

AIMM

STORK MAGAZINE 2022



MAINTAINING A BETTER WORLD

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- > DECARBONIZE HOW?
- > HEADING TOWARDS A REVOLUTION IN PIPE MAINTENANCE
- > WASTE-TO-HYDROGEN MAKING USE OF PLASMA TECHNOLOGY

STORK

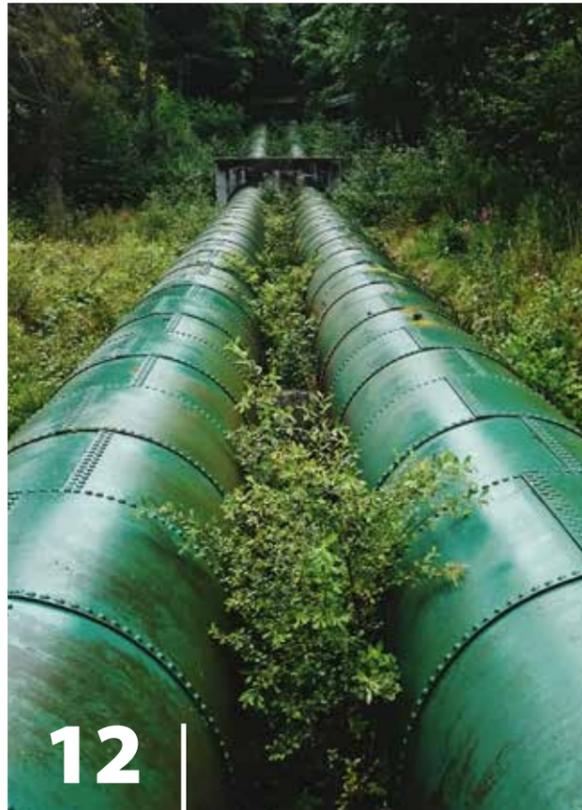
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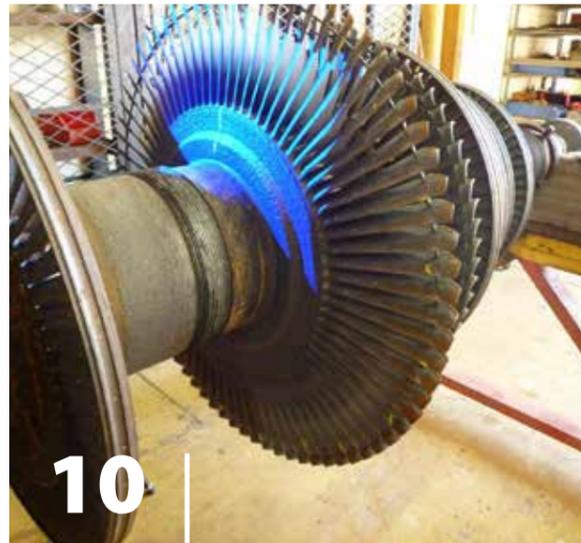
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A GREENER VISION

Dear reader,

Unprecedented challenges and increasing complexity characterize today's worldview. At the time of the release of this edition of AIM, we are still collectively dealing with the aftermath of the crisis caused by the coronavirus. And the next crisis is unfolding rapidly. As a result of the extremely worrying situation in Eastern Europe, a humanitarian drama exists, and geopolitical relations are under enormous pressure.

In the context of these developments and against the backdrop of emerging challenges, the importance of a sustainable future is once again emphasized. In all modesty, it makes me proud – as it does all Stork employees – to contribute to this sustainable future by fulfilling our daily responsibility to achieve Stork's purpose to maintain a better world.

Already more than 150 years at Stork, we share a passion for serving our clients with best-in-class operation, maintenance, and construction solutions, that improve asset performance across its entire lifecycle. With a solid and ongoing commitment to reduce the industry's collective carbon footprint, we deploy our full breadth of products and services to unlock our potential to solve industry-wide challenges. And we constantly explore new ways to improve our role in global trends like the energy transition, digital transformation, and market evolution.

In this issue of AIM, we share our stories of how Stork is doing this. To start off, on the next page you can find our new purpose statement, which now more clearly articulates how we create sustainable impact for all our stakeholders. Want to know how a wish comes true? Industry expert Tim Podesta shares his WISH vision for a carbon-neutral industry and the critical need to incorporate hydrogen into the future energy mix. And read about how Stork protects the environment by reducing greenhouse gases.

Also, in this edition of AIM, we showcase reference projects where we had the opportunity to optimize our clients' assets using our state-of-the-art technologies. Be informed about the Fugitive Emission Project, which aims to predict fugitive emission incidents before they occur using satellites, drones, and Artificial Intelligence. Learn about the crucial importance of reliable, efficient, and safe operation on geothermal plants. Get inspired about the use of plasma technology for converting residual waste into hydrogen and how the expertise of Stork AMT supported the set-up of the optimum commercial conditions for this project.



“ Together, we can continue maintaining our industry while building a better world for future generations ”

After reading this AIM, I'm sure you are convinced Stork is doing its part to maintain a better world. But we can't do it alone. I encourage all of our clients, partners, and industry associates to join in the effort. I couldn't agree more with the American poet and peace advocate Mattie Stepanek (who passed away at the age of 13), as he once said, "Unity is strength. When there is teamwork and collaboration, wonderful things can be achieved".

Together, we can continue maintaining our industry while building a better world for future generations. I am committed to this mission and look forward to shaping that together with you. In the markets we serve and the world we live in.

Enjoy this edition and stay safe.

Taco de Haan
President and CEO Stork

MAINTAINING A BETTER WORLD *at a glance*



Who is Stork?	OUR AMBITION	OUR PURPOSE	OUR VALUES
Key statements:	<i>To be the industry reference. Every day, everywhere.</i>	<i>Maintaining a Better World</i>	<i>Safety Integrity Teamwork Excellence Client Focus</i>
Description:	Our Ambition is what brings us together. It reflects our drive to lead by example in every sector we operate.	Our Purpose is why we come to work every day. It reflects our commitment and responsibility to all our stakeholders	Our Values are what we stand for. We work safely or we do not work, we have nothing to hide through integrity, alone you might go faster, together through teamwork you will go further, excellence will allow us to improve every day and we have client focus to ensure we go above and beyond their expectations.

WHAT DOES 'MAINTAINING A BETTER WORLD' MEAN?

'Maintaining' is what we do, 'a Better World' is the value we add for all our stakeholders, for the clients we work for, for the people who work for us, for the planet we all live on and for the shareholders who entrust us with their investment. Through a concerted effort we aspire to keep all four closely aligned, as we are convinced that this holds the key to the long term success of our company and thereby truly live up to our ambition to be the industry reference. Every day, everywhere.

WHY MAINTAIN A BETTER WORLD?

It's our organization's purpose and why we come to work every day. It reflects our commitment and responsibility to all our stakeholders.

HOW DOES STORK MAINTAIN A BETTER WORLD FOR OUR STAKEHOLDERS?



People

We are committed to provide our employees a meaningful career in a caring, high performing, technical work environment. Our success is shaped by our ability to unlock everyone's full potential, by encouraging everyone to thrive and by living a culture where everybody feels respected, is treated fairly and experiences support. We are proud to foster a culture where camaraderie comes alive.



Planet

We are committed to preserving the world for future generations by decreasing our own carbon footprint, by actively helping our clients to decrease their carbon footprints, and by supporting the energy transition.



Clients

We are committed to optimize our clients' asset performance by providing site based solutions, supported by specialists and equipment in Stork centers nearby, complemented by a suite of advisory services.



Shareholder

We are committed to deliver to our shareholder healthy, sustainable and predictable returns by delivering on our diversified and balanced strategic growth plan.





PASSION FOR HYDROGEN

A WISH come true?

Having a 'WISH' exclusively to achieve a carbon-neutral industry in the future doesn't seem very concrete. But when British independent consultant Tim Podesta points out that this is the acronym for Wind, Solar and Hydrogen, he makes a start with an ardent plea for hydrogen.

"Abundant electricity from wind and sun is great, but without storage there is no energy available on a windless night. And unfortunately, electricity is not easy to store. However, this is one of the many roles that hydrogen can play in the energy mix of the future! Hydrogen is also an ideal building block for green chemistry and a good heat source for, e.g., the steel industry", he believes. The need for a severe energy transition is probably clear to everyone. The question is more: with what resources and at what pace can this transition be shaped and, of course, at what cost? Tim Podesta sees an essential role for hydrogen as a replacement for fossil fuels.

WHAT ARE THE CONDITIONS FOR THE LARGE-SCALE APPLICATION OF HYDROGEN?

"In principle, the successful integration of hydrogen into our 'energy mix' rests on four pillars: Technology, commercial feasibility, national and international politics and organization. In other words, only a suitable technology for hydrogen production is not enough. Nor an acceptable price. The techniques for producing different colors of hydrogen are available (see box). And developments are moving fast, so a fair price will not be the problem either. However, politics, regulations and organization are issues that are much more elusive and require the necessary attention."

CAN YOU EXPLAIN THAT IN MORE DETAIL?

In detail, it will be a long story, but politically, it comes down to the fact that political context and support must be present in both the long and short term. Among other things, to create the market. And to make the latter possible, a

favorable investment climate is needed, which in turn requires appropriate regulations and the availability of the necessary space, techniques and expertly trained personnel and contractors.

In terms of organization, it is mainly about creating a clear and unambiguous picture for investors. Both in terms of technical and commercial aspects. Where will you produce hydrogen, with what technologies, who are your customers, where can you test? And so on. It is this pillar where project management and insight play a crucial role. After all, you need partners all along the line. From transport and regulations to the user."

HOW FAR ARE 'WE' GLOBALLY IN ESTABLISHING THESE PILLARS?

"At the COP21 in Paris in December 2015, 196 countries made pledges that were partly repeated at the last COP26. However, during this last edition, hydrogen was more prominent. So it is now important to turn these promises into results, and a careful start has been made."

WHERE CAN THESE RESULTS BE SEEN?

"Looking at Great Britain, where I live and grew up, I can mention, among other things, the 'hydrogen hubs,' the floating offshore wind turbines with green hydrogen off the coast of the Scottish Highlands, and the hydrogen buses that will be driving around Glasgow." What is unique about the hydrogen hubs is that it is a local community that runs entirely on hydrogen. The project started as a pilot project in 2017 and is

exploring, among other things, the switch from natural gas to hydrogen - or are we going hybrid? -, data management and suitable energy sources for hydrogen production. For example, at this particular location, the 2 MW of tidal energy is extracted from the Fall of Warness, where the Atlantic Ocean meets the North Sea and where vast movements of water are converted into electricity. The hydrogen produced is compressed and transported for use in fuel cells.

The floating offshore wind turbine also offers excellent opportunities, especially in locations with a lot of wind and where various parties support the production of green hydrogen. The Glasgow- Edinburgh route will be an example of fuel cell buses running on hydrogen. The host of COP26 is thus pushing hard for clean transport. A good example is the FCEV double-deck Wrightbus bus that can be filled with 25 kg of hydrogen in about ten minutes and has a range of 250 miles. Similar to a diesel bus but clean. In 2016 a hydrogen bus cost more than £1.3 million, but in 2019 it was only £465,000. A comparable diesel version costs about £300,000. We are moving in the right direction."

WHICH COUNTRIES WILL TAKE THE FIRST SIGNIFICANT STEPS, DO YOU THINK?

"I think we need to start not so much from countries but organizations. And then the internationally operating parties such as Total, Shell and BP. These organizations have a significant command of the four pillars as mentioned above. They have the technology, equipment, political contacts (lobbying), and the skills to steer the right strategy and course. Whether this is in the direction of mobility or industry."

WHAT ARE THE MAIN BOTTLENECKS AT THE MOMENT?

"In my view, the biggest threat to the implementation of hydrogen in the short term lies in the commercial pillar. Is there a market? At the moment, there is mainly a technology pull: work is being done on large-scale hydrogen production from suppliers and hardly any more based on market demand. To be able to continue with hydrogen, it is important that users become aware of the need to switch to hydrogen. Politics can play a crucial role in this, for example, by making the blending of hydrogen into natural gas mandatory. Also, to give investors the confidence that their investments will pay off in the future. And of course, in many places in the world, the laws and regulations have to be adapted to enable large-scale applications. It's really going to take a while, but we're moving in the right direction."



TIM PODESTA

British mechanical engineer Tim Podesta has an impressive track record within the oil and gas industry. After a career spanning nearly 35 years at BP, he is now an independent consultant focusing his expertise on project management, business/investment analysis, front-end planning and benchmarking. And preferably internationally. Tim is also an experienced trainer in a.o. the "World Hydrogen Leaders" program on hydrogen business cases.



COLORS HYDROGEN

Due to various techniques for producing hydrogen, different 'colors' of hydrogen are now available. These types are distinguished by the raw materials from which the hydrogen is produced and the energy used for this a brief overview.

- **Brown or black hydrogen:** Hydrogen is produced by the gasification of coal. A proven technique with a low CAPEX and OPEX more with many harmful by-products (CO₂ heavy metals, particulate matter and sulfur).
- **Gray hydrogen:** hydrogen production from methane or oil from steam reforming or partial oxidation. Also, a fully proven technique with low CAPEX and OPEX, but many fugitive emissions accompany methane production, and hydrogen production creates CO₂.
- **Blue hydrogen:** Basically the same as gray hydrogen, but CO₂ is captured and stored or used in this form. However, methane still needs to be produced, and large business cases must use CO₂ effectively.
- **Turquoise hydrogen:** production by pyrolysis of methane. This does not produce CO₂ but pure, solid carbon. The disadvantage is that methane still has to be extracted from the earth's soil and this has not yet been successfully applied on a large scale anywhere.
- **Green hydrogen:** This sustainable production of hydrogen, using renewably generated energy, includes two main groups:
 - Splitting hydrogen from water molecules using electrolyzer. It is a proven and therefore popular technology, with the 'novelty' that solar and / or wind energy is now used. The challenge will mainly lie in scaling up, especially since rare metals are often needed.
 - Splitting hydrogen from waste, especially if that waste otherwise goes to landfill and is converted into the greenhouse gas methane over time. These gasification and plasmification technologies are still slightly less proven, but nevertheless interesting to produce the much-needed hydrogen for the future.
- **Pink hydrogen:** Production based on electrolysis with nuclear energy.

Would you like to learn more about Stork's hydrogen value proposition? Read more about it [here](#)

DECARBONIZE: HOW?!

How does Stork help reduce greenhouse gases? Good question! When you look at the answers, you can see that they fall into 3 categories.

STORK DECARBONIZATION VALUE PROPOSITION - HOW WE PROTECT THE ENVIRONMENT

STORK'S FOOTPRINT

DECARBONIZE OUR OWN ACTIVITIES

- In the field
 - As we travel
 - In our own workshops
- And share our knowledge with the community around us



THE FIRST CATEGORY is formed by things we at Stork can do about our own carbon footprint, whether working in the field, as we travel and/or in our own workshops.

- A good example is not sending complete crews to the site but sending well-trained, multi-skilled technicians. And if they need support, they can connect with experts worldwide. In this way, we reduce travel requirements (& costs!)

- Other examples are applying rope access, drones and other robotic solutions (instead of scaffolding), applying online inspection, cleaning & repair techniques (avoid fugitive emissions!) and driving in electrical/hydrogen-powered cars (p.18, 20 & 21).
- And in our workshops: we are switching to solar power, heat pumps and LED lighting, applying better insulation and implementing consumption reduction and recycle programs where possible.

CLIENT'S FOOTPRINT

DECARBONIZE EXISTING ASSETS

- Advisory services
- Overall management
- Actual execution



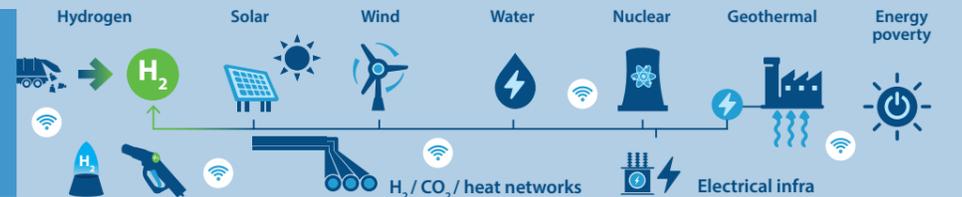
THE SECOND CATEGORY is formed by things we can do to help reduce our clients' carbon footprint. Clients are soliciting our help to assess their existing facility, identify the emission reduction opportunities and put those in a decarb masterplan/roadmap. Some examples:

- Efficiency upgrades (30%!) and waste valorization don't just reduce emissions but typically reduce OPEX as well!
- Electrification: switching to electrical drives, e-boilers, hybrid boilers and electrical heating
- Fugitive emissions by reducing leakage and capturing CO₂, NO_x and other pollutants before leaving the stack (p.12 & 13)
- Furthermore, predictive maintenance helps avoid unplanned downtime (flaring and waste products!) (p.14).

WORLD'S FOOTPRINT

SUPPORT THE ENERGY TRANSITION

- New technologies
- Cost efficient O&M services
- Reduce energy poverty



AND THE THIRD CATEGORY is helping support the energy transition.

- Let's start with HYDROGEN. It is a fascinating new industry, and Stork is positioning itself with a technology partner to build & maintain facilities that will produce green hydrogen from landfill waste (p.22). Separately Stork in Hengelo is developing a novel hydrogen burner fueled with pure oxygen, we're maintaining hydrogen filling stations and Stork is involved in a number of hydrogen distribution projects to replace natural gas supplies to municipalities. (read more on p.6)

- **NUCLEAR:** read more on page 17 and page 27 how Stork is involved in nuclear facility maintenance
- On the **GEOTHERMAL** side, Stork's turbo-blading group advises clients on the design of ORC turbine blades and refurbishing rotors. (read more on p.10)

Apart from cost and reliability, solar & wind have an end-of-life challenge: what happens with all these panels & components as efficiency goes down? This is where energy poverty comes into play. Energy poverty refers to regions that still have to burn wood to get energy. Stork is positioning itself to play a role to help refurbish solar & wind components and help give them a second life to help alleviate energy poverty.

And then there are solar, wind, water, nuclear and geothermal: these all need efficient O&M services to drive down cost and increase reliability to make them competitive with traditional carbon-based energy production.

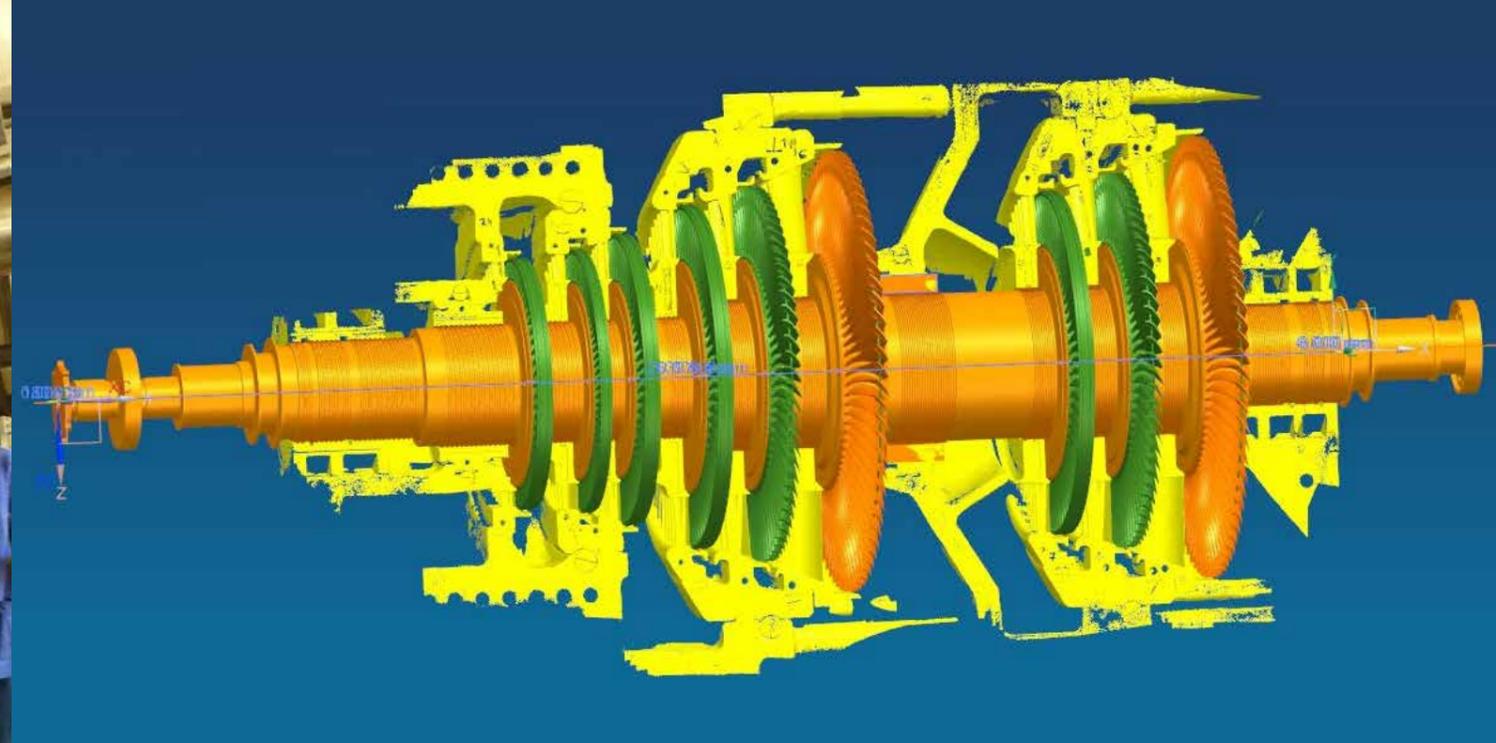
- **SOLAR:** read more on page 10 how we have achieved industry reference capacity factors
- **WIND:** Stork provides a leading role in the Zephyros consortium geared towards zero downtime and zero on-site maintenance by making extensive usage of predictive maintenance, along with drone-enabled inspection & repair services.
- **WATER:** Stork has been involved in many tidal, river and dam projects, providing E&I services, turbine revision services and even manufacturing & maintaining highly efficient pump-turbines that help keep feet dry in The Netherlands :-)

And a possible fourth category: impacting the communities in which we work. We feel it is our obligation to reach out and educate the local community around us and speak out at conferences to share our knowledge and passion for decarbonization. And apart from talking about it, we also set up & participate in local emission reduction activities to make environmental impact tangible.

While individual, the impact of some of the items mentioned above might seem small, collectively they do add up, fulfilling our commitment to make a positive difference in this world.



MAINTENANCE ON GEOTHERMAL PLANTS



Geothermal plants use geothermal energy to drive turbines, or they are used for heating purposes. Stork mainly works with the single-cycle plants, which extract heat as steam from the earth and then push that heat through a turbine to convert it into electricity. The auxiliary installations are subjected to considerable mechanical and thermal stress. Therefore, thorough maintenance is of crucial importance for reliable, efficient, and safe operation.

Single-cycle plants are only found at locations where the temperature of the deeper earth layers is so high that water comes up from the ground as steam. This occurs in Iceland, for example, and around the equator.

PLANTS SUBJECTED TO HEAVY STRESS

Because the auxiliary plants run in an outdoor environment, they are constantly exposed to varying weather conditions large differences in temperature, dirt and moisture. The high temperatures of steam mean even more mechanical stress and extra thermal loads during operation.

Jan Jouke Melchers is PMO Manager at Stork: "Maintaining these systems requires a broad package of disciplines. Not only to keep the movements and processes running smoothly but also to condition the steam. One example is cleaning away elements from the earth that could affect the rotor. An important point to note: properly conditioned steam extends the life of the rotor 3 to 4 times compared to poorly conditioned steam."

MULTIDISCIPLINARY MAINTENANCE

Stork has all the disciplines in-house for this kind of maintenance. On the one hand, we have specialists who oversee the 'steam cycle' and have knowledge of the interaction with the earth. Another group focuses on converting thermal energy (steam) into mechanical or electrical energy via turbine systems. All possible tools are also available to design and calculate processes and installations. The same applies to machines to improve or produce new parts for the plants and auxiliary systems.

Jan Jouke: "Optimal cooperation between all departments leads to the desired result: efficient and reliable systems that are not just applied within geothermal energy, but are

basically suited for any application that works with a natural heat source (such as thermal solar power plants). In this way, we all make our own small contribution to a cleaner world."

GEOTHERMAL MAINTENANCE IN PRACTICE

In recent years, Stork has maintained several sustainable thermal power plants, such as geothermal and solar thermal plants. To that end, a new rotor was designed in cooperation with Geothermal Energy as a replacement for a rotor that was no longer available (within the required time). The pragmatic approach scanned the turbine blades and rotor on-site in 3D and then converted this data at Stork Blading into production drawings for new blades. The team at Stork Turbo Services then developed the rotor using this scanned data, assembled it and, after balancing, released it for a new operational period.





HEADING TOWARDS A REVOLUTION IN PIPE MAINTENANCE

Improving the efficiency, effectiveness and decarbonization via robotization and digitalization

Currently, STORK is in charge of surveying and maintaining hundreds of kilometers of oil & gas pipelines of Cenit in Colombia and Coga in Perú (see map). Traditionally this is done by teams of Stork people, traveling the full length of these pipeline networks. Looking forward, we are excited to introduce a combination of satellite and drone footage with specialized sensors and artificial intelligence. This technology promises to detect fugitive emissions a lot faster, thereby reducing emissions, while also reducing the resources (people, time & assets) and risks related to such surveys.

FUGITIVE EMISSIONS

Pipelines are subject to many external risks, including landslides, earthquakes and sabotage. Although designed with a certain flexibility, pipes can at some point start to leak, resulting in fugitive emissions. If not detected fast, these emissions can really start to add up.

EYE IN THE SKY

There is a huge difference in surveying a pipeline with the naked eye at ground level and analyzing a pipeline using satellite image technology and drones with multispectral sensors. For instance, checking 300 km of pipeline meter by meter in the jungle can take you more than two years if done manually. When done with satellites, this distance can be surveyed in 15-20 minutes. Apart from speed, advanced image processing algorithms take analysis to a whole new level of sophistication. Underground and under water leakages can be detected and by comparing images of previous surveys, erosion processes, earth movements, vegetation changes, sabotage and accidents can be mapped out, which could also be pre-cursors to leakages.

VALUE PROPOSAL

This technology promises to dramatically improve performance in many ways:

1. Reduce risk of explosions (safety!)
2. Minimize environmental impacts due to hydrocarbon (esp. methane) leaks.
3. Minimize production loss (oil & gas)
4. Reduce emergency repair cost based on accurate risk prediction / early detection
5. Reduce reputation damage due to leaks
6. Reduce Stork's carbon footprint (reduced travel requirements!)

We will be starting with pipelines but look forward to expand this to new markets such as high voltage electrical distribution lines which also traverse huge distances.

Do you want to know more? Connect now with STORK's innovation head for LATAM ricardo.alvarez@stork.com or operations lead ramon.jerrez@stork.com.



ISTIMEWA MONITORS ZEELAND BRIDGE

Istimewa is a multi-faceted company founded fifty years ago as a repair specialist of household appliances. The company has since grown into a complete system integrator with its headquarters in The Netherlands: Vlissingen and offices in Rotterdam and Veghel. In 2007, Stork took over the company and decided to leave its name unchanged. It has thereby expanded its portfolio with a (hands-on) specialist in the design, installation and maintenance of control systems and E&I systems.

The impressive Zeeland bridge is a vital “traffic artery” for the province of Zeeland (NL) and a landmark work of art. However, the 56-year-old bridge is struggling to cope with the increasing traffic and the need for maintenance is becoming more urgent. To assess the condition of the bridge, Istimewa teamed up with various partners to install a large number of vibration sensors on the bridge to monitor the movable section.

Istimewa, a Stork company, has broadened its maintenance expertise within the infrastructure and civil engineering world during its fifty years of existence. Business Unit Manager Richard Pijpelink: “A trend you’re seeing now is that maintenance is shifting from preventive to risk-driven, and from ultimate to predictable. That’s a good thing because it benefits availability and reliability and saves costs.”

ZEELAND BRIDGE

This trend is apparent in the Zeeland Bridge project (in the southwest of the Netherlands). The engineering feat is owned by the province of Zeeland, which values a flawless operation. And that challenge is becoming more significant as the

chance of defects grows due to the increasing traffic pressure. That’s why the Province of Zeeland, together with Istimewa, Hogeschool Zeeland and Fieldlab Camino1) have initiated a project that is initially focused on monitoring the movable section of the bridge using vibration sensors. In addition, the project involves collecting existing data on the power consumption of the motors, the wind direction and the pivot points.

FIELD LAB

During one year, students of Hogeschool Zeeland will analyze the different data. The outcome will show whether the data provides sufficient input to predict the maintenance needs of the Zeeland Bridge reliably. The students will be supported by a Fieldlab Camino of World Class Maintenance team, where the necessary knowledge and experience have already been gained.

Richard Pijpelink: “Once it is determined that the monitoring system works as expected, the intention is to implement it in the future. Possibly combined with additional data sources such as weather forecasts or traffic counts. This will allow us to combine a lot more data, and perhaps even use it for other purposes.” For further information: [click here for the webinar](#).

POWER CONNECTION FOR SHIPPING

Another project that Istimewa is currently working on concerns realizing power connections for shipping. The challenge here lies, among other things, in directing the grid operator with the installation of the appropriate infrastructure on site. What’s more, the connection points must be installed in a way that takes matters such as safety, user convenience and payment options into account.

“This is another typical project we can do in collaboration with World Class Maintenance and the Camino field lab,” Richard believes. “Together, you gain a lot of knowledge and experience that are important for the future. After all, the power connections will also be used for charging batteries to power vessels in and around the port without polluting the air. It’s a fascinating subject matter with huge potential for the future.”

*) The Fieldlab CAMINO of World Class Maintenance (Network for Smart Maintenance) aims to make the maintenance of infrastructure works 100% predictable with the help of sensorics and data analysis, thus creating innovative ways to improve the maintenance of infrastructure at lower costs.





COOPERHEAT

Stork's Cooperheat has established a reputation in thermal technology design and engineering excellence for petrochemical, chemical, oil and gas and power industries. Our global footprint has generated a wealth of experience and today an international network of operations makes Cooperheat the world's largest specialist Heat Treatment Company. Located in the UK, Netherlands, Saudi Arabia, UAE, Australia, New Zealand and South East Asia, Cooperheat offers a complete range of heat treatment project services which add value and deliver clients the following benefits:

- Improved structural integrity of plant and asset life
- Reduced costs
- Customised service configurations to meet client specific requirements
- Global resources ensure rapid response to challenges with fast and effective services
- Turnkey service for a full range of fully engineered heat treatment services and solutions
- Access to in-house experts and experienced heat treatment engineers and technicians

Cooperheat is committed to quality onsite services from its Wilton base which have developed the company a well-earned reputation built on the highest safety, quality and technical expertise.

Cooperheat has been striving to innovate in a very mature product/technology market for some time. A large part of our focus has been on reducing the need for human input at the work site in order to reduce the exposure of employees and to improve safety and efficiency in these challenging times. In addition, Cooperheat is constantly striving to bring effective cost savings to its clients to enable them to remain competitive in increasingly cost conscious markets. The development of the Cooper8 technology has enabled us to offer our clients significant reductions in the manpower required for Heat Treatment projects thereby reducing their costs and increasing their competitiveness.

COOPER8 SYSTEM

Cooperheat provides with its Cooper8 system an efficient, cost-effective and safe solution to the heat treatment process



requirements of its oil and gas customers. The ability to remotely monitor and control on-site heat treatment processes improves productivity, reduces the workforce and creates a safer working environment. During the current COVID-19 pandemic, this technology has become increasingly popular, providing clients with the ability to view and control their processes from their home or office where previously this would have been undertaken at the worksite.

HEAT TREATMENT PROGRAMMER/CONTROLLER AND DIGITAL RECORDER

Cooperheat's innovative Cooper8 is a heat treatment programmer/controller and digital recorder combined unit designed to work in conjunction with standard heat treatment equipment. The Cooper8 can be used as a separate modular unit or built into a bespoke heat treatment unit. The most versatile heat treatment unit on the market, the Cooper8, can be used as a six-channel programmer module compatible with any standard heat treatment transformer power-source with inputs for contactor control. In addition, it can also be used as a sophisticated programmer with the capacity to download data for analysis and print temperature charts. The controls of the Cooper8 are incredibly intuitive and can be operated and monitored by the operator locally or via remote control and remote data monitoring. The Cooper8 can be customized with your needs in mind to meet specific or bespoke heat treatment requirements.

REMOTELY RETRIEVES DATA AND CREATE CHARTS AND REPORTS

The Cooper8 and the Heat Treatment Management Software (HTMS) enable customers to retrieve their data and remotely create charts and reports. New and upcoming features of the Cooper8 include installing this system into furnaces to enhance the productivity of larger scale projects and enable remote control and monitoring. Additionally, the Cooper8 can be retro fitted to older existing heat treatment units, enabling these devices to be monitored and operated remotely. The system can be retro fitted not only to Cooperheat machines but to a variety of other heat treatment units throughout the industry. This will extend the asset life of older equipment, bringing both environmental and financial benefits to our customers.

TEXT ALERT WHEN THERE IS AN OVER TEMPERATURE OR FAULT DURING THE PROGRAM

Email and text message alerts can be provided to alert when there is an over temperature or fault during the program and the cloud storage dashboard can provide customers with an account which will produce real-time process information and the ability to produce charts and report. Both features reduces the risk of down-time from lost data with all information being sent and stored in the cloud.

[Click here for more info about Cooper8](#)



Nuclear Power to fit into the clean energy transition

STORK & THE NUCLEAR INDUSTRY

Nuclear power is the second-largest source of low carbon energy used today to produce electricity, following hydropower and during operation, nuclear power plants produce almost no greenhouse gas emissions.

Currently, nuclear power accounts for around 10% of the world's electricity and around one third of global low carbon electricity (Source: IAEA). As we know clean energy transition cannot be ignored and so to achieve the global transition to clean energy as agreed in the Paris Agreement, nuclear power must play a meaningful role. Nuclear power plant operators must provide safe, reliable and cost effective electricity to millions of homes. The long term viability of nuclear plants as infrastructure investment is supported by robust asset integrity management programs to meet these challenge after 20, 30, and even 40 years of sustained operation. A comprehensive approach to long-term asset integrity management is required to ensure that safety, reliability and cost performance are carefully defended from integrity threats.

CORROSION THREATS FOR NUCLEAR POWER PLANT

All of the metallic materials used in nuclear power plant apart from titanium are susceptible to corrosion. For the nuclear process, materials scientists and engineers have accumulated a wealth of experience in the behaviour of materials used in the present generation of nuclear power plants. For the non-nuclear process, it has been highlighted by industry regulations and operating commitments that the three main integrity threats are flow accelerated corrosion (FAC), raw water (unpurified cooling water) corrosion and underground corrosion. The following elements are required in a proactive and robust asset integrity programme:

- Risk based inspection of piping, pressure vessels, tanks and other structures
- Corrosion control measures for internal and external effects
- Remaining life assessments to demonstrate operational viability
- Structural health monitoring for long term trending
- Mitigating failure consequences for low margin components

To meet the requirement of extending the life of a nuclear power plant, involves determining if it can safely, securely and cost-effectively continue operating past its original retirement date. This consists of both physical ageing of systems, structures and components, resulting in the degradation of their performance characteristics, and technological obsolescence of such components, i.e. lack of spare parts, technical support, suppliers and industrial capabilities.

ASSET INTEGRITY IN THE NUCLEAR INDUSTRY

Our goal at Stork is to continually improve the performance and maintain the safe operation of our client's assets. We provide the highest quality of standards and expertise as market leaders in asset integrity services; with our fully Integrated Partnership approach. The services we deliver to the Nuclear industry include but are not limited to:

- Integrated Integrity Management
- Corrosion Management
- Inspection Management
- Risk-Based Assessments
- Fitness for Purpose Assessments
- Plant Inspection
- Non-Destructive Testing
- Special Access Systems
- Surface Preparation, Insulation & Coatings
- Corrosion and Erosion Monitoring
- Cathodic Protection.

Stork continually drive ahead of the market with innovational methods and technology to ensure we enact and deliver all services that meet or exceed our client's expectations; and most importantly provide a solid platform that assures our client's asset life conditions, effectively and efficiently.

Learn more about storks (nuclear) asset integrity management (Not directly related to nuclear plants) Would you like to learn more about Stork's Asset Integrity Management? You can read about it [here](#).

STORK IS SUSTAINABLE TRANSPORT PIONEER IN COLOMBIA

As part of the company's commitment to Corporate Responsibility (CR), Stork in Latin America received the first electric pickup trucks that will operate in the Oil & Gas sector in Colombia.

The Stork LATAM team is a pioneer with this initiative, replacing the current, not sustainable vehicles with electric pickups. It is one of Stork's many ways to empower the global workforce and leadership. The team will continuously monitor the performances of this eco-friendly transportation, considering country-wide replacing the remaining fleet in the future. "As the world rapidly transitions to a cleaner, more resilient, and



sustainable way of living, we want to invest in this technology as the future of transportation in our sector," said Rubby Vidal, LATAM Operational Excellence Manager at Masa and Stork.



LASER TECHNOLOGY IN MATERIALS PRESERVATION

As part of Stork's commitment to the client's assets, employees identify early signs related to the storage conditions of the materials, tools, and equipment to implement improvement plans that optimize their physical state and maximize the useful life of assets.

To perform the preservation process, Stork implemented laser cleaning technology. It is a green cleaning method that does not require supplies, works without chemicals, and has low energy consumption. It is an environmentally efficient process used for removing rust, paint, resins, and other contaminants on different surfaces, mainly metallic. Employees perform these activities based on the recommendations issued by the manufacturers, good industry practices, and the experience that Stork has capitalized over the years executing these types of activities.



ENVIRONMENTALLY FRIENDLY, EFFICIENT, DEPENDABLE AND DURABLE ELECTRIC FORKLIFTS

We all know that we are living through unprecedented times where climate change and energy transition is at the forefront when it comes to the future of our planet. Stork is always looking for low or zero carbon ways we can carry out our services so we can continue to maintain a better world.

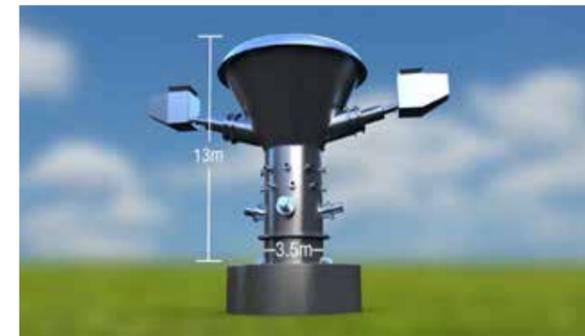
Our Facility in Aberdeen (UK) is proud to have added 4 battery powered forklift trucks to our fleet to help reduce our carbon emissions. Not only do these electric forklifts have a positive impact on the planet but the elimination of emissions over diesel trucks is also better for the person

operating the vehicle as they emit no fumes. This also means that the heating costs of our Aberdeen warehouse facility are dramatically reduced as the large rollers doors do not need to be left open for ventilation purposes.

Our new electric forklift trucks are also more efficient than diesel forklifts as they boast an intelligent energy management system that ensures our trucks are able to draw optimal driving performance and long-lasting durability from their drive batteries. The battery is rechargeable even during short breaks; meaning costly and time-consuming battery changes are no longer necessary.



HYDROGEN PLANT ON PLASMA TECHNOLOGY



Following the signing of the off-take agreements with Shell and Iwatani end 2021, construction of a new hydrogen production facility in Lancaster, California, can start. This facility will use plasma technology to convert residual waste into hydrogen. The expertise of Stork AMT has been called in to set up the optimum commercial conditions. Stork is also responsible for the technical services and co-decides on the best maintenance and analysis methods, such as RAMS modeling. And that for the next twenty years.

Hydrogen may very well be the fuel of the future, provided it can be produced at an acceptable price. Conversion of residual waste using plasma technology is another step closer to this future perspective.

PLASMA TECHNOLOGY

SPEG technology – (Solena Plasma Enhanced Gasification) was developed by the US company SGH2 Energy. Briefly explained, the technology converts hydrocarbon-rich materials, e.g., biomass, paper and plastic, at temperatures reaching 3,500 °C into a synthesis gas consisting of carbon monoxide, hydrogen and some residual gases. Because the materials literally disintegrate at this temperature without burning, the process doesn't produce any tars, cyclical compounds nor toxic fly ash.

The synthesis gas is then cooled down to 300 °C, after which the acid gases can be removed. Subsequently the hydrogen

production is enhanced by applying a water gas shift reaction. Lastly a pressure swing absorber helps purify the final product to 99% pure hydrogen.

ADVANTAGES

Besides hydrogen production using plasma technology being a relatively clean process, it has other advantages. For the city of Lancaster, for example, it's perfect timing to begin processing waste responsibly. The city sees particular opportunities in processing tons of waste paper – more specifically, 42,000 tons of waste – into 3.8 million kg of hydrogen per year. The cost price of hydrogen is around two dollars a kilo, which is cheaper than green hydrogen from electrolysis.

22 MW

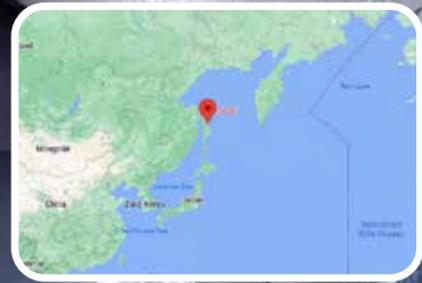
This facility will be comparable to a 22 MW electrolyzer; it might not sound much, but the typical electrolyzers being built at the moment are 10 MW, with only one 20 MW facility completed in Canada. Construction will start in 2022 and the plant should be operational a year later. Both, Fluor and Stork have played essential roles in this project from the very beginning. Fluor is responsible for the design as well as the engineer of the plant. At the same time, Stork takes care of all user and production documentation and assists, where it can, with developing the market. An example of this last point is Stork's presentation at the recent World Hydrogen Leaders conference in Amsterdam (NL).

Finally, Stork's asset management experts developed a reliability-based maintenance plan, including plant operations and maintenance services. This laid the foundation for the operation of the plant and its maintenance for the coming twenty years.

WHAT IS RAMS MODELING?

One of the procedures within the maintenance plan is so-called RAMS modeling. RAMS stands for Reliability, Availability, Maintainability and Safety and is a system attribute that expresses the lifecycle cost and performance of an engineered system in clear numbers. This provides Stork with a tool to carry out its operations and maintenance as efficiently and safely as possible.

EDITOR'S NOTE: This project was successfully completed before the Russian invasion of Ukraine.



STORK RESCUES BOOSTER COMPRESSOR IN SAKHALIN

THANKS TO OPTIMAL COOPERATION BETWEEN STORK SPECIALISTS

The cracks discovered in the rotor blades of two booster compressors at Russian energy company Sakhalin gave the operator cause for concern. If these cracks expand further, it could lead to fatal malfunctions. Luckily, the specialists of Stork Turbo Blading from Sneek (NL) recognized the defects in time. The ensuing consultations, agreements and decisions were nothing less than impressive.

The ensuing consultations, agreements and decisions were nothing less than impressive. Through pragmatic action, optimum cooperation and a wealth of knowledge and experience, Stork removed the damaged parts on-site with a cobot – under challenging conditions – thus preventing a calamity of epic proportions.

The Russian power plant on Sakhalin Island has, among other things, two booster compressors. Cracking was observed in the rotor blades of these cost-intensive systems, an undesirable situation, to say the least. In fact, the chance that further cracking would lead to particles rupturing was very real. This could create hazardous situations and possibly require the power plant to be shut down for major repairs.

WHO CAN HELP?

As the responsible party for the safe and efficient operation of the compressor, the operator issued an international tender to resolve this problem at short notice. The challenge was taken up by Stork Turbo Blading, who recognized the damage from a similar power plant in Groningen.

Project Manager Dennis Huft: "At the time, we managed to fix the problem in Groningen by simply cutting away the damaged part. This approach has no impact on the compressor's operation and is cheaper than replacing the rotor blades. The solution would also work for Sakhalin. But we were very aware that the two situations were far from identical. Traveling to Russia during the COVID pandemic wasn't straightforward, and we could see from the drawings that there was no room around the compressor to do the work manually."

COOPERATION

Once the client was convinced that Stork was the 'right man for the job', the complex and intensive process of consultations between the client and Stork's sales, engineering, tools, and work preparation departments could begin. It was a process that led to well-considered decisions and then pragmatic action.



The project team decided that the best option would be to cut away the affected parts with a cobot *) and called in the help of specialist Wecobot to get it done. A test setup was built in the Netherlands and was used as an online demonstration to explain the plan of approach to the technicians at Sakhalin. The true-to-life mock-up combined with the Stork technicians' specialist knowledge convinced the Russian client. That meant we had a GO. But under a very tight schedule.

THE PROJECT

The practical implementation turned out to be even more complex than calculated. Wilko Jan Vegter made the trip to Russia and explained the hurdles that had to be overcome: "Traveling to Russia with four people during COVID proved to be a real challenge. After arranging the visa and the import documents for the cobot, we found out we had to spend a week in quarantine before we could start. A week we really couldn't miss! And then, just when we were ready to make up for all that lost time, we ran into even more trouble: the cobot hadn't been cleared through customs yet, and we had to wait another three days until the first crates arrived at the site."

Despite all these problems throwing their schedule overboard, the Stork specialists got started straight away and worked pragmatically. For instance, it was clear that one compressor booster was in worse shape than the second. They, therefore, decided to start with the compressor that was worst off and, in the meantime, devise a time-saving alternative for the second.

CONSTRUCTION AND PROGRAMMING

In the end, the team managed to set up everything in just one day and spent the next two days programming the cobot, which then cut the damaged part away. The preparation time invested in the preparations turned out to

be worth every second. It resulted in the cutting process going without a hitch, with a robot that neatly followed the pre-programmed line and removed the affected part of the first rotor blade in four parts. For the second compressor, the decision was made to use an alternative approach that successfully prevented the cracks from growing.

Wilko Jan Vegter: "So it was 'mission accomplished' in the end. But under difficult circumstances. We worked long days in outside temperatures of up to 40 °C. In the boiler itself, it even reached 60 °C. We took great care to make sure our guys didn't work under these temperatures for too long, so we took regular breaks and gave them plenty of fluids and food."

LOOKING BACK

After returning to the Netherlands, the team could look back on the project with enormous pride. Dennis: "A project full of challenges that were mainly in the areas of logistics, time pressure, the environment, and in a culture that has different health and safety standards than we do. You have to be very careful to keep your own standards in place both in terms of your team's well-being and the technical result. The fact that we achieved this, simply gives a great feeling."

*) A cobot, or collaborative robot, is a robot intended for direct human-robot interaction within a shared space or where humans and robots are in close proximity.



KNOWLEDGE MANAGEMENT: LEVERAGING STORK TECHNICAL CAPABILITIES

Sharing knowledge is one of the drivers for sustaining and growing the Stork business, always thinking about connecting & collaborating with proposal teams, project teams, and clients to deliver innovative solutions. Technology, processes and people are the keys to success; for that reason, our Global Knowledge Management Program contributes to reaching our ambition of being the industry reference and maintaining a better world.

The Knowledge Management Program initiative was designed to make knowledge and experience visible and available. It is meant to create connections in an organization where employees share and unlock valuable knowledge, transforming it into solid decisions that can positively affect our productivity and performance. Stork improves its ability to learn from earlier challenges and success stories by having this program in place.

For that purpose, Knowledge Online (KOL) was created as a SharePoint environment tool developed in an accessible way, bringing knowledge to life by connecting people to a sole source of information. In KOL, our operational and functional leaders and colleagues can find:

- Knowledge communities, including delivery, technical and functional domains
- Our global Subject Matter Expert (SME) network with more than 140 colleagues willing to share their expertise
- A repository with documented knowledge
- Our corporate social network Yammer, which improves communication, knowledge sharing and cohesion between teams regardless of location

Having a solid set of communities, experts, and content represents an excellent opportunity to set Stork's unique working style. This can be perceived internally and externally within our clients who perceive a real differentiator in terms of expertise and innovation as long-term value. Knowledge Management is definitely a tool that leverages our capabilities of winning more work and deliver with excellence. It is what sets us apart from the rest, and that means being the industry reference.

Our clients can perceive the value of having a program like Knowledge Management in place by:

- Receiving value propositions during tender processes
- Increasing their productivity and efficiency through innovative solutions
- Implementing industry reference practices
- Working hand in hand with some of the top experts in the market



Our Subject Matter Experts perceive the Knowledge Management Program as beneficial. See here some examples:



Stork SME:
STANLEY OKOSODO
Operations Manager for Sand Management Services

Areas of Expertise:
Sand Management Services, Sand Washing, Online Desanding and Composite-Engineered Repairs.

"The Knowledge Management Program is crucial to Stork to be the industry reference, every day and everywhere.

Knowledge management means we can export our niche technology and technical capability across all the regions Stork operates in, thereby scaling up service offerings to our clients.

Knowledge management helps increase productivity, guarantees better collaboration, relationships, and consistency, and equips confidence."

Stork SME:
MARTIJN HINDERDAEL
Senior Energy Consultant Stork Thermeq Hengelo (Netherlands)

Areas of Expertise:
E-Boilers, Waste Incineration, Steam & Heat tie-outs

"Knowledge online is an excellent community tool to share knowledge and experience among the different Stork locations around the globe. With Stork having a vast amount of areas we have expertise in there is basically always someone who can either help you out or help you find someone who can. The combination of Knowledge Online to post articles and Yammer to ask for support is very powerful.

Many of our competitors are specialists in a narrow area. Knowledge online helps us set ourselves apart by enabling us to combine the knowledge of specialists from many areas.

Making good use of knowledge online helps us become the one-stop-shop for getting the client a high-quality turn-key solution whatever the problem is"



- Safety
- Integrity
- Teamwork
- Excellence
- Client focus

AT STORK, CORPORATE RESPONSIBILITY IS PART OF OUR COMPANY DNA.

When the foundations of our company were laid in 1868, this included Stork's commitment to Corporate Responsibility (CR), the wellbeing of people and the belief in shared prosperity.

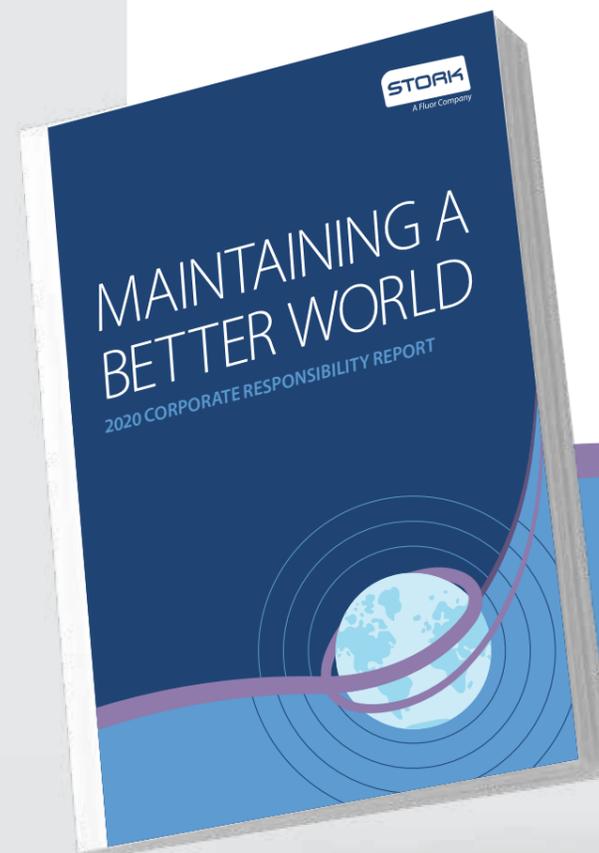
Over 150 years later, CR remains at the core of our purpose and values, with Stork's leadership team fully engaged in driving our long-term vision. Since 2017, Stork's sustainability performance has been reported annually as part of the Fluor Sustainability Report. During 2020, we reflected on our current CR position and took steps to better align and coordinate CR at Stork.

As the world rapidly transitions to cleaner, more resilient and sustainable ways of living, we recognize those challenges as our own. We also recognized the need to be more transparent about our behavior, areas of focus, and progress.

Initially, a core CR team was formed to set out a white paper presented to the Stork Management Team by the end of 2020, with the proposal being fully endorsed to proceed. The core team expanded with additional representatives from each region who became the drivers to make CR happen and come alive across the organization. This Global CR Team meets monthly to share progress, experiences and plans while learning from each other.

Gathering CR stories, activities and initiatives from 2020 formed the heart of Stork's first Global Corporate Responsibility Report. What initially was intended as a brief overview grew to a 100+ page document detailing all the different aspects of corporate responsibility across Stork.

This milestone harnesses just a year in the life of Stork's corporate responsibility commitment – we have so much more to share! The story of Stork's CR journey continues in the publication of our second global report later this year.



Scan the QR code to download the full report.

HSE ANNUAL AWARD CELEBRATIONS FOR THE 11TH YEAR ACROSS STORK GLOBE



Our Safer Together Annual Awards (formerly named REACH Annual Awards) is an event that requires little introduction. It's a flagship in the Stork Annual calendar, proudly now running for 11 consecutive years.

At this annual event, colleagues, clients and industry peers come together across the world to shine a spotlight on HSE efforts demonstrated by our employees over the past 12 months.

While we will remember the year 2020 for quite some time, 2021 certainly still had its challenges as COVID continued to test our resilience and morale. However, our Stork Heroes found ways to do their jobs safely, looked out for each other and maintained focus on keeping our clients' assets running. This spirit and commitment were reflected in the quantity and quality of 2021 Safer Together Annual Award nominations. For the second year, an amazing 700+ nominations were submitted! What makes our Annual Award celebrations unique and successful is that the initiative is employee-owned & led. It's about our people recognizing each other's excellence and selflessly putting teammates forward for Award selection.



Each year, Stork CEO Taco de Haan has the increasingly difficult challenge of selecting one overall winner for the President Award. This is done by reviewing all of the nominations submitted, bringing a very long list down to a shortlist. For the final selection, we look not only for truly outstanding HSE performance but for nominations that demonstrate commitment to Stork's other core values of Integrity, Teamwork, Excellence and Client Focus. Of course, due to the ongoing pandemic restrictions this year (and last), the celebrations were largely virtually hosted. The advantage of this format is that we can invite our entire workforce to connect and be part of the events across our organization.

"When it comes to Safety, it is our core value as an organization, and it's how we want to be recognized in the markets that we operate in – as the Company that is a safe place to work."

Alejandro Escalona, VP Europe

THE AWARD CATEGORIES ARE

- We Care** For solid HSE values, humanitarian behaviors or selfless actions that you admire, respect or are inspired by
- We Support** For HSE collaborations between teams, job sites, customers, communities or regions
- We Protect** For proactive HSE improvements, innovations, preventions, best practices or technologies



Stork Australia

CARING FOR OUR COASTLINE

As part of their corporate environmental volunteering initiative, the Stork Perth team, volunteering with Perth NRM, visited Leighton Beach (Western Australia). For their first activity the team was tasked with removing dune onion weed from a section of the sand dunes.

Originally from South Africa and introduced to Western Australia in an effort to help stabilize dune belts, the weed has now become highly invasive in the region and is rapidly replacing native plants leading to a decline in biodiversity. Manually removing or spraying the weed is the only way to ensure the native vegetation is not overrun. Later that day, the team headed down to the shoreline to collect litter. Despite the beach's generally clean appearance, the team was still able to find a lot of litter, food wrappers, bottle caps, personal care items (wet wipes/tissues, hair ties, band aids) and plastic bag remnants were the most abundant items collected. These items – along with cigarette butts, straws, stirrers and take out containers – contribute to the majority of beach litter across the globe according to data collected during International Coastal Cleanup Day. The improvement of environmental conditions and the development of a culture associated with the care and protection of the environment is a key focus area for Stork. As a result of this day, the Perth team have a better understanding of biodiversity, the environment in their local area, and how their activities at both home and work can impact our fragile environment.



STORK LANDS IN THE NORTHEAST OF ENGLAND

Stork UK has established new offices and warehousing in Teesside. As part of our continuing strategy to grow our operational footprint in the North East of England, UK Clients and industry peers joined us in cementing our commitment to the region. During the opening event, guests witnessed the latest technologies in inspection, heat treatment, corrosion monitoring solutions and special access systems.

The new operational hub located on Wilton International; a 2,000-acre, multi-occupancy manufacturing site situated in the heart of Teesside's industrial area, is home to one of the UK's leading process manufacturing clusters, the East Coast Cluster. Including Net Zero Teesside, the East Coast Cluster has been named as one of the UK's first carbon capture, usage and storage (CCUS) hubs.

Stork's local Teesside facility provides all turnkey solutions under one roof, with a speedy response time and 24/7 cover.



Stork is uniquely positioned across the UK to support its clients throughout their asset's entire lifecycle.

The opening of this new facility is a key growth milestone, which will help support and further develop Stork's existing North East client relationships and establish new partnerships for the future. Stork's investment in the local area truly underpins our commitment to expanding our footprint within the region across our core services and solutions.



TWO AWARD WINS FOR STORK AT THE CHERRIES AWARDS



CHERRIES AWARDS 2022

We're incredibly proud to have not one, but TWO award wins at the cHerRies Awards on Thursday 24th March 2022, the accolades celebrated excellence in the fields of human resources, training and recruitment. The best in HR came together to celebrate the prestigious cHerRies Awards 2022. The worthy winners were crowned at a glittering ceremony held in Aberdeen (UK).

EXEMPLARY EMPLOYER OF CHOICE

Stork won the Exemplary Employer of Choice award, presented to an organization that demonstrates that people are genuinely at the heart of the business. The judges believed Stork presented clear evidence of transformational working practices, leadership, and commitment in an employment environment, making them a sustainable employer of choice.

RISING STAR – JULIE STRONG, LEARNING & DEVELOPMENT COORDINATOR

Stork's Learning & Development Coordinator, Julie Strong, was named the winner of the Rising Star Award! The accolade recognizes an individual in the early stage of their career and demonstrates an outstanding attitude to their work. The judges said that Julie had all of those attributes, using her creativity, skills and initiative to develop and deliver employee development solutions to support their company's aims. They were highly impressed with Julie's energy and enthusiasm for her work and confident approach to taking on additional responsibility and facing new challenges.

Well done, Team Stork; we have a lot to be proud of!

STORK QUALITY SERVICES NUCLEAR QAQC SERVICES

Stork Quality Services has the QAQC Inspection and Quality Assurance technical and professional capability and capacity to support the supply of materials and equipment to the Nuclear Industry. Stork can provide a quality service that delivers a consistent approach to nuclear safety, competency, efficiency and value for our clients.

Stork Quality Services has a rich history of nuclear experience dating back over 20 years and is currently working on various sites and within the supply chain, on major projects throughout the UK and Europe; presently managing quality assignments with our global reach of over 17000 personnel. We make it our priority to work with our clients and supply chain to eradicate technical queries and concessions that significantly impact cost and schedule on projects.

Our commitment to a "First-Time-Right" approach removes these queries and concessions within the supply chain, intending to ensure a Zero Concession Process. This first-time-right ethos requires an early engagement approach, collaborating with our nuclear clients and supply chain to ensure that all stakeholders follow these principles.

Stork Quality Services provide an end-to-end suite of QAQC services. It starts at the early engagement stage of projects, providing teams of quality personnel who work with the clients and suppliers and all associated project stakeholders, supporting the integrated project teams and supply chain with assurance and oversight of manufactured products and lifetime records. A typical contract team may consist of the following:

- > Quality Managers
- > Project Quality Engineers
- > Inspection Coordinators
- > Technical Support Personnel
- > QAQC Inspectors Site and Field Based
- > Remote Digital Inspectors
- > Subject Matter Experts and Specialist Personnel
- > Technical Auditors

CLICKIDEA ARRIVES AT STORK

Stork Colombia recently launched ClickIdea for the contract in Tello and Dina generation centers as part of their dedication to client excellence. ClickIdea is a tool that automates maintenance processes, helping to increase reliability, lower costs, and gives Stork a higher competitive advantage by making daily tasks easier. Thanks to this implementation, employees will be able to have all their reports done automatically and in real-time, letting them more time to focus on their tasks and add value to clients.



MAINTAINING A BETTER WORLD



**DECARBONIZE
EXISTING ASSETS**

**SUPPORT THE
ENERGY TRANSITION**

STORK PROVIDES INTEGRATED OPERATIONS & MAINTENANCE SERVICES ACROSS MULTIPLE INDUSTRIES AROUND THE WORLD.

By having over 17,000 boots-on-the-ground technicians already working at these facilities in the offshore, storage, petrochemical and manufacturing industries, Stork is in a unique position to help decarbonize these assets as well.

Stork is also engaged in the wind, nuclear, solar and hydrogen industries. By providing cost-effective O&M services, Stork supports the energy transition as a pathway toward the transformation of the global energy sector from fossil-based to zero-carbon by the second half of this century.