It is important that our customers always see us as their indispensable partner and advisor who can provide the specific knowledge they may need in any given situation---
As stated in our mission we continuously develop our portfolio of competence areas in accordance with customer demand. Our natural base is Nordic, but we have expanded with new offices in Russia and the Baltic States and as we continue to grow we pursue the strategy of following our large customers into new high growth markets such as Eastern Europe and further a field to the Middle East and India. We have had a foothold in the Indian market for several years and we will use this market – and potentially new foreign markets – for outsourcing certain processes.

Our assets are knowledge and experience. This is why it is important that our customers always see us as their indispensable partner and advisor who can provide the specific knowledge they may need in any given situation. And it is crucial to us that our knowledge solutions remain inseparably linked with our aim to contribute towards better living and working conditions for people and sustainable development of society.

Our formula of offering services based on a broad diversity of professional competence areas also worked in the past year. As it appears from our profile, we have regrouped our service areas to comprise eight main areas within which we provide engineering, consultancy, product development and operations services.

This publication intends to present the versatility of our rapidly growing business. The Annual Review 2006 is structured around ten themes covering all our service areas, including beacon areas. In 37 case stories we aim to tell the multifaceted story of projects we work with today - and in the years to come.

The Annual Review 2006 is the head of a family of publications that together with the Annual Report 2006 makes up the formal presentation of our performance in 2006. The holistic report for 2006 is included in the Annual Review. There is an online version of the review available on www.ramboll.com. Profile publications that present our individual strategic business units will also be available.

Enjoy your reading!
Flemming Bligaard Pedersen, Group CEO
Profile
The Ramboll Group employs more than 5,000 dedicated specialists. We are a leading Nordic company operating in a broad international context from 104 offices in the Nordic region and 21 permanent offices in the rest of the world. We provide engineering, consultancy, product development and operation services within the areas of:
- Buildings
- Infrastructure
- Industrial processes
- Energy
- Water and Environment
- Telecommunication
- Management
- IT

Mission
Our assets are knowledge and experience. We provide consultancy and services within engineering, management and IT in an international context. Our solutions contribute towards better living and working conditions for people and sustainable development of society. We scrutinise our business performance to continuously match customer needs and we develop our competence areas accordingly.

Vision
We will be the leading European general engineering consultancy company - supplemented by world class specialised competence areas. We are acknowledged as the most attractive employer within our profession. We continuously strive for better economic performance with a strong focus on the longterm value for our shareholders.

Ownership
All shares in Rambøll Gruppen A/S are owned either by the Ramboll Foundation (95%) or by managers and other key employees in Ramboll (5%). The main objective of the Foundation is to be the owner or co-owner of Rambøll Gruppen A/S, and in this way promote the company’s continuance and development. Moreover, the Foundation can grant financial support for research, education and charity. Those of the Foundation’s board members who are elected by the Foundation are preferably elected among present and former managers in the companies in which the Foundation has direct or indirect ownership. In addition one third of the Foundation’s board members are directly elected by the employees.
Projects presented in Annual Review 2006

Traffic and infrastructure development
Finland/Sweden/Norway Linking the Nordic region
The Netherlands Road comfort and safety
Ireland Driving under the River Shannon

Urban and regional development
Finland Sea, nature and recreation
Norway Lifting cultural heritage
Poland From old shipyard to young city
Sweden/Finland Building across borders
India Indian airport development

Education
Sweden Bringing student life into the city centre
Denmark Smooth and accurate examination tools
Denmark A school of the future
Germany Successful integration courses
Denmark Competitiveness through social responsibility
Denmark Project administration tools

Science and health
Denmark Laboratories for the latest technology
Sweden New Nordic medical centre
Belgium Strategy for merging hospitals

Culture and experience
Sweden Attracting world class events
Denmark Olympics 2020 to Copenhagen?
Great Britain Leading city history museum in Liverpool
Russia “RAINBOW” shopping centre
Norway Visualising a new football stadium
Zambia Kafue National Park - road design and construction

Sustainable energy
Finland Wind and steel - green energy
Norway Waste-to-energy
Bahrain Wind powered buildings

Water and rural development
Asia Sustainable forestry
Norway Reshuffling the city
Africa Water management
Greenland Spring water from Greenland
Finland Ash-to-concrete

Oil and gas
Qatar Connecting platforms
Norway Flexibility in production fields

Communication, media and IT
India Mobile networks in India
Denmark Danish energy
Saudi-Arabia Printing house expertise

Industrial development
Russia Industries in Russia
### Key figures and financial ratios

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income statement, EUR/DKK million</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>529.0</td>
<td>3,945.5</td>
<td>471.4</td>
<td>3,512.6</td>
<td>425.5</td>
<td>3,165.9</td>
</tr>
<tr>
<td>Operating profit</td>
<td>34.2</td>
<td>254.8</td>
<td>27.4</td>
<td>204.0</td>
<td>23.8</td>
<td>177.3</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>32.9</td>
<td>245.5</td>
<td>25.9</td>
<td>192.7</td>
<td>20.9</td>
<td>155.1</td>
</tr>
<tr>
<td>Profit for the year</td>
<td>21.2</td>
<td>158.0</td>
<td>18.8</td>
<td>140.3</td>
<td>14.4</td>
<td>106.8</td>
</tr>
</tbody>
</table>

| **Balance sheet, EUR/DKK million** |       |       |       |       |       |       |
| Total assets                    | 285.3 | 2,127.1 | 243.5 | 1,814.8 | 232.3 | 1,726.8 |
| Total equity                    | 104.1 | 775.7  | 82.0  | 611.2  | 64.0  | 475.5  |

| **Cash flow, EUR/DKK million**  |       |       |       |       |       |       |
| Acquisitions of subsidiaries and associates | 6.9  | 51.7  | 2.0  | 14.8  | 1.7  | 12.4  |
| Investment in tangible assets   | 8.0   | 59.5   | 6.5  | 48.1  | 4.6  | 34.3  |

| **Employees**                   |       |       |       |       |       |       |
| Number of employees, end of period | 5,305 | 4,451  | 4,168 |       |       |       |
| Number of full time employee equivalents, period average | 4,905 | 4,224  | 3,963 |       |       |       |

| **Financial ratios in %**       |       |       |       |       |       |       |
| EBITA margin                    | 7.3   | 6.8   | 6.7   |       |       |       |
| Operating margin (EBIT margin)  | 6.5   | 5.8   | 5.6   |       |       |       |
| Return on invested capital (ROIC) | 35.0 | 28.6  | 24.0  |       |       |       |
| Return on equity (ROE)          | 22.8  | 25.4  | 25.2  |       |       |       |
| Return on capital employed (ROCE) | 31.0 | 26.9  | 21.9  |       |       |       |
| Equity ratio                    | 36.5  | 33.7  | 27.5  |       |       |       |

### 5 year results

**Profit before tax by quarter and rolling annual profit before tax excluding items affecting comparability, DKK million**

- **Profit before tax (left axis)**
- **Rolling annual profit before tax (right axis)**
5 year results

Consolidated income statement, DKK million ¹

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>3,945.5</td>
<td>3,512.6</td>
<td>3,165.9</td>
<td>2,641.4</td>
<td>1,496.0</td>
</tr>
<tr>
<td>Project costs</td>
<td>-652.0</td>
<td>-674.8</td>
<td>-580.3</td>
<td>-426.1</td>
<td>-183.1</td>
</tr>
<tr>
<td>External costs</td>
<td>-645.3</td>
<td>-571.6</td>
<td>-498.2</td>
<td>-429.5</td>
<td>-258.0</td>
</tr>
<tr>
<td>Staff costs</td>
<td>-2,307.7</td>
<td>-1,981.1</td>
<td>-1,828.6</td>
<td>-1,610.5</td>
<td>-963.7</td>
</tr>
<tr>
<td>Depreciation</td>
<td>-50.8</td>
<td>-47.1</td>
<td>-47.1</td>
<td>-45.6</td>
<td>-29.4</td>
</tr>
<tr>
<td>Amortisation</td>
<td>-40.1</td>
<td>-40.4</td>
<td>-38.8</td>
<td>-26.4</td>
<td>-9.6</td>
</tr>
<tr>
<td></td>
<td>249.6</td>
<td>197.6</td>
<td>172.9</td>
<td>103.3</td>
<td>61.2</td>
</tr>
<tr>
<td>Other operating income</td>
<td>3.8</td>
<td>5.9</td>
<td>4.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Income from associated companies</td>
<td>254.8</td>
<td>204.0</td>
<td>177.3</td>
<td>108.8</td>
<td>64.0</td>
</tr>
<tr>
<td>Net financial items</td>
<td>-9.3</td>
<td>-11.3</td>
<td>-22.2</td>
<td>-27.2</td>
<td>16.4</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>245.5</td>
<td>192.7</td>
<td>155.1</td>
<td>81.6</td>
<td>80.4</td>
</tr>
<tr>
<td>Tax</td>
<td>-85.4</td>
<td>-52.5</td>
<td>-48.3</td>
<td>-31.8</td>
<td>-24.7</td>
</tr>
<tr>
<td>Profit before minority</td>
<td>160.1</td>
<td>140.2</td>
<td>106.8</td>
<td>49.8</td>
<td>55.7</td>
</tr>
<tr>
<td>Minority interest</td>
<td>-2.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit for the year</td>
<td>158.0</td>
<td>140.2</td>
<td>106.8</td>
<td>49.8</td>
<td>55.7</td>
</tr>
</tbody>
</table>

Number of full time employee equivalents, period average

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,905</td>
<td>4,224</td>
<td>3,963</td>
<td>4,050</td>
<td>2,132</td>
</tr>
</tbody>
</table>

Income statement, DKK million, pro forma ²

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>3,945.5</td>
<td>3,512.6</td>
<td>3,165.9</td>
<td>2,996.7</td>
<td>2,820.3</td>
</tr>
<tr>
<td>Project costs</td>
<td>-652.0</td>
<td>-674.8</td>
<td>-580.3</td>
<td>-466.6</td>
<td>-360.9</td>
</tr>
<tr>
<td>External costs</td>
<td>-645.3</td>
<td>-571.6</td>
<td>-498.2</td>
<td>-496.1</td>
<td>-512.0</td>
</tr>
<tr>
<td>Staff costs</td>
<td>-2,307.7</td>
<td>-1,981.1</td>
<td>-1,828.6</td>
<td>-1,821.6</td>
<td>-1,739.1</td>
</tr>
<tr>
<td>Depreciation</td>
<td>-50.8</td>
<td>-47.1</td>
<td>-47.1</td>
<td>-59.4</td>
<td>-57.6</td>
</tr>
<tr>
<td>Amortisation</td>
<td>-40.1</td>
<td>-40.4</td>
<td>-38.8</td>
<td>-27.0</td>
<td>-27.0</td>
</tr>
<tr>
<td></td>
<td>249.6</td>
<td>197.6</td>
<td>172.9</td>
<td>126.0</td>
<td>123.7</td>
</tr>
</tbody>
</table>

¹ 2003 and previous years are Rambøll, Hannemann & Højlund A/S figures.
² Pro forma calculations where Scandiaconsult is assumed to be a fully owned subsidiary each year.

Goodwill amortisation of MDKK 27 referring to the acquisition has been assumed to apply each year.
No adjustments have been made for synergy effects.

Revenue

Revenue, MDKK

<table>
<thead>
<tr>
<th>Revenue, MDKK</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>500</td>
<td>1,000</td>
<td>1,500</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>2,500</td>
<td>3,000</td>
<td>3,500</td>
<td>4,000</td>
<td>4,500</td>
</tr>
</tbody>
</table>

Revenue per employee, TDKK

<table>
<thead>
<tr>
<th>Revenue per employee, TDKK</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>400</td>
<td>450</td>
</tr>
</tbody>
</table>

Operating profit

Operating profit, MDKK

<table>
<thead>
<tr>
<th>Operating profit, MDKK</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td>150</td>
<td>175</td>
<td>200</td>
<td>225</td>
</tr>
</tbody>
</table>

Operating profit per employee, TDKK

<table>
<thead>
<tr>
<th>Operating profit per employee, TDKK</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>
Values and leadership

**Enabler criteria**  Developing Ramboll’s values to ensure common goals and mutual understanding. Promoting professional and value-based leadership at all organisational levels.

<table>
<thead>
<tr>
<th>Leadership assets, %</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers/total no. of employees</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Managers who have participated in management training courses since their appointment</td>
<td>69</td>
<td>68</td>
</tr>
<tr>
<td>Managerial staff turnover</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Internal managerial appointments</td>
<td>49</td>
<td>75</td>
</tr>
<tr>
<td>External managerial appointments</td>
<td>51</td>
<td>25</td>
</tr>
</tbody>
</table>

**Actions and results**  In 2006 significant changes in managerial appointments took place as internal appointments decreased significantly and were replaced by external appointments. Ramboll’s rapid organisational growth increased the need for new managers and therefore it was necessary to search externally for additional resources.

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**Human assets: Actions and results**  The single most significant development in relation to human resources in 2006 was the increase in number of staff. More than 800 new employees grew the company to the point that by the end of the year there were in excess of 5,300 employees.

The huge inflow of staff has meant that the seniority of permanent employees has dropped considerably. There has been a slight increase in number of female employees and proportion of females among managers. The average education level in Ramboll has not increased with the new intake; partly because Ramboll in Russia, whose figures were not applicable in 2005, mostly employ individuals with Bachelor degrees or Diplomas. The heavy work load in 2006 combined with the shortage of highly educated specialists may lead to the employment of more assistants and technicians in future. A solution to the acute recruitment challenges could thus be to employ specialists to do specialist work only and to have assistants and technicians to undertake the general work related to providing solutions for our customers. Another way may be to employ people from India or China.

“Right now three per cent of our employees hold a PhD. Those people typically undertake specialist and development functions in our organisation. Considering the competitiveness of the global market situation, I think it is very important to attract people with doctorates. It is my dream and ambition that in ten years time five per cent of Ramboll’s employees will hold PhD’s”  says Group CEO Flemming Bligaard Pedersen

The set-up of Ramboll Academy is currently being revised. In 2006 the Ramboll Academy has proven to be an attraction parameter in Norway and Sweden when recruiting new employees.

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**Ramboll values**  A corporate identity e-learning tool was launched in the autumn of 2006 in order for the employees to test their perception of Ramboll’s values, philosophy, mission and vision in practice. Dilemmas related to the values have been developed and when going through the programme employees will be challenged on how to make difficult professional decisions whilst still acting in line with the values.

**Trust**  Honesty and integrity, openness and cooperation

**Quality**  Quality and value for the customer

**Innovation**  Development, improvement, exploitation and sharing of knowledge

**Commitment**  Responsibility, focus, initiative and high motivation

**Empowerment**  Decentralisation and delegation of authority

---

The holistic reporting for 2006 is performed in accordance with our holistic enterprise model’s nine key criteria.

Read more on www.ramboll.com

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**More than 800 new employees**
Strategic processes

Enabler criteria Developing, communicating, deploying and reviewing strategies and action plans systematically as part of the overall innovation process. Involving employees throughout the process to ensure their understanding and ownership.

Cross-organisational revenue, %  2006  2005
Activities in Nordic markets other than home market 1 9 11

1 Revenue generated from projects in Nordic markets other than the home market of the business unit, e.g. Ramboll Denmark having projects in Sweden

Actions and results In 2006 we proceeded with the work of aligning our strategic planning processes throughout our organisation and we focused on defining cross-organisational synergies. However, the order boom we experienced made it difficult to allocate the time necessary to pursue the cross-organisational work as systematically and persistently as we would have liked to.

In 2006 we decided to prepare Oil & Gas as a global beacon and an independent strategic business unit as of January 2007. Other new beacons were defined in order to sharpen the profile of Ramboll’s focus areas and to prepare the organisation for further growth in 2007.

Human assets

Enabler criteria Ensuring that Ramboll provides a positive working environment in order to recruit and retain the best employees. Involving and empowering employees by recognising their achievements. Offering continuous professional development of the necessary skills.

Human assets, 31 Dec.  2006  2005
Number of permanent employees 5,035 4,235
Average number of employees 1 4,905 4,224
Average number of years employed by Ramboll 8.1 9.3
Employees with more than one year’s experience with Ramboll, % 76 86
Average age 40.5 40.8
Average age of managers 47.3 46.4
Male, % 68 70
Female, % 32 30
Proportion of managers who are female, % 12 11
Staff turnover, % 11 11
Employee appraisal interviews carried out, % 77 78

1 Full-time equivalents

Educational background, %  2006  2005
- PhD or Post Doctorate 3 3
- Master’s Degree 38 39
- Bachelor’s Degree or Diploma 33 31
- Other 27 27
“Corporate Performance Management (CPM) is very important in pursuing our vision of Local partner – global knowledge. Part of the CPM project is the Datawarehouse where we are aiming to align and collect all the data linked to each of our seven strategic business units: This could include number of people employed, projects, recording of hours spent and information regarding customers, costs and income. This information makes it possible for each manager to benchmark his department or division against other departments or divisions in the organisation. Continuous access to best practice examples and strengthened knowledge sharing between our strategic business units will benefit our stakeholders in the long-term”

Group CFO Sari Kaikkonen

Structural assets

**Enabler criteria** Managing technology and information efficiently. Supporting knowledge sharing and innovation.

<table>
<thead>
<tr>
<th>Information technology, DKK million.</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT expenses per employee</td>
<td>29,000</td>
<td>28,000</td>
</tr>
<tr>
<td>Telecommunication expenses per employee</td>
<td>5,000</td>
<td>6,000</td>
</tr>
</tbody>
</table>

**Actions and results** In 2006 Ramboll’s common intranet was extended to also include our Russian colleagues and preparations for the Baltic States and Ramboll Oil & Gas were initiated. Technical specifications were refined and new features added during the past year. A common picture database to be used and accessed by all employees is just about to be implemented.

The main focus, however, has been on securing and constantly improving the communications flow across our organisation and to facilitate knowledge sharing for projects and tenders for the benefit of employees and customers alike.

Extranets for the Board of Directors and for the Ramboll Foundation were also developed in 2006.

The most comprehensive and time consuming activity in 2006 has been the development of the first phase of a Corporate Performance Management system – a project that will ensure a modern and professional technical platform for collecting accurate and up-to-date information on all aspects of our business performance.

A significant project in the pipeline for 2007 is a common web solution for all strategic business units.
Consultancy

**Enabler criteria** Designing and implementing solutions according to customers’ needs and expectations. Optimising business and commercial processes to always provide the customer with the best value for money.

<table>
<thead>
<tr>
<th>Internationalisation, %</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordic activities</td>
<td>86.3</td>
<td>87.0</td>
</tr>
<tr>
<td>International activities</td>
<td>13.7</td>
<td>13.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenue per sector, %</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public sector</td>
<td>47.4</td>
<td>47.0</td>
</tr>
<tr>
<td>Private sector</td>
<td>52.6</td>
<td>53.0</td>
</tr>
</tbody>
</table>

Revenue per market area, % 2006

- Buildings: 27
- Infrastructure: 19
- Transport and traffic: 24
- Water and Environment: 13
- Energy: 10
- Telecommunications: 7
- Industrial processes: 5
- Management: 10
- Information technology: 5

**Actions and results** Ramboll’s service areas were regrouped in 2006 to comprise the eight areas listed above. The rationale behind this decision was to be able to measure revenue according to a cross-organisational matrix structure where engineering, consultancy, product development and operation services in relation to each of the eight areas may be measured. Internationalisation and public/private sector results are very similar to the 2005 results which indicate stable growth in both areas.

Customer results

**Results criteria** Measuring to evaluate satisfaction and loyalty with a view to constant improvement.

<table>
<thead>
<tr>
<th>Customer satisfaction</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction Index ¹, total for Ramboll</td>
<td>4.29</td>
<td>4.14</td>
</tr>
<tr>
<td>Customers interested in repeating business with Ramboll, %</td>
<td>99</td>
<td>98</td>
</tr>
<tr>
<td>Number of completed customer satisfaction surveys</td>
<td>1,094</td>
<td>1,243</td>
</tr>
</tbody>
</table>

¹ The Customer Satisfaction Index (CSI) is based on surveys containing questions about professional qualifications, commitment and seriousness. Index figures are calculated on a scale from 1 to 5, where 1 stands for “poor” and 5 stands for “excellent”.

**Actions and results** When measuring customer satisfaction and loyalty through questionnaires the 2006 result is very good. 99% of our customers are interested in repeating business with Ramboll. This is a figure that has increased gradually over each of the past three years.

Employee results

**Results criteria** Measuring employee results to evaluate satisfaction and loyalty with a view to identifying areas of exceptional effort.

<table>
<thead>
<tr>
<th>Employee Satisfaction</th>
<th>Response rate %</th>
<th>ESI ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Ramboll Group</td>
<td>82.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Ramboll Denmark</td>
<td>83.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Ramboll Sweden</td>
<td>78.9</td>
<td>3.7</td>
</tr>
<tr>
<td>Ramboll Norway</td>
<td>85.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Ramboll Finland</td>
<td>82.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Ramboll Management</td>
<td>77.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Ramboll Informatik</td>
<td>88.5</td>
<td>3.7</td>
</tr>
</tbody>
</table>

¹ The Employee Satisfaction Index (ESI) is based on an anonymous electronic employee survey. The survey contains 15 regular questions about the employee’s work situation. Index figures from the survey are calculated on a scale from 1 to 5, where 1 stands for “very little satisfaction” and 5 stands for “great satisfaction”.

**Absence**

<table>
<thead>
<tr>
<th>Absence due to illness/total number of working days, %</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.8</td>
<td>2.7</td>
</tr>
</tbody>
</table>

**Actions and results** Job satisfaction and employee commitment remain very important factors to monitor in a company like Ramboll, not least in times when the work loads are heavy as it has been the case throughout the organisation in 2006. Employee satisfaction is measured yearly and the general satisfaction index for 2006 was 3.7 on a scale from 1 to 5. This indicates that even though many employees may have felt overworked in 2006, this has not significantly influenced the general picture of job satisfaction. General satisfaction with job situation is still the factor with the highest score.

Least satisfaction is seen in relation to cooperation between the strategic business units in Ramboll. This means that efforts to strengthen the ‘One Company’ spirit will be continued through networks and further collaboration in 2007.
We pursue our business with integrity

Society results: Actions and results  Coordinating branding in Ramboll had been an organisational priority for some time. In 2006 we decided to formalise and execute our branding strategy through a number of internal and external activities. The brand identity was communicated externally through an advertising campaign in Denmark, Sweden, Norway, Finland and Russia in October. The essence of the campaign was to picture Ramboll as a company that sees results from a certain perspective: Our knowledge is only as valuable as the number of people we share it with. We may provide advanced technical solutions to our customers, but these solutions gain their real value from contributing towards better living and working conditions for people and society.

Code of Conduct – Code of Practice  In 2006 we revised Ramboll’s Code of Conduct and produced a Code of Practice, which is a translation of the Code of Conduct into practical terms. In Ramboll we are very concerned to ensure that respect is an essential part of our personal and professional growth. We pursue our business with integrity and we live by our values no matter what. Openness, financial transparency and responsibility are other key issues in our professional conduct.

Royal award  On 8 June 2006 Rambøll Gruppen A/S received King Frederik IX’s Award for Excellence in Export. The motivation that accompanied the reward showed that Ramboll had demonstrated the ability to adapt to developments in society and to utilise the potentials of globalisation.

UN Global Compact  Ramboll has become member of the UN Global Compact and is now listed as participant on the UN Global Compact’s website. We will work with the ten Social Responsibility principles defined by the UN Global Compact and develop progress indicators in relation to these principles.
Economic results

Results criteria Measuring economic value creation to ensure that economic targets are met.

Economic profit is the genuine economic value created by a company. The creation of economic value implies that the operating profit of the year exceeds the owner’s expected return on invested capital. It is calculated as the difference between the year-end results measured as net profit (profit before tax, financing costs and annual employee bonuses) and the required return on invested capital set in the beginning of the year - currently set at 10%.

The Economic Profit is shared between being used for: annual employee bonuses and the shareholders in which case it may either be distributed by way of a dividend or reinvested for corporate development.

### Net profit, DKK million

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before tax</td>
<td>245</td>
<td>192</td>
</tr>
<tr>
<td>Employees annual bonuses</td>
<td>90</td>
<td>66</td>
</tr>
<tr>
<td>Financial expenses</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Net profit</td>
<td>355</td>
<td>280</td>
</tr>
</tbody>
</table>

### Invested capital (31 Dec. previous year), DKK million

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total equity</td>
<td>611</td>
<td>475</td>
</tr>
<tr>
<td>Long term liabilities</td>
<td>193</td>
<td>318</td>
</tr>
<tr>
<td>Provisions for deferred tax</td>
<td>109</td>
<td>123</td>
</tr>
<tr>
<td>Provisions for pensions</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Dividend</td>
<td>-5</td>
<td>-5</td>
</tr>
<tr>
<td>Invested capital</td>
<td>954</td>
<td>957</td>
</tr>
</tbody>
</table>

### Economic Profit (EP), DKK million

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required return on invested capital, %</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Required return on invested capital</td>
<td>95</td>
<td>96</td>
</tr>
<tr>
<td>Economic Profit (Net Profit - return on capital)</td>
<td>260</td>
<td>184</td>
</tr>
<tr>
<td>Part of EP used for employees’ annual bonuses</td>
<td>90</td>
<td>66</td>
</tr>
<tr>
<td>Part of EP to shareholders and for company development</td>
<td>170</td>
<td>118</td>
</tr>
</tbody>
</table>
Linking the Nordic region
Traffic and infrastructure development Most new developments require suitable transport infrastructure, and in the Nordic region this has meant considerable improvements to traffic flow on the major North European trans-frontier corridors. Bottlenecks on the main routes will be removed and cooperation between the regional networks may be promoted taking due account of the surroundings and the environment. Overall road conditions are being upgraded covering improvements to surface texture thereby providing greater riding comfort and better safety.

“The section supports the development of South-Western Finland and the growth centres of Turku, Salo and Lohja and their connection to the Helsinki metropolitan area”
Seppo Massinen, Project Manager, Ramboll in Finland

Nordic Region linked by E18 The European motorway E18 is part of a trans-European transport network also known as the 'Nordic Triangle' and is one of EU’s prioritised transport corridors. The E18 runs all the way from Northern Ireland through Scotland and England continuing, up until the end of 2006, by ferry to Kristiansand. The motorway resumes its way in Norway running through Sweden and Finland to end in St. Petersburg, a gateway to Central Europe. One of the obvious advantages of the E18 is its linking of the Nordic capitals Oslo, Stockholm and Helsinki. The total stretch of road will be approximately 1,890 km.

In the Nordic countries the focus of the project is on upgrading the existing road to motorway standards as an improved E18 is key to the free movement of people, goods and services and it will contribute to the advancement of the economic and social development of the regions. Ramboll is currently involved in three stretches of the E18 being worked on simultaneously in Finland, Norway and Sweden. It is therefore a significant example of the cross-organisational synergies within Ramboll.

The Finnish stretch will most likely be taken into use at the end of 2008 whereas the Norwegian and the Swedish sections are due to open in 2009.

Securing future infrastructure demands in Southern Finland
The E18 motorway project between Muurila and Lohja is the largest ever road project in Finland. Seppo Massinen who is managing the design work says: “The section supports the development of South-Western Finland and the growth centres of Turku, Salo and Lohja and their connection to the Helsinki metropolitan area”. Thus the motorway might be one of Finland’s most important international connections, supporting the development of fast growing areas in Southern Finland as well as promoting an efficient public bus transport system.

The new section of E18 will guarantee a service level to match the increasingly demanding traffic needs, which have resulted from the road being used as an international supply route.

“Today the road between Muurla and Lohja is a two lane highway with a very low traffic safety record. The layout of the road, which dates back to the 1930’s, includes numerous junctions which further jeopardise its safety. With increasing traffic this problem is escalating”, Seppo Massinen emphasises.

The current average traffic usage is 9,000-11,000 vehicles a day, with the share of heavy traffic being 13-15%. The estimated traffic for the new motorway in 2030 will be 15,000-20,000 vehicles a day. Seppo Massinen anticipates that the new motorway will reduce the number of accidents: currently there are 3.2 fatalities a year (on average) and 26 accidents causing personal injury. Furthermore, the number of people living in noise corridors (exposed to more than 55 dB) will be reduced by 1,800.

Ramboll is in charge of the challenging design work for the project. Seven motorway tunnels, 76 bridges and eight interchanges keep more than 100 designers (from Ramboll, Sito and Pöyry) busy. The project is a Public Private Partnership, where The Highway Administration is assisting in the development of the Finnish application of the model.

New E18 makes travel easier in Norway
Motorists caring about road safety and depending on the Norwegian infrastructure will welcome the new E18 between Grimstad and Kristiansand. This stretch of the motorway will be 38 kilometres long and will be the largest single Norwegian road project to date. It is estimated that between 9,000 and 30,000 cars will use the new road every day. During the summer, this is expected to increase to 40,000 per day. The motorway consists of 80 structures, including 5,740 metres of rock tunnel,
Traffic and infrastructure development
Traffic and infrastructure development

Facts about the Muurla-Lohja section in Finland:
- 51 kilometres long
- Four lanes wide
- 48 bridges and eight interchanges
- Seven tunnels with a total length of 5.2 kilometres
- Will open by the end of 2008

Facts about the Grimstad-Kristiansand section in Norway:
- 38 kilometres long
- Four lanes wide
- Largest bridge is 400 metres long
- Seven tunnels with 5,740 metres of rock tunnel
- Will open in August 2009

Facts about the Lekhyttan-Adolfsberg section in Sweden:
- 18.5 kilometres long
- Four lanes wide
- 22 bridges and subways
- Pedestrian and cycle ways approx. 3 km
- Scheduled to open in 2009

divided into seven tunnels. The largest bridge will be 400 metres long. Due to the mountainous landscape requiring tunnels and bridges, the project faces many challenges: “One of the biggest issues will be the sulphide-filled rocks in Lillesand County. The subsoil is very acidic which means that we have to pay special attention to the quality of the concrete. In some places, we cannot use concrete at all”, explains Project Manager Bjørn Martens from Ramboll in Norway.

For those in local communities living along the existing road, building the new motorway away from populated areas will mean a reduction in the noise level and a safer environment allowing for normal neighbourhood activities.

The project is a Public Private Partnership, which was won by Agder OPS Vegselskap, owned by Bilfinger Berger, Pihl & San and Sundt AS. A construction joint venture (Bilfinger Berger and Pihl & San) will carry out the construction works with Ramboll as their main consultant. Ramboll is responsible for the design of the motorway together with the German company Bilfinger Berger. Ramboll has recently been engaged in a section of the E39, another large Public Private Partnership road project in Norway.

Safety of road users on E18 in Sweden

Historically, the section Lekhyttan-Adolfsberg has been a stretch of the road E18 that has been very much prone to accidents, but the safety of road users as well as a reduction in noise level is now to be improved radically. Project Manager Cecilia Oroz explains: “By separating the two carriageways of the road E18 with a physical barrier and by reducing the number of junctions, the safety of motorists will be dramatically increased. Even pedestrians and cyclists will experience a considerably safer environment as a direct result of the extension of the pedestrian and cycle ways along the stretch in question.”

In addition, sound damping measures in the form of wooden noise barriers and earth embankments will give rise to an improved living environment for the inhabitants in the direct vicinity of the road.

Ramboll’s task during the design phase of the project and as a consultant to Vägverket Konsult AB (Swedish National Road Authority’s consultancy division) was to establish tender documents for road E18, stretch Lekhyttan-Adolfsberg. The technical groups that were involved were civil engineers responsible for the design of the secondary road network and geotechnics, bridge design, lighting and landscape architecture who were involved in both the main road section and also the secondary road network.

The project has been running since autumn 2003 and is still ongoing, albeit now in the construction phase which is estimated to continue for a further two years.

The project, which as previously described, has encompassed a number of different areas of competence has meant that internal cooperation between several offices in Ramboll in Sweden has been necessary. The project has been managed from the Malmö office.

“One of the biggest challenges will be the sulphide-filled rocks in Lillesand County. The subsoil is very acidic which means that we have to pay special attention to the quality of the concrete. In some places we cannot use concrete at all”
Bjørn Martens, Project Manager, Ramboll in Norway
Traffic and infrastructure development

Road comfort and safety  Improvements to the road conditions for those living in eleven provinces in the Netherlands will be carried out during the period 2006-2009. This upgrade, covering improvements to surface texture, water run off, cracking and rut depth will provide greater ride comfort and better safety i.e. all dangerous road inspections will be eliminated.

The combined Laser RST and Pavue Technology carried out by Ramboll offers a complete and reliable picture of the road condition and its user function. Altogether the project involves the measurement of approximately 5,200 km of road each year of the three year period. What is unique about the technologies supplied by Ramboll RST is that the measurement system works in real-time, allowing for easy monitoring of measurement data thus enabling excellent quality assurance of the data collected. The contract was awarded to Ramboll in competition with a Dutch consultancy. The relevant customer organisation is the road authority in each of the respective Dutch provinces.

Driving under the River Shannon  Citizens in the Irish town of Limerick will experience less city traffic when the new tunnel beneath the River Shannon becomes a reality. The tunnel is part of the second phase of a project providing a large circular motorway around Limerick. However, given the specific local environment, it is vital that the project takes into account the best ways to preserve and protect various local habitats.

The overall cost of the project is estimated to be EUR 70 million of which the actual construction of the tunnel is approximately EUR 5 million. The project is a Public Private Partnership with private investor participation in both financing and operating the facilities. The assignment involves a completely independent design check of the submerged tunnel, taking into account the tunnel itself, as well as the facilities at each mouth of the tunnel. With a length of approximately 1 km the cross section of the tunnel is equivalent to the size of the motorway tunnel beneath Oresund, where Ramboll also acted as consultant.

Read more: ramboll.com/annual review 2006/cases
Sea, nature and recreation
New exclusive residential area - Aurinkolahti near Helsinki in Finland has helped make the life of its residents more enjoyable and fulfilling. The sea has always been an important feature for those living in Helsinki and now the recreational town of Aurinkolahti is adding new ways for visitors and residents alike to experience the waterfront. The town redevelopment project unifies both the urban and the natural aspects in a modern and explicit manner providing the relaxing effect of nature after a busy working day in the city of Helsinki.

Comfort and serenity can be found in the spectacular view to the sea, in the parks with the impressive pine trees and on a peaceful walk on the promenade. The beauty of nature is close by providing a variety of activities: the public beach, the marina, the forest and the artificial canal. The surrounding environment adds decorative touches to the homes of those in Aurinkolahti. This entire town redevelopment project is certainly enhancing the quality of life for its residents.

Town redevelopment project – a city district by the sea
The town planning development in the Helsinki area was awarded The Environmental Construction Prize in 2006. “The Aurinkolahti development project is a perfect example of the urban embellishment strategy that will make Helsinki a more attractive city for residents and visitors”, says Helmer Berndtson, who is managing the project. “Because cities have to compete to attract investment and affluent residents, it is important to have development plans for city areas. Urban coastlines, before characterised by industry, are now being transformed into lovely residential areas”, he adds.

There is easy access to Aurinkolahti, it being only 15 km away from Helsinki city centre with good metro or bus links. This makes the town an attractive residential area for people working in the city centre, but also a perfect place for visitors or residents of Helsinki to enjoy the many facets of the seaside. The image of Aurinkolahti (the sunny beach) as a well-planned and expensive residential area on the waterfront will, most likely, positively affect the image of the whole Vuosaari.

The project was initiated in 1999 by the City of Helsinki - the Street and Park Department - with the main objective being to pay specific attention to the preservation of natural elements and the landscape. Particularly these characteristics of the area have been preserved with the help of careful planning. A transformation of an almost untouched coastal landscape into an environment where thousands of people live and spend time has been hugely successful. A special atmosphere, user-friendly while still respecting nature, has been created on the Aurinkolahti coastline. Key in this project has been a high level of involvement from town planners while keeping strict control over construction costs. Maintenance of the area is something that has been carefully considered. The way maintenance is done is fairly easy and the costs are reasonable. Initially an environmental assessment for the area was conducted, detailing the overall design of the area, materials usage and quality level of construction. These principles have also been followed when planning and developing the landscape. According to Aino-Kaisa Nuotio, who is specialised in landscape design and who is also managing the

"Because cities have to compete to attract investment and affluent residents, it is important to have development plans for city areas. Urban coastlines that before were characterised by industry are now being transformed into lovely residential areas”
Helmer Berndtson, Project Manager, Ramboll in Finland

Urban and regional development

Today, there is a growing awareness of the need to create coherent and sustainable cities and surrounding areas. Town planning services and solutions aim to improve living conditions for individuals as well as create sustainable development for society in general and for the environment. Creating successful urban and regional development relies on taking into account the surrounding nature, cultural heritage and future needs. Close cooperation is needed between all parties involved in the development projects to ensure the correct end product.
Facts about Aurinkolahti
Location: In eastern Helsinki approximately 15 km from the centre in the district called Vuosaari
Population: Has risen rapidly in Vuosaari during the last 10 years due to the construction of new housing areas; is estimated to reach 40,000 in 2010
Special attraction: The Utela canal will feature two waterfalls and several bridges – the southern section will be accessible with small boats
Accessibility: Aurinkolahti and the popular beach are located in a one-kilometre radius of the Vuosaari metro station
Number of residents: Approximately 7,000
Total time of completion: 1999-2008

Urban and regional development

Lifting cultural heritage The old wharf in Bergen (Bryggen) is on the UNESCO list of World Cultural Heritage sites. Bryggen is a reminder of the town’s importance as part of the Hanseatic League’s trading empire. Heavy transport by modern vehicles has compressed the ground around Bryggen. This, combined with decomposition in the timber foundations, is causing the old wooden buildings to sink. Several buildings have already suffered extensive damage.

Ramboll is providing assistance by reestablishing the foundations on one of these houses. The goal is to take the building back to the same state as it was in 1706. The work involves lifting the entire building and demands a mastering of the geotechnical and building techniques to ensure that the work can be done without further damaging the house.

From old shipyard to young city The former shipbuilding yard of Gdansk is now being developed for apartments and offices. The site, dubbed “The Young City”, is within walking distance of the Old Town, and with its many preservation worthy buildings this development means integrating old industrial with modern buildings.

Ramboll’s role will be that of advisor for the site owner, and we will be working closely together with the customer during the entire process. The Baltic Property Trust is under an obligation to develop the infrastructure in the area. Ramboll will be acting as owner’s engineer in this. The municipality of Gdansk is also benefiting from this development: New infrastructure is integrated with the rest of the city, linking it to the waterfront while lifting the former industrial quarter aesthetically.

Prior experience and current role
Previously Ramboll has been involved in the planning and development of the Paulig district, which is closely connected to the centre of Vuosaari. As the customers were very pleased with the outcome of this project, the same team was asked to continue planning the development of the western part of Aurinkolahti situated south of the Paulig area. At the moment, the planning of the Eiranranta area in the centre of Helsinki is in course of preparation. This area is also located on the coastline which makes the project similar to the redevelopment project of Aurinkolahti. Ramboll is conducting an environmental plan and planning the streets in the area, as well as general construction plans for a total of four parks in the Aurinkolahti region. For outlining embankments Arkkitehtitoimisto Pääsky & Siistonen Oy has been hired as supplementary consultant. The overall cost of the project is estimated to be EUR 300,000 of which the urban area makes up for EUR 200,000 and the parks and green areas EUR 100,000. The parts of the project involving Ramboll were mainly carried out between 2000 and 2002.
“The landscape where the parks were planned to be located was very different in nature and therefore we tried to define and preserve the individual character of each park area”
Aino-Kaisa Nuotio, Project Manager, Ramboll in Finland

Building across borders
The twin towns Haparanda and Tornio are separated by the Swedish-Finnish border. Many people here speak both languages and it is usual to cross the border to go to work, visit relatives, or to go shopping. The towns are investing heavily in services, and private investments are also on the rise: IKEA is building a big store. Ramboll is responsible for the project and construction management of this warehouse.
Geotechnical surveys and water & wastewater engineering for several other sites for new businesses, offices and homes, are carried out by Ramboll. The Swedish and Finnish National Road Administrations are facing big challenges reorganising the infrastructure. Ramboll offices on both sides of the border are engaged in the work on the E4 as well as new roundabouts. It is estimated these activities will create 1,000 more jobs here.

There are plans for a big shopping centre and a new hotel. The towns are also planning a common park, a canal, flood protection and a marketplace. These are being engineered by the Swedish and Finnish Ramboll offices making this a good example of cross-organisational development.

Indian airport development
Hyderabad and Bangalore each have an estimated population of 6.1 million people and are often called “India’s Silicon Valley” due to the many software development centres. As rising metropolitan areas in a developing country, they struggle with huge infrastructural problems. To meet growing demands, two new airports are under construction.
Ramboll’s associated company, Larsen & Toubro, carry out the detailed design of runways, taxiways, aprons and roads for construction work. Both airports are being developed as BOT-projects (Build, Own and Transfer), where the government enters into an alliance with private investors. The investors build and administrate the project for a limited time. By the end of this period the investments break even through toll money, fees etc.

Read more: ramboll.com/annual review 2006/cases
Bringing student life into the city centre
Education

In order to design and develop attractive educational settings, it is vital to work closely with the future end-users; leading to optimal solutions tailored to their requirements. Key considerations include economics, aesthetics, functionality, environment, energy consciousness and operational reliability. The challenge is to create appealing architecture, a healthy atmosphere and spacious working areas. Moreover, in order to save time and money, and to survive in a competitive market, there needs to be focus on simplifying educational administrative processes.

“The different levels in the area have been utilised and preserved in order to add character and shape to the site, for instance by designing a welcoming stairway that is also accessible for disabled people” Ingrid Reimertz, Project Manager, Ramboll in Sweden

Central location

Since the autumn of 2006 all the institutions of Gothenburg University have been located centrally. The Faculty of Education has been moved from its previous location in Mölndal south of Gothenburg to the city centre. More than 3,000 students and employees will be able to share knowledge and facilities in this integrated university area, which will also enrich city and student life.

Refurbishment and development

To decide on the best possible architecture for this joint university environment, an open architect competition was initiated. The winning teams continued the development of their preliminary suggestions on how to modernise and upgrade the existing buildings and how to create new facilities in line with the old. The construction project involved a refurbishment and exten-
Education

The new educational building, stretching over five floors is a glass construction which is situated on what was previously a car park. To compensate for the loss, an underground car park in two levels and with 00 parking spaces has been constructed under the new building.

The other new building, an extension to the Northern side of the horse-shoe shaped “Sociala Huset”, is also constructed in glass to create a welcoming environment at the entrance, and is located at the centre of the horse-shoe. This building contains the shared facilities of the Faculty of Education: a café, administration and student services.

Design of the surrounding area

Ramboll’s primary role has been to design and plan the external surroundings, for example by creating public squares with room for social gatherings and events. “The different levels in the area have been utilised and preserved in order to add character and shape to the site, for instance by designing a welcoming stairway that is also accessible for disabled people”, says Ingrid Reimertz from Ramboll in Sweden. The goal has been to use appropriate age-defined materials which harmonise with the old surroundings. Streets and footpaths are built in line with Gothenburg’s tradition of using paving stones and granite flagstones. On the southern side of the new building a wooden staircase has been built to make the slope down to the surrounding moat more comfortable to sit on.

Create an attractive district

Before the building project began, the area was run down and perceived as an unsafe neighbourhood. Therefore, the project has also intended to heighten the social status of the community. The vision has been to create a dynamic and competitive location for student life in the heart of the city whilst still taking note of the historic environment.

Historical findings

During the excavation of the area around “Sociala Huset” parts of the old town wall surrounding the city of Gothenburg became visible. Remaining parts of the stone wall have been preserved and are now exposed to the public.

Facts about Pedagogen

Period of contract: 2003-2006
Clients: HIGAB (a company within the local community of Gothenburg that takes care of historically important buildings owned by the community) and the Transport Department (responsible for building and maintaining the streets and public squares in Gothenburg)
Ramboll’s responsibility: To design and plan the external environment
External design costs: EUR 1,5 million

Outputs of the project

Bring student life into the heart of the city
Create an attractive and safe neighbourhood
Bring new life to old buildings
Create city centre employment
When the time comes for Danish students to take their final exams, a rather complex planning process is needed to coordinate the allocation of all external examiners. It is crucial to select and get acceptance from examiners possessing the right expertise in order to evaluate the students as accurately as possible without favouring some areas of the country.

With a newly developed examination administration system called XPRS, high-school and business college students are guaranteed the best qualified external examiners as well as a fair draw of examination subjects. The XPRS system facilitates the difficult process of coordinating and allocating the correct external examiners.

The examination administration system has provided the Danish Ministry of Education with a central network connected to all local administrative high-school and business college systems, thus facilitating a smooth and accurate coordination process. It has therefore become much easier for the Ministry to coordinate and allocate external examiners to the final exams providing a fair and equal allocation from which the students benefit. The new system will also be capable of handling the random draw of examination subjects as well as the subsequent administration of grades.

The XPRS system has been developed using Ramboll Informatik’s agile development model. Based on statements of intent and visions listed by the Ministry, Ramboll Informatik consultants initially identified sources of inexpedient procedures and elaborated a complete Business Case to be the basis of further systems development. This model facilitates the involvement of the users from the outset and supports ongoing feedback to improve the user friendliness of the system. In the initial phase, user input is of great importance to develop the fundamental analysis of working processes. Further down the project the users contribute with proposals of how to simplify existing routines and are encouraged to suggest new routines which might be put into practice in the final system. By actively involving the users during the entire development process, Ramboll experts benefit from the vast pool of knowledge within the Ministry and are able to design a solution that improves processes and workflows as well as the user interface, functionality and accessibility. Eventually, the users test the final system which, in this case, turned out to be a ready-to-use solution implemented immediately with no need for error recovery.

The XPRS system has been designed and developed on fixed price terms and was put into operation in the summer of 2006. The system will be implemented in all educational areas within the Danish Ministry of Education in the next few years.
A school of the future  St. Jacobi School, in Varde, Denmark is soon to be replaced by a modern building. The difference between the old and the new represent a 50 year gap in the educational system. Focus is on appealing architecture and healthy atmosphere with spacious working areas. It is also an ambition to offer a ‘green’ feel with focus on health and exercise by integrating the buildings with the surrounding nature. 3D tools are used in the design process for construction design and for visualisation.

3D modelling provides a broad perspective, making it easier to identify mistakes and provide better solutions. The project is being done by Ramboll in cooperation with the architectural firm Gjørretz, Pank & Partners, landscape architect Torben Waimø and the construction group Hoffmann A/S.

Competitiveness through social responsibility  By signalling increased focus on social responsibility, small and medium sized, public and private companies in Denmark have received a golden opportunity to strengthen their reputation, competitive position and bottom-line. In 2006, 12,000 managers and employees were offered free courses, where they learned practical skills and gained inspiration on how to work in more focused ways with issues such as integration, care of the environment, supplier standards and communication.

CSR is advocated as one of the most important competitive parameters of the future. In times when human resources are scarce, it is crucial for companies all over the world to implement the concept of CSR and to communicate what is being done to maintain and attract employees. The largest CSR project to date in Europe, ‘People and Profit’, in Danish ‘Overskud med Omtanke’, is being initiated by the Danish Commerce and Companies Agency and conducted by Ramboll Management. The project is being implemented with funding from the European Commission’s Social Fund and the Ministry of Employment.

Successful integration courses  Since 2005 immigrants in Germany have been able to attend integration courses focused on the German language, while giving general information on history, culture and the legal system. By the end of 2006 approximately 350,000 people have attended the course. Ramboll Management has conducted an evaluation of these courses for the Ministry of Internal Affairs. Some of the recommendations are to make the implementation process less bureaucratic, to help the participants reach the required language level more efficiently. The evaluation results are to be presented by mid-2007 and will provide a basis for further assessments and development plans.

Project administration tools  Denmark wants to have universities that rank among the best in the world i.e. universities with strong scientific environments that can retain and attract the most talented students, teachers and researchers from across Denmark and beyond. This requires not only a highly professional educational environment, but also the best possible physical structure.

DigitFlow is a digital application that provides an overview of all administrative documents at any given time of a project and their movement through the system. The previously complex and time consuming tasks of tracking, validating, mailing, signing and archiving the forms are now replaced by automated and formalised procedures. The system automatically drives the forms process according to the pre-described flow, and notifies the users by email along the way. Ramboll Management has developed and implemented the system designed for the Danish University and Property Agency. DigitFlow is a standard form-flow application that can be easily implemented by any organisation.

Read more: ramboll.com/annual review 2006/cases
Laboratories for the latest technology
Science and health  To ensure that progress is viable both for individuals as well as the environment there needs to be a general understanding of the current facilities available for health care, science and research. Refurbishments need to be attentive to the physical buildings, their layout, building services and equipment. It is also important that the design facilitates the use of modern technology, new examination methods and new treatment methods. Moreover, it is vital to work with each health care organisation’s management team, to prepare them for the challenges they continually encounter in order to generate more efficient organisations.

“Our mission is to establish expertise at the highest scientific level within aspects of both nanotechnology and health science”
Kjeld Pedersen, Head of Department of Physics and Nanotechnology, Aalborg University, Denmark

What is nanotechnology?  Nanotechnology is known as the technology of the 21st century. In the decades to come, this technology is predicted to change the world. Nanotechnology will add new perspectives to all lines of business and ‘nanovation’ is to become a common concept. Nanotechnology is a field of applied science and technology covering a broad range of topics. The main unifying theme is the control of measuring things on a scale smaller than one micrometer, as well as the creation of devices on a similar scale. It is a highly multidisciplinary field drawing from fields such as colloidal science, device physics and supra-molecular chemistry.

Modern laboratories at Danish universities
With new research laboratories in nano-/biotechnology and stem cells at the universities in Aarhus and Aalborg, Ramboll is helping to ensure the framework for research and development in technologies of the future.

Department of Physics and Nanotechnology in Aalborg
The first turf was cut in Aalborg when the laboratories, neighbouring NanoNord A/S, were constructed during 2003-2005. Since then NanoNord and Aalborg University have joined together in NanoLab Nord – one of Northern Europe’s largest nano-laboratories with unique physical surroundings enhancing
a creative working environment. These new facilities have made Aalborg University a key player within the fields of nanotechnology and health science. According to the Head of Department of Physics and Nanotechnology Kjeld Pedersen: "Our mission is to establish expertise at the highest scientific level within aspects of both nanotechnology and health science". Aalborg University collaborates closely with companies where nanotechnology and health science play an important role. This partnership facilitates an exploitation of the synergistic effects that stem from the interaction between the parties involved; students, researchers and the business world in general. Local companies are expected to benefit from the development and research within nanotechnology as they may be able to make use of this local expertise for their product innovation.

Even though the laboratories made for the new fields of education have already been constructed, expansion plans have begun to meet the increasing popularity of research into these areas by students.

Ramboll’s role has been participative programming of the laboratories and planning of all engineering-related design work. Also, Ramboll has acted as project manager during the construction period.

The iNANO Centre in Aarhus.
The iNANO Centre in Aarhus (the Interdisciplinary Nanoscience Centre) is located at Aarhus University, but cooperates closely with Aalborg University. The centre will facilitate new research and provide an improved student environment. The iNANO Centre consists of two construction projects; one is cleanroom, which will be built in 2006-2008, and the other is the laboratory facilities. The actual period of construction of these has not yet been planned, but presumably building will begin before the beginning of 2008.

The new and innovative cleanroom building will boost the ability of Aarhus University to attract the best qualified nanotechnology students. The purpose of the centre as a whole is to facilitate interdisciplinary research into the field of nanoscience and nanotechnology, as well as to provide education and research within the two areas. The idea is to create advanced laboratories and equipment for both in-house researchers and visiting companies; facilities which otherwise would be beyond their reach. Since the existing premises did not meet the requirements of today, it was planned to construct new buildings providing common facilities for physics, chemistry, molecular biology, biology and medical science. “In cooperation with the building owner
Definition of nanotechnology: The application of nanoscience in order to control processes on the nanometer scale, i.e. between 0.1 nm and 100 nm.

Definition of cleanroom: Room in which the concentration of airborne particles is controlled, and which is constructed and used in a manner to minimise the introduction, generation and retention of particles inside the room, and in which other relevant parameters, e.g. temperature, humidity and pressure, are controlled as necessary.

“In cooperation with the building owner and the end-users our assignment is to create the best possible physical and technical surroundings for research and education within the field of nanotechnology”
Jonna Nielsen, Project Manager, Ramboll in Denmark

and the end-users our assignment is to create the best possible physical and technical surroundings for research and education within the field of nanotechnology”, says Project Manager, Jonna Nielsen, Ramboll in Denmark.

Ramboll and the architectural firm Jørn Langvad A/S entered a competition for the iNANO centre as engineering advisers and architects respectively, and their proposal was considered to be the best by a unanimous jury. Ramboll has acted as project manager and is responsible for all engineering-related design work in the two laboratories.
At a glance

**Denmark** Laboratories for the latest technology, Aarhus and Aalborg

**Sweden** New Nordic medical centre, Stockholm

**Belgium** Strategy for merging hospitals, Charleroi

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**Science and health**

**New Nordic medical centre** Patients, medical students and staff will enjoy new facilities for medical research and development as a new University Hospital will be built close to the present hospital, Karolinska, a few kilometers outside the Stockholm downtown area.

Karolinska University Hospital is one of the leading hospitals in the Nordic region and has since its foundation in 1940 been responsible for a number of revolutionary medical breakthroughs. For many years it has been thought necessary to find a solution as to how the old hospital facilities could be improved to match current demand. The new Karolinska will facilitate collaboration between the medical researchers at the Karolinska Institute (the medical university) and the medical industry.

In May 2006 Locum, the property manager of all hospitals in the Stockholm County, launched a design competition and short-listed five architect/design groups to prepare and develop their ideas on the design of the new hospital. Ramboll entered the competition as engineering advisers to White Architects, Stockholm, and prepared structural, civil and part of the mechanical & electrical engineering design. The latter was done in cooperation with ÅF Group. The design proposal called “Forum Karolinska” was voted the best proposal by a unanimous jury. The project will engage Ramboll consultants over the next six years.

**Strategy for merging hospitals** Belgian patients and hospital staff may soon benefit from a merger of three private hospitals in Charleroi, south of Brussels. A merger which, even though it failed at the first attempt in 2002, is expected to provide improvements in terms of quality, specialisation and proximity of health care services to the patients. Merging the hospitals seems to be the only solution to avoid unnecessary competition and thus guarantee a successful integration in order for the hospitals to survive long term in a competitive market. Ramboll Management in Brussels has the role as a Change Management consultant. Taking into consideration the 4,000 employees and 500 independent doctors involved in the merger, Ramboll needs to spend considerable energy to support and develop the ten year (2007-2017) vision. Focus has also been on engaging and empowering people to take ownership of the project. The involvement of Ramboll Management in Germany has been crucial in conducting the surveys.

Read more: ramboll.com/annual review 2006/cases
Attracting world class events
Culture and experience

Giving people the chance of a break from everyday life and for just a moment to drift away into another world is adding value to their lives. Whether it comes from visiting historical sites, being entertained by the latest pop-sensation or exploring a continent other than one’s own, the dream of a total experience is invaluable. Both public and private organisations strive to improve existing facilities and at the same time develop propositions for the future in order to continually broaden the range of cultural activities and experiences on offer.

Ice Hockey, Pope John Paul II and Dolly Parton

The Stockholm Globe Arenas represents the sun in the “Swedish Solar System” – the world’s largest scale model of the solar system. With a diameter of 110 meters and a height of 85 meters, the dome is the centre of the event industry in Stockholm, and just like the real sun, the Globe contributes to the creation of life along with the three other arenas, the Annex, Hovet and Söderstation that together make up the Stockholm Globe Arenas.

The aim of Stockholm Globe Arenas is to contribute to the enjoyment of people, companies and organisations by attracting some of the world’s biggest stars as well as hosting successful national sporting and cultural events and other types of entertainment and experience.

The unique architecture of the Stockholm Globe Arenas makes it a landmark for the city of Stockholm. The Globe attracts people from all over the world, making it a frequently visited site for tourists and Stockholm locals.

Djurgården IF hockey team uses it as its home arena and with famous guests like Pope John Paul II, Nelson Mandela, Red Hot Chilli Peppers and, in 2007, Bob Dylan and Dolly Parton.
Stockholm Globe Arenas is constantly working on ensuring the best variety of entertainment and experience for its visitors.

**Competitiveness and long-term development**

A review of all subsidiaries owned by Stockholm Stadshus AB, the parent company of all Stockholm City companies working in the public sector in areas such as utilities, housing, commerce and networking, was started by Swedish politicians in cooperation with staff from Stockholm Stadshus AB. The subsidiaries will be reviewed in terms of efficiency, organisation, facility management and their business model. Ramboll was commissioned to carry out the review of Stockholm Globe Arenas with the general task being to secure competitiveness and long-term growth by identifying the organisation’s possible areas for improvement, development and its priorities. The result should be to minimise expenses and optimise income for the Arenas, and thus guarantee a continuous range of world class events.

In February 2006 the scope of work was agreed upon and interviews with the organisation began. Jan Törner, General and Project Manager, in Ramboll Projektledning explains: “We included all members of the management committee in order to review all aspects of the company and to finalise a base line report, which was part of first phase in the project outline.”

The draft report addressed some specific areas, one of which was major supplier agreements and another the business model. The draft report showed that the main processes and related suppliers were supported by some rather complex agreements which were critical for the successful operation of each type of event covering the areas of music, sports, family and business. Ramboll analysed these and indicated strengths and areas of improvement.

In terms of the business model the analysis concentrated on the sales organisation in each of the different business areas. The interaction between these was described and an example of an alternative and improved business model was presented as basis for further discussion.

Both Ramboll Projektledning and Ramboll Management have had internal dialogues about cooperating jointly on this type of project, and to strengthen the project team, they are using the specific expertise of colleagues in Sweden and Denmark.

By using the experience gained from Public Private Partnership projects and public sector development, in Denmark in particular and especially from the event sector, Ramboll Management could quite easily identify some areas where the Swedish project could benefit from their experience. The knowledge provided by Ramboll Management in Denmark saved time in the completion of the project: “This is a typical example of cross-organisational cooperation within Ramboll, utilising each other’s experience and knowledge and thereby gaining a competitive advantage”, says Anders Ulrich, Business Manager from Ramboll Management in Denmark.

The project was meant to begin in 2007 but has been postponed due to change of management in Stockholm Globe Arenas. A new Managing Director appointment is imminent.

“This is a typical example of cross-organisational cooperation within Ramboll, utilising each other’s experience and knowledge and thereby gaining a competitive advantage”
Anders Ulrich, Business Manager, Ramboll Management in Denmark
Olympics 2020 to Copenhagen? Denmark is a relatively small country, however, despite its insignificance in size, the country may still have grand visions: if the Olympic torch is ever to burn in Denmark, it will forever change the status of the country and the way in which the Danes perceive themselves. “Olympic Games to Denmark”, a study conducted by Ramboll, shows that hosting the 2020 Olympic Games is not only achievable but it may also be good business for Denmark.

The feasibility study has been prepared for the Danish Ministry of Culture identifying the potential from as well as obstacles of a possible future effort to bring the Olympic Games to Copenhagen. It is founded on a number of prerequisites and assumptions and will provide the basis for a political debate on how to attract large sports events to Denmark as well as how to increase the growth in the Danish experience economy.

The report is the result of cross-organisational cooperation by Ramboll Management, Ramboll Denmark and Ramboll Nyvig as well as TSE Consulting from Lausanne. Ramboll was elected by a unanimous steering committee to conduct the study.

Leading city history museum in Liverpool The Museum of Liverpool is to be built at one of the city’s most prominent development sites, lying within Liverpool’s World Heritage site as inscribed by UNESCO last year. The building has been designed with inclined or elevated platforms gradually forming a sculptural structure. In 2005 the Danish architectural company XN won the international tender for the design and construction of the Museum of Liverpool. Buro Happold is the main engineering consultant on this project. Ramboll acted as sub-consultant to XN in the construction of the museum’s natural stone façade and stone flooring including exterior and interior stone surface impregnation and/or coating. Several Ramboll departments worked in close cooperation throughout this project.

In recent years Ramboll has endorsed a number of innovative solutions for cultural construction work: The Opera House and Royal Danish Theatre in Copenhagen, the Music House in Aalborg, the elephant house at the Copenhagen Zoo, the Icelandic National Concert & Conference Centre in Reykjavik and is currently working on the Opera House in Oslo.
“RAINBOW” shopping centre In one of the largest suburbs in St. Petersburg in Russia, a new shopping and entertainment centre will open in the spring of 2007. The new mall, called Raduga, Russian for “Rainbow”, will offer residents a wide range of shops, sports and cultural facilities including an eleven screen multiplex cinema, bowling alley, several restaurants and children’s playgrounds. Ramboll in Russia is responsible for the general planning and design of the project and has been in charge of the architecture including geotechnical design, metal and concrete-reinforced structures as well as coordination of all installations. During the geotechnical design phase the customer greatly appreciated Ramboll’s ability to deliver specialised experience and know-how from our offices in Finland.

Visualising a new football stadium When the football club “Start” from Kristiansand in Norway needed sponsors for their new stadium, they used a 3D visualisation made at an early stage in the process. The model was an important tool for promoting and selling the stadium name “Sør Arena”, Norwegian for “South Arena”, to the local bank “Sparebanken Sør” for a considerable amount of money. Ramboll’s solution was a large 3D-model based on existing map-data so that both buildings and terrain are shown in 3D. Ramboll put the project into a 3D-model of the city of Kristiansand. In recent years Ramboll has achieved first-rate expertise in making 3D models out of map data, and a special method based on photogrammetry has been developed. The mapping visualisations are accurate (± 20 cm) and highly reliable.

Kafue National Park – road design and construction Infrastructure is a real issue in Zambia where better transportation will improve production, tourism and commerce. One of Zambia’s major tourist attractions is the world’s second largest national park, Kafue National Park. Presently, much of the main route, the Spinal Road, is a dry-season track passing through marshy areas, completely inaccessible from May to June due to flooding. The mid-section has not been used by vehicles for several years, and parts of the old road are totally covered by bush or have been washed away during the rainy seasons.

To ease the access for researchers and tourists travelling through the national park, the road requires considerable reconstruction.

In order to locate and document the old road, engineers from Ramboll initially crossed the harsh land by foot accompanied by armed rangers to protect them from the wild animals. After mapping the old road, the engineers will be responsible for designing and supervising the 160 km of new road. The project is planned to be finished by 2010.

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Sustainable energy

The development of innovative thinking is an important precondition to ensure sustainable energy will play an increasing role in the future. Examples of solutions facilitating sustainable energy are ash-to-concrete facilities, new foundation concepts and foundation design for both offshore wind turbines and other spectacular buildings exploiting the energy generated from the wind turbines.

Wind and steel - green energy

Finland

With electricity prices on the rise and global warming one of the hottest issues today, the Finnish electricity producer Etelä-Pohjanmaan Voima Oy looks to renewable energy sources. It makes sense to use environmentally friendly ways of producing electricity to meet the needs of local industry and provide for the national grid. Outokumpu Tornio Works, one of Finland’s biggest electricity consumers, is located next to the windmill park. Having a renewable energy source here shows their environmental consciousness. Designing the windmill park has been challenging for Ramboll as it needed to take into account environmental values, wind data, the electrical grid and groundwork conditions. The positioning plan used the information produced from the evaluations carried out.

Waste-to-energy

Norway

Heimdal Heating Central is the main heating supplier for Trondheim in Norway. It consists of two old waste incineration plants and a new waste-to-energy facility. These receive waste from the city. The heat from the plants is distributed to residential, public and industrial customers. Waste-to-energy has become the primary heating source in Trondheim, and has reduced the use of fuels such as oil and electricity. Ramboll is responsible for the implementation of all electromechanical equipment in the new unit. The assignment covers the entire tendering process, the purchase of the incinerator and boiler, flue gas cleaning and supervision of the plant construction and its commissioning. Ramboll is also responsible for the supervision of construction and commissioning of all civil works.

Wind powered buildings

Bahrain

With the development of the Bahrain World Trade Centre, the skyline of Bahrain has now become even more spectacular. The oil state in the Persian Gulf has made an old North European dream come true by constructing buildings powered by integrated wind turbines. Two 43 storey office buildings have been linked with three wind bridges, each carrying a wind turbine. Up until now technical complications have prevented contractors from embarking on such a project. However, engineers from Ramboll and Norwin in Denmark have succeeded in finding a solution to this challenge.
Water and rural development
Water and rural development

Sustainable use of natural resources and reduction of pollution are high on the public agenda. To ensure long-term progress is made in an ethical way, different projects have been created for cities and the countryside taking into account the management of natural resources and pollution reduction, as well as the need to generate financial profit and better living conditions for all.

Sustainable forestry

Laos

Producing various forest-based products such as garden furniture can be an issue of high controversy. Price is often more important than sustainable use of natural resources, resulting in ruthless exploitation of forests. Lack of knowledge concerning the use of natural resources can also add to the damage of large forest areas. In Lao People’s Democratic Republic, one of the poorest and least developed countries in South East Asia, a project for participatory sustainable forest management (SUFORD) will contribute to sustainable management and use of production forests and therefore sustainable growth as well as poverty eradication. The project is carried out through a consortium including Ramboll Natura and Ramboll Finnconsult.

Reshuffling the city

Norway

Since the 1990s much work has been done to renovate Bjørvika, the oldest part of Oslo in Norway. A complete reshuffling of infrastructure, buildings and the soil itself is now taking place. This is also the site of Norway’s first underwater road tunnel, tucking away the E18 motorway in order to dramatically reduce the noise and air pollution in this part of the city. In addition to the meticulous work of registering all archaeological finds, centuries of harbour landfill and pollution are now to be cleaned up as well.

Ramboll is involved in many of the projects: The new national Opera is an undertaking in which Ramboll has a significant role in carrying out construction management on behalf of the project owner. Ramboll is also performing environmental monitoring for The Norwegian Public Roads Administration at their tunnel construction sites, and will continuously monitor all activities around the tunnel construction.

Water management

Africa

In many parts of the world water is a scarce resource which is often shared in international river basins. Conflicts at different levels of society compromise the possibility of alleviating poverty. Technical solutions have been developed to avoid inefficient use of water, but it is more important to manage and govern water resources. With the Integrated Water Resources Management (IWRM) and Trans-boundary Water Management (TWM) training programmes, representatives and decision makers from governmental, non-governmental and private institutions expand their understanding of the relationships between poverty alleviation, water management and sustainable development as well as identifying the advantages that are associated with trans-boundary agreements. The training programmes comprise six contracts with Sida (Swedish International Development Cooperation Agency) and are put into practice by Ramboll Natura as lead partner in a consortium with the Stockholm International Water Institute (SIWI).
Spring water from Greenland

**Greenland** To increase the world’s awareness of Greenland’s resources, the Government of Greenland (Greenland Home Rule) is working to promote commercial projects on the ice covered island. One of these is a project quite out of the ordinary called “Ice and water”. Market research carried out by Greenland Resources shows that the market for bottled mineral and spring water is growing rapidly. There is also an international interest in mapping spring sources to be used for commercial use, other than just for drinking water. Spring waters with special chemical or microbiological characteristics may also be used in the medical field or in general industry. Ramboll has been involved in the mapping process including carrying out field investigations of the water quality and quantity. The Geological Survey of Denmark and Greenland (GEUS) is also carrying out the mapping for the ice resources.

Ramboll is evaluating the operational profitability of the water resources by looking at the key factors of water quality and quantity as well as logistics in terms of distance to nearest harbour, settlement and available workforce. Ramboll will use the information to create an interactive database in which potential investors can find relevant facts about springs, lakes and rivers of potential commercial interest.

Ash-to-concrete

**Finland** The energy plants in Helsinki which emit fly ash and flue gas desulphurisation residue (FGD), will benefit from the utilisation of secondary by-products thereby decreasing the plants’ waste disposal costs. The Vuosaari Harbour structure therefore offers huge potential both technically and financially. Here secondary by-products are being used as efficient binding components for soil stabilisation. Stabilisation is the way to increase the bearing capacity of the soil, allowing for a structure’s layers to be made thinner. Fly ash and FGD are part of the binder mixture and by using them the amount of cement used is drastically reduced. Thus costs are saved on binder components and construction materials, but an added advantage is that natural resources are also conserved.

Ramboll has designed and developed this new material. We have carried out tests in our laboratory and have been supervising the test structure production. A pilot area of five hectares has been completed with this method during the autumn 2006 and the results have been very promising.
We are all dependent on natural fuels in our everyday life: when we heat our homes, when we cook or when we cut the grass. When it comes to developing new technologies and solutions for the extraction of those fuels, expansion, flexibility and expertise are some of the keywords that come to mind. Given the different and harsh working environments of, for example, the North Sea and the Gulf, there are significant demands on the design of oil platforms and other off-shore equipments used to produce and store oil and gas.

Connecting platforms

Qatar The new 19-platform expansion of Qatar’s Al Shaheen oil field in the Gulf will not only safeguard continued supply of oil, but also help ensure the continued progress of the state of Qatar. The goal is to increase production from the current 240,000 barrels/day to 525,000 barrels/day by the end of 2009. The contract with Maersk Oil Qatar has put Ramboll in charge of design solutions to all the tie-in projects associated with the installation of the new platforms, meaning connecting existing platforms with the new ones.

Flexibility in production fields

Norway The future availability of energy has been vastly increased with the advent of Floating, Production, Storage and Offloading (FPSO) facilities. So far this is the only way to produce oil from the deep sea. The vessel NEXUS FPSO will benefit the operator’s ability to produce enough oil to service up to 700,000 families a year when it is planned to go on stream by March 2008. Ramboll has completed the first phase of the project, the FEED design (Front End Engineering Design), defining costs for the project as well as the early phase of the basic engineering. The contract also includes carrying out detailed specification and design of the process facilities on the deck of an oil production ship as well as a generic FPSO suited for different fields and locations. The project which is commissioned by APL and is going to be fabricated by one of the world’s leading shipyards Samsung in Korea, is the largest in the history of Ramboll.
Throughout the world there has been rapid progress within communication, media and IT. At the moment there is a compelling need for extending the mobile networks in India, for example. Printing houses are being merged to meet an increased demand for new products and new production methods. Such mergers create a demand for consultancy services in verification and validation issues, IT quality control and visualisation of potential areas for IT development.

Mobile networks in India

India There is a compelling need for extending the mobile networks in India. Out of India’s total population of one billion people only 100 million have a mobile phone. However, with every fourth person having their new mobile phone as their first phone ever, resulting in over 250 million mobile phone owners in India in three years time, the demand for mobile towers is exploding.

While it is one thing to purchase a mobile phone; it is another to be able to use it even in the most remote areas. The extension of the mobile network in India requires many new towers to be erected over the next few years. With a subsidiary in Gurgoan, near Delhi, which opened in 2006, Ramboll is now offering its expertise to Indian telecommunication projects.

Ramboll, with more than sixty years of relevant experience, has optimised the design of the unique towers specific to the Indian market: high quality, low weight and very few elements make it easy to erect the towers, and careful hot dip galvanizing (under the supervision and quality control of Ramboll) secures long durability. Furthermore, these towers have little wind resistance and therefore the extent of the foundations can be reduced.

Ramboll is ranked as the top specialist in the world for the analysis, design and construction of masts and towers.

Printing house expertise

Saudi-Arabia A few years ago almost every newspaper, and quite a few publishing houses, had their own printing plants. In recent years, however, there has been an increasing demand for new product requirements and production methods. This has lead to solutions where printing houses have merged and centralised in bigger facilities. Currently, Ramboll’s expertise is second to none in the printing house industry in Scandinavia, serving nearly every major operative here. Ramboll recently won the contract as main consultant for Al-Jazirah Corporation in Riyadh. The Saudi-Arabian media company is planning to expand its existing printing facilities with a new rotary printing press. Ramboll’s technical expertise and project management ability allows our printing house customers to implement new technology, increase productivity, flexibility and profitability.

Danish energy

Denmark DONG Energy is Denmark’s largest energy company. To be able to deliver heat and electricity, DONG operates a number of power plants, and is involved in the production of energy from wind, water, waste, gas and oil. DONG Energy was created in 2006 as a result of a merger of six Danish energy companies. For several years Ramboll has been a consultant and advisor to the original DONG, and we have also resolved a number of issues for several of the other merged companies. The merger has required additional assistance to document, validate and certify material in all the power stations, consultancy on IT quality issues and potential areas for IT development. During 2006 Ramboll assisted DONG Energy on various consultancy projects and has carried out quality control on IT-systems and power plants.
Industrial development In recent years Ramboll has gained a good foothold in Russia through involvement in many industrial, civil and ecological projects, spanning a wide range of work starting with pre-project proposals and finishing with contracts for design and construction including equipment fitting. From the Moscow office Ramboll is providing assistance with logistic support, identification of Russian partners, recruitment of personnel and providing information on Russian legislation and rules. From offices in Murmansk and St. Petersburg Ramboll offers general consultancy services.

Industries in Russia

Rockwool plant The Rockwool Group is the world’s leading producer of stone wool - a material that improves quality of life for millions of people by indirectly helping to lessen environmental problems, such as the greenhouse effect, smog and acid rain. Rockwool insulation adjusts indoor environments by keeping out the freezing cold, or in hot climates, by helping to keep indoor temperatures comfortably cool.

Russia experiences both extremes often in the same region at different times of the year. Strong economic development, intense building activity, and the combination of cold winters and inadequately insulated houses, has made Russia the fastest growing market for the Rockwool Group in recent years. Last year Rockwool’s factory in Moscow could not keep up with the new orders which meant that large quantities of insulation materials had to be imported from the group’s factories in Central and Eastern Europe. In May 2006 all this changed when the new Rockwool factory in Vyborg, 140 km north of St. Petersburg opened. The new plant, whilst satisfying the local market, also manufactures for export to Finland and the Baltic States, thus minimising transportation costs.

Ramboll offices in Russia and Sweden are working together on this assignment. Besides technical supervision and author supervision i.e. assuring the work is proceeding according to construction plans and Russian legislation, Ramboll has been directly involved in the construction phase. The team planning and supervising the activities of a complicated constellation of designers, contractors, vendors and owners included Ramboll personnel from Russia and Sweden.

Toyota plant New employment opportunities, development of infrastructure, increased road safety and an improved environment in the St. Petersburg area will be just some of the benefits for Russians when the new Toyota plant in St. Petersburg commences production of the Camry model at the end of 2007. Moreover, the Russian manufacturing sector will benefit from the modern production methods of an international company.

For Toyota, the new plant, known as the MIRAI project is their first entry into the Russian market, and when the production commences, Toyota will become the world’s largest car manufacturer. MIRAI is an abbreviation for ‘Mission in Russian Automotive Industry’ and in Japanese it means “future”.

In the MIRAI project Ramboll has an excellent opportunity to exploit cross-border cooperation as Ramboll in Sweden is responsible for the structural design, Ramboll in Finland is responsible for infrastructure and geo-technology, and the Environmental Impact Assessment and Architectural, Mechanical and Electrical components have already been carried out by Ramboll in Russia. In July 2006 permission for construction of the first stage of the plant was granted and work is now well underway.
Local partner – global knowledge---

Ramboll Danmark A/S
MD, Søren Holm Johansen

Ramböll AB (Sweden)
MD, Bent Johannesson

Ramboll Norge AS
MD, Jan Ove Holmen

Ramboll Finland Oy
MD, Jaakko Heikkilä

Ramboll Management A/S
MD, Jan Ove Holmen

Ramboll Informatik A/S
MD, Thorleif Mortensen

Ramboll Oil & Gas (Ramboll Danmark A/S)
MD, Dan Madsen

The Ramboll Group

Ramboll Gruppen A/S
Group CEO,
Flemming Bligaard Pedersen
Group CFO,
Sari Kaikkonen
Flemming Bligaard Pedersen (top), Sari Kaikkonen, Søren Holm Johansen, Jan Ove Holmen, Tonny Johansen, Thorleif Mortensen, Bent Johannesson, Jaakko Heikkilä and Dan Madsen

Group Management Committee

21 permanent offices in the rest of the world
Home markets Near markets Foreign markets
Knowledge taking people further