



NOVA

technology for a better society

 SINTEF

On October 15 last year Unni M. Steinsmo (50) became director general of the SINTEF Group, the largest independent research foundation in Scandinavia.

Just over one month later, Arvid Hallén (54) was appointed managing director of the Research Council of Norway.

These two are the most powerful figures in Norwegian research.

“Why did you take on these leadership positions?”

Hallén: I can't imagine a better combination than working with research and the development of society while also leading a large, interesting organisation like the Research Council of Norway. The job also offers a unique opportunity to communicate with leading actors in our knowledge-based society.

Steinsmo: Part of my reason for taking on this position as leader of SINTEF is my involvement in social development. It is quite simply essential to create value from the research that we do. Knowledge development is a prerequisite for being able to deal with the challenges that face us in sectors such as the environment, health and employment. At the same time, I like to work alongside with experts and get results together with them. I also need to think strategically. I find all this challenging and exciting.

“What is the biggest challenge facing Norwegian research just now?”

Hallén: Making Norwegian companies more knowledge-intensive. Industry is not investing enough in research. This is why the Research Council needs to implement funding schemes that will raise the level of investment. Public-sector research policy must engage more closely with our national industries.

Steinsmo: One important challenge is to create large groups of top-level scientists, instead of small fragmented groups. We need to have high quality if we are to compete at international level. We also need to build

up expertise in new areas such as nanotechnology and biotechnology.

Is it right to divide our research funding among a large number of groups, or should we give more money to fewer of them?

Hallén: I think that we are in a phase in which we need to concentrate our funding more. R & D is closely linked with the university sector, where research is also part of the job description of the teaching staff. This means that part of our resources are going to be somewhat diluted in any case. This is why we need to give additional resources to the best groups – and encourage them to collaborate.

Steinsmo: I quite agree that we need to give more money to fewer people. It is important that we should invest in what we are good at, also in the industrial sector. Doing research involves a high financial risk for the individual company – although it is small for society as a whole. This means that it is important to draw industry into doing long-term research by encouraging society as a whole to accept a larger proportion of the risks involved.

“Hallén, you distribute NOK 4.5 billion to Norwegian researchers. Do you think primarily as a sociologist or as an economist when you are doing this?”

Hallén: I don't think in terms of either of these roles. Distributing so much money is a complex process that involves a very large apparatus, with boards and committees. The whole structure is designed to

ensure that the distribution process itself is of the highest possible quality, and that we put our money where it will be best used. At the same time, we need to avoid being too bureaucratic.

“Government ministries also control funding with their earmarked allocations. Does this type of control place you under too many restrictions?”

Hallén: I could certainly wish that we had a freer hand, but we are dependent on the support of ministries. When they help to finance research, it is only natural that they also wish to influence their own areas of investment. But we do have a good dialogue, not least in the budgetary process.

“The previous Research White Paper came out in 1999, and a new one has just appeared. Are we meeting the objectives that we have set ourselves?”

Steinsmo: Since the previous White Paper there has been a sharper focus on quality, and we have reached that goal. Among other things, the means by which research is financed have been changed, so that the strongest groups that do basic research are getting more money.

Hallén: We have not met our ambitious goals regarding how much research we should do. Our aim of rising to the OECD average is still far off. The input from the public sector is lower than in such countries as Sweden, Denmark, Finland and the USA. But we are reaching some of our targets. The Research Fund was set up after the previous White

Paper, and that was an important step forward.

“Not long ago, marine resources were being brought forward as the “heir” of oil and gas. Have you changed your thinking about this?”

Hallen: Our support for the marine sector is still solid, but we also need to invest in other industries where we are already strong – this is where the potential is greatest.

Steinsmo: I still believe that there is a lot of potential in marine resources; in aquaculture, more processing of raw materials, mapping the resources of the ocean and developing biotechnology products. The marine resources in our arctic waters are special and are waiting to be exploited. The marine sector is a strong industry in a phase of growth.

“Are we putting as much into our marine resources as we did when the country was pulling together at the beginning of the oil era?”

Hallén: Research has been extremely important for the development of the aquaculture industry. R & D has been, and still is, an incredibly important factor in the petroleum sector. The difference between these two industries is that the oil industry has been able to work together with an international petroleum industry, while in the marine sector there is a lack of major international actors.


Steinsmo: This is industrial politics! When we went in for oil and gas a strategic and industrial policy decision was taken that the international

oil companies should carry out fifty percent of their research in Norway. The success of the petroleum industry was based on a political choice. So far, the authorities have not made a similar investment in the marine sector. Now the politicians need to show that they have the will and the courage to make solid political choices. This is a matter of making Norway a competitive country. Our goals must be jobs for the future and success in industries that bring in foreign exchange.

“What will we be good at in 2020?”

Hallén: We will see a change in the structure of industry, where many of our products will contain elements of both service and technology. Look at VingCard, which used to make mechanical locks, but now supplies customised IT-based lock systems. We will also see changes in the knowledge that is relevant to industrial development. Norway can be proud of what it is doing in the fields of creativity and design, for example in what the Snøhetta design team have achieved. They designed the Alexandria Library, and now they are playing an important role in the Ground Zero project in Manhattan.

Steinsmo: If we make the right choices, we will have managed to develop our strongest industries. In their wake we will have developed international high-technology companies and suppliers of services. Norwegian young people prefer to be independent and creative and to go on the offensive, which means that we will see more exciting and not least, modern, products with a Norwegian background.

A full-length portrait of Unni M. Steinsmo, a woman with short brown hair and glasses, wearing a long black coat and black boots. She is standing on a gravel path, looking off to the right with a slight smile. The background is a dramatic, cloudy sky at dusk or dawn, with a dark horizon line. The text 'leading lights' is overlaid in white on the right side of the image.

leading lights

Unni M. Steinsmo
President – CEO, SINTEF

A man in a dark suit stands in profile, looking towards the left. He is wearing a dark jacket over a suit and tie. The background is a dramatic, cloudy sky with some dark silhouettes of trees or structures in the distance. The lighting is soft, suggesting dusk or dawn.

Arvid Hallén
Director General,
The Research Council of Norway

The SINTEF Group is the largest independent research organisation in Scandinavia. We generate new knowledge and solutions for our customers, based on research and development in technology, the natural sciences, medicine and the social sciences. The SINTEF Group comprises the SINTEF Foundation and five limited companies.

At the turn of the year we had 1810 employees, who generated a turnover of NOK 1.7 billion in 2004. Contracts for industry and the private sector account for more than 90% of our income, while just eight percent is in the form of basic grants from the Research Council of Norway. SINTEF's vision is one of "Technology for a better society". Our ambition is to contribute to the creation of value and to the sound and sustainable development of society.

Partners in cooperation

SINTEF cooperates closely with the Norwegian University of Science and Technology (NTNU) and the University of Oslo. NTNU personnel work on SINTEF projects, while many SINTEF staff teach at NTNU. Our collaboration involves widespread common use of laboratories and equipment, and more than 500 people are jointly employed by NTNU and SINTEF. We are in the

process of establishing a similar pattern of collaboration with the University of Oslo.

International activity

In 2004, fifteen percent of our turnover came from international contracts, and about fifty percent of this international turnover is derived from the EU's research programmes. These programmes are given high priority by us, both because we regard it as important to participate in the multinational knowledge development process and because such programmes give us access to interesting networks.

The other half comes from normal contract research projects for foreign companies. Given our ambition to grow in the overseas market, we are concentrating on areas in which we are already particularly strong: oil and gas, energy and the environment, mate-

rials science and marine technology.

Commercial spinoffs

SINTEF also acts as an incubator for new industrial companies. In 2004, we were involved in 17 new companies that were set up on the basis of technology developed by SINTEF. This process brings highly desirable knowledge-based industry to Norway. We are active owners of our spinoff companies, and we help them to develop and prosper.

By selling our shares in successful spinoffs we also realise profits which will be invested in new knowledge development. Nevertheless, the most important aspect of our work is to develop existing industry. Every year, SINTEF supports the development of some 2000 Norwegian and foreign companies via our research and development programmes.

technology on the brain

On June 1, 2004, Gunhild Sollie's doctors discovered a life-threatening tumour in her cerebellum. But a completely new operating technique developed by surgeons, scientists and technologists in Trondheim made it possible to do the impossible: today, Gunhild is as good as new.

Read more at: www.sintef.com/neurosurgery



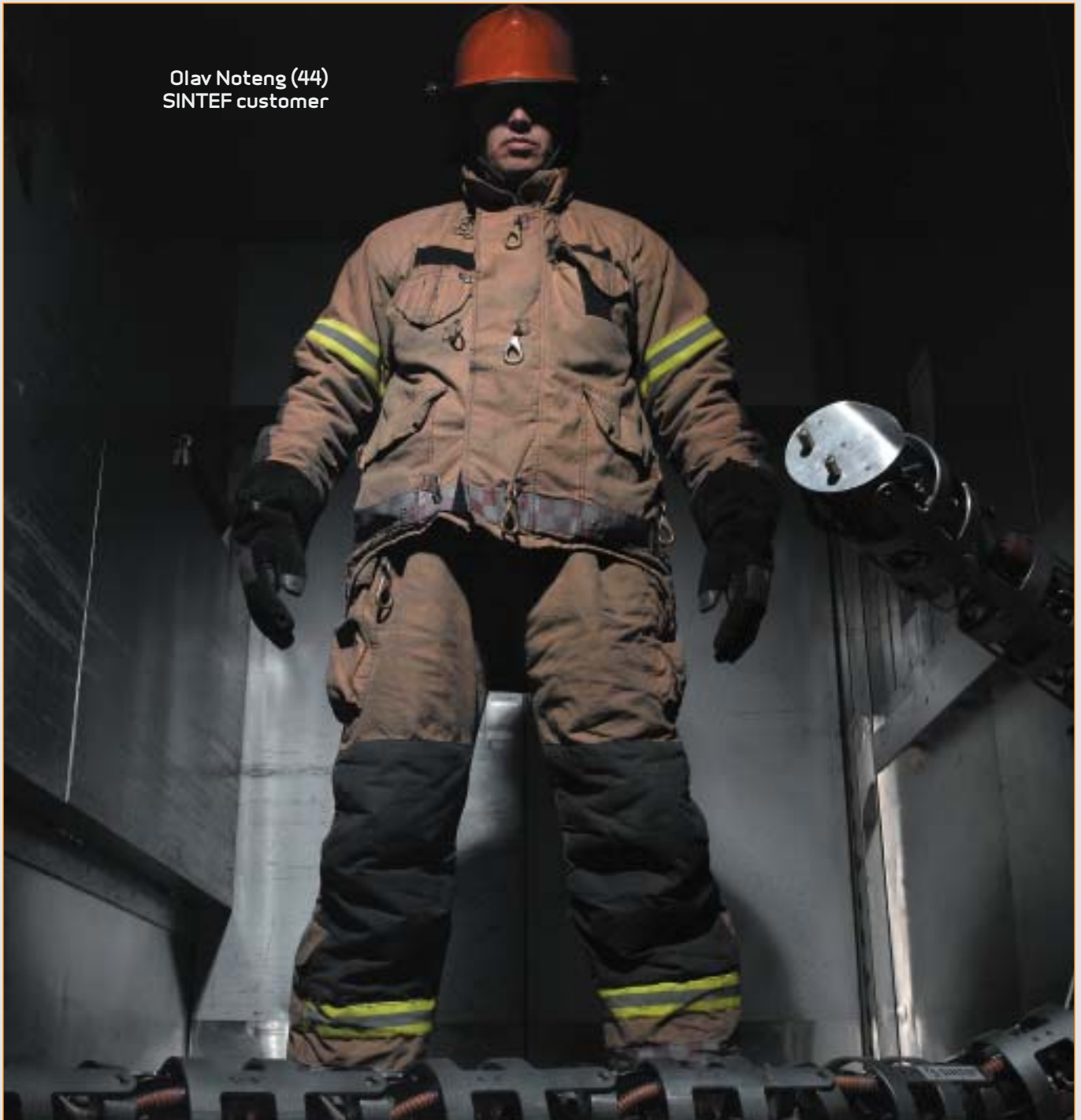
Gunhild Sollie (61)
SINTEF customer

snake charmer

Fireman Olav Noteng will soon be working with the aid of this hi-tech monster, which has been developed by SINTEF. With ice-cold calculation and superhuman strength, it manoeuvres its way into highly dangerous areas and does things that no-one else dares to do. Just now, while the scientists are putting the final touches to this hydraulic innovation, Olav looks forward to working alongside a new colleague with a difference.

www.sintef.com/snakerobot

Olav Noteng (44)
SINTEF customer



the SINTEF year in brief

Unni M. Steinsmo takes over as head of the SINTEF Group.

SINTEF reorganises its twelve institutes into six divisions: Health Research, Materials and Chemistry, ICT, Technology and Society, Petroleum and Energy, and Marine.

SINTEF helps develop a metal net that can prevent international statues and monuments from damage by earthquakes.

SINTEF wins an EU contract to provide advice and documentation for a world-wide forum for dealing with CO₂.

MARINTEK develops a super-fast cargo vessel design known as a pentamaran, in collaboration with the British ship-design company Nigel Gee & Associates Ltd.

The aquaculture vessel of the future, specially designed to reduce the risk of stress injuries and accidents, is developed by SINTEF Fisheries and Aquaculture.

The World Bank asks SINTEF for assistance in developing national statistics on disabled and poor people in Indonesia.

The SINTEF Group buys up Møre og Romsdal Bedriftsutvikling, experts in company development and industrialisation.

In collaboration with NTNU, SINTEF sets up a new company – Biosergen AS – which will persuade microbes to create antibiotics with new healing properties.

SINTEF opens offices in Houston, Stavanger and Bergen.

SINTEF sets up HEL-P, Scandinavia's only mobile specialist laboratory for water-borne parasites.

GEMINI, our own research magazine, is voted Norway's best company magazine.

SINTEF helps the Norwegian Public Roads Administration to plan Norway's biggest road project – the motorway from the County of Akershus to Svinesund on the Swedish border.

The development of a new metal-air battery technology leads to the establishment of the company Revolt Technologies AS.

We are working on the development of Arktrans, a software system that coordinates road, sea, rail and air transport of passengers and goods at national level.

A little company in the County of Sunmøre is experiencing world-wide success with its biodegradable plastic bags. But the story really started with the funeral of Mother Teresa in September 1997.

Pictures of the dead heroine on her "lit de parade" filled the world's TV screens. In the little village of Gursken in Sunmøre, far from the Catholic funeral, sat nurse Kåre Roger Rødseth. The image of the dead woman with a heavy binding under her chin gave him an idea. What if she had a support under her chin instead? An invisible little device that would hold up the lower jaw. Rødseth drew the first prototype in winter 1998. Then it was trial and error at home with welding wire until, together with Emil Arne Kleppe, he arrived at the design that worked best.

"Emil Arne was a close friend with experience of making small plastic products. He had the expertise that I lacked. We produced

the first supports together," says Rødseth. In 1999, the two entrepreneurs started NorMors AS with useful financial support from their families, friends, neighbours and private investors. In the same year they contacted SINTEF in order to identify a biodegradable material that would be suitable for their "chin-collars". In spring 2001, NorMors was ready to enter the market at a funeral industry trade fair in Oporto in Portugal, along with around 200 exhibitors from all over Europe.

In Portugal the Norwegians appeared on TV, their stand was overrun with potential customers and a well-known Italian magazine featured the Norwegian newcomers.

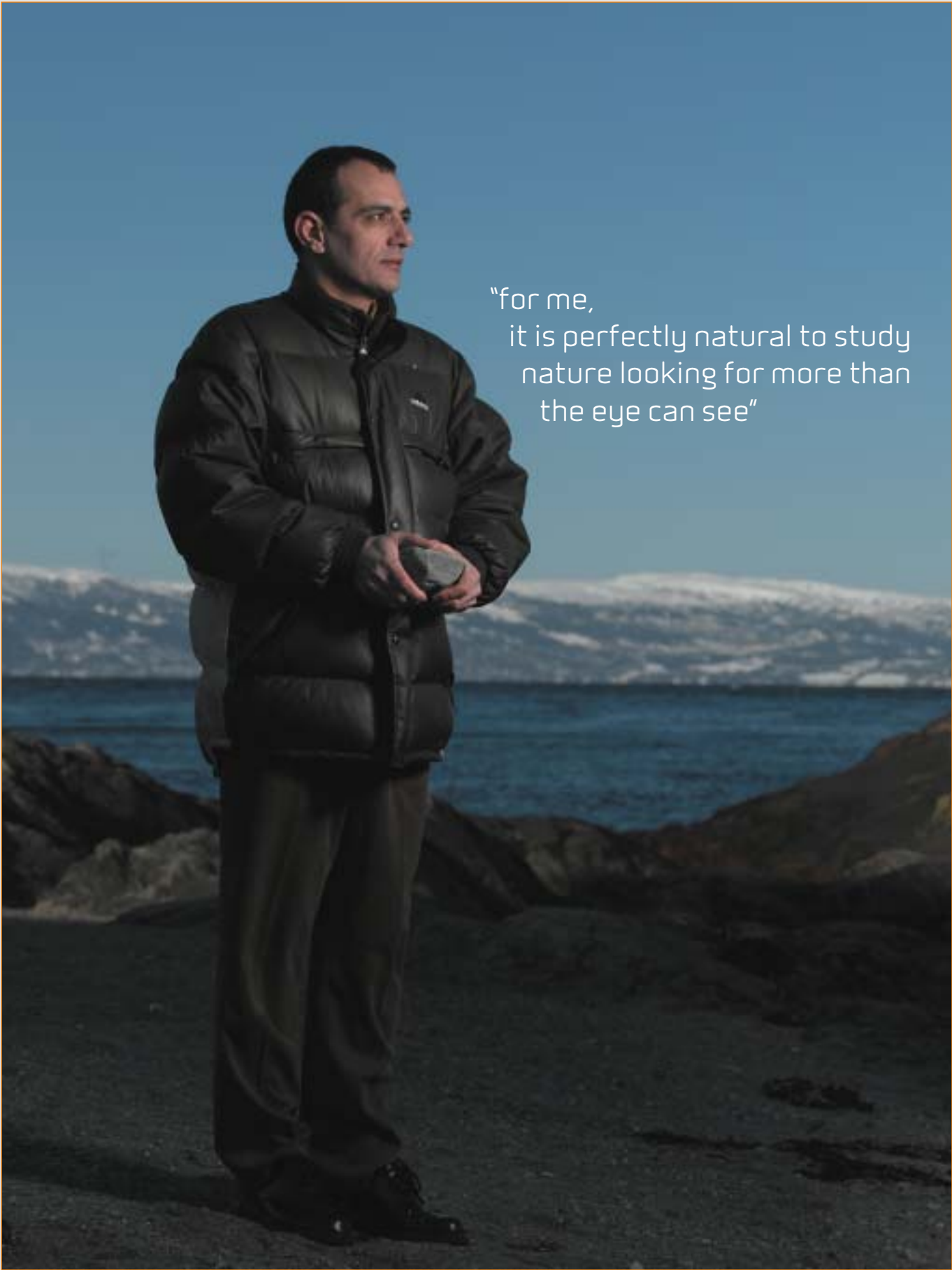
Last year, the little Norwegian company with its three employees sold 90,000 chin-collars. In Switzerland alone, every second deceased person is fitted with their invention, and in Norway Rødseth and Kleppe have captured 30% of the market. But the story does

not stop there. In spring 2002, the company had a telephone call from SINTEF, which they had engaged to make the chin-collar even more environmentally friendly. Its scientists had developed an additive that can break down plastics in a controlled way with the help of heat or sunlight. This new material was given the name Nor-X, and it turned out to have a number of applications.

"We have been working closely with scientists, engineers and technicians from SINTEF on the development of Nor-X. This collaboration has resulted in a number of improvements," says Rødseth. The company and SINTEF both had the idea of using the material in plastic bags. In the course of six to twelve weeks the additive breaks plastics down rapidly and under control. Now the two inventors have started a company called Nor-X Industry AS, and they have already been contacted by companies in South America, Africa and Australia.

“seeing our product on the EuroNews TV channel
several days in a row and in seven languages
was a fantastic experience”





"for me,
it is perfectly natural to study
nature looking for more than
the eye can see"

In both commercial and cultural terms, the two mountainous lands of Norway and Iran are fairly far apart, which is why Mohsen K. Balov is currently playing such an important role as a builder of bridges between the Norwegian and Iranian petroleum industries.

The young Iranian arrived in Stockholm in the mid-eighties with a UN document giving him refugee status, and a dream of becoming a film director. If anyone had told him that one day he would go back home as an advisor to the Iranian authorities he would scarcely have believed it, but would rather have thought of it as a story for the big screen.

“Bergman was an important source of inspiration and he was one of my reasons for choosing Sweden as my new home,” says Balov, who had already worked in the film industry in Iran. However, directing was not destined to be the career of the left-

wing student.

Instead, he studied geology, because the images we see in nature also tell their own story.

“As the son of a vine-grower in the mountainous landscape of Azerbaijan in northwest Iran, it would have been difficult for me not to be influenced by Nature. Geology tells us how the Earth has taken shape. It appeals to the imagination and reminds us of art,” says Balov, who started his geological career searching for Swedish gold. Today he hunts black gold together with his SINTEF colleagues.

Balov is still a Swedish citizen, but he feels like a “Norswedish” Iranian. With master’s degrees in both geology and petroleum prospecting, as well as first-hand experience of Iranian language and culture, he has become a vital resource for SINTEF. For the past two years he has been working

on the most important petroleum technology challenge ever faced by the Norwegian research foundation: the development of eight major Iranian oil-fields. This has been a serious scientific challenge, not least because our Norwegian oil reservoirs largely consist of porous sandstone, while the Iranian reservoirs are in carbonate rock formations. This means that exploration and operation have to be carried out in quite different ways than we are used to.

“This knowledge has given us important experience that can be utilised in other oil-rich parts of the world, such as the Gulf of Mexico and North Africa,” says the scientist.

The past two years have meant several trips back home, and the “bridge-builder” will soon be heading east again, on the hunt for new geological challenges in his native country.

MiNaLab, one of the largest single investments in Norwegian industrially oriented research since the Halden Reactor was built in the 50s, lies in Gaustadbekkdalen in Oslo. This laboratory is one of Europe's most advanced centres of micro- and nanotechnology. Although the almost 6000 m² building is owned and operated by SINTEF, the research centre also plays an important role for the University of Oslo. The degree of cooperation between the two institutions is a textbook example of what is needed if Norway is to assert itself in international research, claims Arild Underdal, Rector of the University of Oslo.

"Norway is a small country, and advanced laboratories require large investment programmes. Cooperation and joint use give us better value for our money and raise the quality of our research," he says.

As a professor of political science, and with experience of research in both environmental issues and resources

management, he knows what he is talking about.

Behind the laboratory's doors, both bastions of research are cooperating on interdisciplinary research at micro-level, but no-one is in any doubt that the results will bear fruit at macro-level. Nanotechnology is the most rapidly growing area of research in the 21st century. This is the technology that is making it possible to control our world down to molecular and atomic levels. Nanotechnology affects both basic subjects such as physics and chemistry and developments in ICT, energy and medical technology. One ongoing project is the development of a particle detector for CERN. The detector will help to provide scientists with the answer to the question of what really happened when the universe was created.

In his day job, Underdal sits in his office on the Blindern campus, a ten-minute walk from MiNaLab, with a fine view of most of the centre of Oslo and over to the Oslofjord. But he doesn't

often get the chance to enjoy the view, thanks to a heavy work schedule as Rector, executive chairman of the Board and "managing director" of the biggest university in the country. For Arild Underdal, the evening begins at about the time that the rest of us are thinking about lunch, for the 58-year-old professor prefers to set his alarm clock for 4 a.m. This gives him two or three hours of peace and quiet to work before his colleagues turn up at the coffee machine. Because even though Norway has the knowledge, creativity and the will to invest, we also suffer from a handicap in the European context: the country has too few industrial locomotives that run their own research groups capable of helping to pull national research efforts in the right direction, believes the Rector.

"What are needed are both hard work and close collaboration," says Arild Underdal, who wants the University of Oslo to become one of the ten best in Europe.



“nanotechnology could help us understand what happened during the Big Bang”

Jorunn Skjermo has found gold; not in a gold-mine, but in tiny algae. A substance in these algae may turn out to be highly valuable to fish-feed producers. She is currently in the midst of the patenting process.

A few years ago, the media were writing about German divers who helped themselves from Norwegian coral reefs and did good business back home. This inspired the Research Council of Norway to launch a programme on “bioprospecting” with the aim of taking care of our natural resources. “This is a matter of searching for active substances in marine organisms. Since SINTEF in Trondheim has a long tradition of research on marine algae, we signed up for the programme,” says Skjermo.

The tiny algae she is studying contain glucane, a substance that stimulates the

immune system. “We have known for a long time that certain microalgae contain high levels of glucane, but no-one has tested how good it is or how much there is,” she says, quite obviously pleased to be working on unploughed territory.

Exciting events and remarkable results are not everyday matters for a scientist. In this case, a lot of the work involved is a matter of repeated tests, documentation, applications for funds, waiting and disappointment.

That is why she remembers so well the day that she saw how the substance in the algae was protecting the baby cod.

“They were growing better than previously, and the modelling system that we had developed worked well. That year I was able to take my Christmas vacation with

a clear conscience.

Persuading fish fry to survive is one of the big challenges facing fish farmers. The tiny larvae hatch out in an artificial environment with an unknown bacterial flora. This means that the fry easily succumb to disease, and critical phases in their growth occur. Fish farmers in Asia and some Mediterranean countries add antibiotics to their fish feed, even though this is forbidden. Feeds with added immune stimulants are in growing demand. For this reason, finding good effective stimulants will be an important aspect of aquaculture in the future.

“In the long run, we can envisage using immune system stimulants on human beings too, but such a step will require a great deal of research and documentation,” says Jorunn Skjermo.

“the day that twice as many
cod larvae as usual had survived
was a major breakthrough”



"it is easy to be distracted by one's own curiosity.
but it was also my curiosity that made me
choose MARINTEK as my work-place"



A young man from Drammen counts off his options. Should he listen to his good friend and become a student at NTH (now NTNU) in Trondheim? Or do something else? His choice finally lands on Trondheim, and Olav Fredrik Rognebakke takes up his studies at the Department of Marine Technology in autumn 1991. Fourteen years later, he will marry Hanne, a fellow student, with his persuasive friend as best man. By this time he has gained a doctorate that gives him special expertise in marine hydrodynamics, for Olav is an expert in “sloshing”, the behaviour of waves in tanks. There are only two such people in the whole of Norway.

“It was simply a matter of

perfect timing. Just after I had finished my doctorate there was a great deal of international interest in sloshing. Marine transport of natural gas is on the increase, and shipping companies want to build bigger vessels with larger tanks. Our job is to find out whether this is feasible. The shipping companies want to increase the size of these vessels by 70%, and wave motions in such large tanks can be a critical factor. The ambitious young research scientist is sitting in his office, next door to the biggest ocean basin in Europe. Hair well combed, wide-open eyes that inspire confidence and a quiet, professional voice. “Social, clever with our clients and extremely competent”, is

how colleagues describe Olav Rognebakke. “Always satisfied and positive, inclusive and very kind”, is Hanne’s description of her husband. For his part, he is more interested in finding out why things happen.

“I want to know how things work, as we say in Drammen. This can have its negative aspects, because I often find myself trying to keep too many balls in the air at once. There is not much in this world that isn’t interesting. At MARINTEK I can make use of my mathematics. I can carry out practical experiments and find out why things happen. That’s what I like about this place, and I can also work with world-class professors.”

Professor Roy Johnsen is pretty familiar with SINTEF and NTNU; so much so, in fact, that he is now involved in the Gemini Centres that have recently been launched by the two research institutions. The idea behind the new centres is that the two institutions should combine to build up large-scale research groups of higher quality than either could manage to do on its own. A total of 11 such centres have seen the light of day, and Johnsen sits on the board of one called “Robust material choices and design – offshore applications”.

It is precisely the interface of choice of material, form and function that has interested him for many years.

“The Norwegian offshore industry was in the midst of a very exciting period when I was a student. The technology that enabled advanced

operations to be carried out at great depths really fascinated me,” says Johnsen.

When the young man got a summer job with Skarpenor, one of our pioneering companies in the rust protection of offshore installations, he found himself on the right course. Johnsen decided to study at NTH (now NTNU). His plan was to return to his home town of Langesund and a regular job with Skarpenor. Instead, his studies led to a doctorate and jobs with industrial giants such as Statoil, and later, CorrOcean. The fact that he is now back at NTNU, this time as a professor, is largely due to his industrial experience, because contact with industry is one of the most important underlying concepts of the Gemini Centres.

Roy Johnsen is full of optimism for the Gemini

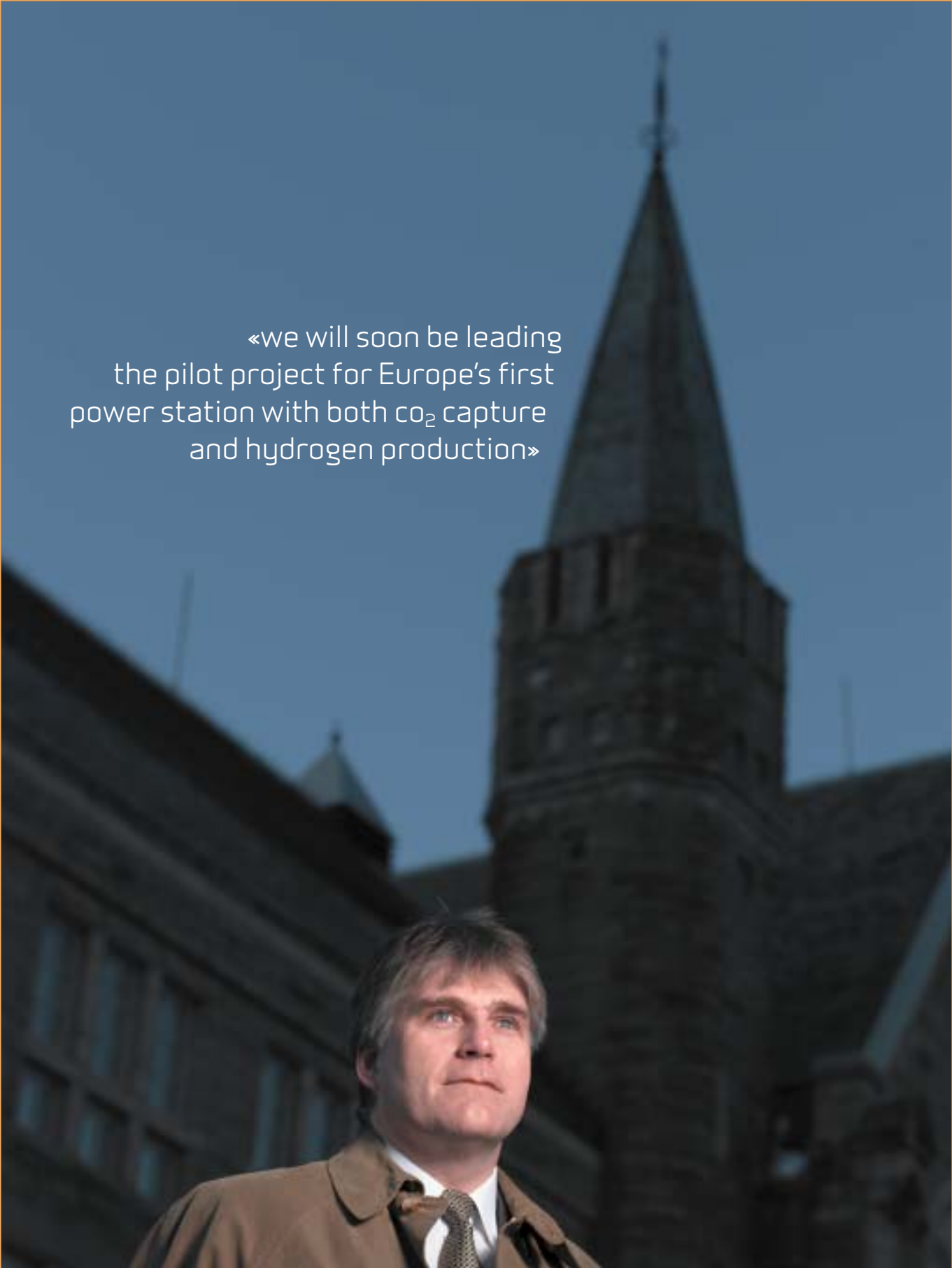
idea, and is currently planning to visit a number of offshore companies.

“We believe that the breadth of experience and know-how we can offer is one of our most important strengths. No other research centre in Norway has such wide access to students and their M.Sc. projects as we do. Companies benefit by being able to recruit candidates who are up to date on the latest advances in technology, while students get jobs that deal with current problems.

“Now we are also thinking about bringing our laboratories together and moving people nearer to them. We are also trying to think about our subject in new ways: for a long time we have looked at “choice of materials” as one field, and “design” as another. Now we want to combine them.

“creative solutions turn up when people with different backgrounds get together”





«we will soon be leading
the pilot project for Europe's first
power station with both CO₂ capture
and hydrogen production»

Nils Røkke was slightly sceptical when he began to work at SINTEF. After four years with the Rolls Royce Group, research on CO₂ was to be his new field of work. Many of us think of CO₂ in terms of unwanted emissions and climatic problems.

"I tended rather to feel that all the processes involved in CO₂ capture, transport and storage would lower the energy efficiency of industry and raise its costs," he says.

Røkke's office is tidy. Folders are lined up neatly on their shelves. From his window he can see Trondheim's Nidaros Cathedral and a rainy January sky. He still doubts whether it really is CO₂ created by human activity that has made our winters warmer. But as he points out, "We cannot gamble with the environment. Doing research is equivalent to paying a low insurance premium. My children are concerned about the climate problem and are

worried about what could happen. We need to be able to look the coming generation in the eye."

His earlier scepticism has turned into commitment. Today, he is leading a field of research that has gained international recognition. In the EU's Sixth Framework Programme, six of eight CO₂ projects have been awarded to research groups at SINTEF and NTNU. Thirty scientists are working in this field on projects that range from basic research at molecular level to advising the EU Commission.

"We have been successful with most of our applications, and grown from zero turnover to NOK 45 million a year," says Røkke proudly. We regard it as a vote of confidence from Europe that we have been able to capture so many projects in the field of CO₂. While we used to compete with international research centres such as

TNO in the Netherlands and IFP in France, now we work together with them.

The situation that a Norwegian research group is becoming a force in CO₂ research has many reasons – not least the existence of national research programmes that are unique on a global scale. The Kyoto targets are high on Norway's agenda as well. The large ocean areas off our coasts offer the possibility of storing and recycling CO₂. When the CO₂ is pumped into old petroleum reservoirs, it can actually improve oil recovery rates. This puts Norway in a particularly attractive position.

"Now the CO₂ quota system has arrived, and there is a price-tag on CO₂ emissions. This could be interesting," says Røkke, scratching his chin thoughtfully. "At some point, it may actually become more profitable to clean up CO₂ than to discharge it."

She has studied the notes of journalist Eva Bratholm, typed out the discussions of soloists in the Norwegian Opera Company, and observed countless rehearsals of the Oslo Philharmonic. All in the name of research. But Grete Wennes is really an economist, something that she usually doesn't like to admit.

At the moment, culture in Norwegian rural districts is the topic that engages this SINTEF researcher. Not because she grew up among corn and cows in the County of Nord-Trøndelag, but because she is convinced that rural Norway has more to offer than fish and milk quotas, believing that at the interface between commerce and culture there exist niches that could be a way of earning a living in the future. In fact, the three local councils of Fjell, Sunde and Øygarden have asked SINTEF for research help, with the aim of mapping the competence and the potential for developing these coastal pearls just outside Bergen.

"SINTEF has a wide range of interdisciplinary expertise. For example, we have the knowledge needed to build a sound studio, a film workshop or a competence café. But first of all, we need to collaborate to identify the strong points of these local communities today."

She finds it something of a responsibility that it is the taxpayers in these island communities who are paying for her ideas. What they need are good ideas and a solid research effort.

"A colleague has said that my strong points are creativity and thoroughness, and that is true enough. For me, research is a way of life – I cannot put my work to one side. It often happens that I get an idea in the middle of the night, and have to get up in order to make a note of it," says Grete.

It was an interest in culture that brought her into research. As a student, she looked out for a place of study that could cover her varied background, which ranged from organisation to

psychology, mathematics and music. She ended up at the Norwegian School of Management and Business Administration in Bergen, where she took an M.Sc. on the establishment of TV2, Norway's second TV channel.

"That was what really hooked me on research," says Grete, who went straight ahead and signed up for a doctorate on "The management of art institutions", for which she studied the Oslo Philharmonic Orchestra and the Norwegian Opera Company. This original choice of topic helped her to find a job at SINTEF five years ago. But this restless lady prefers to ride several horses at a time: she loves to be on the stage, to give lectures and to teach. That side of her personality finds expression via her other job as a senior lecturer at Trondheim College of Economics.

"With two regular jobs, I am as close to being a freelance academic as it is possible to be, and that suits me very well. The worst thing I can think of is predictability."



"when it comes to the bit,
both our invoicing and our profitability
are a matter of being a person"



In financial terms, 2004 was a weak year for the SINTEF Group. A fall in parts of our market, combined with cost overruns, led to a negative operating result. On the scientific side, the SINTEF Group has strengthened its collaboration with NTNU and the University of Oslo and has obtained good results in the area of European research cooperation.

An annual result of minus NOK 26.3 million is a significant regression in comparison with 2003. However, our financial foundations remain solid. Our book equity value is MNOK 837.7 which is equivalent to 52% of total capital. Our level of investment was MNOK 51.3 in 2004.

The SINTEF Group replaced its director towards the end of 2004. Outgoing president Morten Loktu joined Statoil's group management team, and Unni Steinsmo took over as President of SINTEF.

SINTEF Group is structured in terms of six research divisions, which have been defined in terms of value chains and industrial market clusters. Our business concept is to sell research-based knowledge and related services to Norwegian and overseas customers, in collaboration with

NTNU and the University of Oslo. SINTEF will contribute to the development of existing and new industrial companies that have the potential to grow. A further task for SINTEF is to strengthen links between research-based education and industrially oriented research.

Technology for a better society

Our vision, that of "Technology for a better society", reflects our role in society. SINTEF aims to be recognised as an important tool for the development of Norwegian society.

CO₂ handling is employed as a concept for capturing CO₂ from industrial processes and transporting it to and sequestering it in geological formations. SINTEF is one of only a small number of R & D institutions capable of covering all the links in the

CO₂ chain. Pioneering projects in this field were carried out as early as 1987 - 88. The government has provided good general conditions for research on CO₂ handling in connection with gas-power, and NTNU and SINTEF are playing central roles in such research.

SINTEF Group's efforts vis-à-vis the EU's 6th Framework Programme have led to a doubling of our project portfolio in CO₂ research in three years, with a current annual turnover of around MNOK 40. SINTEF Energy Research leads Europe's biggest R & D project in this area, and seems likely to be selected to lead the pilot project for HYPOGEN, Europe's answer to FutureGen in the USA.

SINTEF Materials and Chemistry has been working on combinatorial methods in

catalysis and adsorbents since the mid-90s. The challenge has involved the development of efficient methods for every step in the process from synthesis, via characterisation to screening. Since 1996, SINTEF Materials and Chemistry have been allied with a US company which is a world leader in refining technology. Other major international companies also utilise our work in this field. These projects require interdisciplinary competence from Materials and Chemistry and ICT. SINTEF staff are co-holders of more than 25 patents in combinatorial technology.

SINTEF ICT has developed ARKTRANS, the national ICT framework for transport. The project is helping us realise the transport policy goal of integrated transport solutions. ARKTRANS has been developed in collaboration with the Directorate of Public Roads, the Coast Directorate, the National Rail Administration, Avinor, NSB, the National Association of Transport Companies and a number of other participants.

Although the textile sector in Norway and Europe is facing major challenges as production is moved to low-cost countries, investment in

products that contain more high technology is giving the industry new potential for the future. SINTEF Health Research is a member of a network of institutions in the Nordic and Baltic countries that is doing research on smart textiles and clothing with built-in technology (SmartWear). The network, which is supported financially by Nordic Innovation, brings together researchers from the fields of textiles and clothing, physiology, electronics, communication, design and materials. Examples of areas of application include products for physiological and medical monitoring of patients, protective clothing for health personnel and personal protective equipment that monitors physiological tolerance thresholds.

Noise and vibrations from the pipelines that carry gas from floating platforms in the North Sea have created major challenges for operators. The problem is related to the use of large-diameter flexible risers which are built up in layers. These vibrations occur at normal flow rates and can spread to the process plant on board the platform and installations on the seabed. The problem is characterised by complex interactions between flow technology, acoustic res-

ponse and structural vibrations in the pipe-wall. A short-term solution to the problem has been to reduce the flow-rate. With financial support from the Research Council of Norway, Norsk Hydro, Statoil and Wellstream, we are currently carrying out a four-year research project which will develop the knowledge needed to understand the problem and find acceptable long-term solutions. The project is being carried out as a multi-year effort by SINTEF under the leadership of MARINTEK, with contributions coming from research groups in flow technology, acoustics and multiphase flow.

Although the E39 south west of Trondheim existed only in the form of drawings, road planners from the Public Roads Administration were able to test drive a stretch of the new road thanks to scientists from SINTEF Technology and Society, who have developed software that allows digitalised road-planning data to be transferred to the SINTEF/NTNU driving simulator. Testing can help identify potentially dangerous aspects of the road design, so that plans can be modified before road construction commences. The social costs of a fatal accident on the roads has

been estimated to be NOK 25 million. This means that the costs of testing in the simulator would be paid back about 50 times if it results in one less traffic fatality during the lifetime of the road.

Many satisfied customers

SINTEF will upgrade its market activities and improve levels of customer satisfaction. We will grow in national and international markets, be leaders in innovation and commercialisation, and turn SINTEF into a widely recognised trademark.

SINTEF has carried out a comprehensive programme of surveying the market and understanding its customers' value chains, with the intention of becoming a better partner. We are particularly anxious to achieve even closer cooperation with our biggest customers.

On the international scene, SINTEF has enjoyed success in the EU's research programmes. A study has shown that SINTEF tops national statistics in this field. SINTEF is gaining recognition for its ability to lead major projects and for its application-oriented results.

In 2004, the SINTEF Group established units at several

locations in Norway. We regard a regional presence as essential, both for the sake of serving our customers better and as a means of achieving closer cooperation with the regional industrial development system. In order to approach our major customers in the petroleum sector more closely, the SINTEF Group opened offices in Bergen and Stavanger. We have taken over Møre og Romsdal Bedriftsutvikling, an industrial development company based in Ålesund, in order to interact better with the SME market in rural districts. We also helped to revitalise RTIM in Raufoss, a company owned by SINTEF and local industrial interests. In December 2004, RTIM was named as a pilot enterprise for the Centre of Expertise scheme run by the Ministry of Local and Regional Government.

Scientific quality

SINTEF intends to be a world leader in specific areas of scientific research. We will reinforce our collaboration with NTNU and the University of Oslo and build international alliances with the aim of positioning ourselves vis-à-vis the European research sector.

In 2004, NTNU and the SINTEF Group strengthened their strategic cooperation.

A joint process led to the boards of the two institutions resolving at the beginning of 2005 to implement a new strategic co-operative model which will make us a more powerful player on the international scene. The plan will involve a set of scientific main priorities, internationalisation, brand development, research and industrial policy and investment in and operation of heavy scientific equipment and physical infrastructure.

In their agreement to cooperate, NTNU and SINTEF observe that it will be appropriate to establish national strategies and alliances in several areas. SINTEF's efforts to strengthen its relationship with the University of Oslo are an important aspect of this policy.

In line with the development plan we have continued to put a great deal of work into the development of a research strategy for the SINTEF Group. This effort will take place in close collaboration with our university partners and will be integrated into our strategic university collaboration.

The Gemini concept is a model for strategic cooperation between parallel scien-

tific groups at SINTEF and NTNU/UiO. The number of Gemini centres doubled in 2004, rising from five to ten. This development included the opening of the first Gemini centre in collaboration with the University of Oslo. The Board observes that the Gemini concept has aroused a great deal of interest and that it is in the process of becoming a model for university/research institute cooperation in other parts of the country.

Attractive work-place

SINTEF aims to be an organisation in which each individual employee takes initiatives and makes decisions that are in line with our aims and policies. We intend to develop a work environment that leaves room for initiative and creativity, while creating teams that assume joint responsibility for the future development of SINTEF.

The work environment study of the SINTEF Group that we carry out every second year indicates clear improvements over the previous set of measurements. However, there is still room for improvement. SINTEF has adopted a system for continuous improvement of our HSE results, which aims to ensure that more attention will also be paid to HSE within the

organisation between surveys.

The SINTEF Open Day, which was held in Trondheim in November, enabled us to demonstrate the breadth of diversity of our organisation to our own staff, invited partner organisations and project sponsors. The day showed that SINTEF is driven by the project research activities of its staff. Top scientific expertise, the development of interdisciplinary cooperation and active marketing all make important contributions to the creation of a work-place that is both enjoyable and exciting.

The SINTEF Group had a total of 1810 (1758) employees on 31.12. 2004 (numbers in parentheses refer to 2003), of whom 1114 (1118) were employed by the SINTEF Foundation. Sixty-two members of our research staff (7.8%) left the Foundation in the course of the year to work in industry, the public sector or the universities, while 60 joined us. 38.3% of the SINTEF Group's research staff hold doctorates.

Financial freedom of action

SINTEF aims to have a robust economy which will give us freedom of action for

our own development and enable us to support the values for which we are responsible.

The poor result for 2004 is largely due to weaker markets and an excessive level of costs. The rise is the result of both a rise in the general level of costs and cost overruns in individual projects. Cost-reduction measures will reduce these by around MNOK 50, and provisions of about MNOK 17 have been made in connection with these measures for the 2004 accounting year.

As of December 31, 2004, the SINTEF Foundation had an equity capital of MNOK 735.5 (760.0), which is equivalent to 56.8% (61.5%) of total capital. Our equity and operating conditions, in combination with the cost-reduction measures, good liquidity and a satisfactory order reserve provide a good basis for continued operation, and this is the assumption which underlies the presentation of these accounts. The boards of our subsidiary companies have performed similar analyses and have all concluded that continued operation is justified. The Board of the Foundation, which is identical with the Group Board, is of the same opinion. The Board has set out guidelines

for financial risk.

SINTEF is exposed to exchange rate fluctuations in that project revenues are in foreign currencies, while the whole or parts of our project costs are in Norwegian kroner. Most of our exposure is vis-à-vis the Euro and the US dollar. In order to limit the risk we utilise futures contracts in the currencies involved.

The SINTEF Group has established a common system for placement of the Group's considerable liquid reserves. The investment portfolio is placed in accordance with the "Rules for Financial Management" of May 2004. See the Annual Accounts and their Note 2.

Since the closing of the annual accounts, there have been no developments of significance for the evaluation of the Foundation or the Group.

The loss on the Foundation's accounts for 2004 comes to MNOK 26.3, which the Board proposes to deal with as follows. Transfer from reserve for valuation variances: MNOK 6.5; transfer from other equity capital: MNOK 19.8.

Management structure

SINTEF's central governance

bodies are its Council and Board. Day-to-day management is in the hands of the Group's President and Vice-president, together with the directors of the six research divisions. SINTEF's Council is chaired by the Rector of NTNU and consists of 32 members, drawn from NTNU, UiO, The Research Council of Norway, our research companies, and representatives of industry and industrial organisations. The Council meets twice a year, and ensures that the objectives of the Foundation are being pursued in accordance with its articles of association. The Council appoints the Board for two-year periods as follows: two members who hold full-time positions at NTNU, three members from industry or the public sector and two tenured SINTEF employees. The Council appoints an auditor and determines the fees to be paid to members of the Board.

The Board has full responsibility and authority in all matters that are not the responsibility of the Council. The Board acts in accordance with SINTEF's articles of association, the Foundations Act, and such aspects of company law as apply to foundations. The Board appoints SINTEF's President and sets his salary and other

conditions of employment. The Board held eight meetings in 2004.

SINTEF's President runs the company in accordance with the Foundation's articles of association and the Companies Act. The President participates in meetings of the Council and the Board in his/her function as leader of the secretariat. The President has the authority to act on behalf of the Foundation, with the exception of carrying out purchases, sales or mortgages of real estate and the purchase and sale of companies.

Equal opportunities

In the SINTEF Foundation as a whole, 66% of our employees are men and 34% are women. The distribution of the sexes in our research staff is 24% women and 76% men. The SINTEF Group management team consists of 20% women and 80% men. The President is a woman. The proportion of women at chief scientist and middle management level as a whole is 37%. (The proportion of female chief scientists is 24%). Twenty-nine percent of the members of the Board are women. Among the externally elected representatives the proportion of women is 40%, while the proportion of women in the Council is 35%.

SINTEF participates in arrangements at Norwegian universities to profile itself as an employer, at which we specifically profile SINTEF as an attractive work-place for women. Where the proportion of female staff is lower than elsewhere in the company, we specifically encourage women to apply for vacant positions. SINTEF wishes to raise the proportion of women among its research scientists and managers.

In autumn 2004 we organised a one-day seminar for all the women who work in SINTEF. The aim of the seminar was to exploit exchanges of experience and inputs from internal and external resource persons to draw up proposals for strategies and measures that would make SINTEF an even more attractive work-place for women. These efforts are being followed up by the SINTEF Group's management. SINTEF carries out systematic work environment surveys within the company, in the course of which gender differences are identified. The results of the 2004 study produced no responses suggesting significant differences that could be linked to gender.

HSE

SINTEF's aims include the enjoyment of a good work

environment, the avoidance of injuries and damage to health and of pollution of the external environment. The safety of our staff is the only thing that is more important to us than our relationship with our clients.

In the course of 2003 and 2004, however, SINTEF unfortunately experienced two serious work-related accidents that resulted in personal injury in connection with the handling of chemical substances. Work accidents related to activity in laboratories and chemical handling have developed in a negative direction in the course of the past four years. Measures aimed at improving safety in activities of this sort have been adopted and are being given high priority. These measures include goal-oriented laboratory safety courses and risk assessments. HSE training for SINTEF managers has been made obligatory.

The work environment survey carried out last year indicates that our staff regard their work environment as good. This is a particularly satisfactory response, as the study was carried out at a time of several organisational changes, and it bears witness to the solid qualities of the organisation. Annual staff conversations are a

quality measure at SINTEF. However, the work environment survey suggests that there is still potential for improvement in this area.

The rate of sick-leave remains low, and developed in a positive direction from 2003. Within the SINTEF Foundation the rate of sick-leave sank from 4.3% in 2003 to 3.2% in 2004. In the Group as a whole, the corresponding figure fell from 4.0% in 2003 to 3.1% in 2004.

In 2004, the SINTEF Foundation signed an agreement with the authorities regarding an "inclusive working life" (IA in its Norwegian acronym). Specific aims have been drawn up, including good follow-up of personnel on sick-leave. There is reason to believe that this measure will have positive effects on both the work environment and rates of sick-leave. The Board has a positive attitude to SINTEF's participation in the IA scheme, and looks forward to a continuation of this effort.

There is little in SINTEF's range of activities that produces negative effects on the external environment, and there have been no irregularities that have led to damage to the environ-

ment in the course of the past year.

Prospects for the future

The world around us is rapidly changing – politically, technologically, culturally and in market terms. Companies seek competence and potential employees wherever they can find them, while foreign universities and institutes wish to enter the Norwegian market. Today, the SINTEF Group is competing in a global market for resources, scientists and research contracts.

The EU has a vision of becoming the most innovative region in the world, and is stimulating specialisation and work-sharing. The EU's 7th Framework Programme is leading to the creation of international alliances and is pointing in the direction of a European research council. The challenge facing the SINTEF Group is that of presenting itself as an attractive partner for co-operation at European level.

The SINTEF Group aims to become one of the most respected research institutes in Europe. Our cooperative agreement with NTNU and our efforts to build national teams to handle core Norwegian research topics are important in this respect.

Strong educational and research groups are also of national importance. Education and research are competitive factors for a country that depends on incorporating larger amounts of knowledge into its products, processes and services. The ambition of NTNU and SINTEF is to be among the best in the world in areas that support Norway's competitive advantages, while we keep up with other countries' research results and make these available to Norwegian industry. We need to be allies for Norwegian companies that wish to penetrate global markets, and we must be willing to follow them out into these markets.

The Research White Paper published in Spring 2005 will be of great importance for the future activities of the SINTEF Group. It sets out the ambition of raising the national investment in research to 3% of GNP. Among the areas that will be given special priority is industrially oriented research. The research institute sector has been the subject of particular study in the White Paper, and emerges with good marks. The Board trusts that the political treatment of the White Paper will improve the position of research on the

political agenda, and that the aims it sets out will become reality. The future development of Norwegian society is dependent on an effort of this sort.

In both scientific and market terms, SINTEF perceives exciting challenges in many fields. 2004 was a relatively good year for Norwegian industry, with a number of major companies posting good results. This is a good point of departure for SINTEF's ability to realise its ambitions for growth. In this connection, we are working on the further development of the SINTEF Group's market strategies.

2004 has also been a challenging year for many of SINTEF's employees in terms of major re-organisations and reductions in staffing levels. The Board regrets this, particularly with respect to those who have been directly affected, but believes that these measures have been necessary if SINTEF is to have a future. The Board wishes to thank all members of staff for the good work they have done during the past year. There is no lack of challenges ahead of us, but the Board is confident that everyone will make a positive contribution to the development of SINTEF in the future.

SINTEF's prize for outstanding research for 2004



Odd Løvhaugen



Ib-Rune Johansen

SINTEF's prize for outstanding research 2004 has been awarded to Odd Løvhaugen and Ib-Rune Johansen for their development of inexpensive optical spectrometers for the identification of materials and gases in the atmosphere.

The scientists have made use of diffractive optical elements (DOE) to arrive at a completely new concept for creating optical spectrometers. Several individual optical elements are replaced by a simple plastic component which can easily be mass-produced at a reasonable price, allowing the technology to be used in several new applications, and making traditional spectrometers cheaper and more robust. The technology also provides unique opportunities for controlling and analysing light in a number of new contexts. The first application is in characterisation of materials, where the concept is used to sort plastics fractions.

The DOE concept is the result of a long-term commitment on the part of the award-winners, who have managed to combine classical optics and modern microtechnology with the need of the market for new products. Their efforts have provided innovative, market-oriented solutions that have aroused international interest and opened up new markets for SINTEF.

faster rescues

Last year, SINTEF drew up a complex equation, which provided the answer to the question of where ambulances in Oslo and Akerhus County should be stationed to save as many lives as possible. Ambulance stations will be relocated, and drivers Alf Håvard Nyseth and Aud Bergsveen are in no doubt that fewer lives will be lost. Ambulance services in other Norwegian counties will soon be getting first aid from similar calculations.

www.sintef.com/maneconomics



Alf Håvard Nyseth (40) and Aud Bergsveen (24)
SINTEF customers

educational background of research personnel employed by the foundation



*Other:	Percentage	Education Level	Percentage
Other education	4,3 %	Engineer/B.Sc.	2,7 %
Cand.real. (M.Sc.)	2,9 %	Master of Business Administration	1,0 %
		Cand.Psychol. (M.Sc. psychology)	1,0 %

38,3% of the SINTEF Group's research staff hold doctorates.

equal opportunities report

The proportions of women and men in all categories employed by the SINTEF Foundation are: 30% women, 70% men.

If we take the largest category, scientific personnel, the proportions are as follows: 21% women, 79% men. At chief scientist and middle management level the proportion of women is 37%.

The relative proportions of the sexes in the SINTEF leadership group are 20% women and 80% men.

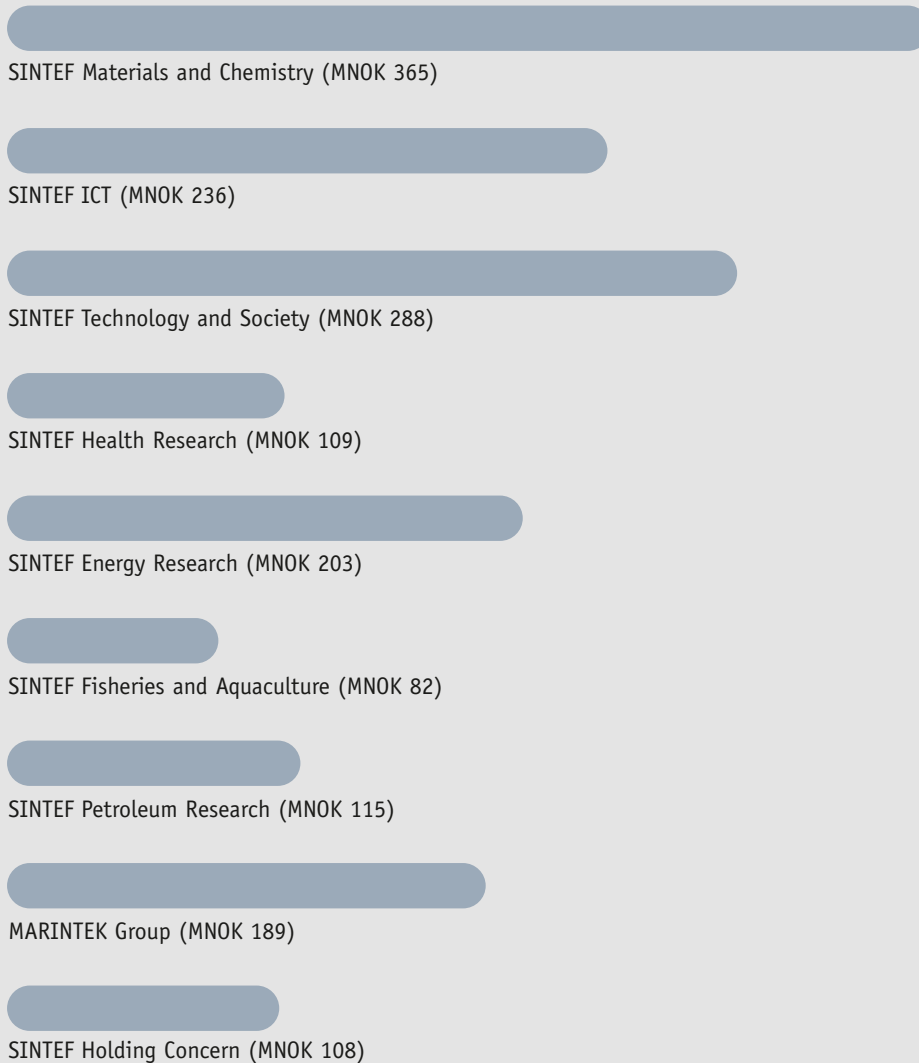
Two of seven members of the Board of the SINTEF Foundation are women. If we look at the proportion of external members of the Board, two out of five of these are women.

When academic positions in which women are under-represented are advertised, women are specifically encouraged to apply. SINTEF carries out systematic internal work environment studies with the aim of identifying any differences due to gender. The 2004 study revealed no responses suggesting the existence of significant differences.

publication and communication of results generated by the SINTEF Group in 2004



the SINTEF Group's turnover in 2004, by institute and research company



SINTEF Group revenues

SINTEF Group turnover in 2004: NOK 1.7 billion

SINTEF Group turnover by source of finance

Research Council: strategic programmes 3.6%

Research contracts 93.3%

Research Council: basic grant 3.1%

Research contracts comprise:

Industry 37.9%

Research Council project grants 17.1%

Public sector 14.6%

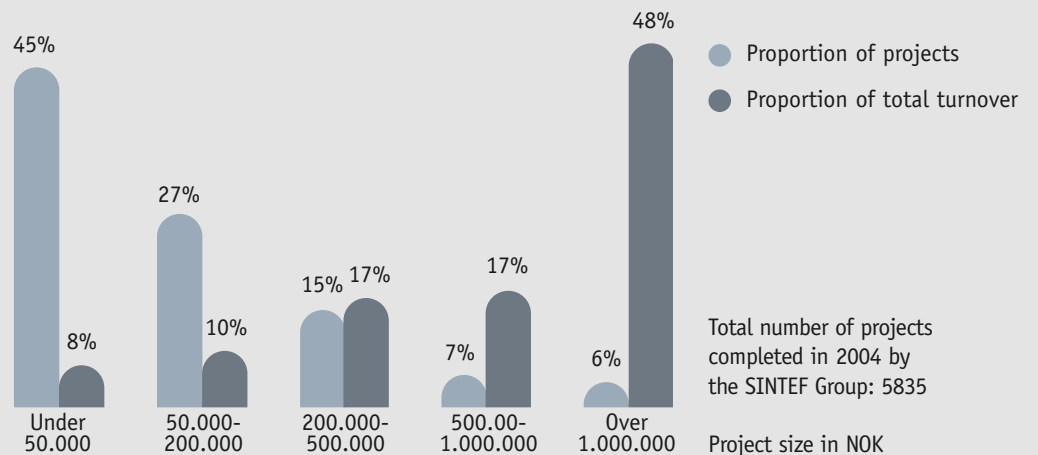
International contracts 14.6%

Other income 9.1%

the SINTEF Foundation's sources of income



projects completed in 2004



income statement

all figures in NOK thousand

The SINTEF Group			SINTEF	
2003	2004	Notes	2004	2003
OPERATING INCOME AND EXPENSES				
1 212 929	1 206 548		673 458	716 181
371 060	367 272		289 618	293 072
49 500	52 700		33 000	33 000
56 884	65 943	8	79 421	66 924
1 690 374	1 692 463	4	1 075 497	1 109 177
374 629	360 919		270 629	286 095
1 315 745	1 331 544		804 867	823 082
934 881	1 000 377	6	607 242	584 630
45 783	51 892	8	29 135	27 166
191	-		-	171
311 125	309 125		195 822	196 611
1 291 981	1 361 394		832 199	808 579
23 763	-29 851		-27 331	14 503
FINANCIAL INCOME AND EXPENSES				
37 338	18 275	3	8 946	15 499
7 261	7 092	3	2 762	20 760
30 077	11 183		6 185	-5 261
53 841	-18 667		-21 147	9 243
-	-	9	-6 475	39 578
-3 676	664	9	-	-
50 165	-18 003		-27 622	48 821
-5 896	5 753	19	-1 310	-
56 061	-23 756		-26 311	48 821
7 240	2 555		-	-
48 821	-26 311		-26 311	48 821
Dispositions:				
			-6 475	39 578
			-19 836	9 243
			-26 311	48 821

balance

all figures in NOK thousand

The SINTEF Group			SINTEF		
2003	2004	Notes	Balance on 31.12.	2004	2003
ASSETS					
Long-term assets					
1 800	2 648		Permit, patents, licences, etc.	-	-
8 939	2 437	19	Deferred tax advantage	-	-
-	6 611	8	Goodwill	-	-
10 739	11 696		Intangible assets	-	-
288 969	374 112	8	Real estate, buildings and other fixed assets	341 423	252 193
115 868	-	8	Buildings under construction	-	115 868
43 767	48 801	8	Scientific equipment	17 719	16 621
11 636	16 196	8	Other equipment, fixtures, etc	5 374	1 814
460 239	439 109		Long-term operating assets	364 516	386 495
-	-	9	Investments in subsidiaries	250 555	254 375
1 150	-	9	Investments in associated companies	-	-
4 337	6 004	10	Shares in other companies	1 050	1 050
-	-		Consolidated long-term receivables	73 413	61 183
1 735	2 186	7,11	Pension fund	-	-
6 234	4 148	11	Other long-term receivables	1 980	2 429
13 456	12 338		Financial long-term assets	326 998	319 037
484 434	463 143		Total long-term assets	691 514	705 531
Liquid assets					
1 838	2 095		Inventory of finished goods	1 728	1 649
106 681	98 883	5	Work in progress	61 064	71 690
108 519	100 978		Goods	62 791	73 339
387 781	395 457		Accounts receivable	221 589	224 580
-	-		Consolidated current receivables	20 606	17 602
21 196	52 648		Other current receivables	39 679	3 137
408 977	448 105		Receivables	281 874	245 320
46 260	52 244	10	Shares	-	-
-	7 914		Loans, portfolio companies	-	-
253 273	262 944	12	Bonds and other securities	128 341	123 621
299 533	323 101		Investments	128 341	123 621
252 543	284 347		Cash, bank deposits	130 887	87 288
252 543	284 347		Cash, bank deposits	130 887	87 288
1 069 572	1 156 532		Total liquid assets	603 892	529 567
1 554 005	1 619 675		TOTAL ASSETS	1 295 405	1 235 099

balance

all figures in NOK thousand

The SINTEF Group			SINTEF		
2003	2004	Notes	Balance on 31.12.	2004	2003
EQUITY AND LIABILITIES					
Equity					
62 300	62 300	17	Foundation's equity	62 300	62 300
62 300	62 300		Paid-up equity	62 300	62 300
-	-	17	Reserve for valuation variances	212 566	216 386
697 748	673 189	17	Other equity	460 623	481 362
697 748	673 189		Total earned equity	673 189	697 748
94 891	102 254		Minority interests	-	-
854 939	837 742		Total equity	735 489	760 048
Liabilities					
49 094	26 827	7	Pension liabilities	20 781	32 571
49 094	26 827		Long-term liabilities	20 781	32 571
5 177	-	14	Mortgage loans	-	-
34 625	27 781		Other long-term liabilities	22 702	34 625
39 802	27 781		Other long-term liabilities	22 702	34 625
86 107	120 474		Accounts payable	87 769	56 498
95	-		Credit line	-	95
196	246	19	Tax due	-	-
124 087	139 553		VAT, tax deductions, social security, etc.	73 133	65 552
231 565	273 747		Advance payments from customers	194 400	158 266
-	-		Consolidated current liabilities	3 228	5 644
1 125	100		Proposed dividend	-	-
166 996	193 204	18	Other current liabilities	157 904	121 799
610 171	727 325		Current liabilities	516 434	407 854
699 067	781 933		Total liabilities	559 917	475 050
1 554 005	1 619 675		TOTAL EQUITY AND LIABILITIES	1 295 405	1 235 099

Trondheim, March 30th 2005



Hans H. Faanes



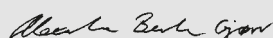
Jan Erik Korssj en
(Chairman)



Terje  stvold



Elisabeth Wille



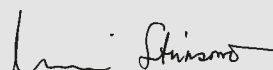
Alexandra Bech Gj rv



Frode R mo



Per Ola Gr ntvedt



Unni Steinsmo
(President - CEO)

cash-flow analysis

all figures in NOK thousand

The SINTEF Group			SINTEF	
2003	2004		2004	2003
		Cash-flow from operations		
50 165	-18 003	Profit before tax	-27 622	48 821
3 676	-664	Percentage of profit from subsidiaries/associated companies	6 475	-39 578
45 783	51 892	Ordinary depreciations/write-downs	29 135	27 166
-138	-17 094	Net sales of fixed assets	-15 470	-
-4 061	-23 568	Change in investments	-4 720	-8 032
-21 287	7 798	Change in work in progress	10 626	-21 281
38 529	-7 676	Change in accounts receivable	2 991	30 530
-17 648	34 367	Change in accounts payable	31 271	-23 330
-64 942	64 761	Change in other accrued or deferred items	51 546	-23 785
-461	-12 805	Tax paid	-12 609	-
-	995	Difference between deferred tax advantage as balanced and as entered in profit and loss accounts	-	-
25 871	-22 718	Change in pension obligations	-11 790	15 345
55 487	57 284	Net cash-flow from operations (A)	59 834	5 855
		Cash-flow from investment activities		
-	-6 858	Payments in respect of immaterial operating assets	-	-
-45 397	-51 290	Purchases of long-term operating assets	-26 627	-27 418
-	-1 667	Investments in long-term financial assets	-11 781	-2 101
134	37 021	Sales of long-term operating assets	35 000	-
8 386	3 900	Sales of other financial assets	-	-
-36 877	-18 894	Net cash-flow from investment activities (B)	-3 408	-98 700
		Cash-flow from financial activities		
35 684	-12 021	Payments on uptake of new long-term debt	-	34 625
-	-	Payments in respect of reduction in long-term liabilities	-11 923	-
-	-1 125	Dividend paid	-	-
-606	6 560	Changes charged directly to equity capital	-903	472
35 078	-6 586	Net cash-flow from financial activities (C)	-12 826	35 097
53 688	31 804	Net change in cash holdings (A+B+C)	43 599	11 433
198 855	252 543	Cash balance on 01.01.	87 288	75 855
252 543	284 347	Cash balance on 31.12.	130 887	87 288

1. accounting principles

General

The annual accounts have been drawn up in accordance with the Norwegian Accounting Act of July 17, 1998, and are based on Norwegian accounting standards and guidelines for good accounting practice.

Principles of consolidation

The consolidated accounts indicate the overall economic result and financial position when the parent company SINTEF and its shareholdings in other companies are presented as a financial unit. The consolidated accounts include all companies in which SINTEF owns more than 50% of the share capital or in which it has a decisive influence.

In addition to SINTEF, the parent company, the consolidated accounts include:

SINTEF Petroleum Research

SINTEF Energy Research

SINTEF Fisheries and Aquaculture

Norwegian Marine Technology Research Institute (Concern)

SINTEF Holding AS (Concern)

Please see also note 9 concerning subsidiaries.

All significant inter-company transactions, debts and unrealised internal earnings have been eliminated. The minority interests' share of the result forms part of the Group's result and the minority interests' share of equity forms part of the Group's equity.

Principles employed in entering revenue

Project income is entered on a current basis, i.e. as a percentage of the work assumed to have been completed, such that the completed proportion of the earnings expected from a project is treated as income. The degree of completion is based on what has actually been produced.

Where projects are expected to result in a loss, the entire loss is entered as a cost item.

Public-sector support in the form of research council funding, etc. is entered in accordance with basic principles for entering income and expenses, i.e. that funding is entered at the same time as the income it is intended to generate or the cost that it is intended to reduce. Funding to which conditions are attached are entered as income at the time at which the conditions have been, or are likely to be, met.

Investments and support items are entered net. Investment support is deducted from the historical cost of the investment item. Licence revenue is entered pro rata for the period of the licence.

Classification

Current assets are items related to project activity or debts due to be repaid within one year, as well as other assets not intended for long-term ownership or use by the company. Other assets are long-term assets. The distinction between short-term and long-term debts is drawn at a due date of one year.

Shares in subsidiaries and other shareholdings of strategic or "non-financial" character are classified as long-term assets. Other shares are classified as current assets.

Estimates of value of assets

Current assets are valued at historical cost or real value, whichever is lower. Long-term assets are valued at historical cost. If the real value of long-term assets is lower than their book value, and the fall in value is not expected to be temporary, their value is written down to their real value.

Shares in subsidiary companies

Investments in consolidated associated companies are entered in accordance with the equity capital method in the company accounts, which means that the investment is valued as the parent company's share of the equity capital of the subsidiary, and the result of the share is entered as revenue or cost.

Other long-term shares and stocks

Long-term shares in companies in which SINTEF does not have a significant influence are balanced at historical cost. Investments are written down to their real value if their fall in value is not temporary. Dividends received and other payments from company surpluses are entered as "Other financial income".

Shares in other companies (current shares)

Shares that form part of the business portfolio are valued at their real value on balancing day. Other current shares are valued at mean historical cost or real value on balancing day, whichever is lower.

Foreign currency

Foreign-currency items are valued at the exchange rate on balance day. Incoming and outgoing foreign exchange rate risks are reduced by means of futures contracts directly related to contracts. Spot transactions are also performed on excess currency amounts.

Receivables

Accounts receivable and other receivables are valued at their nominal value, with deductions for anticipated losses. Provisions for losses are made on the basis of an individual evaluation of the specific receivable involved.

Work in progress

This item includes work done but not invoiced. Accrued hours are valued at invoiceable rates and relative to the percentage of the project actually completed, with deductions for anticipated losses.

Intangible assets

The costs of intangible assets, including research and development, are entered as costs in their entirety.

Long-term operating assets

Operating assets costing more than NOK 15,000 and with an anticipated economic lifetime of three years or more, are activated and depreciated on purchase. Operating assets are depreciated linearly at the following rates: scientific equipment, office equipment, furniture and vehicles: 33%; buildings: 2 - 5%.

Tax

The Trondheim Tax Commission has declared that the Foundation and its subsidiary companies are liable to taxation. This resolution has been appealed to Trondheim Superior Tax Commission, and a final decision has yet to be made.

Tax on capital imposed on the Foundation and paid by it has been entered for accounting purposes under the item "other debts".

Tax in the consolidated accounts is wholly tax in SINTEF Holding Concern.

Pensions

Pension costs are entered in the accounts in accordance with the provisions of the Norwegian Standard for Pension Cost Accounting. Net pension costs consist of the present value of pensions earned in the course of the year plus the cost of interest on pension obligations, less the anticipated yield of the pension fund, and corrected for the distributed effects of changes in the pension plan, estimates and deviations. Net pension costs are entered under "Salaries and Social Costs".

The Norwegian Accounting Standard states that a company's pension scheme is to be treated as a compensation plan, in which future pension payments are based on the number of years of earnings and the salary level at pensionable age. Pension funds are estimated at the end of each accounting year. The estimated value is adjusted annually in accordance with the statement provided by the life-insurance company on the basis of the transferable value of the pension funds.

Measurements of accumulated pension liabilities utilise estimated liability at the end of the accounting year. This estimated value is adjusted annually in accordance with the statement provided by the insurance company regarding accumulated pension liability. Actuarial estimates are made every year by the insurance company on the basis of information provided by SINTEF.

Differences between estimated and actual values that are due to changes in economic or actuarial assumptions are regarded as changes in accounting estimates. The Accounting Standard allows a special method of dealing with such differences in that differences of up to 10% of the larger of pension liability or pension funds may be excluded from the basis for calculating the result. Differences above the 10% limit must be entered in the result over the remaining earnings period. Differences due to changes in the pension plan are distributed systematically over the average remaining earnings period.

In consequence of the fall in long-term interest rates, the discounting rate and interest on anticipated pension fund yield has been reduced by one percent in comparison with previous years' estimates. This has brought about a significant increase in pension liabilities and pension costs for the year.

Agreed pension plans (the AFP scheme) are covered by the Standard for Pension Cost Accounting.

The SINTEF Group has a collective pension plan with an insurance company for all its employees. Our liability covers 1114 SINTEF employees and 243 pensioners. The pensions of a further four former employees are paid as part of our operating costs. Contributions by employees towards the partial financing of the pension scheme are treated as a reduction in salary costs and do not affect the pension costs of the period.

2. financial market risks

The SINTEF Group is exposed to changes in exchange rates in that its project revenues are in other currencies, largely Euros and USD, than some or all of its costs. In order to reduce the exchange rate risks involved the company utilises foreign exchange futures contracts.

The SINTEF Group maintains considerable liquid reserves, which are centrally placed on behalf of the whole Group. The portfolio is placed in accordance with the "Guidelines for Financial Management" of May 2004.

Per 31.12. 2004, the market value of the portfolio was MNOK 262.9. The SINTEF Foundation was responsible for 48.81% of this amount.

Virtually the whole of the portfolio consists of bonds and other securities which per 31.12.2004 had a duration of 1.48. A one percent change in the rate of interest on the portfolio would have an effect of MNOK 3.79 on the result. The SINTEF Foundation's share of this risk is MNOK 1.85. The remainder of the portfolio is made up of liquid assets and moderate-risk investments. All investments in foreign funds are insured against exchange-rate fluctuations.

3. consolidated items

All figures in NOK 1000

	The SINTEF group	SINTEF
Interest on bank deposits	2 892	978
Interest revenue	1 163	475
Profit on exchange transactions	1 410	595
Gains from investments of capital	10 855	4 720
Other financial income	1 955	2 179
Sum financial income	18 275	8 946
Debt forgiveness	-42	450
Non-deductible interest costs	212	212
Interest costs	797	228
Foreign exchange losses	3 225	573
Interest on overdue payments	177	150
Charges	514	388
Other financial costs	2 210	760
Sum financial costs	7 092	2 762

4. sales revenues for the SINTEF Group

All figures in NOK 1000

By area of activity within the SINTEF Group		Geographical distribution	The SINTEF Group	SINTEF
Intercompany transactions	77 962	Norway	1 426 801	930 845
SINTEF Technology and Society	287 729	European Union	111 809	72 573
SINTEF Health Research	109 059	Other countries	153 853	72 079
SINTEF Materials and Chemistry	364 789	Sum geographical distribution	1 692 463	1 075 497
SINTEF ICT	235 958			
Total Foundation	1 075 497			
SINTEF Energy Research	203 337			
SINTEF Petroleum Research	115 043			
MARINTEK	188 949			
SINTEF Fisheries and Aquaculture	82 239			
SINTEF Holding	107 513			
Eliminated intercompany transaction	-80 115			
Total areas of activity	1 692 463			

5. work in progress

This figure includes a depreciation in value relative to the sales value of 7% of the company's share of work in progress, with the exception of MARINTEK, which shows a 4.17% depreciation of this item.

6. salary costs, number of employees, fees, loans to employees, etc.

All figures in NOK 1000

The SINTEF Group			SINTEF	
2003	2004	Salary costs	2004	2003
719 385	784 878	Salaries	478 088	442 580
120 077	112 224	Employers' contribution	68 051	81 470
71 142	78 199	Pension costs	53 403	45 804
24 277	25 076	Other benefits	7 699	14 775
934 881	1 000 377		607 242	584 630
1 795	1 672	Average number of employees	1 116	1 161

The SINTEF Group's leading personnel are enrolled in the company's collective pension scheme. The President of SINTEF and one senior employee are enrolled in a pension scheme which will give them 66% of their full salary from the age of 60 until they are 67. The President is also the beneficiary of a post-salary arrangement whereby she will receive 12 months' salary if the Board wishes her to resign from her position. Any other earnings during this period will be deducted from this sum. The President also has an agreement regarding the right to bonus payments in accordance with agreed criteria. The salaries of the past and current presidents of the company in 2004 came to MNOK 1.819, plus taxable benefits totalling MNOK 0.165. No fees were paid to the Council of SINTEF. Honoraria to SINTEF's Board of Directors came to MNOK 0.687 in 2004.

Fees paid to auditor and collaborating companies

	SINTEF	The SINTEF Group
Deloitte State Authorised Public Accountants Ltd:		
Auditor's fees	452	970
Accounting support	121	408
Project risk evaluation	312	312
Certification tasks	99	99
Deloitte Advocates DA:	498	676
Fees paid to other Group auditors	-	348
Total	1 482	2 813

Deloitte Advocates DA collaborates with Deloitte State authorised Public Accountants Ltd.

Loans to employees

The total sum of loans to employees amounted to MNOK 0,982, of which MNOK 0,507 were within SINTEF.

7. pensions

The following assumptions for SINTEF and the Group as a whole have been made for 2004:

Annual return on pension funds	6,5-7 %
Discount rate	5,5-6 %
Annual rate of growth of salaries	0-3,5 %
Annual adjustment of social security basic rate	3-3,4 %
Annual adjustment of pensions under payment	2,5-3,4 %
Turnover in all age groups	Different rates, depending on age and category of employment
Average employment tax rate	14,1 % (5,1 % for Molab)
Tendency to take advantage of AFP (early retirement scheme)	1-50 %

Composition of pension costs for the period

All figures in NOK 1000	SINTEF	The SINTEF Group
Net present value of pension accumulation for the year	34 817	57 798
+ interest costs of accrued liabilities	32 991	52 516
- anticipated return on pension funds	29 690	48 311
+ amortisation of estimated deviation	8 686	10 860
= Net pension costs, excluding employment tax	46 804	72 863

Balance on 31.12.04, pension liabilities:	SINTEF	The SINTEF group
Estimated pension liabilities	606 153	970 392
- Estimated value of pension funds	487 346	790 695
- Unentered effect of estimated deviation	100 594	158 023
Estimated net pension due before employer tax	18 213	21 672
+ Periodised employment tax	2 568	2 969
= Estimated pension due after tax	20 781	24 641
Net liabilities, whereof:	20 781	24 641
Underfinanced pensions due	20 781	26 827
Overfinanced pensions due		2 186

8. Long-term operating assets, furniture and buildings

All figures in NOK 1000

The SINTEF Group 2004	Buildings	Scientific equipment	Office equipment, furniture, vehicles	Sum
Historical cost per 01.01.	783 194	339 733	110 344	1 233 271
Purchases in 2004	5 386	36 512	9 392	51 290
Decrease at historical cost	-33 090	0	-239	-33 329
Historical cost per 31.12.	755 490	376 245	119 497	1 251 232
Total ordinary depreciation	381 377	285 998	103 302	770 677
Total depreciation	0	41 445	0	41 445
Book value per 31.12.	374 112	48 801	16 196	439 109
Ordinary depreciation for year	15 001	31 664	4 339	51 005
Depreciation for year	0	0	0	0
Economic lifetime	10-50 years	3 years	3 years	
Depreciation plan	Linear	Linear	Linear	
Annual hire of operating assets not entered in Balance Sheet	35 595			35 595
Purchases < 15 000	0	6 408	6 239	12 647

The SINTEF Group 2004	Permits and patents	Goodwill	Sum
Historical cost per 01.01.	1 800	2 480	4 280
Purchases in 2004	1 061	5 797	6 858
Decrease at historical cost	0	0	0
Historical cost per 31.12.	2 861	8 277	11 138
Total ordinary depreciation	213	1 666	1 879
Total depreciation	0	0	0
Book value per 31.12.	2 648	6 611	9 259
Ordinary depreciation for year	213	674	887
Depreciation for year	0	0	0
Economic lifetime	0-5 years	5-10 years	
Depreciation plan	Linear	Linear	
Purchases < 15 000	0	0	0

SINTEF 2004	Buildings	Scientific equipment	Office equipment, furniture, vehicles	Sum
Historical cost per 01.01.	716 005	197 295	91 067	1 004 368
Purchases in 2004	5 135	16 220	5 272	26 627
Decrease	-31 500	0	0	-31 500
Historical cost per 31.12.	689 638	213 515	96 339	999 492
Total ordinary depreciation	348 215	195 795	90 966	634 976
Book value per 31.12.	341 423	17 719	5 374	364 516
Ordinary depreciation for year	12 242	15 121	1 772	29 135
Accumulated depreciation on decrease	11 970	0	0	11 970
Economic lifetime	10-50 years	3 years	3 years	
Depreciation plan	Linear	Linear	Linear	
Annual hire of operating assets not entered in Balance Sheet	24 374	0	0	24 374
Purchases < 15 000	0	3 136	5 013	8 150

SINTEF sold its section in the Medical Technology Research Centre in 2004. A profit of MNOK 15.47 was made on the sale. From the turn of the year 2003/2004, SINTEF rented 22,550 m² from NTNU, including SINTEF Energy Research's 4,290 m². NTNU rented 13,986 m² from SINTEF, including 236 m² in the Energy Research building. SINTEF Energy Research has a separate contract with NTNU, which is administered by SINTEF.

9. subsidiaries

SINTEF's subsidiaries

Company Subsidiaries	Date of purchase	Business office	Ownership	Voting percentage
MARINTEK – Norwegian Marine Technology Research Institute	19.12.84	Trondheim	56,0 %	56,0 %
SINTEF Petroleum Research	01.01.85	Trondheim	100,0 %	100,0 %
SINTEF Energy Research	16.12.85	Trondheim	61,0 %	61,0 %
SINTEF Holding	01.01.88	Trondheim	100,0 %	100,0 %
SINTEF Fisheries and Aquaculture	01.01.99	Trondheim	96,9 %	96,9 %

The companies' accounts are drawn up in accordance with the equity capital method; see table below.

	MARINTEK Group	SINTEF Petroleum Research	SINTEF Energy Research	SINTEF Holding	SINTEF Fisheries and Aquaculture	SUM
Historical cost	6 500	9 000	4 600	6 670	11 219	37 989
EC in Balance Sheet at time of purchase	6 500	9 000	4 600	6 670	11 219	37 989
Ingoing balance per 01.01.	53 312	86 558	70 569	35 163	8 773	254 375
Share of result for year	10	2 482	5 648	-15 303	688	-6 475
Other changes in course of year			2 623		32	2 655
Outgoing balance per 31.12.	53 322	89 040	78 840	19 860	9 493	250 555

The year's result of MNOK 6.475, with deductions for items entered directly under equity capital amounting to MNOK 2.655, have been transferred from the reserve fund for valuation variances.

SINTEF Holding's subsidiaries/associated companies.

Company Subsidiary company	Date of purchase	Business office	Share-holding	Voting percentage
SINTEF NBL as (Norwegian Fire Research Laboratory)	31.12.00	Trondheim	100,0 %	100,0 %
Molab AS	01.01.90	Mo i Rana	60,0 %	60,0 %
Raufoss Technology & Industrial Management AS (RTIM)	09.02.04	Raufoss	50,1 %	50,1 %
SINTEF MRB AS (Møre og Romsdal Bedriftsutvikling)	01.11.04	Ålesund	100,0 %	100,0 %
Sinvent AS	24.11.04	Trondheim	100,0 %	100,0 %

The companies' accounts are drawn up in accordance with the equity capital method; see table below. All figures in NOK 1000.

	SINTEF NBL	Molab	RTIM	SINTEF MRB	SINTEF Venture/Sinvent Venture	Sinvent	Sum
Historical cost	1 300	1 000	6 991	7 600	80 642	10 000	107 533
EC in Balance Sheet at time of purchase	1 300	1 500	4 078	2 246	80 642	10 000	99 766
Goodwill			2 913	5 354			8 267
Ingoing balance per 01.01.	2 102	11 407	1 814		74 905	10 000	100 228
Share of result for year	1 028	330	-1 445	-356	-1 650	-389	-2 482
Correction made directly against EC							
Contribution paid to Group							
Contribution received from Group							
Increase in capital			3 491	7 600			11 091
Depreciation of goodwill			-585	-89			-674
Transfers to/from the company	-1 028				-73 255		-74 283
Dividend		-150					-150
Outgoing balance per 31.12.	2 102	11 587	3 275	7 155		9 611	33 730

Associated companies	Bedrifts-universitetet
Historical cost	
EC in Balance Sheet at time of purchase	
Goodwill	
Ingoing balance per 01.01.	-664
Share of result for year	664
Depreciation of goodwill	
Equity capital posts	
Outgoing balance per 31.12.	

10. the SINTEF Group's shareholdings in other companies

All figures in NOK 1000

	Percentage shareholding	Book value
Fixed assets		
ConMotion AS	100,00 %	1 350
MonAqua AS	33,33 %	317
Norsk Jern Eiendom AS	2,00 %	3 000
MoTest AS	49,00 %	201
Medisinsk teknisk forskningscenter AS		1 000
Other shares with book values < 100 000		136
Total shareholdings in fixed assets		6 004
Current assets		
CFD Norway AS	30,55 %	293
Lodic AS	24,99 %	125
ProNavia AS	24,90 %	300
MARINTEK's holdings in other companies		5 699
Powel ASA	6,33 %	994
Green Trip AS	81,10 %	2 356
Alcon Gruppen AS		980
Dimension Agri Technology AS		575
Norfood Research AS		300
Simula Research Lab. AS		150
Leiv Eiriksson AS	24,50 %	5 391
Comex AS	38,00 %	344
Euromast AS	25,00 %	350
Biosergen AS	50,00 %	250
Revolt Technology AS	59,40 %	1 500
Dtech		156
Dtech AS	6,70 %	6 442
Numerical Objects AS	21,80 %	853
Såkorinvest Midt-Norge AS	11,90 %	7 508
Trøndelag Vekst As	1,00 %	165
KeraNor AS	13,30 %	215
Nacre AS	66,30 %	8 050
Mison AS	8,10 %	1 675
NHI AS	6,50 %	2 161
Metaphor AS	30,40 %	750
Other shares with book values < 100 000		753
General adjustment of value of share portfolio		-6 961
Securities fund (market value)		10 869
Total short-term shareholdings		52 244

11. receivables with due date more than one year

The SINTEF Group			SINTEF	
2003	2004		2004	2003
6 234	4 148	Other receivables	1 980	2 429
-	-	Loans to businesses in Group	73 413	61 183
1 735	2 186	Pension funds	-	-
7 969	6 334		75 393	63 612

12. bonds and other securities (business portfolio)

All figures in NOK 1000

Investments are distributed as follows	Historical cost	Currency	Book value	Market value	SINTEF's share 48,81 %
Bank deposits and derivatives	7 648	NOK	8 375	8 375	4 088
Certificates and bonds					
State	37 292	NOK	38 539	38 539	18 811
Commercial and savings banks	19 646	NOK	19 901	19 901	9 714
Finance/credit institutions	20 312	NOK	20 566	20 566	10 038
Interest-bearing funds	113 076	NOK	116 194	116 194	56 713
Sum certificates and bonds	190 326		195 200	195 200	95 276
Index-linked stock	25 375	NOK	28 945	28 945	14 128
Indexed/convertible bonds	6 758	NOK	7 502	7 502	3 662
Hedge fund	5 081	NOK	5 406	5 406	2 639
Share fund in Norway	12 600	NOK	13 111	13 111	6 399
Foreign combination fund	3 037	EUR	3 151	3 151	1 538
Overseas unit trusts	200	EUR	220	220	107
Overseas unit trusts	996	USD	1 034	1 034	504
Total investments for distribution	252 021		262 944	262 944	128 341

The duration of the bonds and securities portfolio per 31.12.04 was 1,48. This item includes investments drawn on the SINTEF Group's joint liquidity. SINTEF's share of capital investments came to 48,81 % of their total value.

13. foreign exchange

All figures in NOK 1000

Currency	EUR	USD	GBP	DKK	SEK	SGD	KWD	Sum
Bank deposits	12 951	6 083	269	-57	-180	-32	2 399	21 433
Accounts receivable	13 184	3 601			110			16 895
Liabilities	-4 540	-252	-122		-108			-5 022
Futures contracts	-9 452	82		-95	-1 472			-10 937
Net exposure	12 143	9 514	147	-152	-1 650	-32	2 399	22 369

EUR bank holdings amount to 5 265 from the finance portfolio (see note 12) .

14. long-term liabilities

Long-term liabilities consist of a mortgage to Molab, of which MNOK 5 is secured via collateral on long-term assets and MNOK 4.7 in customer receivables.

15. mortgages and guarantees etc.

SINTEF Fisheries and Aquaculture has posted guarantees in connection with advance payments of MNOK 1.141.

The SINTEF Group has signed a contract with Den norske Bank regarding the operation of a common current account system. The parent company and its subsidiaries are jointly liable vis-à-vis the bank for any liability covered by the agreement.

SINTEF is required to post satisfactory security in the form of fixed assets for investing funds from its capital account in joint active management operations. In connection with the loan extended to the Microelectronics Laboratory in Oslo, a negative mortgage clause has been posted.

SINTEF is a party to a number of minor legal cases resulting from its normal activities. SINTEF believes that any liabilities in this connection will be of little importance for SINTEF's results, liquidity or financial position. In connection with the completion of MiNaLab in Gaustadbekkdalen in Oslo, SINTEF has brought a suit against the construction consortium for compensation for late and incomplete fulfilment of the contract. A counter-action has been brought by the construction consortium. The case is expected to be decided in the course of the first six months of 2005.

16. intra-Group accounts

Internal turnover within the Group amounts to MNOK 80.4, exclusive of VAT.

For intra-Group receivables and debts, please refer to the relevant lines in the Balance Sheet.

17. equity capital

The SINTEF Group

All figures in NOK 1000	Paid-up equity	Earned equity		Total equity
		Estimated differences	Other equity incl. minority	
Equity per 01.01.	62 300		792 639	854 939
Items entered directly against equity			6 560	6 560
Concern result for the year			-23 756	-23 756
Equity per 31.12.	62 300		775 443	837 742

SINTEF

All figures in NOK 1000	Paid-up equity	Earned equity		Total equity
		Estimated differences	Other equity	
Equity per 01.01.	62 300	216 386	481 362	760 048
Result for the year		-6 475	-19 837	-26 311
Items entered directly against equity		2 655	-903	1 752
Equity per 31.12.	62 300	212 566	460 623	735 489

18. other current liabilities

The item "Other current liabilities" in the accounts for the SINTEF Group includes provisions for accrued vacations, holiday pay and overtime, provisions for early retirement, bonuses and restructuring, investments in IT systems, obligations regarding invoices entered but unpaid and transiting EU funds.

19. taxes

The SINTEF Group		SINTEF		
2003	2004		2004	2003
704	-745	Ordinary result for the year:		
-6 608	-6 318	Tax due		
8	1 310	Changes in deferred tax		
		Insufficient/excessive tax paid in previous years	1 310	
-5 896	5 753	Tax on ordinary result	1 310	

Specification of the tax effect of temporary differences and losses to be carried forward in SINTEF Holding Concern.

	2004		2003	
	Advantage	Liabilities	Advantage	Liabilities
Operating assets		2 842	2 030	
Gains and losses account				6 070
Financial non-current assets			3 349	
Fixed asset contracts		44		
Receivables	211		97	
Investments				
Current liabilities				
Long-term liabilities				
Liabilities	692		641	
Unutilised gains on shares	1 920		2 152	
Loss to be carried forward	4 338		6 740	
Sum	7 161	2 886	15 009	6 070
Deferred tax advantage/liability	4 275		8 939	
Deferred tax advantage not entered in profit and loss accounts	1 838			
Net deferred advantage/liability in balance	2 437	-	8 939	-

Deferred tax advantage is entered on the basis of future revenue.

At the end of 2004, SINTEF Holding AS (Concern) had a taxable loss to be carried forward of MNOK 15.493. The loss to be carried forward runs out the following year.

Figures in NOK 1000	Concern
2005	
2006	
2007	
2008	
2009	3 692
After 2009	11 801
Without limit in time	
Sum	15 493

To: The Council of the Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology (SINTEF)

Auditor's Report 2004

We have audited SINTEF's annual accounts for 2004; these show a loss for the year of NOK 26,311,000 for the parent company and of NOK 23,756,000 for the Group. We have also audited the information provided in the Annual Report regarding the accounts, the assumption of continued operation and proposals for allocation of the loss. The annual accounts consist of the profit and loss account, balance sheet, cash-flow analysis, notes and consolidated annual accounts. The annual accounts and the Annual Report have been drawn up by the Board of the Foundation and the President of SINTEF. Our responsibility has been to express our opinion regarding the annual accounts and other matters under the terms of the Auditing Act.

We have conducted our audit in accordance with current Norwegian legislation and good auditing practice, which requires us to plan and implement our audit in such a way as to be able to confirm with certainty that the accounts did not include material errors or omissions. We have checked selected parts of the material on which the accounts are based and the content and presentation of the annual accounts. To the extent that good auditing practice requires us to do so, we have also reviewed the Foundation's assets management and accounting and internal control practices. We believe that the audit provides adequate grounds for the following statements.

In our opinion:

- the annual accounts have been drawn up in accordance with current laws and regulations and present a satisfactory picture of the financial position of the Foundation and the Group on December 31, 2004, as well as of the result and cash-flows in the course of the accounting year, in accordance with good accounting practice in Norway.
- SINTEF's management has fulfilled its obligation to ensure that accounting information has been appropriately and clearly registered and documented, in accordance with Norwegian law and good accounting practice.
- the information contained in the Annual Report regarding the annual accounts, the assumption of continued operation and the proposals for allocation of the loss are consistent with the annual accounts and are in accordance with good accounting practice.

Trondheim, 30.3.2005
Deloitte



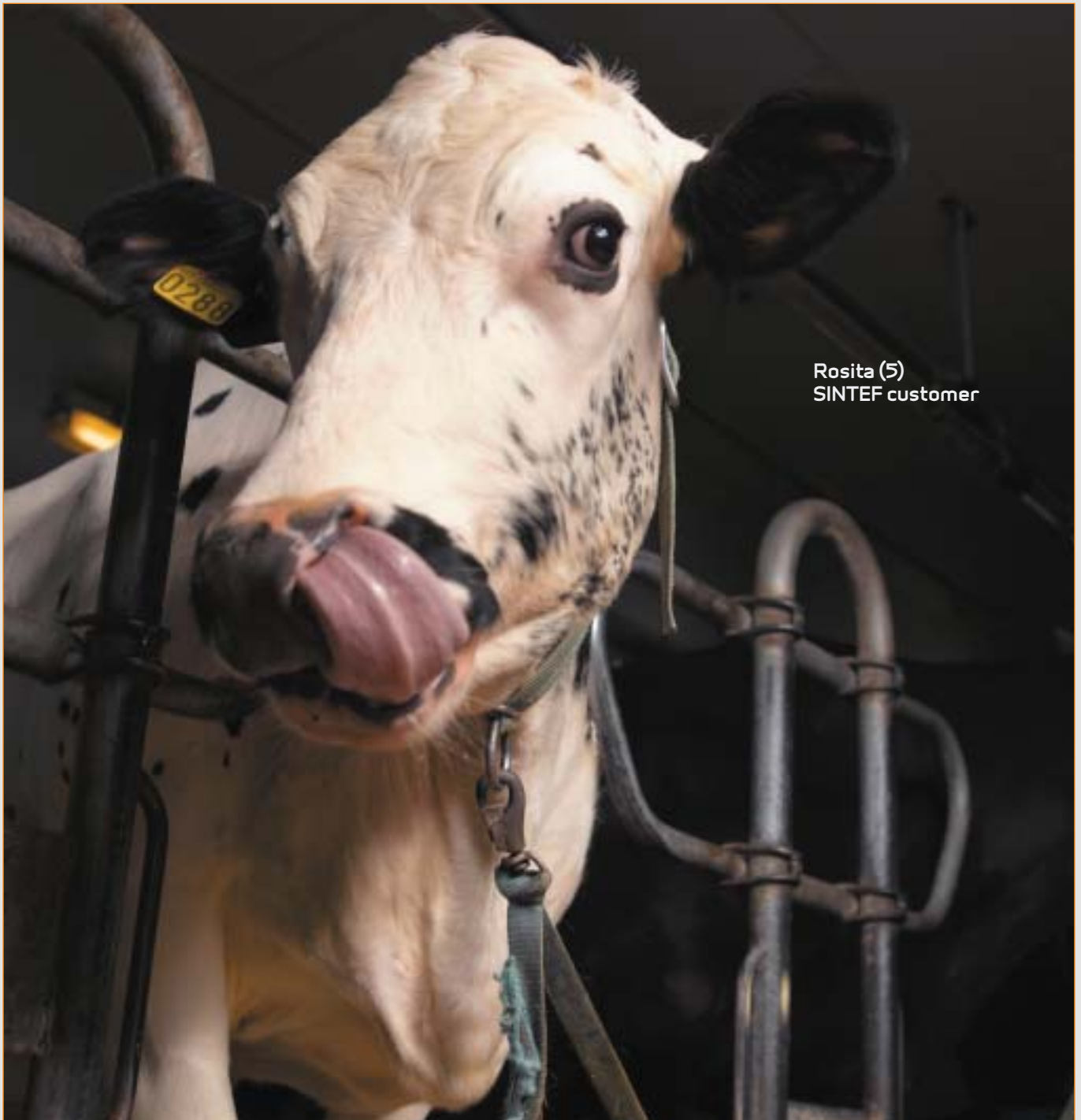
Harald J. Lydersen
State-authorised public accountant

a mucky problem

Rosita from Røros stands safely, though not just as a matter of course, because the gases from cow droppings corrode concrete. Some of Rosita's colleagues have ended up in the manure cellar, with unmentionable results.

But with a little help from science, ten percent of Norwegian farm buildings have been given new strength and a longer life.

www.sintef.com/concrete



Rosita (5)
SINTEF customer

SINTEF Health Research

Epidemiological Research
Health Services Research
Hospital Planning
Living Conditions and Service Delivery
Medical Technology
Mental Health Services Research
Norwegian Patient Register
Patient Classification and Financing
Work Physiology and Microbial Exposure

SINTEF ICT

Acoustics
Applied Cybernetics
Applied Mathematics
Communication Systems
Cooperative and Trusted Systems
Information Security and Safety
Instrumentation and Microelectronics
Microsystems and Nanotechnology
Optical Measurement Systems and Data Analysis
Photonics
Software Engineering

SINTEF Marine

MARINTEK:

Logistics and Technical Operations
Ship and Ocean Laboratory
Structural Engineering
Subsidiary: MARINTEK (USA), Inc.

SINTEF Fisheries and Aquaculture:

Aquaculture Technology
Fisheries Technology
International Projects and Consulting
Marine Resources Technology
Processing Technology

SINTEF Materials and Chemistry

Applied Mechanics and Corrosion
Biotechnology
Energy Conversion and Materials
Hydrocarbon Process Chemistry
Marine Environmental Technology
Metallurgy

Process Technology
Synthesis and Properties
Subsidiaries: RTIM
Molab

SINTEF Petroleum and Energy

SINTEF Energy Research:

Electric Power Technology
Energy Processes
Energy Systems

SINTEF Petroleum Research:

Basin Modelling
Drilling and Well Construction
Formation Physics
Reservoir Technology
Seismic
Solutions Oil and Gas
Wellstream Technology

SINTEF Technology and Society

Architecture and Building Technology
Coast and Harbour Research Laboratory
Concrete
Economics and Logistics
IFIM, Institute of Social Research in Industry
Industrial Development
International Operations
Knowledge and Strategy
Knowledge Work
New Praxis
Production Engineering
Productivity and Project Management
Road and Railway Engineering
Road and Transport Studies
Rock and Soil Mechanics
Safety and Reliability
Transport Safety and Informatics
Water and Environment
Subsidiaries: SINTEF MRB
SINTEF NBL

Sinvent

Sinvent Venture
SINTEF Venture

SINTEF's council 2004

Professor Eivind Hiis Hauge, Rector, (Chair)	Associate Professor Birthe Loa Knizek
Professor Julie Feilberg, Pro Rector (Deputy Chair)	Associate Professor Åse Krøkje
Gunnar Berg, Chief Engineer	Rannveig Ravnanger Landet, Group Leader
Steinar Bysveen, Managing Director	Reidun de Lange, Chief Engineer
Svein Willy Danielsen, Ph.D. (Eng.)	Ole Lindefjeld, Chief Scientist
Professor Torbjørn Digernes	Professor Astrid Læg Reid
Professor Helmer Fjellvåg	Professor David G. Nicholson
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Knut Fægri, Dean	Elisabeth Baumann Ofstad, Ass. Director
Rune Garen, Director	Diderik Schnitler, Director
Ingunn H. Geving, Researcher	Professor Ingvald Strømmen
Professor Jostein Grepstad	Professor Arne Sølvberg
Knut Werner Hansen, Fisherman	Randi Ulvang, Project Secretary
Else-Britt Hauge, Executive Officer	Professor Tore Ola Vorren
Professor Anne Grete Hestnes	Professor Sigmund Waagø
	Professor Petter Aaslestad

SINTEF's Board 2004

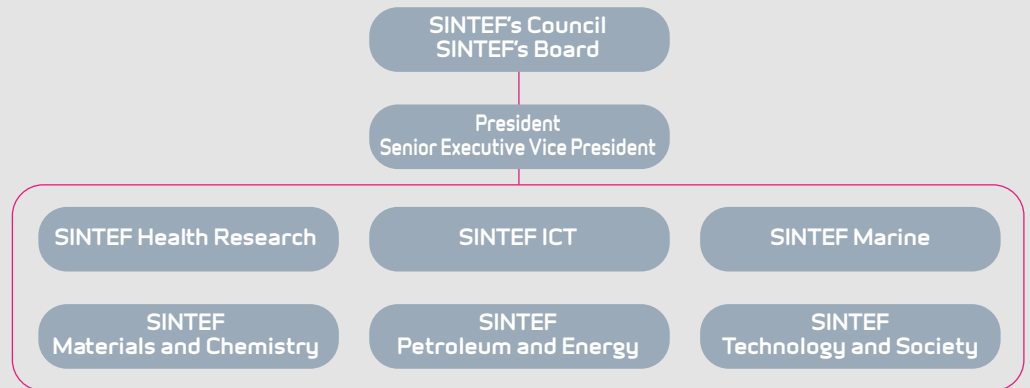
Jan Erik Korssjøen, President, Kongsberg Gruppen ASA (Chairman)
Professor Terje Østvold, Dept of Materials Technology, NTNU (Deputy Chairman)
Professor Hans H. Faanes, Dept. of Electrical Power, NTNU
Alexandra Bech Gjørvi, Executive Vice President, Norsk Hydro ASA
Per Ola Grøntvedt, Senior Engineer, SINTEF Materials and Chemistry
Frode Rømo, Senior Researcher, SINTEF Technology and Society
Elisabeth Wille, Lawyer, Norwegian Bar Association

the SINTEF Group's management team

Unni M. Steinsmo, President – CEO	
Svein Sivertsen, Senior Executive Vice President – Operations	
Roar Østbø, Vice President, Economy	
Tonje Hamar, Executive Vice President	SINTEF Health Research
Age J. Thunem, Executive Vice President	SINTEF ICT
Oddvar Aam, Executive Vice President	SINTEF Marine
Torstein Haarberg, Executive Vice President	SINTEF Materials and Chemistry
Sverre Aam, Executive Vice President	SINTEF Petroleum and Energy
Tor Ulleberg, Executive Vice President	SINTEF Technology and Society

Gunnar Sand, Director of public relations and strategic planning
Ingeborg Lund, Director of human resources

the SINTEF Group



SINTEF Health Research performs goal-oriented research and development with the aim of raising standards of health and quality of life, in close collaboration with the authorities, the health sector and users of the health services.

SINTEF ICT offers integrated ICT-based knowledge via access to a more broadly-based competence and technology platform.

SINTEF Marine is made up of SINTEF Fisheries and Aquaculture and MARINTEK. SINTEF Marine is an important resource for industry and the authorities in the field of knowledge management for the future exploitation of the marine environment.

SINTEF Materials and Chemistry brings together SINTEF's expertise in materials science, applied chemistry and applied biology.

SINTEF Petroleum and Energy has been formed from SINTEF Petroleum Research and SINTEF Energy Research. SINTEF Petroleum and Energy will identify future-oriented solutions throughout the petroleum products value chain and create a sustainable energy system based on renewable energy technologies.

SINTEF Technology and Society will improve the creation of value at company and community level, by promoting high levels of productivity and ability to innovate, a good working environment, high work safety standards and excellent knowledge-based management. We will also encourage future-oriented activity and technology in the construction and transport sectors.

The Communication Prize for 2004 has gone to SINTEF's research magazine "Gemini", as Norway's best external company magazine.

Want to become a bit smarter? Sign up for a free subscription to Gemini at: gemini@sintef.no

GEMINI

Plastics turn to earth • 10

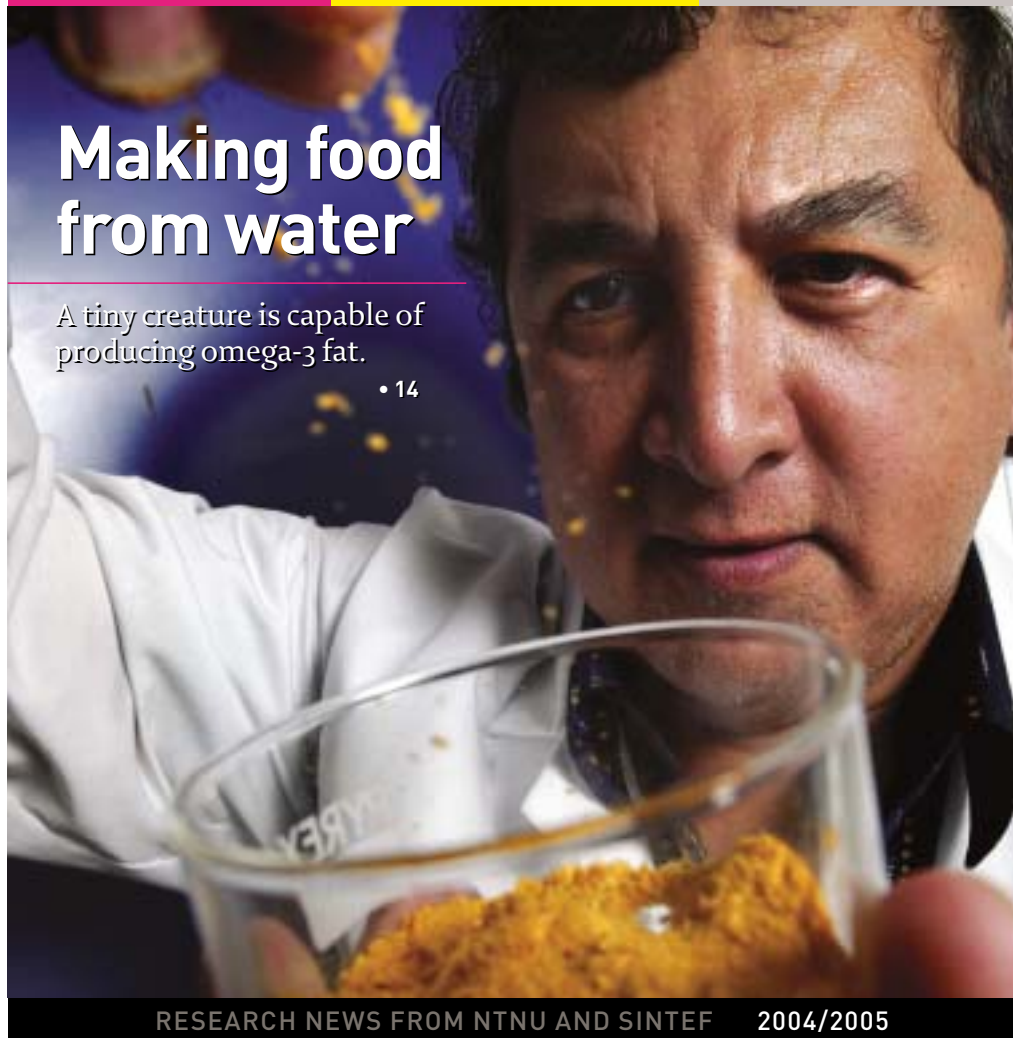
Dating yellow bruises • 12

Magic 0.8 • 38

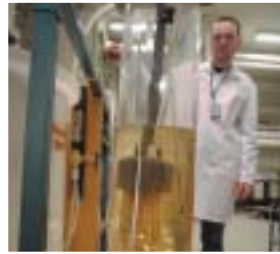
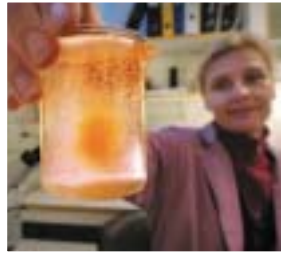
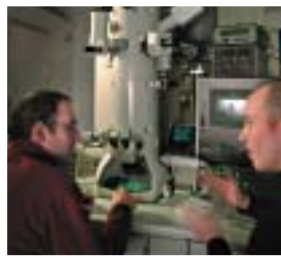
Making food from water

A tiny creature is capable of producing omega-3 fat.

• 14







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