FORCE TECHNOLOGY

Annual Report 2004

Contents

Management report

FORCE Technology generated growth of 14.5% despite a weakening market

FORCE Technology has completed yet another exciting and remarkable year with high activity levels, although the business and financial trends did not meet expectations and thus do not reflect the raft of positive measures and events during the year.

Following 2003, which was characterised by a slowdown and stagnation in several areas, FORCE Technology had looked to 2004 to present a breakthrough in its Danish activities.

However, in line with other consulting companies and the general business environment, FORCE Technology bore the brunt of the industrial sector's sustained reluctance to make new investment in 2004, which, among other things, is markedly reflected by virtually no new assignments having been offered for major construction work in the past 12 months.

Moreover, FORCE Technology is increasingly bearing the brunt of Danish production companies outsourcing their activities to lower-cost countries relative to Denmark.

For 2004, FORCE Technology generated group turnover of DKK 694m, which is DKK 88m or just over 14.5% higher than in 2003. The increased turnover comprises a decrease in turnover within the traditional business areas, and the activities of dk-TEKNIK ENERGY & ENVIRONMENT contributed more than DKK 71m to turnover. Moreover, the acquisition of the Norwegian activities in mid-2003 has not fed fully through to results until 2004, thus increasing turnover by some DKK 45m in 2004.

The group profit for 2004 runs into DKK 5.3m relative to DKK 2.3m in 2003, which is not satisfactory. The low earnings are due to deteriorated profitability in several key business areas of FORCE Technology and inadequate profitability generated by the subsidiaries in Sweden and Norway.

Erik Søndergaard
Chairman of the Board of Directors

Ernst Tiedemann
Managing Director

In 2004, in Denmark, FORCE Technology generated a turnover of DKK 532m, which is an increase of DKK 66m relative to 2003.

The Danish operations generated a profit for 2004 of DKK 13.3m, up from DKK 4m in 2003. The profit is favourably affected by the recognition of inventories of DKK 6.5m and negatively affected by restructuring costs of DKK 1.6m recoded in the annual report as 'special items'.

In addition, the profit on ordinary operations is negatively affected by goodwill amortisation of DKK 3.6m relative to the acquisition of dk-TEKNIK ENERGY & ENVIRONMENT which is charged to the P/L account. Adjusted for the above items, the profit for 2004 is DKK 12m.

In Sweden, FORCE Technology generated turnover in 2004 of DKK 86m relative to DKK 103m in 2003, and the Swedish operations recorded a loss of DKK 4.5m for 2004.

In Norway, FORCE Technology generated turnover of DKK 91m and recorded a loss of DKK 4.4m.

In 2004, the group's staff averaged 949 employees relative to 885 in 2003.

Heading for new objectives

In 2000, FORCE Technology implemented a number of far-reaching strategic decisions to e.g. restructure its business into a product line organisation and set aside dedicated resources for stimulating further growth in the company.

The results of this strategy have subsequently proved sustainable with FORCE Technology increasing its turnover by 77% and the equity capital by 48% as immediate consequences of the positive earnings generated in the past 12 months.

These developments, management believes, are satisfactory and, among other things, they have enabled a sustained focus on the development of competences, new business areas, growing internationalisation and ensuring acquisition-led growth as a direct supplement to and support of the overall business objectives.

In this context, FORCE Technology wants to target its efforts on Scandinavia as its primary market and activity area considering the solid base already established by the company in Denmark and by way of subsidiaries in Sweden and Norway. Thanks to the specialised busi-

ness focus of the subsidiaries and their client-specific activities, FORCE Technology is today operating in the international market where its core competences are in demand.

Thus, these developments have so far led to FORCE Technology being present with its own offices in Holland, Canada, USA, Brazil and Russia in addition to activities in Sweden and Norway, and its parent company in Denmark.

Internationally, FORCE Technology's competences within notably the maritime sector, simulation, sensor technology, automated testing and integrity management enjoy the highest demand among its consulting services.

FORCE Technology sharpens its focus on energy and environmental issues

As of 1 January 2004, FORCE Technology has acquired the activities of dk-TEKNIK ENERGY & ENVIRONMENT, thus expanding its staff by some 100 employees and turnover to the tune of DKK 71m.

The acquisition immediately strengthens FORCE Technology's competences in energy and environment at a highly developed and internationally recognised level with the possibility of achieving an even more noticeable position vis-à-vis a broad spectrum of existing and future Danish and international customers.

The acquisition further fortifies FORCE Technology's position in consulting, research and development of environmentally correct process and energy enhancements, integrated environment and product assessments, air pollution and its origin, and within a wide range of technology services that appropriately supplement the existing core competences.

FORCE Technology and dk-TEKNIK ENERGY & ENVIRONMENT communicate well with both Danish and foreign companies and public clients, and so far the two companies have largely served identical target groups with different approaches to customers, tasks and solutions.

Whereas the expertise of FORCE Technology has focused on consulting and optimisation of process equipment in the planning and operational stages, the focal point of dk-TEKNIK ENERGY & ENVIRONMENT has been the optimisation of the customer's corporate processes and a reduction of the customer's energy consumption and environmental impact. Thus, the opportunities for optimising and streamlining the joint competences and services in this key business area are obvious, and they will lead to definite synergies and competitive edge.

The business activities are integrated in FORCE Technology Energy and Environment, and are run as an independent division that is fully integrated in FORCE Technology.

Future developments

Short term, FORCE Technology will intensify its efforts on improved corporate earnings, i.e. on a period of consolidation instead of growth.

At present, FORCE Technology has achieved its objective of ranking among the leading and trendsetting players in the European markets with positive expectations to future developments.

In this context, FORCE Technology looks for market developments in 2005 to be on a par with 2004 although with slightly higher activity levels in the energy and maritime sectors.

Among other things, FORCE Technology expects the oil and gas industry to maintain high investment and activity levels in 2005, and that it will be able to achieve a much more noticeable position than previously by utilising existing and acquired competences in integrity management.

The international maritime sector enjoyed a very favourable year in 2004, and the 2005 forecasts for this sector are very promising. Therefore, FORCE Technology expects its corporate activities and services in this sector to develop favourably 12 months ahead.

At the same time, FORCE Technology will carry on its organisational optimisation in terms of competences and business activities to continue meeting the market requirements. An obvious task, for example, is to convert the inflow of several new competences following acquisitions in recent years and the subsequent synergies into the overall organisation and the ongoing value creation. The organisation expansion, in particular, which comprises several highly specialised and recognised employees, will help to ensure sustained growth and value creation.

With a view to enhancing profitability FORCE Technology will in 2005 take further steps to exploit the raft of technological and market synergies on the basis of strong competences, its business base and stronger focus on utilising new business opportunities in international markets and several sectors, and sustained healthy and strong financials.

Hence, the next phase will focus on ensuring a more profitable task execution in our core areas of technology innovation and consulting which contribute to creating value for customers and FORCE Technology.

Brøndby, 10 March 2005

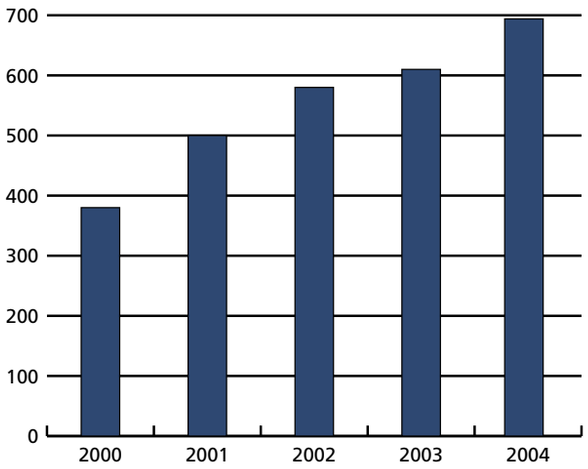
Erik Søndergaard
Chairman of the Board of Directors

Ernst Tiedemann
Managing Director

Key financial ratios

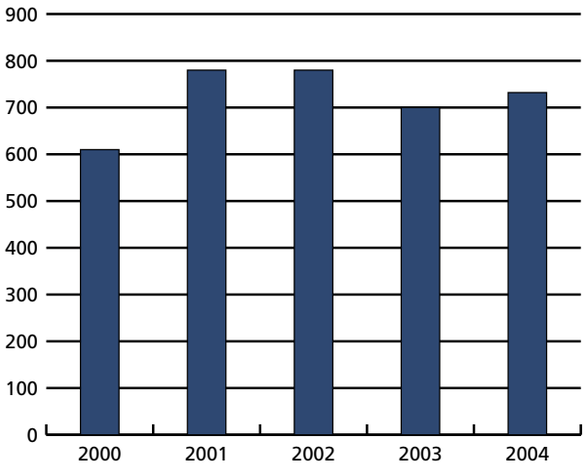
Turnover

DKK million



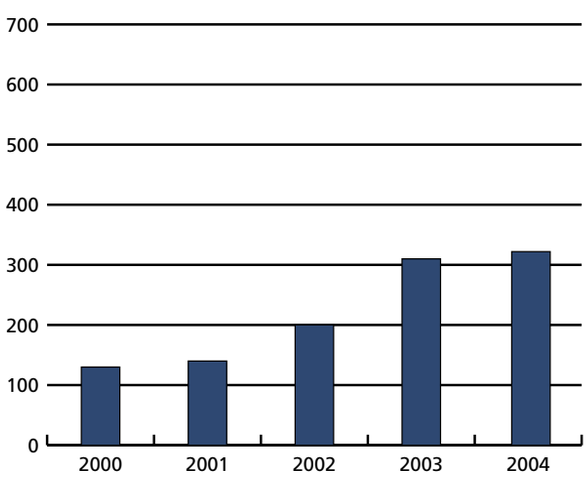
Turnover per employee

000 DDK



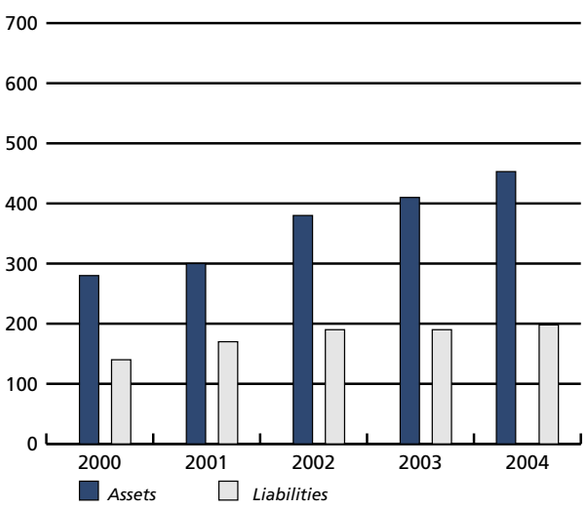
Turnover, international markets

DKK million



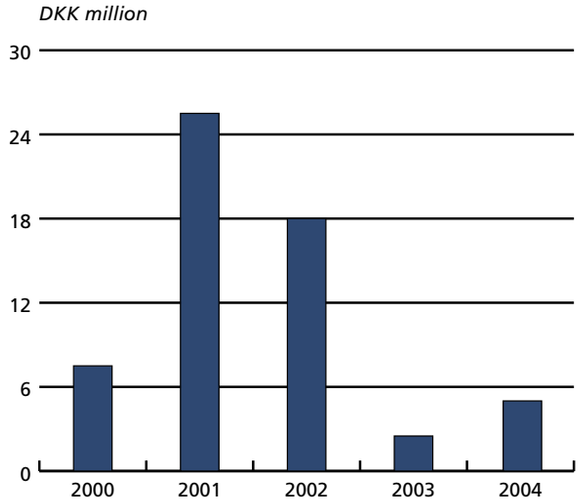
Equity capital

DKK million

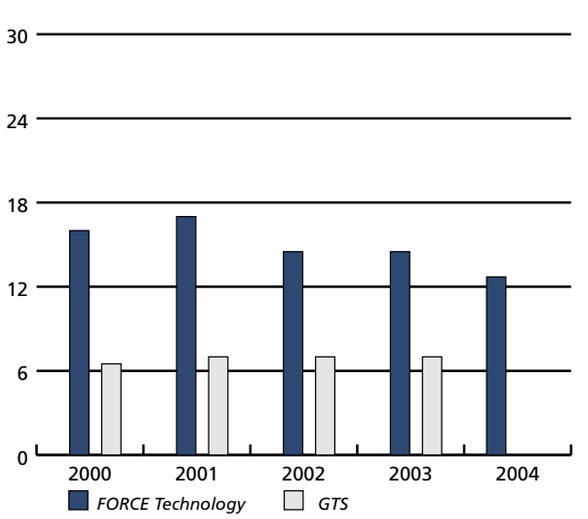


Profit

DKK million



The knowledge distribution factor



FORCE Technology in brief

Who are we?
FORCE Technology is one of Denmark's leading technology, consulting and service companies on the international market. Our efforts are targeted at transforming highly specialised engineering knowledge into practical and cost-effective solutions for a broad spectrum of sectors and industries. Solutions that strengthen the customer's competitiveness and build on the customer and sector appreciation that we have achieved by handling thousands of different issues on behalf of our customers for more than 60 years.

We employ a staff of just over 1,000 people located at the headquarters in Brøndby and subsidiaries in Sweden, Norway, Holland, Russia, Canada, USA and Brazil. Our customers represent several sectors and industries worldwide.

FORCE Technology is the only consulting and service company that offers comprehensive solutions, accommodating our customers at any organisational level, ranging from management systems to corrosion protection, and which enhance customer competitiveness.

Vision and mission statements

FORCE Technology's vision and mission are based on a number of core values that provide the foundation for the company's long-term development and daily operations.

Vision statement

We want to be the customers' preferred collaborative partner in projects with a high degree of specialised knowledge.

We want to participate in these projects from the early concept phase to the delivery of a turnkey project. At the end of each project, we will verify that the customer has received the expected functionality, efficiency and added value.

Mission statement

It is our mission to develop and market value-creating technologies, solutions and services that enhance the competitive edge of our Danish and international customers, thus helping them to fulfil their business targets and visions.

One-stop-shopping

As one of a number of select suppliers globally, FORCE Technology offers its customers the possibility of one-stop-shopping' on the basis of its wide and complementary selection of technologies and knowledge.

We provide advice on, develop and serve our customers within the following core areas:

- Optimisation of production and processes
- Materials utilisation, protection and analysis
- Maritime technology
- Integrity management
- Inspection, testing, calibration, verification and certification
- Utilisation and development of sensor and metrology technology
- Optimisation and development of management systems
- Energy and environmental technology.

Hence, we provide you with a collaboration partner that possesses and delivers all the services required for your projects – this is your one-stop-shopping.

One of nine GTS companies

FORCE Technology is one of nine GTS companies (GTS is the Danish abbreviation of 'approved technology service'), supporting innovative Danish business and constituting the core of Danish technology infrastructure. The purpose of GTS is to build and develop application oriented knowledge and new technology for Danish corporates.

As workplace FORCE Technology is characterised by its many highly qualified and skilled employees who command both theoretical and practical competences. We put emphasis on employees sparring with each other at local and international levels, thus enabling us to present customers with the optimum solution at any time.

FORCE Technology and its customers

Our solutions add value to the customers

With FORCE Technology you gain unique competitive advantages because we focus on developing flexible and innovative solutions that benefit your company's specific needs and wishes.

Therefore, you can safely leave your challenges to be taken care of by FORCE Technology, right from the early conceptualisation phase to delivery of a turnkey project. On project completion, we document how the customers will achieve the expected functionality, efficiency and added value. In brief, we help you achieve your objectives.

Strategic partnership

Assisting you achieving your goals poses great demands on us; it assumes that we fully understand you, your sector-specific conditions and that we are able to identify your current and future needs.

Practically, this is only achievable by entering into close collaboration. Therefore, we always want you to make a strategic partnership where we agree on common goals to be achieved by our collaboration.

Specifically, we will jointly prepare tailored agreements focusing on the value that we can agree on in collaboration. Hence, our collaboration will be both close and constructive and based on a sharing of risks and rewards. That provides for the safety and commitment which ensures that we both add maximum value to the partnership.

Finger on the pulse

Customers with FORCE Technology do not only get access to one of the largest knowledge banks in Europe within development of new knowledge and new technologies but also to a wide international knowledge network that is trendsetting for a number of business areas. With this strong base as a support, and considering individual customer needs and objectives, we are able to deliver services that transform knowledge and experience into specific action and value-creating activities.

We apply state-of-the-art and the most advanced technologies and methods focused on:

- rendering advice and offering services based on your specific situation and needs
- creating value for your business processes, production and products
- educating and training your staff with a view to enhanced productivity
- sharing knowledge and risk in a partnership
- expert knowledge and practical experience with materials, production and testing technology
- visible and measurable results by way of reduced costs and minimum excess production.

The employees of FORCE Technology

Competent readiness

FORCE Technology is an exciting place to work and dominated by highly technological services, products and consulting provided on the basis of the latest innovative and research results.

Significant demands are posed on our employees who are among the most skilled and acknowledged in their league. They do not only appreciate their area of work but they also contribute to a working environment that encourages creativity and innovative thinking, and they create developments and dynamics through cross-organisational collaboration.

Our corporate and organisational cultures, spanning offices in eight countries worldwide, provide our staff with the opportunity to work and develop themselves in an international environment. At the same time, we promote freedom with responsibility and quick decision-making processes. All that benefits our customers.

Knowledge sharing and international networking

Knowledge sharing is another keyword, and our employees enjoy access to any relevant international network that contributes to setting professional standards.

Also internally, at meetings and using an electronic information system, employees share knowledge with each other.

Business areas

FORCE Technology has divided its business into nine areas based on specialist knowledge and competences. From these nine business areas we compose cross-organisational project teams of experts in the individual tasks whether they involve consulting, training or new development. Thus, we ensure our customers are always provided with appropriate knowledge and competences and eventually obtain the best possible and most value-adding solution. To further ensure high quality in its deliverables to our customers, FORCE Technology commands a large number of key DANAK accreditations.

Below follows a brief presentation of our business areas mainly considering a small selection of specific services.

Welding and production innovation
Expert in all known methods – from arch welding to laser welding, the business area undertakes both consulting and practical tasks, irrespective of the company's size and extent of the task.

We also offer highly professional welding courses, enabling our customers' welders to enhance their skills and maintain their expertise.

FORCE Technology is accredited to perform personal and system certification of welders and welding tasks at FORCE-Dantest CERT.

Examples of our services:

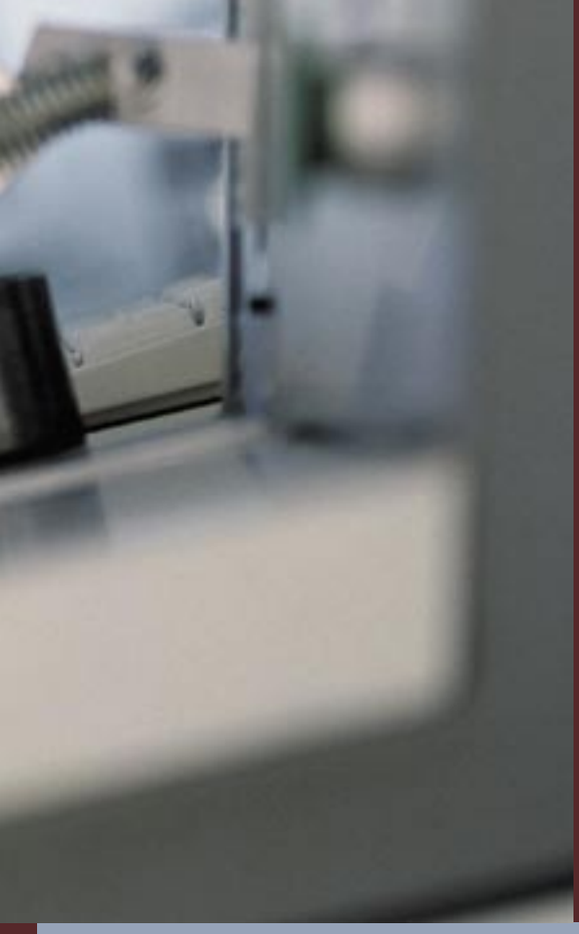
- Welding technology and quality control of welding
- International consultancy
- Training and course activities (approved EWF training centre)
- Software vendor
- Production management, simulation and robotisation
- Laser processing, cutting and surface treatments
- Quality control and welding
- Pilot production.

Sensor and NDE innovation
These activities include a broad spectrum of technological consulting and specific solutions with the purpose of optimising and rationalising customer productivity and employee safety.

We are world leaders in this area and pioneers in using state-of-the-art and advanced sensor technologies. This includes, for example, the use of sensors in production processes that can identify and reduce production errors, or for quality control and documentation purposes.

Examples of our services:

- Research and development in metrology methods, sensors and non-destructive testing (NDT)
- Development of customised sensor solutions for ultrasound, X-ray and



We have composed our services and competences to assist customers in meeting their objectives – from concept and implementation to delivery and documentation. When we solve a particular task we therefore compose the specific team that is required by the customer, be it within consulting, new developments or training.

isotope solutions, and optical and electromagnetic methods
- Development of procedures and equipment for ultrasound and eddy current inspection
- Software solutions for planning, implementation and documentation of automated inspection
- Accredited testing (NDT)
- Ultrasound hydrophones
- Tracer studies in the processing industry, offshore and wastewater treatment plants.

Inspection and testing

We offer consulting and testing services to ensure, for example, that our customers meet the relevant statutory requirements, EU directives, industry standards and other standards. FORCE Technology is accredited by DANAK. Testing is therefore always guaranteed to meet a high and credible level of quality.

Examples of services:

- Non-destructive testing (NDT) that is performed by specially trained and certified inspectors
- Inspection and testing – notably of welded structures, pressure containers and pipe systems
- Measuring corrosion on containers and vessels
- Mechanical materials testing
- Product testing and certification, e.g. with a view to CE marking.

Energy and environment

We offer advisory and consulting services to ensure our customers get the most from their investments in the energy and environmental areas.

Examples of our services:

- Energy management (Energy-Key)
- Projecting of energy and environmental plants
- Processing and energy optimisation
- Life-cycle assessments (LCA)
- Life-cycle management (LCM)
- Environmental management including environmental assessments and green accounts
- Technical environmental consulting
- Noise and vibration measurements
- Air pollution measurements
- Odour measurement and analysis.

FORCE Technology is accredited by DANAK to perform air pollution measurement.

Quality and metrology

This business area comprises system development where we offer consulting and training within:

- Quality management – ISO 9000
- Environmental management – ISO 14001
- Health and safety management, the Danish Working Environment Authority's regulation 923 and OHSAS 18001
- Improvement tools – statistic methods
- Audit
- Validation.

We are constantly striving to take the customer's views of any relevant challenge – whatever the sector in question. How do we provide optimum assistance to customers in achieving their goal of better efficiency and still better products? Our custom-made mobile blade scanner with agile and accurate control and documentation of wind turbine quality is a very illustrative example.

Examples of metrology services:

- Verification and calibration of equipment and norms with regard to volume, density, flow, temperature, power, pressure and torque norms
- Sales and calibration of weights
- Sales of flow meters
- e-marking
- Type testing of metrology equipment
- Metrology consulting and training.

Our activities in metrology are accredited by DANAK.

Materials and analysis

With Denmark's largest collection of materials technology expertise we offer highly professional competences and impartial and swift assistance, e.g. in failure analysis.

Examples of our services:

- Applied metallurgy
- Damage and failure investigation
- Replica analyses
- Concrete analyses
- Electrochemical and standard corrosion measurements
- Corrosion protection
- Materials selection and characterisation
- Systematic maintenance
- Customs and food chemistry
- Chemical analysis and precious metal control
- Personal protective equipment
- Consulting and inspection in polymers and composites.

FORCE Technology is accredited by DANAK to perform chemical analysis and testing.

Maritime industry

The activities of this area include advisory and consulting services in conjunction with the design of vessels, drilling rigs, buildings, bridges, industrial processes etc. Moreover, we offer sophisticated post-qualifying training of staff focused on man/machine relations, decision-making processes, communication etc.

Examples of our services:

- Hydro and aerodynamics
- Computational Fluid Dynamics (CFD)
- Industrial Fluid Dynamics (IFD)
- Simulation technology
- Human Factors Management (HFM)
- Emissions.

FORCE-Dantest CERT

FORCE-Dantest CERT acts as FORCE Technology's independent certification body. FORCE-Dantest CERT helps ensure that the customers' accredited testing, chemical analysis, calibrations, metrology techniques and inspections are carried out appropriately relative to the agreed standards.

FORCE-Dantest CERT is the certification body in the following three areas accredited by DANAK:

- Personal certification
- System certification
- Product certification.

FORCE-Dantest CERT is appointed as notified body in accordance with the relevant European directives.

Integrity management

In this business area, we offer advice and a host of services in planning and performing inspection and surveillance programmes, for example, as a leading collaborative partner in the offshore sector.

In this respect, FORCE Technology is also involved in materials and corrosion technology, inspection, structural analysis, structural life-time calculations and services for the qualification of new technology.

Examples of our services:

- Corrosion management
- Inspection planning
- Maintenance optimisation
- Hazard engineering.


Røntgenanlæg
nr. 2
X-RAY ON

Our challenge is not only to solve the customer's job – but to deliver solutions that add value

FORCE Technology's business basis involves assisting Danish and foreign industry and service companies as well as public-sector authorities and institutions in developing and processing highly specialised knowledge into value-creating solutions.

When FORCE Technology does a job for a particular customer we always try to base our efforts on the customer's situation and needs. This is because we are not only solving a task – our solutions should also add value for customers and make a difference in their day-to-day operations.

We have our sights set on the optimum solution, and to offer the required vigilance, attention and vivid interest we usually involve several of our business areas and employees.

2004 was a challenging and interesting year in which we assisted customers with many exciting and often complex projects. The following pages represent a selection of the tasks in which FORCE Technology has been involved in 2004.

Case **Shell**

Shell turnaround right on track

When Shell's refinery in Fredericia, Denmark, planned a major turnaround to the tune of DKK 40 million with cleaning, inspection, maintenance and replacement of equipment, FORCE Technology was selected to perform the inspection.

At Shell's refinery in Fredericia, the oil company refines Danish North Sea oil, sent via a 20-inch oil pipeline from the GORM field some 200 km out in the North Sea. Shell's annual output of refined oil is around three million tonnes, or some 25% of the total amount that is pumped up from the North Sea.

In September 2004, Shell had planned a major turnaround with a dual purpose; firstly, it wanted to perform the required maintenance analysis of the production equipment; and secondly, it wanted to subsequently maintain and replace, and perform internal inspection and cleaning of comprehensive pressurised equipment.

The expertise of FORCE Technology

Shell found FORCE Technology to be the natural choice, the main reason being that from us Shell would be able to get all the inspection services required in a turnaround project of this calibre. Moreover, FORCE Technology has previously solved similar projects for Shell and other oil and gas companies, which proves it commands the required expertise. The planned turnaround of the plant has been underway for two years. For example, the purchasing of materials and spare parts had to be in place first. Prior to the actual inspection, FORCE Technology and Shell carried out a Risk Based Inspection analysis to determine the areas of the production plant with a potential risk of failure. We staffed the project with one man, working nearly full time on this account, and posted him in Fredericia as a member of the planning team.

Twelve hectic days and a 400-man strong project

During the 12-day turnaround project which involved a little more than 400 employees, 18 FORCE Technology inspectors were working on the activities planned at the refinery. Shell, FORCE Technology and the Danish Working Environment Authority opened and inspected around 160 pieces of equipment, working at least 10 hours per day. On balance, FORCE Technology contributed with 7,000 hours to the planning and inspection efforts.

Sound collaboration between all parties involved

The comprehensive and complicated turnaround was completed as planned and at the complete satisfaction of Shell. The project was completed within a short period of time thanks to a team of motivated engineering contractors whose exemplary approach showed they all wanted to solve this joint task and collaborate with each other and with Shell.

FORCE Technology has many years of experience in solving similar, short-term yet comprehensive inspections, for example, at all the major Danish power plants and the majority of the nuclear power plants in Sweden, as well as several offshore production plants.

Shell was facing a giant inspection task at its refinery in Fredericia, Denmark. The job was done in twelve days by almost 400 persons including 18 FORCE Technology employees and at the complete satisfaction of Shell thanks to exemplary collaboration between all parties involved.

Case **Mærsk Container Industry**

Welding gas consumption cut markedly in a single day

The human ear cannot register the leaking of gas from faulty ring lines and pipe systems. However, ultrasound equipment from FORCE Technology and subsequent repair work has helped Mærsk Container Industry AS to cut its gas consumption by one third on each container, of which the company welds 8,500 each year.

Mærsk Container Industry, one of the most high-tech companies in Denmark in the welding industry, suspected that its comprehensive systems for protective gases were leaking. Several pipes appeared to be crumbling and a sample test using leakage detecting spray confirmed the company's suspicion.

Small leakages – big losses

Even small leakages can produce big financial losses and increase the risk of injury and environmental issues. A leakage at a poorly maintained plant frequently represents 20-40% of the consumed air volume. For example, compressed air equalling an electricity consumption of 3.1 kW leaks from diameter 3.0 mm at an excess pressure of six bar. Thus, even a small leakage may result in a major loss.

This sparked a reaction from Mærsk Container Industry, who operates many kilometres of ring lines and pipe systems. However, the location of the systems (below the ceilings and eight metres above the floor level) made it difficult to further examine the leakages. An examination would be both time-consuming and costly.

Acoustical ultrasound equipment used to record leakages

Instead Mærsk Container Industry decided to make use of simple, acoustical ultrasound equipment from FORCE Technology, which represents a simple and elegant solution. The equipment generates noise that is recorded by the human ear when gases escape from leakages of a certain size. The equipment makes use of a directional, high-frequency microphone and a filtering system that excludes low frequencies and thus prevents ordinary noise from affecting the equipment. Leakages are located by listening with the use of loudspeakers or headphones. The equipment does not have to be in the proximity of leakage but is able to detect any leakage at a distance of several metres under optimum conditions.

All leakages were detected in a single day

FORCE Technology needed one day only to examine most of the ring line system. The microphone of the ultrasound equipment was mounted on a lever, rendering scaffolds, lifts and ladders redundant. The leakages recorded in pipes and galvanised joints were marked by yellow stickers. The biggest surprise, however, was the leakages in the regulator couplings, and broken glass that presented a previously ignored problem.

Although Mærsk Container Industry suspected numerous leakages, it was surprised by their magnitude. Even when the welding processes were suspended, the company experienced a significant idle consumption of gases. As a matter of fact, an analysis made shortly after the correction showed that Mærsk Container Industry had cut its gas consumption by more than one third for each container, which runs into large volumes with 812 metres being welded on 8,500 containers every year. Therefore, Mærsk Container Industry decided to cut back on the long pipe connections by expanding its system with permanent copper pipes and welded joints. Moreover, the company is considering a similar leakage analysis of its compressed air system.

The ultrasound technology is an obvious choice for leakage detection in pressurised plants such as compressed air plants, oxygen and gas systems. Experience tells us that leakages frequently occur in conjunction with hand tools, cylinders, pipe connections and the like while pipe systems are reasonably leakage-free.


MAERSK

Case **MAN B&W**

New and promising coating

MAN B&W, a leading supplier of large diesel engines for ships, power plants and locomotives etc., wanted to increase the lifetime of the coatings on the engine piston ring grooves. Therefore, MAN B&W and FORCE Technology's laser centre joined forces to develop a novel coating method that enjoys high expectations from both parties.

Being a market leader, MAN B&W sets high demands on the wearability of its engines. So far, the company has coated the engine piston ring grooves with e.g. chrome coating, but since the piston ring grooves are subjected to considerable wear MAN B&W wanted to increase their service life and to uphold high safety and quality requirements. That is the reason why MAN B&W and FORCE Technology collaborated closely to examine the opportunities of new coating methods.

An accurate and highly improved method

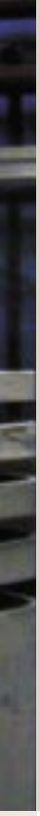
The new coating method, which combines thermal spraying and laser treatment, was designed in collaboration with FORCE Technology's laser centre. It outperforms former coating methods, one reason being that it allows welding to be performed with a customised laser beam that completely matches the ring grooves dimensions. This technology allows you to control the thickness of the coating accurately.

Collaboration ensured by good results

The coating method was applied to a small selection of pistons mounted in ship engines currently in use on worldwide oceans. The reduced wearability is still being measured relative to traditional coatings, and final conclusions are therefore still immature. However, both MAN B&W and FORCE Technology expect the new method to impact the coating service life significantly. Thus, servicing and complete piston replacements can take place at longer intervals, which is a key issue to MAN B&W customers and an outright competitive parameter to the company. Both the servicing and piston replacement are cost-intensive items for customers, one reason being that the vessel affected is taken out of service. The test results recorded are promising and have led to a continuation of the collaboration between MAN B&W and FORCE Technology's laser centre.

A promising outlook

The new coating method is set to benefit other industries too; the food and pharmaceutical sectors are obvious beneficiaries of the coating for usage in their production equipment, and several companies are beginning to appreciate the new technology.



With the use of digital radiography and experienced specialists, the job of replacing the bridge pillars was quickly and accurately done without any major traffic repercussions.

Case **Det Norske Vegvesen**

The transparency of concrete

When Det Norske Vegvesen, i.e. the Norwegian Highway Authority, was facing a complex task of intensifying and altering a traffic bridge in Drammen it asked FORCE Technology to examine the concrete structures. FORCE Technology is the sole Scandinavian supplier of digital radiography.

For several years, traffic bottlenecks have affected the old, two-lane Drammen Bridge in Norway, the connection between Oslo and the surrounding areas along the coast and in the country. Therefore, the bridge will be expanded by a new bridge with two lanes for smoother transition of the traffic from the intersecting four-lane highways. In this connection, the Norwegian authorities required the old bridge architecture to be altered before they would approve the construction of a new bridge. Both bridges were to have round pillars with neat and rounded lower faces to make them appear externally as a unity. Significant challenges were therefore associated with the old bridge; its square pillars were to be replaced while the bridge was to be intensified. That required holes to be drilled in the bridge right below the roadway on each side of the pillars, the bridge would then be raised, intensified and new round pillars mounted.

The only Scandinavian experts were called

Before Det Norske Vegvesen embarked on the complex bridge project it contacted FORCE Technology's concrete, sensor and NDE innovation specialists who examined the bridge and located the pre-stressed wires to prevent them from being damaged during drilling. The team spent 20 days in Drammen to examine the bridge, using digital x-ray equipment and shot a total of 164 images at night when traffic was at a minimum. The x-ray images helped Det Norske Vegvesen to map the wire location for safe drilling and pillar replacement.

Time saved – image quality improved

FORCE Technology has previously worked with Det Norske Vegvesen in e.g. a joint Nordic project on concrete structure surveys, and therefore FORCE Technology's competences in this area and the fact that we are the sole provider of digital radiography in Scandinavia were no surprise to Det Norske Vegvesen. Since time was of an essence with regard to the bridge project, the digital radiography was exactly what the Norwegians needed. Digital radiography can be put to use much more quickly than traditional radiography, and it provides considerably better image quality which helps to ensure the high precision level required by the project.

Berendsen knows their customers requirements. For example, its new foam soap is odourless and colourless. FORCE Technology advised Berendsen on the development of the soap. The collaboration was so successful that Berendsen went one step further and concluded a full-year contract with FORCE Technology on environmental consulting services.

Case **Berendsen Textil Service**

Foam soap with clean conscience

FORCE Technology has solid expertise in advising companies on ingredients and materials in hygiene goods production. Most recently, the collaboration with Berendsen Textil Service A/S has led to a new and environmentally friendly foam soap.

'Hands off the hand soap!' and 'Liquid soap a source of allergy!' – these were headlines from Danish daily papers in the summer of 2004 when new surveys indicated that an allergy could be caused by one of the most widely used preservatives in soaps. Berendsen Textil Service, which develops and markets soaps for corporate and institutional use, among other things, however, is calm about the issue. Its long-term collaboration with FORCE Technology has made Berendsen's foam soaps gentle to the skin and free of allergy-causing ingredients.

Health and environmentally important parameters

When Berendsen wanted to develop a new soap, FORCE Technology's consulting made up a key ingredient. The requirement was that the soap should fulfil customer needs for a healthy and gentle soap that was environmentally friendly too. The solution is a soap with-

out perfume and colouring and with a gentle preservative that makes the soap gentle on the skin and easy to wash off. At the same time, the new foam soap is more environmentally friendly than e.g. lotion soaps. When you wash your hands with foam soap, fewer tensides are used, which usually presents the biggest environmental problem. What is more, a foam soap may reduce water consumption because it is already foaming when it exits the dispenser as opposed to lotion soaps.

Collaboration strengthens Berendsens competitive edge

By consulting FORCE Technology, Berendsen Textil Service has gained a number of competitive advantages. Most of its customers and potential customers want to use health and environmentally correct products. Our consulting services thus help transform customer preferences and values into usable solutions.

Full-year agreement with daily access to all competence areas

Berendsen and FORCE Technology have taken one step further and established a full-year agreement on environmental consulting. Under the agreement, Berendsen purchases a set number of consulting hours each year at a favourable price, and when it needs environmental consulting services, FORCE Technology will be at its disposal. Berendsen, for example, has used this scheme in conjunction with relevant legislation issues in Europe and the US, and FORCE Technology replies to product inquiries from Berendsen customers on an ongoing basis.

In addition, Berendsen's purchasing department has invested in Supplier-e-valuation, FORCE Technology's internet-based system, and consulting, which enables the department to compare price, delivery security, quality and environmental issues etc. The system has enabled Berendsen's sub-suppliers to meet the requirements set and motivate them to continuous improvement in all areas.

Berendsen is very satisfied with the collaboration, notably because FORCE Technology is at disposal whenever the need arises. Hence, Berendsen is able to have a task solved or questions quickly and efficiently answered, and thus uphold a high level of service.

Concept gains increasing popularity

FORCE Technology is experiencing increasing demand for the concept with a set number of consulting hours, which means greater flexibility, better use of resources and a razor-sharp focus on a customer's own core competences while we act as the external department for corporate environmental affairs with the added advantage that we can regularly adjust the capacity and competences actually needed by the customer.

FORCE Technology has solid experience in surveillance of e.g. faulty railway tracks and was therefore asked to locate the reason for the derailed IC3 train at Tommerup, Denmark. Following the survey, we concluded the train had been derailed owing to a coincidence of two unfortunate events.

Case **Banedanmark**

Derailed train in Tommerup, Denmark – case solved

In February 2004, when an IC3 train was derailed, the rail track breakage was quite unusual. To locate the reason, the Danish railway authorities and Banedanmark asked FORCE Technology to participate.

On 21 February 2004, an east-bound IC3 train was derailed at Tommerup on Funen. 1,000 metres of tracks and junctions were damaged along with the trains last wagon, but fortunately no people were injured. The reason for the derailing was a quite unusual railway track breakage, and FORCE Technology was asked to participate in the solving of the case.

A successful case

The experts of FORCE Technology found that the breakage had initiated as a fatigue crack just below the running surface (squat). Such cracks usually develop at a rate proportional with the number of train passengers and the accumulated axial pressure. Unless they are detected in time, which is generally the case, they will result in a vertical and relatively harmless railway track breakage. In Tommerup, however, the fatique crack, which originally grew vertically downwards from the surface, had changed its course around the centre of the track and had begun developing into a horizontal crack.

Hence, around two metres of the upper part of the track was broken off and represented the origin of the reason for the derailing. Further analysis pointed to a faulty stress neutralisation, which is usually mounted on railway tracks to avoid heat distortion on warm summer days. Consequently, compressive stress had occurred in the rail foot instead of the usual tension stress.

Conclusions

In its report, FORCE Technology concluded that the derailing was due to the coincidence of two unfortunate events – a critical, long fatigue crack on a stretch of tracks without proper tension neutralisation.

Case **Harrit & Sørensen**

Design optimisation with psychological knowledge

In an unusual collaboration effort the design firm of Harrit & Sørensen A/S and FORCE Technology have produced a number of projects with more user-friendly design thanks to psychological methods.

How can a psychologist from FORCE Technology assist designers in creating better and more user-friendly products? Harrit & Sørensen who is involved in 'conceptual unity and identity' in industrial design was asked by a Danish producer of maritime communications equipment to design a maritime VHF radio, and FORCE Technology's psychology consulting services helped make a difference.

Interaction between man and machine

The customer looked for expertise in the human factors design process and the interaction between man and machines. Therefore, the customer asked Harrit & Sørensen to locate an expert on the matter. Harrit & Sørensen found what it was looking for in an article written by FORCE Technology's psychologist who was contacted – and the beginning of a fruitful collaboration became a reality.

The actual design of the maritime VHF radio was highly controlled by FORCE Technology's knowledge about human factors. That is not usually the case, since projects of this nature are primarily controlled by technical, financial and commercial priorities with interaction design being prioritised to the end of the

FORCE Technology's psychologist and Harrit & Sørensen's designers paid a number of joint visits to ships, made observations and interviewed the crew to pinpoint the optimum design of a new maritime VHF radio.

process. However, since design changes are frequently too late at this stage, the human factors were allowed to control the design right from the start.

Observing the use of similar radios

The project was initiated by the team (FORCE Technology's psychologist and Harrit & Sørensen's designers) who made a record of how current VHF radios were used. The team paid visits to fishing ships, trawlers, supply vessels, stimulation vessels and one ferry, observing and shooting photos from the bridge of each ship, and interviewing the crew about their use of VHF radios. The next step was a human factors seminar where the parties involved met at FORCE Technology's Division for Maritime Industry in Lyngby, Denmark. All acquired a common foundation for furthering their work on design proposals for a VHF radio. They made use of e.g. the observations made with a view to developing an optimum interactive design in every respect of user friendliness and safety.

Iterative testing of design proposals

The final phase of the project involved an iterative process in which the various design proposals were evaluated by a group of experienced captains. A realistic mock-up of the VHF radio was built in cardboard and the captains completed a number of exercises to illustrate their use of the VHF radio and communicated their thoughts and next steps. Several exercises took place at FORCE Technology's ship simulator with realistic lighting conditions and surroundings and with everything being videotaped for subsequent analysis. The work resulted in new design proposals that were tested until an optimum design was achieved.

The final design of the maritime VHF radio involves a product that sets Harrit & Sørensen significantly ahead of the competition. Thus, the philosophy that there is a need for psychological knowledge in any design process that involves the interaction of technology and human has proven successful. In future, Harrit & Sørensen and FORCE Technology will embark on similar design challenges in heat control appliances, agricultural machinery and hospital equipment.

Express solution to metro train's door problems

On two occasions the doors in the Copenhagen metro trains came loose shortly after the service was launched, and Metro Service A/S was therefore requested to reassess the door design, which presented a sensitive and complex task that FORCE Technology was given 45 days to solve.

The Copenhagen metro was launched in the autumn of 2002 but quickly suffered the problem of doors coming loose during service. For reasons of passenger safety, every effort was made to locate the cause of the problem, and FORCE Technology was asked to participate.

A complex task with numerous parties involved

The task was very complex because we were given only 45 days to examine the entire production process that had lasted more than five years. To quickly get to the bottom of the matter FORCE

Shortly after the Copenhagen metro was brought into service, Metro Service experienced problems with the train doors. FORCE Technology was asked to examine the doors. For that purpose we set up a team of specialists who quickly and efficiently uncovered the problem.

Technology composed a team of specialists from several departments and external subcontractors, totalling more than 20 experts. At the same time, we established a cross-disciplinary communication and documentation system that would regularly record the findings made by the team, and thanks to a well-timed beginning the team was able to start examining the doors from day one.

Everything had to be checked – no stone was to be left unturned

To ensure a complete uncovering of the problem, every stone was turned individually, which involved train design and craftsmanship, QA/QC processes, verification and validation processes, and the appointed third-party assessor role. All that was done on the basis of the original train documentation with particular focus on the incidents of doors coming loose.

Comprehensive surveys pointed to a simple solution

Following its surveys FORCE Technology found several inappropriate issues, deviations and errors. Some of these were directly associated with the reason why the doors came loose. As a result, the Danish railway authorities instructed the train manufacturer to make the necessary steps and design changes, to prevent similar incidents in future.

FORCE Technology examined the refrigerating installations in the halls where Kopenhagen Fur stores its furs. The storing of furs in a controlled temperature and air humidity environment is important. The project resulted in a new centralised refrigerating system that ensures the required environment for Kopenhagen Fur and which cuts its operational costs.

Case **Kopenhagen Fur**

The right temperature for furs

The breakdown of three refrigerating compressors prompted Kopenhagen Fur, the world's largest fur skin auction house, to contact FORCE Technology. A detailed review of technical installations made the firm decide to install a centralised refrigerating system that ensures proper conditions for the furs and which is a financially sound solution for Kopenhagen Fur.

The furs of Kopenhagen Fur depend on the environment in the halls where they are sorted and stored. If the humidity level is too low, the skins will shrink and result in lower producer prices; however, if the humidity level is too high, the furs will be subjected to putrefaction and fungus – the tight balance is controlled by ventilation equipment and refrigerating processors. When three processors broke down, Kopenhagen Fur was facing a critical situation, so they immediately contacted FORCE Technology to have the state of all technical installations reviewed and assessed.

Thorough review paved the way for improvements

Kopenhagen Fur has been at the same address for more than 30 years and several of its technical systems date back to the 1960s and 1970s when energy pri-

ces were lower than today. Reviewing the systems, we quickly found a large number to be unstable, and systems operations and maintenance to be cost-intensive.

Shift to centralised systems guarantees the energy supply and generates major cost savings

Our survey quickly showed a need for introducing a cooling system in some of the sorting halls as too high temperatures would otherwise result in vermin in the furs. A temperature reduction was therefore crucial.

Kopenhagen Fur had previously made a solution proposal for new refrigerating systems in collaboration with various engineering contractors. We reviewed the proposal but instead of investing in the proposed decentralised solution we recommended a centralised refrigerating system to Kopenhagen Fur with emergency back-up. A decentralised refrigerating system may expose Kopenhagen Fur to a complete loss of refrigerating capacity in one or more halls, thus failing to maintain the desired environment. When the centralised system is fully implemented, Kopenhagen Fur will enjoy a secure supply in all halls.

Not only is the energy supply top-notch – the investment in a centralised refrigerating system instead of a decentralised solution will cut costs by DKK 3m for Kopenhagen Fur on a five-year horizon, and the operations costs of a centralised cooling system are low too.

FORCE Technology has completed the project at Kopenhagen Fur, providing a future-proof temperature solution for the sensitive furs.

Our consulting services in the energy area are making a difference

FORCE Technology has solid experience in advising companies wishing to optimise their indoor climate. The project at Kopenhagen Fur serves as an illustrative example of how our consulting services contribute to ensuring optimum indoor environments with energy and financial savings to match. FORCE Technology's consulting services in this area cover the entire spectrum of design, operations, maintenance and system optimisation.

Case **Statoil**

Statoil is in command of its pipelines

In 2004, FORCE Technology developed a database recording the integrity of 47 flexible riser pipes at Statoil's production site in Norway (the Halten Nordland area). The database keeps Statoil permanently updated on the state of its pipes.

Statoil operates several producing offshore licenses in Norway, and its production in the Halten Nordland area is based on floating production, storage and offloading units (FPSOs). The sea bed reservoir is connected to the additional process equipment and export facilities by means of flexible riser pipes. The pipes consist of complicated structures of reinforced steel and polymers.

The flexible riser pipes, which Statoil use and which have been used by the offshore industry for decades, involve reliable and advanced technology. Nonetheless, Statoil has a significant need of ongoing maintenance, recording and analysis of pipe states, requiring a dedicated database for the storing of all information in one place.

FORCE Technology has developed a database that enables Statoil to regularly survey, record and analyse the state of 47 flexible riser pipes used for production at Halten, Norway. The database has proven to be an irreplaceable tool for Statoil.

Surveillance is Statoil's guarantee for stable and safe operations

In 2000, FORCE Technology concluded a service agreement with Technip, the producer of Statoil's pipes. Under the agreement, FORCE Technology has developed an integrity database customised to the needs of Statoil and Technip with regard to ensuring riser pipe integrity. In 2004, a new field was integrated into the database, completing its design and dual focus of annual status reporting and safe storage of key data for riser pipe reassessment purposes.

The agreement is up for renewal in 2005 with FORCE Technology further developing and operating the integrity database which contains records and data on pipe design and production, including information about the pipe construction and operational limitations. Registration and storage is also performed of daily pipe operations data. The pipes are inspected regularly and the results stored in the database.

Technip regularly reviews the database information. If it detects even a slight deviation between operating conditions, original design parameters and the latest knowledge about design and operations of flexible riser pipes, Statoil can quickly carry out the necessary adjustments. Thus, all 47 pipes continiously fulfil the requirement of safe and stable operations, and since any production downtime runs into a six digit figure, reliable operations are a key factor for Statoil.

If the operations conditions for flexible riser pipes change, Statoil has immediate access to all the details needed to perform a qualified reassessment of the riser pipes. Thus, the database represents an irreplaceable tool for Statoil.

An experienced partner with a comprehensive integrity management programme

FORCE Technology has several years of experience in advising on and serving offshore industry companies. Our broad spectrum of services enables us to assist this sector in various ways, including planning and performing inspection and maintenance programmes for e.g. offshore and pipelines, and materials and corrosion technology, inspection, structural analysis and structural life-time calculations.

Case **DANYARD AALBORG**

Luxury yacht design comprehensively tested

A yacht should not only please the eye – it should be optimised with hydro and aerodynamics too. Against that backdrop, FORCE Technology was involved at an early stage in DANYARD AALBORG's design of Princess Mariana, a luxury yacht.

For several years, FORCE Technology has served customers with the testing of ships, buildings and offshore construction under varying wind and water conditions. Consulting is a key factor in the design phase where advanced testing facilities and customised simulation tools help to optimise the design work. To DANYARD AALBORG, a Danish shipyard, it was therefore obvious to ask FORCE Technology for advice when it planned to build a 76 metre luxury motor yacht designed by the architect Espen Oinø.

Wave resistance minimised

With a view to optimising the performance of the yacht, FORCE Technology examined a range of factors from pro-

pulsion resistance to propelling design and manoeuvrability. Two models were built, measuring four and seven metres to allow for all the features of the yacht to be tested. FORCE Technology conducted numerous trial tests and utilised the facilities of its collaboration partner in Bulgaria for full coverage testing of the design from starboard to port. The test results documented the yacht's excellent manoeuvrability with a need for only minor adjustments of rudder and steering system while a change in design resulted in a marked reduction of the wave resistance.

Reduced smoke on the deck

There is an essential need on yachts and passenger ships to avoid smoke on open decks and fresh air intakes. No passenger would be pleased to breathe in smoke and damp.

On Princess Mariana, the mast design was massive and complex. When FORCE Technology tested the mast in the wind tunnel, we found that it was the cause of annoying smoke. Therefore, FORCE Technology suggested that both funnel and mast were reduced to minimise the annoyance of the funnel smoke.

The testing and sampling made it easier for DANYARD AALBORG to optimise the design before the shipyard embarked on building the yacht. Thanks to the consulting services provided by FORCE Technology during the important design phase, the shipyard ensured that the final yacht would perform as expected in every respect under different weather conditions. Princess Mariana was ready for delivery at the beginning of 2004 to the new owner who acquired a luxury yacht with top-notch design and functional capabilities.

Case **Vetco Aibel**

Gas exported via the world's longest sub-sea pipeline well underway

Ormen Lange, Norway's second largest gas field, will soon be exporting gas to the UK via Langeled, the longest sub-sea pipeline in the world. FORCE Technology's Norwegian subsidiary contributed to the design of two riser pipes and platform analysis.

The British would like Norwegian gas. Therefore, gas will soon be exported from the Ormen Lange field via the Langeled sub-sea pipeline. The pipeline will be connected with Statoil's Sleipner R platform located between Norway and the UK, and between Sleipner and the UK. Measuring 1,200 km it is the longest sub-sea pipeline in the world.

Platform modifications and new riser pipes

The exporting of gas to the UK poses new demands on the operations of Sleipner; the platform requires modification and new facilities for gas handling purposes, for instance, Sleipner is to connect the gas network of the Nor-

We presented a solution that reduced the required platform modifications and ensured construction integrity and operations for many years to come.

wegian base with the Langeled pipeline from the Ormen Lange field.

Moreover, two new riser pipes are to be designed and installed between the pipeline on the sea bed and the platform. The riser pipes will carry the gas to and from the platform.

Assisted full-service supplier with the project

Vetco Aibel AS, who has been contracted to perform both the platform modifications and the design of riser pipes, contacted FORCE Technology Norway AS for assistance.

To do this job we composed a team of highly experienced engineers specialised in corrosion and supporting constructions. The team was to present the riser pipe design solution and conduct a re-analysis of the platform. The imminent exporting of gas poses new demands on the platform and the re-analysis is thus to verify the platform modifications.

Riser pipes are exposed to significant strain in daily operations, for example, the strong, internal pressure generated by the gas inside the pipelines and the impact of waves and current. FORCE Technology designed the solution on behalf of Vecto Aibel with riser routing along one of the platform legs. We emphasised a pipeline design with few joints, which provides for simple and easy offshore mounting of pipes, and as such is an economic solution.

The re-analysis of the platform was another key element of the project. The modification of the deck and its facilities involved an expansion of the deck, thus making it heavier, and which altered the strain on the platform too. By integrating the work with the re-analysis and design development of the platform, FORCE Technology and Vetco Aibel were able to optimise the solution and cut back as much as possible on the necessary modification of the existing platform structures. The final solution ensures the platform integrity relative to future operations while minimising the amount of work that has to be done offshore.

Generally, our design and platform analysis enabled Vetco Aibel to optimise the construction, and it ensured that the platform and riser pipes will take the impact of weight, waves, current, etc. into account in every respect, and it provides for safer and more reliable operations in many years to come.

Solving a task for the offshore industry

The task we performed for Vecto Aibel is an illustrative example of how we advise offshore industry companies on platform modifications and assist in solving associated challenges. Moreover, when it comes to platform integrity management, we are in demand as a collaboration partner.

Case **SwitzerWijsmuller**

Tug simulator brings an end to past training methods

With a new simulator SvitzerWijsmuller has been given the opportunity to train its people in the handling of critical situations that are likely to occur with a tug operating close to a major tanker.

SvitzerWijsmuller, with headquarters in Denmark, is one the leading operators of tugs with activities in more than 30 countries and a rapidly growing fleet of modern tugs. The company pursues a training and security strategy focused on training its staff with a view to minimising personal injury, damage to own and third-party property and the environment. SvitzerWijsmuller therefore decided to invest in a world-class training simulator used for both standard operations and more critical situations.

A close association with existing vessel simulators

The order was won through an international tender, and SvitzerWijsmuller decided to collaborate with FORCE Technology. By building the simulator in close collaboration with the existing ship simulators at FORCE Technology in Lyngby it was possible to integrate the tug simulator with the tanker ship simulator.

The simulation system was developed on the basis of the SimFlex Navigator developed by FORCE Technology. When simulating tug operations, consideration must be given to a number of factors that do not occur in ordinary ship simulators. Firstly, the tug is able to manoeuvre much more quickly and to a much greater extent than a traditional vessel, and secondly, there is considerable interaction between the big tanker and the tug, e.g. by way of towlines, winch function and wake. All these fac-

In future, the new tug simulator will make the training of SvitzerWijsmullers staff less expensive and more realistic. The expected results are higher crew and materials safety.

tors must be modelled correctly into the simulator to ensure the staff are trained to develop the right skills.

FORCE Technology course training

Prior to the mathematical modelling of the sailing and manoeuvrability of the tug we performed physical model tests and measurements onboard the actual ship. A tug bridge with real-life equipment was built on one of the existing simulator bridges, and the visual system was expanded to reflect that available to the captain on the bridge. Moreover, FORCE Technology prepared course material to train four people on a four-day course on how to handle a modern tug. It was agreed that a large number of courses would be run in the coming years.

Time savings and fewer resources needed

In future, when SvitzerWijsmuller plans to train new staff, the simulator training will ease the process and require fewer resources and the crew and materials safety is improved too. Today, training is carried out by the senior officer looking over the shoulder of the experienced captain during normal operations. In the simulator, however, you can manage the controls right from the beginning with a risk-free performance in a number of training events, notably critical ones, that are conducted much more quickly than in real life.

During the entire process, experienced captains from SvitzerWijsmuller tested the ship model, simulator and exercises to check the results against expectations. There are high expectations for the project and in future the simulator is expected to be further expanded with new types of tugs and additional features to ensure optimum training conditions for SvitzerWijsmuller.

FORCE Technology is a versatile and competent collaboration partner for maritime projects. Besides supplying training simulators to our customers, we offer a wide spectrum of services from the training of officers in one of our five in-house ship simulators to consulting on ships, drilling rigs, building design, etc.

Tight control, high discipline and close collaboration paved the way for the implementation of environmental management at Saltum & Neptun Bryggerier in only six months. FORCE Technology showed how this does not have to be a difficult process.

Case **Saltum & Neptun Bryggerier**

Environmental management in record time

When Saltum & Neptun Bryggerier A/S, was sold to Carlsberg A/S, Carlsberg decided to introduce environmental management to the ISO 14001 standard. The time frame was six months and thanks to an effective collaboration between FORCE Technology and the brewery's management, the objective was met and a string of positive effects are awaiting.

Saltum & Neptun Bryggerier, which is best known for producing private labels of e.g. BIG, Baldur, Kvalli, apple and pear cider and the local brew of Saltum, is located in North Jutland, Denmark, between Blokhus and Løkken. The company employs a staff of little more than 100 people with a daily output of about a million soft drinks.

Required implementation of environmental management

Following its acquisition of and ownership of the brewery in North Jutland, Carlsberg wanted to implement environmental management to the ISO 14001 standard. The biggest challenge was that only six months were allocated to the project initiated in June 2004 with certification deadline in November 2004. FORCE Technology was to help analyse

the process required with the implementation of environmental management, for example, and an environmental manual, procedures, instructions and forms were to be prepared. Moreover, the employees were to be introduced to the areas of environmental management relevant to them, and management was to be involved in the preparation of policies, targets and action plans.

Detailed planning

Implementing these efforts within six months required a well-laid plan and a high degree of discipline. Therefore, FORCE Technology prepared a tight schedule with six project meetings, and with three to six elements for the final management system being reviewed at each meeting. Saltum & Neptun Bryggerier would then carry on the work of getting procedures, instructions and forms ready in between project meetings. Once one element of the management system was prepared, the systems documentation was approved and the particular element implemented right away. When the gradual implementation was completed, the system was checked in an internal audit with enough time to correct any deviation prior to certification. The certification was achieved as planned, and the company met its target of environmental certification within six months.

A new benefit for the brewery

Although people in North Jutland usually do not display their enthusiasm, Saltum & Neptun Bryggerier acknowledges that the implemented environmental management already appears to be successful. It allows the brewery to target its environmental efforts and work more systematically with a streamlined documentation of its compliance vis-à-vis authorities and neighbours.

Saltum & Neptun Bryggerier expected the introduction of environmental management to be a troublesome and difficult process, but once the tasks were underway, the anticipated difficulties were less serious.

Certification of Hirtshals Kraftvarmeværk, Elsam A/S

FORCE-Dantest CERT certified Hirtshals Kraftvarmeværk (i.e. combined heating and power plant) which wants to put environmental and working environment management on the agenda.

FORCE-Dantest CERT has performed certification assignments at Elsam A/S since 2002, when Elsam's major plants on Funen and in Jutland, Denmark obtained an initial environmental certification. FORCE-Dantest CERT has also certified Elsam's service operations of the Horns Rev wind turbines according to ISO 9001. Thus, FORCE-Dantest CERT was the natural choice for Hirtshals Kraftvarmeværk, which is a member of the Elsam operations, as the certification body for their environmental and working environment management.

Certification and preparation

Prior to the certification, Hirtshals Kraftvarmeværk completed a preparatory period with internal project groups that worked on the development of daily working procedures, and key staffs were trained in the requirements relevant to a sound working environment. When Hirtshals Kraftvarmeværk had prepared the procedures, and the systems were implemented, they were all set for certification.

FORCE-Dantest CERT was involved in the process at this stage to identify the working environment on the basis of a checklist of e.g. heavy lifting, noise, dust, the mental working environment, biological and chemical conditions. Subsequently, all staff was interviewed with the participation of FORCE-Dantest CERT's auditor and a technical expert to provide a professional assessment of the site conditions.

Hirtshals Kraftvarmeværk was certified in the autumn of 2004 for a period of three years, and FORCE-Dantest CERT performs an annual surveillance check to ensure certification requirements remain fulfilled.

Documentation of proactive efforts

By introducing a certified working environment management system, Elsam wanted to put its working environment on the agenda and make it the natural choice for the company's operations. The working environment certificate documents Hirtshals Kraftvarmeværk's active efforts in creating a sound and safe environment for its staff.

This assignment is an illustrative example of FORCE-Dantest CERT's expertise in assisting companies with certification and thus adding genuine value for their benefit. This applies to the certification of environmental, working environment or quality systems.

Close collaboration, creativity and a sound share of patience paid off in the construction of a new scanner that will generate significant cost savings in production.

Case **Sciteq-Hammel**

Newly developed x-ray scanner with promising prospects

In 2004, after four years of development, Sciteq-Hammel A/S launched a new x-ray scanner that will ease the production of multilayer pipes with less waste material and create a sizeable window of opportunity considering plastic raw materials make up 80% of pipe costs.

The first version of the new process control x-ray scanner is already sold. FORCE Technology has been developing the scanner for four years in collaboration with Sciteq-Hammel that produces, markets and sells the scanner. For example, FORCE Technology has supplied key components of the scanner's x-ray system.

A raw materials money saver

The x-ray scanner is part of a major, joint development project on industrial metrology and offers very accurate measuring of the thickness of pipe layers, e.g. PVC pipes with three different layers. The scanner's measurements are utilised to ensure an accurate thickness without suspension of production. Thus, the tolerance requirements can be precisely met and the materials consumption reduced, which represents a significant advantage with plastics raw materials making up 80% of overall pipe costs.

The patented technology is based on x-raying the pipe, and subsequently measuring the reduction of the x-raying. The x-ray source and detector system are moved upwards and downwards with the use of a mechanical scanner to measure a number of parameters, e.g. density changes. Using a special data processing technique, you can determine the thickness of the individual pipe layers.

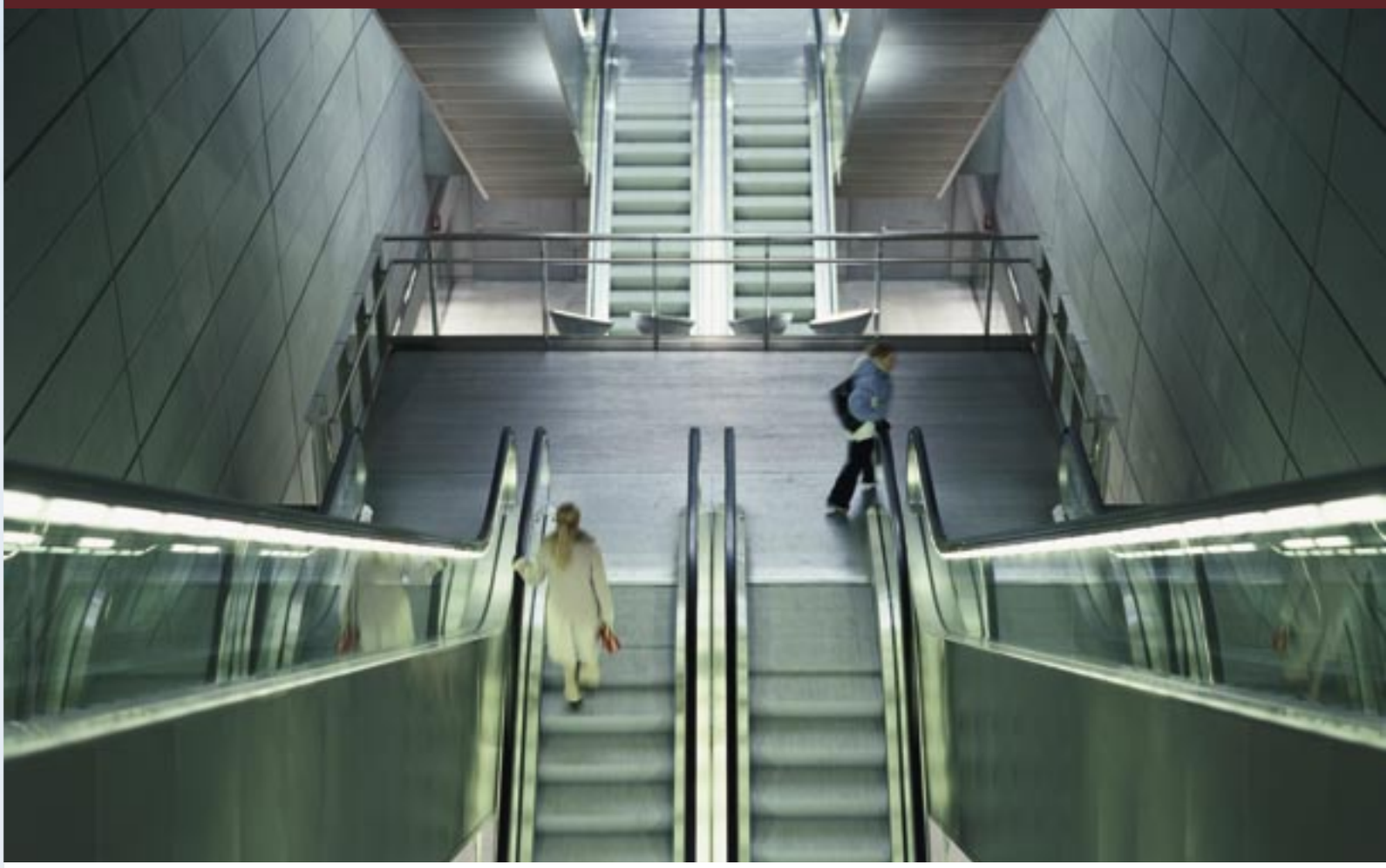
The metrology equipment was tested for a certain period of time at a dedicated plant. FORCE Technology compared the results with the results of geometrical measurements that are based on lab measurements of dimensions and density of random samples. The results were so promising that they led to a signed contract with Sciteq-Hammel on the delivery of the equipment to a European company. Considering the successful results, Sciteq-Hammel has high expectations for the equipment and FORCE Technology will continue to deliver key components of the system.

Highlights

2004 highlights

2004 offered many exciting challenges for FORCE Technology – one of the key highlights was the take-over of dk-TEKNIK ENERGY & ENVIRONMENT which has favourably contributed to our existing business areas and enabled us to better serve our customers.

Moreover, 2004 featured a number of other exciting initiatives – read the highlights on the following pages.



Measuring dust volumes at the city centre metro station

Is there more dust in the air at street level than below the terrain where the Kgs. Nytorv city centre metro station in Copenhagen, Denmark is located?

The answer to this question was given by FORCE Technology in the spring of 2004 by measuring the PM10 dust concentration, i.e. dust particles with a diameter less than 10 µm. According to our survey, there is a higher concentration of dust at the metro station compared to the dust concentration at street level. However, the station enjoys better air quality compared with that of metro and railway stations in London, Paris and Berlin. There are no pre-determined limits for dust volumes at metro stations so future EU requirements constituted our basis of comparison.

The metro dust stems from the outside air that is sucked into the tunnels and from train operations. Notably the dust that settles in subways is swirled around when trains are passing by. Metro Service A/S operates a tunnel washer and as soon as the planned tunnel cleaning will be carried out, the concentration of dust will be reduced.

New competences strengthen environmental consulting

In 2004, FORCE Technology acquired the company dk-TEKNIK ENERGY & ENVIRONMENT, which allows us to render advice to environmental directors and companies on any relevant environmental issue.

We have been acting as competent advisers and provided course activities for a long time within environmental management and other management systems. The acquisition of dk-TEKNIK ENERGY & ENVIRONMENT strengthens this tradition and it has expanded our consulting competences within environmental technology and product related environmental issues.

Hence, FORCE Technology is capable of covering any corporate requirement within service, consulting and professional sparring with regard to environmental issues. Emission measurements, stack calculations, audits, implementation of management systems, LCA and environmental declarations are only few of the areas in which we assist customers. Moreover, FORCE Technology provides access to a comprehensive knowledge database by allocating a permanent contact person who externally provides full-service consulting services to the relevant company and internally masters where competences are located and when consulting should be initiated.

Clean tap water

Water pipes and installations give off small amounts of metal into the drinking water. The exact amounts have been scrutinised by FORCE Technology, and the recent results will be utilised in the common European standardisation work with the objective of cleaner drinking water.

In recent years, the metal content in tap water (lead oxide, copper, zinc and nickel) has been a focal point. The relevant statutory order from the Danish Environmental Protection Agency contains tighter requirements on the metal contents in tap water at the consumer's end. FORCE Technology commands solid expertise and several years of experience in corrosion and the emission of metal into drinking water. From 2002 to 2004, we thus participated in a research project on this topic.

The project showed that pipe and installation materials should be adapted to local water quality and pointed to the need for product development. Research in this area paves the way for innovation and development in the pipe and installation sector, and at the European level a joint approval system will be implemented in due course with regard to tap water materials. FORCE Technology contributes to this development via its collaboration with water utilities and manufacturers in the field and its participation in standardisation work.

The research project has been implemented on behalf of the Danish Environmental Protection Agency and the report is available online at the agency's website, www.mst.dk.

A single wood pellet certification programme

The high price of crude oil and the easy access to inexpensive timber from Eastern Europe and Russia has made wood pellets important as fuel. Despite the growth area, the wood pellet quality may vary significantly. Launched in 2004, FORCE Technology's certification body FORCE-Dantest CERT has developed a certification scheme that is relevant to companies and institutions that sell or use wood pellets. The companies and institutions, which become certified, are guaranteed wood pellets with optimum burning characteristics and which do not damage their plants.

The certification scheme fulfils the standards currently implemented by the EU and FORCE Technology is the sole provider in Denmark.

The energy network has been launched

Following solid demand in the autumn of 2004, FORCE Technology established its energy network. The concept enables the participants to be at the leading edge of current developments in the energy field. The network involves a comprehensive modernisation of the former membership concept of dk-TEKNIK ENERGY & ENVIRONMENT, and all customers with a valid agreement may become members of the network.

Among other things, the modernisation of the network has tailored the energy network to various segments, including trade and service, housing, industry and supplies.

Members get access to an electronic newsletter, an annual feature day and a dedicated homepage. Each agreement is composed of up to 72 individual services that can be put together according to relevant preferences such as energy management, energy control, ventilation installations, refrigerating installations, boilers etc. Moreover, the network involves access to a number of specialised services within customer consulting, planning and construction reviews.

The network secretariat will continue to develop new services on the basis of member requirements.

Certifying reinforcing steel products

FORCE-Dantest CERT has been accredited by DANAK to certify reinforcing steel products according to the relevant national standards. The certification applies to reinforcing steels in bars and coils, machine welded fabric and manually welded load bearing and tack welded fabric. In future, the accrediting will enable FORCE-Dantest CERT to be authorised in the Construction Products Directive allowing manufacturers of reinforcing steel to CE mark their products. With CE marking, Danish manufacturers are afforded easier access to export markets, and since reinforcing steel is a commodity that is widely sold for use in building and construction work with concrete, the importance of the CE marking of reinforcing steel will be significant.

FORCE-Dantest CERT is already accredited to certify quality management systems according to DS/EN ISO 9001:2000 and is therefore able to offer a complete package with an accredited certification of both reinforcing steel products and quality systems. The approval thus represents a valuable extension of our existing competences in this area.

Ultrasound and eddy current available in one inspection

Whereas ultrasound and eddy current inspections were previously conducted independently, FORCE Technology has developed its P-scan technology to perform these inspections simultaneously. The technology of the new generation of P-scan System 4 benefits from the ability to perform ultrasound and eddy current inspections during a single automated working process instead of separately which was the case in the past. All that constitutes a regular money and resource saver.

The joint inspection is performed by mounting the eddy current probe and the ultrasound transducer on the scanner before conducting the inspection. The eddy current technology will examine the relevant industrial installations for any surface-breaking defects while the ultrasound technology is used to detect internal defects. Thus, the technology is highly suitable for reviews of industrial plants such as power plants and is also an obvious choice in the production control of items in steel, aluminium and titanium.

Oil sector's international conference

In 2004, FORCE Technology and Skandinavisk Industriservice hosted the international refinery and tanker conference – a valuable forum for the exchange of knowledge and contacts.

The refinery and tanker conference took place in Copenhagen on 2 December 2004 with about 70 participants representing nine nations, notably from Scandinavia and the Baltic States. The conference was the meeting place for people in the oil business who exchanged views and listened to professional presentations. At the 2004 conference, one of the topics was Risk Based Inspection and the influence of human factors on safety in conjunction with operations of complex technical systems.

The conference, which is thought to be the only one of its kind in Scandinavia, is held every second year, and participant feedback stresses the satisfaction with the conference. In addition to updated knowledge the participants get to meet with various operators and suppliers in an informal setting across corporate borders. Hence, the conference is known to be a place for forging valuable industry contacts.

The next conference dates are 29 and 30 November 2006.

Optimum surface treatment in focus

The laboratories of FORCE Technology are getting busy, working together with 18 companies and the Danish Technological Institute to develop an optimum surface treatment of stainless steel. The steel may be subject to glass-bead blasting, polishing or electro-polishing but each process provides different finish and characteristics in terms of easy-to-clean property and corrosion resistance. Since the surface treatment of stainless steel is an expensive process, choosing the optimum method may be a big money saver

To pinpoint the optimum method FORCE Technology is performing corrosion and hygiene tests in advanced labs and pilot plants at its own premises and those of the Danish Technological Institute. During 2005, the results will be further tested by Danish Crown a.m.b.a., Easyfood A/S, Arla Foods a.m.b.a., Chr. Hansen A/S and Danisco A/S. The project is funded by the Danish Ministry of Food, Agriculture and Fisheries.

The world lifecycle approach

How do you obtain more sustainable production and consumption in both the industrial and developing countries? That is an issue being researched in an international effort and in which FORCE Technology takes part as partner.

Companies worldwide must think in terms of lifecycles – that is the aim of the partnership concluded between FORCE Technology and UN's UNEP-DTIE environmental programme. Initiated in 2004 the collaboration should contribute to global application of the lifecycle approach. Systems and tools must be developed to ensure more sustainable products and processes that will boost the competitive edge of companies.

FORCE Technology's contribution to the partnership is, among other things, the heading of a UNEP task force that has prepared a guide titled "Introductory Guide to Life Cycle Management". In 2004, the task force also finalised a major document on the background of the subject, which is available online from UNEP's website. The guide and background material will be applied in UNEP's global efforts to stimulate the lifecycle approach and train authorities and business people. This applies notably to developing countries and small and medium-sized companies. The work is done in close collaboration with Aalborg University and the Danish Environmental Agency.

Certification in leakage testing

Being the only Nordtest certification centre in Denmark, FORCE Technology offers a course on leakage testing and level 1 and 2 certification.

The certification is not yet a legal requirement but is soon expected to be statutory. In 2004, FORCE Technology therefore began offering level 1 certification in leakage testing by way of a five-day course followed by a full-day exam. The purpose is to provide course participants with a theoretical and practical foundation for planning and performing leakage surveys in the industrial sector.

On completion of the basic course participants will be able to assist their workplace or customer with locating leakages that usually run into five digits owing to unnecessary usage and with potential impact on the environment and safety.

The course and certification take place at FORCE Technology in Brøndby, Denmark, where the welding workshops feature any type of exercise themes containing real leakages. Among these, pipe systems for protective gases and compressed air, etc.

Improved digital scanning technology immediately uncovers otherwise undetectable errors

Developments in x-ray vision have been moving rapidly – today, more details are uncovered much more quickly than just a few years ago. Simultaneously with the higher processing speed, a greater need for more information in less time has emerged. FORCE Technology has therefore further developed the technology to meet the market's requirements. These results were e.g. reflected in 2004, when FORCE Technology delivered two highly advanced x-ray scanners to a Swiss district heating pipe producer. The scanners measure more accurately and feature quicker response times, enabling enhanced process regulation and instant digital feedback. The scanners shoot an x-ray image of each metre of pipe to document quality for every metre. The new system holds a number of exciting perspectives – in future, FORCE Technology will be able to handle a given product for online measuring of critical, internal dimensions of e.g. extruding aluminium profiles.

In addition to the aluminium industry, we expect the composite industry to make use of the new technology.

Validation is the path to better quality

The healthcare, pharmaceutical and food industries are facing increased quality and safety requirements. As a novelty, FORCE Technology is therefore offering a joint validation concept.

The concept allows customers to gather process documentation with a view to accommodating requirements made by all the stakeholders, which may cover the entire process from the handling of raw materials, processing and storage of finished products, or the documentation may focus on individual equipment and/or individual processes. In the healthcare sector, for example, where hygiene is a key area, sterilisation and other processes require ongoing control and documentation to ensure quality.

Requirements on safety and quality are stepped up by authorities, customers and consumers, and these developments require full corporate attention in order to survive fierce competition.

FORCE Technology's concept is quite unique because we command a wide range of competences that support the validation process. Thus, we compose a package of services tailored to the individual customer's needs.

200+ Danish and foreign welders have been certified

Amended EU tender rules have led to altered track standards that outline the technical requirements applying to track welding. Certification rules have been introduced for the operator who must pass a theoretical and practical exam, among other things. The welding procedures also require testing and approval, which is done by FORCE Technology.

So far, FORCE-Dantest CERT has certified 200+ Danish and foreign track welders. Moreover, FORCE Technology is currently performing method approval of thermite welding processes according to the European standard prEN 14730-1 which requires considerable testing. Among other things, FORCE Technology has assisted German and French manufacturers of thermite filler material with approvals for the European market.

In future, teeth will be produced by laser

Denture work is experiencing new opportunities with FORCE Technology's participation in an EU project aimed at developing an instrument to produce dentures with micrometer accuracy using laser beams and powder.

Today, dentures are formed in wax and then cast in metal. With the new method the denture is made from a CAD model in 3D of the patient's mouth. The mouth is scanned and the laser system is used to build the denture in titan, a strong and highly tissue compatible metal. The laser model is very sophisticated and can be used for making very small and fragile high-precision structures.

Thus, the method is expected to be better, simpler and faster, and allow for cheaper high-quality dentures. We mainly contribute with knowledge in laser technology, which is an area in which we are leaders at the European level. The EU project is due for completion in early 2007.

Nordic collaboration on metrology

In 2004, in the context of a major Nordic project that is funded by Nordisk Innovations Center (former Nordtest), FORCE Technology arranged a number of metrology workshops in Denmark, Finland, Norway and Sweden. The purpose was to strengthen Nordic collaboration in metrology, and ensure Nordic influence on metrology developments at the European and international levels and optimum resource utilisation. A total of 98 participants from various countries represented a number of areas of responsibility and work, including authorities, accrediting bodies, laboratories and research organisations.

As a result, as many as 137 potential collaboration projects were suggested – from gas flow projects pointing to the establishment of joint Nordic primary labs, e.g. within gas flow, to collaboration on the development of uniform calibration procedures and the setting up of training, educational and comparison calibrations.

Nano structures developed in new research project

The focus is set on nanotechnology for gas sensors in a new European research project. FORCE Technology's Sensor Innovation department is participating with a view to developing new and more sensitive sensor elements for electronic odour sensing systems.

These systems are initially designed for continuous process and odour emission surveillance equipment, which is used in the biotech industry and in agricultural animal production where odour emission from pigsties is monitored, and in the food processing sector where raw material quality is monitored.

The new sensor elements will provide for more reliable odour measurements, and we expect them to enable future measuring under conditions where the existing systems are not sufficiently sensitive.

The research project is running from 2004 until 2007, and in addition to FORCE Technology, the participants represent Copenhagen University, Roskilde University, PBI-Dansensor A/S, Danish Micro Engineering A/S and partners in Germany, France, Italy, the UK and Czech Republic.

Future approval of metrology equipment

For many years, FORCE Technology has been working on metrology equipment approvals. We have closely followed the creation of the long-awaited metrology directive in the past decade, e.g. as a technical consultant for the authorities behind the directive.

On 30 April 2004, when the directive finally entered into force, we launched a series of feature days for manufacturers and users about the impact of the directive on Danish manufacturers of metrology equipment. Once the directive has been implemented into the Danish legislation, which must take place by 30 April 2006, we expect to be notified and thus able to offer Danish and foreign manufacturers an approval of their products in accordance with the new directive.

High-pressure calibration of gas meters

Danish natural gas suppliers and other users of major volume gas and flow meters have finally been given an opportunity to have their high-pressure calibration work done in Denmark.

During 2004, FORCE Technology established a new calibration lab in Vejen, which represents the only system of its kind in Europe with loop circulation of the natural gas by means of an axial compressor. We are the only Nordic and North European company that calibrates gas meters with flows of up to 6,500 m^3/h and pressures up to 50 bar, using natural gas as the test medium. The lab is approved by DANAK (The Danish Accreditation Body) and thus fulfils ISO 17025 requirements. Hence, companies do not need to send their meters to the Netherlands, Germany or France for calibration, which often involves long turnaround and high transportation costs.

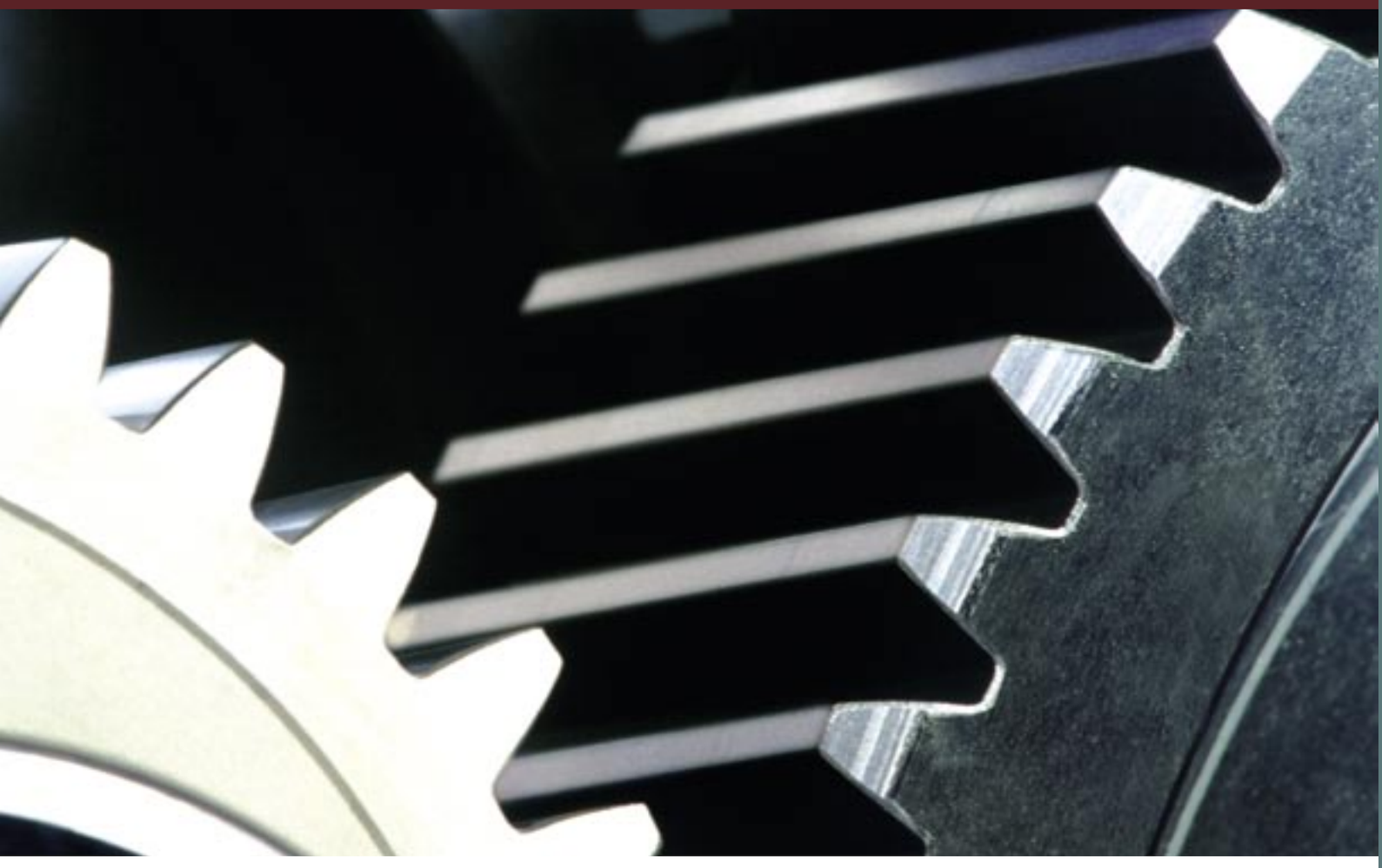
With the new calibration system in Vejen we have expanded our customer potential overnight to comprise the entire European gas sector with its growing demand for calibration of meters under operational static pressure. In addition, we sense a strong demand from other industry sectors that require their process meters calibrated.

The 2004 corporate prize

The Danish business association of the Brøndby, Glostrup and Vallensbæk local authorities has awarded the corporate prize for 2004 to FORCE Technology.

The mayor of Brøndby, Mr Kjeld Rasmussen, presented Mr Ernst Tiedemann, CEO of FORCE Technology, with the prize. At the event, the mayor stressed that the prize was mainly awarded owing to the significant growth that FORCE Technology has experienced in recent years and the new jobs created in the local community thanks to the company's growth. At the same time, FORCE Technology is an illustrative example of a company that has developed into a Danish industrial success since its foundation almost 70 years ago and with a performance that stands out on the international markets.

With the prize comes a monetary reward of DKK 25,005 that will be used for training purposes.



Board of Directors and Management

Board of Directors as at 1 May 2005

Erik Søndergaard
Chairman
Managing Director

Mogens Arndt
Deputy Chairman
Director ENERGY E2

Preben Terndrup Pedersen
Professor, Ph.D.
Institute of mechanics, energy and construction – DTU

Peter Tang-Jensen
Director
Odense Steel Shipyard Group A/S

Jesper Thomassen
Executive Vice President
DANISCO Sugar

Per Thrane
Director
Per Thrane Holding Aps.

Søren Jensen
Inspector
Employee Representative

Piet Jansen
Civil and ship engineer
Employee Representative

Annemette Geertinger
Civil engineer
Employee Representative

Management

Ernst Tiedemann
Managing Director

Jens Roedsted
Market Director

Hans Andersson
Director FORCE Technology Sweden AB
Coordination Sweden-Denmark

Willy Damgaard Kristensen
Technical Director

Øjvind Andersen Clement
Finance Director

Managerial Staff

Bent Larsen
Director
FORCE-Dantest CERT

Arne H. Jensen
Head of Division
Inspection and Testing, East

Leif Jeppesen
Head of Division
Sensor and NDE Innovation

Jette Heideby
Finance and Administration

Niels Aage Giversen
Head of Division
Inspection and Testing, West

Stig Sand
Head of Division
Maritime Industry

Jette Feddersen
Personnel

Ulf Larsen
Head of Division
Welding and Production Innovation

Hans Falster
Head of Division
Energy and Environment

Birger Hansen
Quality Assurance

Gunnar H. Østergaard
Head of Division
Quality and Metrology

Lars Vesth
Information and
Communication Technology

Nils Linde Olsen
Head of Division
Materials and Analysis

Subsidiaries

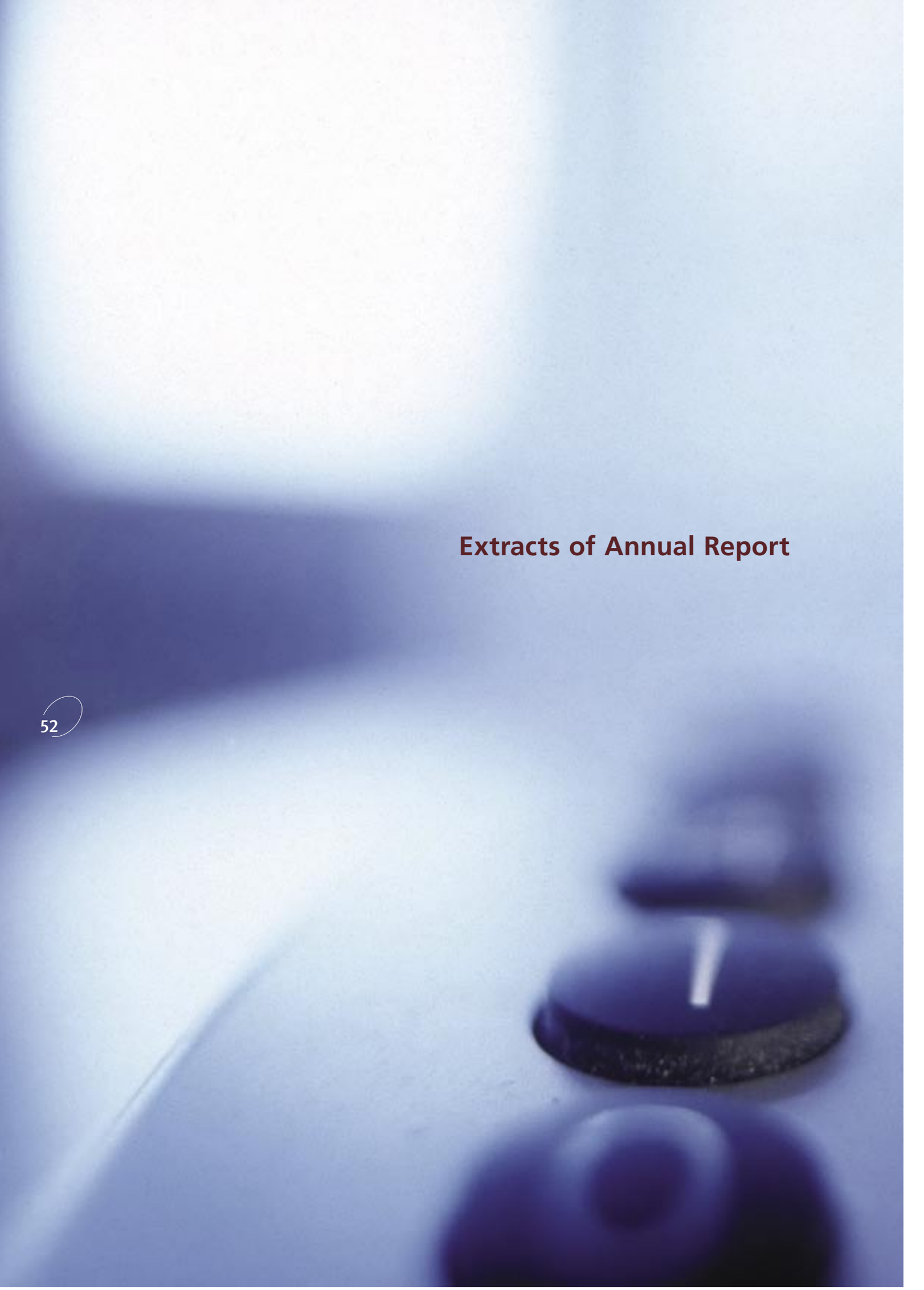
FORCE Technology Sweden AB
Hans Andersson
Managing Director
FORCE Technology Sweden AB

FORCE Technology Norway AS
Henning Arnøy
Managing Director
FORCE Technology Norway AS

Number of employees at year-end 2004

Engineers, scientists, etc.	295
Other technical personnel	575
Administrative personnel	144
Total	**1014**

Extracts of Annual Report



Profit and Loss Account
1 January – 31 December 2004

	Consolidated Company		Parent Company	
	2004 DKK 1,000	**2003** DKK m	**2004** DKK 1,000	**2003** DKK m
Consolidated turnover	**698,932**	**609,7**	**535,931**	**470,0**
Expenses directly related to projects, outlays	53,754	50,2	53,697	38,9
Other external expenses	136,435	120,7	83,642	85,3
Personnel expenses	470,453	403,1	359,465	314,9
Depreciation and write-downs	36,920	29,5	29,052	23,8
Profit before extraordinary items	**1,370**	**6,2**	**10,075**	**7,1**
Extraordinary items	4,918	0	4,918	0
Share of profit or loss	652	0,6	-8,116	-1,7
Profit before interest, etc.	**6,940**	**6,8**	**6,877**	**5,4**
Financial income and expenses, net	-3,304	-3,8	-1,348	-2,8
Profit before tax	**3,636**	**3,0**	**5,529**	**2,6**
Tax	-1,615	0,3	278	0,3
Minority interests	0	0,4	0	0
Profit for the year	**5,251**	**2,3**	**5,251**	**2,3**

Please contact Jette Heideby, Finance and Administration, FORCE Technology, for a copy of the complete annual report for 2004.

Balance as at 31 December 2004

Assets

	Consolidated Company		Parent Company	
Assets	**2004** DKK 1,000	**2003** DKK m	**2004** DKK 1,000	**2003** DKK m
Fixed Assets				
Goodwill	22,655	23,5	1,086	0
Total intangible fixed assets	**22,655**	**23,5**	**1,086**	**0**
Land and buildings	106,097	100,0	100,749	94,6
Furniture and equipment	66,967	65,9	50.876	47,9
Total tangible fixed assets	**173,064**	**165,9**	**151,625**	**142,5**
Participating interests	2,173	0,1	26,601	30,2
Intragroup balance	0	0	27,980	30,4
Financial fixed assets	**2,173**	**0,1**	**54,581**	**60,6**
Total fixed assets	**197,892**	**189,5**	**207,292**	**203,1**
Current assets				
Stocks	40,918	19,2	30,701	10,7
Debtors, work in progress and completed work	123,070	110,3	85,988	82,0
Intragroup balance	0	0	6,138	5,9
Other debtors	26,217	25,4	19,744	20,0
Securities	39,323	40,4	39,323	40,0
Cash and bank balances	25,088	30,8	21,791	18,5
Total current assets	**254,616**	**226,1**	**203,685**	**177,1**
Total assets	**452,508**	**415,6**	**410,977**	**380,2**

Liabilities

Liabilities	Consolidated Company		Parent Company	
	2004 DKK 1,000	**2003** DKK m	**2004** DKK 1,000	**2003** DKK m
Capital and reserves	**197,978**	**192,1**	**197,978**	**192,1**
Minority interests	**0**	**1,4**	**0**	**0**
Deferred tax	**131**	**1,8**	**0**	**0**
Provisions	5,093	6,3	5,093	6,3
Total provisions	**5,224**	**8,1**	**5,093**	**6,3**
Bank debt	35,886	35,8	32,205	35,7
Mortgage debt	33,108	34,3	33,108	34,3
Total long-term debt	**68,994**	**70,1**	**65,313**	**70,0**
Mortgage debt	3,678	6,0	3,678	6,0
Bank debt	27,863	16,2	19,617	10,8
Creditors and accrued costs	25,535	21,7	15,440	14,8
Advance payments and invoicing	26,151	14,2	22,517	10,1
Other creditors	97,085	85,8	81,341	70,1
Total short-term debt	**180,312**	**143,9**	**142,593**	**111,8**
Total debt	**249,306**	**214,0**	**207,906**	**181,8**
Total liabilities	**452,508**	**415,6**	**410,977**	**380,2**

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