DANISH
TECHNOLOGICAL
INSTITUTE

ANNUAL REPORT

2008

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PREFACE

FULL SPEED ON RESEARCH!

In our 2008 annual report, we will be looking back on a year in which the Danish Technological Institute continued its efforts to bolster research and development activities, investing in, e.g., laboratory facilities and sophisticated equipment totalling EUR 4.8 million.

We are also pleased to have attained a steadily increasing number of research and development projects in 2008 particularly since this has been our intention for the past five years.

We are looking forward to meeting the challenges of 2009, culminating with the UN Climate Change Conference in Copenhagen in December. The Institute's latest addition, the 'EnergyFlexHouse' – a unique platform for innovating and developing energy efficient technologies for construction – will help propel Denmark into a strong, international position in the energy sector and underpin the special status Denmark has enjoyed for a number of years in the area. We want to help Denmark reduce its CO_2 emissions by 21% between 2008 and 2012. At the same time, we will be working to ensure that renewable energy covers 30% of Denmark's energy consumption in the coming 12 years.

We will approach this task by taking new avenues and planning ahead for our customers, especially in areas like energy. We believe that Denmark can win the battle for tomorrow's energy technology if we commit ourselves to innovative ideas, different philosophies and sophisticated, world-class laboratories. Denmark must be at the technological vanguard to create a Danish trade and industry framework that will foster global success.

The Institute's international activities and focus areas also continue to gather momentum. We are selling more and more knowledge abroad. At the beginning of 2008, we bought the controlling interest in the Polish course and consultancy company FIRMA 2000 Sp. z o.o. In addition, the Institute is increasingly forging more international contacts to leading partners and customers in Europe and other parts of the world.

Since Gunnar Gregersen founded the Danish Technological Institute in 1906, we have maintained a broad technological competence that is reflected in the various types of tasks we perform. In keeping with tradition, we will use the 2008 annual report to recount the Institute's activities during the past year, describing a number of completed tasks and ongoing research and development projects.

This year, we will focus on five major themes concerning key societal challenges. These are:

- Energy, environment and climate
- Innovation and development
- Health and well-being
- Production and business development
- Knowledge, education and competencies

We look forward to continuing constructive research and development work in 2009 in close cooperation with our customers and partners in Denmark and abroad.

We must keep our eyes open to the opportunities at hand – even in turbulent times – and have the courage to lead the way and act with an eye to the future.

Enjoy our annual report.

Hans Kirk
Chairman

Søren Stjernqvist
President

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Her Majesty the Queen of Denmark is patroness of the Danish Technological Institute.

DANISH TECHNOLOGICAL INSTITUTE – KNOWLEDGE THAT WORKS

KNOWLEDGE DEVELOPMENT

The Danish Technological Institute, working jointly with Danish and foreign research institutions and companies, develops new knowledge through research and development activities. Developing new knowledge and technologies is the cornerstone of the services the Institute provides.

KNOWLEDGE APPLICATION

New knowledge gives the Danish Technological Institute a basis for providing Danish companies with the assistance they need to meet the challenges of global competition. The Institute applies the newest technologies to develop technological services such as laboratory testing, sampling, calibration and certification.

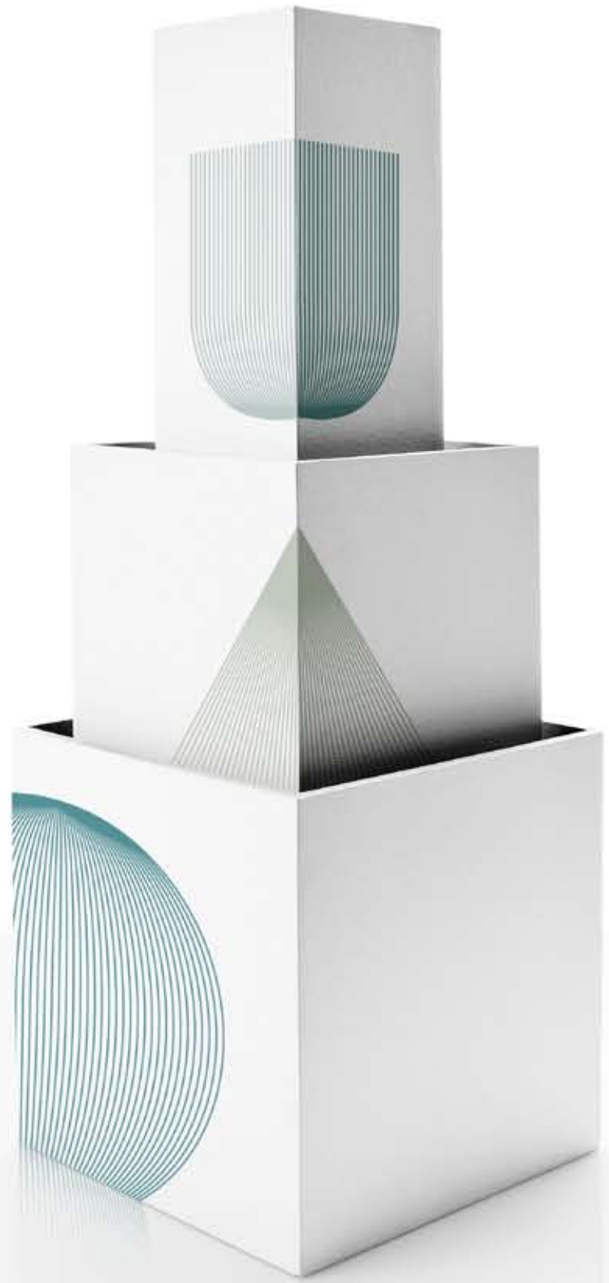
KNOWLEDGE TRANSFER

One of the Danish Technological Institute's key tasks is to facilitate efficient knowledge transfer. In its interaction with private companies, organisations and public customers, the Institute transfers knowledge through consultancy, training and networking activities. The Institute's activities cover all areas from courses, secretarial services, operational tasks to unique, custom-built advisory services.

TRUE RENEWAL, REAL INNOVATION

Technology must always serve humanity as something that contributes to job satisfaction and energy for individuals and for progress and growth in society. The Danish Technological Institute's founder Gunnar Gregersen held this attitude, a holistic perspective that still characterises the Institute's work.

Implementing new technologies in existing and new products demanded by tomorrow's market and applying known technologies in new ways – that is true renewal and real innovation.



Danish Technological Institute is an independent, non-profit organisation, authorised by the Ministry of Science, Technology and Innovation as an Approved Technological Service Institute (GTS).

CHALLENGES FOR SOCIETY

"We must keep our eyes open to the opportunities at hand – even in turbulent times – and have the courage to lead the way and act with an eye to the future."

Søren Stjernqvist
President

ENERGY, ENVIRONMENT AND CLIMATE

Increasing global demand for energy. Strongly fluctuating energy prices on fossil fuels. An energy supply situation that grows more uncertain as, for example, oil production drops. Greater concentrations of greenhouse gases in the atmosphere, resulting in climate changes with more extreme weather conditions. Damage to buildings and infrastructure caused by higher precipitation, rising water levels and stronger storms. Increasing problems with supplying clean drinking water. Mushrooming pollution problems resulting from sprawling urban areas and inefficient industrial and agricultural production in many countries. Particle pollution of the air, chiefly in large cities. Oxygen deficiency in Denmark's inland waters.

Global need for sustainable energy technologies

All this raises global demand for highly specialised products and expertise in sustainable technologies, a situation that allows Danish trade and industry to exploit the considerable, future market potential in the area. Danish companies have to have access to the newest knowledge to be at the forefront of global competition in the energy area!

Like the rest of the world, Denmark is facing massive challenges in the energy area. Well-functioning and stable energy supplies are essential to a modern society, and energy systems are the lifeblood of any modern economy. One of our principal challenges is to reorganise energy supplies and energy consumption radically so that we can convert to alternative and more reliable and environment-friendly energy sources, thus reducing CO_2 emissions by 21% between 2008 and 2012, as Denmark promised under the Kyoto Protocol. If we accelerate research, development and demonstration of environment-efficient energy technologies, Denmark as society may earn a national gain.

Towards a new energy adventure?

Denmark has been an international leader in the energy area for many years. Denmark's overall political objective of having renewable energy cover 30% of energy consumption during the next 12 years and becoming independent of fossil fuels give Denmark a massive potential for developing and bolstering its special status in the energy area. One of the greatest challenges consists in choosing and developing the most cost efficient technologies and methods that will provide sufficiently stable and intelligent energy service at competitive prices and with limited impact on the climate and environment in general. Danish sustainable technology must adapt to both new technological advances and new global market possibilities. The energy system of the future must also be flexible so that energy suppliers can adapt to unpredictable fluctuations in demand.

Energy efficiency improvement in construction

Denmark's political targets involve considerable energy efficiency improvement in the construction area. For example, new buildings must be developed, and the existing building stock must be reorganised and modernised. Consequently, a large number of new efficient materials, components and installations need to be developed and implemented and gain acceptance in the existing building stock to ensure that new buildings are CO_2 neutral. Moreover, the construction process and material production must be made more energy efficient. In addition, buildings must be protected against future climate impacts.

In 2008, the Danish Technological Institute focused on extending its position in renewable energy and other sustainable environmental technologies where society particularly needs them and a national and international market potential exists. The intention has been to strengthen an application-oriented and cross-disciplinary development effort with a global outlook to achieve political energy targets on supply security, environment, climate and cost efficiency.

Export of Danish energy technologies

The Institute wants to continue contributing to strengthening and extending Danish companies' market position nationally and globally in the energy area through development and innovation.

The Institute's research activities have focused and will continue to focus on supporting and developing the companies' opportunities to break through and successfully compete in the global market by improving known energy and environmental technologies and creating innovative technological solutions to the energy systems of the future. The long-term goal is to strengthen development of competitive, energy-efficient and sustainable energy systems capable of meeting future energy demands and environmental requirements.

Matchmaking in energy projects

We have achieved significant results through the high-advanced technology network VE-Net (Renewable Energy Network), launched by the Danish Technological Institute in cooperation with the Danish Energy Industries Federation and funded by the Ministry of Science, Technology and Development. One of the network's objectives is to promote the industrial and societal application of energy research by establishing professional, strategic and personal relations between companies and knowledge institutions in the energy area. Via matchmaking and network activities, VE-Net acts as a catalyst for launching cross-disciplinary projects that may result in greater use of research-based knowledge, development, demonstration and commercialisation of the companies' energy competencies and new energy and environment-efficient products or system solutions.

The virtual display window EnergyMap.dk is one example of the many projects created under VE-Net. This portal showcases Denmark's competencies in climate and energy technology solutions and makes ongoing and coming Danish energy research more visible and attractive internationally through demonstration and development projects. In 2007 and 2008, VE-Net contributed to the concept development of EnergyMap.dk and worked intensively to find funds for the portal. VE-Net has also contributed to the funding. In June 2008, EnergyMap.dk was taken over by the Climate Consortium Denmark, which heads Denmark's business-related activities leading up to the UN Climate Change Conference in Copenhagen in 2009. EnergyMap.dk will be embedded in the Climate Consortium Denmark in future, but VE-Net's partner - Danish Energy Industries Federation - will perform its activities on behalf of the Climate Consortium Denmark. All Danish companies, institutions, organisations, regions and local authorities working in the area can create a profile at EnergyMap.dk.

Transport solutions on the way

Increased transport supports economic growth and employment and creates value for society. However, increased transport also creates some daily traffic problems and a number of related problems with the environment such as noise, particle pollution and fatal traffic accidents. This poses a number of challenges to society, companies and citizens and energy consumption for transport continues to grow. Society uses a growing amount of information and communications technology to manage the infrastructure and traffic on highways, in airports, etc. Communication, positioning and fleet management systems, available for some years, have helped the transport business streamline its operations. These systems can be integrated further with systems for communicating with customers and public road systems to minimise traffic congestion and waiting times and ensure better utilisation of lorry capacity.

The Danish Technological Institute is working with DTU Transport, City of Copenhagen and six other companies to streamline transport and thus reduce total transport work. The project includes developing logistics and transport chain solutions where information available from various systems is linked in order to find ways of utilising transport and logistics systems more efficiently in a broad sense.

On the following pages, we will show the result of the Institute's work in energy, environment and climate by providing examples of our work to solve some of the major challenges faced by society.

READ MORE AT / WWW.DTI.DK

ALGAE – RENEWABLE ENERGY OF THE FUTURE

Algae for bioenergy offer a massive potential. The algae can be grown in ponds and give far greater yield than other crops used for bioenergy. Surplus nutrients from agriculture and CO_2 from combined heat and power generation (CHP) plants might be used as fertilizer and a carbon source in algae cultivation. Denmark has only made sporadic attempts to use macroalgae in biogas reactors, a situation that a new Danish research project is set to rectify.

The Danish Technological Institute heads the four-year project that is to result in optimum and profitable energy utilisation of all parts of the microalga sea lettuce (Ulva lactuca). Research is conducted in cooperation with the National Environmental Research Institute, Risø DTU National Laboratory for Sustainable Energy and DONG Energy A/S. The contributing partners will develop expertise in cultivating, harvesting, conditioning and utilising the energy potential of the blue biomass. During the project, the researchers will investigate various possibilities of generating energy from the algae, producing bioethanol, converting the algae in biogas reactors and incinerating whole algae or using residual products from the production of bioethanol and biogas.

In 2008, the parties established a small-scale plant for cultivating algae at the Danish Shellfish Centre in Mors. In the long run, the parties must design a fully automated plant where the algae can be cultivated in basins using return heat and possible CO_2 from a CHP plant. Adding heat and CO_2 can increase the growing rate of the algae and thus the dry matter yield. At the same time, CO_2 that would otherwise be emitted to the atmosphere and adversely affect the climate is used.

JOINT RESEARCH IN REACTOR FOR HYDROGEN PRODUCTION

The company B. Rustfrit Stål Horsens A/S has joined forces with the Danish Technological Institute to develop a compact reactor capable of producing hydrogen from ammonia with very little energy loss. The hydrogen is used as fuel in fuel cells.

The cooperation combines B. Rustfrit Stål Horsens A/S' knowhow of sophisticated production technology with the Danish Technological Institute's expertise in hydrogen technology and catalysis.

Currently, ammonia is bought in its liquid state. However, in future it will also be available in a solid state, as the advanced technology company Amminex A/S is currently developing this product. Solid-state ammonia is so safe that it has already been approved as fuel for air transport.

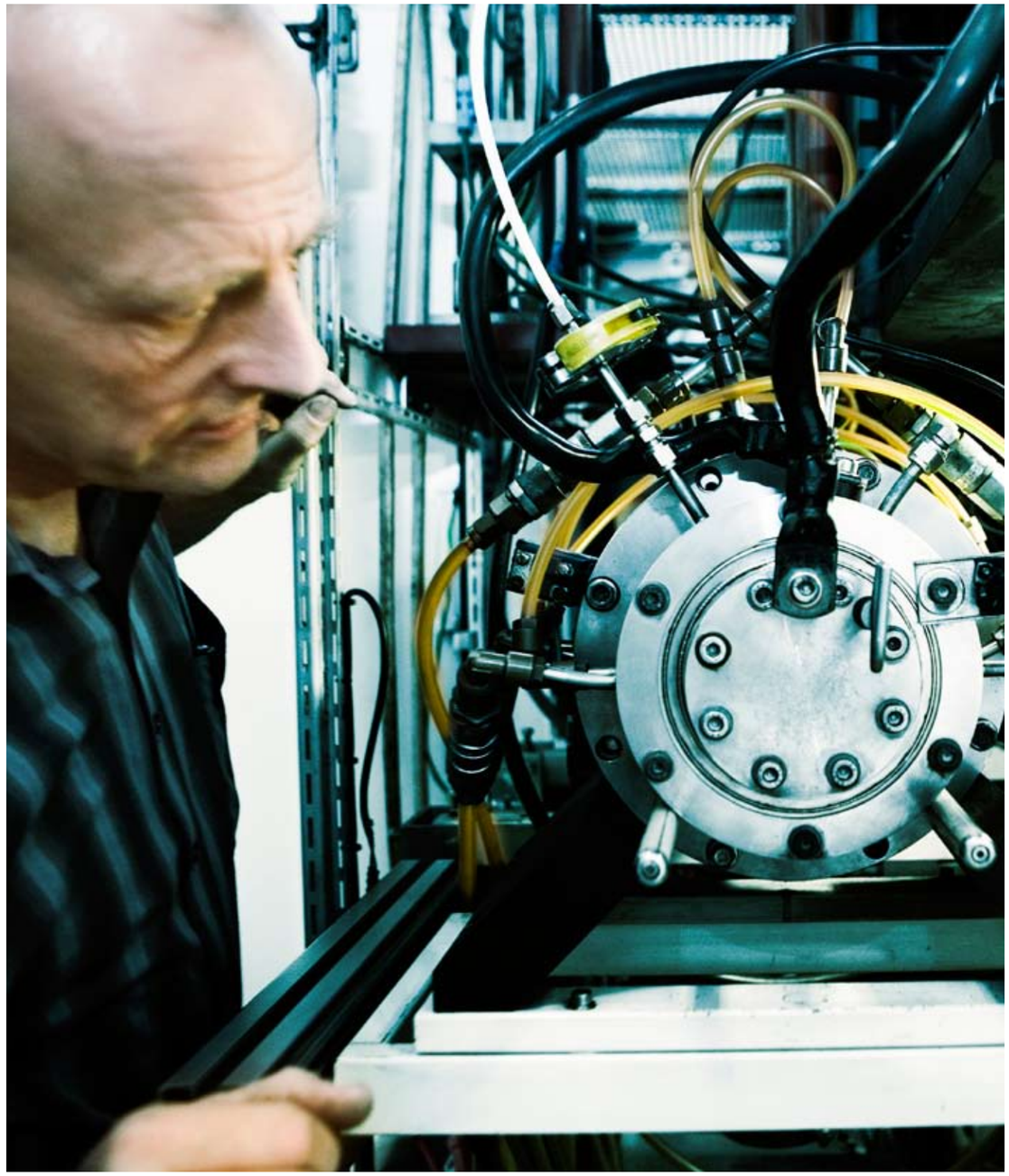
CLEANER CITY BUSSES

In 2008, the Danish Technological Institute was given accreditation to perform emission measurements on busses in city areas – this reduces air pollution in the cities.

Measurements are made of the small 'cloud' emitted by the busses when the driver steps on the gas and moves away from the bus stop.

The Danish Technological Institute has formulated the environmental requirements for the measurements together with Trafikselskabet Movia. The traffic companies in Odense, Aalborg and Aarhus have implemented the environmental requirements from Trafikselskabet Movia.

The emission measurements show a need to improve the maintenance of particle filters. The Danish Technological Institute is therefore focusing on making the bus garages involved observe the suppliers' maintenance instructions for the particle filters.

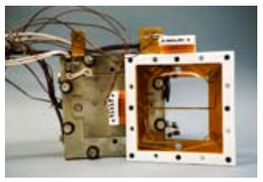


GROUNDBREAKING RESEARCH IN FUEL CELLS

For the first time, researchers have successfully measured the temperature of a working fuel cell, which uses a catalytic process to convert hydrogen and oxygen into electricity. Fuel cells are a key to efficient and environment-friendly energy systems of the future.

The Danish Technological institute, Aalborg University and the Technical University of Denmark are behind the development of embedded temperature sensors for measuring and diagnosing the temperature in working fuel cells. This groundbreaking work fosters new knowledge about fuel cells. In the long run, this knowledge may help increase the life of fuel cells and thus support the development of competitive, energy-efficient and renewable energy systems that meet the energy demands and more stringent environmental requirements of the future.

The Danish Research Council for Technology and Production Sciences funds the development project. The sensors are made with the Institute's thin-film platform, and the concept has been subsequently tested and verified on a prototype. The centres involved at the Danish Technological Institute are Tribology and Renewable Energy and Transport.



NEW METHOD FOR ASSESSING THE EFFICIENCY OF MODIFIED WOOD

The Danish Technological Institute has worked with the University of Copenhagen to develop a screening method for assessing the efficiency of modified wood made for outdoor use without adding any biocides. One advantage of the method is that the result is available in just 24 hours versus the 16 weeks required for conventional tests. The new method gives a more precise picture of the durability of modified wood.

The new method has been developed on the basis of experience gained about enzymes during bioethanol production. The method now needs to be further developed for application to, e.g., pressure-impregnated wood products treated with conventional protectants. Both the industry and research circles are keenly awaiting the results.

One obstacle to implementing modified wood products in the market has been the lack of suitable test methods for efficiency assessments. Modified wood has been developed as a replacement for, e.g., pressure-impregnated wood and should therefore also be assessed in respect of its protective effect against fungal attacks. However, the test methods applied so far have been developed for conventional wood protection where the wood is protected according to principles different from those used when it is modified.

MASS-PRODUCED PASSIVE HOUSES IN DENMARK

Danes can look forward to living in new types of energy-efficient terrace houses. The Danish Technological Institute heads the development project SUNSHINE HOUSE, which is to kick-start the manufacturing of passive houses in Denmark.

The first versions of the new energy-efficient concept comprise twelve industrially manufactured, two-storey terrace houses. The houses will be ultra-insulated and observe the requirements for passive houses.

- In addition, the houses can be heated directly from the ventilation air and need no heat from radiators, explains Centre Manager Anders Thomsen from New Industrialisation at the Danish Technological Institute.

The first, new energy-efficient terrace houses in Denmark will be located in the beautiful, rolling landscape of south Kolding. In style, design and choice of material the terrace houses must be based on the Danish tradition of low-rise terrace houses.

Nordicom A/S, the Danish Technological Institute and The Knowledge Centre for Industrial Building (VIB) are behind the SUNSHINE HOUSE initiative. The aim is to give the stakeholders in Danish construction various Danish and international proposals for a contemporary, prefabricated, extreme low-energy terrace house that can be mass-produced for commercial purposes in the future.

Another aim is to disseminate knowledge gained to all construction stakeholders and thus raise awareness of energy-efficient construction and create development potential for the building material industry in terms of system products and system deliveries.

BIODIESEL – A 'GREEN' ALTERNATIVE FOR THE TRANSPORT SECTOR

In the near future, Danish energy research in sustainable biofuel production will mean that lorries, commercial vehicles, private cars and motorcycles emit smaller amounts of CO_2.

Denmark's consumption of oil for transport has risen steeply since 1972. In 1972, the transport sector's share of total Danish oil consumption reached 23%, while it increased to 70% in 2007. Much of the greenhouse gas emission comes from lorries, commercial vehicles, private cars and motorcycles. To reduce this emission alone, we need to find 'green' alternatives to conventional fuels produced from fossil crude oil. In 2007, the European Commission set the goal of having biofuels account for at least 5.75% of the transport sector's energy consumption in 2010.

The 2007 Finance Act earmarked EUR 8.1 million over a three-year period for demonstrating the application of biodiesel in Denmark. The Road Safety and Transport Agency administers this pool, which is funnelled into four projects.

The Danish Technological Institute participates in three of the four funded projects and holds overall project management responsibility in the 'Biodiesel Danmark' consortium, which also includes Statoil A/S, Arla Foods Amba, Municipality of Esbjerg, Tide ASA, Stroco ApS, DPF Service ApS, Alm. Brand Forsikring A/S and Daka Biodiesel Amba.

The Danish Technological Institute pools the competencies to produce, store and use biofuels, maps the chemical and physical properties of the biodiesel produced and tests the vehicles used.

The Danish Technological Institute has started renovating its facilities for measuring and testing vehicles. The measurements can reveal any impact on engine output, consumption or pollution level. The facilities are vital for the research in and development of a sustainable production of alternative transport fuels like biodiesel.

RESEARCH IN INTELLIGENT FREIGHT TRANSPORT

For more than 20 years, the growth in the transport business has exceeded the growth in GDP. Increased transport supports economic growth and creates value for society but also poses a number of challenges for society, companies and citizens in the form of environmental loads, traffic congestion and accidents. A new innovation consortium headed by the Danish Technological Institute is working to solve these problems.

The consortium is charged with developing freight transport systems via IT transport technology demonstration programmes. The research aims to increase efficiency and reduce environmental load in freight transport for the benefit of the industry, society and not least customers. Increased efficiency and better utilisation of logistics can be achieved via innovative coupling and data exchange between lorries, carriers, customers and public road systems. The challenge is to make an innovative coupling by integrating mobile devices, public aerial networks, GPS sensors, traffic signals and vehicle computers.

The IT transport technology demonstration programmes are intended to be spread throughout the transport sector.

In addition to the Danish Technological Institute and DTU Transport, this project includes Henrik Tofteng A/S, Tvis Vognmands Forretning A/S and Alex Andersen Ølund A/S. Other participants include the Danish Transport Federation, Comlog A/S, City of Copenhagen and Scania Danmark A/S.

CLEANER STEEL INDUSTRY IN VIETNAM

Better environment and economic growth go hand in hand in a project to promote cleaner technology in the Vietnamese steel industry.

The Danish Technological Institute is working to promote cleaner steel production in the Thai Nguyen and Nghe An provinces in Vietnam in close cooperation with the Vietnamese authorities, experts and consultants. This gives Vietnamese society and trade and business access to the newest knowledge on environment-friendly technologies.

The Danish Technological Institute reviews the production at the Vietnamese companies and identifies avenues for increasing productivity, improving quality, streamlining energy utilisation and reducing environmental impacts.

Similarly, the Institute also evaluates the companies' potential for reducing greenhouse gas emissions.

The project, supported by Danida, will be completed in 2009. During the initial stage, Vietnamese stakeholders visited Denmark to learn from Danish experience.

The Danish Technological Institute was in Vietnam to collect information and prepare a strategy for cleaner technology in the steel industry, together with the Vietnamese experts. This information is greatly needed since steel production in Vietnam will become more environmentally detrimental in the coming years.

INNOVATION AND DEVELOPMENT

Denmark is among the richest and most competitive countries in the world. The greatest possibilities and threats faced by Danish society today are complex, long-term and uncertain. Innovation is a key concept in supporting continued positive development in Danish trade and industry and thus ensuring future growth, well-being and welfare in Danish society. How well companies translate knowledge and ideas into business as they develop future products is vital to their competitiveness in a globalised knowledge economy. The ability to react quickly to change – both known risks and unforeseen uncertainties and events – distinguishes the successful from the less successful companies when one measures their efficiency and earning power.

Innovation may come from many sources and take many forms – one crucial source being research, development and new knowledge coupled with entrepreneurship and commercialisation. The motivation for innovation may differ depending on whether the company is forced to innovate or has innovation as a conscious strategic goal. Innovation can be motivated by research, users, employees, the market or price.

Innovation – a foundation for development

The Danish Technological Institute stimulates and develops employees' competencies in creating renewal and a basis for employee-motivated innovation. Similarly, the Institute analyses a multitude of user processes in cooperation with companies. Moreover, companies achieve many tasks by including users of the companies' future products in the process.

In a globalised world, production of goods moves across borders, and knowledge and innovation have become central competitive parameters for Danish businesses. Consequently, having sufficient labour with the proper qualifications is an acute challenge for many years ahead.

Today, Danish trade and industry is facing various agendas if we want to secure our future competitiveness and bring Danish companies up among the most innovative in the world. The division of labour has become increasingly internationalised, and we see a number of low-wage economies becoming more integrated, which entails intensified competition on price as well as fiercer competition on the knowledge content of products and services. The market and the possibilities are thus changing at a still greater pace. New material and process technologies are emerging. The average product life across industries and sectors is dropping – what was best practice last year may not be so this year. All this requires self-management, creativity, global acumen and a solid understanding of customers – strengthening the basis for developing value-creating innovation processes in the service sector is thus equally important.

The growth in productivity is lower in Denmark than in a number of other countries. Globalisation is putting increasing pressure on Danish companies in terms of price and efficiency. Continuously developing and optimising productivity is the key to production and development companies' survival in the global economy.

The Danish Technological Institute wants to help support the development of future competitive production systems that meet society demands for environment, health and ethics. A special effort is needed in the construction industry since the development in productivity has been stagnant for several years, and because this is an area where new industrialised production methods have gained a foothold.

Pressure to ensure fast technology development

New management methods are gaining ground. Learning and health and safety are vital for the companies' ability to increase productivity. In addition to optimising productivity on an ongoing basis, companies also need a strong national technological infrastructure to survive international competition. Companies must have access to internationally oriented advice in areas spanning from proper strategies for outsourcing to rules and directives applying to the companies' products in international markets. This particularly applies to small and medium-sized enterprises unable to acquire this knowledge on their own. Consequently, companies need a strong player capable of promoting product development through targeted and customer-oriented advice.

All of this implies that companies need to develop technologically at a pace much faster than just a few years ago. This pressure to ensure faster technology development evokes a need in Danish trade and industry to be able to draw on the competencies of the Danish Technological Institute.

On the following pages, we specify the Danish Technological Institute's innovation and development activities by providing examples of the work to find solutions to some of society's challenges.

READ MORE AT / WWW.DTI.DK

HARMFUL BACTERIA IN NORTH SEA OIL FIELDS MONITORED USING MODERN DNA METHODS

During the past years, the Danish Technological Institute and Mærsk Olie og Gas A/S have been working to develop new DNA-based methods for measuring harmful bacteria speedily, accurately and easily in offshore oil production, mainly in the Danish part of the North Sea.

In modern oil production, large amounts of seawater are pumped into the underground to extract the oil from the reservoir. This use of seawater means that bacteria convert sulphate from the seawater into sulphide, which deteriorates the quality of the crude oil. Sulphide also shortens the life of pipelines and storage tanks. In addition, sulphide is a poisonous gas which may be dangerous to crew on offshore drilling rigs in case of large emissions.

Traditionally, the oil industry has used cultivation-based analysis methods for monitoring the occurrence and activity of the harmful, sulphide-creating bacteria. The methods have proven slow, inaccurate and work-intensive for offshore workers. Consequently, during the past years, the Danish Technological Institute has joined forces with Mærsk Olie og Gas A/S to develop accurate biotechnological analysis principles for measuring the number and activity of bacteria in oil samples.

One of the developed methods is based on specific colouration of active bacteria cells and is called 'Fluorescence In Situ Hybridization' or just FISH. This method was originally developed to diagnose chromosome errors in humans but is now widely used in many other branches of biology and environmental research. In addition to being used as a monitoring tool in the Danish part of the North Sea, the method has also proven successful in the Norwegian and British sectors.

The Danish Technological Institute plans to start a large-scale project with a number of international oil companies in 2009. The project deals with standardising and implementing modern DNA methods to monitor the occurrence of bacteria in various oil systems.

HARD-WEARING MATERIALS FOR EXTREME ENVIRONMENTS

We are in the midst of a major breakthrough in international research in nano-structured and nano-enhanced materials. The Danish Technological Institute has therefore joined forces with a number of international partners to develop hybrid nanocomposites and multiphase nanocomposites.

The Danish Council for Technology and Innovation has chosen to support a new innovation consortium 'Extreme materials for extreme environments - Materials for the Future'. This consortium is to develop a new generation of materials that must increase the output and durability of products exposed to heavy loads due to extreme thermal impact or massive physical and mechanical impact.

The outcome of the project is expected to benefit companies producing high-end products and components. These products and components must work in extreme environments such as satellites, space probes, aircraft and helicopter components, masts for racing yachts, offshore applications and blades for wind turbines.

The maker of wind turbine blades LM Glasfiber will benefit from the development project since the requirements for wind turbine output and durability are considerable and the blades must be maintenance free.

Another example is Xperion ACE A/S's production of components for satellites and space probes. The requirements for product quality, strength/weight relation and durability are high.

Aircraft and helicopter components such as wings, tails, suspension and engine parts also require strong and durable materials.

The Danish Technological Institute, the Technical University of Denmark, the Aalborg University and a number of company partners have joined forces to develop new and 'extreme' hybrid nanocomposites and multiphase composites. The company partners include Danfoss A/S, LM Glasfiber, Xperion ACE A/S, Terma A/S, Uponor A/S, Barsmark A/S, NKT Cables A/S and SP Group A/S.

At the same time, the EU Commission has subsidised the 'Nano-tough' project under the Seventh Framework Programme, involving research into developing nanocomposites for the European motor industry. The consortium coordinator is the Aalborg University. The Danish Technological Institute and the Technical University of Denmark are project partners.

EMPLOYEE-DRIVEN INNOVATION - AN UNEXPLOITED POTENTIAL

The Danish Technological Institute's visit to four companies under the 'Hands-On Innovation in Construction' project resulted in 150 employee contributions for inventions or product improvements.

The Institute turbo-charges employee-driven innovation in the construction industry. This is done in close cooperation with the Danish Construction Association, the Federation of Building, Construction and Wood Workers' Union, KPMG and Skive Technical Institute. The construction industry has a huge potential for inventiveness as illustrated by the 'Hands-On Innovation in Construction' project. In addition to the hundreds of specific ideas for new tools, employees have contributed with new methods and ideas for improving health and safety at work.

- There is considerable potential in increasing the recognition of employee-driven innovation on construction sites and creating optimum conditions for realising and commercialising the ideas. Whether it is a new tool, an adapted version of existing materials or something else, there is good reason to see whether the invention can be patented and developed for resale, explains Centre Manager Louise Hvid Jensen, Creativity and Growth at the Danish Technological Institute.

When the project ended in December 2008, several of the companies involved chose to continue the work of commercialising some of the ideas employees came up with during the project, e.g. developing equipment for new high-pressure compressors, testing ideas for propping material in excavations and methods for cutting steel in plaster walls.

The project is cofinanced by Danish Agency for Science, Technology and Innovation.

INNOVATIVE USE OF TECHNOLOGY IN THE HEALTH SECTOR

The Greater Aarhus Area has the research and business potential to extend its position in the health technology area. This was the finding when the Danish Technological Institute mapped development trends for the Municipality of Aarhus.

The objective of the mapping was to identify business strengths that may turn the area of health technology into a competitive spearhead for the Greater Aarhus Area. The mapping is part of a broader innovation focus on health technologies.

The Danish Technological Institute was asked to focus on challenges, needs and possibilities today and in the future and to produce examples. As part of the project, the Institute analysed the development and innovation in health technology, including technology convergence, user-driven innovation and technological development trends. The Institute also identified financing options and gave ten recommendations to the Municipality of Aarhus.

'TAILOR-MADE' CONCRETE ARMCHAIR

A tailor-made armchair in concrete with the impression of a human body and created by a robot for urban spaces – this is the result of a collaboration between design company Komplot Design I/S and the Danish Technological Institute. This concrete furniture is a new, creative proposal for how to use the world's most-used building material to mass-produce future-oriented design furniture with new robot technology.

The 500 kg concrete armchair was on display for testing at the Cabinetmakers' Autumn Exhibition at Rundetaarn in Copenhagen from 21 November 2008 to 4 January 2009. Designed by Komplot Design I/S, the armchair has been produced at the Danish Technological Institute's high-tech concrete workshop. Surprisingly comfortable, the chair is created in a geometric idiom inspired by the square flagstone grid in which humans have left a permanent impression.

– We have never made concrete furniture, so it was a huge challenge, explains designer Boris Berlin from Komplot Design I/S. Boris Berlin finds concrete a fascinating material to work with because it is hard and heavy as stone but as workable as butter during the creation process, not to mention a durable material in all kinds of weather.

The designer's digital models of the furniture were used to make production programs for the robot at the Danish Technological Institute. The robot has used these programs to cut prototypes of the chair and table in blocks of polystyrene, which were used to create a silicone mould. The Institute contributed to the creative process by providing material competencies and knowhow. Consultant Lars Nyholm Thrane from the Danish Technological Institute and Boris Berlin from Komplot Design I/S both believe that there is a growing market for creative and visionary use of concrete.

- There are virtually no limits to creating fun and different geometries and surfaces on concrete constructions. We have only seen the tip of the iceberg when it comes to applying concrete in furniture production, predicts Boris Berlin, who will continue to work with ideas for the future mass production of individually designed concrete furniture.

The organisers of the Cabinetmakers' Autumn Exhibition assess that the outdoor set of furniture in concrete offers an interesting supplement to other innovative furniture in wood, steel, rubber and wicker at the exhibition.

Concrete is a promising and innovative material. We are thrilled to have the concrete furniture at the exhibition, as we want to show the world that Denmark is among the international leaders in furniture design, says head of secretariat Karin Carlander from the SE Secretariat, which organises the Cabinetmakers' Autumn Exhibition. The concrete furniture has been sold to the Danish Arts Foundation.

WIRELESS TECHNOLOGY OF THE FUTURE

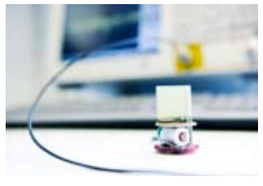
Hearing aids, mobile phones, PDAs and iPods, sensors and tags play an increasing role in our everyday lives. Together with the Technical University of Denmark and Widex A/S, the Danish Technical Institute will develop a new, efficient wireless technology that improves the wireless interface for autonomous devices. This allows wireless connections under conditions where energy consumption has previously been unacceptably large. Wireless transfer of energy is also possible.

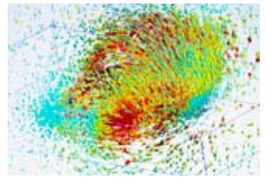
The Danish Technological Institute is working on developing a technology that allows highly efficient wireless transfer even under conditions where the connection is very weak. In the long run, this new technology will also help minimise or render entirely superfluous the use of batteries. The new antennas will be much smaller than those used so far.

Until now, the Institute has made models, designed and created very small, efficient and robust antennas that in principle can be integrated into the units encapsulating the small devices.

The Institute is investigating whether lasers can be used as part of the production methods. A special kind of interplay between light and matter is applied, allowing smaller structures than conventional 3D lithography.

In the long run, the aim is to develop wireless passive sensors that need not be connected to their own energy supply, but that utilise the 'waste energy' of the surrounding environment or the energy from a wireless reader. One vision is to develop sensors for, e.g., the construction industry where these units can be embedded in material like concrete and give information about the humidity, temperature and chemical conditions of the construction.





HEALTH AND WELL-BEING

Like many other European countries, Denmark is faced with an increasingly older population. In the Danish health sector, this will mean older patients, insufficient labour and fewer tax payers to finance the costs. These developments will severely challenge the health system in the coming years, and nothing seems to indicate that the pressure will ease in the long run. The growing group of older people will mean greater numbers of Danes who suffer from age-related diseases and need long-term care. Older people are also more susceptible to infectious diseases. The costs of fighting these diseases will grow in step with the ageing population. At the same time, we see new disease patterns emerging and a burgeoning incidence of life-style disease in all age groups. Future treatment options will render a number of previously fatal diseases chronic. We will be better able to treat serious diseases in future, not merely by treating the symptoms, but also by using stem-cells to cure cardio-vascular diseases, Parkinson's disease, Alzheimer's disease and osteoporosis.

Heavy pressure on the health system

The health sector is also under pressure because the media and active information searches on the Internet have widely educated the population about diseases and their possible treatments. As a result, people demand immediate access to the latest, personalised and targeted treatments. As more privately-operated hospitals are being established, patients' free choice of hospital further intensifies competition in the health sector, thus heightening focus on cost-effective processes and professional hospital management, while also creating a new interplay between tomorrow's public and private health systems.

Globally, Denmark is a leader in the fields of biotechnology, pharmaceuticals, pharmaceutical production and solutions supported by information and communication technology. At the same time, we have a long-established tradition of offering patients qualified treatment. In future, Denmark will stand at the fore when it comes to translating laboratory research results into effective disease treatment of patients.

Innovative boost of health activities

The Danish Technological Institute sees a significant potential in supporting and facilitating the continued business development of technological health sector solutions. Our vision is, through our focus on emerging technologies and our close relations to small and medium-sized biotech and pharmaceutical companies, to give the corporate sector access to innovative and interdisciplinary technology, thus making development of future prevention and treatment methods more innovative. Through partnerships with hospitals, companies and research institutions inside and outside Denmark, we can contribute to developing, implementing and exporting health technological, medical and organisational products, methods and solutions to health system challenges.

The Institute is focusing on developing effective medicinal products for the future. We are heading a new consortium aimed at developing new protein-chemical methods that will enable the pharmaceutical industry to manufacture new medicinal products faster and with fewer undesirable side-effects. The consortium partners are the University of Southern Denmark, the Danish Technological Institute and a number of Danish pharmaceuticals.

We are also involved in personalised, targeted treatment of diseases that is based on stem cells capable of replacing patients' lost tissue with tissue and cells from their own bodies in combination with biocompatible material.

The Institute is also involved in a consortium striving to develop better targeted cancer therapy. The consortium research centres on 'training' the patient's immune system to recognise and combat cancer with the body's own 'arsenal'. The methods are commonly known as 'cancer vaccine therapy' or 'cancer immunotherapy'.

In the field of geriatrics, we see a great potential in the use of ICT-assisted products to ease patients' lives by providing them with a sense of well-being and monitoring in their own homes. The method will trigger major savings on therapy and hospital referrals.

The following pages will present concrete examples of the Institute's efforts in finding solutions to some of the major health and well-being challenges facing society.

READ MORE AT / WWW.DTI.DK

ROBOTIC SEAL'S THERAPEUTIC EFFECT ON CARE HOME RESIDENTS

It is little, cute and cuddly, loves being petted and responds to touch and speech by moving and making sounds. It even has a beneficial effect on people with dementia. Paro is the name of the creature, which is neither dog, cat nor rabbit. Paro is a seal - a robotic seal from Japan!

It is a long-established and scientifically documented fact that pets positively affect people's mental and physical health. Since, however, few of today's care homes have living animals, many older people lack this possibility. This is where Paro enters the scene. The seal will not bite or scratch anyone, and its survival does not depend on regular meals, airings, vaccinations and veterinary visits.

The Danish Technological Institute is realising several Paro projects. The centre for Robot Technology is heading a national study aimed at charting Paro's social and therapeutic effect on care home residents.

Studies in Japan, the USA and Europe have already shown Paro's beneficial effects on people with dementia. The Danish study aims to professionalise the use of welfare robots like Paro by certifying professional caretakers in their use of the robotic seal. The objective is to determine the extent to which new technology can support care home residents' independence, communication and needs for stimulation, activities etc. One hypothesis is that the robotic seal will give care staff more time for social contacts with residents so Paro will enhance the well-being of both parties.

The Institute compiles and coordinates experience with Japanese partners, the aim being to foster international cooperation of technological developments in the welfare sector. Further, conferences on the project are being organised to discuss future options for and the prospects of introducing new technology in the nursing and care sectors.

Welfare robots are expected to play major roles in tomorrow's nursing and care sector. That is why robot vacuum cleaners, robot floor washers and an automated toilet were tested in 2008 at, for instance, the Margrethe care home in Roskilde. Robots make a positive difference in the everyday life of residents and staff but also of relatives, but new technology must be implemented carefully and with respect for work procedures, health and safety, etc. These findings appear from the preliminary results of the Margrethe care home project, which culminated in December 2008 in a sold-out conference. The Danish Technological Institute staff from the centre for Human Resources Development and the centre for Robot Technology teamed up to conduct the Paro project.

NEW MEDICINAL PRODUCTS WITH NO UNDESIRABLE EFFECTS

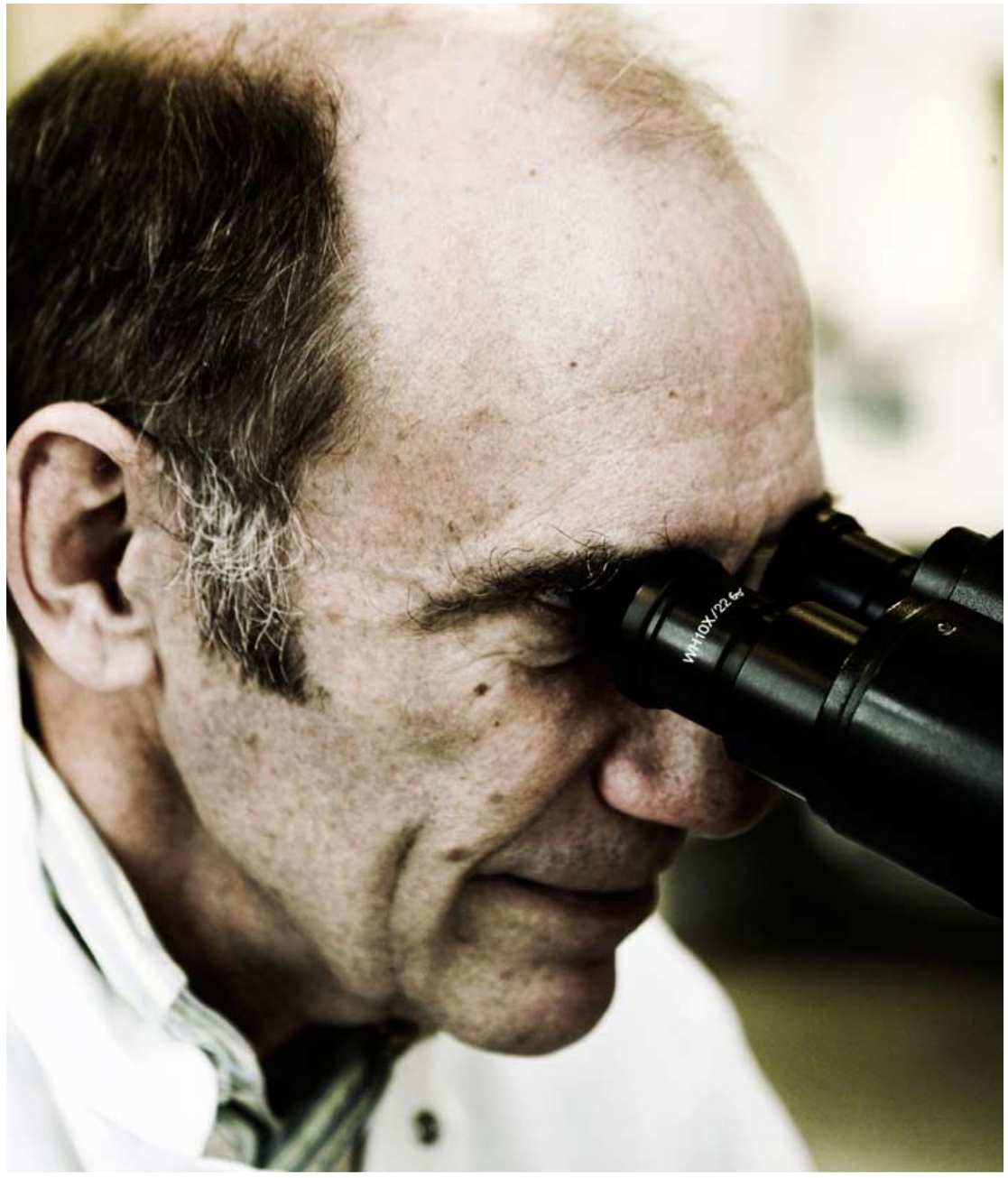
A significant number of promising medicinal products must be discarded late in their development process because we know too little about the molecular mechanisms. The Danish Technological Institute heads an innovation consortium striving to solve the problems of undesirable side-effects of medicinal products.

The active substances in medicinal products for treating serious, life-threatening diseases like cancer are often small, organic molecules or peptide-like substances. These kinds of medicinal products often achieve their effect by interacting with specific proteins - or targets - in cells. Today, biological, cell-based screening methods are applied to identify potential medicinal substances.

An essential, generic problem in developing medicinal products is that most of the identified active substances interact with several protein targets. As a result, the medicinal product interacts not only with the protein target that triggers a preventive or curative effect, but also with a range of secondary protein targets. This causes a number of undesirable effects, thus rendering the substance unsuitable as a medicinal product.

By knowing what protein targets for medicinal products are in the pipeline, we can develop and optimise their chemical structures and thus manipulate their ability to bind to and interact with their protein targets. This process will also remove undesirable toxic effects without weakening the curative effect of the substances.

A general problem in developing new and more effective medicinal products is the difficulty or impossibility of generating knowledge on cellular protein targets and the mechanism of molecular effect with today's technology. The innovation consortium therefore aims to develop new protein-chemical methods to enable the pharmaceutical industry to develop new medicinal products faster and with fewer undesirable effects. The consortium partners are the University of Southern Denmark, the Danish Technological Institute and a number of Danish pharmaceuticals.



COMBATING BACTERIA INFECTIONS

Each year, Denmark hospitalises 250,000 patients suffering from infections. But new molecular-biological technologies may potentially speed up seriously ill and debilitated patients' recovery and prevent serious consequences of infections. Patients may also spend less time in hospitals.

Danish researchers have now proven that when molecular methods are applied, most bacteria causing infections can be found in just one day. In future, this will enable doctors to make a micro-biological diagnosis much more rapidly than today and thus to initiate the optimum treatment in time to prevent the infection from becoming chronic or fatal. Ultimately, the new process will save Denmark a great deal of money, not least because treated patients will be able to return to the labour market quickly.

The Danish Technological Institute has joined Aalborg University and the Faculty of Health Sciences of the University of Copenhagen in applying molecular-biological methods to study various bacterial infections. The group published its research results in the British journal BMC Clinical Pathology.

The 2009 Finance Act allocates EUR 2.0 million for a three-year project aimed at upgrading and implementing the new methods in a partnership involving the Danish Technological Institute, Aalborg University and Copenhagen University Hospital. Early in the year, the methods will be implemented first at Copenhagen University Hospital and then at other hospitals. The participants expect state-of-the-art DNA analyses of bacteria to reveal the causes of many types of infection and also expect the methods to produce more accurate results than the conventional method, which cultivates bacteria in a specific growth medium over the course of four to five days.

Originally, the DNA analyses were developed for wastewater facilities requiring extremely exact microbiological descriptions.

NEW TECHNOLOGY HELPS DIABETICS IN EVERYDAY LIFE

Together with researchers from Aalborg University and a number of companies, the Danish Technological Institute has developed IT support tools for diabetics in the maXi project.

The number of diabetics is increasing, a trend that puts strain on society and particularly the individual diabetic person, whose quality of life and personal freedom are affected in the short and long terms alike. For diabetics, the dynamic balance between diet, physical activity and immediate need for insulin determine the actual blood-sugar level. The blood-sugar level must be in balance as both high and low levels will trigger symptoms and complications. This balance is difficult to maintain in unfamiliar settings where diabetics are challenged with 'guessing' their diets and physical activities. But the maXi research project sets out to remedy this problem.

The maXi project develops prototypes for mobile sensor and communication technologies, utilising user-driven innovation targeted at identifying and integrating diabetics' requirements for technological support of their lifestyles.

For instance, employees at the Danish Technological Institute will for the first time establish access to digital services supplied by all relevant partners, including the health sector, local authorities and the service sector, e.g. restaurants and tourist associations, the entertainment sector and the transport sector. The aim is to include digital services as a basis for decisions in diabetics' daily lives. Data from such service providers are integrated in a discrete portable unit containing an advanced mathematical model of diabetes.

The Danish Technological Institute is also developing a GPS for diabetics. The system will allow diabetics to navigate safely through the daily problems related to balancing diet, exercise and insulin effect - including the impact of hormonal changes, alcohol use and fever on diabetics' blood-sugar levels. Diabetics and their families are testing the prototypes in natural and realistic surroundings, called Living Labs. The innovation model is a developed model of the user-driven innovation methods created at the Massachusetts Institute of Technology.

The maXi project receives financial support from the Danish Enterprise and Construction Authority and will run until end-2009.

HEALTHIER LIVER PÂTÉ WITH LESS SALT

Danes can look forward to spoiling their palates with healthier liver pâté with less salt added - and other healthier foods are also in the offing, thanks to new food research.

The Danish Technological Institute has analysed test liver pâté with differing contents of salt and salt substitutes as an aspect of an extensive project run jointly with Tican Foods Scandinavia A/S.

The analyses results show that liver pâté with lowered saline contents does not change the aroma profiles of spice-related substances. Furthermore, sensory analyses involving an experienced tasting panel show that a lowered saline content tones down the salt flavour, the overall taste and the duration of aftertaste. Tican Foods Scandinavia A/S is looking to preserve the product safety achieved through the preservative effect of salt. To this end, microbiological tests were made on the new pâté.

The project is focusing on finding new solutions that will optimise flavour and preserve microbial food safety and process-technology quality. The aim is to develop methods to reduce saline content in a range of food preparations and thus improve consumer health. The Danish Food Industry Agency supports the project.

E-LEARNING UNDERPINS HEALTH AND SAFETY AT DANISH HOSPITALS

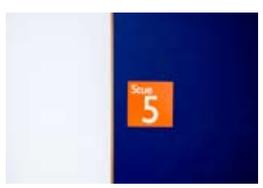
The Capital Region of Denmark and the Danish Technological Institute cooperate on a project aimed at using e-learning to improve health and safety standards of the hospital employees whose work related to patient contact is most detrimental to their health.

The Prevention Fund supported a project at Bornholm Hospital, where 590 employees participated in workshops, work groups and interviews that sharpened their awareness of how they can apply "good work routines" to prevent injuries sustained by moving patients.

The Danish Technological Institute uses this work to develop an e-learning programme aimed at strengthening prevention of the injuries arising when employees move patients from a bed to an operating table or a chair. The project has already triggered positive results according to daily health and safety manager and executive secretary Laila Mortensen, Bornholm Hospital:

"Employees have responded positively to the project because the Danish Technological Institute consultants excelled at involving employees in the process, basing their work on problems areas identified by employees. Another positive aspect is that e-learning gives employees opportunities to ease their everyday workloads.

Once the project finishes the e-learning programme in mid-2009, it will be used as a reference tool by employees at the Bornholm Hospital and other hospitals in the Region.



PRODUCTION AND BUSINESS DEVELOPMENT

The manufacture of physical products is and will remain important to Denmark's economy. Production systems by way of technical equipment and their integration into the company organisation and management systems are key motivators for continued corporate development. Coupled with sharpened global competition from low-wage countries, Denmark's high wage levels has triggered a major need to automate and provide other technology support for production systems and thus release human resources for knowledge-intensive tasks.

With this problem in mind, the Danish Technological Institute cooperates with companies to lower production costs as much as possible. The work covers methodical approaches to production, process change and control tools, including Lean, Agility and TPM (Total Productive Management), tools like SMED (Single Minute Exchange of Die) and reduced changeover time. It also comprises automation and use of flexible robot solutions.

Robot technology - a key growth area

Denmark has the potential to create a future billion-dollar industry in robot technology, and the Danish Technological Institute has taken the lead as one of Denmark's top players in developing and applying robot technology. In the not-so-distant future, we expect robot technology to become a major growth area for Danish industry. Robot technology can significantly save labour in conventional production industries, the construction sector and the health care sector.

Recent research in cognitive robots further provides a basis for developing and implementing an all-new generation of robots able to relate and respond to sensory impressions from the surroundings. In the near future, we can use speech, gestures and demonstration to instruct and train industrial robots in performing various work processes. The new generation of robots will be safer, lighter, stronger and easier to convert to perform other tasks when simple instructions are issued. Thus, production companies can make quantum leaps in flexibility and their ability to change production.

The 2008 Danish Technological Institute activities were and will continue to be targeted at users and developers of robot technology in industrial production and professional services as well as developers of personal robots for consumption, services and entertainment.

Technological visions for future foods

Similarly, the manufacture of foods and other biological products is important to society, supplying key Danish products and exports. Recently, the food industry has faced a range of challenges. One major challenge lies in the fact that informed and globally inspired consumers are increasingly demanding easy, fast, tasty and healthy foods. At the same time, they are sceptical about products and pose high demands to documentation of food quality and safety.

The food sector needs to manufacture high-value foods containing knowledge that makes them difficult to copy - but also foods with special capabilities that accommodate the individual consumer's personal nutritional desires. Thus, the food sector urgently needs to develop technologies and production methods that will make safe and healthy foods that consumers like, trust and are willing to pay for.

Denmark is currently experiencing steep growth in the incidence of life-style induced diseases such as obesity and diabetes. As ever increasing numbers of Danes live longer, enjoying an active life at high ages, a pressing need has emerged to develop and test new advanced pharmaceutical products and new diagnostic systems and methods.

Danish manufacturers of healthy, safe agricultural produce and food ingredients have excellent standing internationally, and, with its 180,000 employees, the food sector accounts for significant exports. Denmark can create extensive business opportunities by developing new products and production and processing methods.

In future, the Danish Technological Institute will focus on developing and implementing new technology for producing future foods and biological products by translating new consumer needs into a heightened focus on healthy lifestyle and prevention of lifestyle diseases through healthy food. We will support the development of competitive, environment effective and health promoting food manufacture as innovation of product development and production is of vital concern for food sector growth and international competitive power. With its more than 100 technical specialists, the Danish Technological Institute is today the largest consultant in food, food innovation and food technology.

Requirements for improved hygiene in modern agriculture

One of the greatest challenges facing modern agriculture is the requirement for improved hygiene in the contexts of food safety, disease prevention, animal welfare and productivity. Infections are costly, even in animal production, with abscesses in cattle, bacteria in meat, pressure sores in pigs and microbial infections in poultry being common examples. Infections can spread rapidly, escalating into outbreaks of clinical diseases. The need for enhanced efforts targeted at bacteria and biofilm in animal production is therefore pronounced. Being the world's most produced animal, poultry lives in enormous flocks, which carries an inherently large risk of contagion.

Pig production is further slated for modernisation via the research project "StaldTek", in which the Danish Technological Institute is a partner. The parties are working to rationalise and automate piggeries by intelligent use of ICT.

On the following pages, we will show the results of the Institute's activities in production and business development by providing examples of our work to find solutions to some of society's major challenges.

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SIMPLE LEAN TOOLS BOOST MORTAR PRODUCTION

The company Saint-Gobain Weber A/S, previously maxit a.s, has increased its productivity of wet mortar by 20-30% in a one-year-old fully automated facility. The company achieved the excellent result by using Lean tools like organisation, systematic and weekly planning board meetings that focus on improvements.

To ensure a successful start for their use of simple Lean tools, Saint-Gobain Weber A/S launched a partnership with the Danish Technological Institute, with the Institute's organising an introductory course for the employees involved in wet mortar production. Subsequently, attention has focused on keeping the process going and ensuring progress in the project. Head of Production Kim René Hitzinger of Saint-Gobain Weber A/S is pleased with the development, as employees have now become so committed that they suggest improvements and initiates adjustments of, e.g., sensors and scrapers.

- We have embedded an excellent competitive spirit in our company. Allowing the employees to plan production themselves works well, and they suggest many improvements that remove bottlenecks. The Danish Technological Institute consultants have excelled in motivating and involving employees by asking the right questions and listening. They are also very flexible, so it proved easy to fit Lean activities into daily production, Kim René Hitzinger emphasises.

The company has now launched a similar project in dry mortar production, the initial results also being positive. Lean will then be introduced into the workshop, in silo preparation and into the administration.

There are indications that even larger benefits are in the offing. This appears from the May 2008 figures, which showed productivity at more than three times higher than the average monthly production for the previous 12 months.

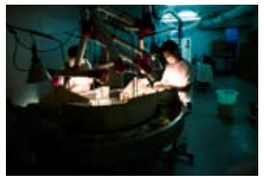
NEW METHODS TO BREAK ROUTES OF INFECTION IN DANISH POULTRY STALLS

Danish poultry producers waste about 10% of production value because of microbial infections in poultry. The innovation consortium 'CHIP - Chicken and Hen Infection Protection' is now striving to break routes of infection in poultry stalls. This work will give Danish suppliers to the poultry producing sector an international competitive edge while also improving animal welfare in stalls.

The project objective is to find new solutions that will reduce clinical and subclinical infections in the production of table chickens and eggs for consumption in Denmark. As an aspect of the project, various new cleaning and disinfectant agents are being tested.

The Danish Technological Institute supplies fast microbiological test systems, advanced molecular-biological methods and technical knowledge and experience to the four-year project, which focuses on microbiological hot spots in stalls. The Danish Technological Institute is working with TCnano and poultry producers to test new nanotechnological surfacing of stall equipment to reduce biofilm colonisation and ease cleaning processes.

- The strength of this project is its excellent mixture of research institutions, which guarantees the scientific aspects, and commercial stakeholders looking for practical solutions. Thus, the conditions exist for enabling the consortium to influence developments in Danish poultry production, explains Kenneth Frøslev, CEO of TCnano.



In addition to the Danish Technological Institute and TCnano, DHI Water and Environment and AgroTech - Institute for Agro Technology and Food Innovation from the GTS-Advanced Technology Group network are partners in the project. Other participants are the University of Copenhagen Faculty of Life Sciences and companies Brenntag Nordic A/S, Triova ApS, Novartis Healthcare A/S, BornPoultry A/S, Danæg A/S, DLG, Bayer A/S, Danish Agricultural Advisory Service and the Danish Poultry Council.

ROBOT TECHNOLOGY TO LIFT FUTURE DANISH PIG PRODUCTION

A new innovation consortium 'StaldTek' aims to develop new, sustainable piggeries by integrating advanced sensor and robot technologies into buildings, fittings and equipment.

The reason for setting up the research and development project is that most Danish pigs live in piggeries basically designed as far back as the 1970s. This fact makes it difficult for Danish pig producers to match the prices offered by their eastern European colleagues.

In the course of the next four years, the consortium partners must compile data on and develop competitive and sustainable production systems that reduce the environmental load from pig production and increase animal welfare in piggeries. Further, they should aim at utilising the technological possibilities for automating work procedures that impact on health and safety or cost-intensive aspects of production.

The partners are working dedicatedly to commercialise accumulated knowledge. Basically, the consortium targets pig producers and advisors and consultants of pig producers - but also companies developing, mounting and selling equipment, fittings and buildings and companies developing and selling sensor and robot technology.

In addition to the Danish Technological Institute Robot Technology centre, the consortium consists of AP Company – Farming Solutions, Danish Farm Design A/S, Danish Pig Production, EGATEC A/S, EURISCO ApS, Novotek Planning Systems A/S, Samson Agro A/S, Aarhus University, University of Southern Denmark and Technical University of Denmark.

DANISH SWIMMING POOL TECHNOLOGY FOR NORWAY

Together with the Danish companies KHR arkitekter AS and E. K. Jørgensen A/S, the Danish Technological Institute won the competition for designing a major swimming baths facility in Bergen, Norway.

In addition to the swimming baths, the project also comprises a large upper secondary school. The architect's project unites school and swimming baths in one big building, which emerges in the landscape as a huge rock. Designed to accommodate major international swimming competitions, the facility will comprise a 25 x 50 metre swimming pool and a 20 x 25 metre diving pool with a 10-metre diving board. A separate section will hold a hot-water pool.

The City of Bergen and the Hordaland County Council arranged the competition. Six firms of architects participated in the competition, and - in January 2008 - the Danes won it.

The Danish Technological Institute will be responsible for planning and designing the water-treatment and ventilation systems for the facility. The plan is that the facility must be ready for inauguration in June 2012.

KNOWLEDGE, EDUCATION AND COMPETENCIES

Education is recognised as a key to success in a global economy that is becoming ever more knowledge intensive. According to the annual report on the OECD countries' training system, Denmark is one of the OECD countries allocating the highest amount of public funding to education and training, i.e. 7.4%, or 15.5% of total public expenditure. The highly educated population is often named as one of Denmark's key resources.

Further, international competition to attract the best brains has intensified and university-educated employees are, in particular, constantly on the look-out for new challenges. Labour market job rotation and mobility contribute to financial growth and increased competitiveness, while also facing employers with new challenges. Demanding work assignments and continued education and training are vital competitive parameters for retaining and attracting employees.

In early 2008, Denmark was a society in development, the major challenges facing Danish companies being to deal with the lack of qualified labour, retain key employees and develop talents to be able to fulfil the companies' ambitions of continued growth. To uphold growth rates, Danish companies invested a great deal of resources in various educational and training activities.

By the end of 2008, a more sombre picture had emerged with a global financial crisis, political intervention, a slowdown in international growth rates, a sagging property market, weakened competitiveness and a looming recession. Unemployment rates in Denmark are still low, but more and more companies are announcing job cuts. To uphold growth rates, welfare and affluence in society, companies need constant access to knowledge, education and training and competence development.

Education and training - a key to success

But even recessions offer new possibilities for the labour market. Development often occurs in turbulent periods when outside forces compel companies to change. The winners are the companies that master the balance between trimming their staff, while also seizing new development and innovation opportunities.

In such contexts, education and training can support business development and become the foundation for future success. To match the needs, education and training must meet three basic requirements:

- relevance and a linking to practice while applying case-based instruction ensures that learning is transferred from learning to action.

- the latest evidence-based knowledge. Moreover, knowledge import remains relevant, since estimates show that 99% of new knowledge emerge outside Denmark, according to the annual performance report for the GTS-Advanced Technology Group network of Danish institutes. A future challenge lies in being more selective about knowledge than previous, as well as identifying and processing relevant knowledge to adapt it to Danish conditions.

- interconnection of various learning methods and processes that consider the individual and the company by being flexible and running for long periods. Long term, this requirement centres on combining independent studies, e-learning, interaction and feedback combined with the option of regularly testing acquired knowledge and with lecturing sessions where participants meet each other.

New ambitious concept for education and training

In 2008, the Danish Technological Institute worked dedicatedly on developing a new concept for education and training, a precondition being that various learning methods and processes should interact.

We want to enable Danish companies widely to recognise opportunities, take up challenges and emerge as stronger companies. This is why we are offering relevant, practice-embedded education and training based on the latest and - as far as possible - evidence-based knowledge.

The Institute is constantly striving to compile more knowledge on how individuals retain learning and how companies can embed it. To this end, the Institute will in future set up education and training programme networks that would help maintaining a learning environment and thus future-proofing educational investments.

The Institute develops training and educational activities in close dialogue with the relevant target groups and leading experts inside and outside Denmark. Where relevant, the Institute imports knowledge directly from the source by offering events featuring leading professors in areas such as management, strategy, innovation and IT. Such knowledge is adapted to match Danish conditions.

The next pages will describe the Institute's activities in the fields of knowledge, education and training and competencies by giving examples of work aimed at solving some of society's the major challenges.

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ENHANCING THE QUALIFICATIONS OF DANISH DEFENCE'S NEW HR BUSINESS PARTNERS

Before the crisis hit Denmark's labour market, many employers faced challenges in attracting, retaining and developing qualified labour. The situation created a need for new types of educational and training programmes to enhance staff qualifications. The Danish Technological Institute responded to this need by customising solutions aimed at giving participants with differing experience and competencies relevant benefits based on the individual participant's knowledge, experience and job challenges.

In March 2008, the Danish Technological Institute completed a tailored training programme for HR Business Partners of Danish Defence's Personnel Service – called KA 1, coordination section. This section assists managers and superiors in Danish Defence by offering human resource advice and coaching. All 15 participants did well in the four-day programme and are now better prepared to meet the challenges inherent in the role of KA 1 strategic coaches.

Subsequently, the next class of HR Business Partners followed the training programme. This class had a different theoretical background than the first, so the contents of the programme varied slightly. A key principle of the Danish Technological Institute's business strategy is to calibrate courses and training programmes precisely to the customer's needs.

Lieutenant-colonel Finn Bech Andersen, then head of the section, contacted the Danish Technological Institute to order a tailored training programme.

- The Danish Technological Institute is known for its high professional quality and for showing commitment to its products. So we were never in doubt about where to turn for our training programme. And we were very pleased with our choice, one reason being that the Danish Technological Institute assigned two highly committed and competent lecturers, explains Finn Bech Andersen.

In his opinion, the programme gave participants a common understanding of the concept of strategic HR and how to operationalise it.

FIGHTING CYBERCRIME

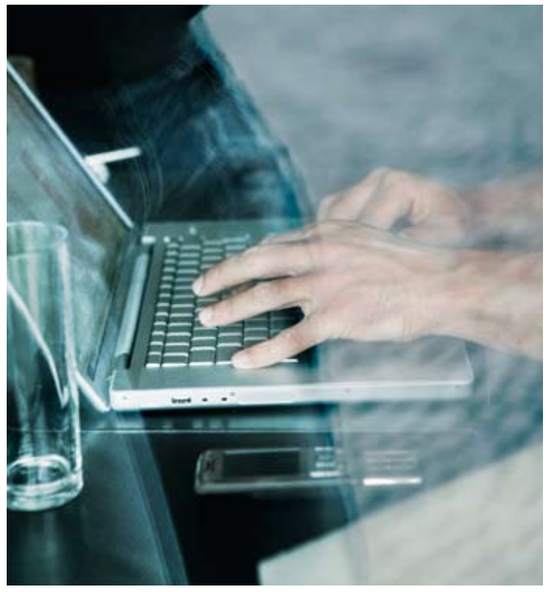
Well-organised and top professional IT crime poses one of the future's major threats against IT security. Protection is no longer merely a question of acquiring expensive firewall software or installing the latest antivirus programs - but what else is there? This was the subject of the 'Dive Deeper - Security Summit 2008' organised by the Danish Technological Institute.

Today, the Internet is a natural, integrated part of Danes' everyday work scenario and private lives. And the public sector is shifting from paper-based procedures to online communication, which requires it to be abreast of developments - constantly.

International IT experts Andy Marlone and Marcus Carey shared their experience at the 'Dive Deeper - Security Summit 2008', broaching questions such as: How can you assume the identity of another? And how can you assume the role so convincingly that you succeed in acquiring a new passport and driver's license for that new identity? How do you hack into company data in public enterprises and private companies alike via Google?

The participants were also introduced to hacking tools and methods and received a tracking program for controlling whether they had been hacked. The course gave all participants food for thought and made them all slightly worried.

Denmark is expected to use EUR 268.4 million on security in 2010 against EUR 174.5 million in 2007 according to IDG Danmark A/S.



TIME TO LEARN

The Danish Technological Institute has designed a new training programme concept - 'Time To Learn' - that successfully transforms classic training programme concepts into long-term learning programmes that integrate various learning methods over time.

International studies by people like professor Robert O. Brinkerhoff shows that conditions unrelated to the actual lecturing account for up to 80% of the effect of a training course. The studies also show that insufficient preparation prior to the course coupled with lacking follow-up is often the reason why no effect can be registered.

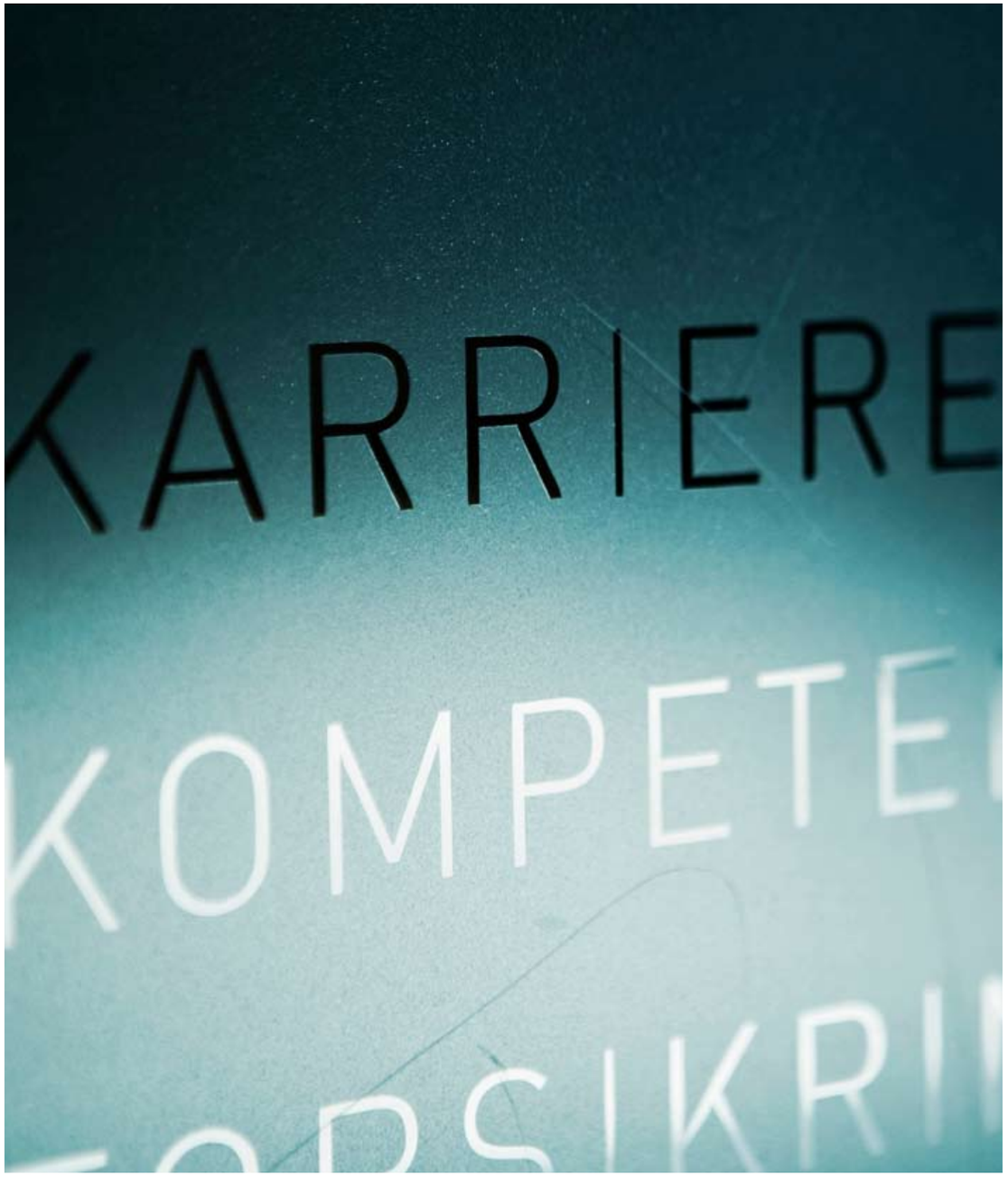
The Danish Technological Institute faced the challenge of designing a learning concept that enhances the benefits for the individual participant and company.

The 'Time To Learn' concept was developed from a recognition that time is a limited resource for companies and participants alike. A company may have a hard time doing without an employee for a long continuous period of time. Similarly, employees may find it stressful to set aside a week or more of their already hectic lives and still find time for their families. The new concept therefore stretches over an extended period of time during which the participants also attend to their jobs. This process means that the acquired knowledge is constantly tested, developed and retained during the learning course. It also ensures that the acquired knowledge will in time be embedded in the company.

An awareness of people's various preferences for learning a given subject-matter was another factor in developing the new concept. Some reap the greatest benefit from role-playing, computer games, individual or group assignment solving, while others prefer to 'cram' theory. Therefore, the concept includes both independent study courses, e-learning, individual dialogue and feedback. Further, participants perform an online curriculum test prior to each lecturing day. The test gives the lecturer constant input that allows him or her to tailor the lecture to need and level. Prior to the exam preparation day, participants obtain access to online test exams with MeasureUp.

Currently, the concept is supplied to IT professionals of Microsoft technologies, who have welcomed the concept because it guarantees that they will pass Microsoft certification.

In the future, the Institute will also offer courses in personal development and management under the 'Time To Learn' concept.



FIND YOUR NEXT PARTNER IN THE 'BYGGERIETS MATCH' NETWORK

Danish companies and educational institutions share a unique opportunity of cooperating more closely on developing and using digital tools in the construction sector by means of the Danish Technological Institute's new interdisciplinary, flexible competence network 'Byggeriets Match' (Find your construction partner).

Construction sector partners, including architects, civil engineers, researchers and students, can now join together in a new competence network to do digital construction tasks. The competence network aspires to bridge the gap between construction sector partners and educational institutions, thus enabling practice-related research to benefit the Danish construction sector. The network is intended to match companies and the most competent students in value-creating and innovative cooperation on digital construction.

- The network gives companies fast, easy access to the latest theoretical knowledge, which they rarely have resources to cultivate on their own, explains network initiator Asbjørn Levring of the Danish Technological Institute. He adds that it is crucial for companies and educational institutions to ensure competence development.

Participating students enjoy a singular opportunity to gain practical experience from their theoretic knowledge in companies while also meeting students from other technical disciplines. In the long run, this opportunity may allow them to play unique roles in the company.

At the end of 2008, the network boasted these fee-paying members: Grønnelykke, EUC Sjælland (The Department of Building and Construction Management in Haslev), Copenhagen University College of Engineering, Hou + Partnere arkitekter A/S, Copenhagen Airports A/S, dfe-styring i/s, CodeGroup A/S, White arkitekter A/S, Copenhagen Technical Academy, Betech Data A/S, Palaces and Properties Agency, Engineering College of Aarhus, Aarhus School of Architecture, Sloth Møller Rådgivende Ingeniører A/S, Technical University of Denmark, University College Nordjylland, KF - the association of constructing architects, 3dbyggeri danmark, Utopian City Scape, Partner Advokater Ret & Råd Køge A/S, Grontmij-Carl Bro A/S, lasercad:dk, Byggeweb A/S, the Implementing Network for Digital Construction and the Academy of Professional Higher Education, Midjutland.

EXERCISE YOUR BRAIN

Know your brain and perform at your best - these were the messages when 101 interested people participated in the Brain Day event on 1 September 2008.

Recent years have seen marked developments in neuroscience - popularly called brain research. New concepts have emerged, and brain research interconnects with disciplines such as neuromarketing, social neuroscience, neuro leadership and BrainFitness.

Particularly in the USA, the most recent research centres on integrating neuroscience with leadership. Researchers are focusing on the function of the brain and how sense and sensitivity interact in decision-making. They are also studying how deep-rooted habits and thought patterns can be changed to enhance managers' and employees' performance. And they are keenly interested in BrainFitness, which involves the ability of the brain to develop new cells and forge new connections throughout its life under the right conditions. BrainFitness presumes that cognitive intelligence can be increased by training - humans improve their memories and respond faster when their brains are 'exercised'. The new research results formed the backdrop for the Brain Day at the Danish Technological Institute.

Participants in the Brain Day enjoyed a multi-faceted programme presented by high-profile researchers. One of the speakers was Lone Frank, brain researcher and science reporter at the Danish weekly Weekendavisen and author of the book "Den femte revolution" (The fifth revolution).

Another speaker was senior psychologist Poul Røpke of Brain-Center who wrote the book 'Hold hjernen skarp – en komplet guide til BrainFitness' (Keep your brain alert - a complete guide to BrainFitness).

Norwegian Oddbjørn By contributed to the conference by speaking about his book 'Memo - The Easiest Way to Improve Your Memory'. He uses the principles himself and is today a Grand Master of memory - he speaks, for instance, five languages and has completed a five-year study programme in just three years.

QUALITY FOR SYRIA

If manufacturers want to sell their products in the international market, they have to meet international quality requirements. To ensure that manufacturers in Denmark are able to meet such requirements, the Danish Technological Institute has been involved in developing a 'quality infrastructure' that guarantees comparable and safe products.

The quality infrastructure comprises metrology, accreditation systems and conformity assessments. The structure is well embedded and popularly used in Denmark and the EU. This is not always the case in other countries, Syria, for instance - a huge and potentially affluent country, whose exports to Europe only account for a small part of its economy. In recent years, Syria has launched economic reforms and is negotiating with the EU to increase trade. To this end, it needs a system that will ensure that Syrian products meet EU quality and safety requirements.

One specific activity in this context has been the selection of the Danish Technological Institute, jointly with quality institutions in other EU Member States, to develop and strengthen Syria's quality infrastructure. To do so, Danish and international experts will give technical assistance to and support the Syrian authorities and institutions in their work to draw up new legislation and new regulations. They train government officials and employees at the national quality institutions, provide technical and managerial advice and conduct study tours. The Danish Technological Institute contributes metrology and accreditation expertise.

Furthermore, in the next four years, the Danish Technological Institute will contribute training and advisory services in areas such as testing, standards, certification, etc.

MATCHMAKER IN STRATEGIC RESEARCH

Future social developments in Denmark depend on closer cooperation being developed between research and the corporate sector – but the partners often have difficulty finding each other. The Danish Agency for Science, Technology and Innovation has appointed the Danish Technological Institute to identify and establish partnerships between researchers and companies.

The corporate sector needs the new knowledge and technology that researchers produce. On the other hand, researchers need the corporate sector to realise ideas and results of research projects. The matchmaking task for the Danish Technological Institute is to ensure that the latest research advances are translated into innovation in the companies needing the knowledge and technology.

In 2008, the Danish Technological Institute realised a range of initiatives aimed at matching research institutions and companies, in a way that benefits future societal development. The Institute has marketed its 'matchmaker services' through growth-group events, seminars, one-to-one meetings, search and identification of partners and coaching at initial network meetings.

A network has, for instance, been set up with the purpose of 'Improving weldability of plastics', its initiator being Coloplast A/S and with Novo Nordisk A/S, the Department of Chemistry of University of Copenhagen, FORCE Technology, the Department of Production of Aalborg University and the Danish Technological Institute as partners.

REVIEW

“Look ahead, ahead! Take the coming time to discover how it paves the ways to development, and then place yourselves there where you discern the need for the Institute’s help. Expect not to reach new land from worn, cobbled roads. The road often runs down unknown paths and shortcuts.”

Gunnar Gregersen
Founder of the Danish Technological Institute
President, 1906-1950

REVIEW 2008

The year 2008 was a good year, and the Danish Technological Institute continued its solid performance and contributed to solving many of the big challenges facing the business sector and Danish society. We recorded a rise in both revenue and investments.

In 2008, the Danish Technological Institute further prepared to meet future demands in a global competitive situation thanks to an extraordinarily large grant from the Ministry of Science Technology and Innovation for research and development in several technological fields, including energy with the construction of the EnergyFlexHouse on the Institute premises in Høje-Taastrup.

Our strategic focus on research and development activities has borne fruit as revenue is rising, and we maintain a substantial project portfolio to complete over the coming years. In 2007, research and development revenue accounted for 22.7% of total revenue, but had risen to 26.3% in 2008. The research and development order book has increased by more than 50%. The increase is attributable to the Danish Technological Institute's success in promoting strategic research on which the Danish government focuses. This also applies to applications under the EU's Seventh Framework Programme, where the Institute has achieved a hit rate of 23.5%.

The Danish Technological Institute's strategy for the years 2007-2009 has two overall objectives: growth and internationalisation. Both objectives underpin the government globalisation strategy and the strategy intention of fostering the competitiveness of the Danish business sector. Hence, the Institute aims throughout the strategy period at boosting interaction with Danish small and medium-sized enterprises, and the Institute will contribute even further to improving the framework for companies for research, development and innovation in a global context.

Our international activities and focus are another area, which has gathered, and continues to gather, momentum. The sale of knowledge to overseas customers is increasing. Moreover, we increasingly establish international contacts to leading partners and customers in Europe and other parts of the world.

Finally, Institute investments in laboratories and equipment have also been stepped up, to being the investments in a new medico laboratory and a large number of advanced measuring instruments. Investments total EUR 4.8 million for 2008.

Financial review

We are pleased to record net profit of EUR 3.0 million for 2008. Total consolidated revenue is EUR 102.9 million, a rise of 2.3% compared to 2007.

Net profit is in line with the 2008 budget, setting out net profit of EUR 2.8 million.

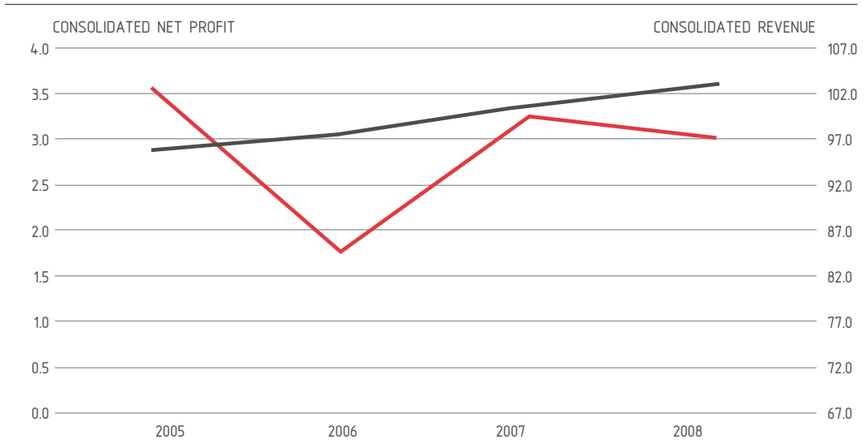
The Danish Technological Institute's revenue is generated through commercial activities and research and development activities, including performance contract activities.

The Institute's self-financed development activities in 2008 amounted to EUR 5.5 million. The Institute is of the opinion that the knowledge development resulting from the research and development activities is of considerable importance to the business sector. The new knowledge means that the Institute also in future will be able to provide technological services of the highest quality.

Equity rose by EUR 2.5 million and stood at EUR 43.5 million at 31 December 2008. The balance sheet total went up by EUR 4.5 million to EUR 75.3 million. Cash flow from operating activities amounted to EUR 5.1 million compared to EUR 8.5 million in 2007. Cash flow for investing activities totalled EUR 5.4 million.

Financial resources remain strong and worked out at EUR 14.8 million at end-2008.

CONSOLIDATED REVENUE AND NET PROFIT, IN THE PERIOD 2005 - 2008



REVENUE IN MIO. EUR

NET PROFIT IN MIO. EUR

The net profit for 2006 was affected by extraordinary centenary costs of EUR 1.5 million.

CONSOLIDATED REVENUE TOTALLED EUR 102.9 MILLION IN 2008 (2007: EUR 100.7 MILLION).

No material events have occurred after the balance sheet date that will affect the financial statements.

Subsidiaries

The year 2008 was not as good for the Danish Technological Institute's two Swedish subsidiaries despite slightly rising revenue denominated in Swedish kronor. The Swedish subsidiary Technological Institute AB Sweden recorded profit of EUR 0.3 million, somewhat lower than in the year earlier. Also, the Swedish subsidiary Swedcert AB recorded lower profit than the year before of EUR 0.1 million. The fall in profit is mainly attributable to the general slowdown in the Swedish economy. Recognition of income from the Swedish subsidiaries in the consolidated financial statements is adversely affected by the 14% fall in the exchange rate of the Swedish currency.

We have established a wholly-owned public limited company, Dancert A/S, to strengthen our certification activities and enhance our visibility in the market. In future, this subsidiary will address Institute tasks regarding management systems and certification and control schemes in relation to concrete, masonry, cement, wood and building components as well as material development and testing.

In February 2008, the Danish Technological Institute agreed to acquire the controlling interest in the Polish course and consultancy business FIRMA 2000 Sp. z o.o., the Institute's partner for many years. The purpose is to enhance the Institute's position in the international market. Management has great long-term expectations for this market.

The Danish subsidiary Technological Innovation A/S was unable to renew its licence as an approved innovation environment beyond 2008, and consequently a 2-year winding-up agreement was entered into with the Ministry of Science, Technology and Innovation.

At the end of the period under review, the number of divisions was five – the same as one year earlier. Conferences and Training and International Centre, which used to belong to Staff Functions, have now been reorganised into independent business areas with their own directors. And Conferences and Training has changed its name to Training. An updated chart of the Group

organisation is found on the last few pages of the review, reflecting the new structure in February 2009.

Special risks
The Danish Technological Institute's prime operating risk is linked to the management of ongoing research and development projects and longer-term commercial projects. The risk has been paid due consideration in the financial statements. The Institute's solvency and financial resources render the Institute only slightly sensitive to changes in the level of interest rates. No material currency risk or material risks relating to individual customers or partners exist.

Outlook for 2009
Management expects a moderate increase in revenue in 2009, mainly in research and development activities, thanks to an extraordinarily large order book at the end of 2008 compared to 2007. This provides a basis for budgeting for a rise in research and development activities of 17.6% in relation to the realised own production in research and development activities in 2008. On the other hand, the significant economic slowdown will have an adverse impact on commercial activities, which is why they are on a par with 2008 in the budget.

Customers
Customers buying the Institute's commercial services are Danish business customers, organisations, public customers and international customers. In 2008, the Group provided solutions to a total of 21,295 customers, 13,201 of whom were Danish customers. Seventy nine per cent of the Danish business customers came from the service sector, while 21% came from manufacturing industry. In this context, too, the Institute works closely together with small and medium-sized enterprises in particular. Enterprises with fewer than 50 employees accounted for 61.3% of the customers.

In Denmark, the Danish Technological Institute is represented in four of five new regions as it strives to be close to its customers. The regional breakdown of customers largely reflects the business structure in general.

The Institute had 1,345 public customers in 2008. Public customers and organisations procure services such as consultancy and training in the same way as private companies. In addition, the Institute serves public customers via a number of operator projects.

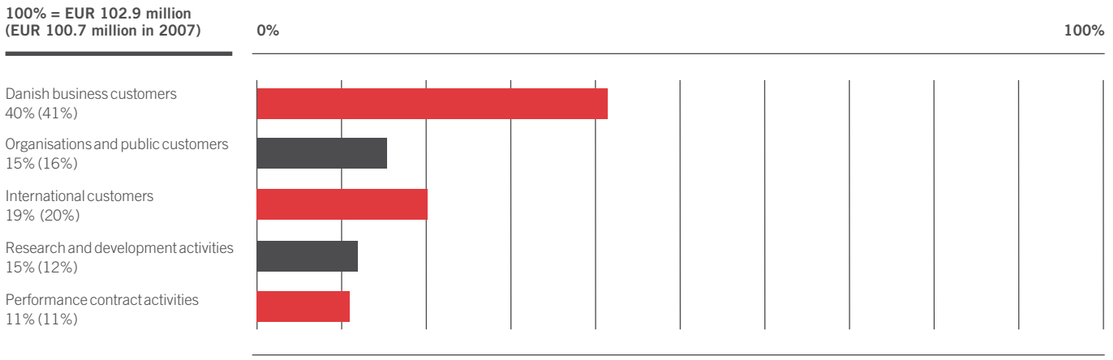
International activities
The Group had 8,094 international customers, including subsidiary customers in Sweden and Poland. Overall, consolidated international revenue stands at EUR 20.2 million.

FINANCIAL HIGHLIGHTS

		2004	2005	2006	2007	2008
Revenue	EUR million	98.6	95.9	97.6	100.7	102.9
Net profit for the year	EUR million	2.7	3.6	1.8	3.2	3.0
Equity	EUR million	32.4	35.9	37.7	41.0	43.5
Assets	EUR million	69.1	72.0	70.0	70.7	75.3
Cash flow from operating activities	EUR million	7.1	7.8	1.0	8.5	5.1
Cash flow for investing activities	EUR million	5.6	4.1	3.7	4.4	5.4
Gross investments in property, plant and equipment	EUR million	5.0	5.0	3.5	4.1	5.4
Profit ratio	%	2.8	3.7	1.8	3.2	3.0
Solvency ratio	%	46.9	49.9	53.8	57.8	57.9
Self-financed development	%	3.6	4.4	3.9	4.5	5.3
Average number of employees		864	835	831	795	854

Profit ratio: Profit before extraordinary items as a percentage of revenue.
Solvency ratio: Equity, end of year, as a percentage of assets, end of year.
Self-financed development: Self-financed development as a percentage of revenue.

BREAKDOWN OF REVENUE



IN 2008, THE GROUP PROVIDED SOLUTIONS TO 21,295 CUSTOMERS, 13,201 OF WHOM WERE DANISH CUSTOMERS.

Project evaluation
The Danish Technological Institute's work to transform new knowledge into daily practice in companies constitutes a central element in its non-profit activities. It is therefore essential to learn what the customers think of the projects undertaken by the Institute. A new form of evaluation based on customer evaluations was introduced in late 2005. In 2008, a survey was made of customer satisfaction with the projects completed, and 98.1% of the customers were satisfied or very satisfied. During the period under review, we made sure to have project partners evaluate all research and development projects for which the Institute was responsible every six months.

New innovation consortia
The Danish Technological Institute strengthened its position within research and development in 2008. The Institute assumed the role of project manager of six new innovation consortia granted by the Ministry of Science, Technology and Innovation. These are: "StaldTek", "Product-adjusted packaging of fresh fruit and vegetables, "I-GTS – intelligent freight transport systems", "New medicinal products with no undesirable effects – mode and action by chemical proteomics", "Genips – innovative industrial surfaces" and "Extreme materials for extreme environments – materials for the future". Furthermore, the Institute became a partner in the IntelliCare innovation consortium, also granted in 2008.

Performance contract activities
The Danish Technological Institute is well under way with its research and development activities under the performance contract entered into for the period 2007-2009 with the Ministry of Science, Technology and Innovation. These activities are set to be of great importance to the future competitiveness of the Danish business sector in a large number of technologies.

EU projects
The Institute intends to be an active participant in the EU's Seventh Framework Programme and has opened a project office, responsible for coordinating the project application work in connection with the implementation of the programme. In 2008, this resulted in 17 completed project applications, of which four new projects have been committed, so the hit rate is higher than the average hit rate at EU level.

New facilities
The Danish Technological Institute intends to be a pioneer on behalf of companies as regards technology and innovation. This being the case, the Institute continued its massive investment in laboratory facilities in 2008, making the Institute a leader in a range of technological fields. The investments will ensure that the Institute also in future is well prepared to meet company needs for world-class laboratory facilities.

For instance, the Danish Technological Institute has invested in Europe's most modern physical vapour deposition facility (PVD). This facility is unique in many respects. For example, it is able to handle deposition of new and interesting oxides with optimised qualities. These are used, for instance, in connection with self-cleansing TiO_2 surfaces, improved hard Al_2O_3 surfaces and barrier layers of CeGdO for fuel cells.

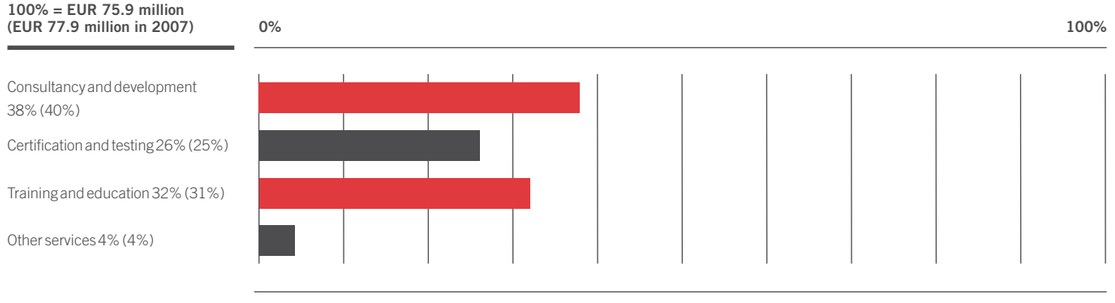
In addition, the Institute has invested in a new medico laboratory to be used for manufacturing state-of-the-art biomaterials for tissue engineering. The Danish Technological Institute concentrates on new methods for tissue regeneration and stem cell therapy in concert with international and national partners such as Coloplast Danmark A/S, Novozymes A/S and Technische Universität Dresden. Among other things, the laboratory develops biomaterials (porous structures, fibres and gels) for regeneration of skin, cartilage and bones.

Finally, the Institute has made the first investment in an unparalleled research and development laboratory known as EnergyFlexHouse – a unique platform for innovation and development of tomorrow's energy-efficient technology for new and existing buildings. The construction of the high-tech laboratory on the Danish Technological Institute's own land in Høje-Taastrup based on drawings by Henning Larsen Architects will be complete in the summer of 2009 – well ahead of the climate summit in Copenhagen in December 2009. EnergyFlexHouse comprises two buildings, each with their own function. EnergyFlexLab develops and tests new technologies and systems. EnergyFlexFamily will be occupied by ordinary consumers and function as a testing facility for the solutions developed.

The vision is for EnergyFlexHouse to provide a new environment for companies' development and testing of energy-efficient technologies for the building industry and turbocharge the future integrated and time-saving innovation process from design and concept development over prototype development and product ripening to product market penetration. EnergyFlexHouse is a development platform for Danish as well as international stakeholders and suppliers of the energy industry.

Moreover, we see broad perspectives in a new Knowledge Centre for Energy Savings in Buildings, which opened in January 2009. Buildings account for 40% of Denmark's energy consumption. So the potential for energy savings in buildings is huge as heating and ventilation of buildings are a big energy guzzler and CO_2 sinner. But as a citizen, company and professional, it can be difficult to find out how to save energy and reduce CO2 emission in buildings. The new knowledge centre for building energy savings will provide professional workmen, contractors, advisers, energy consultants, suppliers and small companies in the building industry with knowledge about the practical possibilities of limiting energy consumption in buildings. The new knowledge centre gathers knowledge about useful and profitable savings projects and makes sure to communicate this knowledge to all relevant partners in a targeted manner. To solve this task, the centre needs to cooperate with organisations, authorities and companies.

BREAKDOWN OF INSTITUTE COMMERCIAL REVENUE



THE DANISH TECHNOLOGICAL INSTITUTE STRENGTHENED ITS POSITION IN RESEARCH AND DEVELOPMENT IN 2008.

Consultancy services and training
Consultancy services for private and public companies account for 27.7% of total Institute revenue. Consultancy services are rendered on the basis of the knowledge developed from research and development activities and through long-term cooperation with a large share of the business sector. Hence, consultancy services comprise all the Institute's technical fields and represent the width and diversity of its work.

Training accounts for 23.4% of total revenue. The Institute now also offers management training and in 2008, a total of 30,468 people attended Institute courses, seminars and conferences.

Operator projects
The Danish Technological Institute manages a number of operator projects mainly for public customers. For instance, the Institute manages the FEM-Secretariat in concert with Danish Building Information Center. The FEM-Secretariat is a secretariat for energy labelling of buildings, housing survey schemes, inspection schemes for boilers and heating systems, inspection schemes for ventilation systems and the secretariat for state-owned properties. These functions go well in hand with many of the fields of technical competence of the Institute, paving the way for excellent synergies with the rest of the Institute. The FEM-Secretariat is managed on behalf of the Danish Enterprise and Construction Authority and the Danish Energy Agency.
The Institute has been managing the Public Service for Inventors' scheme on behalf of the Ministry of Science, Technology and Innovation. In 2008, 4,165 rounds of personal consultancy were completed.

Organisation and employees
The activities and development of the Danish Technological Institute require competent and well qualified employees who constantly enhance their competences. In 2008, the Institute invested EUR 1.3 million in supplementary training of employees – primarily in short-term training programmes in customer contacts, presentation techniques and project management. In addition to the Institute's permanent range of courses, the Institute also organised supplementary training for administrative staff, in particular.

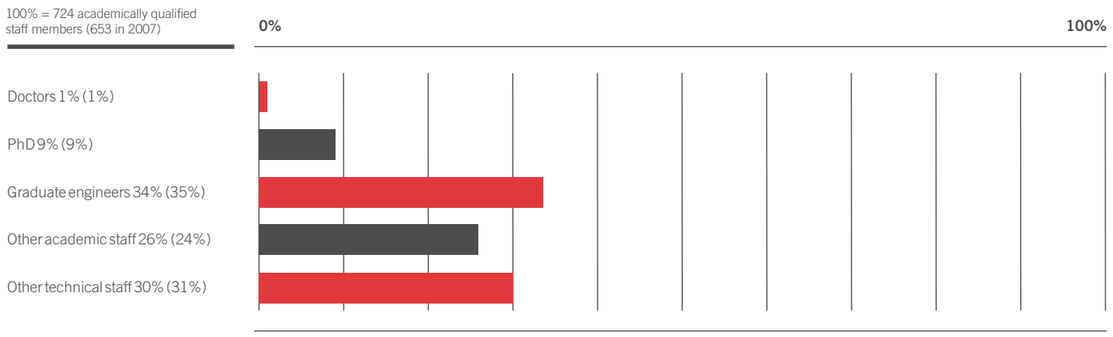
The Institute completed an alignment process in 2008, reviewing business potential, organisation and staff mix with a view to maintaining centres holding the potential to be a leader in their own fields. This process helped reach clarification in the individual centres about the direction of the development of the centre. This work continues in 2009.

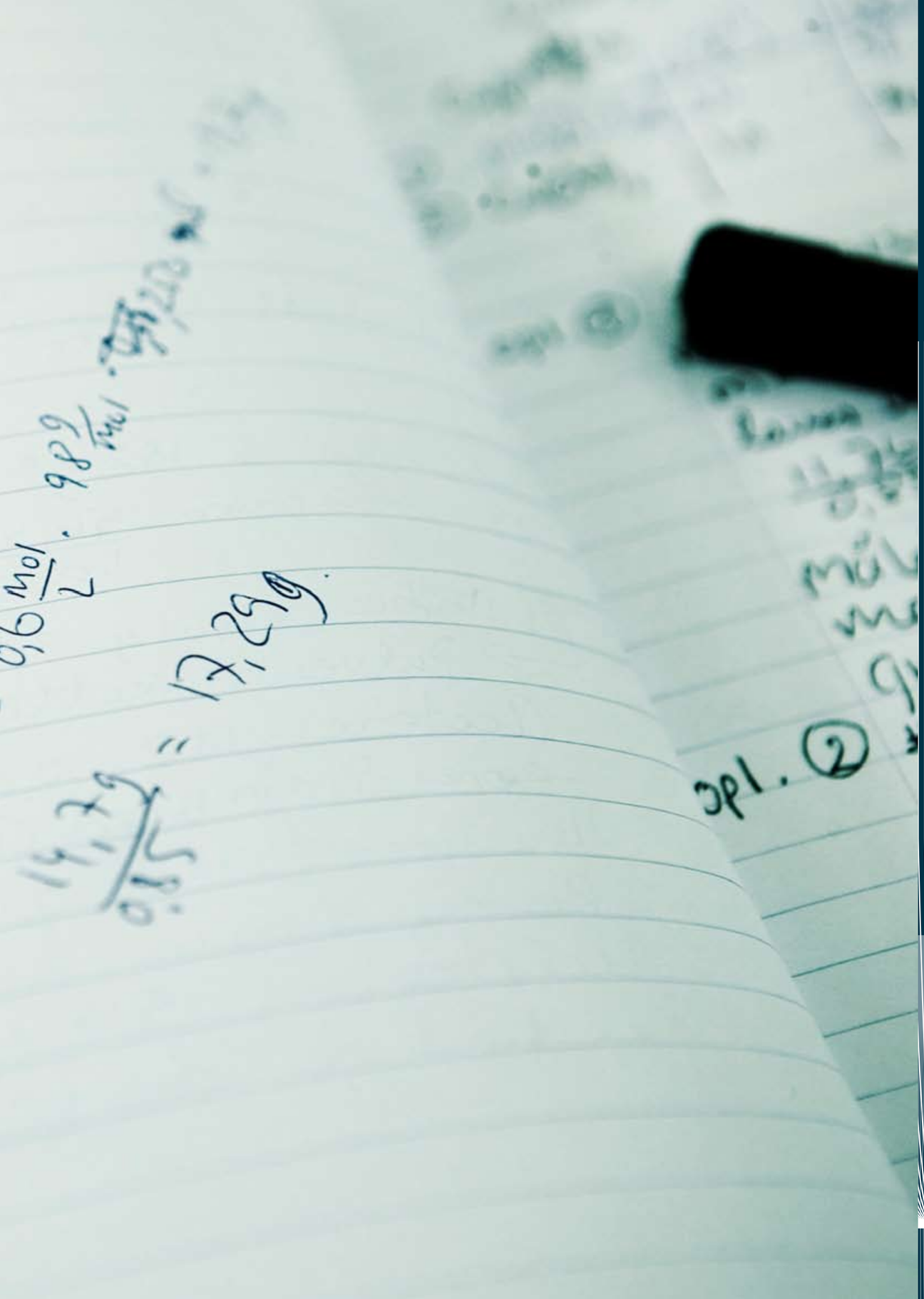
The Group increased staff numbers in 2008. At 31 December 2008, the Group employed a staff of 863, of which 724 were academically qualified. At the end of 2007, the Group employed a staff of 800, of which 653 were academically qualified. It should be pointed out that the Institute has streamlined its business procedures and strives to enhance efficiency on an ongoing basis, meaning that the number of academically qualified staff has risen and the number of administrative staff fallen. In 2008, the Institute employed 14 people with a PhD, meaning that staff with a PhD now account for 9.3% of total academically qualified staff.

All staff from Denmark and Sweden gathered on 23 May 2008 at Vingstedcentret for the technical and social event "DTI Day 2008" where focus was on customers. The day was inspirational, with speeches given by, for instance, IBM general manager Lars Mikkelgaard-Jensen, who is also the chairman of the Danish Council for Technology and Innovation. As part of the technical event, employees participated in six different workshops, all addressing Institute relations with customers.

The Institute completed the fourth staff satisfaction survey in 2008. According to the survey, the general level of staff satisfaction is extremely high. Asked "How satisfied are you overall as an employee of the Danish Technological Institute?", 88% answered they were satisfied. The Institute has moved from good to even better compared to the 2006 survey. One aspect having seen positive progress is the Institute's total group of managers, who overall are regarded extremely positively, and where all questions have improved compared to 2006. The number of respondents in the 2008 staff satisfaction survey set a new record. The number of employees participating in the survey was 706, of which 665 came from Denmark and 41 from Sweden. This resulted in a response rate of 88% – as much as 5% more than in 2006.

ACADEMICALLY QUALIFIED STAFF





FINANCIAL STATEMENTS

INCOME STATEMENT

EUR million	Note	2008	2007	2006
Commercial activities		75.9	77.9	75.8
R&D activities		15.4	11.9	10.5
Performance contracts		11.6	10.9	11.3
Revenue		**102.9**	**100.7**	**97.6**
Costs, excl. salaries		21.7	23.4	20.7
Other external expenses		20.2	17.3	18.1
Staff costs	1	55.9	53.2	53.7
Depreciation, amortisation and impairment losses	2	2.7	3.9	3.6
Total costs and expenses		**100.5**	**97.8**	**96.1**
OPERATING PROFIT		**2.4**	**2.9**	**1.5**
Share of profit after tax in associates		0.0	0.0	0.0
Financial income		1.1	0.9	0.6
Financial expenses		0.6	0.4	0.4
PROFIT ON ORDINARY ACTIVITIES BEFORE TAX		**2.9**	**3.4**	**1.7**
Tax on profit on ordinary activities	3	0.0	0.2	0.0
NET PROFIT FOR THE YEAR BEFORE MINORITY INTERESTS		**2.9**	**3.2**	**1.7**
Profit of subsidiaries attributable to minority interests		0.1	0.0	0.1
NET PROFIT FOR THE YEAR		**3.0**	**3.2**	**1.8**

A proposal has been made to transfer net profit to equity.

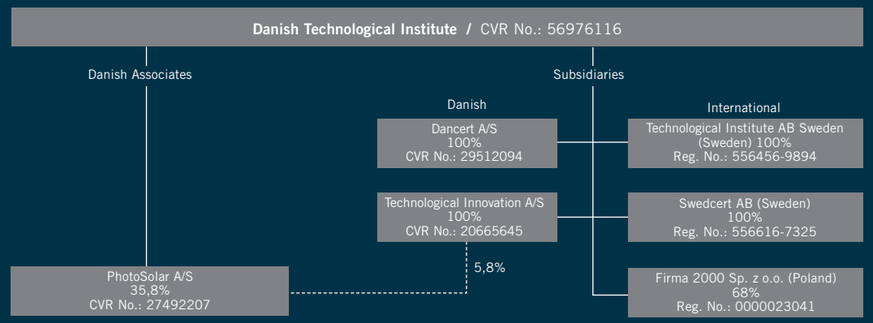
GROUP SEGMENT INFORMATION, EUR MILLION

Revenue Divisions	Commercial activities			R&D activities			Performance contracts (R&D)			Total revenue		
	2008	2007	2006	2008	2007	2006	2008	2007	2006	2008	2007	2006
Building Technology	14.2	14.4	13.1	4.4	1.2	1.1	2.1	2.0	2.3	17.7	17.6	16.5
Industry and Energy	13.1	12.2	11.5	4.4	3.5	3.5	3.1	2.5	2.4	20.6	18.2	17.4
Business Development	8.5	8.6	10.8	0.9	0.6	0.7	1.2	1.1	1.1	10.6	10.3	12.6
Materials	7.8	6.6	6.3	5.9	4.9	3.3	2.2	2.3	2.9	15.9	13.8	12.5
Productivity and Logistics	7.1	7.2	8.4	2.8	1.8	1.9	3.0	3.0	2.6	12.9	12.0	12.9
International Centre	3.6	6.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	3.6	6.9	4.9
Training	10.9	11.5	11.7	0.0	0.0	0.0	0.0	0.0	0.0	10.9	11.5	11.7
Subsidiaries*	10.7	10.5	9.1	0.0	0.0	0.0	0.0	0.0	0.0	10.7	10.5	9.1
TOTAL	**75.9**	**77.9**	**75.8**	**15.4**	**12.0**	**10.5**	**11.6**	**10.9**	**11.3**	**102.9**	**100.7**	**97.6**

* Primary educational activities at Technological Institute AB in Sweden, certification activities at Swedcert AB in Sweden and Dancert A/S in Denmark and consulting and educational activities at FIRMA 2000 Sp. z o.o. in Poland.

REVENUE, GEOGRAPHICALLY

	2008	2007	2006
DENMARK	82.7	78.2	78.9
ABROAD	20.2	22.5	18.7
TOTAL	**102.9**	**100.7**	**97.6**



BALANCE SHEET

ASSETS, EUR million	Note	2008	2007	2006
Goodwill		0.1	0.1	0.7
Total intangible assets	**4**	**0.1**	**0.1**	**0.7**
Land and buildings		32.5	32.5	32.7
Fixtures and operating equipment		8.3	6.0	5.0
Total property, plant and equipment	**5**	**40.8**	**38.5**	**37.7**
Investments in associates		0.5	0.1	0.1
Other securities, loans and equity investments		1.0	1.2	0.8
Total investments	**6**	**1.5**	**1.3**	**0.9**
TOTAL NON-CURRENT ASSETS		**42.4**	**39.9**	**39.3**
Trade receivables		13.5	11.3	14.5
Contract work in progress	7	1.5	1.2	2.0
Deferred tax asset	3	0.1	0.1	0.1
Other receivables		0.4	0.6	0.5
Prepayments		0.3	0.3	0.3
Total receivables		**15.8**	**13.5**	**17.4**
Cash		**17.1**	**17.3**	**13.3**
TOTAL CURRENT ASSETS		**32.9**	**30.8**	**30.7**
TOTAL ASSETS		**75.3**	**70.7**	**70.0**

EQUITY AND LIABILITIES, EUR million	Note	2008	2007	2006
TOTAL EQUITY	**8**	**43.5**	**41.0**	**37.7**
Minority interests		**0.1**	**0.1**	**0.1**
Mortgage debt		6.3	6.3	6.3
Total long-term liabilities other than provisions	**9**	**6.3**	**6.3**	**6.3**
Trade payables		4.5	2.3	2.1
Contract work in progress	7	4.6	5.7	9.6
Other payables	10	15.5	14.4	13.6
Deferred income		0.8	0.9	0.6
Total current liabilities other than provisions		**25.4**	**23.4**	**25.9**
TOTAL LIABILITIES OTHER THAN PROVISIONS		**31.7**	**29.7**	**32.2**
TOTAL EQUITY AND LIABILITIES		**75.3**	**70.7**	**70.0**

Auditors' remuneration, note 11, Charges, guarantee commitments and rental and lease commitments, note 12
Contingent liabilities, etc., note 13, Derivative financial instruments, note 14, Related parties, note 15

CASH FLOW STATEMENT

EUR million	2008	2007	2006
Operating profit	2.4	3.0	1.5
Adjustment for non-cash items	0.1	0.3	(0.9)
Depreciation, amortisation and impairment losses	2.7	3.9	3.6
Cash flow from operating activities before changes in working capital	**5.2**	**7.2**	**4.2**
Change in work in progress and prepayments	(2.3)	(2.7)	3.3
Change in trade payables and other short-term debt	3.7	0.2	(2.3)
Change in receivables	(2.0)	3.3	(4.4)
Change in working capital	**(0.6)**	**0.8**	**(3.4)**
Cash flow from operating activities before items under financial income and expenses, net	**4.6**	**8.0**	**0.8**
Financial deposits and withdrawals, net	0.5	0.5	0.2
CASH FLOW FROM OPERATING ACTIVITIES	**5.1**	**8.5**	**1.0**
Acquisition/sale of property, plant and equipment, net	(4.8)	(4.1)	(3.3)
Acquisition/sale of investments	(0.6)	(0.3)	(0.4)
Cash flow for investing activities	**(5.4)**	**(4.4)**	**(3.7)**
CASH FLOW FROM OPERATING AND INVESTING ACTIVITIES	**(0.3)**	**4.1**	**(2.7)**
Change in long-term debt	0.0	0.0	0.0
Cash flow from financing activities	**0.0**	**0.0**	**0.0**
NET CHANGE IN CASH AND CASH EQUIVALENTS FOR THE YEAR	**(0.3)**	**4.1**	**(2,7)**
Cash and cash equivalents, 1 January	17.4	13.3	16.0
CASH AND CASH EQUIVALENTS, 31 DECEMBER	**17.1**	**17.4**	**13.3**

Figures without parentheses = increase in liquidity, Figures in parentheses = (reduction in liquidity).
Individual items of the cash flow statement cannot be deducted directly from the information in the income statement and the balance sheet.

NOTES

1.

Note	EUR million	2008	2007	2006
Staff costs		**54.5**	**51.8**	**52.1**
Wages and salaries etc.				
Pension contributions and other social expenses		1.4	1.4	1.6
TOTAL STAFF COSTS		**55.9**	**53.2**	**53.7**

Fees to president and board of trustees amounting to EUR 0.4 million (in 2007: 0.4 million)
The group has employed an average of 854 employees against 795 in 2007.

2.

Depreciations and write-down			
Depreciations	2.7	2.7	3.4
Write-downs	0.0	1.2	0.2
Loss/gain at sale (negative amount = gain)	0.0	0.0	0.0
TOTAL DEPRECIATIONS AND WRITE-DOWNS	**2.7**	**3.9**	**3.6**

3.

Tax			
Tax on the year's profit			
Current tax	0.0	0.2	0.0
Adjustment of deferred tax	0.0	0.0	0.2
Adjustment of valuation reserve	0.0	0.0	(0.2)
TOTAL TAX ON YEAR'S PROFIT	**0.0**	**0.2**	**0.0**

4.

Intangible fixed assets			
Goodwill			
Purchase price, 1th January	1.7	1.7	1.9
Acquisitions	0.2	0.0	0.0
Disposals	0.0	0.0	(0.2)
Purchase price, 31th December	**1.9**	**1.7**	**1.7**
Depreciations, 1th January	1.6	1.0	0.9
Depreciations	0.2	0.6	0.3
Depreciations, disposals	0.0	0.0	(0.2)
Depreciations, 31th December	**1.8**	**1.6**	**1.0**
BOOK VALUE, 31TH DECEMBER	**0.1**	**0.1**	**0.7**

5.

Tangible fixed assets			
Land and buildings			
Purchase price, 1th January	50.0	49.7	48.2
Acquisitions	0.5	0.3	1.5
Disposals	0.0	0.0	0.0
Purchase price, 31th December	**50.5**	**50.0**	**49.7**
Depreciations and write-downs, 1th January	17.5	17.0	15.5
Depreciations and write-downs	0.4	0.0	0.0
Depreciations, disposals	0.0	0.5	1.5
Depreciations and write-downs, 31th December	**17.9**	**17.5**	**17.0**
BOOK VALUE, 31TH DECEMBER	**32.6**	**32.5**	**32.7**
Public land assessment, 31th December	93.8	93.7	61.9
Operation equipment and inventory			
Purchase price, 1th January	25.3	21.5	20.5
Exchange rate adjustment	(0.1)	0.0	0.0
Acquisitions	4.5	3.8	2.0
Of which are project-financed	(0.1)	0.0	(0.1)
Disposals	(0.3)	0.0	(0.9)
Purchase price, 31th December	**29.3**	**25.3**	**21.5**
Depreciations and write-downs, 1th January	19.3	16.5	15.8
Exchange rate adjustment	(0.1)	0.0	0.0
Depreciation	2.1	1.6	1.6
Write-downs	0.0	1.2	0.0
Depreciations, disposals	(0.3)	0.0	(0.9)
Depreciations and write-downs, 31th December	**21.0**	**19.3**	**16.5**
BOOK VALUE, 31TH DECEMBER	**8.3**	**6.0**	**5.0**
Of which is financially leased assets	0.0	0.0	0.0

6.

Investments (EUR '000)

Investments in and value adjustments of securities and equity investments can be specified as follows:

Name	Registered office	Share capital	Voting share and ownership interest
Subsidiaries			
Technological Innovation A/S	Høje-Taastrup, Denmark	1,007	100%
Dancert A/S	Høje-Taastrup, Denmark	67	100%
Technological Institute AB Sweden	Gothenburg, Sweden	644	100%
Swedcert AB	Karlskrona, Sweden	13	100%
FIRMA 2000 Sp. z o.o.	Warsaw, Poland	13	68%
Associates			
Photosolar A/S	Høje-Taastrup, Denmark	1,288	41.6%

Associates are included on the basis of their latest financial statements.
Investments include loans to associates amounting to EUR 215,000 (2007: EUR 295,000)

	Associates	Other anlægsaktiver
Balance, 1 January	107	1,476
Additions during the year	376	40
Disposals during the year	(27)	(13)
Balance, 31 December	**456**	**1,503**
Value adjustment, 1 January	13	(309)
Market value adjustment, 1 January	0	0
Share of profit before tax	0	0
Tax	0	0
Value adjustment, disposals	(13)	0
Impairment losses	0	(188)
Value adjustment, 31 December	0	(497)
Carrying amount, 31 December	**456**	**1,007**

NOTES

7.

Note	EUR million	2008	2007	2006
Work in progress				
Sales price of work in progress		39.4	37.4	59.0
Invoiced on account and prepayments		(42.5)	(41.9)	(66.6)
TOTAL WORK IN PROGRESS, NET		**(3.1)**	**(4.5)**	**(7.6)**
Which is calculated as follows:				
Work in progress		1.5	1.2	2.0
Work in progress (liabilities)		(4.6)	(5.7)	(9.6)
TOTAL WORK IN PROGRESS, NET		**(3.1)**	**(4.5)**	**(7.6)**

8.

Equity			
Equity, 1th January 2008	41.0	37.7	35.9
Exchange rate adjustment of subsidiaries	(0.3)	0.0	0.0
Exchange rate adjustment of financial derivatives	(0.2)	0.1	0.0
Annual profit	3.0	3.2	1.8
EQUITY, 31TH DECEMBER 2008	**43.5**	**41.0**	**37.7**

9.

Long-term debt – *Due in five years or longer*			
Mortgage liabilities	6.3	6.3	6.3
TOTAL LONG-TERM DEBT	**6.3**	**6.3**	**6.3**

10.

Other creditors			
Holiday pay obligation	7.4	6.8	6.8
Other obligations	4.6	4.5	4.0
Tax due	0.0	0.0	0.0
VAT due	0.6	0.7	0.6
Other items due	2.7	2.2	2.0
Miscellaneous deposits	0.2	0.2	0.2
Total other creditors	**15.5**	**14.4**	**13.6**

11.

Accountants' fee			
TOTAL ACCOUNTANTS' FEE	**0.2**	**0.1**	**0.1**
Of which services other than accounting of the annual report	0.1	0.1	0.1

12.

Borrowings against security			
Security for bank loans (owner mortgage bonds and indemnification letter in the Institute's property), nom.	0.0	0.0	0.0
Underwriting obligations			
Security for invoiced on account payments (primarily EU projects)	1.8	3.6	5.8
Rent- and leasing contracts			
Rent contracts on property and office space etc.			
Liabilities, next 5 years	1.4	1.7	2.5
Liabilities, coming year	0.8	0.8	0.7
Operational leasing contracts			
Liabilities, next 5 years	0.2	0.8	0.6
Liabilities, coming year	0.1	0.3	0.3
Financial leasing contracts			
Liabilities, next 5 years	0.0	0.0	0.0
Liabilities, coming year	0.0	0.0	0.0

13.

Contingent liabilities etc.

The group is party to a few disputes, the outcome of which is not expected to influence the financial results.
The group participates in grant-funded projects that under certain circumstances may lead to an obligation to repay the grants received.
The group has given declaration about financial support to subsidiaries with the intent to secure ongoing business for the next 12 months.

14.

Financial derivatives

As part of the securing of signed contracts in foreign currency the group engage in futures contract with the banks used by the group. The signed contracts can be specified as follows:

	Contract value		
Period			
0-6 months, JPY	0.7	1.8	0.0
	Gain and loss, incorporated in the total equity		
Period			
0-6 months, JPY	0.2	0.0	0.0

15.

Related parties

The group's related parties include board members and management, as well as subsidiaries and associated companies.
The group has no transactions with related parties, aside from usual trade among subsidiaries and associated companies, which is done on purely market terms of contract and normal trade conditions.

ACCOUNTING POLICIES

GENERAL

The Annual Report of the Danish Technological Institute for 2008 is presented in conformity with the provisions of the Danish Financial Statements Act governing class C companies (large) and the adjustments resulting from the Danish Technological Institute being an independent institution and an approved technological service institute.

The accounting policies are consistent with those applied last year.

However, the format of the income statement has been changed. Tax in subsidiaries was previously included in the income statement under tax on profit for the year. As from 2008, subsidiary profit is shown net of tax. The change has no impact on net profit for the year. Comparative figures as well as financial highlights have been restated.

RECOGNITION AND MEASUREMENT IN GENERAL
Assets are recognised in the balance sheet when it is probable that future economic benefits will flow to the Institute and the value of the asset can be reliably measured.

Liabilities are recognised in the balance sheet when it is probable that future economic benefits will flow from the company and the value of the liability can be reliably measured.

On initial recognition, assets and liabilities are measured at cost. Subsequent to initial recognition, assets and liabilities are measured as described for each individual accounting item below.

For recognition and measurement purposes, due consideration is given to gains, losses and risks arising before the Annual Report is prepared and proving and disproving matters arising on or before the balance sheet date.

Income is recognised in the income statement as earned, including value adjustments of financial assets and liabilities measured at fair value or amortised cost.

Moreover, expenses incurred to generate earnings for the year are recognised, including depreciation, amortisation, impairment losses and provisions as well as reversals resulting from changed accounting estimates of amounts that used to be recognised in the income statement.

CONSOLIDATED FINANCIAL STATEMENTS

The consolidated financial statements comprise the parent company, the Danish Technological Institute, and subsidiaries in which the Danish Technological Institute directly or indirectly holds more than 50% of the voting rights or, in any other way, exercises control. Companies in which the Group holds between 20% and 50% of the voting rights and exercises only a significant but no controlling interest are considered associates.

Intercompany income and expenses, equity investments, balances and dividends as well as realised and unrealised gains and losses on transactions between consolidated companies are eliminated on consolidation.

Investments in subsidiaries are eliminated at the proportionate share of the subsidiaries' fair value of net assets and liabilities at the date of acquisition.

Newly acquired or newly established companies are recognised in the consolidated financial statements from the date of acquisition or establishment. Divested or liquidated companies are recognised in the consolidated income statement up to the date of divestment or liquidation. Comparative figures are not restated for newly acquired, divested or liquidated companies.

In the event of company acquisitions, the acquisition accounting method is used, according to which the identifiable assets and liabilities of the newly acquired companies are measured at fair value at the date of acquisition. Provisions are made for the cost of decided and published plans to restructure the acquired company in connection with the acquisition. Account is taken of the tax effect of the revaluations made.

Positive differences (goodwill) between the acquisition cost and fair value of acquired identifiable assets and liabilities, including provisions for restructuring expenses, are recognised as intangible assets and amortised systematically in the income statement on the basis of the estimated useful life of the asset not exceeding twenty years. Negative differences (negative goodwill), reflecting an expected unfavourable development of the companies in question, are recognised in the balance sheet on an accruals basis and recognised in the income statement in parallel with the realisation of the unfavourable development. An amount of negative goodwill not related to an expected unfavourable development is recognised in the balance sheet, equalling the fair value of non-monetary assets, which is subsequently recognised in the income statement over the average life of such non-monetary assets.

Goodwill and negative goodwill from acquired companies are adjustable until the end of the year following the acquisition.

Any profit or loss on the divestment or liquidation of subsidiaries and associates is determined as the difference between the selling or liquidation price and the net asset value at the date of divestment as well as the expected cost of divestment or liquidation.

The income statement of foreign subsidiaries is translated using an average exchange rate, and balance sheet items are translated using the exchange rates prevailing at the balance sheet date.

Exchange differences arising from the translation of the equity of foreign subsidiaries at the beginning of the year at the exchange rates prevailing at the balance sheet date and from the translation of the income statements based on average exchange rates at the exchange rates prevailing at the balance sheet date are recognised directly in equity.

MINORITY INTERESTS
The items of subsidiaries are fully recognised in the consolidated financial statements. Minority interests' proportionate share of the profits or losses and equity of subsidiaries are recognised as separate items in the income statement and balance sheet.

FOREIGN CURRENCY TRANSLATION
On initial recognition, foreign currency transactions are translated using the exchange rates prevailing at the date of transaction. Exchange differences arising between the exchange rates prevailing at the date of transaction and the date of payment are recognised in the income statement as items under financial income and expenses, net.

Receivables, payables and other monetary items in foreign currencies are translated using the exchange rates prevailing at the balance sheet date. The difference between the exchange rate prevailing at the balance sheet date and the exchange rate prevailing at the date when the amount receivable or payable originated or was recognised in the latest annual report is recognised in the income statement under financial income and expenses.

DERIVATIVE FINANCIAL INSTRUMENTS
Derivative financial instruments are initially recognised in the balance sheet at cost and subsequently measured at fair value. Positive and negative fair values of derivative financial instruments are included in other receivables and other payables, respectively.

Changes in the fair value of derivative financial instruments classified as and qualifying for recognition as an instrument used for hedging the fair value of a recognised asset or liability are recognised in the income statement together with changes in the fair value of the hedged asset or liability.

Changes in the fair value of derivative financial instruments classified as and qualifying for recognition as an instrument used for hedging future assets and liabilities are recognised in other receivables or other payables and in equity. If the future transaction results in the recognition of assets or liabilities, amounts previously recognised in equity are transferred to the cost of the asset or liability. If the future transaction results in income or costs, amounts recognised in equity are transferred to the income statement for the period during which the hedged item affects the income statement.

In regard to derivative financial instruments not qualifying for hedge accounting treatment, changes in fair value are recognised in the income statement when they occur.

INCOME STATEMENT

REVENUE
The method of revenue recognition is the method of recognising income as invoiced under which income is recognised in the income statement as invoiced.

Major and longer-term contract work in progress is recognised under the percentage of completion method, meaning that the profit on any services sold is recognised in the income statement as the work is performed.

PROJECT COSTS
Project costs comprise costs incurred during the year, excluding salaries, which are directly attributable to the individual project.

RESEARCH AND DEVELOPMENT
Research and development costs and agreed development costs of completion of project agreements entered into, completed without remuneration, are recognised in the income statement.

Development projects which are not customer-specific or where knowledge is published are recognised in the balance sheet if, for instance, a clear connection is demonstrated between costs and future income.

OTHER EXTERNAL EXPENSES
Other external expenses comprise expenses of distribution, sale, advertising, administration, premises, bad debts, operating leases, etc.

INCOME FROM INVESTMENTS IN ASSOCIATES
The proportionate share of the profit/loss after tax of associates is recognised in the income statement after elimination of the proportionate share of internal profit/loss.

FINANCIAL INCOME AND EXPENSES
Financial income and expenses comprise interest, exchange gains and losses regarding liabilities and transactions in foreign currencies.

ACCOUNTING POLICIES - CONTINUED

EXTRAORDINARY INCOME AND EXPENSES
Extraordinary income and expenses comprise income and expenses arising from events or transactions that are clearly distinct from ordinary activities, are beyond the control of the company and are not expected to recur.

TAX ON PROFIT FOR THE YEAR
Being an approved technological service institute, the Danish Technological Institute is exempt from liability to pay tax.

Danish subsidiaries liable to pay tax are subject to the Danish rules on compulsory joint taxation. Subsidiaries are included in the joint taxation scheme as from the time when they are included in the consolidated financial statements until the time when they are no longer consolidated.

Current Danish corporation tax is allocated through payment of tax contributions between the jointly taxed companies in proportion to their taxable incomes. In this connection, companies suffering a tax loss receive tax contributions from companies having been able to use these losses to reduce their own tax profits.

Tax for the year, which comprises current tax and changes in deferred tax, is recognised in the income statement with the part attributable to profit for the year and directly in equity with the part attributable to equity items.

BALANCE SHEET

INTANGIBLE ASSETS
Goodwill is amortised over the estimated useful life, which is determined on the basis of management's experience within the individual business areas.

Goodwill is amortised on a straight-line basis over a period of five years. The carrying amount of goodwill is continuously assessed and written down to recoverable amount in the income statement provided that the carrying amount exceeds the expected future net income from the company or activity to which the goodwill relates.

PROPERTY, PLANT AND EQUIPMENT
Land and buildings, plant and machinery, fixtures and fittings, tools and equipment are measured at cost less accumulated depreciation. Land is not depreciated.

Cost comprises the acquisition cost and costs directly attributable to the acquisition up to the date when the asset is available for use.

Property, plant and equipment are depreciated on a straight-line basis over their estimated useful lives as follows:

Buildings	50 years
Machinery, equipment, etc.	5 years
Computer equipment	3 years

Property, plant and equipment are written down to the lower of recoverable amount or carrying amount. Impairment tests are conducted annually in respect of each individual asset or group of assets. Depreciation is recognised in the income statement under depreciation, amortisation and impairment losses.

Any profit or loss on the disposal of property, plant and equipment is determined as the difference between the selling price less selling costs and the carrying amount at the date of disposal.

Profit or loss is recognised in the income statement under depreciation, amortisation and impairment losses.

LEASES
Leases for non-current assets in respect of which the Institute has all significant risks and benefits related to ownership (finance leases) are measured at the time of initial recognition in the balance sheet at the lower of fair value and net present value of future lease payments. For the calculation of net present value, the internal rate of return specified in a particular lease, or an approximation thereof, is used as a discount rate. Assets under finance leases are subsequently treated like the company's other non-current assets.

Any capitalised remaining lease commitment is recognised in the balance sheet as a liability, and the interest portion of the lease payment is recognised in the income statement over the term of the lease.

All other leases are regarded as operating leases. Payments under operating and other leases are recognised in the income statement over the term of the lease. The Institute's total liability under operating and finance leases is disclosed in contingent liabilities, etc.

INVESTMENTS
INVESTMENTS IN ASSOCIATES
Investments in associates are measured according to the equity method.

Investments in associates are measured at the proportionate share of the equity value of the associates, determined according to the Institute accounting policies plus or less the unrealised intercompany profits or losses.

Investments in associates with a negative equity value are measured at EUR 0.00 and any receivable from these associates is written down to the extent the receivable is deemed irrevocable. To the extent that the parent company has a legal or constructive obligation to cover a negative balance, which exceeds the receivable, the remainder is recognised under provisions.

Net revaluation of investments in associates is taken to the reserve for net revaluation according to the equity method under equity to the extent that the carrying amount exceeds cost.

RECEIVABLES
Receivables are measured at amortised cost.

Following assessment, receivables are written down for anticipated uncollectibles.

CONTRACT WORK IN PROGRESS
Contract work in progress regarding major and longer-term projects is measured at the selling price of the work performed. The selling price is measured on the basis of the degree of completion at the balance sheet date and total expected income from the individual contract for work in progress.

If the selling price of a contract cannot be determined reliably, it is measured at the lower of costs incurred or net realisable value.

The individual contract for work in progress is recognised in the balance sheet under receivables or payables. Net assets are made up of the sum of construction contracts where the selling price of the work performed exceeds invoicing on account.

Prepayments
Prepayments comprise costs incurred relating to subsequent financial years.

PROVISIONS
Provisions comprise expected expenses for completing development projects. Provisions are recognised when the Group has a legal or constructive obligation as a result of past events and the discharge of such obligation is likely to involve an outflow of the Institute's financial resources.

LIABILITIES OTHER THAN PROVISIONS
Payables to mortgage credit institutions and banks are recognised at the date of borrowing at the proceeds received net of transaction costs incurred. In subsequent periods, financial liabilities are recognised at amortised cost, equalling the capitalised value, in compliance with the yield-to-maturity method, which means that the difference between the proceeds and nominal value is recognised in the income statement over the term of the loan.

Other payables, which comprise trade payables and other debt, are measured at amortised cost.

CORPORATION TAX AND DEFERRED TAX
Current tax payable and receivable is recognised in the balance sheet as tax computed on taxable income for the year, adjusted for tax on taxable incomes for prior years and for taxes paid on account.

Deferred taxes are measured according to the balance sheet liability method on all temporary differences between accounting and taxation treatment of the values of assets and liabilities.

Deferred tax assets, including the tax bases of tax loss carryforwards, are recognised in the balance sheet at their estimated realisable value.

CASH FLOW STATEMENT
The cash flow statement shows the Group's cash flows for the year distributed on operating, investing and financing activities, changes in cash and cash equivalents for the year as well as the Group's cash and cash equivalents at the beginning and end of the financial year.

CASH FLOW FROM OPERATING ACTIVITIES
Cash flows from operating activities are determined as net profit for the year adjusted for non-cash operating items, change in working capital, interest income and expenses and corporation tax paid.

CASH FLOW FROM INVESTING ACTIVITIES
Cash flows from investing activities comprise payments in connection with the acquisition and sale of companies and activities and the acquisition and sale of intangible assets, property, plant and equipment and investments.

CASH FLOW FROM FINANCING ACTIVITIES
Cash flows from financing activities comprise changes in the size or composition of the Group's capital and related costs as well as borrowing transactions, repayment of interest-bearing debt.

CASH AND CASH EQUIVALENTS
Cash and cash equivalents comprise cash as well as short-term securities with a term of less than three months that are readily convertible into cash and subject to insignificant risks of changes in value.

SEGMENT INFORMATION

Information about revenue is provided about primary Group segments. The segment information is based on the Group's accounting policies, risks and internal financial management. The primary segments comprise the Group's various activities (divisions and subsidiaries).

STATEMENT BY THE BOARD OF TRUSTEES AND EXECUTIVE BOARD

The Board of Trustees and the Executive Board have today considered and approved the Annual Report of the Danish Technological Institute for 2008.

The Annual Report is presented in conformity with the Danish Financial Statements Act and the adjustments resulting from the Danish Technological Institute being an independent institution and an approved technological service institute.

In our opinion, the accounting policies applied are appropriate and the Annual Report therefore gives a true and fair view of the Group's assets, liabilities and financial position at 31 December 2008 as well as of the results of the Group's and the Institute's operations and cash flows for the financial year ended 31 December 2008.

Høje-Taastrup, 10 February 2009

President

Søren Stjernqvist

Board of Trustees

Hans Kirk, Chairman	Jens Nørgaard Oddershede	Jan Helbo
Jørgen Elikofer	Clas Nylandsted Andersen	Lars Aagaard
Niels-Erik Lundvig	Carsten Christiansen	Gunde Odgaard

INDEPENDENT AUDITORS' REPORT

We have audited the Annual Report of the Danish Technological Institute for the financial year ended 31 December 2008, comprising a statement by the Board of Trustees and Executive Board, management's review, accounting policies, income statement, balance sheet, cash flow statement and notes. The Annual Report is presented in conformity with the Danish Financial Statements Act and the adjustments resulting from the Danish Technological Institute being an independent institution and an approved technological service institute.

Responsibility of management for the Annual Report
Management is responsible for preparing and presenting an annual report which gives a true and fair view in conformity with the provisions of the Danish Financial Statements Act. This responsibility includes establishing, implementing and maintaining internal controls of relevance to the preparation and presentation of an annual report which gives a true and fair view and is free of material misstatement, regardless of whether such misstatement is the result of fraud or error, and choosing and applying appropriate accounting policies and making accounting estimates which are reasonable under the circumstances.

Responsibility of the auditors and basis of opinion
Our responsibility is to express an opinion on the Annual Report based on our audit. We conducted our audit in accordance with Danish auditing standards. These standards require that we comply with ethical standards and plan and perform our audit to obtain reasonable assurance that the Annual Report is free of material misstatement.

An audit comprises procedures to obtain audit evidence of the amounts and disclosures stated in the Annual Report. The procedures chosen depend on the auditors' assessment, including an assessment of the risk of material misstatement in the Annual Report, regardless of whether such misstatement is the result of fraud or error. In the risk assessment, the auditors consider internal controls of relevance to the company's preparation and presentation of an annual report which gives a true and fair view for the purpose of establishing audit procedures that are appropriate under the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal controls. An audit also includes assessing whether the accounting policies applied by management are appropriate, assessing whether the accounting estimates made by management are reasonable and assessing the overall presentation of the Annual Report.

In our opinion, the audit evidence obtained provides a reasonable and suitable basis for our opinion.

Our audit has not resulted in any qualification.

Opinion
In our opinion, the Annual Report gives a true and fair view of the Group's assets, liabilities and financial position at 31 December 2008 and of the results of the Group's operations and cash flows for the financial year ended 31 December 2008 in conformity with the Danish Financial Statements Act and the adjustments resulting from the Danish Technological Institute being an independent institution and an approved technological service institute.

Copenhagen, 10 February 2009

KPMG
Statsautoriseret Revisionspartnerselskab

Finn L. Meyer
State-authorised Public Accountant

Lars Bo Jørgensen
State-authorised Public Accountant

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ORGANISATION

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BOARD OF TRUSTEES

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Lars Drejer

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Manager, Group CFO
Jørgen Kunter Pedersen

Personnel and Development
Personnel Manager
Annemarie Søgaard

IT Services
IT Manager
Peter Hjortshøj

Building Services
Service Manager, Lawyer
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The cooperation between the Danish Technological Institute and the business sector rests on confidentiality and professional secrecy. The companies mentioned have all authorised publication.

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