

# National SWOT's

## Denmark

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## IT-security in general

<p><b>Strengths</b></p> <ol style="list-style-type: none"> <li><b>1. Laws related to privacy are all in place</b></li> </ol>	<p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li><b>1. Lack of user-understanding</b></li> <li><b>2. Lack of transparency in dataflow</b></li> <li><b>3. Software challenges related to secure clients</b></li> <li><b>4. Error 40</b></li> </ol>
<p><b>Opportunities</b></p> <ol style="list-style-type: none"> <li><b>1. Engage SME's in IT-security</b></li> <li><b>2. Learn to communicate about the things that people don't see.</b></li> <li><b>3. Standardisation and certification of software</b></li> <li><b>4. Establish opportunities risk assessment for the client</b></li> </ol>	<p><b>Threats</b></p> <ol style="list-style-type: none"> <li><b>1. Lack of public debate relating to access and use of citizens information.</b></li> <li><b>2. Organised crime and terror (eg. Jyllands Posten).</b></li> </ol>

## IT-security, research and business

<p><b>Strengths</b></p> <ol style="list-style-type: none"> <li>1. The wide spread of ICT means that many are concerned with security issues</li> <li>2. <b>Cryptography</b></li> <li>3. <b>Digital ID</b></li> <li>4. <b>Health care and IT-security</b></li> </ol>	<p><b>Weaknesses</b></p> <ol style="list-style-type: none"> <li>1. Too strong focus on cryptography</li> <li>2. Not much "production"</li> <li>3. <b>Lack of knowledge sharing between universities.</b></li> <li>4. <b>Dependence on software producers.</b></li> </ol>
<p><b>Opportunities</b></p> <ol style="list-style-type: none"> <li>1. Research project where universities and companies meet.</li> <li>2. <b>Research on the economic and strategic dimension of ICT.</b></li> <li>3. <b>Create international liaisons.</b></li> <li>4. IT-security should enter the curriculum of more educations.</li> <li>5. Public organisations must push the market.</li> <li>6. <b>Research on software and tools to support financial transactions.</b></li> <li>7. Research on the use of ID-management</li> <li>8. Integration of biometrics in products.</li> </ol>	<p><b>Threats</b></p> <ol style="list-style-type: none"> <li>1. <b>Strike the right balance between demands and opportunities for companies in relation to IT security.</b></li> <li>2. Lack of international orientation.</li> <li>3. <b>Lack of investments.</b></li> <li>4. Difficult to attract students to the subject.</li> <li>5. Lack studies that shows benefits of IT security.</li> </ol>

## E-health

### Strengths

1. User involvement in development and design processes
2. CPR-numbers and a well developed praxis of registration.
3. Good IT networks within healthcare (fiber-optics)
4. Relatively few old and "de-functional" ICT EPJ systems.
5. **Relatively strong international position on EPJ**
6. A strong focus on health care standards and terminologies (SNO-MED)
7. Well developed cooperation between public and private organisations.
8. **Strong research competencies within CSCW**
9. **The health care system is on public hands.**

### Weaknesses

1. Initiatives related to prevention rehabilitation are split between two different administrative systems.
2. **Short term thinking.**
3. Sub-optimisation
4. **Lack of continuity and coherence in the political programmes and initiatives.**
5. Traditionally, the geographic conditions of Denmark has given very few incentives for traditional telemedicine
6. Lack of courage and commitment to follow the groundbreaking visions.
7. Lack of education of ICT in the health care educational system.
8. **Very few career incentives for doctors are related to the development of new ICT systems.**
9. Publications are awarded but not development and implementation.
10. The hospitals architectural choice makes implementation of ICT solutions difficult.

## E-health

### Possibilities

- 1. Increase the speed with which successful research is implemented in practice.**
- 2. Increase the focus on IT-systems that may reap the benefits of data that already exists digitally.**
- 3. Support the development and implementation of the national for EPJ (G-EPJ)**
- 4. Enhance possibilities for students and researchers to work across traditional professional boundaries between natural sciences, health sciences and social sciences. Promote the positive examples of this practice.**
- 5. Increase the understanding and respect between the different professional areas.**
- 6. Increase the central powerbase for central authorities to implement EPJ initiatives.**
- 7. Develop the professional networks.**

### Threats

- 1. Short term focus in the policies related to the area.**
- 2. World wide recession.**
- 3. Lack of good ICT employees.**
- 4. Lack of public investments in education and R&D.**
- 5. Xenophobic development will have a bad influence on the knowledge economy.**
- 6. Too much focus on publication from the researchers and too little focus on implementation.**
- 7. Poor communication of the results of research.**

Exp. economy

## Strengths

1. **Strong political (both government and local authorities) focus and willingness to support the building of a good ICT infrastructure. Scientific and business awareness and interest in the area.**
2. **High educational level and a high degree of access to ICT**
3. **Strong tradition for design, art and architecture.**
4. **Large segment of creative people and technology freaks. Good social competencies of co-operation and project management**
5. **World class competencies within sound**
6. **Potential growth areas within film, gaming, tourism and conferences.**
7. **Tradition for making new combinations of old technology into new and innovative solutions**
8. **A national brand as a safe and sound country (pre. Jyllandsposten).**

## Weaknesses

1. **Lack of big companies as engines of innovation and growth**
2. **The home market is small**
3. **Investments are spread and not focused**
4. **No clear definition of the area (the present definition is spread over 100 lines of business)**
5. **Lack of cultural competencies among investors**
6. **Lack of mobility between research and business environment**
7. **Many small firms that are not growth oriented**
8. **Lack of information and communication of legislative rights**
9. **Not technology leading**
10. **Habitual thinking within the innovation environments.**
11. **Need of strong and charismatic leaders and professional boards.**

## Exp. Economy

<b>Opportunities</b>	<b>Threats</b>
<ol style="list-style-type: none"><li data-bbox="232 497 1102 587">1. Denmark a competitive “brand” (pre. Jyllands Posten)</li><li data-bbox="232 593 1102 746">2. Continue to build on the mix of public, private and civil society, as a “non-disney” business strategy.</li><li data-bbox="232 753 1102 849">3. <b>Potential areas of growth movies and games</b></li><li data-bbox="232 855 1102 1161">4. <b>Strengthen international co-operation with technology-leaders and form partnership with world leading technology companies. We have the creative abilities, they have the technology.</b></li><li data-bbox="232 1168 1102 1264">5. A general opportunity to strengthen business and profits.</li><li data-bbox="232 1270 1102 1369">6. Creating a market for testing (for the American market).</li></ol>	<ol style="list-style-type: none"><li data-bbox="1137 497 2011 587">1. <b>Foreign companies run with the commercial successes</b></li><li data-bbox="1137 593 2011 801">2. Demand from Danish companies in international partnerships on total self-determination can block the way for further partnerships</li><li data-bbox="1137 807 2011 849">3. Threat from the eastern markets</li></ol>

## Traditional industry

### Strengths

1. Flexible industry structure with a large segment of SME's
2. A willingness to adapt and change in the industry, and a demand for flexible solutions among SME's
3. **Strong research communities within motion-planning and flexibility-planning for robots**
4. Strong research community within OLP-network offline programming
5. General ability to think in flexible solutions and user-centred innovation
6. **RoboCluster with a geographical concentration and competencies**
7. More than 20% lower cost than the average at acceptable quality level
8. High integration among solutions made up by different technology components
9. High education-level e.g. within sensors and production
10. **Workers and employers unions that backs-up further use of automation and robots.**

### Weakness

1. **Many SME's with short-term investments and small investment budgets.**
2. Many SME's with employees with less competencies than workers in competing countries.
3. Most research communities are leading in very narrow areas but do not all have a size to give a critical mass.
4. **Too few large companies and industry to drive technology**
5. Make only improvements to technology and applications, but do not have strategic technology programmes.
6. Lack of leadership and technical competencies in production
7. Many SME's means little risk and venture capital



## Traditional industry

### Opportunities

1. The public sector as a driver
2. The development of service robots gives opportunities, because technology will be available for SME within 10 years from now
3. Robots for consumers is an open market and it gives opportunities for Danish-made robots
4. Low-cost robots for specific uses
5. Further demand on industry to renew products, make smaller series and flexible production opens up opportunities for cheaper and flexible software-based robots
6. Further aim at developing and exploit strong research positions (based on marked analysis)

### Threats

1. Larger robot countries with large industries will take-over developments in our small research communities and SME's
2. Little production left in Denmark
3. Sparse investments in Denmark and Europe
4. No focus in the Danish strategy
5. No larger aim, strategy and money for radical and path-breaking innovations and developments