



**AVK**  
SUSTAINABILITY REPORT  
2022/2023





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## Accounting Practices

We are pleased to bring you the fifth edition of the AVK Group's Sustainability Report. In this edition you can read about a range of initiatives adopted by the AVK Group that support responsible and sustainable development while also contributing to helping solve some of the challenges faced by our society.

The data compiled in this report is from the financial year 2022/23 and includes all activities of the AVK Group. The report details initiatives, any new initiatives launched, and the results we have achieved over the past year. This is part of the AVK Group's annual report for 2022/23, which covers a mandatory section

on social responsibility, gender balance in management, and data ethical policy.

# INTRODUCTION BY NIELS AAGE KJÆR



I am pleased to present our sustainability report for the financial year 2022/23.

During the past year, the global economy has been affected by several factors, including the impact of the Covid-19 pandemic and the subsequent crisis in global supply chains. These factors have been further influenced by the geopolitical conflicts, which have had a significant impact on the finances of many projects. Supply chains have stabilised, but subsequent inflation and higher interest rates have had a negative impact on investment in most markets.

At the same time, we are seeing increased protectionism, with trade barriers requiring local supply chains. To meet these demands, we continue to invest in local production and supply chains, and as a result have a strong presence in key markets.

Despite these challenges, the AVK Group has achieved a good result, which will contribute to securing our future development with a focus on long-term and sustainable investments for the benefit of the company, our employees, customers, and the environment.

AVK was founded in 1941 by Aage Valdemar Kjær and is based on the core values of quality, innovation, reliability, sustainability, and customer service. Sustainable development is thus one of the cornerstones that set the direction for our way of doing business.

AVK's purpose is to develop, produce and market high-quality, long-lasting products that are part of vital infrastructure, including water supply, wastewater management and energy supply, as well as a wide range of industrial applications. Together, these products contribute to sustainable development, human health, and a better environment.

We are a global Group of companies operating within three business units: AVK Water, AVK Industrial and AVK Advanced Manufacturing. Our companies provide solutions for a wide

range of areas, and in this report, you can read about how we have developed several innovative products and solutions in recent years. The products help ensure sustainable development, including our PREMIUM 100 valve, Smart Water solutions, products for intelligent irrigation, valves for responsible wastewater management and production of geothermal heat, as well as the development of products that contain a high amount of recycled plastic.

In addition to investments in product development and new business areas, we focus on continuously optimising processes and reducing environmental and climate impact. For example, we have invested heavily in automation in several production units, which ensures stable production with a high level of quality as well as optimised work processes and productivity.

We have a strong focus on our environmental and climate efforts, and we have launched an initiative in relation to Life Cycle Assessment (LCA) and Environmental Product Declaration (EPD) to create accurate calculations of CO<sub>2</sub>e emissions throughout the value chain for a given product. This year we have achieved our first certified EPD. We are working focused to minimise energy consumption and at the same time increase the proportion of green energy sources, among other things through investments in solar panels and low-energy solutions, as well as phasing out cars using fossil fuels. In addition, we focus on waste management and the use of recycled materials in the manufacture of new quality products.

The AVK Group has companies in many different countries, and our employees therefore have many nationalities and backgrounds. We respect the differences of our employees and consider diversity to be a strength in our local anchoring and global development. The fact that we work across geographical and cultural boundaries helps to create an interesting and evolving working environment. AVK wants to be a healthy, professionally challenging, and safe

place to work, which also means that we work in a structured way to reduce the number of work-related accidents.

AVK works within several business areas that are in the process of an interesting development. In recent years, there has been an increasing focus on the management of drinking water and wastewater, which has a huge impact on health and quality of life, as well as energy consumption and climate.

Water plays a crucial role in solving many of the underlying problems that have led to the UN Sustainable Development Goals (SDGs). SDG 6 related to clean water and sanitation, and SDG 9 related to infrastructure, sustainable industry, and innovation, are particularly relevant to AVK.

At the same time, we consider SDG 17 related to partnerships for sustainable development, to be crucial for achieving the goals of the other SDGs. We are part of several partnerships across local, national, and international authorities, organisations and companies that focus on SDG 6. In addition, AVK also contributes to other SDGs, which you can read more about in this report.

Niels Aage Kjær

Chairman of the Board and owner of the AVK Group

# OUR HISTORY, PURPOSE, AND BUSINESS UNITS

AVK is a family-owned Group with headquarters in Galten, Denmark. It is built on the foundation of an 80-year-old machine shop founded in 1941 by Aage Valdemar Kjær, hence the name AVK. Today, AVK employs 4,880 people and consists of more than 100 production and sales companies globally.

## Business units

AVK is divided into three business units: AVK Water, AVK Industrial and AVK Advanced Manufacturing. All three units consist of companies with a strong product portfolio and competencies that are used in many different business segments. To accommodate the wishes of our customers, we design, produce and market our products ourselves.

## AVK Water

AVK Water consists of companies that develop, manufacture and supply valves and solutions for water supply, wastewater treatment, natural gas and biogas, irrigation, firefighting, and HVAC (Heating, Ventilation, Air Conditioning). HVAC covers technical specialties in heating systems, ventilation systems, cooling systems, electrical installation, automation, and regulation).

Elements such as water, cooling and heating are crucial to society, and we can provide solutions tailored to fit local conditions and requirements according to local standards and approvals.

AVK Water accounts for most of the turnover.



## AVK Industrial

AVK Industrial consists of companies that develop, manufacture, and sell a wide range of valves for industrial segments. Many of the products are components for applications that contribute to sustainable development within a variety of industries. Specific examples include water and air purification systems, remote cooling and heating, energy supply, mining, pulp and paper, process industry, dams and reservoirs, hydropower, and water management solutions for flood control.

AVK Industrial accounts for around a quarter of the turnover.

## AVK Advanced Manufacturing

AVK Advanced Manufacturing consists of companies that manufacture processed components from steel, cast iron, aluminium, bronze, rubber, and plastic. The components are partly included in AVK Water and AVK Industrial's broad product range, and in this way the business units support each other. Processed components made of steel, iron, aluminium, and bronze are



used in various industrial segments such as the transportation and wind turbine industries. Rubber compounds and solutions are used in equipment for the food and healthcare industries. Plastics companies produce waste containers and pallets, among other products, where there is an increasing focus on increasing the share of recycled plastic in products.

For more information, please refer to our financial report and overview of the companies in the AVK Group, which can be found under "Downloads" on our website.

## Our purpose

It is our purpose to develop, manufacture and market products of a high-quality and with a long lifespan. The products are used in vital infrastructure, including water supply, wastewater handling, energy supply, as well as a wide range of industrial applications that together contribute to sustainable development, the health of people and a better environment.



# OUR VALUES

AVK is centred around five core values that set the direction for how we run our business. These values ensure a healthy business and constantly commit us to remaining industry leaders.



## QUALITY

**WE STRIVE FOR QUALITY IN EVERYTHING WE DO**

Quality is at the heart of everything we do. Quality is in every step of the process from initial idea to its execution. It is in our activities and our behaviour – both between colleagues and when dealing with customers and others we come across when performing our job. Quality is found in our products, processes, delivery, service, communication, and guidance. This approach to quality has created the foundation for our position as a market leader.



## INNOVATION

**WE INNOVATE TO MAKE A DIFFERENCE**

Innovation is essential to AVK. We focus on innovation and development of new and optimised products of high quality and with a long lifespan. With an innovative approach to the development and design of our products and solutions, we remain adaptive to current and future market demands.

Through continuous monitoring and optimisation, we ensure that our products and solutions are always as efficient as possible. In addition, AVK focuses on investments in new technologies and business areas that aim to contribute to sustainable development.

## RELIABILITY

**WE STRIVE TO BE CREDIBLE AND CONSISTENT**

Reliability is crucial to us. We strive to be a reliable and credible company that creates long-lasting results and builds relationships with our employees, customers, and other stakeholders. Reliability is key, and it is important for us to document reliability and credibility as a company. We are proud to be certified according to the ISO 9001 standard for quality management, to the ISO 14001 for environmental management, ISO 29001 for quality management within the oil and gas industry, ISO 45001 which is an international standard for occupational health and safety management, and ISO 50001 for energy management.



## SUSTAINABILITY

**WE HAVE A LONG-TERM APPROACH**

Sustainable development has always been key to our business, and we work with sustainability on multiple levels. From the beginning, we have had a strong focus on innovation and development of high-quality products with a long lifespan. At the same time, we continuously work to reduce our environmental and climate impact in the production of our products. We want to invest in innovative technologies and new business areas that contribute to the green transition.



## CUSTOMER SERVICE

**WE STRIVE TO BE OUR CUSTOMERS' PREFERRED PARTNER**

Customer service is important to us, as we measure our success through our customers' progress and satisfaction – not only with our products, but also with the way we manage their needs, enquiries, and requests.

We believe in long-term partnerships and in being close to our market and always with our customers' needs at heart.

# OUR BUSINESS MODEL

Our business model reflects a Group with attention to technological innovation, responsible production, dedicated employees, and involvement of stakeholders.

## RESOURCES

### EMPLOYEES

We employ qualified employees who can support the business with their knowledge and competences. At the same time, we focus on long-term relations, diversity, and development.

### INNOVATION AND DEVELOPMENT

We continuously focus on innovation and development of new products, solutions, and business areas.

### PRODUCTION

We source materials and products responsibly from local as well as global suppliers and partners.

### RESPONSIBILITY

We run our business in a responsible way with focus on sustainability and care for the environment when using resources and materials.

### STAKEHOLDER ENGAGEMENT

Our relationship with our stakeholders is built on trust and long-term relations – always with common value-creation in mind.

ACTIVITIES



AVK WATER



AVK INDUSTRIAL



AVK ADVANCED MANUFACTURING



### FINANCIAL YEAR 2022/23

Turnover: DKK 7,941 million  
 Employees: 4,880  
 Companies: 107  
 Represented in 37 countries

ACTIVITIES

### SOCIETY

AVK develops, manufactures, and markets products of high quality and with a long lifespan, which are part of vital infrastructure including water supply, wastewater treatment and energy supply as well as a variety of other industrial applications that all together contribute to sustainable development, the health of people and a better environment.

### CUSTOMERS

We optimise customer solutions to create the highest possible return on the invested resources.

### EMPLOYEES

We focus on being a healthy and safe workplace for all our employees as well as creating attractive jobs and economic growth.

### SHAREHOLDER VALUE

We create value for our shareholders but prioritise reinvestment and an active ownership.

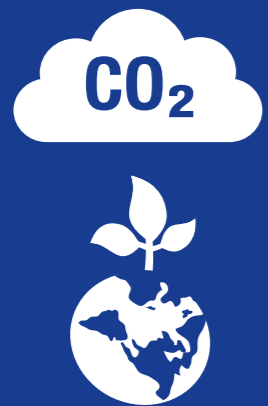
## VALUE CREATION

AVK is a global Group. We operate in various segments and under different conditions. As we will describe in the section "Our risks and Opportunities", we are very conscious of the risks that come with being a global Group. Therefore, we monitor our own and external production units to ensure that the specified criteria for the environment and human rights are complied with.

Our foundation is to act in a responsible manner, both towards employees, the environment, and the surrounding community.

# ESG HIGHLIGHTS 2022/23

Tonnes CO<sub>2</sub> per DKK million (turnover)



2,48 → 2,11

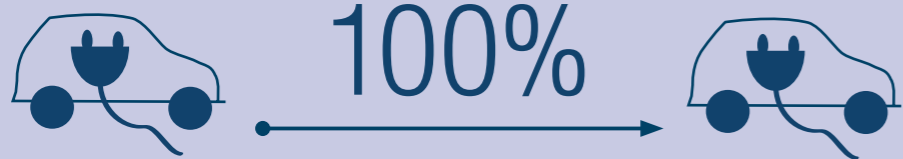
AVK Group People & Leadership function established



Supplier audits



28 Electric cars 56



ISO 50001 certificates



EPD<sup>®</sup>  
Environmental Product Declaration

0,33% TO 2%

Self-produced electricity tripled

# OUR RISKS AND OPPORTUNITIES

All companies face risks and opportunities. For a company to grow, it is crucial to make the right choices at the right time. As an industrial Group of companies with sales in many market segments and across continents, AVK is relatively resilient to fluctuations in individual markets. Customer relationships are long-lasting and provide additional stability to AVK's business.

The general development of the global economy presents both opportunities and risks, including political decisions on infrastructure investments, especially in the water sector.

## The global economy

The global economy has been affected by several factors in the past year and it is expected that these factors will continue to have an impact on the economy in the coming years. The Covid-19 pandemic and the subsequent crisis in global supply chains, further impacted by the war in Ukraine, had a significant impact on prices and thus the funding of many projects. Supply chains have stabilised, but subsequent inflation and higher interest rates have had a negative impact on investment in most markets. The economy is expected to continue to be affected by this in the coming year, as well as increased uncertainty due to geopolitical conflicts.

We see increased protectionism with trade barriers and political demands for local supply chains. For AVK, this means further investments in local production and supply chains, but overall, we are well positioned with our global network of companies and manufacturing presence in most major markets.

There remains significant long-term potential for the AVK's products, as there is a strong need for infrastructure investments in the water, wastewater and energy sectors in Asia, Africa,

and South America. An essential prerequisite for a safe supply of clean drinking water and less water waste is the use of quality products in the distribution network, here AVK is strong with its diverse product portfolio.

There is also very high water wastage in many developed markets, resulting in both lost water and additional energy costs for pumping water. The increasing focus on sustainability and thus reduced energy consumption increases the demands on the water supply and a reduction in the loss rate from waterworks to consumer. Therefore, there is a need for continued investment in renovating and improving the water supply. Likewise, there will be an increasing focus on intelligent products for water supply (Smart Water Systems) that ensure better monitoring and control of the distribution network.

## Organisational development

The AVK Group consists of over 100 companies that largely act as independent entities, which gives AVK a fast adaptability and enables local adjustments to our business and organisation.

In our efforts to make sustainability an integral part of our business, we have chosen to take a centrally coordinated and systematic approach in focus areas. Therefore, in 2021 we established a global Sustainability Committee and in 2022 we established a central sustainability department. During 2023, we

have established an internal network group that focuses on CO<sub>2</sub> reduction and circular economy, among other things.

## The AVK Sustainability Policy

Our global presence requires high ethical standards and actions of our organisation.

We want to be a responsible and credible company that balances economic, environmental, and social matters. This is mirrored in our Sustainability Policy.

## Group Policies

AVK has established group policies that define how the individual companies are to comply with our corporate social responsibility in the areas of employees, environment, ethics, safety, and quality.

The policies are available in the AVK's quality management system (QEMS) and communicated to all companies in the Group.

In addition, through our Supplier Code of Conduct, we have defined principles and guidelines for environmental protection and human rights compliance.

This way, we constantly strive to be a credible and ethically responsible partner for our customers, suppliers, and other stakeholders.



## Our global presence

As we operate in countries where compliance with human rights, occupational health and safety, environmental and climate protection as well as anti-corruption are not necessarily a given due to existing culture and legislation, we are aware of the risk that AVK's values are violated.

Because of this, we focus on compliance with our Policies in all AVK companies, and we support this effort with ongoing audits of our ISO-systems. The most significant risks will be assessed in the following sections.

## Environment and climate

We estimate that the main risk within climate is a lack of attention to minimising energy consumption. In addition, it is important to focus on material use and waste management so that the local environment is not unnecessarily burdened and that we work even more with circular economy.

To minimise our climate impact, we have developed an environmental and climate strategy. We also comply with our environmental policy by continuously working to minimise our environmental and climate impact of the AVK Group and our suppliers. We elaborate further in the section on environment and climate.

## Human Rights

It is our assessment that the risk of human rights non-compliance may be highest with our sub-suppliers, including forced labour and lack of equal rights. That is why we work systematically on registration, control, follow-up, and further development of the collaboration. This is elaborated on in the section "Our governance".

## Anti-corruption and bribery

As a global Group, we assess corruption risks in the countries in which we operate. AVK does not accept any kind of action that may be considered corruption or bribery. We have zero-tolerance for such incidents and consider it a gross misconduct that may result in disciplinary actions. We have a compliance agreement with the management in the AVK Group with requirements of compliance with national and international laws on anti-corruption and bribery. We will address this in the section "Our governance".

## Employee relations

As an industrial Group of companies with numerous production facilities, we consider work-related accidents a significant risk and hence a high priority area. Additionally, individual companies within AVK will also pay attention to mental health and safety. Find out more about initiatives in both areas in this report, under the section "Social Responsibility".

## The AVK Sustainability Policy

We recognise that our global presence requires high ethical standards throughout our organisation and in all our actions.

We want to be a responsible and credible company with the ability to balance economic, environmental, and social matters.

This means that:

- The AVK Group supports the UN Sustainable Development Goals. Our main area of attention is the goals relating to clean water and sanitation (6) and industry, innovation, and infrastructure (9) as these areas represent our core business. In addition, AVK also contributes to other goals. We consider SDG 17, on partnerships for sustainable development, to be crucial to achieving the other SDGs.
- We ensure that sustainable initiatives are fundamental to our production and that we have a healthy and safe working environment. We focus on the environment and long-lasting solutions and have achieved certifications that we are proud of:
  - ISO 9001 – Quality management
  - ISO 29001 – Quality management in the oil and gas industry
  - ISO 14001 – Environmental management
  - ISO 45001 – Occupational health and safety
  - ISO 50001 – Energy management



# OUR CONTRIBUTION TO THE UN SUSTAINABLE DEVELOPMENT GOALS

The UN's 17 Sustainable Development Goals (SDGs) are the framework for the global sustainable development efforts until 2030. The goals recognise that social, economic, and environmental development are closely interlinked, and that achieving sustainable development outcomes requires a common global effort. At AVK, we are aware of our co-responsibility. SDGs 6 and 9 are particularly relevant to our business model, but we also work with other goals either at a strategic level or through decentralised activities, as outlined below.

Our product portfolio in the business unit AVK Water is a direct extension of UN SDG 6 which aims to ensure that everyone has access to clean drinking water and sanitation and that this is managed sustainably.



Our valve solutions help ensure clean drinking water in well-established water supply systems by providing reliable, long-lasting, and dependable water management and helping to reduce water waste and energy consumption. AVK products and solutions are applied to various processes that aim to ensure responsible wastewater management and to avoid risks to the environment and health.

UN SDG 9 is about developing resilient infrastructure, promoting sustainable industries, and investing in research and innovation. All three business units of AVK contribute to this goal as we design and manufacture innovative products, some of which are part of recycling initiatives and processes for energy, water, and infrastructure solutions.



Water influences health and quality of life to a great extent. By operating in the water and wastewater industry, we indirectly contribute to UN SDG 3, which is about ensuring healthy lives and promoting well-being. Water-related diseases are a major problem globally, and wastewater can contaminate drinking water sources.



Sustainable energy is the core of SDG 7. This goal aims to ensure that by 2030, all people have access to affordable, reliable, sustainable, and modern energy. It specifies that the share of renewable energy in the global energy mix must be significantly increased by 2030. Our valves for wastewater treatment, biogas and hydroelectric energy production contribute to a larger share of renewable energy.



We work with UN SDG 8, which is about decent jobs and economic growth. This means that we must provide healthy and safe workplaces for our employees both in Denmark and internationally and respect their right to equal and fair working conditions.



We only want to co-operate with suppliers who guarantee compliance with human rights legislation and our ethical standard, the Code of Conduct.



Sculpture: Annie Hjord Glaskunst

As a financially robust and responsible company, we make significant investments to strengthen our competitiveness and maintain our market share.

Our product portfolio contributes to clean water and sanitation, which are the foundation for more sustainable cities and communities. Equally, our solutions can help cities adapt to extreme rainfall by using underground drainage systems to prevent flooding. In this way, we support SDG 11 on sustainable cities and communities.



UN SDG 12 is about responsible consumption and production. We support this goal by conducting life cycle assessments and by identifying methods and processes that enable us to recycle materials from our factories. We also apply large quantities of recycled materials in our production, both metals and plastics.



UN SDG 13 on climate action concerns reducing the increasing the global average temperature and strengthening resilience and adaptation to climate change.



As a player in the water and wastewater industry, we contribute to this goal, as the consumption of water has an impact on energy consumption. The energy consumption for pumping water is reduced when our valve solutions reduce water loss and the pressure management in the distribution network is efficiently handled.

Within the energy sector, our valves can be part of the distribution of water for district heating, biogas production, hydroelectric energy, and conversion of wastewater into green energy. To adapt society to extreme rainfall, climate adaptation solutions for flooding are needed. This is another area where AVK companies can contribute with valve solutions.

In addition, we have developed an environmental and climate strategy with the primary aim of reducing CO<sub>2</sub> emissions through energy reduction in the life cycle of our products and investing in green energy sources.

We consider SDG 17 to be crucial for the success of the other sustainability goals. At AVK, we want to be part of creating a sustainable water and energy supply and build a community where circular economy plays a greater role. Collaboration across local, national, and international organisations, authorities, industries, and professions is necessary, and this is what we do through partnerships.



# WATER LOSS: PROBABLY THE MOST CRITICAL RESOURCE CHALLENGE OF OUR TIME

Water has a significant impact on health, quality of life, energy consumption and on our climate. UN SDG 6 is “Clean water and sanitation for all” but in fact water plays a crucial role in solving many of the underlying problems that have led to the UN’s Sustainable Development Goals.



## Today, we are wasting tomorrow’s water

Water is a scarce resource in many parts of the world. Yet between 30 and 60% of the treated water is in many countries wasted on its way to consumers.

“Water loss is the worst – it’s a waste of an often-scarce resource, including the resources – energy, labour and infrastructure depreciation – used to extract the water.”

Bjørn Kaare, former President of the European Water Association.

## We use a lot of energy for no reason

When between 30 and 60% of water is wasted before reaching its destination, the same amount of energy used for production and distribution is wasted too. By 2040, if we continue to operate as we do now, approximately 79% more energy will be used for water management compared to 2014.

The reasons for water loss are many, ranging from leakages, pipe bursts, poor water management to illegal connections and unauthorised consumption. Fortunately, so are the available solutions.



## The technologies are there – we just need the initiative

In Denmark, legislation does not allow a water loss rate of more than 10%. Over time, this has resulted in one of the world’s lowest water waste rates of 7.6% and has placed Denmark as a front-runner in water technology and solutions.

As we are already overexploiting our water sources, and populations are increasing, we need to apply better management. And what better way to start than by minimising our waste of water.

A conservative estimate is that the level of Non-Revenue Water (NRW) is between 30 and 60% in many countries. This means that between 30 and 60% of the water pumped into the pipes from the waterworks is not paid for, either because it is lost due to leaks or because it is not billed.

A revised EU Drinking Water Directive, which addresses water loss, drinking water quality and infrastructure risk assessment requirements, gives hope that more decision makers will see the positive effects of legislating in crucial areas such as water infrastructure.



# AVK’S PREMIUM 100 GATE VALVE IS BUILT TO LAST A CENTURY



At AVK, high quality and product longevity have always been the centre of attention. We develop our valves to be able to withstand underground conditions for at least 50 years, so the valve resilience must be our absolute key priority.

We have now taken one step further and, together with a large Scandinavian utility company, we have developed the Premium 100 gate valve for drinking water. The valve offers supreme protection against corrosion and wear and tear due to the external PUR coating as well as internal components with extra durability. This valve is designed to last 100 years underground. It is ideal for installations where excavations are not a real option and where longevity and maximum safety are crucial. These can be busy roads, public squares and tourist attractions, coastal areas or areas polluted by oil or gas.

For the utility, it is also a step towards reducing CO<sub>2</sub> emissions. Replacing parts of a pipe network is costly in terms of i.e., digging, removing dirt, adding new asphalt or paving; all processes which today often require the use of conventional energy sources.

## Full traceability

A unique serial number for each valve is linked to material and test records and allows full traceability of the valve and all its main components.

## High quality is essential to applying additional technology

The issue at hand is not only longevity; functionality over time is just as crucial. All our valves must always seal 100% tightly when closed off. Technologies such as District

**Non-revenue water (NRW)** is produced, cleaned water, which is lost somewhere in the water distribution system, never reaching its destination. This means water not used or paid for, affecting local economies as well as local resources available.

Source: Water World

Metering Areas (DMA), non-revenue water initiatives as well as our Smart Water add-ons all rely on a closed valve, meaning no water leakage.



# AVK SMART WATER PROVIDES ACCESSIBLE AND RELIABLE DATA

A water utility's foremost duty is to ensure a safe and reliable drinking water supply for its consumers. To do this, they must ensure reliable operations and functionality of the water distribution network and be able to react quickly when unwanted changes occur.

Nowadays, many utilities have installed meters that can measure water consumption, which is essential to ensure correct billing and to reduce the amount of Non-Revenue Water (NRW). However, there is potential to collect and utilise a larger amount of data from the utility network by installing sensors, such as those AVK has developed in our Smart Water solutions. By applying AVK Smart Water solutions to key network assets such as valves or fittings, data can be delivered directly to a dedicated software platform where it is transformed into valuable knowledge and insight, saving both time, water, energy, and labour resources.

## Collecting valuable data

The AVK Smart Water solution is a combination of sensors and software. Our software allows easy integration with a preferred IT system as well as visualisation in AVK Smart Water's own platform, VIDI Cloud.

The sensors are designed for our gate valves, fittings, and hydrants. Once installed, they can provide data about pressure, flow, temperature, or open/closed position directly from applications in the distribution network. This way of monitoring network activities makes it possible to save resources, minimise water loss as well as optimise operation and maintenance activities, for example by quickly informing about leaks.

The sensors use the wireless IoT technology NB-IoT (Narrowband Internet of Things) to ensure good coverage and long battery life. NB-IoT can penetrate closed structures such as wells, chambers, and other underground structures.

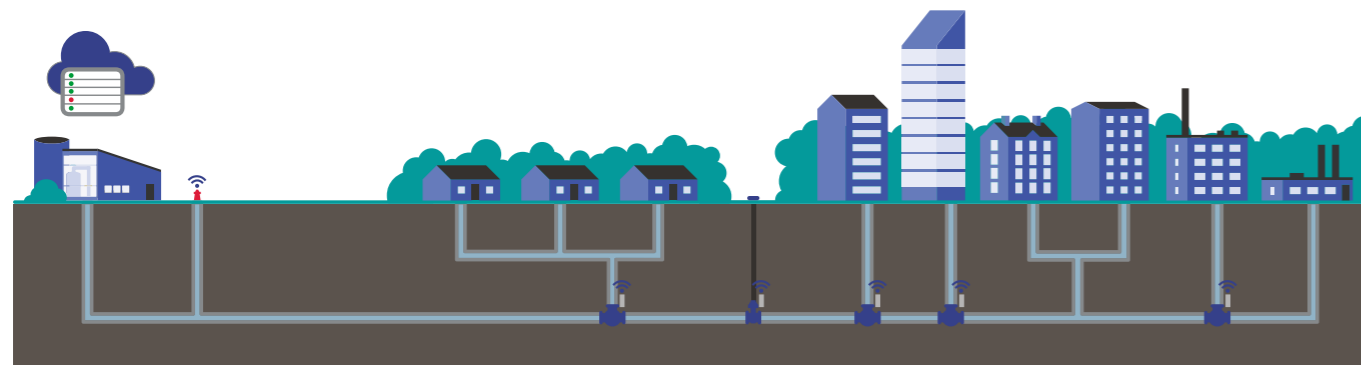
## Dividing the water network into sections

Leaks in pipes and other equipment, caused by, for example, bursts or breaks, are some of the

main causes of water loss. When a leak occurs, it can take days, weeks and even years before it is detected, and finding the exact area in a large, wide-reaching network is no easy task.

Therefore, dividing the supply network into separate sections, also referred to as District Metering Areas – DMA, is an effective technique that makes it possible to get an overview of what is going on underground. Water loss can be calculated in the sections individually, and operators can better plan and prioritise their efforts.

Coping with water loss in the entire distribution network, rather than in individual zones (DMA's), means working in a reactive, passive manner, where activities are only initiated when a loss becomes visible or reported.



**The LEAKman project** (LEAKage MANagement) intends to demonstrate Danish solutions to reduce the loss of clean drinking water and to pave the way for new Danish water technology.

Read more in the partnerships section or at <https://leakagemanagement.net/>.

help prevent unmeasured flow between DMAs, and thereby ensuring more reliable data and calculations.

## Pressure adjustment techniques to minimise leaks and reduce energy consumption

Pressure adjustment is considered the single most important, and cost-effective leakage management activity. The higher the pressure, the more water is lost through bursts and leakages. Furthermore, most pipe bursts occur not only due to high pressure, but rather due to pressure fluctuations that cause pipes to constantly contract or expand, resulting in stress fractures.

Pressure adjustment is also an effective way to reduce unnecessary energy consumption. By allowing lower pressure in general, especially during off-peak hours, energy consumption for pumping can be reduced. The pressure can be adjusted to the critical point at a strategic consumer in the DMA, which means that no energy will be used to pump water to a higher level than necessary.

Today, many Pressure Relief Valves (PRVs) only have manual monitoring, meaning the utility must go to the valve location and manually check the pressure gauge.

This is time-consuming and, in principle, PRVs can fail within minutes of being manually inspected, meaning the pressure is not reduced correctly.

Using wireless battery-powered pressure sensors, PRVs can be monitored every minute or every five minutes. This way you achieve constant online monitoring of your PRV.

## Improved NRW calculations and support for active leakage control with VIDI Positioner

As part of the LEAKman project, VIDI Positioners are installed on valves positioned at the boundaries between the DMAs. From these positions, they will provide reliable data for the water balance and NRW level calculations.

The LEAKman partners identified at an early stage the need for knowing if - and when - the DMA boundary valves are operated,

as this affects NRW management and often leads to false results when conducting the water balance assessment and the minimum nighttime flow monitoring.

Water balance calculations are highly dependent on valid data. It is a well-known issue that if the boundary valves have been opened for maintenance, they are sometimes not brought back to the closed position afterwards. In other words, monitoring the open/closed position of boundary valves can

## CASE

### VIDI Positioners contribute to an improved overview at Denmark's largest utility

HOFOR, the largest utility company in Denmark, has approximately one million customers in Greater Copenhagen. They have divided their area into 50 DMA zones, which, among other things, make it possible to calculate the water balance and monitor water loss.

To ensure reliable data for water balance calculations, VIDI positioners have been installed as part of the LEAKman demonstration facilities at HOFOR, on three strategically important shut-off valves acting as boundary valves between DMAs.

The VIDI Positioner is an IoT sensor that indicates the degree of opening or closing of the valve, and it reports all operational activities that open or close the valves. Data is automatically sent to HOFOR at regular intervals and whenever the valve is operated, and data is easily integrated into third-party software through an open Application Programming Interface (API).



# IMPROVED PRODUCTION AND USE OF WATER RESOURCES THROUGH IRRIGATION

Constant demographic increase requires a larger production and a conversion to more plant-based food production in agriculture as well as better food management. This also means a more sustainable way of producing and handling food. At the same time, water scarcity is a growing problem globally.



## CASE “The Future of Egypt” – from wastewater to irrigation

In 2023, AVK secured the contract for valves for the transmission line and pumping stations within the “Future of Egypt” initiative. This ambitious project is an integral part of a large irrigation project in northern Egypt, covering an area of over 4,000 square kilometres and is connected to the larger “New Delta” irrigation project, which is expected to cover over 10,000 square kilometres upon completion.

“The Future of Egypt” will use treated wastewater for irrigation, which is essential to preserve the environment, ensure water and food security, promote long-term viability, and reduce carbon emissions. Since Egypt is heavily dependent on food imports, especially wheat, food security through increased agricultural production will be crucial for the country’s stability. By expanding irrigation capacity and the area of cultivated land, the “Future of Egypt” project helps to increase

Egypt’s own food production and reduce dependence on foreign suppliers. This will significantly reduce the need to import and subsequently transport millions of tonnes of food.

The water used comes primarily from the Al-Hammam wastewater treatment plant, which specialises in treating both agricultural and industrial wastewater and reusing it for irrigation purposes. This solution reduces dependence on non-renewable sources of water, as well as water from the Nile, which has traditionally been Egypt’s primary source of fresh water.

The order, consisting of 28 valves, was received in January 2023, and covers the first of six pumping stations and transmission lines to distribute the purified water. The valves have been manufactured and thoroughly tested at AVK’s factory in Anhui,

China to meet the precise standards of the project and to secure approval from our customer, the Armament Authority of Egypt - Water Department, prior to delivery.

For this project, we will supply butterfly valves in three different sizes: DN2200, DN2400 and DN2500, as well as hydraulic tilting check valves in size DN2200.

AVK’s ability to meet our customer’s standards and approvals has resulted in AVK being awarded the contract to supply valves for the remaining five pumping stations in the project. We are proud that our valves can be used in modern agricultural practices that result in responsible water management and strengthen Egypt’s ability to adapt to changing climate conditions.

## More sustainable use of water resources in the irrigation industry

It is necessary to optimise available water resources, intensify agricultural production in a sustainable way, improve water networks to avoid leaks, and find more sustainable, intelligent, and controlled solutions for irrigation. Many countries, such as Spain and Italy, have started allocating funds for the sustainable use of water resources.



## CASE AC.MO offers irrigation management and control

The Italian AVK company AC.MO offers products and intelligent solutions to optimise irrigation planning and the use of water resources. AC.MO has developed the intelligent irrigation system called HYDROPASS, which can manage and control irrigation distribution.

HYDROPASS is an irrigation monitoring and control system that allows farmers to manage and optimise their water consumption for irrigating fields and crops. The system can be connected to national geodata that provides information on the status of the soil at the time the irrigation is planned, but also on local weather forecasts that contain valuable information such as upcoming rain showers. HYDROPASS also keeps track of water consumption and in case of alarms, it can interrupt an ongoing watering process.

### Collaboration with the University of Pauda, Italy

In 2022, AC.MO, in collaboration with the University of Padua in Italy, conducted a project with the aim of developing and implementing a scientific basis to support the environmental benefits that can be achieved with HYDROPASS compared to traditional irrigation methods. This study made it possible to prepare a water statement in accordance with ISO 14017:2022, “Environmental management – Requirements with guidance for verification and validation of water statements.”

Among other things, the project involved collecting data together with farmers to create a life cycle assessment (LCA) model, a model that can make it possible to compare HYDROPASS with traditional irrigation systems. The results were measured against

the irrigation water needed to produce one kilo of corn in southern Sardinia.

The analysis was performed “from farm to fork” considering the complete life cycle of the analysed systems (HYDROPASS and hand operated gate valves), including extraction, processing and transport of raw materials, production of components and the final products, transport and installation, the use phase, regarding inputs and outputs from field cultivation, and disposal.

Data on the production of HYDROPASS and gate valves was provided by AC.MO, while data on corn cultivation was provided by the farms selected for the project, referring to the 2022 irrigation season. One farm used the HYDROPASS system, and two other farms used hand operated gate valves. An extended evaluation of all water inputs and outputs was conducted, in addition to calculations of air, soil and water emissions from cultivation.

The European Commission’s methodology for the environmental footprint of food – Product Environmental Footprint – has been used for the calculations. The following water-related parameters were assessed: acidification, nitrogen and pesticide impact on freshwater and biodiversity, and water consumption.

The conclusion of the project was that, in addition to a significant reduction of water consumption, there was a lower impact on all parameters when using HYDROPASS compared to traditional irrigation methods.

**Irrigation** is the artificial process of applying controlled amounts of water to plants at regular intervals.

It is used in the growing of agricultural crops, landscape maintenance, frost protection and revegetation of disturbed soils in dry areas – i.e., during periods of inadequate rainfall.

“Globally, 70% of all fresh water is used for agriculture.”

Source: The World Bank

### LCA (Life Cycle Assessment)

LCA is a process for evaluating the effects that a product has on the environment throughout its entire lifetime, thereby increasing resource efficiency and decreasing liabilities.

Source: EEA – European Environment Agency



# APPROPRIATE WASTEWATER MANAGEMENT

The UN Environment Programme (UNEP), the leading environmental agency of the UN, reports that approximately 80% of all wastewater is discharged directly into nature without any treatment or processing. (Source: unep.org, 2019)

At the same time, the International Energy Agency (IEA), has calculated that untreated wastewater impacts the climate three times as much as treated wastewater when it comes to greenhouse gas emissions.

AVK develops, manufactures, and markets products of a specially designed quality that can handle the aggressive substances in wastewater management.



## CASE Shanghai Zhuyuan No. 2 Wastewater treatment plant

AVK collaborates with Zhuyuan Wastewater Treatment Plant in Shanghai to upgrade the capacity of No. 2 Waste Water Treatment Plant. In Shanghai, urban development strains wastewater management, which is why this project plays an important role in contributing to improve the city's wastewater management.

Central to the upgrade is the improvement of the overall distribution well, which works as the central hub for the distribution of wastewater in the Zhuyuan treatment plants. This well was built with the aim of diverting and reducing wastewater in the area. After the improvements, the total distribution well can ensure reliable operation in the long term and facilitate integration with

the "Ten Billion Project" – Zhuyuan Phase IV project, which, among other things, handles 1.2 million tons of wastewater per day from the treatment plant and 500,000 tonnes per day from storage tanks.

The project includes several upgrades aimed at improving wastewater distribution and management. Among other things, ten weir gates in the overall distribution well have been replaced with adjustable gates supplied by AVK. As a result, the control of the wastewater flow has been improved. The power and control system in the overall distribution well has also been improved to ensure more stable operation and precise adjustments.

When AVK's hydraulic weir gates are fully installed, the system can control the distribution of the flow, make precise

adjustments, and react quickly to changing conditions. In addition, the installation of the hydraulic weir gates contributes to the realisation of a so-called "Sponge City", a concept designed to absorb and manage water more sustainably in cities. These improvements guarantee stable operation of the wastewater treatment plant, optimise flow control during treatment, and help them meet environmental standards, including improving the water quality of the Yangtze River.

The project has reduced the risk of overflows during both dry and rainy seasons, resulting in increased operational efficiency and greater resilience to flood disasters. In addition, it contributes to the UN's broader Sustainable Development Goals on sustainable water management in urban areas.



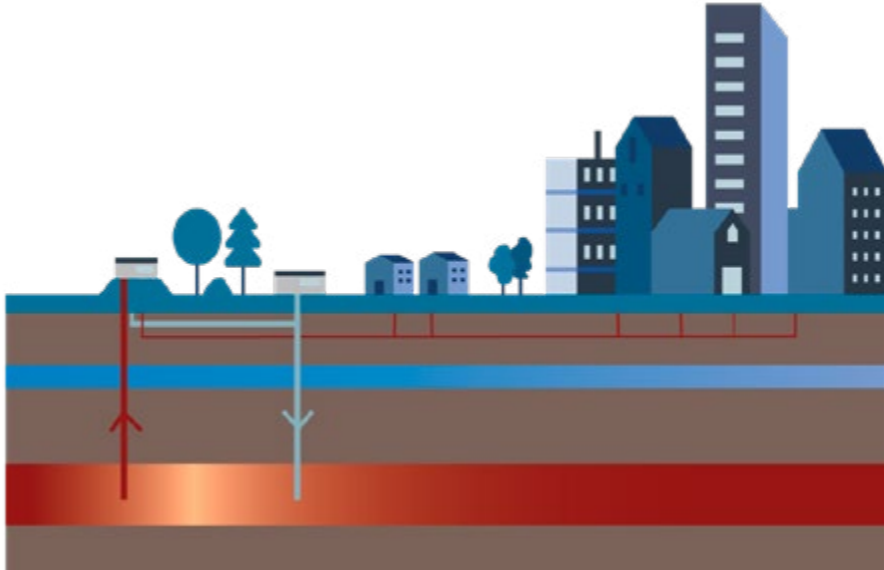
# GEO THERMAL ENERGY TO HEAT HOMES, COMMERCIAL BUILDINGS, AND GREENHOUSES

With geothermal energy, the hot water, deep in the ground, is pumped up and converted into energy. Geothermal energy is a clean and renewable alternative to natural gas and can be used to heat homes, commercial buildings, and greenhouses.

In the Netherlands, several geothermal projects are underway with drilling to a depth of two or even three kilometres. At that depth, the water has a temperature of 70 to 100°C. The deeper the geothermal drilling is, the hotter the water.

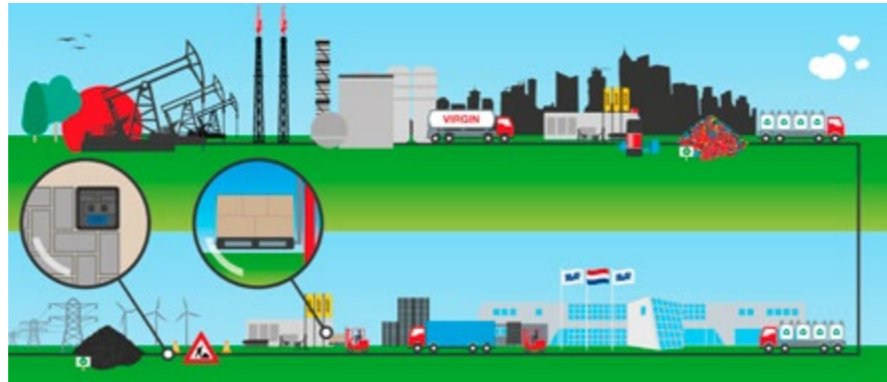
The AVK company Wouter Witzel supplies rubber-lined butterfly valves to several companies that specialise in above-ground geothermal energy installations. Most recently, Wouter Witzel supplied over 160 butterfly valves for installation in a new production unit for the second phase of Hoogweg Paprikakwekerijen's geothermal energy activities, where peppers are grown in greenhouses.

Currently, 70% of the heat needed for Hoogweg's 160 hectares of greenhouses is supplied by geothermal energy. By expanding the geothermal activities with this new production unit, Hoogweg comes even closer to its ambition to be as sustainable and environmentally friendly as possible.



# RECYCLED PLASTIC IN OUR PRODUCTION

Recycled plastics is a value-adding component in the product manufacturing process in the AVK plastic companies. Thousands of tonnes of recycled plastics go into production every year.



The plastics companies in the AVK Group development, manufacture and sell injection moulded plastic products, such as valves, street covers and components for the sister companies in AVK. In addition, the plastics companies also contribute with products to other market segments, such as waste containers and plastic pallets. AVK Plast in Denmark manufactures ergonomic waste containers for Danish municipalities, renovators, and citizens. Plastic pallets, which are produced at our companies in the Netherlands, Denmark, and Germany, use the majority of our consumption of recycled plastics.

## How AVK recycling plastics

Circularity of materials is becoming increasingly important, and recycling is an important part of AVK's business. The growth of the world population and our current way of living makes us consume natural resources faster than they can be generated. Environmental pollution from end-of-life product waste is another major topic, especially for materials as lasting as plastics. Implementing circularity also reduces CO<sub>2</sub> emissions significantly. All good reasons to work with recycling.

Our plastics companies focus on using plastics from consumer waste and recycled 26,000 tonnes in the financial year 2022/23. AVK Plastics in Balk, the Netherlands, is our largest

plastics manufacturing unit in AVK and is fully dedicated to processing recycled plastics and actively pursues partnerships to develop applications for unused plastics waste streams to support increased levels of recycling.

Consumer product brand owners are increasingly aware of their responsibilities and the benefits of doing business in a more sustainable way. More companies choose individually or collectively on behalf of their sector to use pallets from recycled plastics in a managed pool to serve their logistic needs and move away from wooden pallets.

DPB is a non-profit organisation that since 1994 has managed a pool of pallets for all major Dutch breweries and many soft drink producers. To improve their carbon footprint, DPB was one of the first to switch from wooden pallets to recycled plastic pallets in 2013, which are converted into new pallets again at their end-of-life. Compared to wooden pallets, plastic pallets have a longer lifespan and there is no need for repair. The pallets weigh 40% less than wooden pallets, enabling one person to handle the plastic pallet while complying with Dutch health and safety legislation.

In 2022, AVK Plastics won the tender to supply one million plastic pallets to DPB's pool over a period of approximately 10 years. AVK

Plastics has optimised the product design and manufacturing of the pallet and started deliveries during 2023.

According to a recent study by Plastics Europe, "The Circular Economy for Plastics - A European Overview, 2022 Edition Report", 65% of the EU's plastics waste is not yet covered by the circular economy. There is therefore enormous potential in this area.



## CASE

### Driving sustainability with the reusable 'Dolly'

For almost a decade, AVK Plastics has processed recycled plastics into high-quality display pallets for strategic sales partner IPP (part of the Faber Group). During this period, millions of display pallets have been produced and put into use. IPP operates a closed pooling system, which means that IPP remains the owner of the pallets and customers pay for the use of the pallets. Due to the ability to repeatedly reuse the pallets, this circular system is very environmentally friendly. This successful formula is now being supplemented by a wheeled display pallet called "Dolly".

Targets customers for "Dolly" primarily come from the fast-moving consumer goods sector, using a closed pooling system. Here is how it works:

1. Plastics waste is processed into usable raw material
2. AVK Plastics produces pallets partially from the recycled plastics by an injection moulding process
3. IPP makes the pallets available to customers, who use the pallets and then return them after use
4. The pallets are checked, cleaned, and reused within the pool
5. Once a pallet is deemed unusable due to damage, the plastics are shredded and reused by AVK Plastics to make new pallets. And then the cycle starts again.

"Dolly" is made from the same recycled plastics as the regular IPP pallet. What sets "Dolly" apart from similar wheeled pallets is that it is designed for easy end-of-life recycling as it does not have a metal frame, unlike other plastic pallets, and the suspension of the plastic wheels is made of recyclable material.

# INNOVATION AND DEVELOPMENT WITHIN OUR BUSINESS AREAS

Economic growth, social development and climate action are heavily dependent on investments in infrastructure, sustainable industrial development, and technological progress. The global manufacturing industry is considered a driver of overall economic growth.

(Source: UN Infrastructure and Industrialization - United Nations Sustainable Development)

The industrial market has been challenged by economic slowdown due to Covid-19, high inflation, energy price shocks, persistent disruptions in the supply of raw materials, general economic slowdown, and tariff and trade tensions.

The industrial market thus requires constant adaptability to ensure responsible and economic growth, while investing in green transmission, digitalisation of processes and automation to ensure competitiveness. All these factors put great demands on innovation and development in AVK's production companies. As a result, we continuously invest in product development and optimisation of processes throughout the value chain, including automation and digitalisation of production.

## Product development

In the AVK Group, innovation, and development of new and improved high-quality products with a long lifespan and recycling in mind play a crucial part. As described on the previous pages, our focus on innovation touches many industries. Our primary business area is the development, production and sale of valves and solutions for clean drinking water supply, wastewater management, firefighting, and irrigation. In recent years, there has been an increased focus on expanding the offered product with intelligent valves, called AVK Smart Water.

We are constantly working on optimising and developing our product range. AVK has invested in products within desalination, as we expect

the extraction of seawater to produce drinking water will become a focused business area in the coming years.

As previously described, another focus area within product development is our ongoing work to optimise the share of recyclable materials used in our products.

An example of our continuous focus on product optimisation is the AVK company Furnes, which has developed lighter manhole covers with integrated locking mechanisms by utilising the unique properties of ductile iron. This weight reduction has led to easier handling and less physical strain on installers. Similarly, the patented integrated gasket on Furnes PREMIUM maintenance hole covers forms a tight seal



that prevents excess rainwater from entering the drain. The colour of the gaskets can also indicate the type of manhole cover.

## Stable and more efficient production with robots

At AVK, we continuously work to optimise and develop our work processes. Robotics is one of the technologies that AVK uses to achieve a more efficient and stable production to secure future competitiveness and thereby maintain jobs in Denmark, which is a priority for AVK.

Robotic solutions are often used for tasks where many similar products need to be produced. This means repetitive tasks, also known as unilateral-reciprocal work, which can be exhausting and stressful for employees.

Robots have been a part of AVK's production for decades, but for the first time we have installed a new and advanced robotic system that handles multiple processes simultaneously. With high demands on the consistency of the components delivered to the plant, the installation of the robotic system has helped to improve the quality requirements throughout the process. There is zero tolerance for deviations, which means that processes and tasks prior to the robotic system must be completed so that the quality of the components is consistent. At the same time, the process of implementing

new technology and digitalisation makes us develop new workflows. We are working on how the logistics process needs to be adapted and what system changes need to be implemented so that the entire production works together in the best possible way.

The robotic system ensures stable production with a high level of quality, optimised work processes and at the same time frees up employee resources enabling us to increase productivity.

## Innovation in the Industrial Business Unit

Likewise, in our Industrial Business Unit, there is a need for constant innovation and development to meet customer demand.

The global electrification of the automotive industry is generating high demands for microchips, an industry that has already been characterised by a lack of supply for several years. This, in combination with the political development requiring local microchip production, creates good business opportunities for AVK, as our ball and butterfly valves are used in the production for cleaning microchips, which places high demands on all technical equipment.

The geopolitical conflicts have created new national standards and specifications for

products used in shipbuilding, so we have adapted our butterfly valve product range to meet the new requirements.

Switching gas supplies from Russia to other suppliers means major new investments in national gas plants (LNG). This applies to both infrastructure and maritime transportation, which is why AVK's ball valves for gas are further developed to meet the new requirements.

Increased competition places high demands on automation in our productions and digitalisation of our processes. Hence, for example, we have initiated the development of a completely new design of our industrial knife gate valves to ensure the possibility of further automation in our own production.



# OUR PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT

It is difficult to create change on your own. The sustainable transition can be considered one of the biggest change management projects that public and private companies, governments, etc. are facing. This is why we consider SDG 17, on Partnerships for Sustainable Development, to be crucial for achieving the goals of the other SDGs.

We co-operate with partners across industries, governments, authorities, civil society, and the academic world. In recent years, we have had a special focus on partnerships in the water industry, and subsequently within SDG 6.

Here you find a description on some of our partnerships.

## The LEAKman concept

LEAKman was initiated to demonstrate how Danish solutions can reduce loss of drinking water and pave the way for innovative technology. The LEAKman concept has been developed by a confederation of nine Danish partners representing consultants, water utilities, the Technical University of Denmark (DTU) and technology suppliers such as AVK.

The purpose of the project is to implement an advanced distribution network by applying thoroughly tested and high-technological products and techniques and by tying together components and management software in integrated solutions to achieve, among others, effective tracking, and leak management. The goal is to reduce water loss to a level below the national average. The case story of Copenhagen's utility company, HOFOR, described in the Smart Water section, is a result of the LEAKman project.

The Danish Ministry of Environment has asked if there is interest in conducting a LEAKman 2.0 project to demonstrate the latest advances

in water technology. All LEAKman partners agree that this should be done via Water Valley Denmark.

## Water Valley Denmark

Water Valley Denmark (WVDK) has been created in co-operation between Dansk Industri (Confederation of Danish Industry), DI Water (Confederation of Danish Industry - Water), water utilities, universities, research units and production companies, including AVK. The purpose of the epicentre, WVDK, is to bring together the most skilled partners to develop solutions for the water industry and unlock the Danish water sector's potential to become a world leader and double exports by 2030.

AVK has played an active part in the establishment of WVDK and has a seat on the steering committee. WVDK has received DKK 57 million as a part of the REACT-EU programme for the development of equipment and techniques, including the Water Living Lab (WLL). At AVK, we see great opportunities to

**REACT-EU** is recovery aid to areas in Europe, supporting investment projects that promote crisis management measures and contribute to a green, digital, and resilient recovery of the economy. The aid is an extension of the crisis preparedness and crisis management measures that have been implemented in response to the coronavirus.

further develop our Smart Water solutions, as participation in WLL provides the opportunity to test innovative technologies, both hardware and software, together with other manufacturers, suppliers, utilities, consultants, and universities.

## Danish Water Forum and participation in the largest conference in recent UN history

Danish Water Forum (DWF) works to promote Danish and international research, development, and innovation in the water sector. Their goal is to strengthen the Danish water agenda by contributing Danish knowledge and skills to international water organisations and initiatives within the water industry.

AVK has had a seat on the board of DWF since spring 2023. AVK also participated as a representative of DWF at the annual meeting of the Ukrainian Water Association to present Danish water competencies and solutions.



On World Water Day, March 22, 2023, a global water conference was held at the UN headquarters in New York. Approximately 6,500 delegates attended over the three days, and around 200 side events were held.

DWF teamed up with the World Bank in a side event entitled: "The Hidden Wealth of Nations: Groundwater in Times of Climate Change." It was a well-attended event on the first day, where around 120 attendees learned about the importance of perceiving groundwater as a valuable resource, and how Denmark is dependent on its groundwater and a frontrunner in optimal groundwater utilisation. AVK participated as part of the DWF delegation.

During the last 50 years there has not been a dedicated water conference, let alone one of this size. That is why we at AVK are working to get water on the UN agenda.

## Green strategic partnership between India and Denmark

DWF is playing an active role in a green strategic co-operation agreement between India and Denmark, along with DI Vand and the Danish Embassy in India, as they have formed strategic partnerships between the two countries' stakeholders within the water industries. DWF contributes by organising workshops and conferences in India where Danish water technology is in focus.

India has approximately 1.4 billion inhabitants and has in 2023 overtaken China as the most populated country in the world. Around 627 million people in India have no access to clean water.

Source: Confederation of Danish Industry.

In September 2020 Narendra Modi, the Prime Minister of India, and Mette Frederiksen, the Prime Minister of Denmark, signed an agreement through which Denmark and India entered a strategic partnership.

On May 3, 2022, Prime Minister Narendra Modi visited Denmark and met with representatives of leading Danish companies within the green transition, including Chairman of the board and owner of AVK, Niels Aage Kjær. At the meeting, Niels Aage Kjær exchanged a letter of intent with Larsen & Toubro (L&T). The purpose of the agreement is to strengthen the partnership for projects and opportunities within water and wastewater projects and thus create a reliable water supply for the people of India.

Since then, the Danish embassy, Dansk Industri, and Danish Water Forum have arranged delegation meetings for both India and Denmark, where AVK has participated with, among other things, a presentation of the LEAKman project. Likewise, the letter of intent has resulted in a Non-Revenue Water (NRW) project in the Indian city of Pune, where AVK Valves India Pvt. Ltd. has joined forces with L&T and several other stakeholders to reduce NRW from 30% to 15% using District Metering Areas.

Since 2016, Aarhus Municipality and nearby companies, including AVK, have collaborated with the Indian city Udaipur to ensure clean drinking water, wastewater management and a holistic planning and management of water in urban development. The hope is that the experience gained from this collaboration will spread to the entire region of Rajasthan, where Udaipur is located.

"Denmark has the skills; India has the scale."

Quote by the Indian Prime Minister, Narendra Modi.

Source: Confederation of Danish Industry

Urbanisation in India has accelerated, which puts a strain on the cities and not least on the country's resources, including the water supply.

## Water Technology Alliance

The Water Technology Alliance (WTA) offers knowledge sharing between the North American and Danish water industry to promote the exchange of views and experiences within the water and wastewater field. It is a collaboration between American utilities and authorities and Danish utilities and companies on the market, including AVK. The collaboration originates in an agreement between the Californian state government and the Danish government, which was signed in 2016.

Both AVK Holding A/S and American AVK actively participate in this collaboration, as we receive delegations in Denmark on so-called fact-finding trips, where we contribute with knowledge about our role in relation to the Danish water supply or wastewater management. These inputs are then translated into American terms, with American AVK playing the major role. This collaboration has lifted the AVK brand significantly on the American market.





# OUR ENVIRONMENTAL AND CLIMATE EFFORT



## Results at-a-glance in 2022/23

- Three companies have achieved certification for the ISO 50001 energy management system
- First Environmental Product Declaration (EPD) on a product line has been approved by a third party (certification), and three more companies have initiated EPD work
- The share of renewable green electricity has increased to 28.5% in 2022/23
- The number of electric vehicles (EVs) in AVK has increased by 100% from 28 in 2021/22 to 56 EVs in 2022/23
- The number of ISO 14001 certifications has increased from 34 to 39

## Goals and activities for the future

- We will increase the share of companies that must be certified in the ISO 50001 energy management system
- We will monitor the number of EPDs
- We will install solar panels on additional factory buildings
- By 2023/24, we will implement a company car policy that will phase out all company cars that use fossil fuels by 2030
- We will continue to work on reducing water consumption, especially in countries with scarce water resources and AVK companies with high water consumption
- In 2023/24 we will define and calculate selected significant Scope 3 emissions based on a materiality analysis
- We expect further implementation of ISO 14001 in 2023/24

## Our work with the environment and climate

We have already identified specific focus areas that require extra attention:

- Reduction of CO<sub>2</sub> emissions according to Scope 1 and 2
- Mapping, tracking, and measuring the CO<sub>2</sub> emissions in our operations and per product
- Increase the rate and use of green energy sources
- Ensuring a positive communication among our employees, our customers, and other stakeholders to achieve the commitment required to succeed

Going forward, we will also implement processes and activities that will reduce the energy consumption of both our own companies and our suppliers and thus contribute to:

- Minimal energy consumption as a core criterion during the design and production process
- Low energy consumption as a preferred criterion for investments

- A set level of our investments targeted towards energy savings
- Implement ISO 50001 in energy management by 2025
- Initiating Scope 3 data collection in the coming years

Note: ISO definitions are given in the section 'AVK's ISO certifications'

## Initiatives and actions

### Tracking and measuring CO<sub>2</sub> emissions of the entire product life cycle

At AVK, we have an aim to analyse, track and measure our carbon footprint in relation to our products, processes, buildings, and value chains. We address both the CO<sub>2</sub> emission of operations and per individual product from cradle to grave. This is in accordance with the UN SDG 12 on sustainable production.

In our production companies, we will initiate a mapping of the energy consumption of the production processes. We will continue

to review and implement incrementally to improve individual processes with the purpose of lowering both direct and indirect energy consumption. This will be conducted through local energy audits, which will enable us to define best practices and workflows for AVK companies. To ensure relevant implementation and retention of energy improving initiatives, we will in the years to come increase the share of companies certified according to the energy management system ISO 50001.

### Life Cycle Assessments and Environmental Product Declaration

In relation to Life Cycle Assessment (LCA) and Environmental Product Declaration (EPD), we have launched a global initiative to create accurate calculations of CO<sub>2</sub> equivalents (CO<sub>2</sub>e) emissions throughout the entire value chain of a given product. It is the aim to build a database that can help map out how minimal energy consumption and CO<sub>2</sub> impact can become a core criterion during design and production processes.

The work with EPD to support environmental declarations for our customers has produced its first output. In April 2023, AVK International had the first EPD approved by a third party (certification).

These environmental declarations will document the impact of the products on the environment, including emissions from transportation and internal manufacturing processes.

Several companies in the AVK Group are in the process of preparing LCAs and EPDs, and going forward we will follow up on global projects. By implementing measurements at the start of 2023/24, we will be able to continuously monitor the number of EPDs available.



## Energy consumption

The charts below show the AVK Group's consumption of water and electricity over the last four years.

Our total electricity consumption has been reduced in 2022/23, and the overall electricity index shows a 13.7% reduction compared to last year. AVK is still working on an optimisation and energy efficiency process, and we are working on converting to renewable energy sources and self-generated electricity via solar cells, wherever possible.

### Environmental data (consumption) - Electricity

MWh per DKK million (turnover)

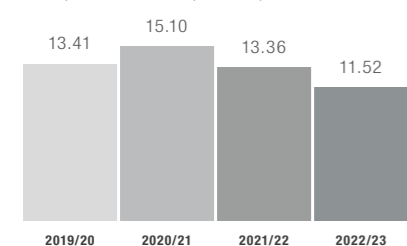


Figure 1

### Environmental data (consumption) - Water

M³ per DKK million (turnover)

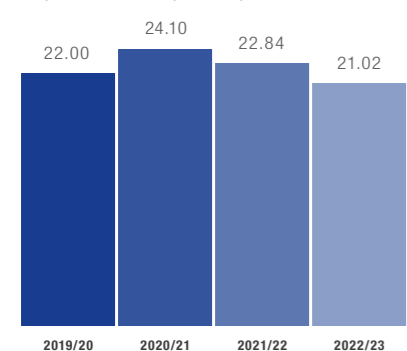


Figure 2

Overall, water consumption has been reduced in the AVK companies. The water consumption index shows a reduction of 7.97% compared to last year. We strive to keep our water consumption to a minimum.

In the coming years, we are committed to lowering water consumption, with special attention to countries with scarce water resources and AVK companies with high water consumption.

Due to the comparison with the AVK Group's external revenue, environmental data is positively affected by the general inflation on, for example, raw materials. This is the case because the AVK Group's revenue increase is due to inflation rather than a real increase in activity.

See Figure 1 and Figure 2

### Increased use of green energy sources

Green electricity and solar panels remain a focal part of our climate strategy to reduce our carbon footprint, especially in countries where the public energy supply is primarily based on a high proportion of fossil fuels.

Currently, the share of green electricity generated from renewable energy sources accounts for 28.5% of the AVK Group's total energy consumption. In our efforts to reduce CO<sub>2</sub> emissions, we will purchase as well as produce green electricity ourselves. Some of our companies, such as Furnes Jernstøperi, AVK Armaturen and Wouter Witzel EuroValve, already use 100% green electricity.

Investments and installations of solar cell systems at AVK companies are ongoing, and it remains part of our climate strategy to install solar cell systems on our factory sites wherever possible. By the end of 2022/23, around 2% of our electricity will come from our own installed solar cell systems, and in general, the share of green electricity from solar cell is increasing.

To continue this development and reach our climate goals, AVK has in 2022/23 built and commissioned solar cell systems on the roofs of several production units, including at Interapp in Spain and AVK UK in Staveley, England. These two plants alone are expected to produce 190 MWh and 220 MWh of renewable electricity annually. Likewise, solar panels have been installed on the roof of the new AVK Holding headquarters in Galten, Denmark.

However, the full impact of these systems and others installed in 2022/23 will only be visible in the 2023/24 energy report. Further solar projects and the installation of additional solar panels are planned for 2023/24.

In addition to solar energy, AVK has installed charging stations for electric cars, electric bikes, and electric scooters, which is a growing trend in both Europe and Asia.

### Electric cars as company cars

It is our ambition to reduce the total amount of environmentally harmful emissions, including CO<sub>2</sub> and particles in our car fleet. At the same time, we strive for an optimal operating economy for the car fleet.

In 2023/24, we will implement a company car policy, which means that from 2025 we

will only use electric cars as company cars. The policy will first be implemented in our companies in Denmark and then in countries where it is feasible in terms of infrastructure, and it will only apply to cars.

This will allow us to gradually phase out passenger cars that use fossil fuels as current leases expire. By 2030, all cars that use fossil fuels in Denmark will be phase out. By the end of this financial year, we have 56 EVs globally, which is a 100% increase compared to 2021/22 when we had 28 EVs.

### Greenhouse gas emissions and calculation of CO<sub>2</sub>e emissions

For four years, we have measured Scope 1 and 2 according to the Greenhouse Gas Protocol

### Electric cars

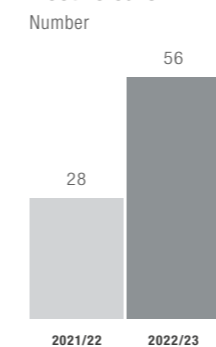


Figure 3

### Greenhouse Gas Protocol (GHG)

The Greenhouse Gas Protocol (GHG) is the leading international standard for how CO<sub>2</sub> emissions are measured and reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>e). You measure according to three types of emissions, referred to as Scope 1, 2 and 3.

#### Scope 1

Direct emissions from activities that the company itself controls, i.e., emissions from own vehicles and own heat and energy production facilities.

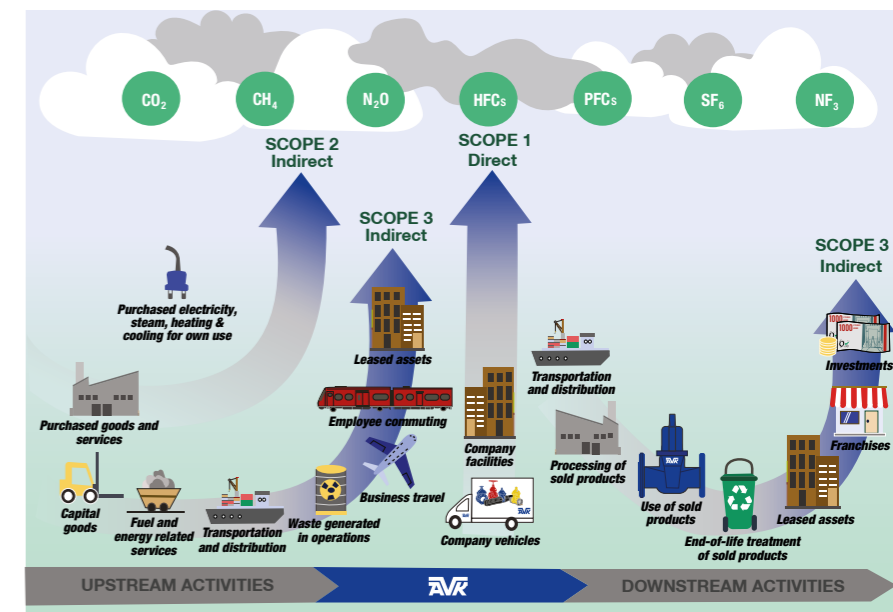
#### Scope 2

Indirect emissions from supplied energy, including electricity and district heating. The emission happens elsewhere, e.g., at local heat and power stations or district heating plants.

#### Scope 3

Indirect emissions from the company's value chain.

Source: Klimakompasset



(GHG). As the figure below shows, our CO<sub>2</sub> emissions have decreased during the period.

Overall, **Scope 1 emissions** have decreased in the financial year 2022/23 due to a strong decrease in natural gas consumption. Several production sites have converted from using gas to using low-energy solutions such as heat pumps.

**Scope 2 emissions** have also decreased as we have continuously increased the amount of purchased renewable energy and self-generated electricity via solar panels, while focusing on optimisation and energy efficiency.

### Scope 1 - CO<sub>2</sub>-emissions

Tonnes CO<sub>2</sub> per DKK million (turnover)

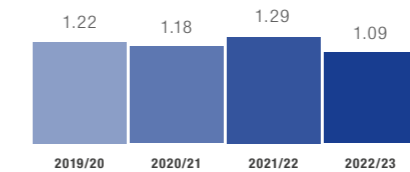


Figure 4

### Scope 2 - CO<sub>2</sub>-emissions

Tonnes CO<sub>2</sub> per DKK million (turnover)

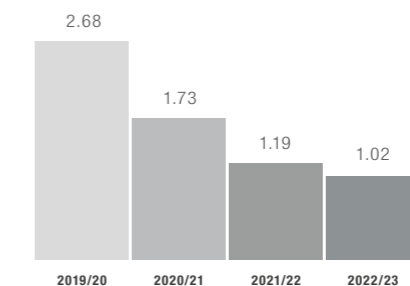


Figure 5

Our overall CO<sub>2</sub> index, called the Emissions Intensity, shows a significant decrease from 2019/20 to 2022/23. The Scope 1 index has dropped from 1.22 to 1.09 and the Scope 2 index has dropped from 2.68 to 1.02.

See Figure 4 and Figure 5.

### Scope 3

As previously described, we have launched a global initiative regarding Environmental Product Declarations (EPD) to collect CO<sub>2</sub>e emissions calculations throughout the entire value chain of a given product. The decision to start working on EPDs before working on Scope 3 was partly made in response to requests from our customers.

We will increase focus on AVK's total value chain emissions, Scope 3, and in 2023/24 we will define and calculate selected significant Scope 3 emissions based on a materiality analysis. Likewise, we will take all necessary actions to reduce CO<sub>2</sub> emissions.

Mapping Scope 3 is a large and complex task, as our companies' value chains are diverse with great variation in the raw materials purchased and their carbon footprint. We will strive to create a consistent approach in our Scope 3 data setup.

### ISO 14001 – Environmental management

Our major production companies have a constant focus on maintaining and implementing the environmental management system ISO 14001. This system helps to ensure environmental policies, procedures, and routines. The number of ISO 14001s has increased this year.

As an industrial Group, we are aware that some of our manufacturing companies have resource-intensive production processes. That is why we work focused to reduce our impact on the environment and climate. We will continuously strive to minimise our energy consumption, expand the use of renewable energy sources, promote recycling of materials and products, and manage waste in an environmentally responsible way. Our ongoing improvements are documented through data collection and setting new targets for improvement.

### Recycling and circularity

In our factories and foundries, where we have certified environmental management systems according to ISO 14001, we have implemented waste reduction and recycling programmes. This means sorting waste into the right waste fractions and ensuring efficient recycling.

Internally, we have initiated a data collection project to get the full overview of the total amount of waste in the AVK Group. This includes both the waste that is reused and recycled, and the non-recycled waste. As we achieve a valid amount of data, we will start monitoring the handling and performance of the individual sites.

It is our ambition that more than 80% of our waste should be recycled and reused, while non-recyclable waste should not exceed 20% of our total waste volume by 2025.

To achieve this goal, we will continue to identify methods and processes to reduce waste and to reuse and recycle materials in our factories. It is our expectation that our work with life cycle assessment will lead to the identification of new materials for recycling, both internally in the AVK Group and in close co-operation with our suppliers.

### Other environmental and climate initiatives

Our approach to reduce energy consumption also includes performing energy audits, switching to more energy-efficient equipment, and optimising operational processes. We continue to update LED lighting in all facilities and use programmable lighting and thermostats



### CASE

#### Strategic work with Lean creates results at AVK Syntec

AVK Syntec in China works strategically with Lean. To improve overall efficiency and productivity, the focus of the strategic goals for the year 2022/23 was environmental footprint, sustainability, and production costs and efficiency. Processes with bottlenecks were analysed using the Lean methods “8-Type of Waste”, “5 WHYS” and “Go Look See”, here are two examples of improvement that have been identified.

#### DN32 injection mould optimisation

The injection mould for DN32 produces three different components. During the production process, there were issues with loss of raw material and the mould created small voids in the moulded rubber components. The solution was to optimise the setting of casting and process parameters. As a result, savings on the raw material were 14.4%, 49.6% and 59.5% for the three components, respectively. The problems with the void were reduced from 35% to 0% and overall efficiency improved by 52%.

#### Dryer optimisation

Each moulding machine has a dryer, and each dryer posed a potential safety hazard if operators failed to turn off the machine manually. A consequence was loss of raw materials and damage to the filter. The solution was to add an automatic switch between the heat source and the filter, which minimised the safety risk due to elevated temperatures and the filters were no longer damaged.

Supported by the management and employees at AVK Syntec, major improvements have been achieved, which not only increase production efficiency and employee satisfaction as well as reduce overall production costs.

in offices and facilities. One way to do this is through energy audits, whereby we collect best practices and identify innovative ways to save and reuse energy. When expanding production capacities and facilities, we carefully consider and include energy optimisation as a parameter when choosing solutions.

# OUR SOCIAL RESPONSIBILITY



### Results at-a-glance in 2022/23

- The number of ISO 45001 certificates on management of occupational health and safety has increased from 27 to 31
- Dedicated efforts to identify and improve reporting of Unsafe Condition/Unsafe Act and Near-Miss has led to a significant reduction of up to 66% in the number of accidents at one of our companies
- In 2023, AVK established the People & Leadership function, which focuses on inclusion and diversity, amongst other leading priorities

### Goals and activities for the future

- We expect further implementation of ISO 45001 in 2023/24
- Our safety target is an accident frequency rate of less than three by 2030 (LTIFR) - To reach this goal, safety work will be further intensified during 2023/24 and in the future
- We will review our ethics and human rights policy and develop a Code of Conduct for employees. This will supplement the already existing Code of Conduct for external partners
- During the financial year of 2023/24, we will implement a succession planning process and tools to ensure that we work strategically with diversity. At the same time, we will improve our diversity data

### Our employees

As a global Group, we take our social responsibility seriously. This means that we provide attractive jobs and want to create the best framework for employees' development and well-being. Our employee handbook and policies set the guidelines and provide reassurance for employees to better understand their opportunities, rights, and obligations.

The AVK Group has over 4,800 employees working in our companies across the world. As a result, we are characterised by a high degree of diversity, as our employees represent many different professional functions and backgrounds. We consider diversity to be a strength and we respect and value everyone regardless of age, gender, ethnicity, religious beliefs, or sexual orientation.

Our employees are a priceless resource. As we work with innovative solutions and complex products for many different types of customers, and very often in both an international and regulated context, it places great demands on our overall competencies. This requires close collaboration throughout the organisation and continuous development of employees, both professionally and personally. A continued high level of commitment, well-being and continuous education and training is therefore crucial to us.

Since we want to focus further on the development of our employees, we have established a People & Leadership function in AVK Holding A/S in 2023. This function will set the direction in the field through several global initiatives. One of the initiatives is the launch of "The AVK Way of Leadership" which, in addition to focusing on our five core values, also lists several leadership principles. These principles will guide how we practice good leadership in the AVK Group. "The AVK Way of Leadership" will form the basis for our future work with succession planning, leadership development, talent management, recruitment and much more.

## Occupational health and safety

Safety at the workplace has always been a high priority in AVK, and we are committed to taking good care of our employees. This is achieved

by implementing relevant safety processes and necessary safety equipment at and around the workplace.

### Management systems and working environment organisations

In our 39 largest production companies, the internationally recognised occupational health and safety standard ISO 45001 has been implemented to ensure and improve employee health and safety. The purpose is to support our systematic work with a good working environment and ensure continuous evaluation and improvement. The number of ISO 45001 in management of occupational health and safety has increased this year from 27 to 31.

**Lost Time Injury (LTI)** is an injury sustained by an employee that results in loss of productive work in the form of absenteeism or tardiness (> 8 hours of absence).

Lost Time Injury Frequency Rate (LTIFR) is the number of LTIs that occur in a workplace per one million hours worked. An LTIFR of 7 shows that there have been seven cases of lost time due to injury in a workplace for every one-million hours worked.

The ISO 45001 occupational health and safety management system ensures, through established procedures and processes, that our management remains focused on minimising occupational accidents and their negative consequences. This happens through ongoing analysis and the establishment of action plans on security as well as ongoing improvement activities.

Local working environment organisations perform evaluations and improvement throughout the AVK Group, at both office and production facilities to maintain attention to security and reduce the number of accidents.

### Safety First

Several AVK companies work within the process industry or with degrees of manual labour, and these are cases where attention to workplace health and safety is particularly important. The processes are not considered high risk, but accidents can occur. Therefore, Safety First is a priority at AVK.

Through various initiatives, we want to maintain and improve security behaviour among our managers and employees. Our goal is to ensure that no one takes unnecessary risks and that everyone reports Unsafe Condition/Unsafe Act and Near-Miss accidents, which actively contributes to accident prevention.

Some of our latest initiatives are Safety Walks that focus on communication, training and visibility of safety and improvements.

It is an important parameter to learn from previous accidents and we use SQDIPP boards (Safety, Quality, Delivery, Inventory, Productivity and People) in the ongoing follow-up.

### Working accidents

Despite the increased focus and several initiatives, AVK's global number of accidents for the current year remains unchanged. As

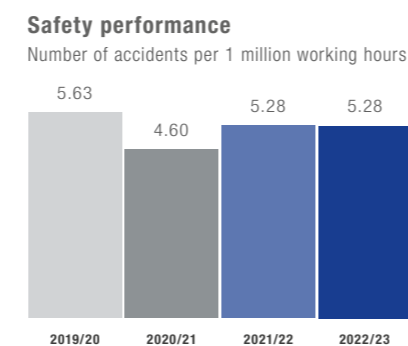


Figure 6

last year, we ended up with 5.28 accidents per million working hours (LTIFR).

However, the work with Safety First has particularly had an impact on one of our companies, which have significantly reduced the number of accidents by up to 66%, which is an incredibly positive development.

Figure 6 gives an overview of the accident frequency rate. LTIFR stands for Lost Time Injury Frequency Rate and shows the number of accidents per one million working hours. The figure also shows recent years including changes and is according to the global number of employees.

Everyone should have a safe workplace and we continue to aim to reduce the number of accidents. In the coming year, we will work to reduce the frequency rate of occupational accidents globally. Our goal is to achieve an accident rate below 3 by 2030, and efforts and improvements are still needed to reach this ambitious goal. To reach this goal, security work will be further intensified during 2023/24 and in the following years.



## Employee well-being

The AVK Group is decentralised with many companies globally, each responsible for the management of their own business. That is why there is a wide variety of initiatives as each company strives to improve employee wellbeing. This ranges from creating meaningful and interesting tasks, well-being policies, mental health promotion activities, employee benefits of various kinds, sports activities, team building events and social activities arranged by staff associations. In addition, we collectively engage in charitable giving with a diverse focus.



## CASE STORY

### Safety First delivers impressive results

In 2022/23, AVK Holding has worked intensively with a few selected companies to reduce the number of accidents. A company from the Industry unit had a high accident rate in the previous financial year.

After a thorough analysis and targeted improvement efforts during the year, we managed to reduce the number of accidents in this company by 66%. The company now has an accident rate that is more in line with the rest of our companies.

Workshops and employee involvement have been key elements of this effort. In a series of workshops with an organisational mix of employees, we have focused on better identification and increased reporting of Unsafe Condition/Unsafe Act and Near-Miss. This has and will encourage to increased preventative actions based on employee reporting and gives us great confidence that we can further reduce the accident rate in this organisation.

This method is an important tool in our work to reduce workplace accidents and is typically used in AVK companies with an accident rate that exceeds our target of a maximum of 3 per year by 2030.

## CASE STORY

### Atplas focuses on improving employee well-being and creating a supportive work culture

Mental health is an integral part of our overall well-being and an integral part of the business. Since 2018, Atplas in the UK has committed to the "Time to Change" pledge from the Mind UK organisation and has had a continuous focus on various well-being topics to help raise mental health awareness and reduce stigma and discrimination.

A dedicated team of Mental Health First Aiders has been selected and trained by Mind. This team makes up almost 10% of the workforce and is ready to support their colleagues when needed.

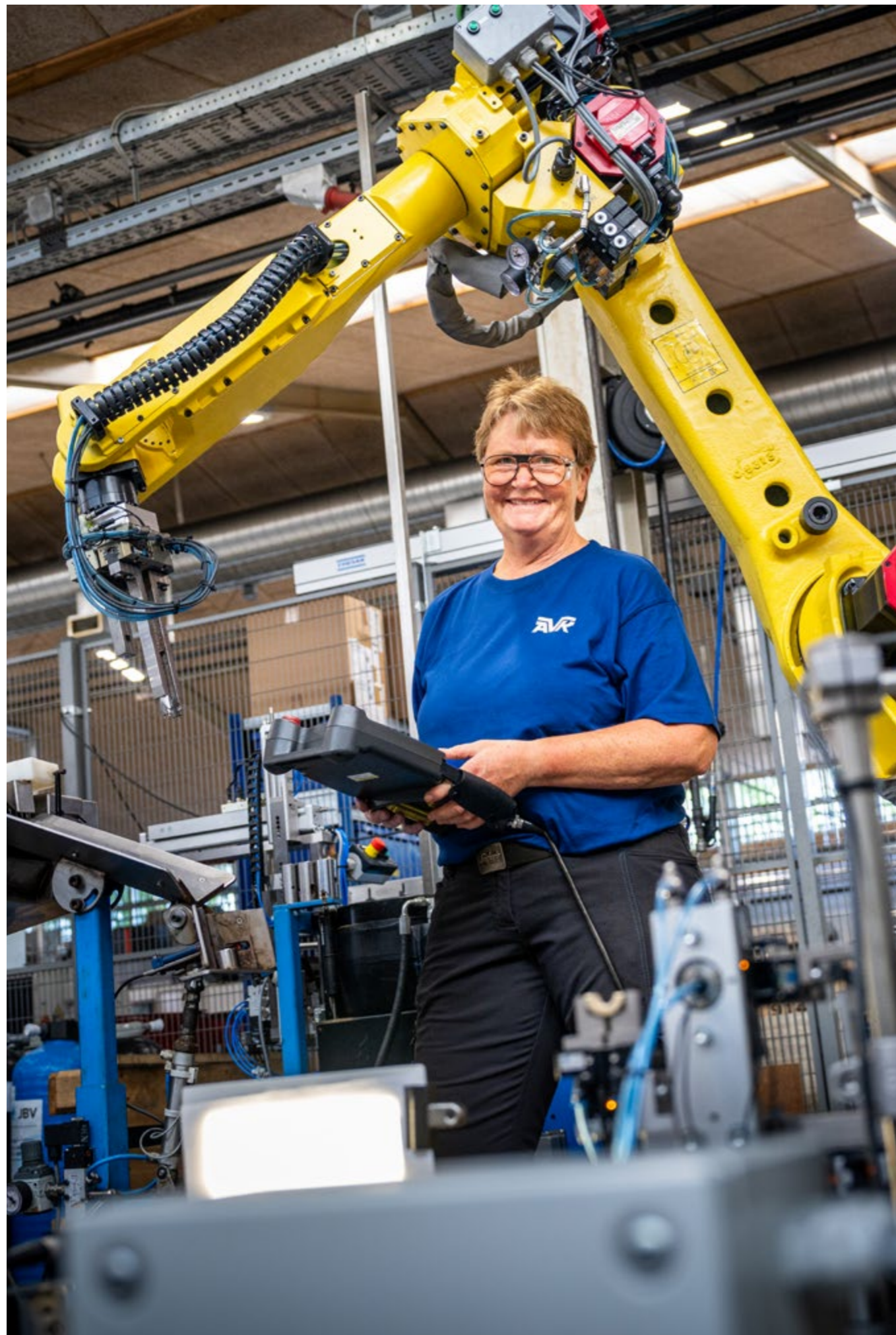
Several Mental Health Awareness Days have been held throughout the year, each

focusing on specific mental health topics such as bipolar disorder, eating disorders, suicide prevention and men's mental health. These events serve as a platform to educate and inform, help break down prejudices and encourage open dialogue.

In addition, all Atplas managers have undergone extensive mental health training to give them the necessary knowledge to identify employees who may need support at the earliest possible stage. To improve employee well-being, the focus has now expanded to include financial and physical well-being. These aspects are interrelated

and crucial to the overall health and well-being of employees.

Social engagement is also part of the well-being strategy and plays a crucial role in fostering a sense of community and teamwork. Likewise, Atplas employees participated in WEAR IT GREEN DAY on 18 May to contribute to a positive change in the way society perceives and addresses mental health challenges.



AVK is also a family-owned Group with strong values and traditions dating back to the founding of the company. Based on the five common core values; quality, innovation, reliability, sustainability, and customer service, we want to create a safe framework for the development and well-being of our employees. This can be seen, among other things, in seniority. Many employees are so loyal that they get to celebrate 25 or 40-year anniversaries with us. To us, this indicates that we are more than just a place to work.

### Human rights

We adhere to the UN declaration of human rights, including equal rights independently of gender, religion, and political views. The obligation to comply with the human rights is included in our Ethical Policy, in the defined principles of the AVK Group as well as in our guidelines. It is also an important part of the basic values of management.

These principles form a crucial part of our commitment to corporate social responsibility and play a central role in our collaboration with employees, business partners and the surrounding community.

We will review our ethics and human rights policy to meet the new regulatory requirements. In the coming year, we will also develop an

internal Code of Conduct for employees, which will supplement the existing Code of Conduct for external business partners. Our employees will be trained via e-learning on human rights policies and procedures, including both our internal and external Code of Conduct.

We have not identified any human rights violations in 2022/23.

### Diversity

In the recruitment and appointment of managers at AVK, the principle of choosing the best qualified person for the job is followed. At the same time, our industry with technical and industrial products is traditionally male-dominated, creating a gender imbalance both at management level and among employees in general. As such, we also have a responsibility to make the AVK Group more attractive to women.

For the past few years, we have participated in the Danish nationwide campaign "Girls' Day in Science", which highlights the lack of women in IT, technology, science, and maths. As part of the campaign, we invited local girls to a one-day event at the AVK Academy & Visitor Centre to spark their interest in our industry and let them meet our female employees. The Danish version of "Girls' Day in Science" has changed its name to "Science Day" from 2023,

with both boys and girls participating. On one day, only girls participated, and they were highly engaged and showed great interest in the activities and tasks they were given.

Similar, in 2023, we chose to focus on women in our industry in connection with International Women's Day, where we shared stories about the work of several female employees in different companies in the AVK Group via internal and external media.

AVK has sharpened its focus on inclusion and diversity. The responsibility is anchored in the newly created People & Leadership function, which has launched concrete initiatives. During the financial year of 2023/24, we will implement a succession planning process and tools to ensure that we work strategically with diversity.

At the same time, we will improve our diversity data. Initially the measurement is primarily on the gender composition of the management team, but diversity in this context is understood more broadly to include age, seniority, nationality, and other parameters on which we will initiate data collection.

Read more about gender balance in management under 'Report on unequal gender representation in management' in the section 'Statutory reports'.



## Education

We take our social responsibility within education seriously. AVK is a decentralised organisation in which the management of each company is largely responsible for educating the employees. Despite this, we have a desire at Group level to contribute to a culture of knowledge throughout our organisation.

### Educating employees

We strive towards achieving a culture of knowledge by making it easy for our employees to update their knowledge and strengthen their competencies. We do this to help them feel equipped to perform their job and act according to the values of the AVK Group. This is the reason why we have developed an e-learning universe for all employees, the AVK Academy.

The AVK Academy is an increasingly important part of employee training. It is part of the onboarding process for new hires and ongoing employee training. Furthermore, it provides a platform for management to supply online training to a large group of employees, as is the case with, for example, IT security, which is mandatory for all employees with PC access to complete.

As mentioned in the section about occupational health and safety, all production employees

must complete a safety training course to avoid accidents.

New managers in the AVK Group participate in an in-depth introduction course to provide a thorough insight into AVK and our expectations to them as managers.

### Educating the next generation

We do not only focus on the education of our employees. We believe it is our responsibility to educate the next generation of employees and partners; to create a forum where we can share the latest knowledge, technologies, and trends within the water industry. Likewise, we

always have trainees and students among our employees.

### Bachelor of Business and Water Technology

The water industry is experiencing a growing demand for salespeople and advisors with expertise in business and the latest water technology. That is why AVK for years has called for a more business-oriented education that focuses on the business opportunities in the water industry and places more emphasis on understanding the many business cases about water's journey through society. We want young people to take an interest in good water



infrastructure and contribute to the changes needed for better and more efficient water management.

In collaboration with Aarhus Water and Aarhus Business Academy, we have therefore been involved from idea to ministerial approval of the new bachelor's degree in Business and Water Technology. In August 2023, the first 15 students started the programme.

### Advanced Water Cycle Management Course

Since 2019, we have developed the "Advanced Water Cycle Management Course" summer school in collaboration with other companies

and utilities from Eastern Jutland, Denmark, who all contribute with their knowledge and expertise. This is an international course designed to upgrade the students' skills within water management while also improving knowledge and a wider understanding of water resource management, water distribution, wastewater management, and recycling of resources.

The course is offered by the Centre for Water Technology at Aarhus University, Denmark, and counts for 5 ECTS credits. This year, 47 participants from 13 different countries participated.

Interest has been shown from countries such as India, Morocco, and Ukraine to host local versions of the Advanced Water Cycle Management Course. As a result, the steering group behind the programme will discuss how to offer a compressed course outside of Denmark's borders.

## CASE

### Congratulations to the graduates of the Advanced Water Cycle Management Course

On the last Saturday of August 2023, 47 participants left the Advanced Water Cycle Management Course with a diploma in hand, ready to go out and influence the future water industry. The mix of guiding theory backed by semi-practical tasks has proven to be a great way of constructing a "water knowledge upgrade" – for both the participants and the companies involved.

### From silo mentality to teamwork

The course content is designed from a holistic view on water infrastructure throughout society; in terms of the energy circle and how to efficiently use our available resources. Once cleaned, water must be returned to the ground by establishing constructed wetlands, and the energy required should be produced by the wastewater treatment plant itself.

In week two, the course was divided into three thematic tracks of Groundwater, Water Distribution and Wastewater, and each student selected a track based on their individual area of interest.

For the final exam, the students were put into groups based on the track selected, but the groups also had to collaborate to make sure that all chains of the water cycle were considered; in fact, that is what the students considered the most important take-away from the course: prioritising working together across areas of expertise to obtain the most efficient, sustainable solution possible.

The fact that the participants come from many different countries added a lot of value to the knowledge exchange, both because of cultural differences and local views on products and solutions as well as environmental concerns.

### Participants from Ukraine

This year, three of the participants came from Ukraine, a country facing years of reconstruction after the ongoing conflict with Russia. Professionals from Mykolaiv and Lviv waterworks were invited to be prepared for the upcoming reconstruction period in Ukraine.

Mykolaiv was chosen because the Danish Parliament has committed itself to leading the rebuilding of the entire city, including the water infrastructure. Lviv was chosen because of Aarhus' twinning agreement with the city, which also includes cooperation on water infrastructure.

Viktor from Mykolaiv says: "Our water infrastructure is still working, but it is severely damaged. At the beginning of the war, we were cut off from our freshwater intake in the Kherson region. Therefore, we switched to getting water from the Pivdenny Buh river. However, the salinity of the brackish water is extremely high, causing significant problems with corrosion in the steel pipes. Right now, 240 km of pipeline

has deteriorated and needs to be renewed, so we experience many leaks every day."

"I hope that we will soon be able to implement some of the new technologies in Ukraine. Even before the war we were interested, but now I have a clearer overview of how, for example, DMA structuring and hydraulic modelling work. It was also impressive to experience all the Danish water experts and see that they have time to teach at the university - it's just amazing and the result is fantastic."

In addition to the participants from Ukraine, the Danida Fellowship Center sponsored 27 seats this year, which went to students or water professionals working either in water utilities or ministries in the different project countries. The course is a great opportunity for them to be updated on new water technology, and their knowledge can be a key element in local development projects going forward.



AVK supports the Lions Club's spring tulip event



AVK UK sponsor Staveley Miners Welfare Junior Football Club



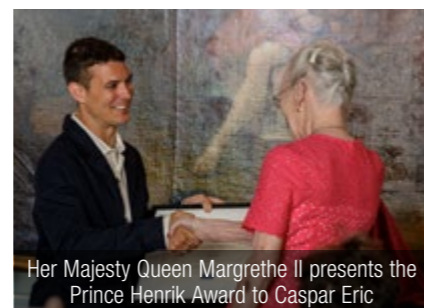
AVK UK's 'Walk for Water' raises funds for Aquabox



AVK Válvulas empowers women in sports in Barcelona



Trainees from AVK Armaturen GmbH support "Die Tafel"



Her Majesty Queen Margrethe II presents the Prince Henrik Award to Caspar Eric



The bronze statue of Prince Henrik's "Fabeldyr" (mythical creature) gifted to the winner of the Prince Henrik Award

# OUR SOCIAL RESPONSIBILITY CASE STORY: WATER2NEPAL

Along with other Danish companies, we have donated products to a water supply project in Madi, Nepal. The project is called Water2Nepal and includes the installation of a pipe network to supply 4,000 people with water. The project has been initiated by the non-profit organisation "Jysk Landsbyudvikling i Nepal" (Jysk Village Development in Nepal), financed by the Poul Due Jensen Foundation and managed by the consulting engineering company Envidan.



At the start of the project, the existing water solution in Madi could not provide enough water for the inhabitants, who had to rely on surface water and water from wells, which can potentially be harmful to their health.

## Tailoring the right solution

Water2Nepal covers the construction of a pipeline network with a daily capacity of 350 m<sup>3</sup>. The network covers a 16-kilometer-long pipeline solution, fully equipped with valves and components from AVK and other project partners.

## Empowering the community to take over the operation

Experts from Envidan and Danish water utilities closely monitor all phases of the construction to ensure quality in every step. They also want to ensure that the appointed technicians and supervisors are trained to be responsible for maintenance and operation once the system is in service. Much of the technology and hardware is unknown to the local operation staff and ongoing training and education is required to ensure an efficient and sustainable operations.

The purpose of the project covers several areas e.g., to supply three villages with clean drinking water, to test and practice new technology, to teach and train the new generation of water engineers, and to define the future criteria for the water supply in Nepal.

One of the key ingredients of a sustainable drinking water supply is reliable, efficient, and high-quality valves, avoiding the need to interrupt vital processes to change components or perform maintenance.

## Sustainable operations

The complete solution will consist of a pipeline network, a water tower, solar panels, and technical facilities by the water tower that provide an overview of the current supply situation, including quantities and quality of the water.

In March 2022, the final contracts were signed, the solution design was approved, entrepreneurs were found and drilling, and construction began. In June 2023, the first 75 families, approximately 18% of consumers, could turn on the taps in their homes and get clean drinking water. Subsequently, more families have been connected, and now around 22% of the users can tap water from their own faucet.



## Charity and humanitarian efforts

The AVK Group is involved with various kinds of charity, handled both locally by the management or through employee involvement. Social responsibility is reflected locally, nationally, and internationally through humanitarian work.

## Local commitment and support to charity organisations

As a global Group of companies, we are involved in several charity initiatives, but selected initiatives are described in more detail below.

In AVK Holding, we support numerous associations and initiatives that make a difference to society within health, community spirit, art, culture, and sports. We have chosen to support both local non-elite sports, such as Galten Forenede Sportsklubber, and elite sports, such as Skanderborg AGF Handball for men, Skanderborg Handball for women and youth.

The AVK Group also supports many charities such as cancer societies, the Danish Heart Foundation, the Danish Blind Society, the Make-a-Wish Foundation, Families with cancer-affected children, Danish Hospital Clowns, and the World Wildlife Fund WWF.

These are also donations to foundations that support mentally disabled or families in need to help them celebrate their child's birthday or pay for their tuition or schoolbooks. Other kinds of support can be food, toiletries, or similar donations for the homeless or otherwise in need. We support parasport and associations for the disabled, and we collect waste in the local community or on beaches and partake in donation events.

In addition, we participate in various national fundraising campaigns such as "Danmarks Indsamling" (Denmark collects), where we support 12 charity organisations with a total of DKK 100,000 for the work with the world's most needy.

In 2022, the Prince Henrik Award was founded by Danish Fiction Writers and the Danish Authors' Society. The Prince Henrik Award honours a Danish lyric writer who receives a grant of DKK 300,000. The grant is awarded once a year, and AVK has chosen to sponsor the award in 2022, 2023 and 2024. The award is aimed at lyrical poetry writers who have a narrow target audience, but who also have an important function in challenging the reader and enriching the language.

# OUR GOVERNANCE

**Results at-a-glance in 2022/23**

- The number of conducted on-site supplier audits has increased from 24 to 72 in 2022/23
- A global People & Leadership function has been established

**Goals and activities for the future**

- We will develop a comprehensive sustainability business plan
- In the coming year, we will work to optimise our process and documentation of Code of Conduct

## ESG management structure at AVK

The AVK Group consists of over 100 companies that largely act as independent entities, which gives AVK a fast adaptability and enables local adjustments to our business and organisation.

ESG must be an integral part of AVK's business. Overall, the ESG area is managed by a Sustainability Committee, and in 2021 a Group ESG function was established to manage and ensure a centrally coordinated and systematic approach to the ESG area. This includes the ongoing involvement of global and local specialist functions, including internal networking groups.

In the coming years, we will have to comply with the legal requirements arising from the Corporate Sustainability Reporting Directive (CSRD), European Sustainability Regulatory Standards (ESRS) and Corporate Sustainability Due Diligence Directive (CSDDD). Therefore, during 2023/24, an overall sustainability business plan will be developed to provide an overview of requirements and integration activities, including the preparation of a risk analysis and a dual materiality analysis, which will form the basis for future ESG work in AVK.

## Anti-corruption

AVK does not accept any kind of action that may be considered corruption, extortion, or bribery. We have a zero-tolerance towards such

incidents and consider them gross misconduct and they may result in disciplinary actions.

It is standard practice for the CEOs of the AVK Group to sign our compliance policy, which requires compliance with national and international anti-corruption and anti-bribery laws, upon employment. This policy is reviewed annually during the board meetings of all companies to ensure that it remains a key point of attention in day-to-day business operations. These practices should ensure that we avoid breaches.

We have not identified any bribery and corruption violations in 2022/23.

## Our supply chain management and collaboration

During the financial year 2022/23, we have faced challenges regarding our raw material supplies, suppliers' energy resources and, not least, the global logistics challenges. This has resulted in increased attention to supplier selection at AVK. Our top priority has been to live up to agreements and ensure timely delivery to our customers.

Part of this work has required an extra effort to ensure that both existing and new suppliers have been able to deliver while complying with agreed requirements and standards.

Despite the various challenges in our value chain, we have managed to deliver to our customers and integrate new suppliers. These suppliers have been subject to our normal approval processes, including supplier audits, which ensure responsible behaviour.

## Quality and responsibility

Quality and responsibility are always decisive in our supplier management and co-operation. We only work with suppliers who guarantee compliance with all legislation on safety, environmental, climate, and human rights legislation. We always choose suppliers who comply with the relevant local environmental and labour legislation, and all suppliers must comply with our ethical standard, the Code of Conduct, to be approved by AVK.

We work continuously and systematically with registration, control, follow-up, and further development of the supplier collaboration to ensure compliance with the Group's policies, including the Code of Conduct.

## Code of Conduct

With the specified supplier requirements and the Code of Conduct, we want to make sure their environmental impact is not larger than necessary, that they respect human rights, and that they do not use forced labour or child labour. AVK's Code of Conduct is integrated into all purchase agreements with suppliers,

it is part of our standard terms and conditions for purchase and must be accepted for all purchase orders.

If an AVK supplier or collaborator does not comply with our Code of Conduct, we will initially reprimand them and initiate a dialogue to improve. In case of repeated violations against our Code of Conduct, we will terminate the collaboration.

In the coming year, we will work on optimising our Code and Conduct process and documentation. This is to accommodate increased transparency in our supply chain and to ensure that we comply with relevant legislation and applied international standards.

## Auditing

Ongoing supplier audits are conducted on-site according to a defined programme. The frequency of audits is based on a country and product-based risk assessment. Risk management is documented and managed in our internal ISO 9001 documentation.

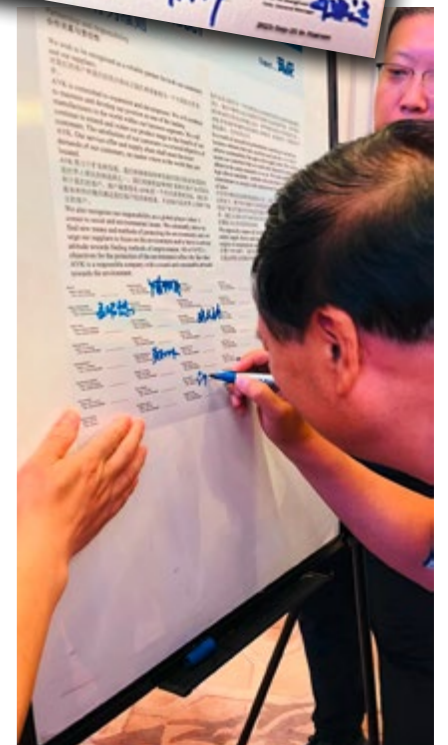
Internal AVK auditors perform the audits and always verify the ISO and third-party certifications we require from our suppliers. We use a check list that covers various topics and areas, which we continuously improve.



We pay particular attention to countries with an increased risk of violating social and environmental responsibility.

In the financial year 2023/24, we performed 72 on-site supplier audits at selected suppliers, compared to 24 in 2022/23. See Figure 7.

There were no incidents among the audited AVK suppliers that required reprimands or other measures.



Supplier audits

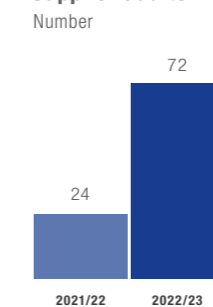


Figure 7



# AVK'S ISO CERTIFICATIONS



AVK has been working with ISO since 1990, when we achieved our first ISO 9001 certification. Since then, ISO documentation has been integrated into our QEMS (Quality and Environmental Management System).

The ESG data overview at the end of the report shows how many of our production companies that hold the individual certifications. This overview is based on the description by ISO.org of each certification.

## ISO 9001

ISO 9001 is a management tool ensuring that helps organisations of all sizes and sectors to improve their performance, meet customer expectations and demonstrate their commitment to quality. Its requirements define how to establish, implement, maintain, and continually improve a quality management system (QMS).

## ISO 29001

ISO 29001 defines quality management system requirements for product and service supply organisations to the petroleum, petrochemical and natural gas industries. This document is written as a supplement to ISO 9001. The

supplementary requirements and guidance to ISO 9001 have been developed to manage supply chain risks and opportunities associated with the petroleum, petrochemical and natural gas industries and to provide a framework for aligning requirements with complementary standards employed within the industries.

Improper handling of explosives and gasses can lead to serious consequences for both people and the environment. For this reason, AVK has chosen this ISO superstructure (of additional requirements) in our supply chain for the oil and gas industry to demonstrate a high-quality level and proper management of the company's processes.

## ISO 14001

ISO 14001 is a management tool within environmental management which acts as the framework for the environmental performance. By adhering to this standard, we can ensure that we are taking proactive measures to minimise their environmental footprint, comply with relevant legal requirements, and achieve their environmental objectives. The framework encompasses various aspects, from resource

usage and waste management to monitoring environmental performance and involving stakeholders in environmental commitments.

## ISO 45001

ISO 45001 is an international standard that specifies requirements for an occupational health and safety (OH&S) management system. It provides a framework for organisations to manage risks and improve OH&S performance.

ISO 45001 utilises the Plan-Do-Check-Act methodology to systematically manage health and safety risks. It applies to organisations of all sizes and can be integrated with other ISO management system standards.

## ISO 50001

ISO 50001 is an international standard for energy management. The purpose of ISO 50001 is to specify requirements for establishing, implementing, maintaining, and improving an energy management system (EnMS). The intended outcome is to enable an organisation to follow a systematic approach in achieving continual improvement of energy performance and the EnMS.

# POLICIES AND ESG REPORTING



The gender diversity of the top two management levels in AVK Holding is 27.78%. In total, there are 18 managers in five different functional areas and 14 departments. Of these 18 managers, five are women.

Our goal is to increase the proportion of women in the top two management levels of AVK Holding's management to 30% by the end of 2025.

At present, the management ensures, as far as possible, that qualified female candidates are represented at the final interviews for management positions in AVK Holding. At the same time, we want to strengthen efforts to increase the number of women in global leadership positions. Therefore, we pay special attention to gender equality in connection with the promotion of managers in the AVK Group, including through the Succession Planning process.

## Risk assessment

We follow the upcoming requirements in connection with the implementation of CSRD and ESRS very closely. We are aware of the requirements placed on us as a Group, and these include the preparation of a risk assessment in the future. AVK will prepare this overall risk assessment, which will apply to the entire AVK Group.

During 2023/24, materiality analyses will begin to align with ESG themes and the upcoming requirements of CSRD and will also include double materiality. The work on the materiality analyses will extend over the next few years.

## We will identify our risks and align them with relevant policies

Existing and new policies must be assessed and determined in each of the three areas (E, S and G) in accordance with the requirements of the CSRD, ESRS and the future CSDDD. Particular attention will be paid to policies in the following areas:

- E: Environment and climate policy
- S: Ethics/human rights policy; Diversity policy, Employment relations policy and Work-related health and safety policy
- G: Anti-corruption and business ethics policy

## Report on unequal gender representation in management

When recruiting and appointing managers at AVK, the principle of choosing the best qualified person for the job is followed. At the same time, our industry with technical and industrial products is traditionally male dominated, which creates a gender imbalance both at management level and among employees in general. As such, we also have a responsibility to make the AVK Group more attractive to women.

Our target is to have 20% of women on the board. At the end of the financial year, AVK Holding achieved this target with a share of 20% consisting of women without employee representatives. With employee representatives it is 37.5%, an increase of 28.5% compared to last year and we see this as a positive development.

Until 1 October 2023, there were no women represented in the Executive Board. On 1 October 2023, a new management team came into force with the Group Executive Board. In this board, two out of eight members are women, representing a proportion of 25%.

## Report on Data Ethical Policy

In line with digital developments, the AVK Group is increasingly focusing on the use of data. Having a responsible data culture means, among other things, ensuring transparency, protecting privacy and being accountable for the use of data. Therefore, AVK adopted a data ethics policy in the financial year 2021/22.

Our data ethics policy aims to ensure AVK's core values for the use of data and thus ensure that we handle the use of data with respect. The policy is available on the AVK Group's intranet. In the coming financial year, we will revise the policy and ensure a broader anchoring in the organisation.

# OUR FUTURE ACTIVITIES AND AREAS OF ACTION

In the AVK Group, innovation, and development of new and improved high-quality products with a long lifespan and recycling in mind, play a crucial part. At the same time, our foundation is to act responsibly towards both employees, the environment, and the society around us.

Below is a summary of planned activities and efforts we have set out for the coming years.

## Our environmental and climate effort

During the coming years, we will implement processes and activities that arise from our environmental and climate strategy. We will ensure minimal environmental and energy consumption by means of life cycle assessments and make it a core criterion in the design and production process. We will also increase the number of companies certified according to ISO 50001 and reduce our energy consumption through targeted investments in energy saving solutions.

Planned activities in the coming years to reduce our environmental and energy impact include the following:

- Implementation of measurements of the number of EPDs
- We will increase the share of companies certified in the ISO 50001 Energy Management System
- Implement a company car policy, which means that all company cars that use fossil fuels will be phased out by 2030
- We will install solar panels on additional factory buildings
- Work on reducing water consumption

- We will define and calculate selected significant Scope 3 emissions based on a materiality analysis
- Further implementation of the ISO 14001 environmental management system in 2023/24

Likewise, we will continue to work on identifying methods to reuse and recycle materials in our factories. We will also join and continue existing partnerships that can ensure that we receive enough recycled materials, including recycled plastics and metals, for production.

To reduce energy consumption, we will conduct energy audits and update to LED lighting, as well as implement programmable lighting and thermostats. At the same time, we will ensure positive communication with our employees, our customers, and other stakeholders, to achieve the support and commitment needed to succeed.

## Our social responsibility

As a global Group, we take our social responsibility seriously. This means that we provide attractive jobs and want to create the best framework for employee development and well-being.

Minimising the number of occupational accidents and ensuring the health and well-being of employees remains a high priority for

us. To reach this goal, we will intensify our work with health and safety further during 2023/24 and in the following years. We expect to implement the internationally recognised working environment standard ISO 45000 in several of our companies. In addition, we work to maintain and improve safety behaviour through continuous focus on internal communication, training and visibility around safety and improvements.

AVK wants to continue to be an attractive workplace and create the best framework for employees' development and well-being. The newly established AVK Group People & Leadership function will help set the direction for how we conduct good management in the AVK Group and work strategically with processes for succession planning, leadership development, talent management and recruitment. We are aware of our responsibility to make AVK more attractive to women and to increase the proportion of women in management. Therefore, we will focus on diversity in our work with succession planning.

In addition to continuing to actively ensure that our suppliers act respectfully and in accordance with our ethics and human rights policy, we will develop a Code of Conduct for employees and train our employees on human rights policies and procedures.



## Our governance

ESG must be an integral part of AVK's business. We must live up to the legislative requirements arising from CSRD - ESRS and CSDDD, in the coming years. Therefore, during 2023/24, a comprehensive Sustainability Business Plan will be prepared, where we create an overview of requirements and integration activities. This includes the preparation of a risk analysis and a double materiality analysis, which will form the basis for the future work with ESG at AVK.

In the coming years, we will optimise our process and documentation related to the Code of Conduct. We work continuously and

systematically with registration, control, follow-up, and further development of the supplier collaboration to ensure compliance with the AVK Group's policies, including the Code of Conduct.

Likewise, in the financial year of 2023/24 we will revise our data ethics policy and ensure a wider anchoring in the organisation.

## Continuous product related innovation

AVK works within three business units: AVK Water, AVK Advanced Manufacturing and AVK

Industrial, all of which experience exciting development. We maintain our constant focus on innovation and development of new and optimised solutions of high quality with a long lifespan and reusability after the end of life. This happens both through our own development centres and via partnerships.

Innovation and sustainability are two of our five values, and we want to invest in innovative technologies and new business areas that contribute positively to the green transition.



# ESG KEY FIGURES

**Table 1: ESG key figures, result**

Environmental data	Unit	2021/22	2022/23	Change %	Description (2022/23 tal)
CO <sub>2</sub> e, Scope 1	Tonnes	9,756	8,625	-11,60	Direct emissions from burning of e.g., natural gas, oil, and petrol. Total consumption for all companies.
	Tonnes CO <sub>2</sub> per DKK million (turnover)	1,29	1,09	-15,50	
CO <sub>2</sub> e, Scope 2 <sup>1</sup>	Tonnes	9,041	8,132	-10,05	Indirect emissions from purchase of energy, e.g., electricity and district heating. Total consumption for all companies.
	Tonnes CO <sub>2</sub> per DKK million (turnover)	1,19	1,02	-14,29	
Energy consumption from electricity	MWh	101,322	91,508	-9,69	Total consumption for all companies. Of these, 26.138 MWh (28,5 %) come from renewable energy sources, with certificate and from own installed photovoltaic systems <sup>2</sup> .
	MWh per DKK million (turnover)	13,36	11,52	-13,77	
Heat consumption (District heating)	MWh	1,040	940	-9,62	Total consumption for all companies.
	MWh per DKK million (turnover)	0,14	0,12	-14,29	
Heat consumption (Natural gas)	M <sup>3</sup>	3,999,298	3,198,366	-20,03	Total consumption for all companies. Of these, 53,679 M3 (1,7 %) derive from biogas.
	M <sup>3</sup> per DKK million (turnover)	527,33	402,77	-23,62	
Water consumption	M <sup>3</sup>	173,241	166,948	-3,63	Total consumption for all companies.
	M <sup>3</sup> per DKK million (turnover)	22,84	21,02	-7,97	
ISO 14001-certifications	Number	34	39	14,71	AVK consists of 107 production and sales companies.
ISO 50001-certifications	Number	1	3	200	AVK consists of 107 production and sales companies.
EPD certification	Number	0	1	100	Applicable for all AVK production companies.

<sup>1</sup> Comments to CO<sub>2</sub>e calculations: To calculate CO<sub>2</sub> according to Scope 1 and 2 we apply the climate compass as published by the Danish Business Authority (Erhvervsstyrelsen). The climate compass provides indicative data and is based on the recognised Greenhouse Gas Protocol (GHG protocol). During the financial year 2023/24, we expect to be able to make more exact international calculations of the emission factors of the individual countries.

<sup>2</sup> Comments to Energy consumption from electricity: From 2022/23, the share of renewable energy is calculated only as the share of purchased energy (Scope 2) where there are satisfactory certificates of origin (and from own photovoltaic systems).

# ESG KEY FIGURES

**Table 1: ESG-nøgletal, resultat**

Social data	Unit	2021/22	2022/23	Change %	Description (2022/23 tal)
Number of employees	Number	4,886	4,880	-0,12	The average number of full-time employees in the AVK Group as per 30 September 2023.
Number of work-related accidents resulting in absence	LTA	49	49	0	LTA = Lost Time Accident = number of accidents with >1 day's absence. All AVK companies.
Number of accidents per 1 million working hours	LTIFR	5,28	5,28	0	1,900 working hours are used as an average (ref. OECD). LTIFR stands for Lost Time Injury Frequency Rate = the number of accidents per 1 million working hours. All AVK companies.
ISO 45001 certifications	Number	27	30	11,11	AVK consists of 107 production and sales companies.

Management data	Unit	2021/22	2022/23	Change %	Description (2022/23 tal)
ISO 9001-certifications	Number	56	63	12,5	Number of companies with said ISO certification.
ISO/TS 29001 certifications (Gas)	Number	11	11	0	Valid for all AVK companies that design, manufacture and supply products for gas.
Supplier management and audits	Number	24	72	200	Code of Conduct applies to all suppliers, but we audit based on a risk assessment in risk areas.
The gender diversity of the Board of Directors	%	20	20	0%	One woman on the board, of a total of five members (not counting in three employee representatives), as per 30 September 2023.

# ESG KEY FIGURES

Table 2: ESG-key figures, objectives for the financial year 2023/24

Environmental data	Unit	Result 2022/23	Objective 2023/2024	Action (Description)
CO <sub>2</sub> e, Scope 1	Tonnes	8,625	5% ↓	Reduction in number of fossil company cars and natural gas
CO <sub>2</sub> e, Scope 2	Tonnes	8,132	5% ↓	Reduction will take place through increased share of purchased electricity from renewable energy sources, and implementation of photovoltaic systems.
Energy consumption from electricity	MWh	91,508	2% ↓	Improvement initiatives: Machinery, LED-lights, and sensor to improve efficiency. Increase share of power from renewable energy sources. By 2023/24 +33% must come from renewable energy sources.
Heat consumption (District heating)	MWh	940	1% ↓	Local improvement initiatives such as: insulation of buildings, better room temperature control (sensors) and reused heating from equipment.
Heat consumption (Natural gas)	M <sup>3</sup>	3,198,366	1% ↓	Local improvement initiatives such as: Improve gas furnace, heat control and reused heating from equipment.
Water consumption	M <sup>3</sup>	166,948	2% ↓	Local improvement initiatives such as recycling of water at test stations and water-economical lavatories.
Waste for reuse/recycling	%	57%	> 65%	Degree of waste that can be recycled. Monitor local waste fractions and thus increase recyclability.
ISO 14001 certified production companies (number of total)	Number	39	40	One additional AVK company in the process of achieving its ISO 14001 certification.
ISO 50001 certificates	Number	3	> 6	Three additional AVK companies are in the process of achieving ISO 50001 certification.
EPD certificate	Number	1	3	Applicable for all AVK production companies.

# ESG KEY FIGURES

Table 2: ESG-key figures, objectives for the financial year 2023/24

Social data	Unit	Result 2022/23	Objective 2023/2024	Action (Description)
Number of employees	Number	4,880	--	The average number of full-time employees in the AVK Group as per 30 September 2023.
Number of work-related accidents resulting in absence	LTA	49	< 45	LTA = Lost Time Accident = number of accidents with >1 day's absence. All AVK companies.
Number of accidents per 1 million working hours	LTIFR	5,28	< 5,0	1,900 working hours are used as an average (ref. OECD). LTIFR stands for Lost Time Injury Frequency Rate = the number of accidents per 1 million working hours. All AVK companies.
ISO 45001 certifications	Number	30	32	Two additional AVK companies in the process of achieving their ISO 45001 certification. Applicable for all AVK production companies.

Management data	Unit	Result 2022/23	Objective 2023/2024	Action (Description)
ISO 9001 certifications	Number	63	63	Applicable for all AVK production companies.
ISO 29001 certifications (Gas)	Number	11	11	All AVK gas companies has implemented ISO 29001.
Supplier management and audits	Number	72	> 72	Code of Conduct applies to all suppliers, but we audit based on a risk assessment in risk areas. We will expand our activities to other countries such as India and Brazil.
The gender diversity of the Board of Directors	%	20	20	One woman on the board, of a total of five members (not counting in three employee representatives), as per 30 September 2023.

