



# Difficult conditions challenged growth plans

FORCE Technology entered the year 2022 with serious ambitions. It sought to achieve growth in the number of employees, investments, revenue, and profits. However, the coronavirus pandemic, strained supply chains, war in Europe, inflation, and the energy crisis made achieving our goals difficult.



**Hanne Christensen** CEO



**Jesper Haugaard**Chairman of the board



**Per Michael Johansen** Vice chairman

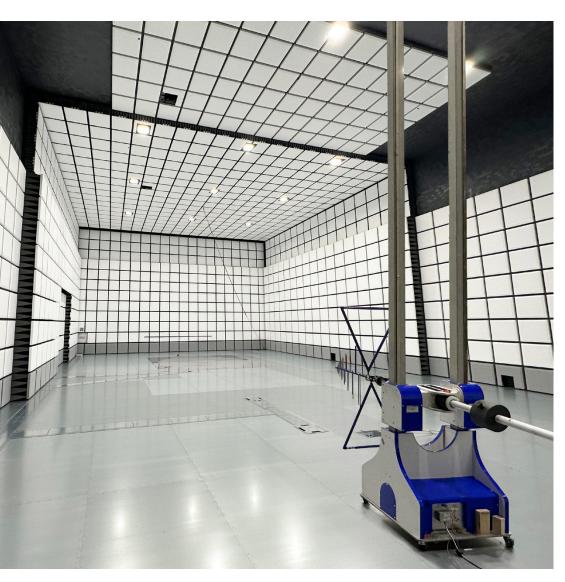
Unpredictability has persisted in recent years, and 2022 was no exception. Rapid adaptation and flexibility have become part of our day-to-day operations, but they can only go so far in offsetting some of the impact on our finances. In particular, the first half of 2022 was characterised by a general decline.

The coronavirus pandemic was still a factor for much of the world, and combined with strained supply chains, we could not fully leverage our capacity despite the large volume of orders we received. This resulted in missed deliveries for our customers. For instance, our gas calibration division faced logistical issues with customers' meters sent in for calibration. Additionally, sanctions brought about by the war in Ukraine meant that some customers could no longer receive our services. In other business areas, a shortage of skilled labour impacted our growth ambitions. Furthermore, the energy crisis and inflation resulted in significantly higher expenses. These factors combined made the first half of the year especially challenging.

In the second half of the year, conditions gradually improved. We once again achieved growth, although our revenue and earnings fell short of initial expectations. Issues with procuring electronic components and equipment continued through the year, which particularly impacted deliveries to customers in the wind industry. High energy prices, especially in the second half of the year, led us to impose a variable energy surcharge on customers in Denmark. In concert with an internal energy-saving campaign, this allowed us to cover our additional energy costs. Rising inflation also resulted in generally greater expenses, leading us to raise prices twice in 2022.

#### Higher turnover but lower earnings

Despite the unfavourable conditions, our revenue increased in 2022 by 44 million DKK to 1,063 million DKK, corresponding to growth of 4,3%. In Denmark, our NDT Services division succeeded in both compensating for the loss of a major customer in 2021 and becoming the single greatest driver of growth in 2022. The implementation of



the 2024 Strategy also produced greater revenue, particularly in the wind industry, despite setbacks from logistical challenges and component shortages in this area. The energy surcharge and price adjustments also contributed significantly to the increase in revenue.

On the other hand, our expenses also increased in 2022. While rising energy costs were covered by the energy surcharge, our price adjustments were not fully able to compensate for general price increases among our suppliers. Increased 2024 Strategy activity, IT security, and compliance measures also resulted in greater expenses. Our EBIT were 4 million DKK, down by 12 million DKK relative to 2021.

This can be considered satisfactory in view of the difficult conditions and the continued implementation of the 2024 Strategy.

#### **Progress in subsidiaries**

While the Danish portion of the business struggled to meet expectations, our Norwegian subsidiary had more favourable news to report in 2022. FORCE Technology Norway AS increased its revenue by 15 million DKK despite closing down its structural analysis division, ending 2022 with a profit of 8 million DKK – its best performance since 2014.

In Sweden, DELTA Development Technology AB continued its investments with a complete renovation of its EMC facilities. The temporary closure caused revenue to fall by 4 million DKK relative to the previous year, for an overall decrease in profits of 5 million DKK relative to 2021. However, the project was completed more rapidly than planned; consequently, both revenue and profits for 2022 exceeded expectations.

In 2021, our AeroCollect® subsidiary concluded a sales and distribution agreement with INDICAL Bioscience Switzerland AG, contributing to revenue of 2 million DKK for 2022, although the subsidiary recorded a loss of 4 million DKK. Customers see significant potential in the technology, but it is taking more time than expected to replace existing methods.

#### Social responsibility and sustainability

Taking social responsibility is one of FORCE Technology's fundamental values. To that end, sustainability is an important element of our internal and external strategic focus. In 2022, we developed our first sustainability strategy. Our goal with this strategy is to take greater social responsibility and contribute to achieving the UN's sustainable development goals for 2030.

This strategy is divided into key areas: the climate and environment, social sustainability, financial sustainability, and indirect impacts through our customers' use of our products and services-sometimes referred to as a "handprint". In the climate and environment area, we aim to reduce our emissions and environmental impact while optimising resource consumption. In the social sphere, we are focusing on health, safety, and diversity, as well as on how to act in a socially responsible manner when dealing with employees, customers, and partners. In the financial sphere, our strategy sets out how we can run a healthy business, focusing on documentation and providing management with a solid decision-making foundation.

A climate statement has been prepared for FORCE Technology in Denmark based on the year 2019, with a total  $CO_2$  eqv. contribution of 8,091 tonnes. Using this information, we have set a specific target to minimise our impact on the climate. We aim to reduce our  $CO_2$  emissions by 25% from 2019 to 2024 relative to revenue developments. In 2022, our emissions totalled 6,405 tonnes of  $CO_2$  eqv., corresponding to a 21% reduction; thus, we are already close to achieving our target. Beginning in 2023, our locations in Norway and Sweden will be included in our climate statement.

As part of our social sustainability work, we are actively engaged in promoting gender diversity, and we signed DI's Gender Diversity Pledge in 2021. In 2022, we also set specific targets for gender diversity within the company.

In 2021, female employees made up 22.5% of our workforce, and our goal is to reach 25% by the end of 2024. In 2021, female managers made up 18.7% of all managers, and our goal for 2024 is 22%. Not including those elected by employees, women made up 25% of our board of directors; our target for 2024 is 33%.

At the end of 2022, women made up 24.1% of all employees and 21.1% of all managers. Not including those elected by employees, women make up 40% of the board of directors. We are thus close to our targets in all three categories, and have even exceeded our target for the board of directors. Apart from attracting more women to FORCE Technology, we are also focusing on retaining female employees.

One of the tools we are using to achieve our targets for 2024 is the equality plan we developed in 2022, in which we identify, measure, and make plans to eliminate any gender-based inequality in the company. As part of our efforts to attract more women,

particularly in technical fields, we have also increased our focus on recruitment. This focus is expressed through such factors as the wording of job postings and applicant screening practices.

In our efforts to ensure transparency, we have decided to make public data on the combined remuneration to our executives and directors. In 2022, this amount was 5.1 million DKK, plus 0.2 million DKK in directors' remuneration in FORCE Technology Norway. Similar remuneration were not paid out at other foreign subsidiaries. Remuneration were issued to 15 board members and one executive.

#### A future with restrained growth

FORCE Technology is financially and strategically well-equipped to enter the year 2023, but high inflation, the energy crisis, the risk of a recession, and labour market challenges have tempered expectations for growth in the year to come. In view of this, we expect an increase in revenue of 4% to 5%. Continued investment in 2024 Strategy activities and significantly higher financing costs lead us to expect profits on par with 2022.





REVENUE

1,063

**OPERATING PROFIT** 

**4** MDKK

NUMBER OF EMPLOYEES

950

# Off to a good start with the 2024 Strategy

In 2021, FORCE Technology launched a new strategy that sets a new direction and specific goals towards the year 2024. Six new market areas made their débuts. This section provides updates on how things are going in Power-to-X, life science, circular economics and resources, wind energy, and hybrid testing.



#### Power-to-X

In the early years of this strategic period, this market area has been focused on three sub-areas: CCUS, component suppliers, and PtX systems. In autumn 2022, FORCE Technology also published a survey and analysis of opportunities in this area in collaboration with three other GTS institutes: DBI, the Alexandra Institute, and the Technological Institute.

#### Life Science

Our ambition is to double our revenue in the life science industry by the end of 2024. In view of this goal, we have concluded framework agreements with several of Denmark's largest pharmaceutical and biotech companies. We have also launched numerous R&D projects and expanded our collaboration with the Danish Life Science Cluster.

### Resources and circular economy

In the first part of the strategic period, we have focused on identifying which products and services we are already offering, which new ones we need to develop, and how we can best sell them now and in the future. Focus areas include reuse and lifetime extension, sustainability in design, and sustainability documentation.

#### Wind energy

Wind is an area in which we already hold a strong position, which will be further expanded within the scope of the new strategy. We have increased our focus on the United States and Asia, where this area has seen a high volume of activity and many market opportunities in recent years. Strained supply chains have caused problems in the early part of this strategic period, but there are signs of improvement, and incoming orders appear promising.

#### Defence & Space

In light of the war in Ukraine, 2022 saw an increased focus on the defence industry. As policymakers prioritise the Danish military and the end of Denmark's EU defence opt-out, we see potential in strengthening existing good relationships with the defence and space industry. To that end, we established a new market area for this sphere in late 2022.

#### Hybrid tests and digital services

We aim to develop digital solutions that benefit our customers and us alike. To that end, we have surveyed our existing digitalisation efforts and begun developing new digital solutions along three lines: digital workflows, customer portals, and automated test result collection. Numerous digital services have been launched on the market to great success, including SenseLabOnline and SimFlex Cloud.

#### POWER-TO-X

# Fuel cell certification for emission-free ship-ping



The shipping industry is facing a massive transition to green fuels, including hydrogen, ammonia, and metha-nol. Ballard Power Systems designs, develops, and delivers fuel cell systems that convert hydrogen to electrical energy through a chemical reaction while producing only water as a by-product. This energy can be used to operate ships, buses, trucks, trains, emergency power systems, and other kinds of systems and vehicles with zero emissions.

Most recently, Ballard developed the FCwave<sup>™</sup> fuel cell module for use in the maritime industry. A single module has an output of 200 kW. By combining multiple modules, it's possible to power even large craft, like the cruise ferries that run between Copenhagen and Oslo.

However, bringing a module like the FCwave<sup>™</sup> to the market requires testing and approval before it can achieve maritime certification. As part of the certification process, FORCE Technology performed numerous tests on the FCwave<sup>™</sup>. For example, FORCE Technology tested the fuel cell for electromagnetic compatibil-ity (EMC). An EMC test can determine whether the fuel cell could disrupt other systems on board a ship, such as the emergency radio.

Additionally, FORCE Technology hosted several climatic stress tests of the module. These tests were config-ured to show that  $FCwave^{TM}$  can withstand the temperatures in an engine room without incurring damage.

With its certification taken care of, FCwave<sup>™</sup> is officially the world's first fuel cell module to receive DNV approval for maritime use. This makes Ballard an industry leader in green, zero emissions shipping.



#### WIND

# Floating wind turbines can produce energy for the whole world-and then some



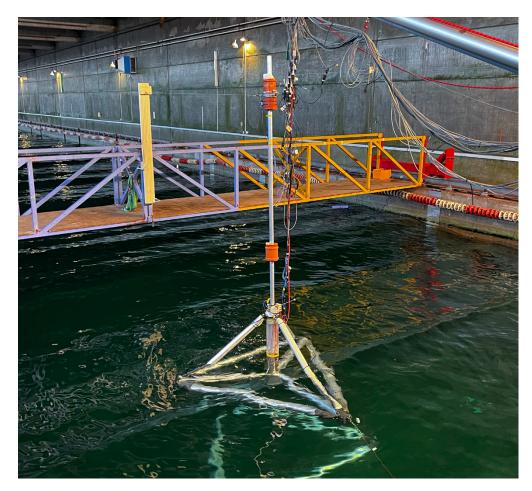
Offshore wind turbines have been used, studied, and refined for three decades now. Offshore turbines have clear advantages; as a rule of thumb, they can produce 50% more energy than turbines on land. However, offshore wind has traditionally been limited by the fact that turbines can only be installed at sea floor depths of up to 60 metres. Deeper waters require floating foundations.

This technology is currently in development, and Stiesdal Offshore, based in Denmark, is one of the world's leading developers of floating foundations for offshore wind turbines. The business is one of few actors in this area to have conducted a full-scale demonstration project with a floating offshore wind turbine. In December 2021, Stiesdal Offshore's TetraSpar Demonstrator began operating in Norwegian waters with a depth of 200 metres. Another variant, known as TetraSub, was selected for an upcoming offshore wind project in Scotland.

FORCE Technology has tested both foundations on a small scale. The goal was to collect data on how floating wind turbines behave when subjected to winds of different speeds and waves of various types, including how they are impacted by what is referred to as a 50-year wave.

The turbines can be placed in waters with depths from 60 to 1000+ metres, and the floating foundations can be used around the world without the need to build new structures for every offshore wind project.

According to the International Energy Agency (IEA), floating wind turbines have enough growth potential to provide 10 times the entire world's energy consumption, which would make them major contributors to the green transformation.



#### LIFE SCIENCE

# Comprehensive hearing aid testing grants access to the American market

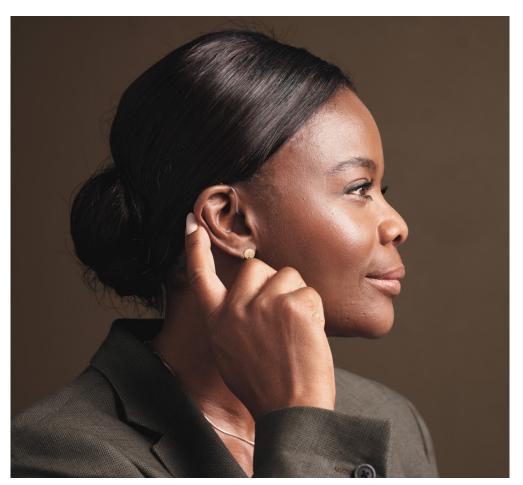


It is estimated that 466 million people around the world suffer from hearing loss, and this figure is rising. As with all medical devices, hearing aids are subject to strict regulatory requirements. In 2022, the EU introduced even more stringent regulations on medical devices.

These regulations invalidated existing approvals for medical devices, requiring all affected products to be re-tested. WSA, the third largest manufacturer of hearing aids and accessories worldwide, had to conduct new, comprehensive EMC safety testing on its products. To accomplish that, it turned to FORCE Technology for assistance.

One of the company's goals was to gain access to the American market with over-the-counter (OTC) hearing aids, alongside Sony. These hearing aids can be purchased directly from retailers without first seeing a doctor or getting a prescription. Obtaining approval for OTC devices in the United States is no easy task. The OTC device regulations are codified in a 200-page document that took five years to develop.

Thanks to FORCE Technology's consultancy services, comprehensive testing programme development, and documentation, WSA and Sony were able to secure approval from the United States Food and Drug Admin-istration, enabling them to launch the their first OTC devices on the American market.



#### RESOURCES AND CIRCULAR ECONOMY

# Wind turbine blades: from waste problems to waste opportunities



Wind turbines are a symbol of the green transition, but they also pose a waste problem. What do we do with worn-out wind turbine blades, anyway?

Up until now, the solution was typically to bury them in the ground, but Clenflex, an SME, had a better idea: reusing the composite material in turbine blades for objects like small tanks and boxes for life vests and life-boats. With this in mind, the company participated in a MADE Demonstration Project together with FORCE Technology.

As part of the project, the glass fibres and binders from worn-out wind turbine blades were separated using heat before being moulded into new glass fibre plates. Tests conducted on the new plates showed that the recycled glass fibres have 25-30% of the strength of new glass fibres, but this is no obstacle to large-scale recycling.

There are countless products that do not require glass fibre to be as strong as they need to be in wind turbine blades, or where recycled glass fibre can be used in some parts of the product, while new glass fibre is used in areas where maximum strength is needed.

Clenflex is now working on scaling up this process so larger pieces of composite material can be recycled in larger facilities that might eventually create jobs and become exporters.



#### **DIGITALISATION AND HYBRID TESTS**

# Digital twin strengthens training of dairymen



Many things can go wrong in dairy operations if data, processes, and maintenance are not under control down to the last detail. In view of this, FORCE Technology and the Alexandra Institute have developed a digital twin of a pasteurisation system at Kold College as part of a pilot project. The digital twin is expected to help employees and vocational school students to make better decisions and develop smarter procedures.

An IoT tool can collect data, such as temperatures in production systems, and the twin can simulate dairy production operations—for instance, it can predict how much biofilm will be formed. Minimising the formation of biofilm during the production of dairy products is desirable. The data collected will allow dairy employees and students to adapt procedures and prevent this problem from occurring.

Preventing biofilm from forming reduces costs, improves safety, and boosts hygiene and resource efficiency. It also allows Kold College to prevent unnecessary downtime, where nothing is being produced.

The goal is for the digital twin to eventually be used to train future employees of dairies in Denmark and the other Nordic countries.



### We take responsibility

As a GTS institute, FORCE Technology has a special role in society, and that role comes with special obligations and responsibilities. We aim to make the world safer and more sustainable. To that end, we are actively working to minimise our  $\mathrm{CO}_2$  emissions, promote diversity, and refine technologies, making them available to businesses through participation in research and development projects.

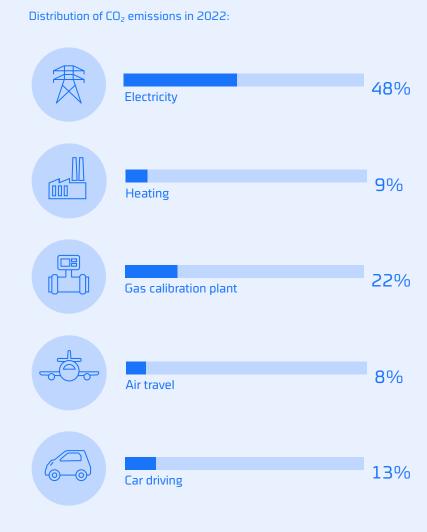


### Carbon footprint

FORCE Technology strives to make the world safer and more sustainable. For that reason, we prepare a climate statement every year, allowing us to use the right data to set ambitious targets for reducing our emissions.

Emissions in 2022: 6,405 tonnes of CO<sub>2</sub> equivalents

The reduction is 21 % compared to 2019 and close to the 2024 target of a 25 % reduction.







Female employees in 2022: 24,1 % Goal in 2024: 25 %



Female managers in 2022: 21,1 % Goal in 2024: 22 %



Female board members\*
(excluding employee elected) in 2022: 40 %
Goal in 2024: 33 %

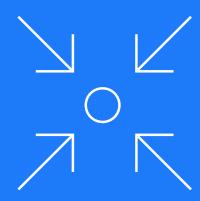
<sup>\*</sup> The proportion of female board members incl. employee elected members is 50 %

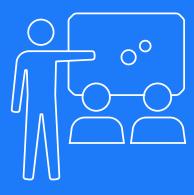
### Research and development

As one of the large GTS institutes in Denmark, we are an important part of the Danish innovation system, and through participation in R&D projects we help mature new technologies and make them available to companies. In 2022, we had record R&D activity – and increased participation in national initiatives.









#### Clusters and standards

Knowledge partner in 12 of 13 clusters Member of the board in 6 of 12 clusters Member of 176 standardization committees

#### Professional clubs

12 professional clubs
1,500+ individual members
530+ member companies

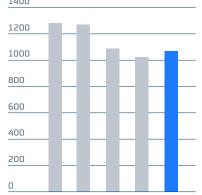
#### Courses and webinars

245 courses20+ webinars3,700+ participants

## Key figures



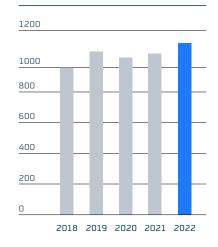




2018 2019 2020 2021 2022

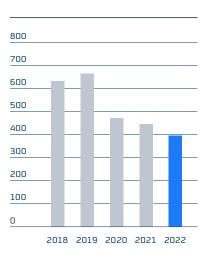
REVENUE PER EMPLOYEE

TDKK



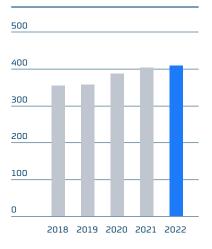
#### **REVENUE, INTERNATIONAL**

MDKK



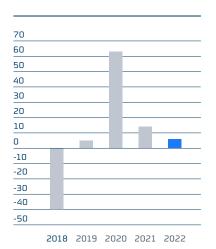
#### **EQUITY**

MDKK



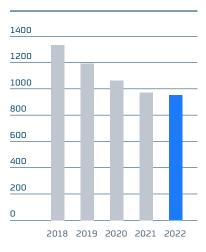
#### PROFIT OR LOSS FOR THE YEAR

MDKK



#### **NUMBER OF EMPLOYEES**

ANNUAL AVERAGE



### Excerpts from the Group's annual report 2022

Profit and loss account

1 January – 31 December

	<b>GROUP</b> 2022 DKK 1,000	<b>GROUP</b> <b>2021</b> DKK 1,000
Group revenues	1,062,748	1,018,672
Other income	7,708	7,203
Direct case-related expenses, disbursements	171,107	156,003
Other external expenses	159,558	116,409
Employee expenses	685,520	675,932
Amortisation and depreciation	56,928	78,267
Special items	6,800	16,989
Operating profit	4,143	16,253
Profit shares	5,091	1,094
Profit before interest etc.	9,234	17,347
Financing, net	-2,114	-1,072
Profit/loss before tax	7,120	16.275
Tax	1,593	2,719
Profit/loss before minority interests	5,527	13,556

### Excerpts from the Group's annual report 2022

Balance sheet as of 31 December Assets

	<b>GROUP</b> <b>2022</b> DKK 1,000	<b>GROUP</b> <b>2021</b> DKK 1,000
Fixed assets		
Goodwill	0	202
Other intangible assets	65,378	36,197
Development assets under construction	32,428	27,892
Total intangible fixed assets	97,806	64,291
Land and buildings	109,027	111,309
Fixtures and equipment	135,979	143,885
Total tangible fixed assets	283,227	276,691
Capital shares	33,926	32,727
Other financial assets	52,157	52,157
Total financial assets	86,083	84,884
Total fixed assets	467,116	425,866
Current assets		
Stock and work in progress	110,042	73,874
Receivables related to work in progress and completed work	237,485	194,203
Other receivables	41,723	42,859
Securities	4	4
Liquid assets	66,876	138,512
Total current assets	456,130	449,452
All assets	923,246	875,318

### Excerpts from the Group's annual report 2021

Liabilities

	<b>GROUP</b> 2022 DKK 1,000	<b>GROUP</b> <b>2021</b> DKK 1,000
Equity	410,098	405,228
Other provisions	35,832	0
Total provisions	35,832	47,662
Prepayments	2,451	3,064
Mortgage debt	137,384	117,619
Holiday pay provisions	59,156	56,362
Total long-term debt	228,282	210,454
Short-term part of long-term liabilities	7,681	4,850
Bank debt	1,251	734
Creditors and accrued expenses	50,785	38,390
Pre-payment and pre-invoicing	42,060	33,148
Other debt	83,738	60,561
Total short-term debt	249,034	211,974
Total debt	477,316	422,428
Total liabilities	923,246	875,318



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