

Technology for a better society
2013

We design solutions for the future



One of the most important tasks of research is that of providing solutions to major challenges to society. This is a part of our social duty.

Climate, energy, food, health, clean water, safety and the work-places of the future are major global challenges that affect us all. At SINTEF, our everyday work is dedicated to finding better ways of dealing with these challenges, in line with our vision of “Technology for a better society”.

Good solutions are often found at the interface between different disciplines and in the interactions of players who have different needs and fields of expertise. Here at SINTEF, we have one important strength; we are a large, broadly-based research institute with internationally leading expertise in several fields. This means that we can assemble strong multidisciplinary teams that are capable of solving complex tasks for our clients.

Furthermore, in the course of more than 60 years, we have developed a model of cooperation based on close collaboration between universities, applied research institutes, industry and the authorities. Our unqualified experience is that this model brings results and creates value.

As a Norwegian research institute, SINTEF’s primary task is to create value and solutions for Norwegian industry and society. We have clients in more than 60 countries all over the world, and we participate in international research arenas, in both competition and cooperation with the very best. This is essential, not least because it enables us to generate knowledge and value for Norwegian industry and local communities.

The European Union is the most important international arena for Norwegian research. Participation in the European Union’s research programmes gives Norwegian research and industry access to the frontiers of international science in areas of very great significance. SINTEF is by far the most important Norwegian participant in the European Union’s research programmes, with a volume greater than the University of Oslo and NTNU together.

In 2014, Horizon 2020, the European Union’s new Framework Programme for research and innovation will launch. The seven-year programme has a budget of around NOK 600 billion. The Norwegian Storting has resolved that Norway will be a full participant in Horizon 2020. This will require Norway to invest a total of BNOK 16 – 18 in the course of the Programme’s seven years.

For Norway, this is an important and necessary investment, which will lead to new possibilities for both the public and private sectors. However, we still face important challenge, which is that the potential for Norwegian research institutes to participate in such programmes is significantly weakened by a combination of European Union regulations and the fact that Norwegian industrial research institutes benefit from much lower grants-in-aid than our foreign competitors. It is therefore of decisive importance that the Norwegian government should further strengthen the STIM EU scheme, so that we can continue to participate in the development of new knowledge and technology platforms.

On this web-site, we present SINTEF’s results for 2013. SINTEF has made good economic progress for several years, but the figures for 2013 show a fall, with a result before tax of MNOK 103, while we invested MNOK 135 in laboratories and research equipment, and MNOK 16 in self-financed research.

Two special circumstances have contributed to this fall. One is the MNOK 11 cost of restructuring SINTEF Petroleum Research and the other is a provision of MNOK 8 for European Union projects, which is due to yet-to-be clarified aspects of the regulations for covering costs.

All in all, we are less than satisfied with our financial results. However, I am proud of the fine work done by all our staff, proud of our good scientific results and proud of the excellent feedback we receive from our clients.

A handwritten signature in blue ink, reading "Unni Steinsmo".

Unni Steinsmo
President – CEO

Some SINTEF highlights from 2013

- SINTEF Energy Research decides to invest NOK 120 million in a new electric power laboratory outside Trondheim. The new laboratory will further strengthen an area in which SINTEF and NTNU are already international leaders.
- Norwegian company Tomra introduces a new bottle recycling system based on flow technology. SINTEF has contributed to Tomra's solution.
- Eni Norge is awarded the Emergency Preparedness Prize for a new survival suit for use in the Barents Sea. The suit has been developed and produced by SINTEF and Helly Hansen Protection AS.
- The Norwegian Storting allocates NOK 15 million to continuing work on the Ocean Space Centre – the ocean technology laboratory of the future.
- SINTEF President Unni Steinsmo is awarded Tekno's Gold Medal for her exceptional efforts on behalf of Norwegian technologists.
- SINTEF is allocated a key role in a European Union project that will ensure that captured CO₂ can be carried safely and cost-effectively in pipelines.
- SINTEF scientists develop a simple and inexpensive hearing aid that adapts to hearing loss in children without the aid of specialists. The aim is to help children in the Third World.
- After eight years of research, oil pipelines packed with electronics are tested in the sea. The pipelines are the first in the world that are capable of reporting on their own condition to a shore base.
- SINTEF sets up a new seed-corn investment fund with a starting capital of NOK 209 million, with the aim of developing viable new technology companies.



SINTEF's Board of Directors, from the left: Rune Garen, Gorm Johansen, Mari Thjømøe, May-Britt Hägg, R. Rasmus Sunde (Chairman), Ingrid Selseth, Ingrid Dahl Hovland, Ole Swang, Stig Slørdahl.

Report of the Board of Directors 2013

SINTEF is a private, non-profit research group, which is organised in the form of a foundation with a number of subsidiary companies. Via first-rate solution-oriented research and knowledge generation, SINTEF creates significant value for its Norwegian and international clients, the public sector and society as a whole.

The main activities of SINTEF are located in Trondheim and Oslo, and its headquarters are in Trondheim. SINTEF operates in several other locations in Norway and abroad via the SINTEF Foundation and its subsidiaries.

SINTEF partners and shares a strategy with NTNU in Trondheim, and collaborates closely with the University of Oslo and other national and international research institutions. These partnerships contribute to the high scientific quality of our work and to our strong international position.

2013 was a demanding year for SINTEF, with the introduction of a new IT platform and a high level of activity in all areas. The year was good in terms of scientific activity, but for some of our institutes it was not as good financially. Although some of the institutes had a good year, we are not satisfied with the financial result for the SINTEF Foundation and for SINTEF as a whole. For SINTEF Petroleum Research, the year required a significant degree of restructuring in order to ensure the continued operation of the institute.

In the course of time, it is essential to ensure that we have an acceptable financial result in order to continue to make necessary investments that we wish. Good earnings of a number of years has enabled us to invest in laboratories and scientific equipment, offices and internally financed research programmes in prioritised fields of endeavour. We have also replaced our IT platform in the course of the past three years.

Technology for a better society

SINTEF's vision is that of "Technology for a better society". Our research aims to produce results that will be put to good use and contribute to concrete improvements for society. Here are some examples, taken from our range of activities in 2013:

Timely and correct diagnosis can be of decisive importance in hindering the development of serious illnesses. New technology makes advanced diagnostics more accessible to a wider range of health services. Analytical technology will be available in a portable instrument, with the result that critical bioanalyses can be moved from the laboratory to the emergency department, the ward and the doctor's surgery, thus enabling appropriate treatment to be started more rapidly. SINTEF ICT will collaborate with the SINTEF-based company SpinChip in helping doctors to analyse patients' blood samples on the spot and provide the results immediately. With SpinChip, the sample is transferred directly from the finger into miniature analytical chips, which are then inserted into a microcentrifuge. The results can be read off in the course of a few minutes. While current solutions have a limited repertoire of analyses, and may not be reliable, SpinChip's technology opens up the prospect of a wide range of advanced analyses that can be performed rapidly, simply and reliably.

When oil-wells cease to be profitable, they have to be plugged and abandoned. It is essential that this should be done correctly and safely in order to avoid leakages of hydrocarbons. Norway has some of the world's best and strictest well-plugging regulations. The greatest challenge is that of reducing the cost of well-plugging while maintaining quality. There are currently several thousand wells on the Norwegian continental shelf that need to be plugged, and this number is rising every year. With current technology, plugging wells properly is both time-consuming and expensive, and the offshore industry reckons that

the total cost of plugging will come to several hundred billion kroner. Reducing the cost of plugging will improve profitability and increase tax revenues that can then be used for the benefit of society. SINTEF Petroleum Research is collaborating closely with the oil companies on this question, for example by studying and learning to understand the long-term characteristics of the plugging materials used to seal the wells. It is also looking at how the original cement completion of the well can be evaluated before it is plugged.

The Norwegian Public Roads Administration is responsible for inspecting heavy goods vehicles. Inspections involve both road safety considerations and competitiveness within the transport sector. Today, inspections are based on manned control stations, and the probability of being inspected is low, although transport companies that proved local delivery services may be stopped up to several times a day. The Norwegian Truck Owners' Association would like to see a new system that picks out transport companies that deliberately break the law and regulations in force. SINTEF's transport researchers have been leading the NonStop project, which will establish, demonstrate and evaluate a system for automatically selecting heavy vehicles for inspection. The final system will choose candidates for inspection without the necessity for the vehicles involved to stop. The system will also incorporate a register that will store data such as the vehicle's status as determined by previous inspections. The project's core R & D challenge is that of evaluating the effect of adopting a goal-oriented system for selecting the vehicles to be inspected.

Natural gas and biogas are rapidly growing as sources of energy, particularly in the transport sector. The change from oil to gas is helping to reduce CO₂ emissions; in the case of biogas, by almost 100 per cent. Greatly reduced NO_x emissions are another important advantage of using natural gas, particularly in the marine sector. When these gases are to be transported or stored, there is a need to increase their energy density, which can be done by liquefaction to LNG or LBG (liquefied natural gas/liquefied biogas). In the course of the past decade, SINTEF Energy Research has developed and patented technology, known as Mini-LNG, for small-scale liquefaction of natural and biogas. The first systems have been produced and put into operation on board IM Skaugen's LNG tankers, where they function as recondensation systems to recycle gas that evaporates during transport. The technology is also highly suitable for liquefying biogas from landfill sites, for example. One important aspect of the development process has been the use of modularised solutions based on standard components, assembled in ways that result in high energy efficiency and relatively low investment costs. The market for these systems is growing rapidly as a consequence of the expanding market for LNG/LBG.

This is reflected in a rapidly growing world-wide interest in Mini-LNG technology. Important areas of application include LNG recondensation of LNG tanks both afloat and ashore, and liquefaction of biogas and natural gas for small-scale distribution. Licensing agreements have been signed with several parties, and several more are currently under consideration.

SINTEF Fisheries and Aquaculture has been leading a project on administering medication to fish in sea-cages, in partnership with the Norwegian Veterinary Institute and the Institute of Marine Research. In the Topilouse project, the scientists have discovered and confirmed the existence of clear currents within sea-cages. Their studies have demonstrated how the fishes' swimming patterns influence how oxygen and medications are mixed through the formation of a particular pattern of flow. This is essential knowledge for the implementation of good medical treatments in sea-cages, not only against salmon lice but also against new parasites such as those that cause amoebic gill disease (AGD) and other illnesses. Good anti-lice measures are important for fish health and for the prospects of further growth of the aquaculture industry. Without effective measures, the whole industry will stagnate or be forced to reduce its level of activity, which would have serious consequences for many coastal communities.

The European Union project ExPerl, which has recently come to an end, focused on reducing the European Union's dependence on external sources of minerals. A whole new generation of industrial minerals has been developed for use in the chemical, construction and manufacturing industries. In collaboration with European industry, SINTEF Materials and Chemistry has developed and tested a new surface coating for expanded perlite, which is a mineral filler that is used as a concrete and cement additive to reduce weight. The new coating is based on SINTEF's FuzioNano™ technology. This patented technology is the basis of Norwegian paint company Jotun's Drygolin Ekstrem range of paints. We are in the process of commercialising this technology in a number of industrial areas of application. In collaboration with our project partners from the mineral and construction sectors, we were able to document that surface coating with FuzioNano improves the compatibility of filler and concrete. Lighter but stronger products for the construction industry mean even longer structural life as well as greater productivity on the building site. A new project supported by the Research Council of Norway's FORNU programme will help to make the technology commercially available, and plans are afoot to set up a new Norwegian company.

SINTEF Building Research has led a concept study for Statnett that examined the possibilities of developing high-tension pylons in composite materials. The aim is to reduce the weight of the masts without loss of strength, and thus to increase transport, installation and manufacturing efficiency. An interdisciplinary project group from SINTEF Building Research, SINTEF Energy Research and SINTEF Materials and Chemistry, together with resources from NTNU and the environmental analysis company MiSA, carried out the project. The group was able to draw up two concept proposals in carbon-fibre reinforced polymer, with Dyneema polymer cable guys. The concept development process took into account the requirement that the concept pylons must be suitable for further development into a robust commercial product.

A natural aspect of SINTEF's social role is to contribute to the creation of profitable new companies based on ideas that emerge from its research. The SINTEF Venture IV fund was established at the end of 2013. In collaboration with the European Investment Fund (EIF) and Sparebank1 SMN, we have set up a new seed-corn fund of NOK 209 million for investments in new companies based on technology developed by SINTEF and NTNU in the course of the coming decade. This is a significant step for SINTEF, and it will help to create even more companies and jobs based on our research.

In 2013 we made important political, organisation and professional advances towards the establishment of the Ocean Space Centre, the future knowledge centre for ocean space technology. The management and exploitation of the resources of the oceans is one of the areas in which Norway can and should occupy a globally leading position in research. This is the background for our efforts to realise the Ocean Space Centre. The knowledge centre will form part of the national knowledge and innovation infrastructure related to the oceans. On behalf of the Ministry of Trade and Industry, and in collaboration with other knowledge centres and industry, MARINTEK and NTNU investigated the requirements for future infrastructure that will have to be satisfied if Norway is to maintain its internationally leading position in ocean space technology. In autumn 2012, the Ministry of Finance's external quality assurance team presented its recommendations after a thorough study of the project, and concluded that building a new R & D infrastructure in Trondheim would be "profitable in socio-economic terms" In 2013, an ambitious realisation plan for the Ocean Space Centre was drawn up, with five prioritised strategic areas of special effort. The Ocean Space Centre will be the hub of a national effort in ocean space technology, and will involve comprehensive coordination of activities and networking with national and international centres of knowledge and industrial companies.

Health, Safety and Environment (HSE)

HSE is given the highest priority by SINTEF, and the safety of our staff is more important than any other consideration. In 2013, SINTEF made systematic efforts to improve all aspects of our work environment. HSE has a clearly identified place in our daily work and our governance system, and is solidly rooted in the thinking of both management and employees. Staff involvement and good leadership are of the greatest importance for the work environment.

Aim: SINTEF aims to have zero injuries, accidents and losses.

The “HSE in the laboratory” course, an internally produced e-learning programme for improving safety in the laboratory, was an important area of effort last year. The e-course is aimed at everyone who works in or has responsibility for work in our laboratories. Access to our labs is contingent on having taken the course, in addition to local training. The e-course was made available to everyone in January 2014, in Norwegian and English.

SINTEF’s reporting and deviation system enables line managers and case officers to follow up HSE reports. Improving our safety culture depends on incidents being reported and followed up at local level. In 2013, we focused on training case officers and we observed a positive trend in our ability to close cases. There was a negative trend in the number of personal injuries towards the end of the year, and a few serious incidents have led to staff requiring long-term sick-leave. Activities in our laboratories and work-shops in particular have led to an increase in the number of personal injuries.

In 2013 520 HSE reports were submitted. Of these, 428 were reports of hazardous conditions or observations, 40 concerned near-accidents and 52, actual accidents. It is worth noting that we have had more accidents than near-accidents. Injury-related sick-leave (H1) and incidence of personal injury (H2) indices were 1.6 and 4.0 respectively. In 2012, H1 was 1.1 and H2, 2.9. We will make systematic effort in 2014 to turn this negative trend around by strengthening our safety culture so that our goal of zero injuries can be reached.

SINTEF has been working for several years with ScoreCard, a strengthened form of work environment protection. Where the system has been adopted, it has helped to improve HSE practices in our laboratories. Some groups have also adopted the 5S system to raise safety standards in their laboratories.

Chemicals are widely used in SINTEF’s research, and these must be handled safely in order to guarantee the physical environment and the health of our staff. We are making efforts to improve our routines in this area. We are also actively taking steps to replace the most hazardous chemicals with less dangerous substances. In 2013, we put a major effort into training staff who are responsible for chemicals in all our institutes. These training efforts will continue in 2014.

Aim: SINTEF will have a zero rate of work-related sick-leave

Sick-leave was 3.8 per cent in 2013, as against 3.9 in 2012. Work-related sick-leave in 2013 was 0.3 per cent, the same as in 2012. SINTEF is an IA company, and all sick-leave is systematically followed up at institute level. Nevertheless, work-related sick-leave is paid particular attention, and must be followed up by management-instigated measure. This type of sick-leave may be due either to how the work-place is designed or to interpersonal relationships. Staff must perceive a realistic relationship between the demands made and the possibilities of performing their work, and this is measured every second year by the work environment survey. Managers, with the support of human resources staff, have primary responsibility for follow-up.

Aim: SINTEF will have a good, healthy work environment

Our work environment was surveyed in January 2012. The response rate was 93 per cent and there were high scores on such important work environment factors as motivation, enjoyment of work and team spirit. Follow-up efforts were evaluated as planned in the mid-way evaluation in spring 2013. The institutes reported the status of their action plans and the conclusion was that the work environment survey is taken seriously. One critical factor concerns the degree to which management are capable of driving forward the processes required to use the results to provide good development in this area. This involves requirements regarding wisdom and stamina, and an ability to get to grips with serious matters. A new work environment survey was carried out in 2014, and this will provide material for further improvements. The response rate was 93 per cent.

HSE training continued in 2013, and classroom-based courses continued to be offered at the same level as previously. Efforts to increase the availability and frequency of training courses continued, and cooperation in joint training with NTNU and the Trondheim Student Union is important for success. An internal audit of HSE training revealed that training needs to be strengthened and better documentation provided, particularly at middle management level. The results of the audit will mean that the e-learning programme for managers will be put into effect during the first half of 2014.

Our customers

SINTEF creates opportunities for its customers and contributes in this way to the creation of value and the development of society in a positive direction. This is our most important contribution to society. In 2013, SINTEF performed about 9,000 projects for a total of 3,000 customers, large and small.

An increasing number of projects for external clients are performed by a cross-section of SINTEF groups. A broadly-based approach involving several different groups means that we have a unique ability to develop good solutions and create value for our customers and for society as a whole.

Our relationships with our clients and our understanding of their needs are of decisive importance in this respect. Customers and customer contact are leading items on the agenda of our management team. This also includes closer dialogue and contact with the authorities, in the first instance in Norway, but also within the European Union and in other countries.

In 2013, SINTEF held a series of important high-level meetings with major international companies and institutions. These were held in order to strengthen our strategic dialogue and to develop concrete new projects. In meetings of this sort, SINTEF presents new technology and its assessments of important trends in development, based on its clients’ needs and SINTEF’s expertise. Good follow-up of these meetings is given high priority.

Good contact between researchers and clients is important for the performance and development of good projects. High-quality management, good performance and teamwork are all core aspects of project performance. We follow up our clients via systematic customer satisfaction surveys, the results of which are used to continuously improve our ability to perform our work in a satisfactory manner.

SINTEF has provided input to the government’s long-term plan for research and education, emphasising the importance of industry-oriented research and coordinated efforts based on clearly stated priorities.

It is a positive sign that national strategies are beginning to be put into effect in a number of industrial sectors. Joint research strategy platforms that encompass both industrial interests and the authorities are of great

importance in terms of scientific quality and our ability to innovate. SINTEF has given high priority to these processes. In 2013, work began on Bygg21, which will propose national strategies for R & D and innovation, education, competence development and information dissemination in the construction industry. Our research

Our efforts to develop SINTEF's profile as a research organisation continued in 2013. We stress the importance of international publishing, and the Board emphasises the importance of publications as our contribution to the international generation of new knowledge. Publishing helps to profile and strengthen the scientific quality of our work. Our aim is to exceed one peer-reviewed publication per year of researcher effort. In 2013, this figure was 0.71 articles per researcher-year, compared with 0.81 in 2012 and 0.70 in 2011.

According to the Ministry of Education and Research's Research Barometer, SINTEF is Norway's second largest research centre. Our participation in the European Union's Framework Programmes has been decisive in awarding us this position. EU-financed research is also important as a means of building up and developing our expertise and networks in potential-enhancing technologies such as IT, biotechnology, nanotechnology and materials science.

It is essential to invest in laboratories if Norway is to continue to develop as a knowledge-based nation and to be competitive in the international arena. We also know that laboratories of high international standard play a decisive role in attracting the best students and researchers. Our financial surplus is invested in laboratories and scientific equipment that will equip SINTEF better to take on important social tasks. SINTEF came very well out of the Research Council of Norway's funding of laboratories and scientific equipment in 2013. A total of 16 applications were allocated funds; of these, SINTEF participates in six, which received a total of MNOK 216. SINTEF is a participant in the following; Multiphase technology, Marine Technology Laboratories, Norwegian Centre for Minimally Invasive Guided Therapy and medical, Norwegian Biorefinery Laboratory, CEDREN and Smart Grid.

Since 2005, we have been working on plans for a new laboratory for studies in basic materials science. The opening of the NORTEM national laboratory in 2013 means that we are at the very forefront of European research infrastructure in this field. The Research Council's INFRA programme has made this possible, as has SINTEF's efficient operation practices.

SINTEF Energy Research has decided to build a new electric power laboratory at Blaklia in Trondheim. Many years of good operating practices have made this MNOK 120 possible. Contact with the Norwegian electric power industry is good, and the new electric power laboratory at Blaklia will be built in collaboration with Statnett.

In its National Budget for 2014, the Storting has allocated MNOK 15 for studies of the next phase of the Ocean Space Centre. The Ministry of Trade and Industry writes that "The aim is that the centre will become a hub of international knowledge in ocean space technology."

Strategic cooperation with universities and research institutes is vital as a means of ensuring that we have strong national knowledge centres. The strategic cooperation of NTNU and SINTEF is of great importance, as it means that SINTEF's applied research is at the leading edge of international academic activity, and that NTNU does a wide range of research that provides concrete solutions for industry and society in general.

SINTEF participates actively in international cooperative programmes. In 2013, we signed an agreement together with NTNU, the University of Oslo and the Institute for Energy Technology regarding cooperation with Brazil. We also stress the importance of cooperation within the European Energy Research Alliance (EERA), which plays an important strategic role in European energy research.

In 2013, SINTEF resolved to launch four new areas of special effort for the SINTEF Group. These areas are prioritised interdisciplinary efforts of importance for SINTEF as a concern. Financing is shared by SINTEF at central level and the institutes involved. The following areas have been launched: Bio-based products from sustainable resources, ManageIT, SEATONOMY and Welfare Technology. SINTEF has invested a total of MNOK 173 in twelve such areas since 2006.

In 2013, the Research Council of Norway advertised funding for several new Centres for Research-led Innovation (SFIs). The SFI programme strengthens innovation through long-term research efforts in close collaborations between companies that are active in R & D and leading research institutes. In February 2014, SINTEF submitted a number of applications to the programme and has established important cooperative relationships with several partners in the process.

People

SINTEF aims to be an attractive work-place that offers unique prospects for personal development to people who both "can and will". We check whether SINTEF is perceived as such every two years via our work environment survey. This survey was performed most recently in the winter of 2012, and it documented SINTEF's good qualities as a work-place. The process of exploiting the survey to further develop SINTEF as an attractive work-place continued throughout 2013.

Management is important in this connection, and SINTEF makes systematic efforts to develop its individual and team management resources in line with its joint management principles. Improving the quality of the management team's closest collaborators is important. We are steadily putting more emphasis on improving the ability of our managerial staff to cope with large and complex projects, and to cooperate effectively across scientific and organisational boundaries. This process is essential if we are to be capable of addressing the major challenges of our time.

SINTEF is doing well in the struggle to recruit highly competent staff in a global market. We place a great deal of emphasis on looking after and developing the people we already have, while making efforts to ensure that recruitment will go well in the future by developing our "brand" and through national and international profiling efforts. In 2013, we started a joint project aimed at developing SINTEF's recruitment and profiling strategy. The project involves the greater use of Internet-based communication, film and video, a new advertising and profiling concept, and prospects for summer jobs and quality assurance of reception of new employees.

2013 was a year in which SINTEF focused on maintaining its level of activity at a testing time, while continuing to exploit its expansion potential. Staffing levels were reduced in certain groups in order to adapt our capacity to lower levels of activity in some markets.

The total number of employees rose by 19, and was 2,064 on 31.12.2013. Of these, 1,199 were employed by the SINTEF Foundation. In the category of academic personnel, 99 new appointments (12 per cent) were made in 2013, while 81 colleagues (9 per cent) left. Research staff who leave SINTEF make important contributions to competence development in industry and the public sector.

Fifty-two per cent of SINTEF's research staff hold doctorates, a rise from 44 per cent last year, while 404 (22 per cent) of our staff in 2013 came from a total of 70 countries other than Norway. This demonstrates both that SINTEF is attractive to international scientists and that we help to recruit highly qualified workers to this country. An international staff also gives SINTEF access to valuable scientific and cultural competence. The largest numbers of our non-Norwegian employees are from Germany and France.

Equal opportunities and family policy

SINTEF's Ethics Handbook states that:

"All people are equally valued by SINTEF. No form of discrimination is acceptable, whether on the grounds of race, gender, religion, sexual orientation or age. SINTEF will work to achieve a good work environment that is characterised by equality and opportunity."

Equal opportunities efforts are primarily the responsibility of the SINTEF Group management. One of the aims of SINTEF is to raise the proportion of female research staff and managers. The President of the SINTEF Group is a woman. SINTEF attempts to recruit women to new appointments and to promote female managers from its own ranks. Even so, structural inequalities in the recruitment base that emerges from our educational establishments are reflected in SINTEF's staffing.

The gender distribution within SINTEF is shown in the following table.

| | Men | Women |
|---------------------------------------|------|-------|
| Board | 56 % | 44 % |
| Group | 79 % | 21 % |
| Chief scientists and managerial staff | 64 % | 36 % |
| Research staff | 72 % | 28 % |
| SINTEF | 66 % | 34 % |

In 2013, SINTEF received funding from the Research Council of Norway towards the development of a better gender balance in top-level academic positions and research management (the Balance Project).

SINTEF is a signatory to the following agreements: NHO/Tekna, NHO/NITO, NHO/Forskerforbundet, NHO-Abelia/LO-NTL and NHO-Abelia/Parat. We hold annual salary negotiations with SINTEF employee representatives. Salaries and working conditions are set following discussions and negotiations with the staff representatives of individual trade unions. Women are evaluated on the same basis as men, and we are making systematic efforts to ensure that undesirable salary differentials do not emerge.

Eighty-one per cent of our work-force are in full-time positions. Thirty-three per cent of our female employees, and 19 per cent of male staff, currently work part-time. One reason for part-time employment is that our staff are taking advantage of the opportunity to reduce their working week via the negotiated pension agreement. SINTEF makes little use of temporary appointments. At the turn of the year, we had 38 temporary employees (2 per cent), of whom 15 were women and 23, men.

SINTEF's 2012 work environment survey revealed no significant differences in how women and men experience their work situation. We will continue to develop goal-oriented measures to ensure that SINTEF is an attractive work-place for women.

SINTEF aims to compete successfully in the international recruitment arena. Many research positions are advertised in English, and vacancies in SINTEF are internationally accessible on the Internet.

In order to ensure that staff from other countries are well looked after, SINTEF has set up an integration programme for new appointees from other countries and their families. The programme offers expatriate services, free Norwegian classes and teaching in English in the SINTEF School. Diversity management is one of the topics of the School's management development programme. The Work Environment Survey has documented that our colleagues from other countries are very happy at SINTEF.

SINTEF makes serious efforts to meet the requirements of its employees who have special needs for work-place adaptations. The SINTEF Foundation and all of its research companies are Inclusive Working Life (IA) companies. Our IA objectives include a commitment to adapt

work-places for such of our staff as already have, or who develop, disabilities. We cooperate with the Norwegian Labour and Welfare Administration in these efforts, and we utilise available public-sector support schemes. Another explicit aim of our IA efforts is that we will continue our current practice by focusing on competence when recruiting new colleagues, rather than on their limitations due to disabilities.

SINTEF intends to be an organisation with room for well-rounded people who have a life that extends beyond their work. We therefore offer flexible solutions to meet individual needs for flexitime, and the possibility of shorter working hours for parents. SINTEF subsidises kindergartens in Trondheim and Oslo.

Internationalisation

Internationalisation is an integral part of SINTEF's activities. Our internationalisation strategy comprises five main elements; reinforcing our academic networks, participating in the EU's Framework Programmes for research and development, selling our research on the international market, international recruitment and establishing a presence in selected overseas markets.

SINTEF is by far the largest Norwegian participant in the EU's 7th Framework Programme, which enables us to develop competence in areas of great importance for this country. By November 2013, SINTEF had been awarded funding for 260 projects under the EU's 7th Framework Programme, and had been coordinator of 60 projects. The European Union has allocated a total of €150 million in financial support to these projects. The fact that SINTEF is competitive in this market demonstrates that we have been able to develop internationally recognised expertise. This is essential for SINTEF's ability to play its role in society. The greatest challenge facing us is that the frame conditions for our participation are poor, and we need a national plan to deal with this issue. SINTEF is making continuous efforts to improve the frame conditions, and we are currently focussing on positioning ourselves vis-à-vis Horizon 2020, the next Framework Programme, which will start in 2014.

Our international turnover in 2013 came to MNOK 504, as against MNOK 461 in 2012; this is equivalent to 17 per cent of SINTEF's total turnover. We have performed projects for clients in 67 countries. EU projects make up around 50 per cent of our international contract research. Apart from the EU, the USA is our most important market for R&D cooperation. SINTEF is also expanding its presence in South America, for example in the Brazilian petroleum sector and in aquaculture in Chile. The establishment of the research foundation Instituto SINTEF do Brasil was an important further step in this direction, and in April 2012, we were the first international organisation to be granted ANP accreditation in Brazil. We have found that satisfactory operation in this market is very challenging, even with ANP accreditation, and in 2013 we experienced changes in the frame conditions imposed by ANP that are making it more difficult for SINTEF to financially balance its activities in Brazil.

External environment

SINTEF takes the environment seriously, and given our vision of "Technology for a better society", we pay close attention to sustainable development in every aspect of our activities. For SINTEF, the concept of sustainable development encompasses good corporate governance of our own organisation, social responsibility and respect for the environment. SINTEF's environmental policy is intended to ensure that both our research and the way in which we run our organisation take environmental considerations into account. Our policy also aims to ensure that our own environmental performance undergoes continuous improvement.

(SINTEF's environmental policy)

Environmental policy also involves a set of obligations, and SINTEF aims to meet the environmental management standard ISO 14001. In 2013, all our institutes updated their surveys of the environmental aspects of their operations, prioritised the most important targets and set targets for achieving them. The resulting action plans have been approved by the institutes' management groups. MiNaLab at SINTEF ICT was certified in 2011, and the rest of SINTEF ICT, SINTEF Materials and Chemistry and SINTEF Building Research plan to be certified in 2014. A joint task has been to update our HSE steering system to satisfy the requirements of the ISO standard. SINTEF Property has been assigned responsibility for joint environmental aspects such as energy consumption and waste disposal.

In 2013, there were no incidents that affected the physical environment.

Many of our activities impact the environment, and we actively strive to establish national and international R & D programmes to develop environmentally friendly technology, while we ourselves contribute to this goal via our leading-edge expertise. SINTEF's environmental profile is communicated externally via our research and expertise in the environmental field. We perform systematic evaluations of our suppliers regarding their policy for the physical environment when contracts are signed or renegotiated. The resulting requirements have been incorporated in our standard contracts.

Ethics

SINTEF intends to maintain a high standard of ethics throughout its range of activities. Our efforts in this field have three dimensions: research ethics, business ethics and the ethics of interpersonal relationships. Our research ethics policy is based on the regulations of national ethics committees, the principles of the European Group of Ethics in Science and New Technologies and international conventions such as the Vancouver Convention.

SINTEF expects and requires our suppliers and partners to share our ethical foundations. Suppliers and partners who are involved in our activities must accept SINTEF's ethical guidelines in writing.

SINTEF's ethical guidelines were modified in 2013 and can be accessed on our web-site. A printed edition of the new guidelines was distributed to all our employees in 2013, and the topic was placed on the agenda of management groups and departments. We have a long-standing practice that HSE and ethics should be the first item on the agenda of all internal meetings.

Following up our ethical guidelines is a responsibility of line management. SINTEF also has an Ethics Council and an Ethics Representative to back up our efforts in this field. The Ethics Council has six members, all of whom are SINTEF managerial staff or have been elected by our employees. The Ethics Representative acts as an advisor and discussion partner for the entire organisation, and also participates in a number of external fora. The Ethics Representative system means that SINTEF satisfies the requirements of the Work Environment Act regarding the need for an internal alert channel.

One of SINTEF's group directors currently chairs the Ethics and Social Responsibility Committee of the Confederation of Norwegian Enterprise (NHO). SINTEF employees are members of three national research ethics committees.

In 2013, internal and external audits of the Entranse bilateral aid project in Moldova, of which SINTEF was project manager and the Ministry of Foreign Affairs was our client. The audits revealed certain deviations in connection with a consulting contract, in which a local part-time consultant was employed as a civil servant for a period in 2006 – 2007 while in receipt of a consulting fee. It was documented that the person

in question performed specific and relevant tasks for the project, but SINTEF concluded that the engagement involved a breach of our ethical guidelines. The sum of NOK 284,000 has been repaid to the Ministry, which has decided that the matter is closed as far as it is concerned. On its own initiative, SINTEF submitted all the relevant documentation to the Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime (ØKOKRIM), which has given notice that it finds no grounds for pursuing the matter. SINTEF has used the experience gained from this case in internal processes in order to learn from it and to become more aware of this type of situation, and has revised its guidelines and ethics regulations accordingly.

Social responsibility

Social responsibility is a core aspect of SINTEF's activities. Much of SINTEF's research concerns the development of solutions to some of society's greatest challenges, such as energy, food, health, clean water and generating jobs for the future. Through such efforts, SINTEF is attempting to participate in solving some of society's most important problems, and social responsibility will form part of our core activities. This is in accordance with our vision of "Technology for a better society".

Our social responsibility also concerns the way in which we perform our own activities, in terms of such aspects as human rights, employee rights and social conditions, the physical environment and fighting corruption. SINTEF has developed policies and guidelines within all of these areas, and these form part of our corporate governance system and our ethical guidelines. Employee rights are also guaranteed through salary negotiations and our follow-up of our responsibility as an Inclusive Working Life (IA) company.

SINTEF is a member of UN Global Compact, and we have adopted its principles regarding human rights, work-life standards, and combating corruption. As required by Global Compact, we submitted an annual "Communication on Progress" that covers these principles. The status report forms part of SINTEF's annual reporting system, and is published on our website.

SINTEF is also a member of Transparency International, which works to prevent corruption at national and international level, and we support its guidelines and counsels.

Following up our ethical guidelines is a responsibility of line management, and the organisation pays these a good deal of attention in order to ensure that our standards are observed. In 2013, this area was the subject of particular attention on the part of the Board and group management, partly in connection with the revision of our ethical guidelines.

All our suppliers are required to certify that they are familiar with and accept SINTEF's guidelines regarding ethics, anti-corruption policy, human rights, working conditions HSE and the physical environment.

In 2013, SINTEF began the process of updating its main strategy. All our staff are participating in this effort. The subject of social responsibility is specifically addressed in this process, and this will be reflected in an updated overarching strategy, which will be adopted in 2014.

Financial freedom of action

In 2013, SINTEF made an operating profit of NOK 71.2 million, as against MNOK 98.6 in 2012. The result before tax was MNOK 102.6, as against MNOK 131.8 in 2012. Of special circumstances, we would mention restructuring costs amounting to MNOK 11 for SINTEF Petroleum Research AS and a provision of MNOK 8 for European Union projects, concerning yet to be clarified conditions regarding the regulations concerning how costs are covered.

Net revenues grew by 1.2 per cent in 2012. The market was very good throughout the year in many areas, but has become extremely challenging in others, particularly those that concern land-based activities such as solar- and wind-power, the pulp and paper industry and infrastructure. SINTEF rapidly becomes aware of difficult times for our customers. We are focusing on good operating practices, in order to obtain good results in the markets in which we operate.

Our liquidity situation was good at the end of 2013. As far as our four research companies are concerned it is very good, but the SINTEF Foundation does not have equivalent liquid reserves, relative to its turnover. SINTEF has established a Group-wide scheme for placing its liquid reserves. The portfolio is placed in accordance with the "Regulations for financial management in SINTEF" of October 2013, and in 2013 our average level of deposits was MNOK 315, as against MNOK 304 in 2012. Our low-risk profile brought us a portfolio profit of 5.2 per cent in 2013 (against 5.8 per cent in 2012).

SINTEF is exposed to exchange rate fluctuations, since our project revenue is in foreign currencies, while all or parts of our project costs are in Norwegian kroner. In order to limit the risks involved, we utilise futures contracts. We have specifically evaluated the risks involved and the freedom of action available to us in the event of a major failure of the Euro.

It is essential that SINTEF should be capable of making a financial profit that is invested in new research and competence development. In 2013, we invested MNOK 134.9 in laboratories and scientific and other equipment, and MNOK 16.9 in self-financed research projects at Group level. The corresponding figures in 2012 were MNOK 153.6 and MNOK 12.5 respectively. We also invested MNOK 35 in the SINTEF Project and Knowledge Management (SIPOK) project. With SIPOK we have established a modern IT support tool with new work processes and system solutions, and the ambition to provide a simplified and improved working day for SINTEF's employees. SIPOK includes a financial control system with invoicing, project planning, allocation of resources, coordination, reporting, document control and electronic filing and searching.

In 2013, SINTEF signed agreement with SP Sveriges Tekniska Forskningsinstitut regarding the sale of 70 per cent of the equity capital in SINTEF Fire Research Laboratory on January 1, 2014. This move established Europe's largest fire research laboratory, which will incorporate the approximately 100 staff at SP and 30 at SINTEF into SP Fire Research, in which SINTEF has a 30 per cent shareholding.

In 2013, we closed SINTEF Company Development AS. This was not a core area of interest for SINTEF, and was not operating at a profit.

Our equity capital and operating conditions, combined with growth in revenue, cost-saving measures and a satisfactory order reserve, provide a good basis for continued operation. The boards of our subsidiary companies have performed similar analyses, and all have concluded that continued operation is justified. As far as the Board is aware, since the closing of the annual accounts there have been no developments of significance for the evaluation of the financial position of the Foundation or the Group.

On 31.12.2013, the equity capital of the SINTEF Group was MNOK 2,302, (MNOK 2,248 in 2012) which is equivalent to 62 per cent (65%) of our total capital. The corresponding figures for the SINTEF Foundation are an equity capital of MNOK 2,026 (MNOK 1,987), equivalent to 68 per cent (74%) of total capital.

The annual result for the SINTEF Foundation in 2013 was MNOK 39.0 (MNOK 78.4 in 2011), all of which has been transferred to Other Equity.

Corporate governance in SINTEF

SINTEF aims to be professional in its governance and management and to combine this with the ability to be creative and innovative and with an unbureaucratic decision-making structure.

SINTEF's central management bodies are its Council and Board. The Board is the ultimate governance organ of the Foundation, while the Council provides advice to the Board on the basis of the authority set out in the Foundations Act and SINTEF's statutes.

The Council ensures that the objectives of the Foundation are pursued in accordance with its statutes, elects the Board, sets the fees to be paid to the members of the board and appoints an auditor. The Council is chaired by the Rector of NTNU, and consists of 28 members, comprising representatives of NTNU, the University of Oslo, the Research Council of Norway, industry, employee and employer organisations, and members elected by and among SINTEF's own staff.

The Board of the SINTEF Foundation is also the Board of the SINTEF Group. The activities of our four research companies are regulated by their statutes, shareholder agreements and group agreements. Our principles for group governance and for coordination with related organisations have been adopted in accordance with SINTEF's overarching objectives and strategy.

The Board consists of nine persons, two of whom are primarily employed by NTNU, four are from industry or the public sector and three are tenured employees of the SINTEF Foundation. The Board has responsibility and authority in all matters that are not assigned to the Council. The Board acts in accordance with SINTEF's statutes, the Foundations Act, and such provisions of the Limited Companies Act as apply to foundations. The Board appoints the President of SINTEF and sets her salary and other conditions of employment, as well as the framework and principles of remuneration of the Group's management team. The Board held eight meetings in 2013.

The SINTEF Group's management team is responsible for strategic management of the business of the group. The President of SINTEF is responsible for the day-to-day running of the company in accordance with the statutes of the SINTEF Foundation, Group agreements and the Limited Companies Act. The President has the authority to act on behalf of the Foundation, with the exception of the purchase, sale and mortgaging of property and the purchase and sale of companies. Either the President or Vice-president of SINTEF chairs the boards of all of SINTEF's research companies.

SINTEF operates a quarterly risk reporting system. The risk situation for each of the Group's divisions and companies is discussed by the company boards and management teams, as well as by Group management and the Board of the Group. Risk-reduction measures are defined and implemented on an on-going basis. In 2013 we developed a similar methodology, incorporating lists of opportunities, at institute and Group level.

SINTEF's governance system is certifiable according to ISO 9001:2000, which covers the implementation of a common system for dealing with accident reports, undesirable incidents, other deviations and suggestions for improvements. SINTEF is also registered in Achilles, a joint qualification system for suppliers to the petroleum industry.

Prospects and challenges for the future

Our many groups of highly qualified researchers enable SINTEF to actively contribute to the efforts of the authorities to meet their goals in areas of importance to society.

New technology is of great importance for the development of solutions

to central challenges facing society, such as providing the world with pure water, healthy food and clean energy, and exploiting the resources of a vulnerable natural world in a responsible manner.

Among our strengths are that we can offer multidisciplinary expertise and can cooperate across the disciplinary boundaries of individual research groups in SINTEF, enabling us to develop good solutions for our clients and for society.

Climate, energy and the environment are important topics at global level. SINTEF will continue to put serious efforts into the fields of climate technology, adaptation to climate change, renewable energy, energy efficiency and CO₂ capture and storage (CCS). SINTEF has built up significant research expertise in CO₂ treatment, renewable energy and energy efficiency in buildings, and will give high priority to continued research in these areas. Petroleum research also continues to be important, as oil will be an essential element of global energy supply for several decades, while natural gas will be a vital resource as we convert from coal and oil to gas, which produces fewer CO₂ emissions. Social research is also of great importance as a means of producing solutions for a better society in several areas.

Industrial development in the Arctic has great potential. With its broad knowledge base, SINTEF can help to realise our ambitions for the Arctic, and balance the interests of industrial development, long-term resources management and the environment. SINTEF intends to prioritise this in the future, and in 2013 we launched a strategy for the

far north that we are now making efforts to realise.

The European Research Arena (ERA) plays a central role in SINTEF's work. In ERA we are competing with research institutes that receive much higher basic funding from the public sector than does SINTEF. We are anxious regarding Norway's frame conditions for EU research, and are attempting to secure the financial conditions required to enable Norwegian researchers to participate in Horizon 2020, the European Union's 8th Framework Programme for research and development for 2014 - 2020. SINTEF has drawn up a new EU strategy that identifies our ambitions and orientation from now until 2020.

It is extremely important that Norway should be capable of renewing its national laboratory and scientific equipment infrastructure in order to make Norwegian research competitive in the international arena. At the same time, the operation and development of major laboratories such as MiNaLab, the Multiphase Laboratory and the laboratories at Coast and Harbour Technology and MARINTEK are highly demanding tasks. Since the start of the financial crisis in 2008, we have experienced a reduced level of activity in industrial research. We are very satisfied regarding the rise in the level of support for industrially oriented research in the National Budget for 2014; this gives us belief in the future and an expectation of further growth in future budgets.

Good results are created by many people, both our own staff and our academic and industrial partners. The Board wishes to thank everyone involved for their efforts and collaboration in 2013.

Trondheim, April 1, 2014


May-Britt Hågg


R. Rasmus Sunde
Chairman


Ingrid Selseth


Stig A. Slørdahl


Mari Tjømmø


Ole Swang


Ingrid Dahl Hovland


Rune Garen

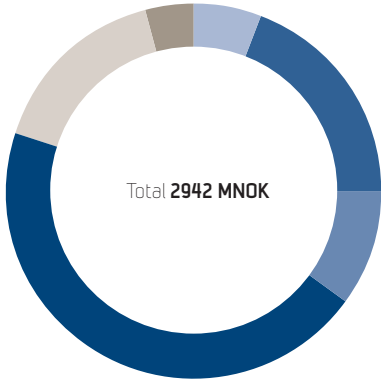

Gorm Johansen


Unni M. Steinsmo
President – CEO



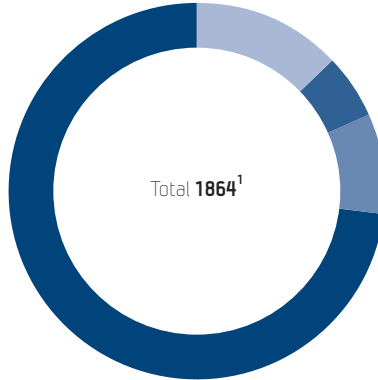
SINTEF 2013

Sources of finance
(% of gross operating income)



| | |
|---------------------------|------|
| ● RCN basic grant | 6 % |
| ● RCN project support | 19 % |
| ● Public sector | 10 % |
| ● Business and industry | 45 % |
| ● International contracts | 16 % |
| ● Other sources of income | 4 % |

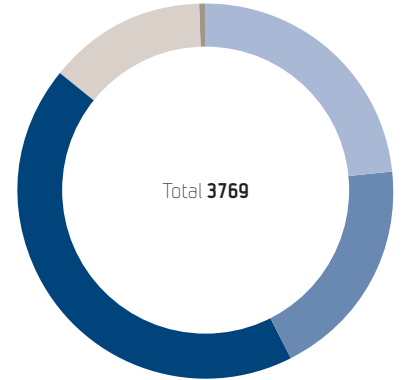
Employees



| | |
|-----------------------|-------------------|
| ● Administration | 241 |
| ● Technical personnel | 102 |
| ● Engineers | 163 |
| ● Researchers | 1358 ² |

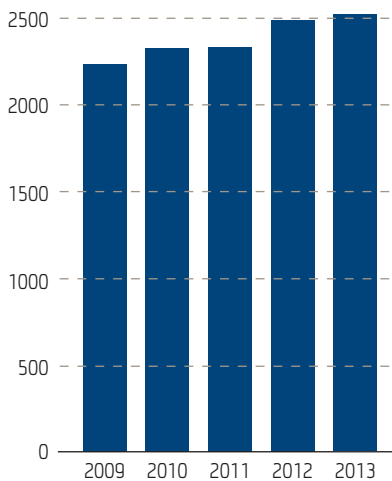
¹ not including SINTEF Holding
² of whom 654 hold doctorates

Publications
(including popular dissemination)

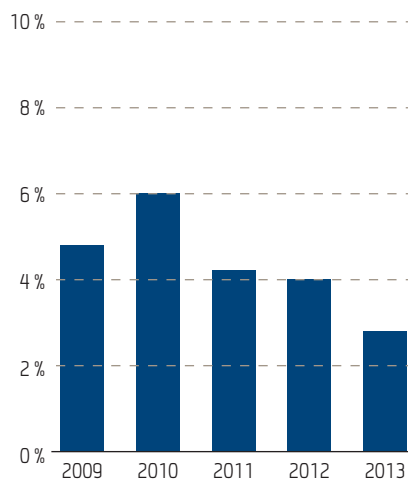


| | |
|--|------|
| ● Academic articles in journals, series or anthologies | 880 |
| ● Academic monograph | 1 |
| ● Academic lectures and poster | 721 |
| ● Reports | 1634 |
| ● Popular articles and talks | 519 |
| ● Textbooks, etc. | 14 |

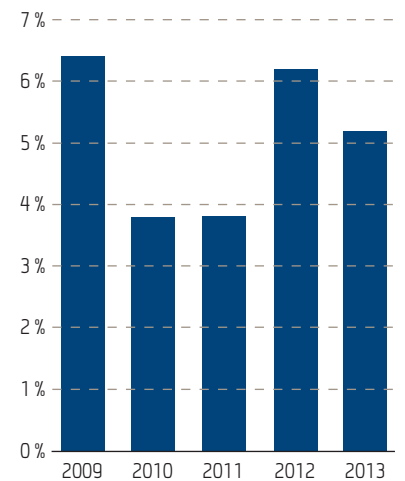
Net operating income
(MNOK)



Net operating margin
(%)

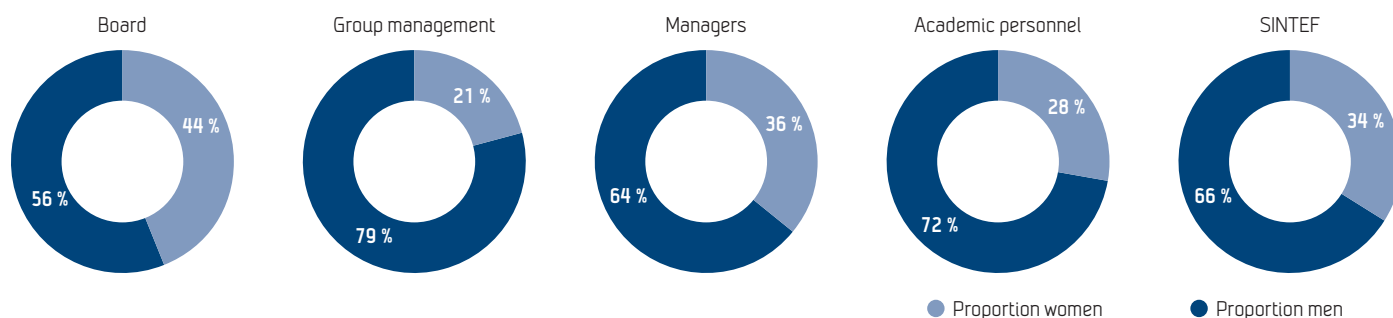


Investments
(% of net operating income)



SINTEF 2013

Equal opportunity in SINTEF



Key financial figures

| MNOK | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|--------------|--------------|--------------|--------------|--------------|
| Result | | | | | |
| Gross operating income | 2 754 | 2 813 | 2 789 | 2 966 | 2 942 |
| Net operating income | 2 232 | 2 325 | 2 333 | 2 487 | 2 517 |
| Operating result | 107 | 139 | 98 | 99 | 71 |
| Financial revenues | 44 | 43 | 54 | 60 | 50 |
| Financial expenditures | 13 | 12 | 10 | 27 | 18 |
| Profit/loss before tax | 139 | 170 | 142 | 132 | 103 |
| Annual result | 131 | 539 | 98 | 94 | 55 |
| Balance | | | | | |
| Fixed assets | 788 | 1 134 | 1 123 | 1 168 | 1 253 |
| Current assets | 1 966 | 2 124 | 2 299 | 2 281 | 2 490 |
| Sum assets | 2 754 | 3 258 | 3 423 | 3 448 | 3 743 |
| Equity capital | 1 526 | 2 056 | 2 154 | 2 248 | 2 302 |
| Long-term liabilities | 85 | 70 | 79 | 68 | 76 |
| Short-term liabilities | 1 142 | 1 132 | 1 190 | 1 132 | 1 365 |
| Liabilities | 1 228 | 1 202 | 1 269 | 1 200 | 1 441 |
| Sum equity and liabilities | 2 754 | 3 258 | 3 423 | 3 448 | 3 743 |
| Profitability | | | | | |
| Operating margin % | 4.8 | 6.0 | 4.2 | 4.0 | 2.8 |
| Total profitability % | 5.7 | 6.1 | 4.6 | 4.7 | 3.4 |
| Profitability of equity capital % | 9.5 | 9.5 | 6.7 | 6.1 | 4.5 |
| Liquidity | | | | | |
| Net cash flow from operational activities | 325 | 317 | 196 | 74 | 85 |
| Degree of liquidity 1 | 1.7 | 1.9 | 1.9 | 2.0 | 1.8 |
| Solidity | | | | | |
| Equity capital % | 55 | 63 | 63 | 65 | 62 |
| Operating working capital | 759 | 770 | 1 035 | 1 074 | 1 051 |

SINTEF 2013

Income statement

Figures in NOK thousand

| SINTEF Foundation | | | SINTEF | |
|--------------------------------------|------------------|-------|------------------|------------------|
| 2012 | 2013 | Notes | 2013 | 2012 |
| OPERATING INCOME AND EXPENSES | | | | |
| 1 225 941 | 1 130 218 | | 2 141 821 | 2 098 330 |
| 350 553 | 285 016 | | 380 413 | 611 656 |
| 119 392 | 119 327 | | 189 689 | 187 540 |
| 98 370 | 273 542 | | 229 873 | 68 515 |
| 1 794 256 | 1 808 103 | 2, 20 | 2 941 796 | 2 966 042 |
| 344 211 | 322 846 | | 424 743 | 478 975 |
| 1 450 045 | 1 485 257 | | 2 517 053 | 2 487 067 |
| 995 909 | 1 039 940 | 3, 12 | 1 805 506 | 1 732 145 |
| 62 470 | 57 647 | 4, 5 | 98 263 | 103 354 |
| | | 4, 5 | 4 580 | 1 222 |
| 327 887 | 341 227 | 3, 5 | 537 501 | 551 772 |
| 1 386 267 | 1 438 814 | | 2 445 849 | 2 388 494 |
| 63 778 | 46 443 | | 71 204 | 98 573 |
| FINANCIAL INCOME AND EXPENSES | | | | |
| 8 942 | 4 860 | 6 | | |
| 27 214 | 21 814 | | 49 812 | 59 801 |
| 3 428 | 8 083 | | 18 430 | 26 579 |
| 32 728 | 18 591 | 19 | 31 381 | 33 223 |
| 96 506 | 65 034 | | 102 586 | 131 796 |
| 18 137 | 26 010 | 15 | 47 473 | 37 492 |
| 78 369 | 39 024 | | 55 113 | 94 303 |
| | | | 16 090 | 15 935 |
| | | | 39 024 | 78 367 |
| DISPOSITIONS | | | | |
| 78 369 | 39 024 | | | |
| 78 369 | 39 024 | | | |

SINTEF 2013

Balance sheet

Figures in NOK thousand

| SINTEF Foundation | | | SINTEF | |
|------------------------------------|------------------|-------|------------------|------------------|
| 2012 | 2013 | Notes | 2013 | 2012 |
| EQUITY AND LIABILITY | | | | |
| Equity | | | | |
| Paid-up equity | | | | |
| 69 300 | 69 300 | | 69 300 | 69 300 |
| 69 300 | 69 300 | | 69 300 | 69 300 |
| Earned equity | | | | |
| 575 863 | 575 863 | | 552 822 | 548 846 |
| 1 342 049 | 1 380 896 | | 1 403 936 | 1 369 066 |
| 1 917 912 | 1 956 759 | | 1 956 759 | 1 917 912 |
| Minority interests | | | | |
| | | | 276 347 | 260 716 |
| 1 987 212 | 2 026 059 | 11 | 2 302 405 | 2 247 928 |
| Liabilities | | | | |
| Provisions for liabilities | | | | |
| | | 12 | 40 223 | 39 770 |
| | | | 665 | 916 |
| | | | 40 888 | 40 686 |
| Other long-term liabilities | | | | |
| | | 17 | 12 270 | 16 241 |
| | 47 764 | 10 | | |
| | | | 23 068 | 11 063 |
| | 47 764 | 13 | 35 338 | 27 304 |
| Current liabilities | | | | |
| | | 17 | 13 058 | 1 225 |
| 73 968 | 196 939 | 20 | 275 272 | 144 377 |
| | | 15 | 14 547 | 11 780 |
| 116 890 | 97 982 | | 186 812 | 203 588 |
| 212 979 | 248 942 | | 415 433 | 321 462 |
| 5 961 | | | | |
| | | | 299 | 359 |
| 288 691 | 351 206 | 16 | 459 183 | 449 554 |
| 698 490 | 895 069 | | 1 364 604 | 1 132 345 |
| 698 490 | 942 833 | | 1 440 830 | 1 200 335 |
| 2 685 702 | 2 968 893 | | 3 743 234 | 3 448 263 |

SINTEF 2013

Cash flow analysis

Figures in NOK thousand

| SINTEF Foundation | | | SINTEF | |
|-------------------|-----------------|--|-----------------|-----------------|
| 2012 | 2013 | | 2013 | 2012 |
| | | Cash flow from operations | | |
| 96 506 | 65 034 | Result before tax | 102 586 | 131 796 |
| -8 942 | -4 860 | Percentage of profit from subsidiaries | | |
| | | Tax paid during period | | -11 780 |
| 62 470 | 57 647 | Write-offs and depreciation during period | | -12 379 |
| -3 078 | -39 427 | Change in pension obligations | | 102 843 |
| | | Depreciation of investments in equity | | -53 317 |
| | -703 | Profit/loss on sales of shares in fixed assets | | 2 675 |
| -7 590 | 2 854 | Posts classified as investment or financing activities | | -703 |
| -1 316 | 224 | Change in stock holdings | | -8 939 |
| -53 898 | -93 922 | Change in work in progress | | 636 |
| -42 654 | -36 607 | Change in accounts receivable | | -103 279 |
| -44 827 | 122 971 | Change in accounts payable | | -68 022 |
| -12 098 | 52 303 | Changes in balance of Group internal transactions | | 130 895 |
| 76 148 | -30 417 | Change in other current assets and liabilities | | -8 762 |
| 60 722 | 95 097 | Net cash flow from operations | 84 833 | 74 627 |
| | | Cash flow from investments | | |
| | | Sales of long-term operating assets | | 309 |
| -103 499 | -91 614 | Purchases of long-term operating assets | | -131 230 |
| | | Receipts on sales of immaterial assets | | |
| -32 588 | -34 782 | Payments for purchases of immaterial assets | | -34 832 |
| | 703 | Receipts on sales of financial fixed assets | | 703 |
| -28 000 | | Payments for purchases of financial fixed assets | | -3 059 |
| -164 087 | -125 692 | Net cash flow from investment activities | -168 108 | -181 536 |
| | | Cash flow from financial activities | | |
| | | Liquidation of long-term debt | | 8 034 |
| | | Net change in overdraft | | 11 833 |
| | | Dividend payments | | -359 |
| | | Net cash flow from financial activities | 19 508 | -35 026 |
| | | Effect of changes in exchange rates on bank deposits, cash holdings, etc. | | |
| -103 365 | -30 595 | Net change in bank deposits, cash holdings, etc. | | -63 767 |
| 518 054 | 414 690 | Bank deposits, cash holdings, etc., per 01.01. | | 926 482 |
| 414 690 | 384 095 | Bank deposits, cash holdings, etc., per 31.12. | 862 715 | 926 482 |

SINTEF Building and Infrastructure

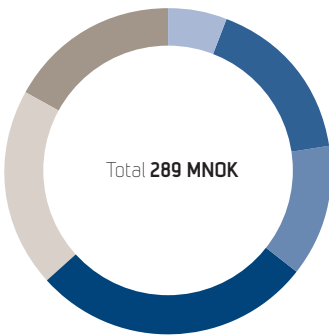
SINTEF Building Research is an internationally leading research institute that specialises in the sustainable development of buildings and infrastructure. We solve problems related to the entire building

process, and create value for our clients and for society through research and development, research-based consulting, product documentation and knowledge transfer.



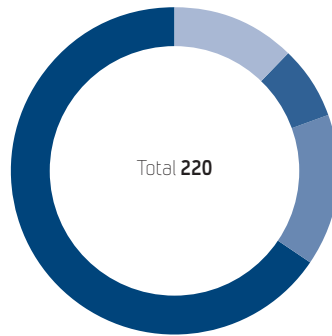
Sources of finance

(% of gross operating income)



| | |
|-------------------------|--------|
| RCN basic grant | 6.0 % |
| RCN project support | 17.0 % |
| Public sector | 13.0 % |
| Business and industry | 28.0 % |
| International contracts | 20.0 % |
| Other sources of income | 17.0 % |

Employees

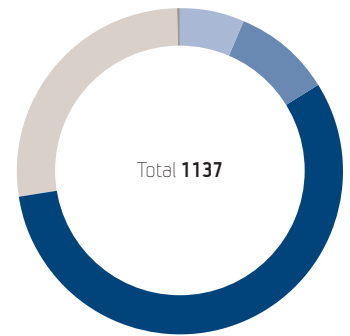


| | |
|---------------------|------|
| Administration | 27 |
| Technical personnel | 16 |
| Engineers | 33 |
| Researchers | 144* |

*of whom 46 hold doctorates

Publications

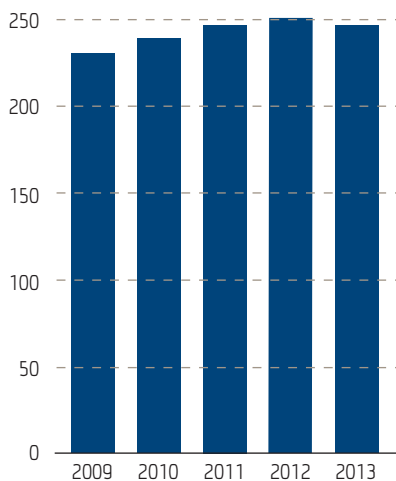
(including popular dissemination)



| | |
|--|-----|
| Academic articles in journals, series or anthologies | 75 |
| Academic lectures and poster | 110 |
| Reports | 640 |
| Popular articles and talks | 309 |
| Textbooks, etc. | 3 |

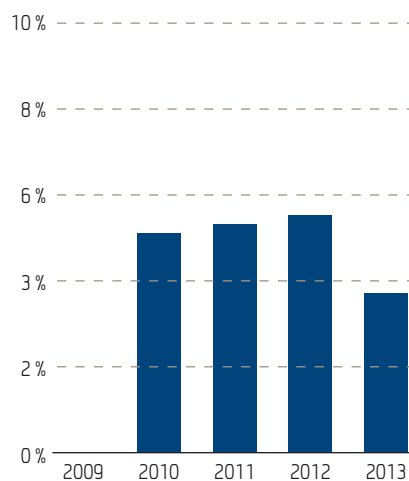
Net operating income

(MNOK)



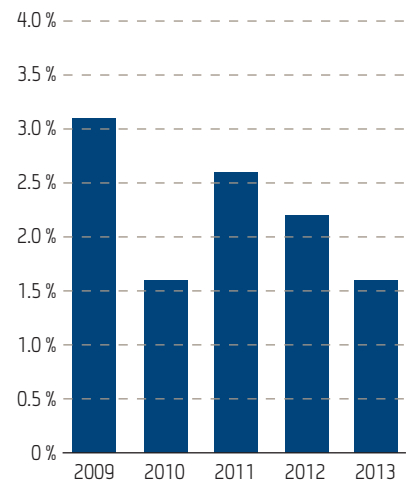
Net operating margin

(%)



Investments

(% of net operating income)



SINTEF ICT

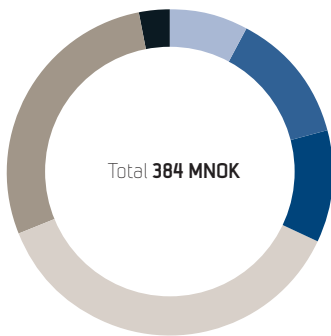
SINTEF ICT supplies research-based expertise and technology for the development of systems, products and services in the fields of micro- and sensor systems, monitoring and communication systems and information systems and numerical modelling software. We operate a

modern micro-/nanolaboratory (MiNaLab) that is among the world's leading laboratories in the development and small-scale production of radiation sensors.



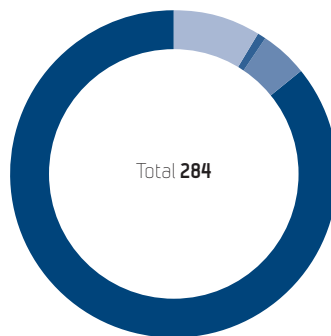
Sources of finance

(% of gross operating income)



| | |
|-------------------------|--------|
| RCN basic grant | 8.0 % |
| RCN project support | 13.0 % |
| Public sector | 11.0 % |
| Business and industry | 37.0 % |
| International contracts | 28.0 % |
| Other sources of income | 3.0 % |

Employees

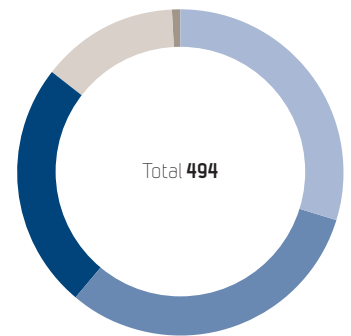


| | |
|---------------------|------|
| Administration | 25 |
| Technical personnel | 2 |
| Engineers | 14 |
| Researchers | 243* |

*of whom 129 hold doctorates

Publications

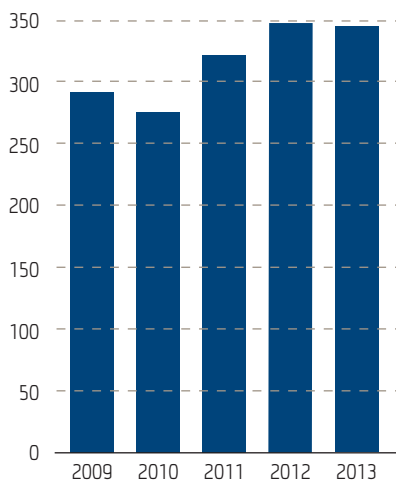
(including popular dissemination)



| | |
|--|-----|
| Academic articles in journals, series or anthologies | 147 |
| Academic monograph | 1 |
| Academic lectures and poster | 155 |
| Reports | 121 |
| Popular articles and talks | 67 |
| Textbooks, etc. | 3 |

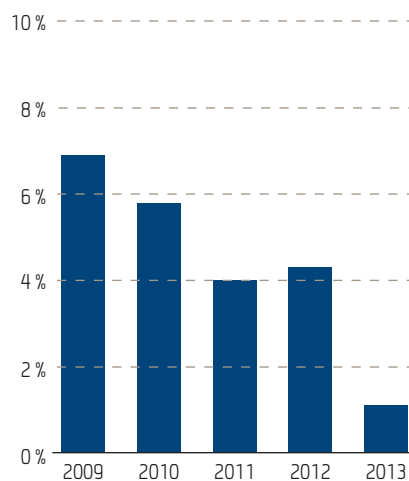
Net operating income

(MNOK)



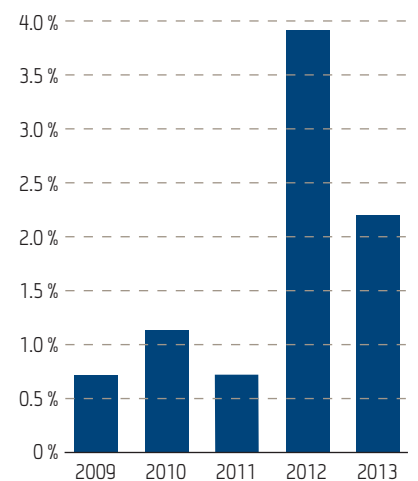
Net operating margin

(%)



Investments

(% of net operating income)



SINTEF Materials and Chemistry

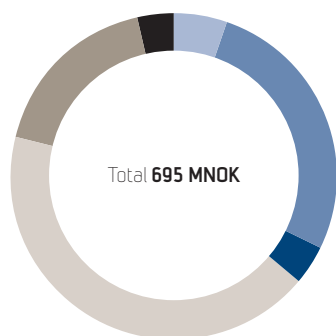
SINTEF Materials and Chemistry is a contract research institute that offers a high level of expert knowledge in materials technology, advanced materials, nanotechnology, applied chemistry and

biotechnology. We collaborate closely with international petroleum and process industries, and in developing environmentally friendly energy generation.



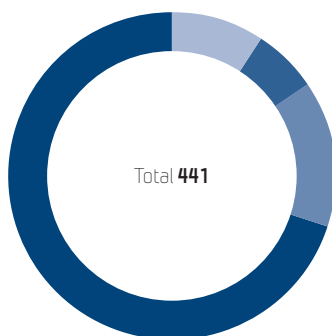
Sources of finance

(% of gross operating income)



| | |
|-------------------------|--------|
| RCN basic grant | 5.3 % |
| RCN project support | 27.1 % |
| Public sector | 3.8 % |
| Business and industry | 42.7 % |
| International contracts | 17.7 % |
| Other sources of income | 3.4 % |

Employees

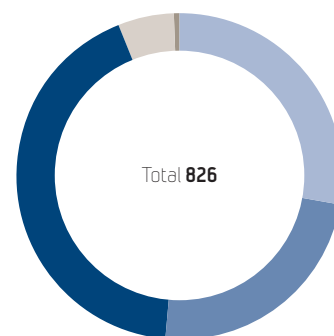


| | |
|---------------------|------|
| Administration | 44 |
| Technical personnel | 22 |
| Engineers | 69 |
| Researchers | 306* |

*of whom 216 hold doctorates

Publications

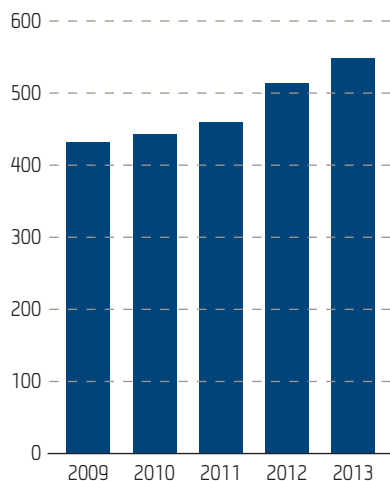
(including popular dissemination)



| | |
|--|-----|
| Academic articles in journals, series or anthologies | 230 |
| Academic lectures and poster | 196 |
| Reports | 351 |
| Popular articles and talks | 45 |
| Textbooks, etc. | 4 |

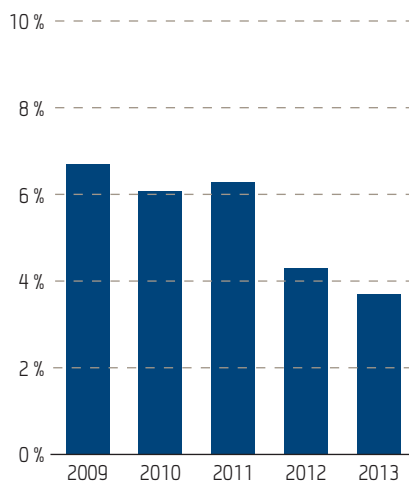
Net operating income

(MNOK)



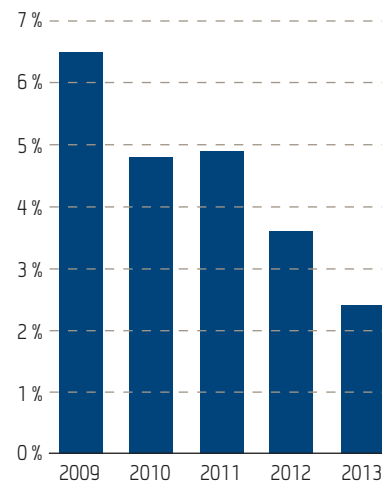
Net operating margin

(%)



Investments

(% of net operating income)



SINTEF Technology and Society

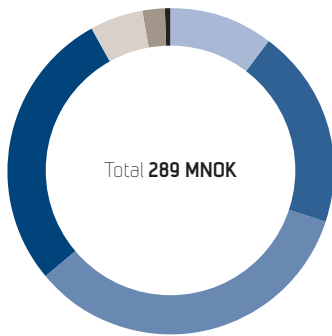
SINTEF Technology and Society is a multidisciplinary research institute that is active in the fields of industry, technology and the social sciences. We create solutions in the fields of health, care and welfare

services, dignified working conditions, a sustainable working life, efficient and safe transport systems, and climate and the environment.



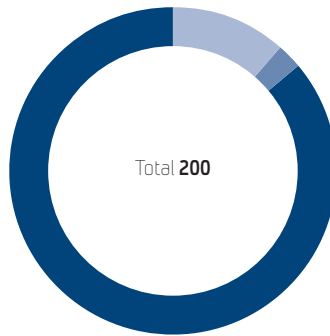
Sources of finance

(% of gross operating income)



| | |
|-------------------------|--------|
| RCN basic grant | 10.4 % |
| RCN project support | 19.9 % |
| Public sector | 34.1 % |
| Business and industry | 28.1 % |
| International contracts | 5.3 % |
| Other sources of income | 2.1 % |

Employees

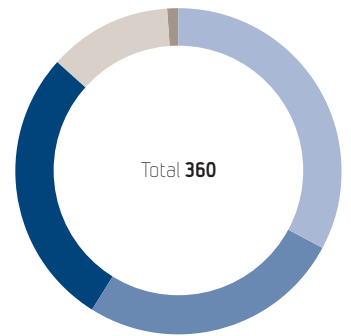


| | |
|----------------|------|
| Administration | 23 |
| Engineers | 5 |
| Researchers | 172* |

*of whom 69 hold doctorates

Publications

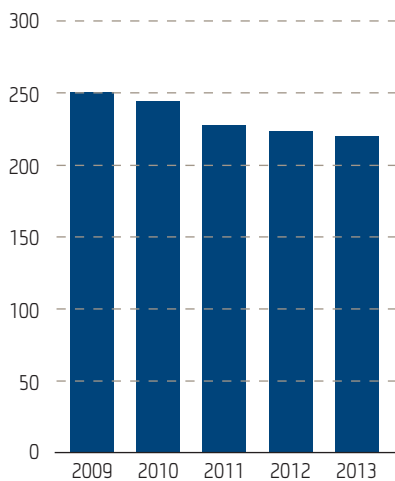
(including popular dissemination)



| | |
|--|-----|
| Academic articles in journals, series or anthologies | 118 |
| Academic lectures and poster | 94 |
| Reports | 100 |
| Popular articles and talks | 44 |
| Textbooks, etc. | 4 |

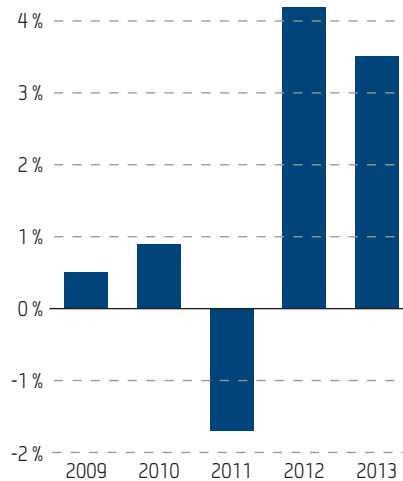
Net operating income

(MNOK)



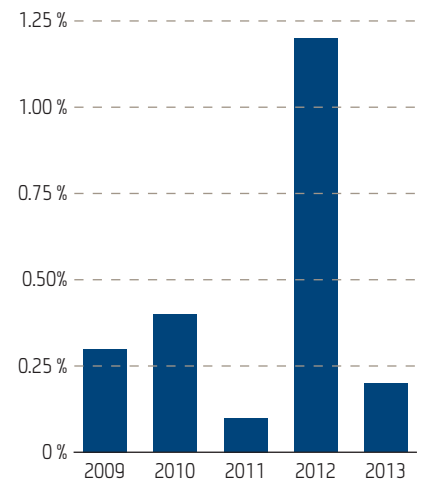
Net operating margin

(%)



Investments

(% of net operating income)



SINTEF Energy Research

SINTEF Energy Research operates in the fields of energy supply, gas technology, bioenergy, carbon capture and storage, efficient

industrial energy use and environmental impacts of hydro- and wind power.

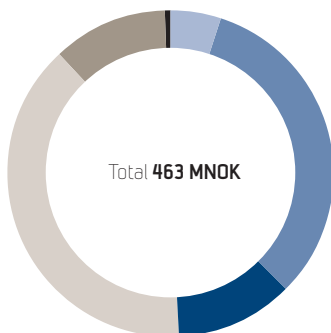


Senior scientist Armin Hafner and Rema managing director Ole Robert Reitan in the supermarket's refrigeration-machinery space.

Photo: SINTEF/Thor Nielsen

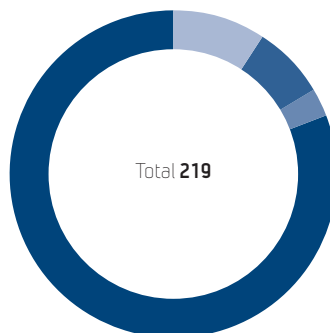
Sources of finance

(% of gross operating income)



| | |
|-------------------------|--------|
| RCN basic grant | 5.0 % |
| RCN project support | 32.6 % |
| Public sector | 11.7 % |
| Business and industry | 38.8 % |
| International contracts | 11.6 % |
| Other sources of income | 0.3 % |

Employees

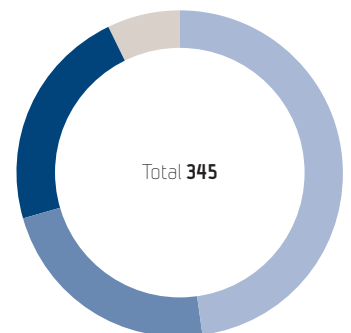


| | |
|---------------------|-----|
| Administration | 23 |
| Technical personnel | 18 |
| Engineers | 7 |
| Researchers | 199 |

*of whom 95 hold doctorates

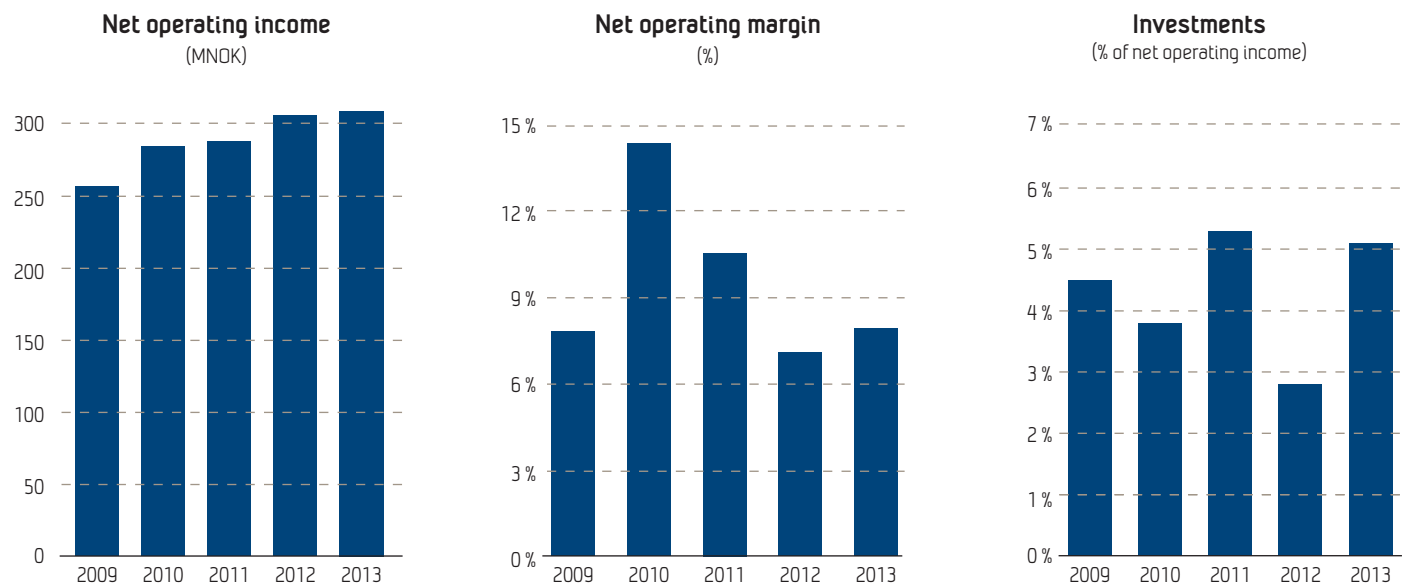
Publications

(including popular dissemination)



| | |
|--|-----|
| Academic articles in journals, series or anthologies | 165 |
| Academic lectures and poster | 79 |
| Reports | 77 |
| Popular articles and talks | 24 |

SINTEF Energy Research



Key financial figures

| MNOK | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|------------|------------|------------|------------|------------|
| Result | | | | | |
| Gross operating income | 376 | 401 | 404 | 401 | 399 |
| Net operating income | 256 | 284 | 288 | 306 | 309 |
| Driftsresultat | 20 | 41 | 30 | 22 | 24 |
| Annual result | 33 | 46 | 30 | 25 | 26 |
| Balance | | | | | |
| Fixed assets | 83 | 95 | 101 | 98 | 121 |
| Current assets | 390 | 430 | 433 | 457 | 483 |
| Sum assets | 473 | 525 | 533 | 555 | 604 |
| Equity capital | 258 | 304 | 334 | 359 | 385 |
| Liabilities | 215 | 220 | 199 | 196 | 219 |
| Sum equity and liabilities | 473 | 524 | 533 | 555 | 604 |
| Profitability | | | | | |
| Operating margin % | 7.8 | 14.3 | 10.5 | 7.1 | 7.9 |
| Total profitability % | 7.9 | 10.5 | 7.4 | 6.1 | 6.1 |
| Profitability of equity capital % | 13.2 | 17.0 | 12.2 | 9.6 | 9.5 |
| Liquidity | | | | | |
| Net cash flow from operational activities | 63 | 90 | 14 | 38 | 15 |
| Degree of liquidity | 2.0 | 2.0 | 2.2 | 2.3 | 2.2 |
| Solidity | | | | | |
| Equity capital % | 54.6 | 58.0 | 62.6 | 64.7 | 63.8 |
| Operating working capital | 190 | 168 | 216 | 236 | 265 |

SINTEF Fisheries and Aquaculture

SINTEF Fisheries and Aquaculture Research AS is the leading European technological research institute for the fishing and aquaculture sector. Our technological research and development covers

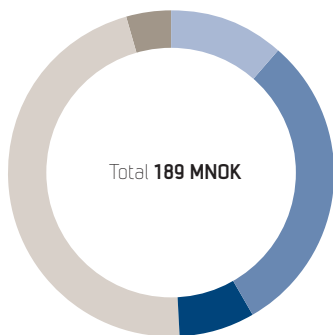
the entire marine value chain. Our most important source of clients is the Norwegian fishery and aquaculture industry.



Scientists are trying to find ways to both prevent and remove net fouling, one of the main challenges facing aquaculture today. Nets can quickly become blocked, preventing water-flow through the sea-cage and thus the essential supply of oxygen for the fish. Photo: SINTEF/Thor Nielsen

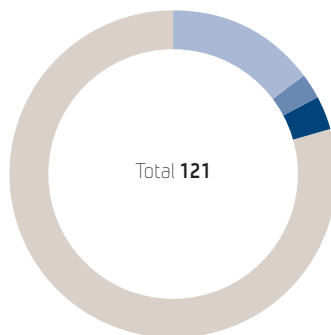
Sources of finance

(% of gross operating income)



| | |
|---------------------------|--------|
| ● RCN basic grant | 11.6 % |
| ● RCN project support | 30.2 % |
| ● Public sector | 7.4 % |
| ● Business and industry | 46.6 % |
| ● International contracts | 4.2 % |

Employees

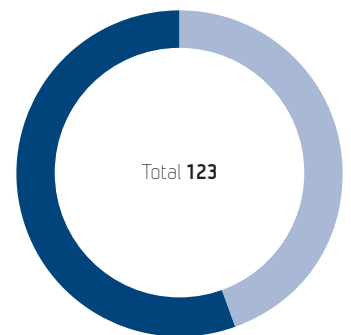


| | |
|-----------------------|-----|
| ● Administration | 18 |
| ● Technical personnel | 3 |
| ● Engineers | 4 |
| ● Researchers | 96* |

*of whom 47 hold doctorates

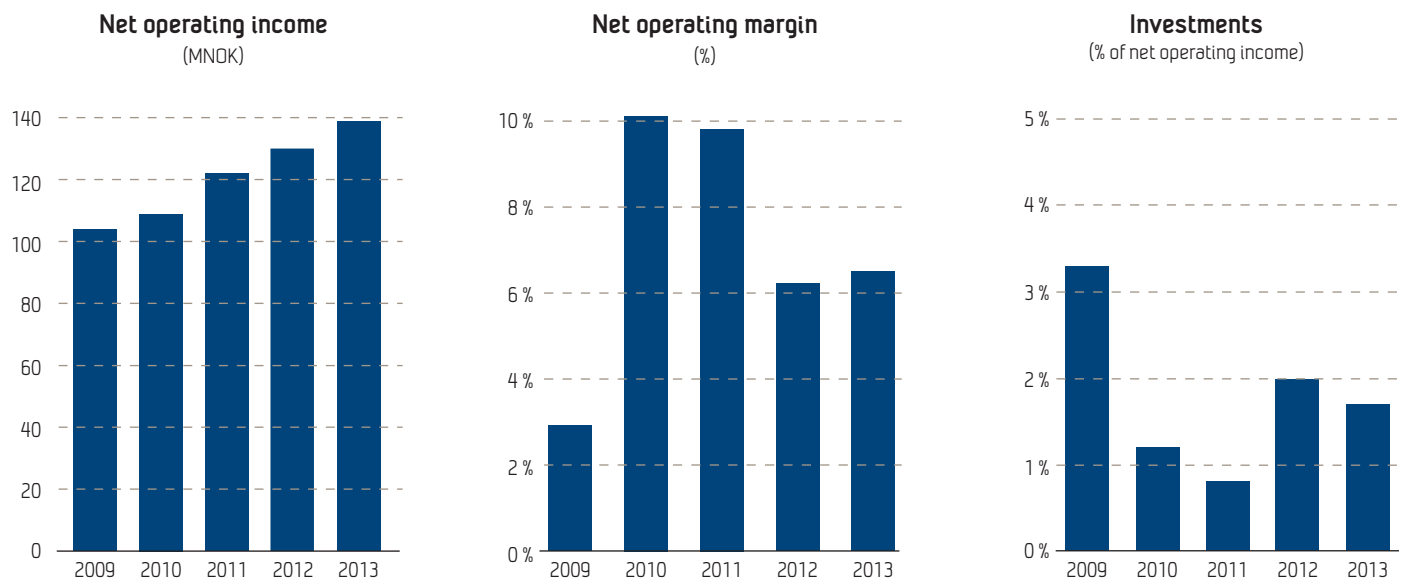
Publications

(including popular dissemination)



| | |
|--|----|
| ● Academic articles in journals, series or anthologies | 55 |
| ● Reports | 68 |

SINTEF Fisheries and Aquaculture



Key financial figures

| MNOK | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|-----------|-----------|-----------|-----------|------------|
| Result | | | | | |
| Gross operating income | 136 | 146 | 166 | 181 | 189 |
| Net operating income | 104 | 109 | 122 | 130 | 139 |
| Operating result | 3 | 11 | 12 | 8 | 9 |
| Annual result | -2 | 11 | 13 | 8 | 8 |
| Balance | | | | | |
| Fixed assets | 17 | 17 | 14 | 16 | 27 |
| Current assets | 47 | 53 | 72 | 83 | 95 |
| Sum assets | 64 | 70 | 86 | 99 | 122 |
| Equity capital | 24 | 34 | 47 | 54 | 62 |
| Liabilities | 40 | 36 | 39 | 45 | 60 |
| Sum equity and liabilities | 64 | 70 | 86 | 99 | 122 |
| Profitability | | | | | |
| Operating margin % | 2.9 | 10.3 | 9.7 | 6.2 | 6.5 |
| Total profitability % | 5.2 | 17.6 | 17.0 | 10.7 | 9.3 |
| Profitability of equity capital % | 3.0 | 33 | 31.7 | 19.0 | 16.6 |
| Liquidity | | | | | |
| Net cash flow from operational activities | -2 | 19 | 18 | -7 | 28 |
| Degree of liquidity | 1.4 | 1.7 | 2.0 | 2.0 | 1.6 |
| Solidity | | | | | |
| Equity capital % | 36.8 | 48.8 | 54.6 | 54.7 | 50.8 |
| Operating working capital | 13 | 23 | 36 | 41 | 35 |

MARINTEK

MARINTEK performs research and development projects for industry and public-sector bodies, particularly those involved in the maritime and petroleum sectors and ocean energy production. We develop ocean space technologies in the fields of floating petroleum production, sub-

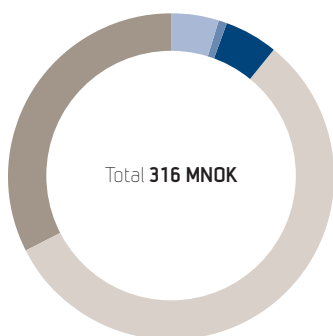
sea pipelines for oil and gas transportation, renewable energy from the sea, vessel development, and for the shipbuilding and maritime equipment industries, shipping and logistics.



Ever since the early 80s, MARINTEK's Ocean Basin in Trondheim has played an important role in the development of offshore technology for the Norwegian continental shelf and all over the world. Photo: MARINTEK/Christian Nilsen

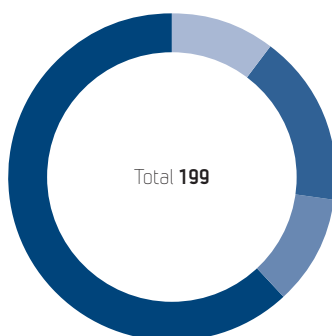
Sources of finance

(% of gross operating income)



| | |
|---------------------------|--------|
| ● RCN basic grant | 4.9 % |
| ● RCN project support | 0.7 % |
| ● Public sector | 5.3 % |
| ● Business and industry | 56.9 % |
| ● International contracts | 32.3 % |

Employees

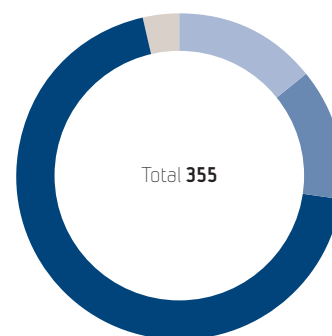


| | |
|-----------------------|------|
| ● Administration | 19 |
| ● Technical personnel | 33 |
| ● Engineers | 23 |
| ● Researchers | 124* |

* of whom 52 hold doctorates

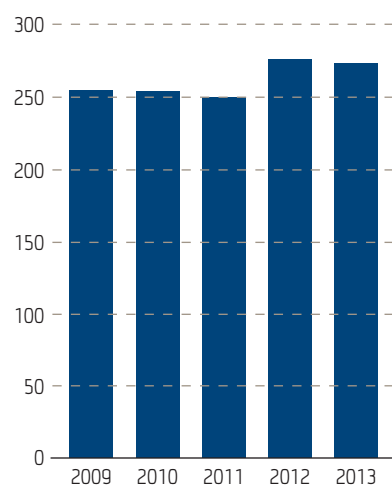
Publications

(including popular dissemination)

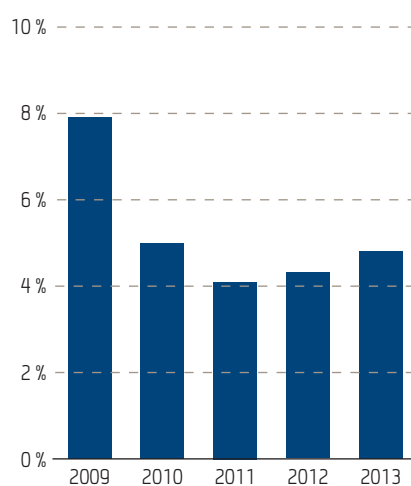


| | |
|--|-----|
| ● Academic articles in journals, series or anthologies | 51 |
| ● Academic lectures and poster | 46 |
| ● Reports | 246 |
| ● Popular articles and talks | 12 |

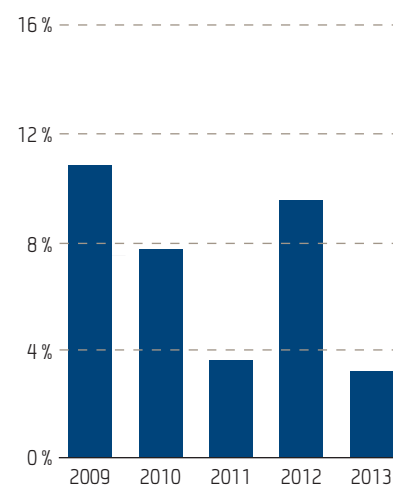
Net operating income
(MNOK)



Net operating margin
(%)



Investments
(% of net operating income)



Key financial figures

| MNOK | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|------------|------------|------------|------------|------------|
| Result | | | | | |
| Gross operating income | 310 | 297 | 296 | 319 | 316 |
| Net operating income | 255 | 254 | 250 | 277 | 273 |
| Operating result | 20 | 13 | 10 | 12 | 13 |
| Annual result | 21 | 14 | 13 | 15 | 15 |
| Balance | | | | | |
| Fixed assets | 41 | 90 | 85 | 98 | 109 |
| Current assets | 256 | 256 | 277 | 271 | 271 |
| Sum assets | 297 | 346 | 362 | 369 | 380 |
| Equity capital | 154 | 211 | 220 | 230 | 238 |
| Liabilities | 144 | 135 | 142 | 138 | 142 |
| Sum equity and liabilities | 297 | 346 | 362 | 369 | 380 |
| Profitability | | | | | |
| Operating margin % | 7.9 | 5.0 | 4.1 | 4.3 | 4.8 |
| Total profitability % | 3.5 | 2.0 | 1.4 | 1.6 | 1.8 |
| Profitability of equity capital % | 7.2 | 3.9 | 3.1 | 3.4 | 3.1 |
| Liquidity | | | | | |
| Net cash flow from operational activities | 37 | 106 | 5 | 1 | 5 |
| Degree of liquidity | 1.8 | 1.9 | 1.9 | 2.0 | 1.9 |
| Solidity | | | | | |
| Equity capital % | 51.7 | 61.0 | 60.7 | 62.4 | 62.7 |
| Operating working capital | 129 | 143 | 156 | 155 | 157 |

SINTEF Petroleum Research

SINTEF Petroleum Research AS focuses on improving the safe and profitable mapping and recovery of national and international

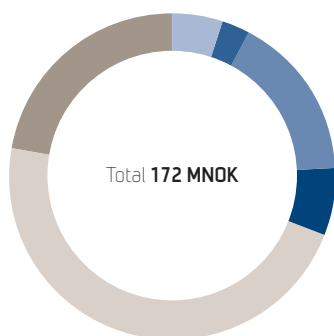
hydrocarbon resources in accordance with environmentally friendly principles.



Kristin Lind in the organic geochemistry laboratory. Here she is analysing hydrocarbons in a sample of source rock by means of Micro-Scale Sealed Vessel (MSSV) pyrolysis. Photo: SINTEF/Thor Nielsen

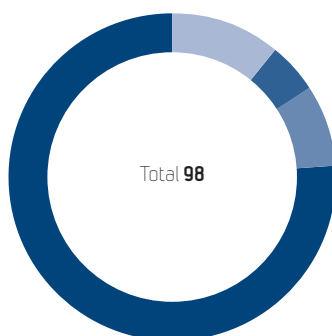
Sources of finance

(% of gross operating income)



| | |
|---------------------------|--------|
| ● RCN basic grant | 5.0 % |
| ● RCN project support | 2.9 % |
| ● Public sector | 16.3 % |
| ● Business and industry | 6.9 % |
| ● International contracts | 46.8 % |
| ● Other sources of income | 22.2 % |

Employees

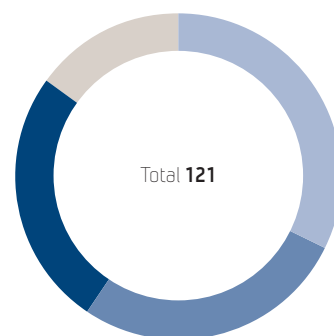


| | |
|-----------------------|-----|
| ● Administration | 11 |
| ● Technical personnel | 5 |
| ● Engineers | 8 |
| ● Researchers | 74* |

*of whom 53 hold doctorates

Publications

(including popular dissemination)



| | |
|--|----|
| ● Academic articles in journals, series or anthologies | 39 |
| ● Academic lectures and poster | 33 |
| ● Reports | 31 |
| ● Popular articles and talks | 18 |

SINTEF Petroleum Research



Key financial figures

| MNOK | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|------------|------------|------------|------------|------------|
| Result | | | | | |
| Gross operating income | 183 | 207 | 178 | 199 | 172 |
| Net operating income | 140 | 145 | 132 | 146 | 142 |
| Operating result | 8 | 5 | -7 | 0 | -15 |
| Annual result | 15 | 57 | -3 | 5 | -8 |
| Balance | | | | | |
| Fixed assets | 60 | 104 | 101 | 98 | 105 |
| Current assets | 194 | 209 | 211 | 223 | 210 |
| Sum assets | 254 | 312 | 312 | 320 | 315 |
| Equity capital | 178 | 235 | 232 | 237 | 229 |
| Liabilities | 76 | 77 | 80 | 83 | 86 |
| Sum equity and liabilities | 253 | 312 | 312 | 320 | 315 |
| Profitability | | | | | |
| Operating margin % | 5.9 | 3.6 | -5.0 | 0.1 | -10.8 |
| Total profitability % | 6.2 | 3.5 | -0.2 | 0.6 | -0.7 |
| Profitability of equity capital % | 8.9 | 4.6 | -0.3 | 0.6 | -1.1 |
| Liquidity | | | | | |
| Net cash flow from operational activities | 49 | 14 | 15 | -8 | 3 |
| Degree of liquidity | 2.9 | 3.2 | 3.2 | 2.7 | 3.0 |
| Solidity | | | | | |
| Equity capital % | 70 | 75 | 74 | 74 | 72.6 |
| Operating working capital | 108 | 123 | 130 | 126 | 113 |