

# HSE Accounts for 2015

## 1 HSE and environmental policy

### SINTEF's HSE policy

*adopted by SINTEF's board of directors on February 27, 2014*

HSE is SINTEF's top priority – the safety of our staff takes precedence over all other considerations. Our HSE policy applies to all SINTEF-related activities in Norway and abroad. SINTEF aims to satisfy all legislative and other requirements and to ensure, through good management, that our performance continuously improves.

HSE is a management responsibility and it forms part of our everyday work. Our employees are required to participate in these efforts.

SINTEF has a clear vision that aims for zero rates of accidents, injuries and losses. We will do our utmost to avoid accidents and work-related illnesses among our employees and those with whom we collaborate.

SINTEF aspires to maintain a good and healthy work environment. Our management will be clear, inclusive and inspiring. Our staff can expect to enjoy personal development and recognition through coordinated activity and team spirit. Everyone at SINTEF will be treated with respect and dignity.

### SINTEF's policy for the external environment

*adopted by SINTEF's board of directors on June 17, 2015*

On the background of our vision of "Technology for a better society", all aspects of SINTEF's activities will be based on respect for the environment. SINTEF's environmental policy is intended to ensure that both our research and the manner in which we ourselves operate respect the external environment. It should also ensure that our own environmental performance continues to improve.

We commit ourselves to:

- work towards the establishment of national and international R&D programmes aimed at the development of environmentally friendly technology
- contribute to R&D on environmentally friendly solutions via our projects
- emphasise environmental considerations in our investments in knowledge development and laboratories
- reduce our emissions of greenhouse gases, choose energy-saving solutions and avoid hazardous emissions to the ground, atmosphere and water
- communicate our knowledge, develop solutions and provide premises for social debate of environmental policy issues
- satisfy all current legislative and other requirements that affect us regarding environmental aspects of our activities.

## 2 SINTEF's HSE plan for 2015

AIM: "SINTEF will maintain a good work environment that promotes good health"

Measures	Status 2015
<ol style="list-style-type: none"> <li>1. Implement and follow up the 2014 Work Environment Survey.</li> <li>2. Implement managerial development, including obligatory HSE training.</li> <li>3. Put systematic efforts into follow-up of sick-leaves.</li> <li>4. "SINTEF Day".</li> </ol>	<ol style="list-style-type: none"> <li>1. Followed up in all departments and via a centrally coordinated mid-way evaluation.</li> <li>2. E-learning HSE course for managers introduced. Manager development at departmental level.</li> <li>3. Line management has followed up sick-leave cases.               <ul style="list-style-type: none"> <li>• Sick-leave rates reduced through management initiatives in accordance with SINTEF's management principles.</li> <li>• Work environment as cause of taking sick-leave exposed through follow-up of staff concerned.</li> <li>• Continuous awareness on the part of departmental management groups of the level and causes of sick-leave.</li> </ul> </li> <li>4. Held on June 11.</li> </ol>

## AIM: "SINTEF will have a zero rate of work-related sick-leave"

Measures	Status 2015
<ol style="list-style-type: none"> <li>1. Prevent work-related health problems.</li> <li>2. Improve mapping of physical work environment.</li> <li>3. Create balance between demands for and possibilities of performing assigned tasks.</li> </ol>	<ol style="list-style-type: none"> <li>1. Support provided in ergonomics, occupational hygiene and occupation medicine.</li> <li>2. Occupational hygiene measurements carried out, as well as work safety rounds and risk assessments.</li> <li>3. Continuous follow-up by line management. <i>(Evaluated every second year through work environment survey)</i></li> </ol>

## AIM: "SINTEF will have a zero rate of injuries, accidents and losses"

Measures	Status 2015
<ol style="list-style-type: none"> <li>1. Campaign to develop safety-conscious culture among all employees.</li> <li>2. Continued attention paid to safety during field-work.</li> <li>3. Strengthen our competence in risk assessment.</li> <li>4. Continue to develop Synergi.</li> </ol>	<ol style="list-style-type: none"> <li>1. Safety campaign implemented. Around 1600 staff participated.</li> <li>2. Safety in the field and on travel assignments was made a priority area in the safety campaign.</li> <li>3. Competence has been improved through courses and implementation in practice.</li> <li>4. New app for simpler reporting and causal analysis in Synergi has been ordered.</li> </ol>

## AIM: "SINTEF will be a company with a clear environmental profile"

Measures	Status 2015
<ol style="list-style-type: none"> <li>1. Adopt and follow up action plan for environmental management in SINTEF.</li> <li>2. Revise SINTEF's environmental policy.</li> <li>3. Maintain efforts to satisfy the Environmental Management standard ISO 14001.</li> </ol>	<ol style="list-style-type: none"> <li>1. Action plan adopted by SINTEF's board of directors on June 17.</li> <li>2. Revised Environmental Policy adopted by SINTEF's board of directors on June 17.</li> <li>3. Compliance assessment carried out. ICT certified in accordance with ISO 14001.</li> </ol>

### 3 Results

SINTEF is making systematic efforts in the fields of health, work environment, safety and external environment. We will have a work environment that is safe for our employees and that promotes pleasure in work and good health. SINTEF enjoys good functional cooperation between employers and employees. We believe this to be one of the most basic elements in the creation of a safe and secure work environment.

Responsibility for our employees' health, work environment and safety is taken seriously. This is a matter of staying ahead of the game, having an overview of potential work-place hazards, and maintaining routines for handling potential hazardous situations.

#### 3.1 Work environment

SINTEF's work environment survey was carried out in January 2014, and in 2015, our efforts to follow up its results and suggested measures have played a central role. Follow-up efforts were evaluated in a mid-way evaluation, in which all departments reported the status of their action plans. This left the impression that the survey is being

followed up well and that managers are becoming steadily better at using the results in their development efforts.

The survey has directed attention to important topics in the work environment area, and is a good driver of improvements.

Responsibility for carrying out HSE training lies with line management, with the support of HSE and personnel staff. Classroom training courses are held in collaboration with NTNU and the Trondheim Students' Union. In 2015, the Compulsory HSE Training in SINTEF procedure was revised and the date of expiry of the HSE courses was included. There will be a certain latency in training at departmental level to satisfy SINTEF's new requirements.

The work environment committees (AMU) help in efforts to provide a fully adequate work environment and it was resolved to set up department-level AMUs for the Foundation's four departments. The aim of this measure was to ensure that the AMUs' legally required activities would take place at local level and close to the persons

concerned. The scheme is still in its establishment phase, where the departments are in the process of finding an appropriate format for their meetings. The Foundation's AMU adopted an updated mandate in 2015, under which the relationship between the departmental AMUs and the Foundation's AMU was defined in greater detail.

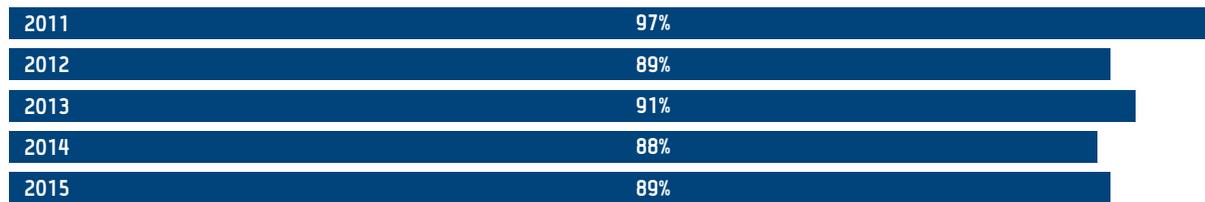
SINTEF Day was held in June, and brought together some 1600 employees, selected partners and clients to a whole-day professional and social arrangement. The aim was to contribute to the realisation of SINTEF's new overarching strategy: to show SINTEF as a world-leading research

institute with an important social mission, in addition to building pride and solidarity within the institution. The arrangement was extremely successful.

### 3.2 Staff conversations

Staff conversations are planned annual conversations between employees and their immediate managers. Topics emphasised include tasks and aims, the work environment and personal development. Each conversation concludes with the construction of a personal action plan that will be followed up. The rate of participation in these conversations in 2015 was 89 per cent.

Staff conversations in SINTEF, including companies in SINTEF Holding



### 3.3 Work-related health problems and sick leave

Work-related health problems are followed up systematically. We have a low rate of sick-leave and are particularly eager to ensure that SINTEF will be a place where people take pleasure in their work. Although, as an employer, we accept responsibility for making arrangements that encourage people to return to work after a period of sick-leave, there is been a rising trend in rates of sick-leave in the course of the past few years. By maintaining close contact with employees on sick-leave, we are investigating whether there are factors in our work environment that tend to lead to illness. SINTEF emphasises that sick-leave should be kept to a minimum through the exercise of our management principles. Departmental management teams are continuously aware of rates of sick-leave and follow-up.

In 2015, we inaugurated a one-year agreement to provide counselling in the event of marriage or partnership break-up, with the aim of strengthening our services to employees who find themselves in a difficult life situation. SINTEF also offers health support to its staff through agreements with external suppliers of company health services and with psychologists.

SINTEF tries to create a work environment in which

people are not at risk of suffering physical or psychological injury. The work environment in our laboratories and workshops is surveyed by means of risk assessments, scorecard methodology and safety representative rounds. This is important as a means of preventing staff from being injured or suffering health problems. Experience derived from events reported via the damage and deviations system has shown that there is a need to improve our organisation of risk assessment. Surveys of ergonomic working conditions and the provision of suitable guidance help to prevent the development of skeletomuscular problems.

Targeted health conversations are held with staff who are exposed to potentially unhealthy working conditions. Employees are selected for such conversations via a cooperative process that involves the company health service and line management, and is based on an evaluation of the risks resulting from the employee's exposure situation. SINTEF holds some 200 health consultations every year.

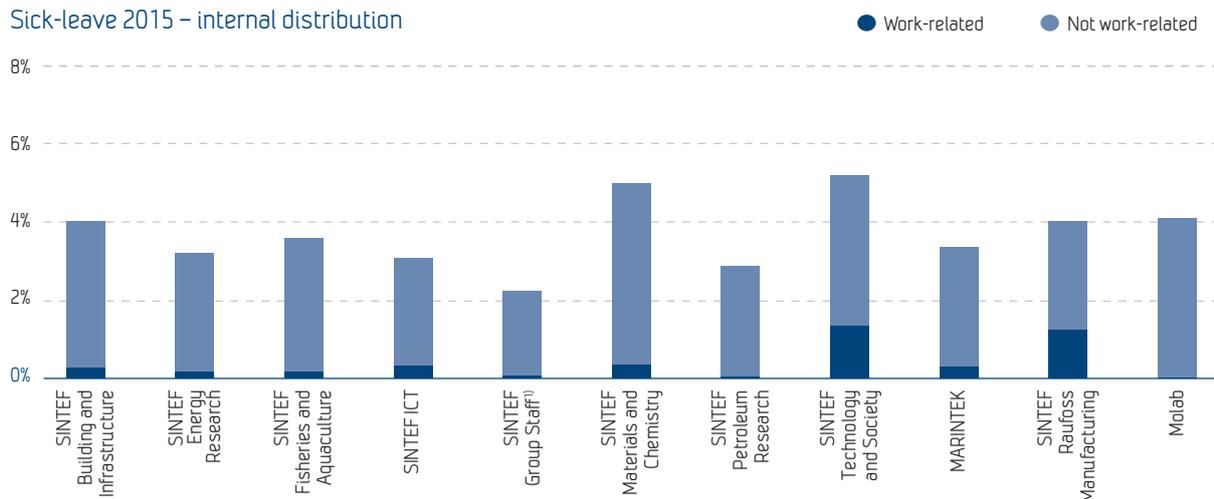
The rate of sick-leave in 2015 was 3.9 per cent, as it was in 2014. Work-related sick-leave ended up at 0.4 per cent, a rise of 0.1 per cent since 2014. SINTEF is an AI company, and all sick-leave, whether work-related or not, is systematically followed up at department level.

Sick-leave



<sup>1)</sup> SINTEF Group, plus companies in SINTEF Holding

## Sick-leave 2015 – internal distribution



<sup>1)</sup> Including SINTEF Property Management, SINTEF TTD and SINTEF North

### 3.4 Safety

SINTEF has a clear vision of having zero accidents, injuries and losses, and the safety of our staff is our overriding concern. Our aim is to ensure that working at SINTEF will not damage the health of our employees.

2015 saw further efforts to close deviations and follow up measures after a major risk assessment that was carried out in 2013 regarding SINTEF's activity in Forskningsveien in Oslo. A number of measures have been implemented to reduce risk levels in individual laboratories and for the building complex itself. The buildings are old, and certain fire-prevention measures were comprehensive in scope.

The "Take care" safety campaign was a major effort in 2015. The background for the campaign was the negative trend in personal and sick-leave injuries that took place up to 2013. The overarching aim of the campaign was to strengthen SINTEF's safety culture, and its sub-goals were to encourage a feeling of responsibility among managers and employees and inspire them to improve safety in their everyday working life. The campaign, which involved all our employees, created a sense of involvement, and increased their knowledge and awareness of risk factors in their own work environment. The campaign will be followed up by measures in departmental HSE plans.

SINTEF wishes to improve safety by getting better at sharing experiences. More reports of events and observations from laboratories, workshops, field-work and professional travel are needed. In 2015, efforts were put into developing SINTEF's damage and deviation system with the aim of simplifying and improving the reporting of undesirable events. It was decided to purchase an app to make the reporting process more easily accessible to staff.

In 2015, HSE audits with a focus on handling of chemicals were carried out at four departments. This topic was chosen because chemicals have been involved in a number of undesirable events in the course of the past few years. The audit showed that there are areas with potential for improvement in the way we deal with chemicals, and such

topics as risk assessment, labelling and training need to be paid more attention. We also performed a causal analysis of events that involved chemicals. These events were analysed with a view to identifying trends that could provide input to areas for improvement. Measures that emerge from the audit and the analysis will be followed up in 2016.

### 3.5 Radiation safety

SINTEF operates a radiation safety contingency plan that includes a radiation safety coordinator from every department. The coordinators are responsible for ensuring that the requirements of the Radiation Safety Act and its accompanying regulations are satisfied. A central radiation safety coordinator coordinates joint activities and acts as SINTEF's contact vis-à-vis the Norwegian Radiation Protection Authority.

In 2015, a meeting of the radiation protection coordinators discussed current topics of interest. An introductory course on radiation protection was also held, as well as a users' course for encapsulated radiation sources and x-ray equipment.

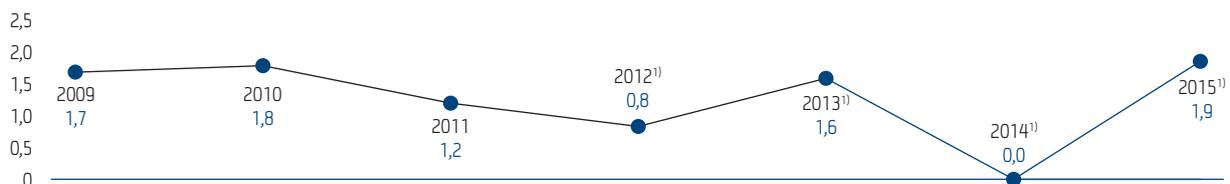
### 3.6 Personal injuries

In 2015, there were seven incidents that led to personal injuries that required sick-leave. Extra follow-up was instituted in the most serious cases, and a number of measures that had the aim of preventing further injuries were implemented during the year. These measures included the safety campaign, analysis of the cause of events involving chemicals, analyses, audits and training.

Frequency of sick leave (H1) and Frequency of personal injuries (H2) figures for 2015 were 1.9 and 4.3 respectively. In 2014, the corresponding figures were 0 and 1.6. Even though we made active efforts to prevent incidents in 2015, these figures represent marked increases in both H1 and H2. These events demonstrate that preventing injuries to the person is an area in which we must continue to act in a goal-oriented way. Long-term efforts are of decisive importance if we are to establish a strong safety culture.

## Frequency of injuries leading to sick leave (H1 value)

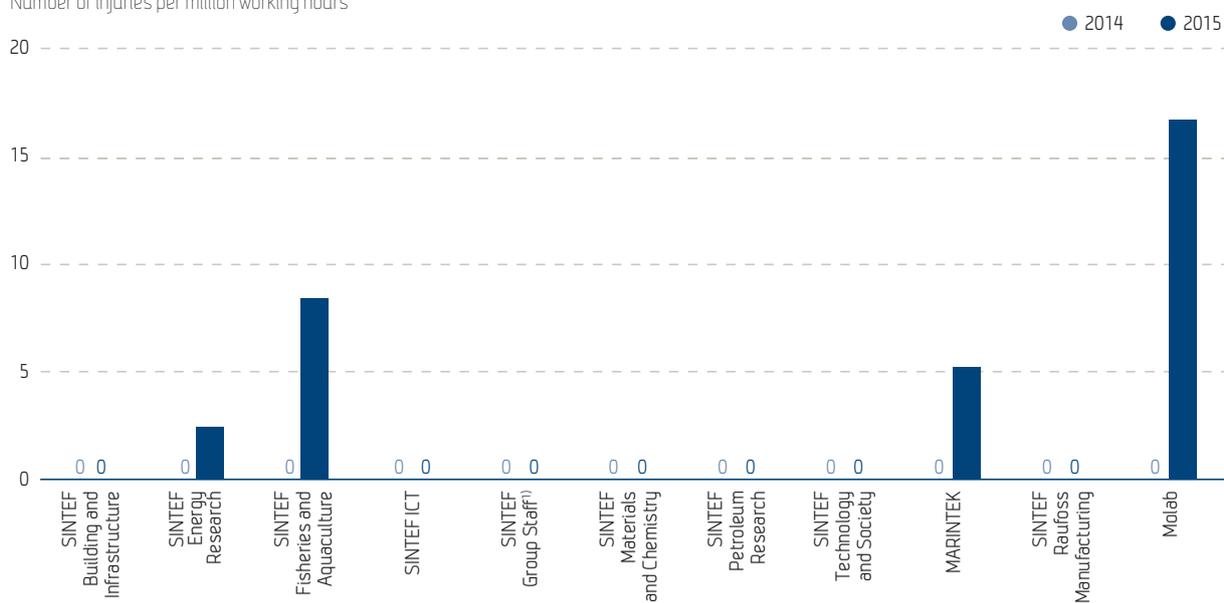
Number of injuries per million working hours



<sup>1)</sup> SINTEF Group plus companies in SINTEF Holding

## Frequency of injuries leading to sick leave (H1 value) – internal distribution

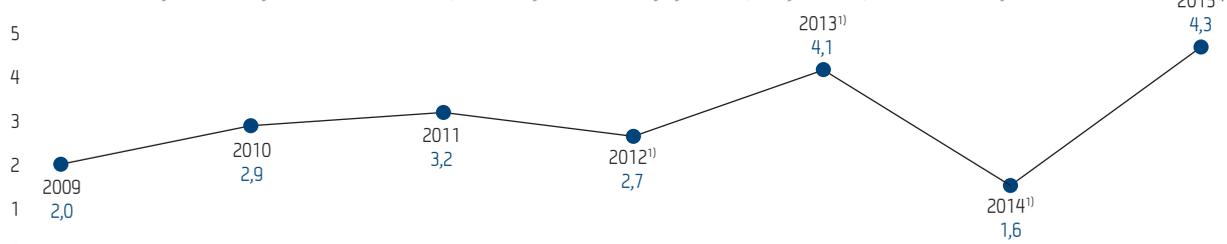
Number of injuries per million working hours



<sup>1)</sup> Including SINTEF Property Management, SINTEF TTO and SINTEF North

## Frequency of personal injuries (H2 value)

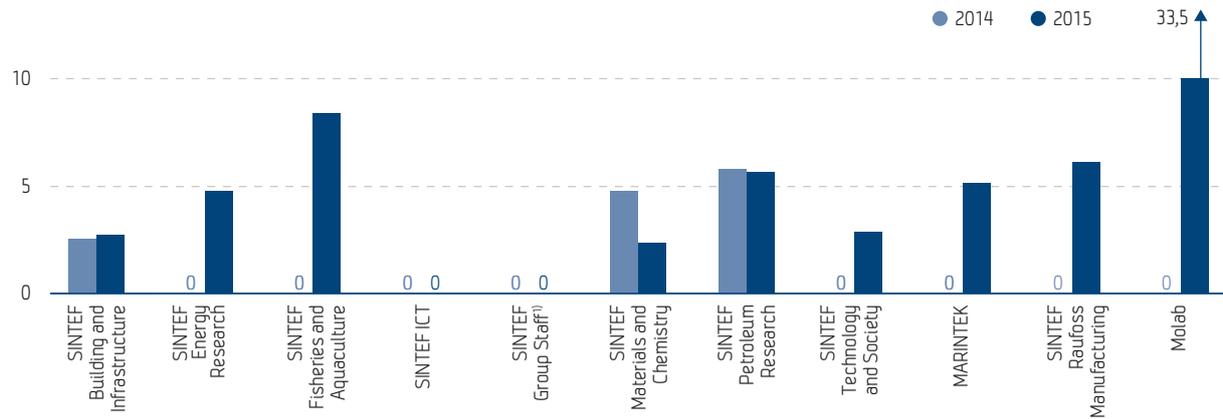
Sum of number of injuries leading to sick leave and other personal injuries, excluding injuries requiring first aid, per million working hours



<sup>1)</sup> SINTEF Group plus companies in SINTEF Holding

### Frequency of personal injuries (H2 value) – internal distribution

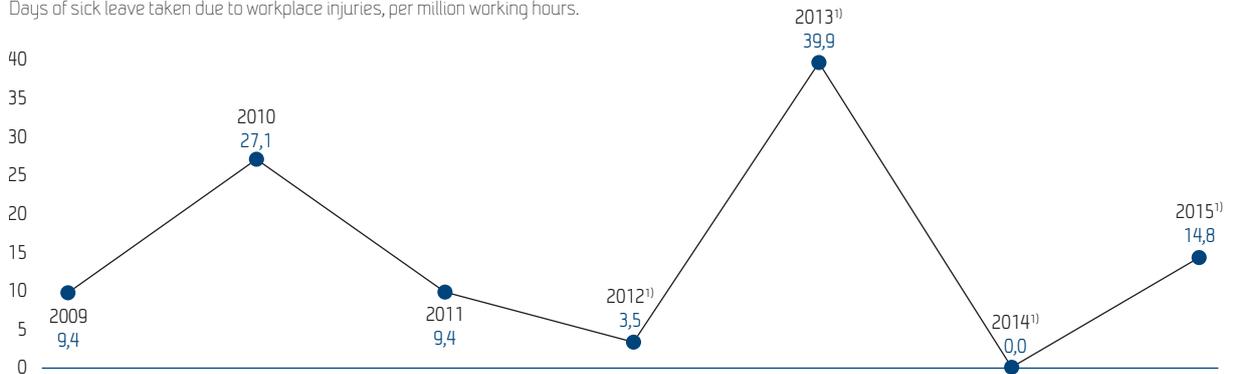
Sum of number of injuries leading to sick leave and other personal injuries, excluding injuries requiring first aid, per million working hours



<sup>1)</sup> Including SINTEF Property Management, SINTEF TTO and SINTEF North

### Frequency of sick leave (F value)

Days of sick leave taken due to workplace injuries, per million working hours.



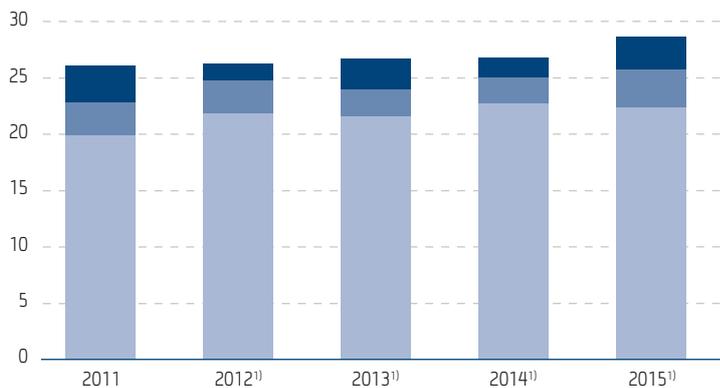
<sup>1)</sup> SINTEF Group plus companies in SINTEF Holding

### 3.7 HSE reports

SINTEF’s reporting and deviations system enables line managers and case officers to follow up reports of deviations. Strengthening our safety culture is dependent on reports being made and followed up by the sharing of experiences at local level in the work environment con-

cerned. Group management is following this topic closely, and there has been a positive trend in the handling and closing of cases. In 2015, 549 HSE reports were dealt with in Synergi, of which 430 were reports of hazardous conditions or observations, 63 were near-accidents and 56 were accidents.

### HSE reports per 100 work-years



<sup>1)</sup> SINTEF Group plus companies in SINTEF Holding

● Hazardous conditions ● Near-accidents ● Accidents

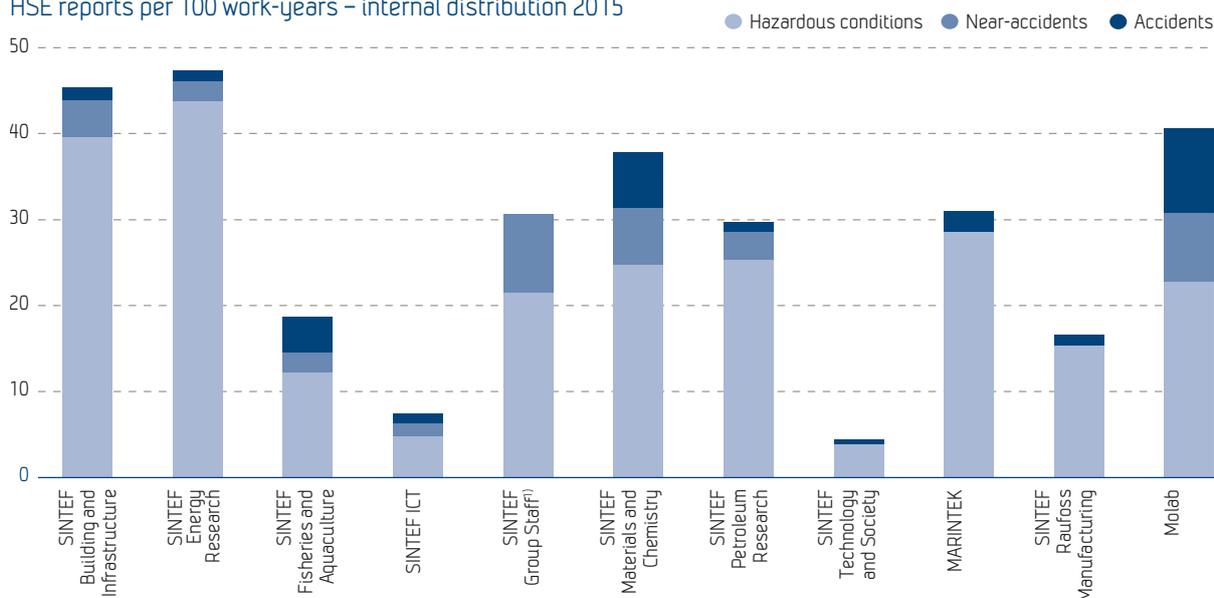
The following definitions are employed in reporting HSE events:

**Accidents:** Occurrences that have led to personal injury (including injuries require first-aid), illness and/or damage to or loss of property, damage to the environment or injury to a third party.

**Near-accidents:** Occurrences that under slightly different circumstances could have led to personal injury, illness and/or damage to or loss of property, damage to the environment or injury to a third party.

**Hazardous conditions:** Circumstances or conditions that could potentially lead to personal injury, illness and/or damage to or loss of property, damage to the environment or injury to a third party.

HSE reports per 100 work-years – internal distribution 2015



<sup>1)</sup> Including SINTEF Property Management, SINTEF TTO and SINTEF North

### Degree of seriousness of accidents and near-accidents

All accidents and near-accidents in SINTEF are evaluated in terms of the risk of their potential consequences for persons, the environment and material values. In 2015,

eight such events were evaluated as having potential to lead to critical risk. Risk assessments are performed and followed up by the department concerned.

### Overview of areas of risk: 2011–2015

	2011	2012	2013	2014	2015
Critical area	5	10	11	8	6
Serious area	28	49	39	27	60
Less serious area	46	33	38	34	41
Sum	79	92	88	69	107

### 3.8 Emergency preparedness

In 2015, there were 11 events that were dealt with through our emergency preparedness organisation, and it is terrorism and the threat of terrorist activities that have created the greatest challenges in this area. SINTEF's intention is to obtain an overview of any actual or threatened terrorism event as quickly as possible, so that our employees can immediately be contacted. This will enable us to let their families and the authorities know whether they are safe and hold a dialogue with them in order to deal with the situation as well as possible.

SINTEF's emergency preparedness organisation is made up of several emergency preparedness managers, and includes an emergency preparedness telephone that is a critical element in our rapid alarm system. We have well-practised internal alert routines for rapid response to emergencies. All our employees are required to order their professional travel through a travel agent that has an agreement with SINTEF, in order to ensure that the preparedness team can immediately obtain an overview of who is at the location of an attack or has ordered travel there.

The emergency preparedness planning system consists of a central preparedness plan and local plans for each department. There are also preparedness plans for IT operating processes, communications, radiation protection and for the family care centre.

An important element in the realisation and further development of emergency plans is the holding of exercises. Every institute holds at least one annual exercise and there is an annual emergency preparedness day for group management. The quality and safety forum takes care of the transfer of experience and emergency preparedness competence development. Major events are dealt with by the Safety Committee for Evaluation and Assessment.

### 3.9 External environment

SINTEF aims to meet the ISO 14001 environmental management standard. Through its systematic efforts to reduce stress on the environment, SINTEF accepts its environmental responsibilities and satisfies the expectations of its clients. Our efforts to meet the ISO standard also lead to greater environmental awareness among our staff. SINTEF has adopted an

environmental action plan, whose significant aspects include energy-efficient operation and the responsible treatment of waste. SINTEF's departments have drawn up their own action plans. SINTEF Materials and Chemistry and SINTEF Building Research have already been certified to ISO 14001, and SINTEF ICT won certification in 2015.

In 2015, there were no reportable incidents that affected the external environment.

Our most important contribution to the environment is our programme of international leading-edge R&D in renewable energy, climate and environmental technology. These areas are being further developed as key areas of special effort in our new general strategy. Our efforts on behalf of the environment are actively communicated externally via dissemination of our research and expertise in the environmental field.

#### 4 SINTEF's HSE plan for 2016

HSE has a clearly defined place in SINTEF's main strategy, and our efforts as regards HSE have four overarching aims:

- SINTEF will maintain a good work environment that promotes good health.
- SINTEF will have a zero rate of work-related sick-leave.
- SINTEF will have a zero rates of injuries, accidents and losses.
- SINTEF will be a company with a clear environmental profile.

SINTEF has approved a series of measures that have the aim of creating a good, safe work environment.

KPI Aims	Measures
<ul style="list-style-type: none"> <li>• Sick-leave &lt;3.5%</li> <li>• Work-related sick-leave = 0%</li> <li>• Staff conversations held = 100%</li> <li>• H1 – Frequency of injuries leading to sick leave = 0*</li> <li>• H2 – Frequency of personal injuries = 0*</li> <li>• Frequency of sick leave (days) = 0*</li> <li>• Accidents = 0</li> <li>• Accidents causing damage to external environment = 0</li> <li>• Potential for critical risk resulting from undesirable events = 0*</li> <li>• Reports from field-work &gt; 8*</li> <li>• Reduce quantity of waste by 10% by 2018 from 2016 level.</li> <li>• Reduce quantity of municipal solid waste by 20% by 2018 from 2016 level.</li> <li>• Reduce energy consumption needed to operate SINTEF's buildings by 5% by 2018 from 2016 level.</li> <li>• Projects to be carried out causing least possible stress to the environment.</li> </ul>	<ul style="list-style-type: none"> <li>• Carry out 2016 work environment survey, draw up action plans and implement measures.</li> <li>• Carry out staff conversations.</li> <li>• Plan and implement HSE training, taking requirements regarding period of validity into account.</li> <li>• Control health of staff in health risks target group.</li> <li>• Reduce rate of sick-leave to zero through good management in accordance with SINTEF's management principles. <ul style="list-style-type: none"> <li>- Pathogenic factors in work environment to be identified by following up employees taking sick-leave.</li> <li>- On-going awareness of level and causes of sick-leave.</li> </ul> </li> <li>• Reduce rate of work-related sick-leave to zero through close follow-up on part of manager.</li> <li>• Follow up high-priority findings of the safety campaign.</li> <li>• Follow up findings of analyses and audits.</li> <li>• Strengthen our competence in risk assessment.</li> <li>• Implement Synergi app.</li> <li>• Implement registration and analysis of causes of undesirable incidents in Synergi.</li> <li>• Follow up SINTEF's environmental action plan.</li> </ul>

\* per million working hours.