the Metsä Group's bioproduct mill in Äänekoski, ANDRITZ supplied a fiberline with a new advanced heat energy recovery system based on an evaporator unit connected to liquor extraction of the digester unit (large photo), an evaporation plant with the highest energy efficiency worldwide (top), and the largest reconstituting plant in Europe (bottom).



State-of-the-art online monitoring of the woodyard with ANDRITZ IIoT solutions. The entire production process is monitored and controlled from a central control room. The world's biggest chippers (photo), each with a diameter of 3.87 meters, and the three debarking and chipping lines with the largest capacity worldwide are also monitored online by video cameras.

ANDRITZ supplied key machinery and technology for the mill: for example, three debarking and chipping lines with the highest capacity in the world, the softwood and hardwood fiberline with the softwood fiberline capacity being the world's highest, the world's most energy-efficient evaporation plant, and one of the world's largest recausticizing plants in a single line.

Smooth plant operations are guaranteed by the latest control technology. The key element is a digitally networked central control room with large screens, where five or six experts monitor mill operations. On their daily tours of the mill, the staff use a tablet PC to check the output of the pumps for example.

The latest ANDRITZ IIoT solutions are implemented at the bioproduct mill, such as the Decision Support Wall at the woodyard control room. This online tool contains live videos of processes and equipment, indicates actual or potential problems, and has automatic reporting and alarm triggering functions. The Metris Process Traffic Lights tool, which displays warnings in different colors according to the defined criteria in a specific sector, will be installed in the near future.

Other applications are in the planning stage: They include live video streams of sub-processes in production, for example, which are recorded by a helmet cam, and the use of augmented reality by means of smartglasses. The smartglasses are used to display documentation and checklists in a technician's line of vision so that he can pinpoint problems accurately right at the mill itself and eliminate them swiftly.



ZON ING IN ON THE FUTURE

THE ANDRITZ GROUP

56	Letter to the shareholders
59	Executive Board and Supervisory Board of ANDRITZ AG
62	The 2017 financial year at a glance
64	Strategy
66	The ANDRITZ share
70	Sustainability and compliance
72	Publisher's note

LETTER TO THE



Dear Ladies and Gentlemen, Shareholders, and Colleagues,

The 2017 business year showed mixed development overall for the ANDRITZ GROUP. Although sales – at just under 5.9 billion euros – were slightly lower than in the previous year, we were able to achieve increases in both earnings and profitability, thus reaching new record levels. The Group's order intake at almost 5.6 billion euros remained practically unchanged compared to 2016 and thus fell a little short of our expectations. Our four business areas saw very different development in this respect. While Pulp & Paper achieved very good order intake again in 2017

in both capital and service business and thus continued the positive development of the previous years, the Hydro business area and also Schuler fell well short of their budget targets.

Hydro continued to face a very difficult market environment in 2017, which had and still has its origins above all in the unchanged low electricity and energy prices, especially in Europe. Investment activity by hydroelectric power companies remained at a very moderate level, particularly as regards upgrades of existing plants. In the past few years, we have adjusted our capacities and organizational structures continuously to ensure we have the necessary ability to compete. The development of order intake was also unsatisfactory at Schuler, especially in the automotive sector. The continuing high dependence here on German car manufacturers, who only invested in new press lines to a very limited extent in 2017, is very much in evidence. Our goal in the next few years is to extend our business volume in the middle and lower price segments of the automotive sector as well as to substantially expand the non-automotive

sector, which currently accounts for around 20 percent of Schuler sales. With our majority interest in Yadon, we took an important step forward in this direction last year. Yadon saw very good development in 2017 and substantially exceeded our expectations. After many years of poor performance resulting from non-competitive products, too high costs, and inefficient sales and organizational structures, the Separation business area also saw positive development in 2017 and achieved above all an increase in order intake. We have implemented some organizational and structural changes here and also adjusted our product portfolio. New generations were also developed and tested for many of our main products, and some of them have been launched on the market.

An important focus in the 2017 business year lay on establishing and extending our expertise and product portfolio in the digitalization sector and networking of machines and plants. This topic is gaining more and more importance for all our customers and aims to substantially increase the efficiency and productivity of the production processes and thus generate competitive advantages. ANDRITZ is in an outstanding competitive position here in some areas, particularly for pulp, as a result of developing a comprehensive software package at an early stage. This package – our OPP system (Optimization of Process Performance) – analyzes the data generated during production and can detect any anomalies in pulp and paper production in good time, thus making an important contribution towards optimizing production. The “autonomous pulp mill” has thus become reality and is operating successfully in many large pulp mills worldwide. The underlying software platform for this package now forms the basis for digitalization of plants and new product developments in all of our business areas.

At our location in Graz, we built the world’s most advanced research and development center for tissue production in 2017. It enables customers, suppliers, and research institutes from home and abroad to conduct comprehensive production tests and research activities in an industrial environment. At this production plant, we have integrated eight different machine designs and configurations, thus guaranteeing maximum flexibility in tests and trials. The feedback from our customers is very promising.

SHARE- HOLDERS

As part of our digitalization initiatives, we also developed a new online spare part catalog during the reporting period, enabling faster and better customer service. The test phase is currently in progress, and the launch is scheduled for 2018. Our customers will have access to a broad range of service modules, particularly for spare parts, through a common web platform. The machines concerned and the respective spare parts can be selected there. Customers then receive a quote within 24 hours.

All of these initiatives and measures as well as a number of internal projects, like the one we have for ideas management, are intended to contribute more to the ANDRITZ GROUP's organic growth, which will also be a prime focus of our business activities in 2018.

Some very positive highlights were provided in 2017 by our pulp mill projects for the Metsä Group in Äänekoski and for Fibria in Três Lagoas. The two orders had to be executed at the same time, and the mills went into operation on schedule and before the date agreed, respectively. We would like to say a special thank you to all the staff who contributed to this great success. Both projects are extraordinarily positive references for us.

As far as 2018 is concerned, we do not anticipate any substantial changes in the markets served by any of our four business areas and, therefore, expect largely unchanged project activity compared to 2017. In addition to intensifying internal growth as already mentioned, we shall also continue to look out for acquisitions that complement or strengthen our product and service portfolio in the four business areas. At the same time, we will continue to further adapt our corporate structures to the ever more rapidly changing market environment and also make any necessary cost and capacity adjustments that may be needed if market developments so require.

I am very confident that the measures we have taken and our strategic alignment will make us successful in continuing our long-term profitable growth. On behalf of the Executive Board, I would like to thank all of our employees for their commitment and also our numerous shareholders at home and abroad for the confidence they have placed in us.

WOLFGANG LEITNER
President and CEO

A handwritten signature in black ink, appearing to read 'W. Leitner', is positioned to the right of the printed name and title.

EXECUTIVE BOARD AND SUPERVISORY BOARD OF ANDRITZ AG

The ANDRITZ AG Executive Board comprised five members as of December 31, 2017, all of whom have many years of experience and specialist know-how in their respective areas of responsibility.

WOLFGANG LEITNER

President and CEO

Central Group functions: Information Technology, Human Resources Management, Corporate Communications, Investor Relations, Internal Auditing, and Manufacturing Management

HUMBERT KÖFLER

Pulp & Paper (Service & Units), Separation, and Group Procurement Management

MARK VON LAER

Central Group functions: Controlling, Treasury, Order and Project Financing, Legal Matters, and Compliance

JOACHIM SCHÖNBECK

Pulp & Paper (Capital Systems), Metals, as well as Group-wide Quality and Safety Management

WOLFGANG SEMPER

Hydro and Group-wide Automation

The ANDRITZ AG Supervisory Board consists of six members elected by the Annual General Meeting and three members delegated by the Works Council.

CHRISTIAN NOWOTNY

Chairman of the Supervisory Board

FRITZ OBERLERCHNER

Deputy Chairman

JÜRGEN HERMANN FECHTER

ALEXANDER ISOLA

MONIKA KIRCHER

KURT STIASSNY

GEORG AUER

ANDREAS MARTINER

ISOLDE FINDENIG (until December 31, 2017)

MONIKA SUPPAN (from January 1, 2018)



From left to right

JOACHIM SCHÖNBECK

MARK VON LAER

WOLFGANG LEITNER

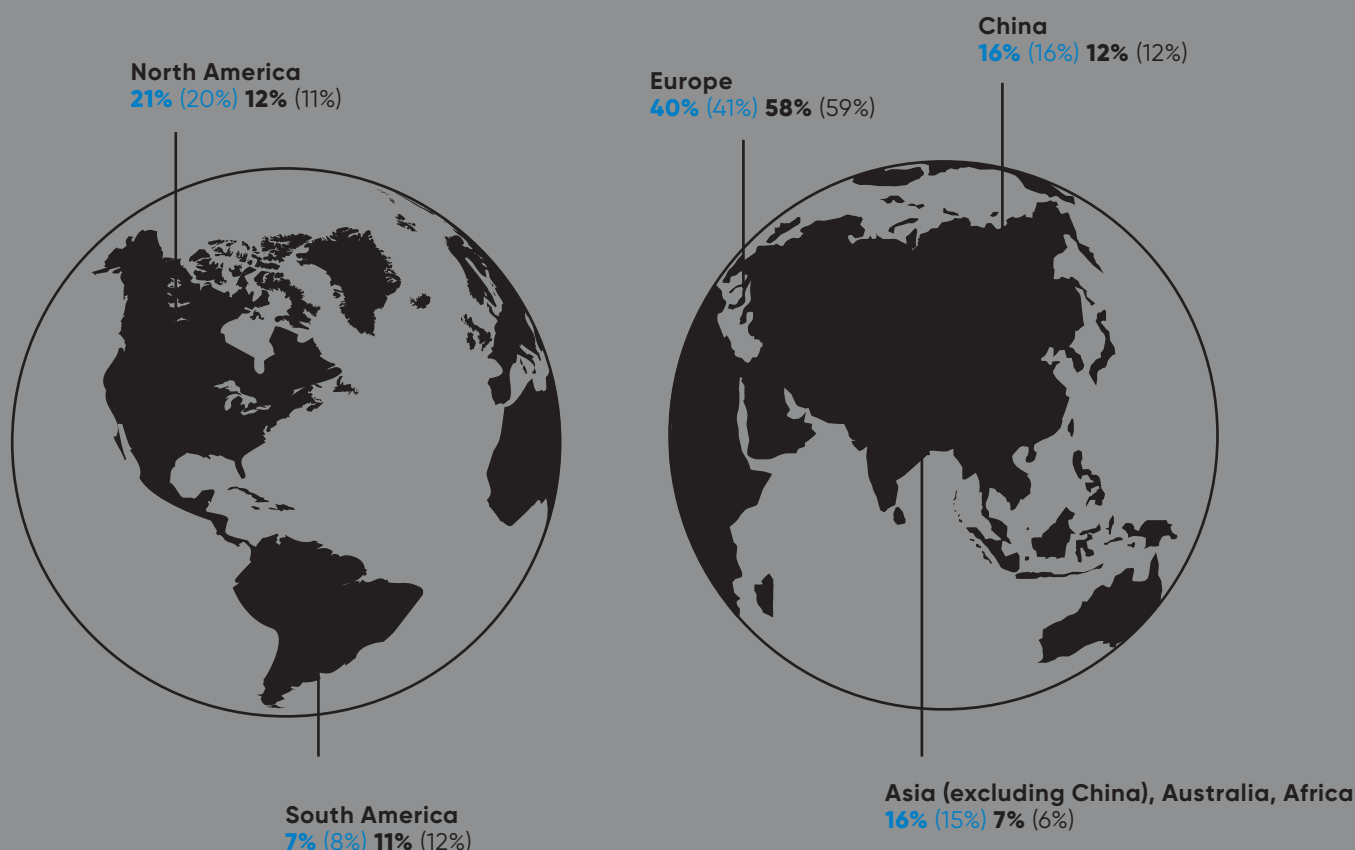
HUMBERT KÖFLER

WOLFGANG SEMPER



THE 2017 FINANCIAL YEAR AT A GLANCE

Stable earnings development in spite of a decline in sales



908 million euros
net liquidity

6.4 billion euros
order backlog

21.2 percent
equity ratio

Order intake by region 2017 (2016)

The order intake in 2017 amounted to 5,580 million euros.
(2016: 5,569 million euros)

Employees by region at the end of 2017 (2016)

ANDRITZ had 25,566 employees in 2017.
(2016: 25,162 employees)

Detailed information on the 2017 business year, including the integrated management report, corporate governance report, and consolidated financial statements for 2017, can be found in the 2017 Annual Financial Report, available for download at andritz.com/downloads.

ORDER INTAKE

The order intake of the Group amounted to 5,580 MEUR and was thus practically unchanged compared to the previous year's reference figure (2016: 5,569 MEUR). While the Pulp & Paper and the Separation business areas achieved a slight increase in order intake, the Metals Processing sector in the Metals business area achieved a significant increase in order intake compared to the previous year. The order intake in the Metal Forming sector (Schuler) for the automotive and automotive supplying industries was slightly below the level of the previous year's reference period. In view of the unchanged, difficult market environment, the order intake of the Hydro business area was significantly lower than the previous year's reference figure.

	Unit	2017	2016	+/-
Hydro	MEUR	1,317	1,500	-12%
Pulp & Paper	MEUR	2,033	1,919	+6%
Metals	MEUR	1,607	1,552	+4%
Separation	MEUR	622	598	+4%

SALES

Sales of the ANDRITZ GROUP amounted to 5,889 MEUR in the 2017 business year and were thus slightly lower than the reference figure for the previous year (2016: 6,039 MEUR). Sales in the Hydro business area dropped significantly (-10 percent), mainly due to the decline in order intake in the past few years and the resulting lower sales generation. Similarly, sales in the Pulp & Paper business area declined slightly compared to the previous year, which was positively impacted in particular by processing of a large order for a new pulp mill. The Metals and Separation business areas saw a slight increase in sales compared to the previous year.

	Unit	2017	2016	+/-
Hydro	MEUR	1,583	1,752	-10%
Pulp & Paper	MEUR	2,060	2,094	-2%
Metals	MEUR	1,644	1,598	+3%
Separation	MEUR	603	594	+2%

ORDER BACKLOG

The order backlog of the ANDRITZ GROUP amounted to 6,383 MEUR as of December 31, 2017 and was thus lower than the reference figure for the previous year (December 31, 2016: 6,789 MEUR).

EARNINGS

Despite the slight decline in sales, the EBITA of the Group reached 444 MEUR and was thus practically at the same level as the reference figure for the previous year (2016: 442 MEUR). Profitability (EBITA margin) increased to 7.5 percent (2016: 7.3 percent). Excluding an extraordinary effect that comes mainly from sale of the Schuler Technical Center in Tianjin, China, the Group's EBITA would have amounted to 420 MEUR or profitability of 7.1 percent. The EBITA margin in the Hydro business area reached a satisfactory level of 7.8 percent (2016: 7.3 percent). In the Pulp & Paper business area, profitability once again reached

a very high level at 9.5 percent (2016: 8.7 percent). The EBITA margin of 6.0 percent in the Metals business area was below the previous year's level (2016: 7.2 percent) in spite of the extraordinary effect mentioned above. This is largely attributable to cost overruns on some projects in the Metal Processing segment. In the Separation business area, the EBITA margin increased to 4.6 percent (2016: 2.9 percent).

NET WORTH POSITION AND CAPITAL STRUCTURE

The net worth position and capital structure as of December 31, 2017 remained solid. Total assets amounted to 6,265 MEUR (December 31, 2016: 6,199 MEUR), while the equity ratio was 21.2 percent (December 31, 2016: 21.7 percent).

Liquid funds amounted to 1,772 MEUR (as of the end of 2016: 1,507 MEUR), while net liquidity amounted to 908 MEUR (as of the end of 2016: 945 MEUR).

IMPORTANT ACQUISITIONS

The ANDRITZ GROUP has acquired a 100 percent stake in Paperchine, Inc., USA, including its affiliates. The company has approximately 180 employees in total and locations in the USA, Canada, Thailand, and Germany. Paperchine is a global supplier of highly engineered equipment and services to the paper industry's leading producers. Acquisition of Paperchine strengthens ANDRITZ's presence in North America and adds new products, such as the Horizontal GapFormer, the SigmaPro headbox, dewatering systems (formerly Johnson Foils), dampening systems (formerly VIB), and related service work to its product portfolio for international customers.

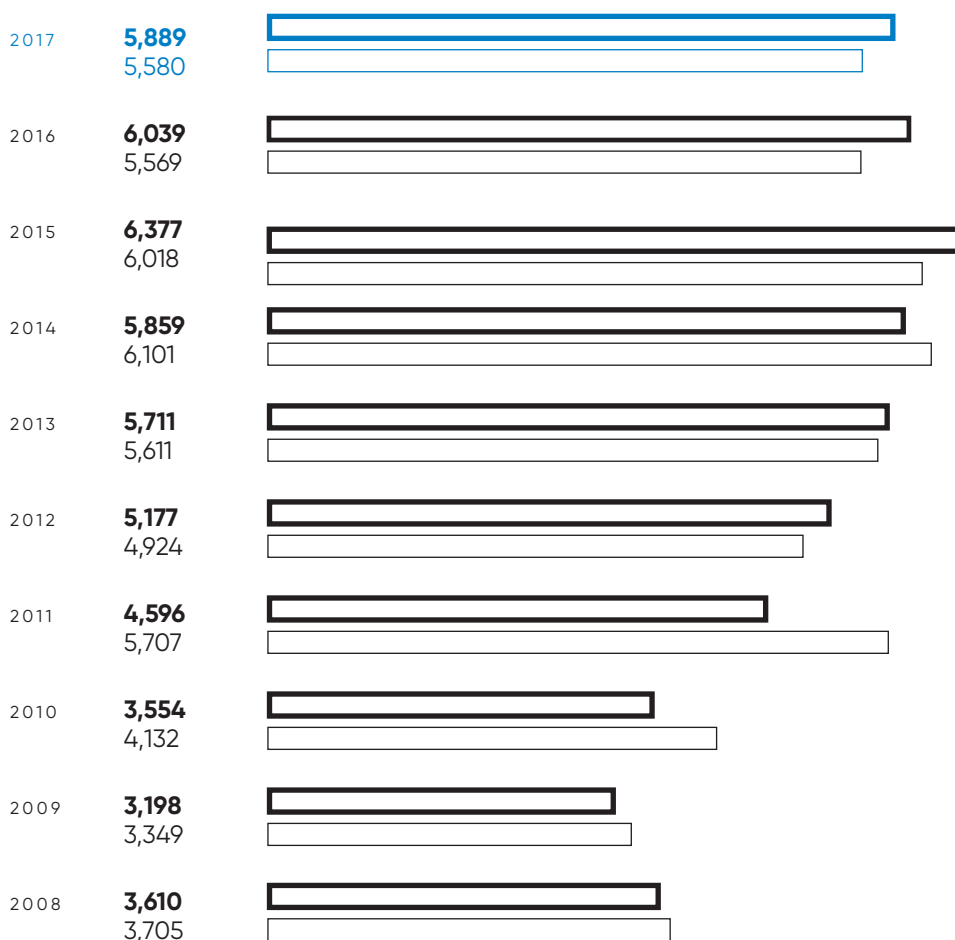
In April 2017, the ANDRITZ GROUP acquired 50.1 percent of the laser manufacturer Powerlase Holdings Limited, Crawley, United Kingdom, including its affiliates. The high-tech company supplies international customers from the photovoltaic, microelectronics, automotive, and aerospace industries. This acquisition complements the Metals business area's product portfolio.



Deviations can occur due to rounded totals and percentages.

STRATEGY

For many years, the ANDRITZ GROUP has been pursuing a business strategy aimed at achieving long-term profitable growth. ANDRITZ's long-term goal is to achieve annual sales growth averaging five to eight percent and to increase profitability (EBITA margin) sustainably to eight percent. The main cornerstones of this strategy are: the creation of internal growth, acquisitions, technology and cost leadership, and global presence.

LONG-TERM DEVELOPMENT OF SALES AND ORDER INTAKE



 Sales (MEUR)
 Order intake (MEUR)

+ 6%
Average annual sales
growth

GROWTH

In order to achieve the long-term sales growth target, ANDRITZ continues to focus on organic growth and the acquisition of companies. ANDRITZ invests around three percent of sales every year, including order-related work, in research and development of new products, with special focus here on digitalization. By offering smart technologies that create added value, ANDRITZ supports its customers in achieving their business goals as best possible, thus also opening up new sales and growth opportunities in its business areas. Complementary acquisitions, i.e. purchase of companies with complementary products/technologies, will continue to be an important cornerstone of ANDRITZ's growth strategy. By integrating these companies into the Group, ANDRITZ not only creates important synergies, but also paves the way for these companies to achieve organic growth. The Group's overall goal is to become a full-service provider with global presence in all business areas by developing its own products and acquiring other companies.

TECHNOLOGICAL AND COST LEADERSHIP

The ANDRITZ GROUP ranks among the leading global suppliers in all of its business areas. In order to consolidate and further strengthen this position, it is essential for ANDRITZ to be the preferred technology supplier while still maintaining a competitive cost structure. Thus, the ultimate goal is to offer customers cutting-edge technologies that help them to achieve their objectives in terms of productivity, quality, resource and energy efficiency, and sustainability. At the same time, it is necessary to create a cost structure within the Group that secures ANDRITZ's competitive position and continued existence in the long term. The main cornerstones here are ongoing cost optimizations and a manufacturing and location strategy aligned to future market opportunities that takes account of regional cost and competitive advantages.

The ANDRITZ GROUP's aim is to increase profitability in the long term and achieve an EBITA margin averaging eight percent in the coming years. In addition to the cost leadership envisaged, this goal is to be achieved by means of planned sales growth and substantial expansion of service business from the current level of around 35 percent to reach 40 percent in the long term.

GLOBAL PRESENCE

With a balanced mix of global and local presence, ANDRITZ can support its customers in achieving their goals in terms of productivity, profitability, and sustainability. It is thus one of the ANDRITZ GROUP's main objectives to continue extending its worldwide presence in order to utilize growth potential on the one hand, particularly in the emerging economies of South America and Asia, and on the other hand to be close to its customers in order to offer the best possible and prompt service. By further relocating manufacturing capacities to emerging markets, ANDRITZ can profit from growth in these regions, but also provide a strong impetus for economic growth and the labor markets there.

THE ANDRITZ SHARE

RELATIVE SHARE PRICE PERFORMANCE OF THE ANDRITZ SHARE VERSUS THE ATX SINCE THE IPO



SHARE PRICE DEVELOPMENT

Developments on the international financial markets in 2017 were characterized by the continuing economic recovery in the major economic regions of the world. Almost all share indexes on the main stock exchanges in Europe, the USA, and Asia reached record levels due to the good economic and earnings prospects for the companies listed. The ANDRITZ share price decreased slightly by 1.3 percent during the reporting period. The ATX, the leading share index on the Vienna Stock Exchange, showed a significant increase of 30.6 percent in the same period due to the high weighting of bank shares and of the shares in an oil and gas group. The highest closing price of the ANDRITZ share was EUR 54.87 (May 9, 2017) and the lowest closing price EUR 44.32 (August 10, 2017).

TRADING VOLUME

The average daily trading volume of the ANDRITZ share (double count, as published by the Vienna Stock Exchange) was 306,296 shares in 2017 (2016: 317,558 shares). The highest daily trading volume was noted on August 4, 2017 at 1,544,140 shares and the lowest daily trading volume on January 2, 2017 at 75,130 shares.

ANNUAL GENERAL MEETING

The Annual General Meeting of Shareholders re-elected Christian Nowotny, Chairman of the Supervisory Board of ANDRITZ AG, as a member of the company's Supervisory Board for the maximum period stipulated in the Articles of Association (until the end of the Annual General Meeting deciding on the discharge for the 2021 business year). Christian Nowotny was first appointed as a member of the Supervisory Board of ANDRITZ AG in December 1999 and has been Chairman of the Supervisory Board since March 2014.

TREASURY SHARES

In 2017, a total of 1,030,000 treasury shares were purchased under the share buy-back program approved by the Annual General Meeting.

LONG-TERM DIVIDEND POLICY

ANDRITZ pursues a dividend policy oriented towards continuity. Depending on how business develops, ANDRITZ's goal is to distribute around 50 percent of the earnings per share to the shareholders and to increase this payout ratio step-by-step over the next few years to around 60 percent.

STABLE SHAREHOLDER STRUCTURE

ANDRITZ has a stable and well-balanced shareholder structure. Custos Vermögensverwaltungs GmbH owns 25 percent plus one share, while Cerberus Vermögensverwaltung GmbH holds 0.77 percent. Some of the shares in these companies are held directly and some indirectly by Custos Privatstiftung and by Wolfgang Leitner, respectively, who is President and CEO of ANDRITZ AG. Certus Beteiligungs-GmbH, whose shares are owned indirectly by Manile Privatstiftung, holds 5.72 percent. With a free float of just under 70 percent, national and international institutional investors and private investors make up the majority of the shareholders. These include FMR LLC (Fidelity Management & Research, a Boston, Massachusetts-based investment company founded in 1946) holding 5.76 percent, BlackRock Inc. (a US investment company established in 1988 and based in New York City, New York) holding 3.99 percent, and The Capital Group Companies, Inc. (a US investment firm founded in 1931 with headquarters in Los Angeles, California) holding 3.96 percent. The majority of institutional investors come from the United Kingdom, Austria, and Germany, while most private investors are from Austria and Germany.

TRANSPARENT INFORMATION POLICY

Investor relations activities have focused on continuous and transparent communication with institutional and private shareholders since the ANDRITZ IPO in 2001. In 2017, meetings were held with international institutional investors and financial analysts in Atlanta, Baltimore, Berlin, Chicago, Frankfurt, Geneva, Graz, Linz, London, Montreal, Munich, New York, Paris, Salzburg, Seattle, Sydney, Tokyo, Toronto, Vienna, and Zürs. In addition, numerous conference calls were conducted to provide information on the company's operative and strategic development.

At the 2017 ANDRITZ Capital Market Day held in Graz, Austria, and attended by 16 international and national financial analysts, the Executive Board provided information on current developments and expectations for the business areas and on the goals of the ANDRITZ GROUP in the medium to long term.

BROAD COVERAGE

There are currently a total of 15 international banks and investment houses publishing analysis reports on ANDRITZ at regular intervals: Baader Bank, Berenberg Bank, Commerzbank, Deutsche Bank, ERSTE Bank, Goldman Sachs, Hauck & Aufhäuser, HSBC Trinkaus, Jefferies, J.P. Morgan, Kepler Cheuvreux, Raiffeisen Centробank, Société Générale, UBS, and Warburg Research.

KEY FIGURES OF THE ANDRITZ SHARE

	Unit	2017	2016	2015	2014	2013
Earnings per share	EUR	2.58	2.69	2.60	2.04	0.64
Dividend per share	EUR	1.55 ¹	1.50	1.35	1.00	0.50
Payout ratio	%	60.1	55.8	51.9	49.0	78.1
Price-earnings ratio (based on closing price at end of year)		18.25	17.73	17.33	22.40	71.23
Equity attributable to shareholders per share	EUR	12.77	13.00	11.63	9.86	8.70
Highest closing price	EUR	54.87	49.70	57.49	47.58	54.94
Lowest closing price	EUR	44.32	38.69	38.14	37.00	37.93
Closing price at end of year	EUR	47.09	47.70	45.05	45.69	45.59
Market capitalization (as of end of period)	MEUR	4,896.8	4,960.3	4,685.2	4,751.8	4,741.4
Performance	%	-1.3	+5.9	-2.1	0.0	-9.4
ATX weighting (as of end of period)	%	6.2680	9.0018	9.5854	11.6479	9.5082
Average daily number of shares traded ²	units	306,296	317,558	355,821	305,027	316,787

Source: Vienna Stock Exchange 1 Proposal to the Annual General Meeting. 2 Double counting – as published by the Vienna Stock Exchange

BASIC DATA OF THE ANDRITZ SHARE

ISIN code	AT0000730007
First listing day	June 25, 2001
Types of shares	no-par value shares, bearer shares
Total number of shares	104 million
Authorized capital	none
Free float	< 70%
Stock exchange	Vienna (Prime Market)
Ticker symbols	Reuters: ANDR.VI; Bloomberg: ANDR, AV
Stock exchange indices	ATX, ATX five, ATX Global Players, ATX Prime, WBI

FINANCIAL CALENDAR 2018

March 2, 2018	Results for the 2017 business year
March 13, 2018	Record date Annual General Meeting
March 23, 2018	Annual General Meeting
March 27, 2018	Ex dividend
March 28, 2018	Record date dividend
March 29, 2018	Dividend payment
May 3, 2018	Results for the first quarter of 2018
August 2, 2018	Results for the first half of 2018
November 6, 2018	Results for the first three quarters of 2018

The financial calendar with updates and information on the ANDRITZ share can be found on the Investor Relations page at the ANDRITZ web site: andritz.com/share.

SUSTAINABILITY AND COMPLIANCE

For ANDRITZ, sustainability and compliance are decisive factors in securing the company's long-term success. They are important components of ANDRITZ's corporate policy and are reflected in every employee's day-to-day work as well as in the management systems and business relations of the ANDRITZ GROUP.

SUSTAINABILITY

Sustainability at ANDRITZ covers three main dimensions:

From the economic perspective, sustainability means engaging in active risk management and thus offering stakeholders the maximum possible financial security. This also includes responsible dealings with suppliers and business partners. At ANDRITZ, it is important that the strict requirements within the Group are also observed and adhered to by external stakeholders. This is why ANDRITZ issued a set of uniform guidelines and policies many years ago and checks regularly that they are obeyed.

From the social perspective, it means being an attractive and responsible employer for all employees. By offering a wide range of educational and training courses and encouraging diversity in the company, ANDRITZ makes every effort to maintain job satisfaction for its employees and retain its employees in the company in the long term. This begins at an early stage with the around 900 apprentices worldwide who have every opportunity to embark on numerous possible careers at the end of their specialist training. Another important part of social responsibility is the creation and best possible safeguarding of qualified jobs by means of ANDRITZ's global business activities.

Sustainability also stands not least for products that help customers to achieve their sustainability goals and make use of resources as economically and efficiently as possible. In many cases, use of these products also helps to build up a stable infrastructure, promote sustainable industrialization, and also to drive innovations. Observing ecological standards plays an important role here, but so does compliance with stringent quality requirements. As part of ANDRITZ's integrated management system, these requirements are constantly monitored, while products and processes are adapted accordingly. In this context, it is important to mention the strict guidelines and policies concerning safety at work. Thanks to a global safety initiative, a preventive safety culture is to be developed and an appropriate sense of awareness established in the long term.

ANDRITZ is committed to an open and transparent communication policy. An important part of this policy is the provision of information relevant to CSR that is published as part of the management report included in the Annual Financial Report in compliance with the legal requirements.

COMPLIANCE

ANDRITZ has been committed to strict compliance for many years now. Compliance with the laws and international regulations applying in each case always has top priority and is monitored by a Group-wide compliance committee. ANDRITZ does not tolerate any form of corruption, cartel arrangements, discrimination, or other violations of legal requirements and has confirmed this in a series of policies and guidelines applying throughout the Group. In particular, the ANDRITZ Code of Business Conduct and Ethics published in 2010 is clearly aimed at providing a framework of sound company management principles that can be understood by all employees and business partners alike. There is also a Code of Conduct for Suppliers, which has been in force since 2015.

The organization is building up a compliance management system based on three pillars: "Awareness and Prevention", "Detection", and "Response". An ISO 19600 certification audit was conducted at the end of 2017.

ANDRITZ has defined measures to ensure as best possible that a basic understanding of compliance is provided and that the Code is obeyed. Among other measures, there are also various compliance training courses available. Operating with a common understanding of what behavior is expected of the employees forms the basis of sustainable and successful company development, be this in developing solutions for customers, securing profitable growth for ANDRITZ, or creating and maintaining a rewarding work environment for the employees.

Detailed information on sustainability and compliance are available at andritz.com/downloads.

PUBLISHER'S NOTE

DISCLAIMER

Certain statements contained in the 2017 Annual Report and in the 2017 Annual Financial Report constitute "forward-looking statements." These statements, which contain the words "believe," "intend," "expect," and words of a similar meaning, reflect the Executive Board's beliefs and expectations and are subject to risks and uncertainties that may cause actual results to differ materially. Thus, readers are cautioned not to place undue reliance on such forward-looking statements. The company disclaims any obligation to publicly announce the result of any revisions to the forward-looking statements made herein, except where it would be required to do so under applicable law.

The 2017 Annual Report and the 2017 Annual Financial Report contain assumptions and forecasts which were based on the information available up to the copy deadline on February 16, 2018. If the premises for these assumptions and forecasts do not occur, or risks indicated in the "Risk Management" chapter and in the management report in the 2017 Annual Financial Report do arise, actual results may vary from the forecasts made in the 2017 Annual Report and in the 2017 Annual Financial Report. Although the greatest caution was exercised in preparing data, all information related to the future is provided without guarantee.

NOTE

In order to improve readability, the present report does not contain any gender-specific wording. Any personal terms used relate to both men and women equally.

2017 ANNUAL FINANCIAL REPORT

Detailed information on the 2017 financial year, including integrated management report, corporate governance report, and consolidated financial statements for 2017, can be found in the 2017 Annual Financial Report, available for download at andritz.com/downloads.

PUBLISHED BY

ANDRITZ AG, 8045 Graz, Austria
andritz.com

RESPONSIBLE

Dr. Michael Buchbauer, ANDRITZ AG

EDITOR

ANDRITZ AG, Peter Gaide/ag-text

CONCEPT AND CREATIVE IMPLEMENTATION

Strichpunkt GmbH, Stuttgart/Berlin
www.strichpunkt-design.de

PICTURE CREDITS

P. 6, 8, 11, 56, 60, 61: Peter Rigaud / P. 14, 15, 19, 20, 21: David Payr / P. 16, 17, 36, 37, 47, 48, 51, 52: ANDRITZ / P. 24: Johnny Hanuse / P. 25, 26: Getty Images / P. 27: Lloyd F. Davies, R PF, Ministry of Forests, Lands, Natural Resource Operations and Rural Development. Copyright: Province of British Columbia. All rights reserved. Reproduced with permission of the Province of British Columbia. / P. 40, 41, 42: Tom Ziora (All other illustrations: Strichpunkt GmbH)

ANDRITZ AG

Stattegger Strasse 18, 8045 Graz, Austria