

*Evaluation of research in engineering science in Norway*

# **Factual information**

© Norges forskningsråd 200x

Norges forskningsråd  
Postboks 2700 St. Hanshaugen  
0131 OSLO  
Telefon: 22 03 70 00  
Telefaks: 22 03 70 01  
Publikasjonen kan bestilles via internett:  
<http://www.forskningsradet.no/bibliotek/publikasjonsdatabase/>  
eller grønt nummer telefaks: 800 83 001

Internett: [bibliotek@forskningsradet.no](mailto:bibliotek@forskningsradet.no)  
X.400: S=bibliotek;PRMD=forskningsradet;ADMD=telemax;C=no;  
Hjemmeside: <http://www.forskningsradet.no/>

Trykk omslag: AS Lettindustri  
Trykk innmat: Forskningsrådets hustrykkeri  
Opplag: 450

Oslo, juli 2004  
ISBN trykt utgave 82-12-01976-4

## Preface

The Research Council of Norway has carried out a comprehensive review of Norwegian research in engineering science. The evaluation is based on self-evaluations from the institutions involved and peer review assessments and site visits during the year 2004.

The evaluation provides a general assessment of the research in the field in Norwegian universities and some university colleges.

Evaluation panels were established for each of the following subfields:

Panel 1: Construction engineering, Production and Operation

Panel 2: Structures, Materials, Product Development and Design

Panel 3: Energy- and Process Technology

Each panel has delivered a separate evaluation report.

This factual report offers an overview of organisational and administrative data and conditions at the individual research institutes/groups that have taken part in the evaluation. The report is intended to serve as an informational aid for the evaluation process itself and for the discussion of the final panel reports.

The factual report is based on material submitted by the research institutes/groups involved in the evaluation, and covers:

- organisation of the institute
- positions by job category
- number of students graduated
- number of professors, associate professors, professors II and postdocs
- funding

Stavanger University College and The Agricultural University of Norway have been through re-organisations the last year. The factual report only shows data and numbers up to year 2002 and does therefore not reflect the new organisation. To better understand the new organisation in relation to the old one, the report also contains an organisation chart of the new organisation for the involved institutes/research groups at the two mentioned institutions.

The Research Council has obtained permission from the Norwegian Data Inspectorate to draw up this factual report.

Oslo, June 2004

The Research Council of Norway

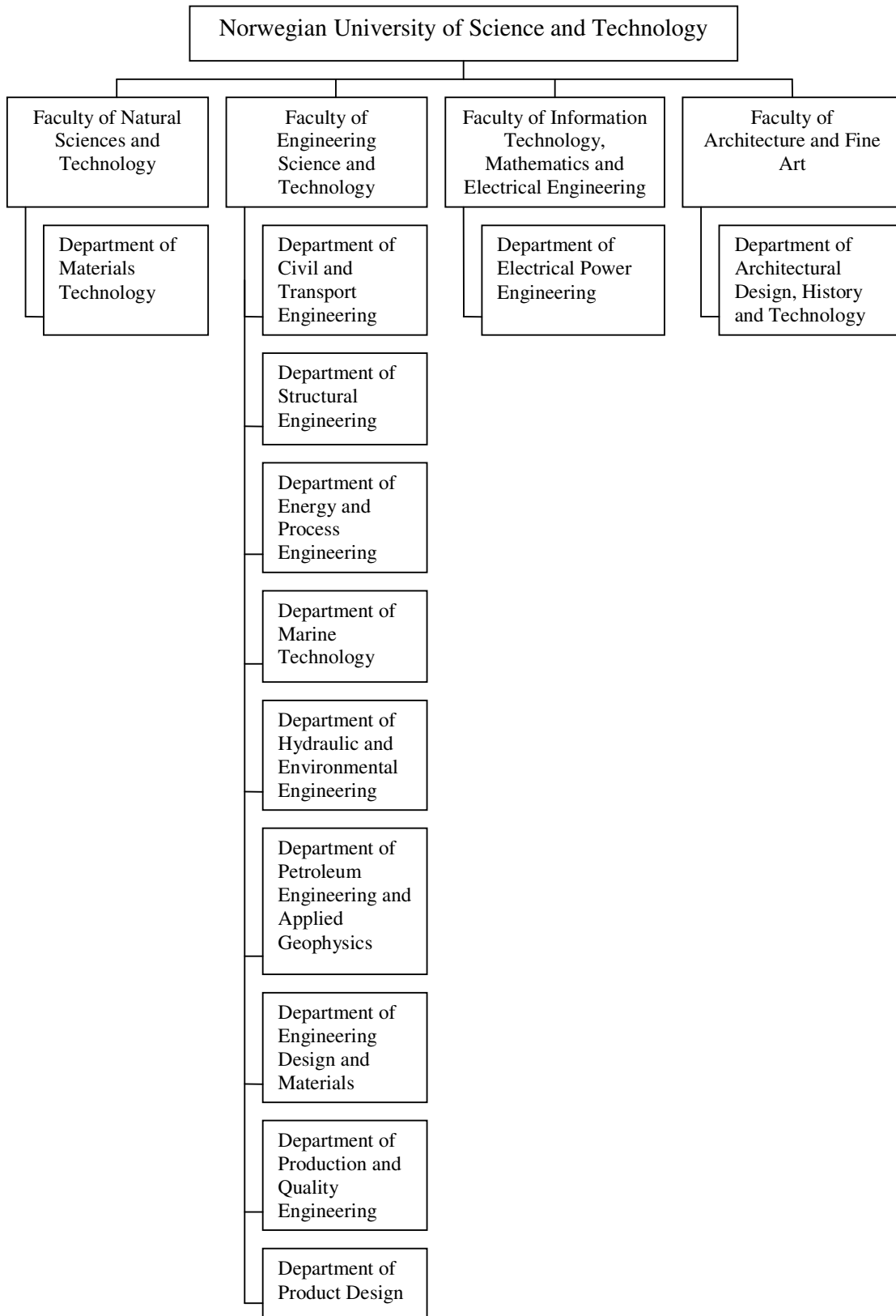


# Contents

<b>Preface .....</b>	<b>3</b>
<b>Contents .....</b>	<b>5</b>
<b>1. Norwegian University of Science and Technology .....</b>	<b>7</b>
1.1. Faculty of Natural Sciences and Technology .....	8
1.1.1. Department of Materials Technology .....	8
1.2. Faculty of Engineering Science and Technology .....	11
1.2.1 Department of Civil and Transport Engineering .....	12
1.2.2. Department of Hydraulic and Environmental Engineering.....	15
1.2.3. Department of Structural Engineering .....	18
1.2.4. Department of Marine Technology.....	21
1.2.6. Department of Product Design .....	27
1.2.7. Department of Production and Quality Engineering.....	29
1.2.8. Department of Energy and Process Engineering .....	31
1.2.9. Department of Petroleum Engineering and Applied Geophysics.....	34
1.3. Faculty of Information Technology, Mathematics and Electrical Engineering .....	37
1.3.1. Department of Electrical Power Engineering.....	37
1.4. Faculty of Architecture and Fine Art.....	39
1.4.1. Former Department of Building Technology .....	39
<b>2. Agricultural University of Norway .....</b>	<b>43</b>
2.1. Department of Agricultural Engineering .....	44
2.2. Department of Mapping Sciences.....	47
<b>3. Narvik University College .....</b>	<b>49</b>
3.1. Department of Building, Production and Engineering Design.....	50
3.2. Department of Computer Science, Power and Space Technology .....	52
<b>4. Stavanger University College .....</b>	<b>55</b>
4.1. Department of Petroleum Engineering .....	56
4.2. Department of Mechanical Engineering and Materials Science .....	58
4.3. Department of Civil Engineering .....	60
<b>5. An overview of staff, research students and funding at the departments .....</b>	<b>62</b>

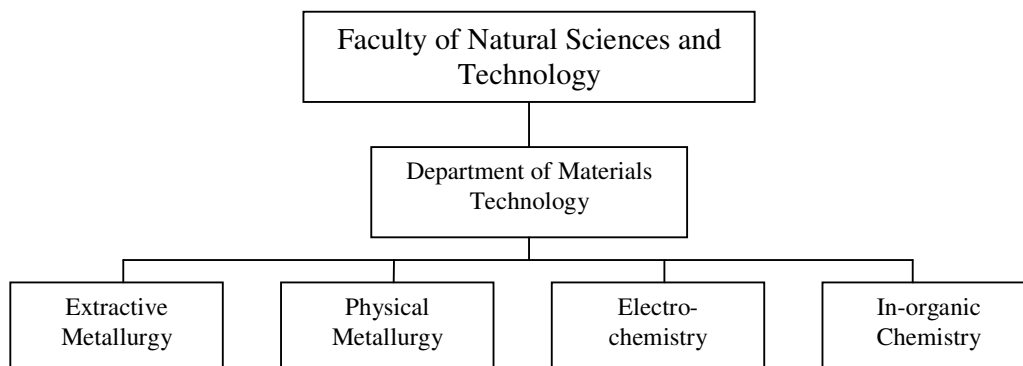


# I. Norwegian University of Science and Technology



## I.1. Faculty of Natural Sciences and Technology

### I.1.1. Department of Materials Technology



### Personnel

<i>Positions</i>	<i>In-organic chemistry</i>		<i>Electro-chemistry</i>		<i>Extractive metallurgy</i>		<i>Physical metallurgy</i>		<i>Tot Univ</i>	<i>Tot Extern</i>
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor (incl. emeritus)	6		6		5		7	1	24	1
Associate professor	2		2						4	
Professor II	2	2		2	2	1	1	3	5	8
Post-doctoral research fellow	1	2		6		2	2	7	3	17
Doctoral students	6	12		16		6		18	6	52
Technical/adm. position*	1		0.5		0.5		1		3	
<b>Total</b>	<b>18</b>	<b>16</b>	<b>8.5</b>	<b>24</b>	<b>7.5</b>	<b>9</b>	<b>11</b>	<b>29</b>	<b>45</b>	<b>78</b>

\*Univ\* = persons financed by the university

\*Extern\* = persons financed by external research grants

\* Technical/adm.position: Positions supporting research



**Professors, associate professors and professors II**

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>
Professor Harald A. Øye	01.02.35	In-Organic chemistry	Professor II Christian Rosenkilde	11.10.64	Electro-chemistry
Professor Terje Østvold	29.10.38	In-Organic chemistry	Professor (emeritus) Johan Kr. Tuset	13.02.32	Extractive metallurgy
Professor Trygve Foosnæs	04.01.53	In-Organic chemistry	Professor (emeritus) Sverre Olsen	03.04.32	Extractive metallurgy
Professor Martin Ystenes	06.06.56	In-Organic chemistry	Professor (emeritus) Jon Arne Bakken	11.07.33	Extractive metallurgy
Professor Mari-Ann Einarsrud	26.11.60	In-Organic chemistry	Professor Thorvald Abel Engh	09.01.34	Extractive metallurgy
Professor Tor Grande	11.08.63	In-Organic chemistry	Professor Leiv Kolbeinsen	15.07.49	Extractive metallurgy
Assoc. professor Dagfinn Bratland	26.01.39	In-Organic chemistry	Professor II Tor Lindstad	31.05.36	Extractive metallurgy
Assoc. professor Kjell Wiik	27.06.55	In-Organic chemistry	Professor II Halvard Tveit	11.01.49	Extractive metallurgy
Professor II Morten Sørli	31.12.43	In-Organic chemistry	Professor II Birger Ydstie	21.01.52	Extractive metallurgy
Professor II Halvor Kvande	29.04.45	In-Organic chemistry	Professor (emeritus) Nils Ryum	02.10.36	Physical metallurgy
Professor II Stein Julsrud	06.01.52	In-Organic chemistry	Professor Erik Aasmund Nes	24.10.39	Physical metallurgy
Professor II Harald Justnes	17.09.55	In-Organic chemistry	Professor Otto Lohne	21.01.41	Physical metallurgy
Professor (emeritus) Jomar Thonstad	28.09.32	Electro-chemistry	Professor Jan Ketil Solberg	05.09.46	Physical metallurgy
Professor (emeritus) Reidar Tunold	15.04.33	Electro-chemistry	Professor Lars Arnberg	30.01.47	Physical metallurgy
Professor (emeritus) Åsmund Sterten	30.04.35	Electro-chemistry	Professor Øystein Grong	05.01.56	Physical metallurgy
Professor Georg Hagen	02.07.40	Electro-chemistry	Professor Knut Marthinsen	22.08.56	Physical metallurgy
Professor Kemal Nisancioglu	11.11.46	Electro-chemistry	Professor Hans Jørgen Roven	22.07.58	Physical metallurgy
Professor Geir Martin Haarberg	17.04.55	Electro-chemistry	Professor II Jarle Hjelen	05.01.52	Physical metallurgy
Assoc. professor Håvard Karoliussen	04.09.62	Electro-chemistry	Professor II Oddvin Reiso	17.01.52	Physical metallurgy
Assoc. professor Børre Børresen	08.10.66	Electro-chemistry	Professor II Ola Jensrud	08.04.54	Physical metallurgy
Professor II Knut Arne Paulsen	21.03.46	Electro-chemistry	Professor II Olaf Engler	27.05.60	Physical metallurgy

## Graduates

	2000	2001	2002	Total
<i>Dr. ing./Dr. scient graduated</i>				
Research group : In-Organic Chemistry	5	4	1	10
Research group : Electrochemistry	3	4	2	9
Research group : Extractive Metallurgy	1	4	5	10
Research group : Physical metallurgy	8	0	4	12
<i>M.Sc.graduated</i>				
Research group : In-Organic Chemistry	5	n/a**	5	10
Research group : Electrochemistry	12	n/a	2	14
Research group : Extractive Metallurgy	4	n/a	1	5
Research group : Physical metallurgy	18	n/a	6	24
<b>Total</b>	<b>56</b>	<b>12</b>	<b>26</b>	<b>94</b>

\*None MSc students graduated in 2001 due to the change from 4.5 to a 5 years program

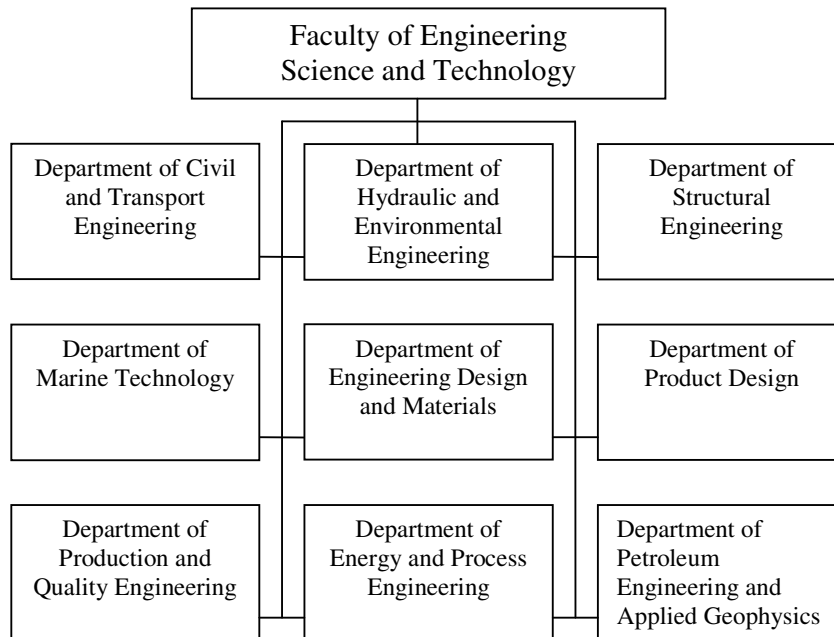
\*\* Not applicable

## R&D expenditures by main source of funding (1000 NOK)

Type of expenditures	2000	2001	2002
University funding*, salaries	12.189	13.642	15.413
University funding, other costs	1.676	1.360	1.785
University funding, instruments and equipment	0	4.388	8.389
<b>University funding, total</b>	<b>13.865</b>	<b>19.390</b>	<b>25.587</b>
The Research Council, grants	5.134	8.236	11.930
Other national grants (public or private):	3.312	3.478	5.101
International grants( incl. EU)	2.580	5.747	5.628
<b>External funding, total</b>	<b>11.026</b>	<b>17.461</b>	<b>22.659</b>
<b>Total expenditures</b>	<b>24.891</b>	<b>36.851</b>	<b>48.246</b>
External funding as % of total expenditures	44,3%	47,4%	47,0%

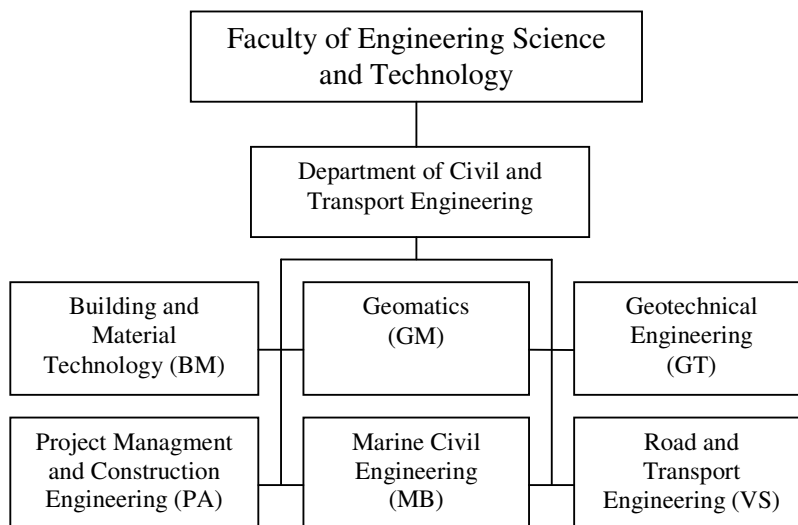
\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

## I.2. Faculty of Engineering Science and Technology



Following the reorganization of the Norwegian University of Science and Technology as per 1 January 2002, the Faculty of Engineering Science and Technology was established. The Faculty consists of the former Faculty of Civil Engineering, the Faculty of Petroleum Engineering and Applied Geophysics, the Faculty of Marine Technology and the Faculty of Mechanical Engineering. The Faculty of Engineering and Science and Technology reorganized the department structure during 2002, reducing the number of departments from 20 to 10.

## 1.2.1 Department of Civil and Transport Engineering



### Personnel

<i>Positions</i>	<i>Research group BM</i>		<i>Research group GM</i>		<i>Research group GT</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	3	0	2	0	2	0
Associate professor*	3	0	3	0	2	0
Professor II	1	0	0	0	1	0
Post-doctoral research fellow	0	0	0	0	0	0
Doctoral students	1	5	2	2	5	0
Technical/adm. position**	2	0	3	0	6	0
<b>Total</b>	<b>10</b>	<b>5</b>	<b>9</b>	<b>2</b>	<b>16</b>	<b>0</b>

<i>Positions</i>	<i>Research group MB</i>		<i>Research group PA</i>		<i>Research group VS</i>		<i>Total Department</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	3	0	2	0	5	0	17	0
Associate professor*	1	0	4	0	3	0	16	0
Professor II	0	2	2	2	0	1	4	5
Post-doctoral research fellow***	0	0	0	6(0)	2	1	2	7(1)
Doctoral students	2	9	1	6	0	11	11	33
Technical/adm. position**	2	0	1	0	4	0	18	0
<b>Total</b>	<b>8</b>	<b>11</b>	<b>10</b>	<b>14(8)</b>	<b>14</b>	<b>13</b>	<b>67</b>	<b>45(39)</b>

"Univ" = persons financed by the university "Extern" = persons financed by external research grants

\* Seven assistant professors are included in this report as associate professor since their position as an assistant professor includes the same duties as an associate professorship.

\*\* Technical/adm.position: Positions supporting research

\*\*\* Six Research fellows without Ph.D. degree are included (number in parentheses only include personnel with Ph.D. degree).

The administration supports the research groups. In the personnel matrix the personnel are distributed to the research groups. The engineering workshop is included in research group Geotechnical Engineering as technical personnel.

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>
Corneliu Athanasiu Prof II	1942	GT	Sveinung Løset Prof.	1956	MB
Øyvind Arntsen Ass.Prof.	1952	MB	Terje Midtbø Prof.	1960	GM
Kjell Austeng Ass.Prof.	1943	PA	Geir Moe Prof.	1938	MB
Svein Bjørberg Prof. II	1944	PA	Helge Mork Ass.Prof.	1960	VS
Eivind Bratteland Prof.	1940	MB	Hossein Nahavandchi Ass.Prof.	1966	GM
Amund Bruland Prof.	1956	PA	Steinar Nordal Prof.	1954	GT
Arvid Dalehaug Ass.Prof.*	1954	BM	Harald Norem Prof.	1943	VS
Karl J. Eidsvik Prof. II	1938	MB	James Odeck Prof. II	1960	VS
Per Terje Eikeland Prof. II	1946	PA	Vegard Olsen Ass.Prof.*	1974	PA
Arnfinn Emdal Ass.Prof.*	1957	GT	Steinar Roald Prof. II	1955	PA
Svein Fjeld Prof. II	1939	MB	Jan Ketil Rød Ass.Prof.	1966	GM
Lars Grande Prof.	1943	GT	Tore Sager Prof.	1945	VS
Arild Gustavsen Ass.Prof.	1971	BM	Knut Samset Prof.	1946	PA
Tore Haavaldsen Prof.	1948	BM	Rolf Sandven Ass.Prof.	1957	GT
Knut Ragnar Holm Prof.	1944	GM	Terje Skogseth Ass.Prof.*	1949	GM
Ivar Horvli Prof.	1950	VS	Anne Elise Steen-Hansen Ass.Prof.	1963	BM
Asbjørn Hovd Prof.	1945	VS	Bjørn Svensvik Prof. II	1946	PA
Per Jostein Hovde Prof.	1947	BM	Jan Vincent Thue Prof.	1945	BM
Bjørn Høsøien Ass.Prof.*	1937	VS	Olav Torp Ass.Prof.*	1970	PA
Stein Johannessen Prof.	1946	VS	Marit Støre Valen Ass.Prof.	1967	PA
Harald Landrø Prof. II	1948	BM	Arvid Aakre Ass.Prof.*	1959	VS

\* Assistant professors with the same duties as an associate professorship

## Graduates

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
<i>Dr. ing./Dr. scient graduated</i>				
Building and Material Technology (BM)	0	3	1	4
Geomatics (GM)	0	0	0	0
Geotechnical Engineering (GT)	1	0	1	2
Marine Civil Engineering (MB)	5(0)	0	2(0)	7(0)
Project Management and Construction Engineering (PA)	1	0	1	2
Road and Transport Engineering (VS)	2	2	5	9
<i>M.Sc. graduated</i>				
Building and Material Technology (BM)	21	3	24	48
Geomatics (GM)	9	4	3	16
Geotechnical Engineering (GT)	7	3	3	13
Marine Civil Engineering (MB)	2(0)	3(0)	5(0)	10(0)
Project Management and Construction Engineering (PA)	40	10	41	91
Road and Transport Engineering (VS)	10	5	15	30
<b>Total</b>	<b>98 (91)</b>	<b>33 (30)</b>	<b>101 (94)</b>	<b>232 (215)</b>

The low number of M.Sc. graduated in 2001 is due to the change of the length of the M.Sc. study at NTNU from 4 ½ to 5 years in 2001/2002.

The graduates from Marine Civil Engineering (MB) are included in the Graduates matrix although the MB research group in the years 2000, 2001 and 2002 was part of the Department of Structural Engineering (number in parentheses does not include graduates from Marine Civil Engineering).

## R&D expenditures by main source of funding (1000 NOK)

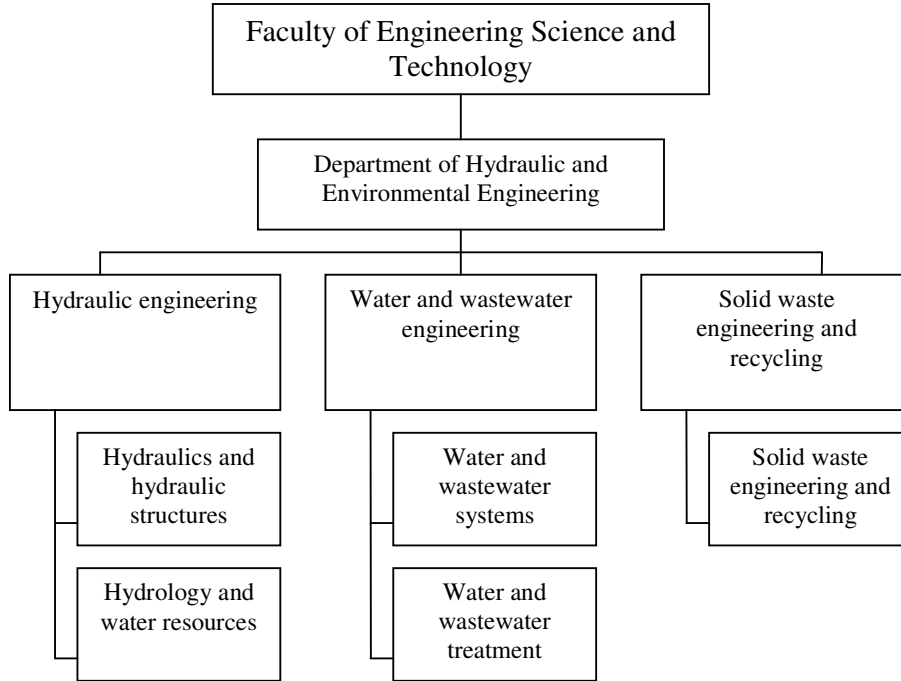
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	19 912	22 179	23 247
University funding, other costs	2 356	2 816	3 306
University funding, instruments and equipment	0	0	0
<b>University funding, total</b>	<b>22 268</b>	<b>24 995</b>	<b>26 553</b>
The Research Council, grants	1 498	1 070	775
Other national grants (public or private):	13 858	18 113	14 281
International grants( incl EU)	706	823	2 405
<b>External funding, total</b>	<b>16 062</b>	<b>20 006</b>	<b>17 461</b>
<b>Total expenditures</b>	<b>38 330</b>	<b>45 001</b>	<b>44 014</b>
External funding as % of total expenditures	41,9 %	44,5 %	39,7%

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

The expenditures of the research group Marine Civil Engineering is **not** included in this report. The Marine Civil Engineering group was an integrated part of Department of Structural Engineering in 2000, 2001 and 2002, and it is very difficult to stipulate the expenditures linked to that specific group. The expenditures of the Marine Civil Engineering group is included in the report from Department of Structural Engineering.

There has been an extensive reorganising after the period described by the R&D expenditures matrix. The research group Marine Civil Engineering was part of Department of Structural Engineering. The research group Building and Material Technology (BM) together with Project Management and Construction Engineering (PA) made up the Department of Building and Construction Engineering. The research group Road and Transport Engineering (VS) consists of two prior departments, Department of Road and Railway Engineering and Department of Transport Engineering. The research group Geomatics (GM) and the research group Geotechnical Engineering (GT) where both individual Departments.

## I.2.2. Department of Hydraulic and Environmental Engineering



### Personnel

	<i>Hydraulic engineering</i>		<i>Water and wastewater engineering</i>		<i>Solid waste engineering and recycling</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>								
Professor	2	1	3		1		6	1
Associate professor	2		2				4	
Professor II		2 <sup>3</sup>		1	1	1	1	4
Post-doctoral research fellow		1	1 <sup>3</sup>	2			1	3
Doctoral students	2	4	5 <sup>3</sup>	3		4	7	11
Technical/adm. position*	1 <sup>1</sup>		1 <sup>1</sup> +1 <sup>2</sup>				3	
<b>Total</b>	<b>7</b>	<b>8</b>	<b>13</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>22</b>	<b>19</b>

"Univ" = persons financed by the university "Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

<sup>1</sup>2 positions distributed with ½ on each group, <sup>2</sup> 2 persons in ½ time positions, <sup>3</sup> One position vacant per 15.11.03

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Prof. dr.ing Haakon Støle	27.08.58	Hydraulic engineering	Assoc.prof. dr.ing. Knut Alfredsen	28.03.65	Hydraulic engineering
Prof. dr.ing Aanund Killingtveit	18.10.46	Hydraulic engineering	Assoc.prof II, dr.ing. Leif Lia	21.08.68	Hydraulic engineering
Prof. dr.ing. Nils Reidar Olsen	30.03.63	Hydraulic engineering	Assist. prof., siv.ing. Yngve Robertsen	23.11.51	Hydraulic engineering
Prof. II NN (vacant)	-	Hydraulic engineering			
Prof. dr.ing. Hallvard Ødegaard	11.12.45	Water and wastewater	Assoc.prof. dr.ing. TorOve Leiknes	23.05.58	Water and wastewater
Prof. Dr.-Ing. Dr.habil Wolfgang Scilling	23.02.54	Water and wastewater	Assoc.prof.,siv.ing. Sveinn Thorolfsson	05.09.45	Water and wastewater
Prof. dr.ing. Liv Fiksdal	16.02.44	Water and wastewater	Prof. II, dr.ing Sveinung Sægrov	15.09.51	Water and wastewater
Prof. dr.ing. Helge Brattebø	16.08.54	Solid waste eng./recycl.	Prof II, dr.ing. Kjell Øren	01.04.50	Solid waste eng./recycl.
Prof II, dr.ing. Aage Heie	15.08.42	Solid waste eng./recycl.			

## Graduates

	<i>2000</i>	<i>2001<sup>1</sup></i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Hydraulic engineering	-	-	3	3
Water and wastewater engineering	2	1	3	6
Solid waste engineering and recycling	-	-	-	0
<i>M.Sc.graduated</i>				
Hydraulic engineering	27 (19) <sup>2</sup>	15 <sup>1</sup> (15) <sup>2</sup>	19 (14) <sup>2</sup>	61 (48) <sup>2</sup>
Water and wastewater engineering	7	3 <sup>1</sup>	10	20 <sup>1</sup>
Solid waste engineering and recycling	-	1 <sup>1</sup>	-	1 <sup>1</sup>
<b>Total</b>	<b>34</b>	<b>19<sup>1</sup></b>	<b>29</b>	<b>82</b>

<sup>1</sup> Because there was a change in the length of the MSc-study the only MSc-students graduating in 2001 in the ordinary MSc-study were those that were ½ year late with their graduation. Students in the international MSc-programme Hydropower Planning and Development (HPD-programme) graduated as usual

<sup>2</sup> Numbers in brackets are MSc-graduates from the international MSc-programme in Hydropower Planning and Development (HPD-programme)



### R&D expenditures by main source of funding (1000 NOK)

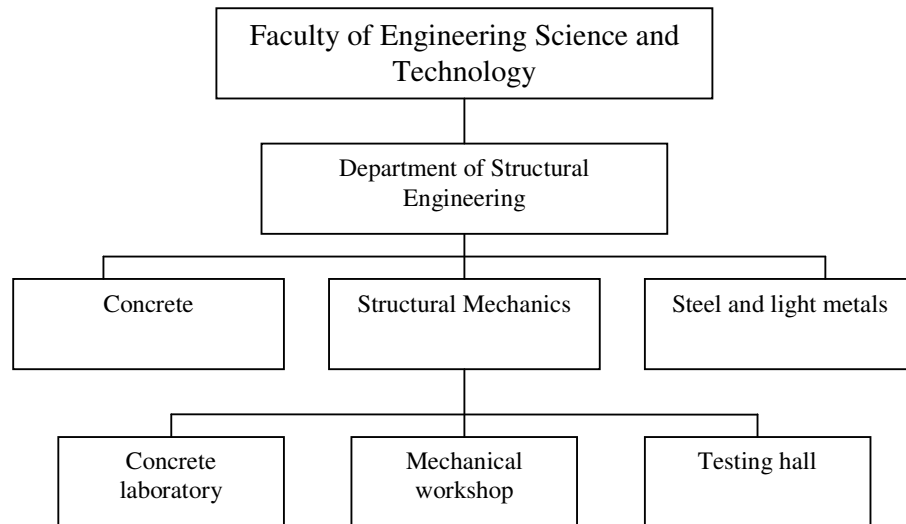
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	7.113	9.249	7.404
University funding, other costs	1.019	1.057	3.018
University funding, instruments and equipment	442 <sup>1</sup>	642 <sup>1</sup>	489 <sup>1</sup>
<b>University funding, total</b>	<b>8.574</b>	<b>10.948</b>	<b>10.911</b>
The Research Council, grants			
IVM	2.804	2.067	1.121
<i>SINTEF (in cooperation with IVM)</i> <sup>2</sup>	<i>1.957</i>	<i>995</i>	<i>1392</i>
Other national grants (public or private):			
IVM	6.285	5.657	6.638
<i>SINTEF (in cooperation with IVM)</i> <sup>2</sup>	<i>2.686</i>	<i>1.321</i>	<i>1.867</i>
International grants( incl. EU)			
IVM	389	659	617
<i>SINTEF (in cooperation with IVM)</i> <sup>2</sup>	<i>767</i>	<i>2.914</i>	<i>6.478</i>
<b>External funding, total (IVM only)</b>	<b>9.478</b>	<b>8.383</b>	<b>8.376</b>
<b>Total expenditures (IVM only)</b>	<b>18.052</b>	<b>19.331</b>	<b>19.287</b>
External funding as % of total expenditures	52.5	43.4	43.4

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and IRCNastructure.

<sup>1</sup> This is strategic university project – very little is expenditure for instruments and equipment. In this period no major instrument or equipment has been purchased over the department budgets. Expenditure for minor instrument and equipment is covered under University funding, other costs or is paid for through contract research in cooperation with SINTEF

<sup>2</sup> Especially in the area of Water and Wastewater Engineering group there is a close cooperation with SINTEF (Department of water and wastewater). There is also collaboration with SINTEF Energy Research. The data given is the funding of SINTEF projects in which department staff and department laboratory has played a significant role in the projects. These data are included to show the significance of the cooperation with SINTEF. They are not included in the bottom line.

### I.2.3. Department of Structural Engineering



### Personnel

<i>Positions</i>	<i>Research group/unit Concrete</i>		<i>Research group/unit Steel and light metals</i>		<i>Research group/unit Structural Mechanics</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	6		3	1	11		20	1
Associate professor				1	3		3	1
Professor II		4		1		2		7
Post-doctoral research fellow		2	1		1		2	2
Doctoral students	3	12	2	14	4	15	9	41
Technical/adm. position*							19	3
<b>Total</b>	<b>8</b>	<b>18</b>	<b>6</b>	<b>16</b>	<b>19</b>	<b>18</b>	<b>53</b>	<b>55</b>

\*Univ\* = persons financed by the university

\*Extern\* = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Fridtjov Irgens, Professor	12.02.19 35	Structural Mechanics	Terje Kanstad, Professor	13.09.19 57	Concrete
Odd E. GjØrv, Professor	05.04.19 35	Concrete	Kjell Magne Mathisen, Professor	30.05.19 58	Structural Mechanics
Erik Johan Sellevold, Professor	10.12.19 38	Concrete	Bjørn Skallerud, Professor	04.08.19 59	Structural Mechanics
Per Jahn Haagensen, Professor	18.01.19 39	Structural Mechanics	Odd Sture Hopperstad, Professor	09.01.19 63	Steel and light metals
Kolbein Bell, Professor	23.01.19 39	Structural Mechanics	Zhiliang Zhang, Professor	06.11.19 64	Structural Mechanics
Per Kristian Larsen, Professor	28.04.19 40	Steel and light metals	Leidulv Vinje, Adjunct Professor	23.08.19 42	Concrete
Øystein Vennesland, Professor	08.10.19 42	Concrete	Pål G. Bergan, Adjunct Professor	29.10.19 43	Structural Mechanics
Svein Remseth, Professor	31.07.19 43	Structural Mechanics	Magne Maage, Adjunct Professor	06.02.19 44	Concrete
Kjell Harald Holthe, Professor	21.07.19 46	Structural Mechanics	Tore H Søreide, Adjunct Professor	20.04.19 48	Structural Mechanics
Svein Ivar Sørensen, Professor	15.09.19 47	Concrete	Roar Myrdal, Adjunct post doc	04.01.19 56	Concrete
Arvid Næss, Professor	17.11.19 47	Structural Mechanics	Jan Bjarte Aarseth, Assistant professor	20.03.19 42	Structural Mechanics
Einar Norleif Strømme, Professor	04.08.19 48	Structural Mechanics	Erling Nardo Dahl, Associate professor	31.01.19 43	Structural Mechanics
Tor G. Syvertsen, Professor	15.12.19 49	Structural Mechanics	Arne Aalberg, Associate professor	13.04.19 63	Steel and light metals
Magnus Langseth, Professor	18.06.19 52	Steel and light metals	Arild Holm Clausen, Associate professor	12.04.19 68	Structural Mechanics
Karl Vincent Høiseth, Professor	24.03.19 55	Concrete	Tore Børvik, Adjunct associate professor	02.08.19 67	Steel and light metals
Kjell Arne Malo, Professor	22.06.19 56	Structural Mechanics	Ernst Mørtzell, Adjunct post doc		Concrete

## Graduates

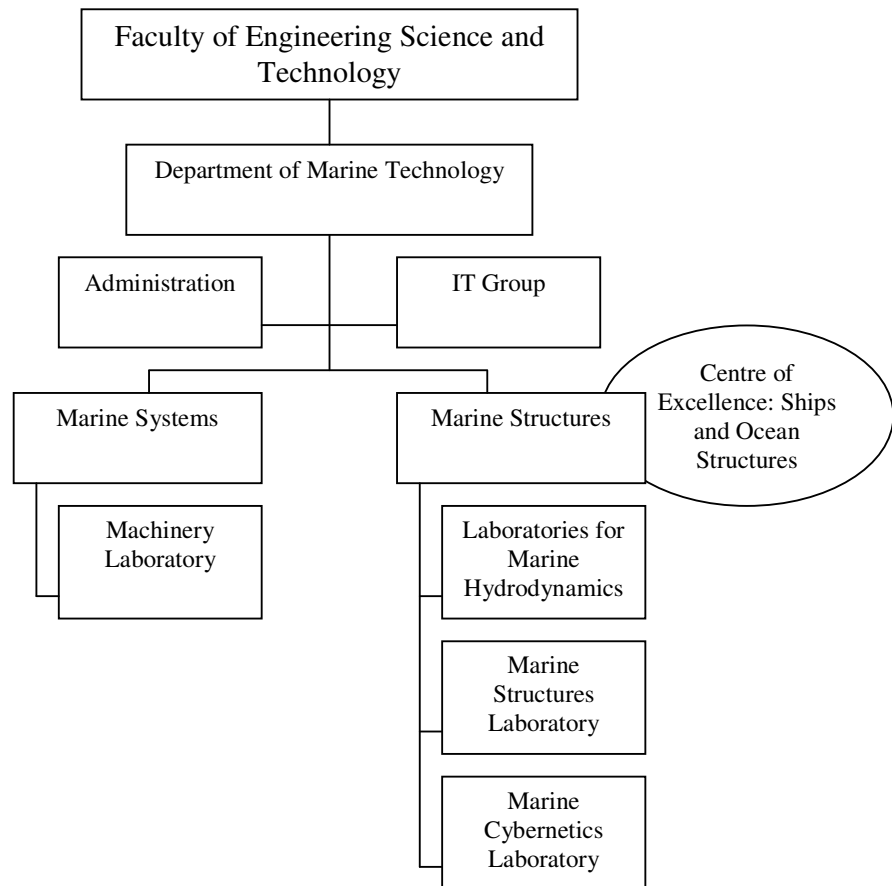
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group Concrete	2	3	1	6
Research group Structural mechanics	3	-	2	5
Research group Marine Civil Engineering	3	-	2	5
Research group Steel and light metals (SIMLab)	2	-	1	3
<i>M.Sc. graduated</i>				
Research group Concrete	26	3	25	54
Research group Structural mechanics	6	3	10	19
Research group Marine Civil Engineering	4	4	4	12
Research group Steel and light metals (SIMLab)	7	10	17	34
<b>Total</b>	<b>53</b>	<b>23</b>	<b>62</b>	<b>138</b>

**R&D expenditures by main source of funding (1000 NOK)**

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	19 629	19 865	19 339
University funding, other costs	1 672	1 869	1 701
University funding, instruments and equipment			
<b>University funding, total</b>	<b>21 301</b>	<b>21 734</b>	<b>21 040</b>
The Research Council, grants	4 344	8 152	8 620
Other national grants (public or private):	11 781	12 730	14 822
International grants( incl EU)	216	248	655
<b>External funding, total</b>	<b>16 331</b>	<b>21 130</b>	<b>24 157</b>
<b>Total expenditures</b>	<b>37 632</b>	<b>42 864</b>	<b>45 197</b>
External funding as % of total expenditures	~ 43 %	~ 49 %	~ 53 %

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

## I.2.4. Department of Marine Technology



### Personnel

	<i>Marine Systems</i>		<i>Marine Structures</i>		<i>CeCOS</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Professor</i>	8	0	9	0	1	0	18	0
<i>Associate professor</i>	5	0	1	0	0	0	6	0
<i>Professor II</i>	5	1	4	0	0	0	9	1
<i>Post-doctoral research fellow</i>	2	0	1	0	1	0	4	0
<i>Doctoral students</i>	7	3	8	9	1	4	16	16
<i>Technical/adm. position*</i>	6	0	10	0	1	0	17	0
<b>Total</b>	<b>33</b>	<b>4</b>	<b>34</b>	<b>9</b>	<b>4</b>	<b>4</b>	<b>70</b>	<b>17</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Almås, Terje, professor	1934	Marine Systems	Amdahl, Jørgen, professor	1951	Marine Structures
Digernes, Torbjørn, professor	1947	Marine Systems	Berge, Stig, professor	1942	Marine Structures
Endal, Anders, professor	1935	Marine Systems	Faltinsen, Odd Magnus, professor	1944	Marine Structures
Kristiansen, Svein, professor	1942	Marine Systems	Larsen, Carl Martin, professor	1945	Marine Structures
Rasmussen, Magnus, professor	1938	Marine Systems	Leira, Bernt Johan, professor	1954	Marine Structures
Valland, Harald, professor	1942	Marine Systems	Minsaas, Knut Johan, professor	1936	Marine Structures
Westby, Ola, professor	1939	Marine Systems	Moan, Torgeir, professor **	1944	Marine Structures
White, Maurice Furneaux, professor	1950	Marine Systems	Myrhaug, Dag, professor	1947	Marine Structures
Hansen, Tore, ass. professor	1947	Marine Systems	Pettersen, Bjørnar, professor	1949	Marine Structures
Karlsen, Ludvig, ass. Professor	1945	Marine Systems	Sørensen, Asgeir Johan, professor	1964	Marine Structures
Pedersen, Eilif-Harald, ass. Professor	1956	Marine Systems	Pedersen, Egil, ass. professor	1967	Marine Structures
Sillerud, Bjørn Oskar, ass. Professor	1941	Marine Systems	NN, professor*		Marine Structures
Sortland, Bjørn, ass. Professor	1953	Marine Systems	Berg, Tor Einar, prof. II	1946	Marine Structures
Braathen, Chris Mullens, prof. II	1937	Marine Systems	Nielsen, Finn Gunnar, prof. II	1951	Marine Structures
Erikstad, Stein Ove, prof. II	1965	Marine Systems	Zhao, Rong, prof. II	1959	Marine Structures
Levander, Kai, prof. II		Marine Systems	NN, prof. II*		Marine Structures
NN, prof. II*		Marine Systems	Holm, Håvard, research scientist	1970	Marine Structures
Andersen, Trond Michael, ass. prof. II	1967	Marine Systems			
Fagerholt, Kjetil, ass. prof. II	1969	Marine Systems			
Thorstensen, Tom Anders, ass. prof. II	1968	Marine Systems			

\*The post is announced but still vacant

\*\* Prof. Moan is the head of the Centre of Excellence in Ships and Oceans Structures(CeSOS) (80% at the centre and 20% at the department)

## Graduates

	2000	2001	2002	Total
<i>Dr. ing./Dr. scient graduated</i>				
Marine Systems	3	1	1	5
Marine Structures	3	5	7	15
CeSOS	-	-	-	-
<i>M.Sc. graduated</i>				
Marine Systems	35	16	51	102
Marine Structures	57	22	34	113
<b>Total</b>	<b>98</b>	<b>44*</b>	<b>93</b>	<b>235</b>

\*Low numbers are due to the shift from 4,5 to 5 years.

## R&D expenditures by main source of funding (1000 NOK)

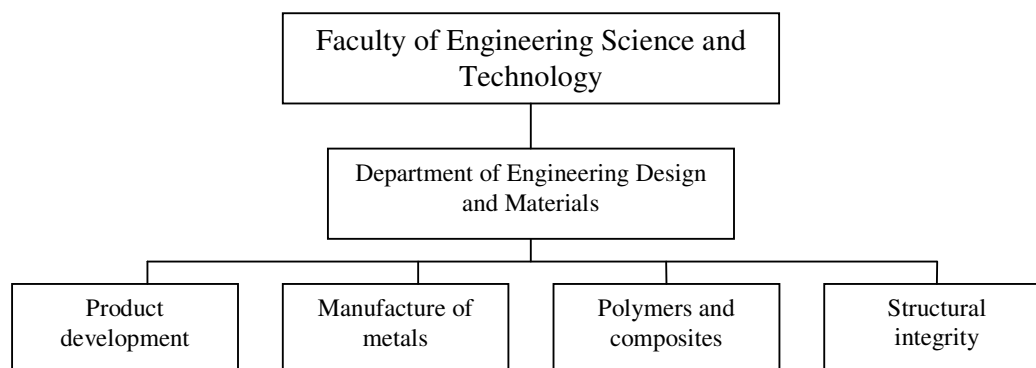
Type of expenditures	2000	2001	2002 <sup>1</sup>
University funding*, salaries <sup>2</sup>	26 700	31 053	29 232
University funding, other costs	22 400	24 911	14 526
University funding, instruments and equipment		500	
<b>University funding, total</b>	<b>49 100</b>	<b>56 464</b>	<b>43 758</b>
The Research Council, grants	17 159	6 329	9 626
Other national grants (public or private):	7 935	8 419	7 019
International grants( incl EU)	2 641	2 087	3 035
<b>External funding, total</b>	<b>27 735</b>	<b>16 835</b>	<b>19 680</b>
<b>Total expenditures</b>	<b>76 835</b>	<b>73 299</b>	<b>63 438</b>
External funding as % of total expenditures	36%	23%	31%

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

<sup>1</sup> Reduced university funding and expenditures because of the reorganisation from a faculty with 4 departments into 1 department.

<sup>2</sup> University funding for strategic purposes is included for 2001 and 2002.

1.2.5. Department of Engineering Design and Materials



**Personnel**

<i>Positions</i>	<i>Product development</i>		<i>Manufacture of metals</i>		<i>Plastics and composites</i>		<i>Structural integrity</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	4	-	2	-	2	-	3	-	11	-
Associate professor	2	-	-	-	1	-	-	-	3	-
Professor II	-	1	-	2	-	2	-	1	-	6
Post-doctoral research fellow	-	-	1	-	2	-	1	-	4	-
Doctoral students	1	8	-	3	1	8	-	3	2	22
Technical/ adm. position*	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>7</b>	<b>9</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>20</b>	<b>28</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research



## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Prof. Hilde Hans Petter	130262	Product development	Prof. II Langøy Morten	040462	Manufacture of metals
Prof. Sivertsen Ole Ivar	291245	Product development	Prof. Gustafson Claes-Gøran	100346	Plastics and composites
Prof. Fjeldaas Sven	290651	Product development	Prof. Oksman Kristiina	070859	Plastics and composites
Prof. Støren Sigurd	040439	Product development	Assoc. Prof. Vedvik Nils Petter	020769	Plastics and composites
Prof. II Rølvåg Terje	161063	Product development	Prof. II Stori Åge	280251	Plastics and composites
Assoc. Prof. Blankenburg Detlef	280962	Product development	Prof. II Echtermeyer Andreas	170757	Plastics and composites
Assoc. Prof. Knut Helmer Knutsen	010835	Product development	Prof. Thaulow Christian	150148	Structural integrity
Prof. Valberg Henry	240350	Manufacture of metals	Prof. Tønder Kristian	191137	Structural integrity
Prof. Halmøy Einar	170340	Manufacture of metals	Prof. Harkegård Gunnar	171245	Structural integrity
Prof. II Welø Torgeir	180760	Manufacture of metals	Prof. II Steismo Unni	150354	Structural integrity

## Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Produktutvikling	-	2	-	<b>2</b>
Bearbeiding	-	1	-	<b>1</b>
Plast og kompositt	-	2	-	<b>2</b>
Konstruksjoners integritet	-	-	2	<b>2</b>
<i>M.Sc. graduated</i>	<i>2000</i>	<i>2001<sup>1</sup></i>	<i>2002</i>	
Produktutvikling	20		27	<b>47</b>
Bearbeiding	4		5	<b>9</b>
Plast og kompositt	2		2	<b>4</b>
Konstruksjoners integritet	5		6	<b>11</b>
<b>Total</b>	<b>31</b>	<b>5</b>	<b>42</b>	<b>78</b>

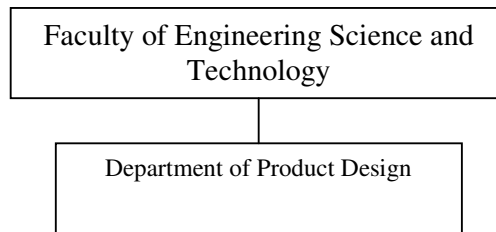
<sup>1</sup> The length of M.Sc. program was changed at 2001 from 4.5 year to 5 year which means that 2001 was a transition period for the new program.

**R&D expenditures by main source of funding (1000 NOK)**

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	8390	8715	9370
University funding, other costs	-	-	-
University funding, instruments and equipment	363	-	2600
<b>University funding, total</b>	<b>8753</b>	<b>8715</b>	<b>11970</b>
The Research Council, grants	1378	1890	3095
Other national grants (public or private):	2991	4836	4436
International grants( incl EU)	-	-	-
<b>External funding, total</b>	<b>4369</b>	<b>6726</b>	<b>7531</b>
<b>Total expenditures</b>	<b>13122</b>	<b>15441</b>	<b>19501</b>
External funding as % of total expenditures	33	43	39

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

## I.2.6. Department of Product Design



### Personnel

<i>Positions</i>	<i>Product Design</i>	
	<i>Univ</i>	<i>Extern</i>
Professor (1 vacant position)		
Associate professor	6	
Professor II		1
Post-doctoral research fellow	2	1
Doctoral students	2	5
Technical/adm. position*	1	
<b>Total</b>	<b>11</b>	<b>7</b>

”Univ” = persons financed by the university      ”Extern” = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

### Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>
Bjørn Baggerud, Associate professor	1953
Jóhannes B. Sigurjónsson, Associate professor	1956
Mette Mo Jakobsen, Associate professor	1963
Ole Petter Wullum, Associate professor	1965
Trond Are Øritsland, Associate professor	1963
Jon Herman Rismoen, Associate professor	1963
Ole Jørgen Hansen, Professor II	1955

## Graduates

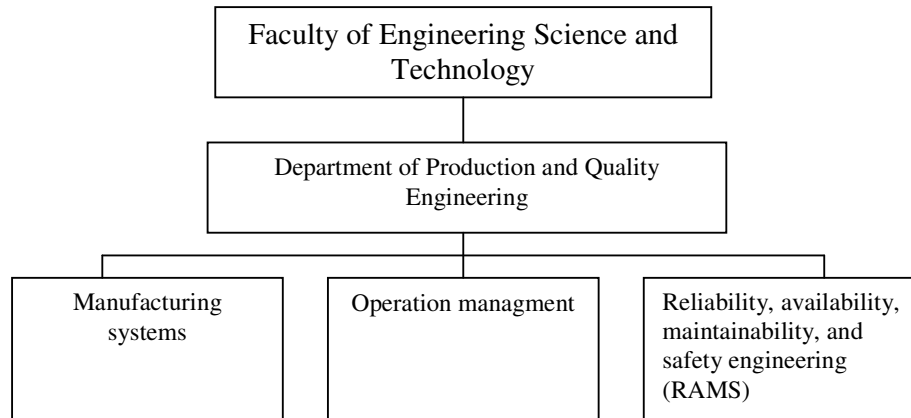
	2000	2001	2002	Total
<i>Dr. ing./Dr. scient graduated</i>		1	1	2
<i>M.Sc.graduated</i>	16	16	10	42
<b>Total</b>	<b>16</b>	<b>17</b>	<b>11</b>	<b>44</b>

## R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	2000	2001	2002
University funding*, salaries	4.364	5.096	5.027
University funding, other costs	1.404	1.136	1.779
University funding, instruments and equipment	179	277	868
<b>University funding, total</b>	<b>5.947</b>	<b>6.509</b>	<b>7.674</b>
The Research Council, grants	1.517	2.520	2.330
Other national grants (public or private):	550	850	1.056
International grants( incl EU)	-	-	-
<b>External funding, total</b>	<b>2.067</b>	<b>3.370</b>	<b>3.386</b>
<b>Total expenditures</b>	<b>8.014</b>	<b>9.879</b>	<b>11.060</b>
External funding as % of total expenditures	26%	34%	31%

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

## 1.2.7. Department of Production and Quality Engineering



### Personnel

	<i>Manufacturing systems</i>		<i>Operation management</i>		<i>RAMS</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Professor</i>	4		3		1		8	
<i>Associate professor</i>			2		1		3	
<i>Professor II</i>			1			2	1	2
<i>Post-doctoral research fellow</i>		1	1		1		2	1
<i>Doctoral students</i>		10		12	1	3	1	25
<i>Technical/adm. position*</i>							9	
<b>Total</b>	<b>4</b>	<b>11</b>	<b>7</b>	<b>12</b>	<b>4</b>	<b>5</b>	<b>24</b>	<b>28</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

### Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Andersen Bjørn, professor	06.12.68	Operations management	Rausand Marvin, professor	21.12.49	RAMS*
Aune Asbjørn, professor	02.04.37	Operations management	Rolstadås Asbjørn, professor	10.05.44	Operations management
Fagerhaug Tom, associate professor	05.01.68	Operations management	Schjøberg Per, associate professor	11.10.52	RAMS*
Haugen Stein, professor II	14.09.59	RAMS*	Strandhagen Jan Ola, professor II	28.10.59	Operations management
Hussein Bassam, associate professor	27.10.63	Operations management	Vatn Jørn, professor II	24.01.61	RAMS*
Koch Wolfgang Heinz, professor	21.01.47	Manufacturing systems	Wang Kesheng, professor	12.03.45	Production systems
Lien Terje Kristoffer, professor	21.01.44	Production systems			
Rasch Finn Ola, professor	03.01.37	Production systems			

\*RAMS: Reliability, availability, maintainability and safety

### Graduates

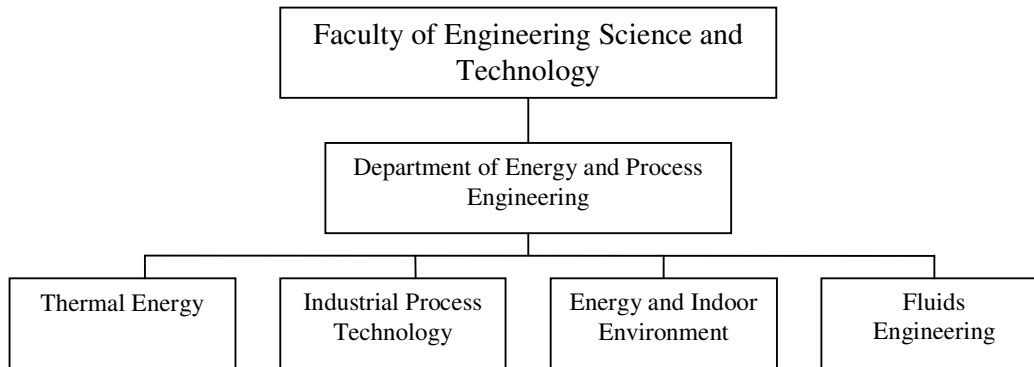
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Production systems	3	1	2	6
Operations management	1	1	2	4
Reliability, availability, maintainability and safety		1		1
<b>Total</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>11</b>

### R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	8074	9607	10785
University funding, other costs	1081	1073	1778
University funding, instruments and equipment	127	634	668
<b>University funding, total</b>	<b>9282</b>	<b>11314</b>	<b>13191</b>
The Research Council, grants	2655	2824	6247
Other national grants (public or private):	721	1140	2144
International grants( incl EU)	0	0	326
<b>External funding, total</b>	<b>3376</b>	<b>3964</b>	<b>8717</b>
<b>Total expenditures</b>	<b>12658</b>	<b>15278</b>	<b>21908</b>
External funding as % of total expenditures	27	26	40

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

### 1.2.8. Department of Energy and Process Engineering



#### Personnel

<i>Positions</i>	<i>Thermal Energy (TE)</i>		<i>Industrial Process Techn. (IPT)</i>		<i>Energy &amp; Indoor Environment (EIE)</i>		<i>Fluids Engineering (FE)</i>		<i>Total</i>	
	<i>Univ</i>	<i>Ekstern</i>	<i>Univ</i>	<i>Ekstern</i>	<i>Univ</i>	<i>Ekstern</i>	<i>Univ</i>	<i>Ekstern</i>	<i>Univ</i>	<i>Ekstern</i>
Professor	5		6		3		7		21	
Associate Professor	3		1		2		2		8	
Professor II	1	2		2		1	1	1	2	6
Post-doctoral research fellows	1	4		2		1			1	7
Doctoral students	5	36	1	28		10	4	32	10	106
Technical/ adm. position*									26	1
<b>Total</b>	<b>15</b>	<b>42</b>	<b>8</b>	<b>32</b>	<b>5</b>	<b>12</b>	<b>14</b>	<b>33</b>	<b>68</b>	<b>120</b>

"Univ" = persons financed by the university

"Ekstern" = persons financed by external research grants

\* Technical/adm. position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Andersson, Helge, prof.	1952	FE	Johansen, Stein, prof II	1954	FE
Bakken, Lars E., prof.	1956	TE	Kolsaker, Kjell, ass.prof	1955	EIE
Billdal, Jan T., prof. II	1957	FE	Kristoffersen, Reidar, ass.prof.	1960	FE
Bolland, Olav, prof.	1962	TE	Krogstad, Per-Åge, prof	1949	FE
Bredesen, Arne, prof.	1944	IPT	Magnussen, Ola, prof.	1934	IPT
Brevik, Iver, prof.	1939	FE	Melhus, Ole, ass.prof.	1949	TE
Bünger, Ulrich, prof. II	1956	IPT	Nielsen, Torbjørn, prof	1950	FE
Chapple, Peter, prof.	1937	FE	Novakovic, Vojislav, prof	1952	EIE
Dahl, Hans J., prof. II	1953	TE	Nydal, Ole Jørgen, prof	1957	IPT
Dahlhaug, Ole, ass.prof.	1963	FE	Nørstrud, Helge, prof	1934	FE
Ertesvåg, Ivar, ass.prof.	1962	TE	Owren, Geir, prof	1957	IPT
Fredheim, Arne, prof. II	1959	IPT	Pettersen, Jostein, prof	1958	IPT
Gran, Inge, prof. II	1967	TE	Sjøvold, Oddbjørn, prof II	1947	EIE
Grønli, Morten, lab.mngr*	1965	TE	Strømmen, Ingvald, prof	1950	IPT
Gundersen, Truls, prof.	1952	IPT	Sætran, Lars R., prof	1952	FE
Hanssen, Sten O., prof.	1946	EIE	Sønju, Otto K., prof	1938	TE
Hardarson, Vidar, ass.prof	1957	IPT	Tjelflaat, Per O. prof	1947	EIE
Hertwich, Edgar, prof.	1969	TE	Ulseth, Rolf, ass.prof.	1941	EIE
Haaland, Skjalg, ass.prof	1938	FE	Ytrehus, Tor, prof.	1941	FE
Hustad, Johan, prof.	1954	TE	Øverli, Jan M. prof. II	1939	TE

\*Morten Grønli is employed as Laboratory Manager at the Department. However, he has a Dr.ing.-degree which qualifies him for an Associate Professorate,. He is contributing to our research activities through supervision of doctoral students, and is responsible for some of our laboratory-based courses.

## Graduates

Numbers valid for the former Department of Applied Mechanics, Thermodynamics and Fluid Dynamics (MTF), Department of Refrigeration and Air Conditioning (KKT), Department of Thermal Energy and Hydropower (TEV)

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
MTF	3	5	2	10
KKT	4	3	6	13
TEV	2	2	8	12
<i>M.Sc. graduated</i>				
MTF	19	3	8	30
KKT	22	9	17	48
TEV	37	5	18	60
<b>Total</b>	<b>87</b>	<b>27</b>	<b>59</b>	<b>173</b>



### R&D expenditures by main source of funding (1000 NOK)

The figures represent the total expenditures of the former Department of Applied Mechanics, Thermodynamics and Fluid Dynamics, Department of Refrigeration and Air Conditioning and Department of Thermal Energy and Hydropower

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	32500	33195	36313
University funding, other costs	1451	1535	2557
University funding, instruments and equipment	50	93	3593
<b>University funding, total</b>	<b>34001</b>	<b>34823</b>	<b>42463</b>
The Research Council, grants	9226	9500	7612
Other national grants (public or private):	9352	10182	15054
International grants( incl EU)	0	679	400
<b>External funding, total</b>	<b>18578</b>	<b>20361</b>	<b>23066</b>
<b>Total expenditures</b>	<b>52579</b>	<b>55184</b>	<b>65529</b>
External funding as % of total expenditures	35	37	35

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

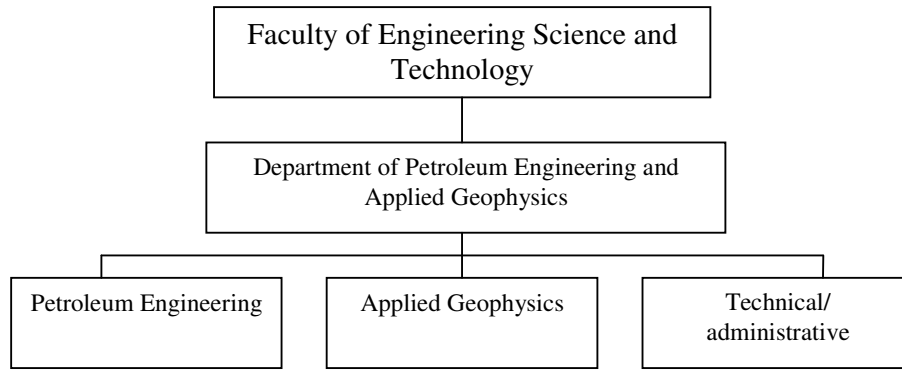
In addition:

1)R&D of about 6 500 (1000 NOK) was accounted for at SINTEF Energy Research in 2002.

2) Dr.ing students, salaries accounted for at other companies, about 14 000 (1000 NOK) in 2002.

Accordingly External funding as % of total expenditures included 1) and 2) is 51.

### 1.2.9. Department of Petroleum Engineering and Applied Geophysics



#### Personnel

	<i>Research group Petroleum Engineering</i>		<i>Research group Applied Geophysics</i>		<i>Research group Technical /adm.</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>								
Professor	10		3				13	
Associate professor	2		1				3	
Assistant professor			1				1	
Professor II	2		5				7	
Post-doctoral research fellow		5	1	2			1	7
Doctoral students	11	21	8	5			19	26
Technical/adm. positions					12	2	12	2
<b>Total</b>	<b>25</b>	<b>26</b>	<b>19</b>	<b>7</b>	<b>12</b>	<b>2</b>	<b>56</b>	<b>35</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Amundsen, Lasse, Professor II	02-02-1957	Applied Geophysics	Landrø, Martin, Professor	19-12-1958	Applied Geophysics
Asheim, Harald Arne, Professor	12-02-1950	Production Engineering	Langeland, Helge, Assistant professor	31-07-1946	Applied Geophysics
Eidesmo, Terje, Professor II	07-08-1960	Applied Geophysics	Lile, Ole Bernt, Professor	23-10-1937	Applied Geophysics
Golan, Michael, Professor	12-03-1944	Production Engineering	Rødland, Arild, Professor	23-02-1947	Drilling Engineering
Van Golf-Racht, Th., Professor em.	11-06-1924	Reservoir Engineering	Sangesland, Sigbjørn, Professor	02-05-1956	Production Engineering
Gudmundsson, Jon Steinar, Professor	31-12-1947	Production Engineering	Skalle, Pål, Associate professor	07-08-1947	Drilling Engineering
Herfjord, Hans, Associate professor em.	25-09-1931	Production Engineering	Skilbrei, Jan Reidar, Professor II	30-11-1959	Applied Geophysics
Holt, Rune Martin, Professor	14-03-1952	Drilling Engineering	Tjåland, Egil, Associate professor	09-08-1961	Applied Geophysics
Hustad, Odd Steve, Professor II	11-06-1955	Reservoir Engineering	Torsvik, Trond H., Professor II	10-12-1957	Applied Geophysics
Jelmert, Tom Aage, Professor	03-03-1947	Reservoir Engineering	Torsæter, Ole, Professor	18-09-1957	Reservoir Engineering
Johansen, Ståle Emil, Professor II	27-03-1956	Applied Geophysics	Ursin, Bjørn, Professor	05-09-1943	Applied Geophysics
Kleppe, Jon, Professor	14-08-1946	Reservoir Engineering	Whitson, Curtis H., Professor	10-10-1956	Reservoir Engineering

## Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group - Petroleum Engineering	2	4	5	11
Research group - Applied Geophysics	1	1	1	3
<i>M.Sc. graduated</i>				
Research group - Petroleum Engineering	38	25	52	115
Research group - Applied Geophysics	17	12	30	59
<b>Total</b>	<b>58</b>	<b>41</b>	<b>88</b>	<b>188</b>

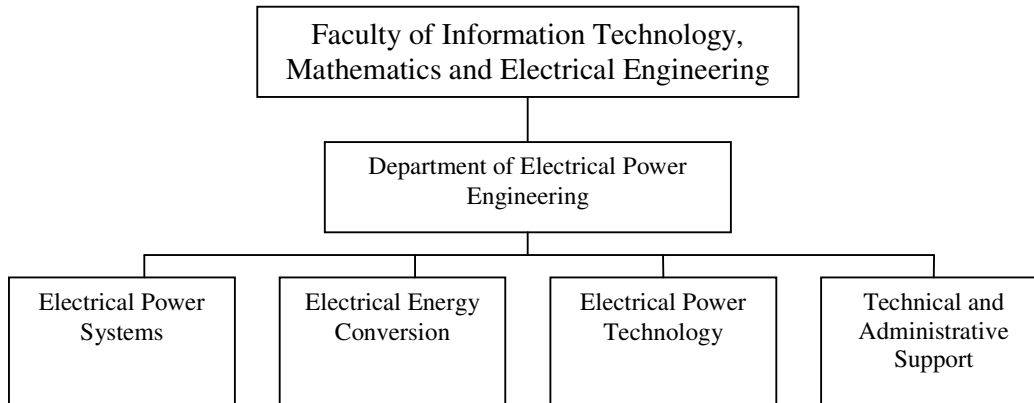
**R&D expenditures by main source of funding (1000 NOK)**

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	11 233	11 597	11 700
University funding, other costs	3 897	4 653	4 670
University funding, offices and labs	3 500	3 500	3 500
University funding, instruments and equipment			4 800
<b>University funding, total</b>	<b>18 630</b>	<b>19 750</b>	<b>24 670</b>
The Research Council, grants	450	7 950	450
Other national grants (public or private):	25 000	33 000	25 000
International grants( incl EU)	700	700	700
<b>External funding, total</b>	<b>26 150</b>	<b>41 650</b>	<b>26 150</b>
<b>Total expenditures</b>	<b>44 780</b>	<b>61 400</b>	<b>50 820</b>
External funding as % of total expenditures	58	68	51

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

### I.3. Faculty of Information Technology, Mathematics and Electrical Engineering

#### I.3.1. Department of Electrical Power Engineering



#### Personnel

	<i>Techn/ adm. support</i>	<i>Research group/unit Electrical Power Systems (A)</i>		<i>Research group/unit Electrical Energy Conversion (B)</i>		<i>Research group/unit Electrical Power Technology (C)</i>		<i>Total</i>	
		<i>Univ</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>
<i>Positions</i>									
Professor		4		4		2		10	
Associate professor		1				2		3	
Professor II		3				1		4	
Post-doctoral research fellow		1						1	
Doctoral students			12	3	8		8	3	28
Technical/adm. position*	10	1		1		1		13	
<b>Total</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>8</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>34</b>	<b>28</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Professor Hans H. Faanes	1935	A	Professor Arne Nysveen	1965	C
Professor Arne T. Holen	1938	A	Associate prof. Karstein J. Olsen	1938	A
Professor Olav B. Fosso	1958	A	Associate prof. Hans Kr. Høidalen	1967	C
Professor Ivar Wangenstein	1946	A	Associate prof. Eilif Hugo Hansen	1962	C
Professor Tore M. Undeland	1945	B	Prof. II Terje Gjengedal	1958	A
Professor Lars E. Norum	1948	B	Prof. II Per Finden	1947	A
Professor Robert Nilssen	1957	B	Prof. II Magne Runde	1958	C
Professor Roy Nilsen	1956	B	Ass. Prof. II Eivind Solvang	1953	A
Professor Erling Ildstad	1954	C			

## Graduates

	<i>2000</i>	<i>2001*</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group Electrical Power Systems (A)	2	1	1	4
Research group Electrical Energy Conversion (B)	1	2	2	5
Research group Electrical Power Technology (C)	0	1	1	2
<i>M.Sc. graduated</i>				
Research group Electrical Power Systems (A)	16	2	19	37
Research group Electrical Energy Conversion (B)	23	5	18	46
Research group Electrical Power Technology (C)	9	3	13	25
<b>Total</b>	<b>51</b>	<b>14</b>	<b>54</b>	<b>119</b>

\* Due to the transition from 4.5 to 5 year curriculum, the number of M.Sc. graduated in 2001 is very low.

## R&D expenditures by main source of funding (1000 NOK)

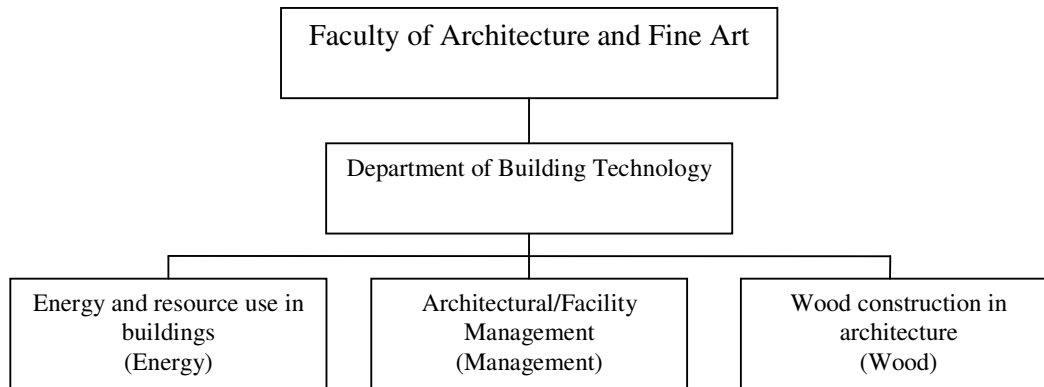
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	14 884	16 664	15 994
University funding, other costs**	4 647	5 949	5 709
University funding, instruments and equipment	617	382	396
<b>University funding, total</b>	<b>20 148</b>	<b>22 995</b>	<b>22 099</b>
The Research Council, grants	4 882	3 115	5 561
Other national grants (public or private):	1 377	1 332	1 437
International grants( incl EU)			250
<b>External funding, total</b>	<b>6 259</b>	<b>4 447</b>	<b>7 248</b>
<b>Total expenditures</b>	<b>26 407</b>	<b>27 442</b>	<b>29 347</b>
External funding as % of total expenditures	23.7%	16.2%	24.7%

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

\*\* Includes house rent at 4 000 to 4 500 NOK pr year.

## I.4. Faculty of Architecture and Fine Art

### I.4.1. Former Department of Building Technology



Department of Building Technology was one of 5 departments in the former Faculty of Architecture. The faculty was reorganised in 1996 at the establishment of NTNU when the Art Academy of Trondheim was accepted as a university department. The faculty had from 1996 six departments: Architectural Design, Form and Colour, City and Regional Planning, Building Technology, Architectural History, and Art Academy.

The Building Technology department was never organised in research groups, but for the purpose of the evaluation, we have identified 3 groups that are active in R&D somewhat relevant for engineering science:

Energy and resource use in buildings	(short: Energy)
Architectural/Facility management	(short: Management)
Wood construction in architecture	(short: Wood)

From 2003, the faculty was again reorganised, Building Technology was merged with Architectural History, and some personnel from Architectural design was transferred to the new department. At the same time, the group in management was transferred to another new department. From 2003, the faculty departments are:

- Architectural Design, History and Technology
- Architectural Design and Management
- Urban Design and Planning
- Architectural Design, Form and Colour Studies
- Fine Art – The Trondheim Academy of Fine Art

For the purpose of the evaluation, data for the former Department of Building Technology has been entered, in order to reduce the number of departments.

## Personnel

	<i>Research group/unit Energy</i>		<i>Research group/unit Management</i>		<i>Research group/unit Wood</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>								
Professor	2		1		1		4	
Associate professor			1	1	1		2	1
Professor II								
Post-doctoral research fellow		1						1
Doctoral students	4	3	2	1	1		7	4
Technical/adm. position*	0.5			0.5			0.5	0.5
<b>Total</b>	<b>6.5</b>	<b>4</b>	<b>4</b>	<b>2.5</b>	<b>3</b>		<b>13.5</b>	<b>6.5</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>
Øyvind Aschehoug, prof.	1939	Energy
Anne Grete Hestnes, prof.	1947	Energy
Tore Haugen, prof.	1954	Managem.
Birgit Sudbø, ass. prof.	1954	Managem.
Finn Hakonsen, ass.prof.	1946	Wood
Jan Siem, prof.	1955	Wood

## Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group – Energy	1		1	2
Research group - Management	2		0.5	2.5
Research group – Wood				
<i>M.Sc.graduated</i>				
Research group - Energy	4	2	4	10
Research group – Management			1	1
Research group - Wood	17	20	12	49
<b>Total</b>	<b>24</b>	<b>22</b>	<b>18.5</b>	<b>64.5</b>



**R&D expenditures on current costs by main source of funding (1000 NOK)**

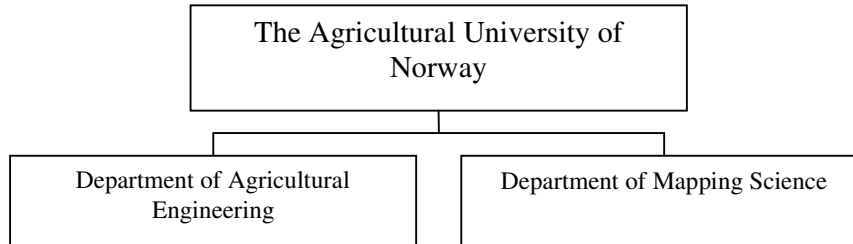
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salariess	3943	5100	5923
University funding, other current costs	990	673	1163
University funding, instruments and equipment	0	7	44
<b>University funding, total</b>	<b>4933</b>	<b>5780</b>	<b>7130</b>
The Funding from the Research Council, grants	20	60	413
Other national grantsfunding (public or private):	2523	2635	1571
International grants( incl EU)	116	101	52
<b>External funding, total</b>	<b>2659</b>	<b>2796</b>	<b>2036</b>
<b>Total expenditures</b>	<b>7592</b>	<b>8576</b>	<b>9766</b>
External funding as % of total expenditures	35%	32,6%	20,8%

\* University funding: This refers to the institutions input of own resources such as operating expenses, salaries for personnel (including social costs), other costs, and iRCNastructure.

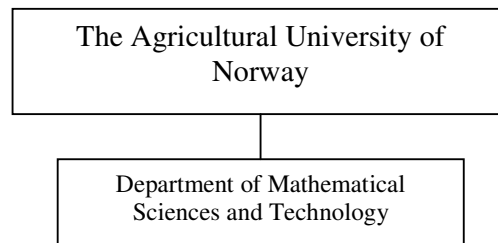


## 2. Agricultural University of Norway

### Old organisation (basis for report)

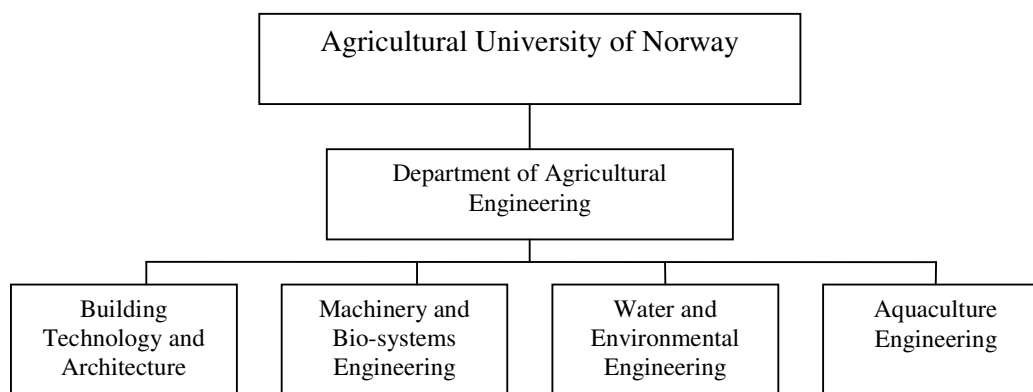


### New organisation



The Department of Mathematical Sciences and Technology is the result of a reorganisation. The former Department of Agricultural Engineering is now merged with the Departments of Mapping Science, part of Mathematical Sciences and Program for Pedagogics to form a new department which covers geomatics, physics, engineering, applied mathematics, computer science and education of teachers in natural science.

## 2.1. Department of Agricultural Engineering



### Personnel (2003):

<i>Positions</i>	<i>BA</i>		<i>MB</i>		<i>WE</i>		<i>AE</i>		<i>Other</i>		<i>Total</i>	
	<i>Univ</i>	<i>Ext</i>	<i>Univ</i>	<i>Ext</i>	<i>Univ</i>	<i>Ext</i>	<i>Univ</i>	<i>Ext</i>	<i>Univ</i>	<i>Ext</i>	<i>Univ</i>	<i>Ext</i>
Professor	6		2		2				3		13	
Associate professor	2	1	8		3		4		3		20	1
Professor II				1		1						2
Assistant professor	1		1		1				1		3	
Post-doctoral r.-fellow												
Doctoral students **		3		2		4	3		2	3	5	12
Techn./adm. position*	2		1				1		20		24	
<b>Total</b>	<b>11</b>	<b>4</b>	<b>12</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>29</b>	<b>3</b>	<b>65</b>	<b>15</b>

"Univ" = persons financed by the university , "Extern" = persons financed by external research grants

\*Techn./adm.position: Positions supporting research, \*\*Includes also doctoral students who are fully financed by external sources, where project-costs and salaries are not part of the Departments budget.

**Professors, associate professors, assistant professors and professors II:**

<i>Name and title</i>	<i>Born</i>	<i>Res.gr. /unit</i>	<i>Name</i>	<i>Born</i>	<i>Res.gr. /unit</i>
Prof. Egil A. Berge	1939	BA	Prof. Lindholm, Oddvar	1944	WE
Prof. Gravås, Lasse	1941	BA	Prof. Jenssen, Petter D.	1952	WE
Prof. Våge, Jan	1943	BA	Assoc. prof. Warner, William	1950	WE
Prof. Langdalen, John P.	1948	BA	Assoc. prof. Bjerkholt, Jarle T.	1965	WE
Prof. Lyngtveit, Torgeir	1951	BA	Assoc. prof. Greatorex, Jim	1967	WE
Prof. Bøe, Knut E.	1956	BA	Ass. prof. Vråle, Lasse	1943	WE
Assoc. prof. Sørensen, Christian	1943	BA	Prof. II Ratnaweera, Harsha C.	1962	WE
Assoc. prof. Tengedal, Gustav	1957	BA			
Assoc. prof. Andersen, Inger L.	1968	BA	Assoc. prof. Skjervold, Per O.	1955	AE
Ass. prof. Bovim, Nils I.	1947	BA	Assoc. prof. Fjæra, Svein O.	1960	AE
			Assoc. prof. Lekang, Odd I.	1961	AE
Prof. Bjugstad, Nils N.	1956	MB	Assoc. prof. Stevik, Tor K.	1965	AE
Prof. Nygaard, Tor A.	1961	MB			
Assoc. prof. Berntsen, Rolf	1943	MB	<b>Others (Physics)</b>		
Assoc. prof. Andersen, Johan	1950	MB	Prof. Thue-Hansen, Vidar	1944	FY
Assoc. prof. Widnes, Odd I.	1950	MB	Prof. Tyvand, Peder	1951	FY
Assoc. prof. Heyerdahl, Petter	1953	MB	Prof. Einevoll, Gaute	1962	FY
Assoc. prof. Jeksrud, Willy K.	1955	MB	Assoc. prof. Berre, Bjørn	1938	FY
Assoc. prof. Morken, John	1958	MB	Assoc. prof. Oxaal, Unni	1952	FY
Assoc. prof. Bøe, Jan K.	1958	MB	Assoc. prof. Futsæther Cecilia	1965	FY
Assoc. prof. Endrerud, Hans C.	1964	MB	Ass. prof. Grimnes Arne A.	1959	FY
Ass. prof. Fladstad Ole	1943	MB			
Prof. II Hetland, Jens	1948	MB			

**Graduates**

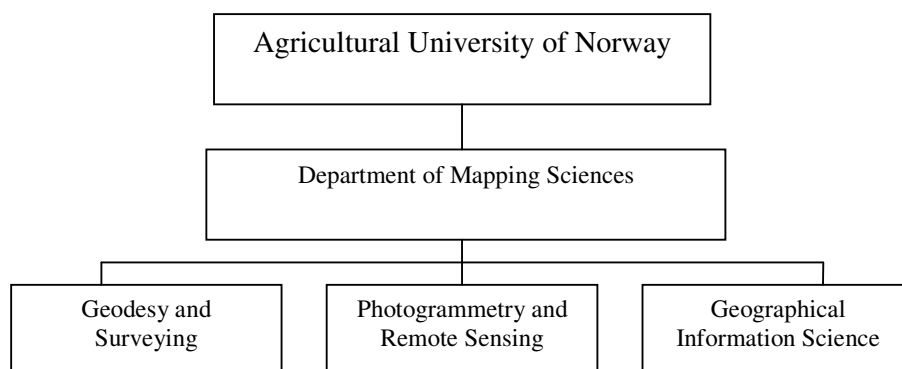
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
<i>Dr. ing./Dr. scient graduated (PhD)</i>				
Building Technology & Architecture				
Machinery & Bio-systems Engineering	1			1
Water& Environmental Engineering		1		1
Aquaculture Engineering			1	1
Other (Physics)		1	1	2
<i>M.Sc.graduated (siv ing.)</i>				
Building Technology & Architecture	14	6	7	27
Machinery & Bio-systems Engineering	9	16	9	34
Water & Environmental Engineering	10	7	5	22
Aquaculture Engineering				
Environmental Physics	5	5	14	24
<i>Other (cand. scient/cand.agric)</i>	12	5	6	23
<b>Total</b>	<b>51</b>	<b>41</b>	<b>43</b>	<b>135</b>

**R&D expenditures by main source of funding (1000 NOK)**

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	20 163	21 021	20 721
University funding, other costs	3 212	3 910	6 350
University funding, instruments and equipment	1 205	664	642
<b>University funding, total</b>	<b>24 580</b>	<b>25 595</b>	<b>27 713</b>
The Research Council, grants	2 934	3 372	3 464
Other national grants (public or private):	8 547	8 672	7 670
International grants( incl EU)			
<b>External funding, total</b>	<b>11 481</b>	<b>12 044</b>	<b>11 134</b>
<b>Total expenditures</b>	<b>36 061</b>	<b>37 639</b>	<b>38 847</b>
External funding as % of total expenditures	31.8	32.0	28.7

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNstructure.

## 2.2. Department of Mapping Sciences



The Department of Mapping Sciences was one of several departments of the Agricultural University of Norway until September 1, 2003. It was led by an elected department chairman and an elected board of employees and students. It was organised in three sections as shown in the organisational chart above. These divisions reflect both teaching responsibilities within the M.Sc. program (siv.ing.) and the research activities, including doctoral training and supervision. These units have now been merged into a new Department of Mathematical Sciences and Technology.

### Personnel

	<i>Geodesy and Surveying</i>		<i>Photogrammetry and Remote Sensing</i>		<i>Geographical Information Science</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>								
Professor	2		1				3	
Associate professor	2		3		2		7	
Professor II		1			1	1	1	2
Post-doctoral research fellow	1						1	
Doctoral students	1	2				3	1	5
Technical/adm. position*								
<b>Total</b>	<b>6</b>	<b>3</b>	<b>4</b>		<b>3</b>	<b>4</b>	<b>13</b>	<b>7</b>

"Univ" = persons financed by the university

"Extern" = persons financed by external research grants

\* Technical/adm. position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Øystein B. Dick, prof.	1946	P&RS	Håvard Tveite, assoc.p.	1962	GIS
Bjørn R. Pettersen, prof.	1950	G&S	Ola Øvstedal, assoc.prof	1963	G&S
Inge Revhaug, prof.	1946	G&S	Jan T. Bjørke, prof.II	1947	GIS
Bjørn Barstad, assoc.prof.	1960	P&RS	Oddgeir Kristiansen,apII	1956	G&S
Per Dalsrud, assoc.prof.	1947	P&RS	Geir H. Strand, prof.II	1957	GIS
I. Maalen-Johansen, assoc	1959	P&RS			
Cecilie Rolstad, assoc.p.	1965	GIS			
Jon G. Svendsen, assoc.p.	1969	G&S			

## Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Geodesy and Surveying		2		2
Photogrammetry and Remote Sensing			1	1
Geographica Information Science				0
<i>M.Sc.graduated</i>				
Geodesy and Surveying	6	13	3	22
Photogrammetry and Remote Sensing	4	5	7	16
Geographical Information Science	6	3	3	12
<b>Total</b>	<b>16</b>	<b>23</b>	<b>14</b>	<b>53</b>

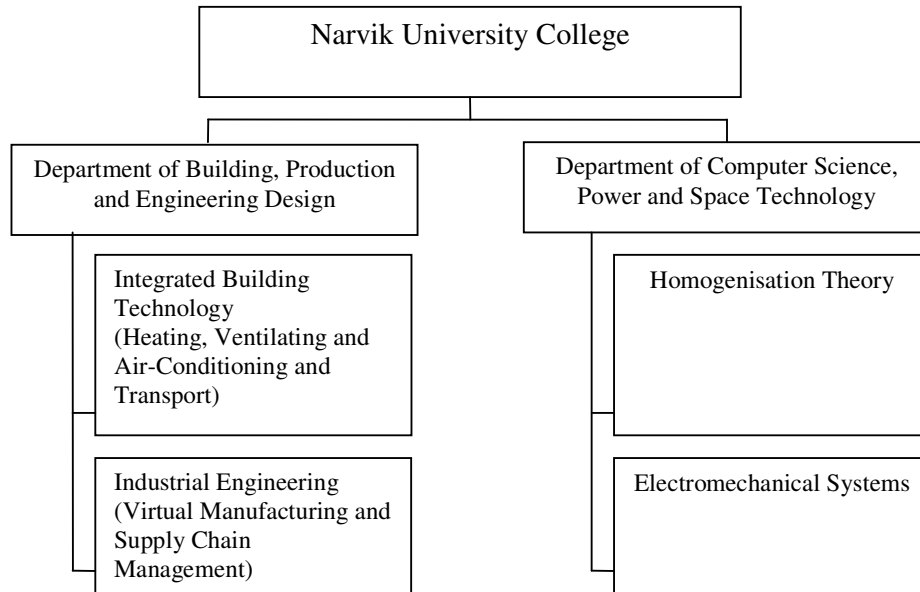
## R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	5497	6100	5409
University funding, other costs	642	854	1977
University funding, instruments and equipment	201	463	583
<b>University funding, total</b>	<b>6340</b>	<b>7417</b>	<b>7969</b>
The Research Council, grants			
Other national grants (public or private):	462	165	386
International grants( incl EU)			
<b>External funding, total</b>	<b>462</b>	<b>165</b>	<b>386</b>
<b>Total expenditures</b>	<b>6802</b>	<b>7682</b>	<b>8355</b>
External funding as % of total expenditures	6.8	2.1	4.6

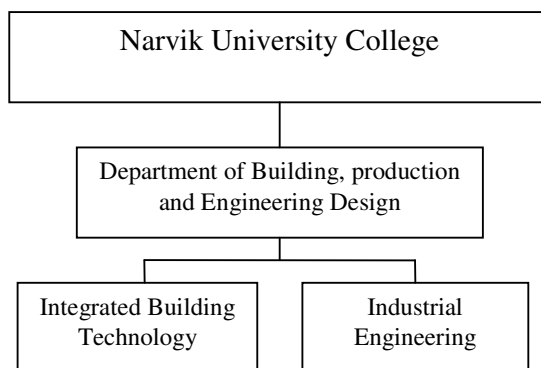
\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and IRCNastructure.



### 3. Narvik University College



### 3.1. Department of Building, Production and Engineering Design



#### Personnel

<i>Positions</i>	<i>Virt.manuf. and S.C.Man. (1)</i>		<i>Heating, Vent. and Air ... (2)</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	1		1		2	
Associate professor	6		6		12	
Professor II	2		2		4	
Post-doctoral research fellow						
Doctoral students	1			1	1	1
Technical/adm. position*	1		1		2	
<b>Total</b>	<b>11</b>		<b>10</b>	<b>1</b>	<b>21</b>	<b>1</b>

"Univ" = persons financed by the university "Extern" = persons financed by external research grants \* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Professor Z. Deng	1934	VM (1)	Professor S. Jakobsen	1963	Heating (2)
Ass.prof B. Solvang	1966		Ass.prof B. Jensen	1943	
Ass.prof W.D. Solvang	1968		Ass.prof B.R. Sørensen	1966	
Ass.prof P.Å. Ljunggren	1948		Ass.prof P.A. Sundsbø	1966	
Ass.prof B. Steinsvik	1946		Ass.prof E. Reinslett	1946	
Ass.prof S.O. Hareide	1952		Ass.prof R. Grov	1943	
Ass.prof R. Andreassen	1948		Ass.prof T. Kildal	1960	
Prof II W. Koch	1947		Prof. II A. Nielsen	1945	
Prof II T. Lien	1944		Prof. II O.G. Søgner	1954	

## Graduates

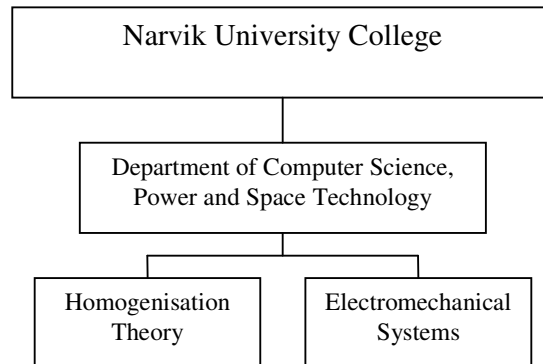
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group: Virt. manuf ...		2		2
Research group: Heating, Vent ....	2	1	1	4
<b>Total</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>6</b>

## R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	2632	2266	2363
University funding, other costs	470	193	407
University funding, instruments and equipment	344	300	119
<b>University funding, total</b>	<b>3446</b>	<b>2759</b>	<b>2889</b>
The Research Council, grants	450		
Other national grants (public or private):	271		650
International grants( incl EU)			
<b>External funding, total</b>	<b>721</b>		<b>650</b>
<b>Total expenditures</b>	<b>4167</b>	<b>2759</b>	<b>3539</b>
External funding as % of total expenditures	17,3	0	18,3

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNstructure.

### 3.2. Department of Computer Science, Power and Space Technology



#### Personnel

<i>Positions</i>	<i>Homogenisation Theory</i>		<i>Electromechanical Systems</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	3	1	2		5	1
Associate professor	1		2		3	
Professor II	1		1		2	
Post-doctoral research fellow						
Doctoral students		1	1	1	1	2
Technical/adm. position*	1		1		2	
<b>Total</b>	<b>6</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>16</b>	<b>3</b>

"Univ" = persons financed by the university      "Extern" = persons financed by external research grants  
 \* Technical/adm.position: Positions supporting research

## Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Professor D. Lukkassen	1965	HT	Professor P. Nyman	1947	ES
Professor A. Piatnitski	1955		Professor W. Sulkowski	1955	
Professor S. Zeuten	1943		Associate prof. P. Nicklasson	1967	
Professor G. Checkin	1966		Associate prof. R. Rensaa	1966	
Associate prof. A. Meidell	1968		Prof. II A. Hjertenæs	1957	
Prof. II L.E. Persson	1944				

## Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group: <i>Homogenisation Theory</i>	1	1	1	3
Research group: <i>Electromechanical Systems</i>	1	1	2	4
<b>Total</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>7</b>

## R&D expenditures by main source of funding (1000 NOK)

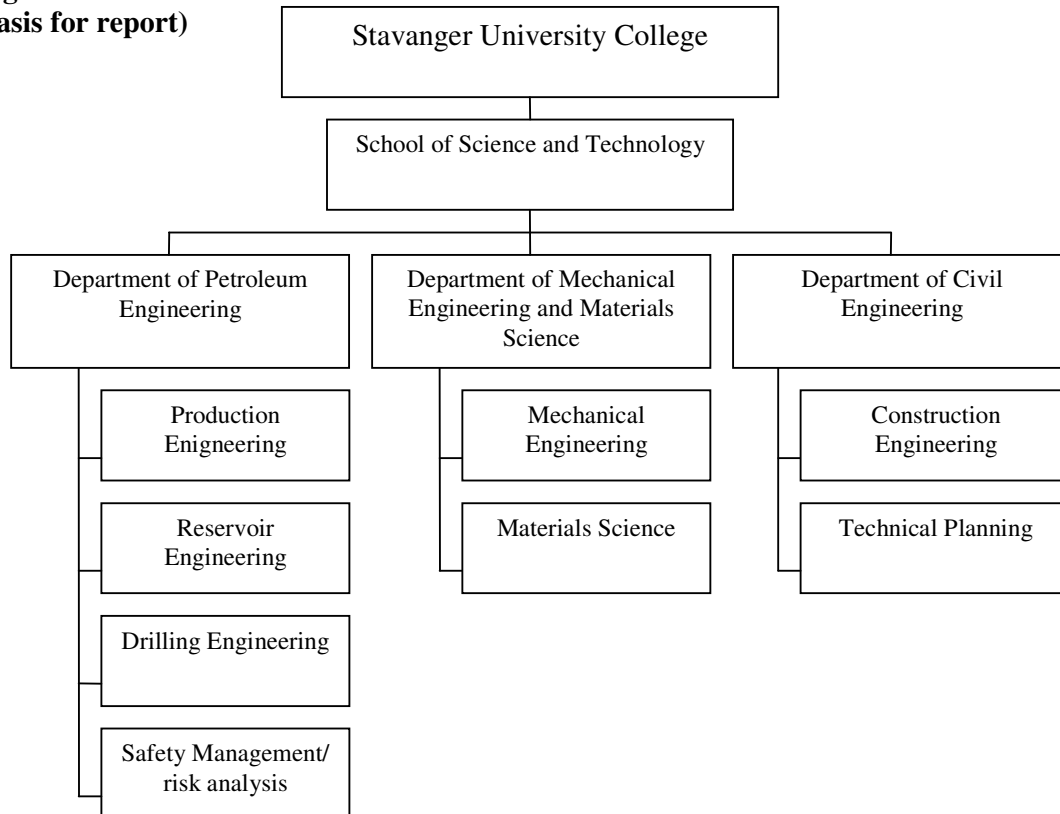
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	1943	1991	2242
University funding, other costs	400	450	500
University funding, instruments and equipment	100	100	120
<b>University funding, total</b>	<b>2443</b>	<b>2541</b>	<b>2862</b>
The Research Council, grants			
Other national grants (public or private):	580	585	638
International grants( incl EU)			
<b>External funding, total</b>	<b>580</b>	<b>585</b>	<b>638</b>
<b>Total expenditures</b>	<b>3023</b>	<b>3126</b>	<b>3500</b>
External funding as % of total expenditures	19,2	18,7	18,2

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

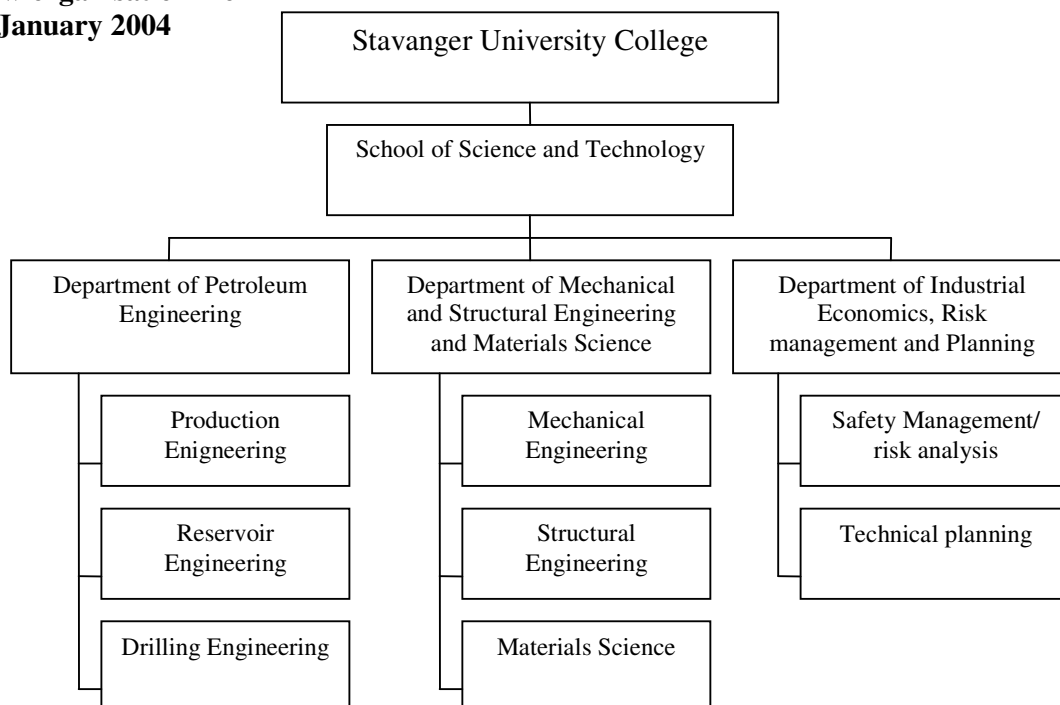


## 4. Stavanger University College

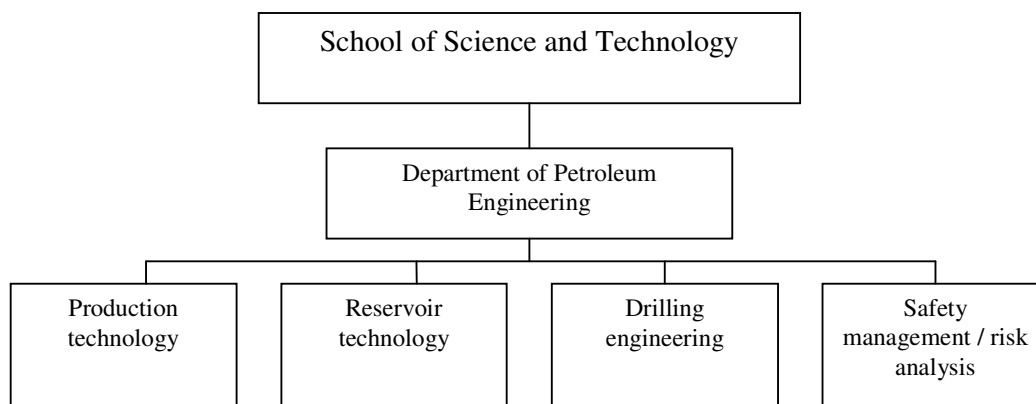
**Organisation in 2003  
(Basis for report)**



**New organisation from  
1. January 2004**



## 4.1. Department of Petroleum Engineering



### Personnel

	<i>Production Technology</i>		<i>Reservoir Technology</i>		<i>Drilling Engineering</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>								
Professor	4		3		2		9	
Associate professor	3		5				8	
Adjunct Professor	1		2		1		4	
Post-doctoral research fellow	1						1	
Doctoral students	7		7		2		16	
Technical/adm. position*	2		3		1		6	
<b>Total</b>	<b>18</b>		<b>20</b>		<b>6</b>			

### Personnel (cont.)

	<i>Safety management Risk analysis (Departm. Petroleum)</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
<i>Positions</i>				
Professor	1		1	
Associate professor	3		3	
Adjunct Professor	3	1	3	1
Post-doctoral research fellow				
Doctoral students	7		7	
Technical/adm. position*				
<b>Total</b>	<b>14</b>	<b>1</b>	<b>58</b>	<b>1</b>

"Univ" = persons financed by the university

"Extern" = persons financed

by external research grants

\* Technical/adm.position: Positions supporting research



### Professors, associate professors and adjunct professors

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
R. Risnes, prof.	1936	Production	T.M. Svartås, assoc. prof.	1948	Production
A.A. Hamouda, prof.	1947	Production	J-R. Ursin, assoc. prof.	1953	Reservoir
R. Time, prof.	1953	Production	H. Kleppe, assoc. prof.	1950	Reservoir
S.H. Schei, prof.	1945	Production	K.A. Lehne, assoc. prof.	1946	Reservoir
S.M. Skjæveland, prof.	1945	Reservoir	D.E. Ormaasen, assoc. prof.	1944	Reservoir
T. Austad, prof.	1944	Reservoir	J. Kolnes, assoc. prof.	1953	Reservoir
D. Mellere, prof <sup>(1)</sup>	1962				
B.S. Aadnøy, prof.	1951	Drilling	A. Zolothukin, adj. prof.	1946	Production
E. Skaugen, prof.	1944	Drilling	L. Larsen, adj. prof.	1943	Reservoir
R. Bøe, assoc. prof.	1965	Production	L.M. Fält, adj. prof. <sup>(2)</sup>	1951	Reservoir
H. Hodne, assist. prof.	1951	Production	T.W. Aarrestad, adj. prof.	1954	Drilling
Terje Aven, prof.	1956	Safety	Jan Erik Vinnem, adj. prof	1950	Safety
Ove Njå, assoc. prof	1963	Safety	Jan Roar Bakke, adj. prof	1954	Safety
Harald Haukås, assoc. prof	1966	Safety	Jan Erik Karlsen adj. prof	1942	Safety
Kjell Sandve, assoc. prof * (p.t. on leave)	1964	Safety	Torgrim Log, adj. prof	1960	Safety

<sup>(1)</sup> Professor in reservoir geology appointed 2003, starts 2004.

<sup>(2)</sup> Adjunct professor in reservoir geology appointed 2003, starts 2004.

### Graduates

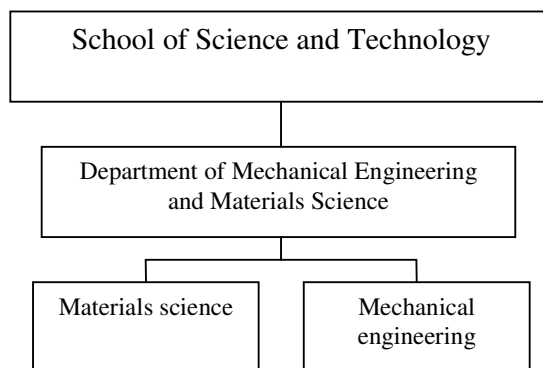
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Production	2			2
Reservoir		1	1	2
Drilling				
Safety	1	2	1	4
<i>M.Sc. graduated</i>				
Production	5	3	6	14
Reservoir	0	8	10	18
Drilling	10	9	15	34
Safety	15	15-20	15-20	50
<b>Total</b>	<b>17</b>	<b>21</b>	<b>32</b>	<b>120</b>

### R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	14.932	15.681	15.555
University funding, other costs	1.100	960	780
University funding, instruments and equipment	964	760	- *
<b>University funding, total</b>	<b>16.996</b>	<b>17.401</b>	<b>16.335</b>
The Research Council, grants	302	956	1.947
Other national grants (public or private):	2.451	8.545	8.907
International grants( incl EU)	-	-	-
<b>External funding, total</b>	<b>2.753</b>	<b>9.501</b>	<b>10.854</b>
<b>Total expenditures</b>	<b>19.749</b>	<b>26.902</b>	<b>27.189</b>
External funding as % of total expenditures	13	35	39

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNastructure.

## 4.2. Department of Mechanical Engineering and Materials Science



### Personnel

<i>Positions</i>	<i>Materials science</i>		<i>Mechanical engineering</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	2		2		4	
Associate professor	1		7		8	
Professor II	2		4		6	
Post-doctoral research fellow						
Doctoral students		1		4		5
Technical/adm. position*	2		2		4	
<b>Total</b>	<b>7</b>	<b>1</b>	<b>15</b>	<b>4</b>	<b>22</b>	<b>5</b>

### Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>
Vidar Hansen, Prof.	1961	Materials science
Per Skjerpe, Prof.	1953	Materials science
Helge Bøvik Larsen, Ass. prof.	1969	Materials science
Svein Eliassen, Prof II	1947	Materials science
Jan Lindemann, Prof II	1947	Materials science
<b>Vacant</b> , Prof. (Ivar Langen)	1942	Mechanical engineering - mechanics and machine design
Preben Ingerslev, Ass. prof.	1950	Mechanical engineering - mechanics and machine design
Hirpa Lemu Gelgele, Ass. prof	1962	Mechanical engineering - mechanics and machine design
Oddvar Fossmark, Ass.prof.	1946	Mechanical engineering - mechanics and machine design
Conrad Carstensen, Prof II	1949	Mechanical engineering - mechanics and machine design
Tore Markeset, Ass. prof.	1962	Mechanical engineering - maintenance
Jayantha P Liyanage, Ass. prof.	1967	Mechanical engineering - maintenance
Uday Kumar, Prof II	1956	Mechanical engineering - maintenance
Kåre Bærheim, Ass. prof.	1944	Mechanical engineering - energy
Ole Andreas Songe-Møller, Ass. prof.	1947	Mechanical engineering - energy
Prof II Jostein Aleksandersen, Prof II	1960	Mechanical engineering - marine/subsea
<b>Vacant</b> , Prof.	---	Mechanical engineering - marine/subsea
Ove Tobias Gudmestad, Prof II	1947	Mechanical engineering - marine/subsea

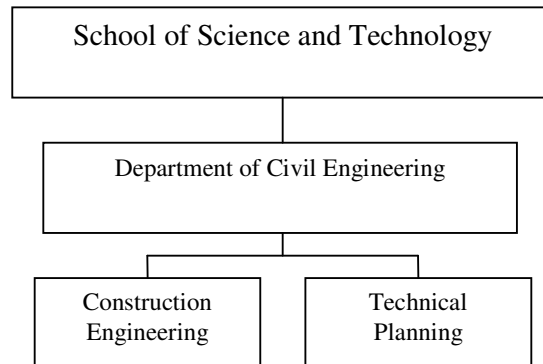
### Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Materials science				0
Mechanical engineering - maintenance			1	1
<i>M.Sc.graduated</i>				
Materials science	4	4	5	13
Mechanical engineering	10	12	17	39
<b>Total</b>	<b>14</b>	<b>16</b>	<b>23</b>	<b>53</b>

### R&D expenditures by main source of funding (1000 NOK)

<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	7.455	7.785	8.092
University funding, other costs	1.075	990	700
University funding, instruments and equipment	717	170	0
<b>University funding, total</b>	<b>9.247</b>	<b>8.945</b>	<b>8.792</b>
The Research Council, grants	28	53	
Other national grants (public or private):	2.789	5.713	2.289
International grants( incl EU)	-	-	19
<b>External funding, total</b>	<b>2.817</b>	<b>5.766</b>	<b>2.308</b>
<b>Total expenditures</b>	<b>12.064</b>	<b>14.711</b>	<b>11.100</b>
External funding as % of total expenditures	23	39	20

### 4.3. Department of Civil Engineering



#### Personnel

<i>Positions</i>	<i>Research group/unit Technical Planning(TP)</i>		<i>Research group/unit Construction ( C )</i>		<i>Total</i>	
	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>	<i>Univ</i>	<i>Extern</i>
Professor	1		2		3	
Associate professor	3		0		3	
Professor II	2		2		4	
Post-doctoral research fellow						
Doctoral students		1		1		2
Technical/adm. position*						
<b>Total</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>10</b>	<b>2</b>

"Univ" = persons financed by the university      "Extern" = persons financed by external research grants  
 \* Technical/adm.position: Positions supporting research

### Professors, associate professors and professors II

<i>Name and title</i>	<i>Born</i>	<i>Research group/unit</i>	<i>Name</i>	<i>Born</i>	<i>Research group/unit</i>
Kjell Harald Olsen, Prof.	1949	TP	Finn Kjærdsdam, Prof. II	1943	TP
Jasna B. Jakobsen, Prof.	1962	C	Sigmund Aspervik, Prof. II	1941	TP
Kenneth Macdonald, Prof.	1961	C			
LeRoy Tønning, ass. Prof.	1944	TP			
Nils L S Jacobsen, ass. Prof.	1940	TP			
Ib Omland, ass Prof.	1946	TP			
Malvin Sandvik, Prof. II	1954	C			
Jonas Odland, Prof. II	1947	C			

### Graduates

	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>Total</i>
<i>Dr. ing./Dr. scient graduated</i>				
Research group C :	0	0	0	0
Research group TP :	0	0	0	0
<i>M.Sc. graduated</i>				
Research group C:	14	2	10	26
Research group TP:	--	4	6	10
<b>Total</b>	<b>14</b>	<b>6</b>	<b>16</b>	<b>36</b>

### R&D expenditures by main source of funding (1000 NOK)

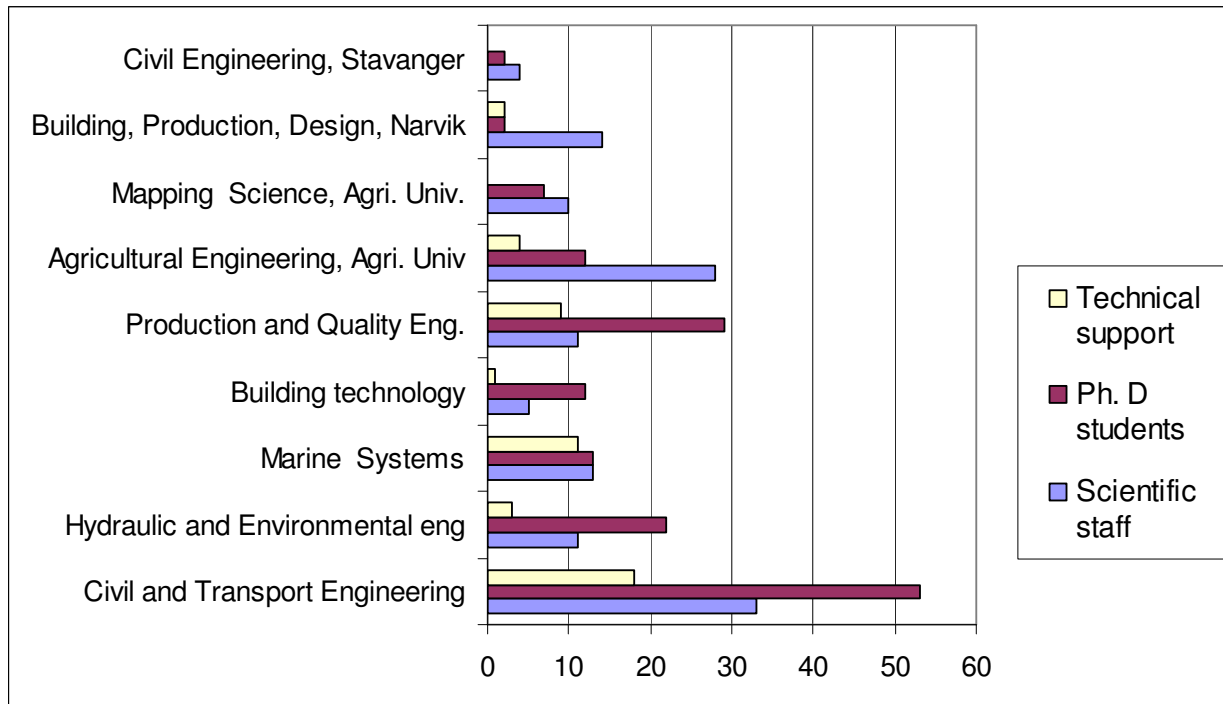
<i>Type of expenditures</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
University funding*, salaries	6.962	7.126	7.264
University funding, other costs	845	800	600
University funding, instruments and equipment	-	473	- *
<b>University funding, total</b>	<b>7.807</b>	<b>8.399</b>	<b>7.864</b>
The Research Council, grants		94	
Other national grants (public or private):	460	3.820	581
International grants( incl EU)	-	-	-
<b>External funding, total</b>	<b>460</b>	<b>3.914</b>	<b>581</b>
<b>Total expenditures</b>	<b>8.267</b>	<b>12.303</b>	<b>8.445</b>
External funding as % of total expenditures	5	31	6

\* University funding: This refers to the institutions input of own resources such as salaries for personnel (including social costs), other costs, and iRCNstructure.  
The salaries include expenditures related to the entire staff of the department.

## 5. An overview of staff, research students and funding at the departments

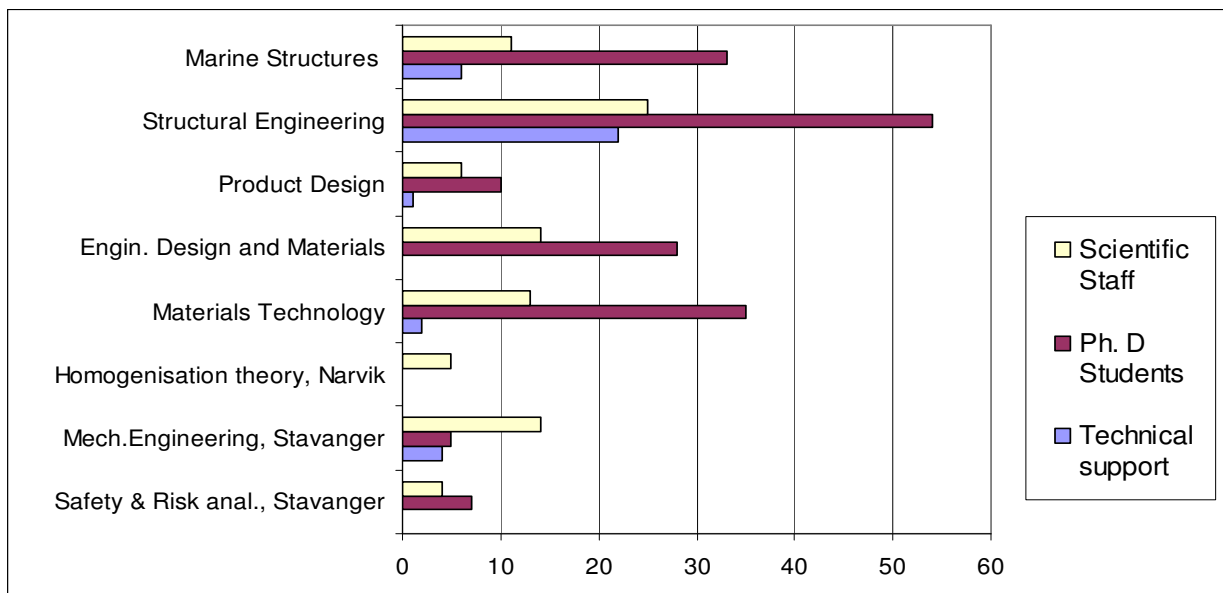
### Evaluation of Engineering Research - Panel 1

Number of employees by categories in departments covered by the panel (Departments where nothing is indicated are at NTNU)



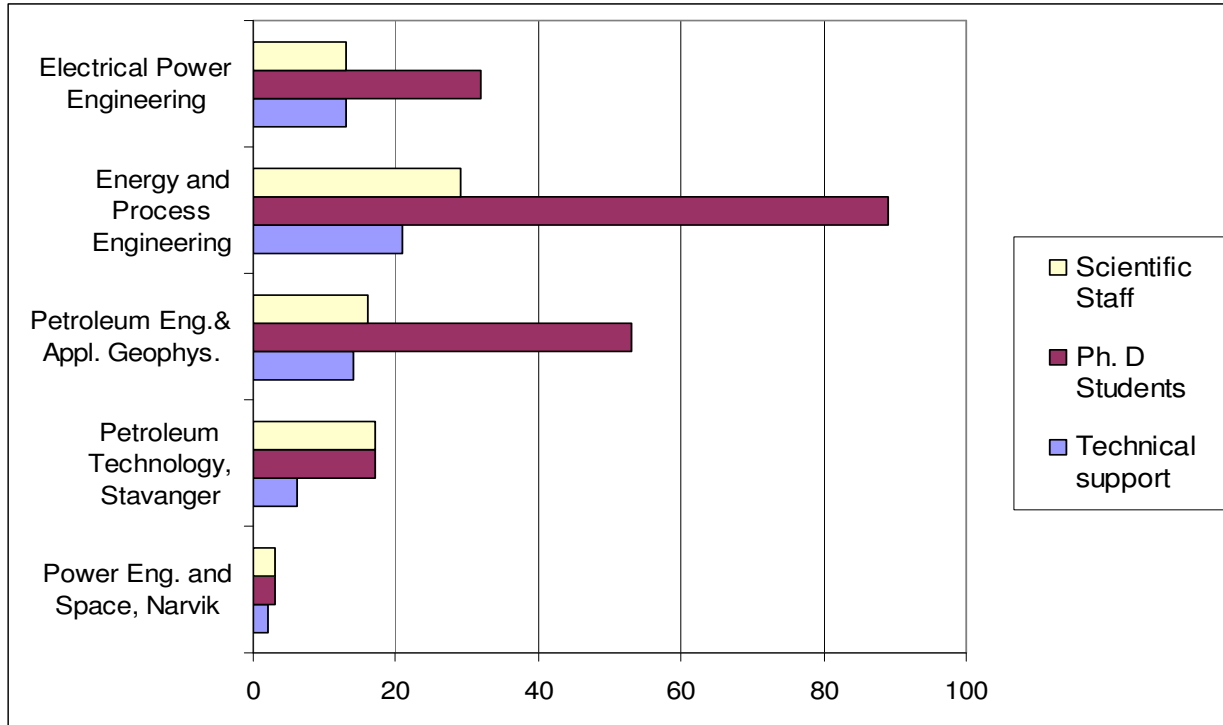
### Evaluation of Engineering Research - Panel 2

Number of employees by categories in departments covered by the panel (Departments where nothing is indicated are at NTNU)



### Evaluation of Engineering Research - Panel 3

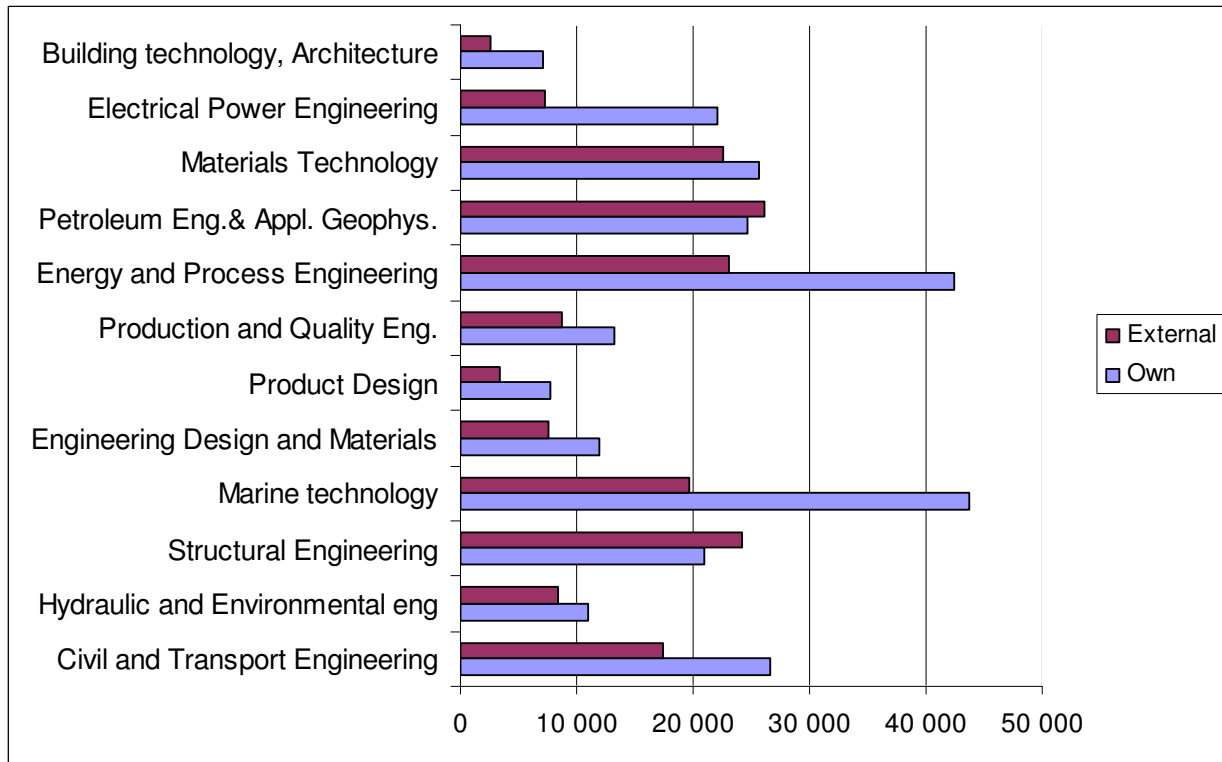
Number of employees by categories in departments covered by the panel (Departments where nothing is indicated are at NTNU)



### Funding of Engineering Research (2002)

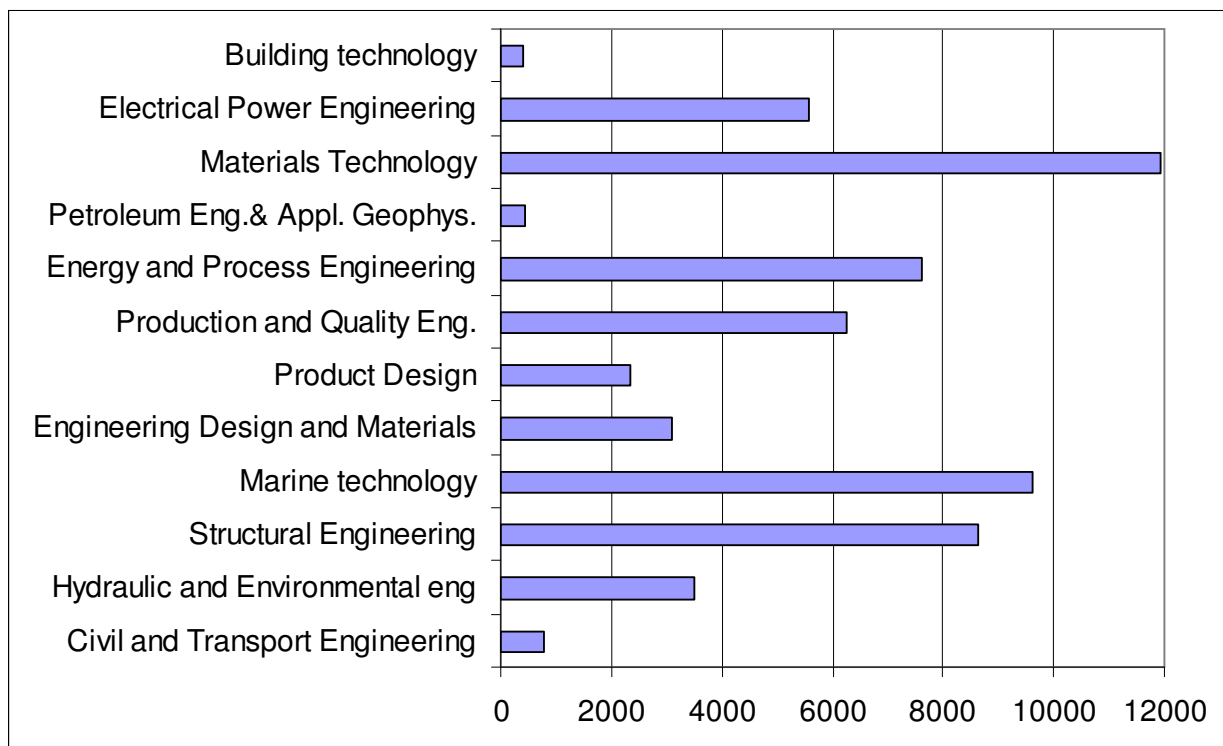
Factual information from departments at NTNU

(Norwegian University of Science and technology) (1000 NOK)



### Funding of Engineering Research from RCN (2002)

Factual information from departments at NTNU (Norwegian University of Science and technology) (1000 NOK)





### Funding of Engineering Research (2002)

Factual information from departments at University Colleges (1000 NOK)

HiS = Stavanger University College

HiN = Narvik University College

NLH = Agricultural University of Norway

