



## 5. The Parallel Working Sessions



### Session 1: “A Company Approach to Innovation”

#### *Introduction by*

#### **Ms. Kirsti Methi, director of the Norwegian Confederation of Business and Industry (NHO) Brussels**

#### *Chairwoman*



Mrs. Kirsti Methi studied mass communication, social sciences and French and has a diploma in documentary film.

She is currently director of NHO (Confederation of Norwegian Business and Industry) Brussels Office where she worked since 1991, covering various fields of responsibility. Before coming to Brussels, she worked for 4 years for ILO in West-Africa as a regional information officer. She also has journalistic experience from working as a radio journalist for the Norwegian Broadcasting Company (NRK)

She has been a permanent delegate to UNICE since 1996 and a Permanent observer in the EFTA Consultative Committee since 1998.

The goal of this session is to become acquainted with how two big companies - and other bodies like the Commission for Technology and Innovation in Switzerland – put innovation strategies into practice. We will have concrete examples on how market operators tackle the innovation challenge in terms of creating the right internal and external conditions to be able to go from A to Z in the innovation process, not least being able to deliver successfully on the market. Big companies are in many ways “innovation systems” in themselves in terms of technological and organisational development competencies. However, internal innovation capacities are only one part of a successful story. Other major challenges seem to be big companies’ capability to network and define new business models with the right external partners, as well as having the right framework conditions for long-term strategies.

Other critical points may be incentives for big companies to develop a locomotive role and encourage small businesses to get involved in their research, innovation and markets spheres. Companies can strive to make “the small, internal innovation systems” function, but they again



rely on the “big innovations systems” – the macro level framework conditions must be favourable. It is important that all involved parties – private and public sector, small and big - define and understand their respective roles to play in this complex picture.

After listening to the three different cases, we will see which are the central questions that will arise as subjects for discussion.



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## *A company approach to innovation Case Study: Telenor*

by

### **Mr. Oddvar Hesjedal, Executive Vice President, Telenor Research & Development, Norway**

#### *Speaker*



Mr. Oddvar Hesjedal (53) completed his MSc. in Informatics in 1976 at the University of Oslo.

He was previously the Managing Director of Computas Micro, a software application company, and Enator/Norway, a consultancy company. He has been a senior consultant on business strategy and IT-strategy. In the past Mr. Oddvar Hesjedal was a part time associate professor at the University of Oslo.

He joined Telenor as CIO in 1993 and held the position of head of Research and Development from 1995 to 2001. In 2001 and 2002 he headed Corporate Strategy and Development. Currently he is Executive Vice President of Telenor, responsible for corporate strategic projects, including new development.

Mr. Oddvar Hesjedal is member of the board in various Telenor companies, including Telenor Venture. He is also a member of the Board of Governors of EURESCOM GmbH, the European telecom research institute. Previously he has been on the board of Birdstep, a leading IP-zone vendor.

Telenor has been in the forefront of providing telecommunications services for the last 30 years. Among the reasons for this is a continuous effort of innovation to meet customer needs, seeing new possibilities and going international. In the 70s, Telenor pioneered satellite communications, meeting demands from the Norwegian merchant fleet across the world and offshore oil installations in the North Sea. In the 80s, Telenor, together with other Nordic telecoms operators, specified the analogue (NMT) and the digital (GSM) mobile systems. Taking advantage of this competence, the company established itself as a major international GSM operator with operations in the Nordic countries, Central and Eastern Europe, and in South East Asia. A particular reason for the success is an advanced home market, as Norwegians tend to be early adapters of technology. The country is a leader in mobile telephony and Internet penetration. 60% of all banking transactions are done over the Internet, as are movie theatre sales in the major cities.

The global market for telecommunications operators is enormous, having reached more than 1.1 trillion USD in 2003. More than 80% of this is plain old telephony, whereas more than 50% is fixed line services. In general, fixed-line revenues are decreasing, while mobile revenues are increasing. Mobile revenues have been increasing with a double-digit growth rate over the last 5-7 years, but in mature markets this growth is now seen decreasing. Market penetration is now close to 100% and competition continues to increase, often encouraged by national regulatory authorities. To be able to sustain previous growth, operators have to find ways of creating new revenue streams to fill the anticipated gap.

For international mobile operators, the latter part of the 90s was characterised by positioning (acquiring mobile licenses, setting up consortiums, establishing new operators), by diversifications (trying out new services, moving into new sectors, such as media, electronic commerce, Internet portals etc) and by growth. After the dotcom bubble burst and the excessive investments in UMTS licenses, the overall trend has been to return to basics. As a result, the last few years have been characterised by consolidation (forming alliances and establishing operational control), evaluating priorities (selling off non-core assets and reducing the scope of core activities etc) and a focus on improving cash flow (cost and investment reductions). The results have been positive, and the industry is now in better shape. But still, to achieve sustainable growth, cost reductions alone are not enough. There is a need for both short- and long-term innovation to keep the companies in healthy shape.

Telenor has been able to introduce considerable cost reductions and at the same time maintain a strong growth rate. This has been possible because of a balanced portfolio of companies in mar-



kets with different development profiles and through innovations in products, processes and management. The instruments for Telenor's innovation management have been fourfold:

- New products and business models
- New methods and culture
- Learning across borders
- Networking and alliances



In the following few minutes, I will present Telenor's experiences in each of these areas.

For years, communications specialists have been talking about data services as the new revenue generator for telecoms operators. The results have to a large extent been disappointing. The vision was to establish the mobile phone as the obvious platform for such services as electronic mail, Internet surfing, payments, banking, portfolio management, news, positioning information, maps, music and so on. However, user experiences have been lousy, initiation processes unmanageable, and both content providers and users have been waiting for something to happen.

Telenor pioneered both new products and new business models in creating a broader market based on SMS. Within the concept referred to as Content Provider Access (CPA), the business model provides revenues both to the operator and the content provider and enables users to access all service and content providers regardless of operator. Through standard agreements and standard technical interfaces, it has been possible to introduce new products to the market fast and cost efficiently. The result has been a huge increase in messaging-based services, now constituting a significant portion of mobile revenues.

Telenor is following this approach by creating new e-commerce services based on electronic purse and PKI possibilities. The killer application has been to top up mobile pre-paid accounts, but other services are catching up, like betting, parking and tickets. In December 2003, Telenor launched a telecoms package integrated in Microsoft's Office 2003. This was the first time such integration had been introduced to the market. Through TiOFF® (Telecoms in Office) the user can send SMS and MMS messages, and access directory information, news, TV information and more, all inside such applications as Word and Outlook.

The services mentioned above have characteristics that will be typical for future developments of both infrastructure and services. Traditionally, telecoms operators, in particular the incumbents, used to build nation-wide coverage of networks and services up front. The current trend is to adopt a more gradual approach, both in respect of deployment of infrastructure and development of new capabilities.

Furthermore, companies need to co-operate more closely with other players – suppliers, content providers, customers and competitors. The CPA model described above is a good example of this. Its success was based on a close co-operation with Telenor's major competitor in the Norwegian market and with a large number of content providers. In telecommunications, such co-operation is particularly important due to the role of operators as an enabling body for all other industries and users. We see a future where communication is integrated into numerous devices and applications in a seamless manner. The role of the operator is to make it easy for others to use the networks in an efficient way. That is why Telenor, in co-operation with its partners, is working to establish standard enabling functionalities as part of its value proposition to the market.

In striving towards such a future, Telenor has made an effort to change the culture of the company to achieve more co-operation across the organisation, creating more flexible, ad hoc and project-based work patterns, suitable for innovative thinking. The most visible part of this transformation is the new futuristic company headquarters, at Fornebu outside Oslo. The building is the largest fully mobile office complex in the world, fostering new working habits for its 6000 employees.



The Telenor portfolio consists of companies in markets with increasing, stable or very low growth when it comes to mobile penetration. Today, these markets have very different functionality needs, but eventually their demands will be identical. Therefore, it is important that we find ways of transferring knowledge, technology and functionality between the different companies in the group. Innovation should be shared in many areas, not only in product development, but also in distribution, customer services, operations, market development etc. Consequently, Telenor's organisational structures are built to facilitate such sharing, promoting benchmarking, best practices, information sharing and intra-group improvement processes.

Telenor is building excellence in networking with other companies and organisations. Universities are supported through special funds and project co-operation. Over the last 10 years Telenor has been a strong believer in co-operation with other operators in the field of research, in particular through the European research institute EURESCOM. Telenor has been part of 25 ACTS and 23 IST projects initiated by the EU, taking a leading role in many of them. At the moment, Telenor is participating in more than 10 projects and networks within the 6th Framework Programme.

The wireless Internet zones that Telenor is providing to the Norwegian market are a good example of the results achieved through such broad co-operation. Five years ago, Telenor R&D made the first seamless network for WLAN and GSM/GPRS based on mobile IP technology. Projects were carried out with partners through EURESCOM and the University of Oslo. Later, co-operation with commercial partners such as Birdstep and Accenture enabled the launch of comprehensive services to more than 150 hotels and public areas as well as 300 petrol stations. Today, new projects within this field are being started within the 6th Framework.

One major challenge in innovation is to bring new ideas from research to actual revenue-generating business. This applies to intra-corporate development, as well as to national and regional development. It is Telenor's experience from working within the European framework, that the potential role of larger companies has been underestimated. In Norway, start-ups and mature SMEs, as well as universities, should all benefit more from the international efforts made by companies such as Telenor. At the same time, larger companies should benefit more from the national/regional excellence that potentially exists. National and international programmes should facilitate such interaction between possible partners in innovation.

Today's telecommunications market is on the verge of entering a new era, with new roles and possible new revenue streams. Innovations are needed in all aspects of companies' activities to make them competitive, and to enable them to do more than control and defend existing business models. Co-operation across borders facilitated by both EU and national authorities will strengthen European companies in this respect.



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## Mr. Magnus Madfors, Director, External Research Relations, Ericsson Group, Stockholm

### *Speaker*



Magnus Madfors, born in 1963, received his M.Sc. degree in Electrical Engineering from the Royal Institute of Technology in Stockholm, Sweden, in 1988. In 1988, he joined Ericsson in Stockholm, at the same time taking on technical teaching at Royal Institute of Technology, which he continued doing until 1992.

Within Ericsson, Mr. Madfors worked from 1988 to 1990 with signal processing and the implementation of the Ericsson system for GSM. During the years 1990-1994 his main activity was within radio networks and protocols research concerning cellular aspects with radio resource management. In 1994 he was appointed head of technical area Access Networks within Ericsson Research. In this position he continued his research, also representing Ericsson within international collaboration research programs. From 1995 to 1998 one of his main activities was to define and direct the technical work within the European Commission ACTS FRAMES project, which laid the technical foundation for the following 3G/UMTS standard. As from 1998 Mr. Madfors has been involved in the

creation of the global forum Wireless World Research Forum (WWRF) and addressing future international research co-operation programs.

Since 2001, Mr. Madfors is now within Corporate Technology of Ericsson, having the overall global responsibility for Ericsson external research. He is frequently invited as speaker and panellist at international conferences on the subject of the "Future of wireless communications".

Mr. Madfors' presentation can be found on the conference website

<http://www.partnersforinnovation.org/programme.htm>



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## ***CTI - The Innovation Promotion Agency Boosting the SME's Innovation Potential***

*by*

### **Professor Dr. Ing. Claudio R. Boër. Commission for Technology and Innovation, Switzerland**

#### ***Speaker***



Prof. Dr. Claudio R. Boër has a Mechanical Engineering Degree (Politecnico of Torino, Italy), Masters and PhD (Carleton University, Ottawa, Canada). He has 16 years experience in industry, from project leader to management positions, in the areas of process modelling simulation, CAD/CAM, CIM, FMS, industrialisation. He was eight years Associate Professor of Mechanical Technology at the Engineering Faculty of the Politecnico of Milan, and has had leadership positions in several European and International R&D projects. For the last seven years he has been Research Director at ITIA-CNR in Milan. He is also Head of CTI-International, Commission for Technology and Innovation at the Federal Office for Professional Education and Technology in Bern. He is an active member of C.I.R.P. (Council International for Research in Production), and on the Steering Committee for China-European Union Computer Integrated Manufacturing Project, and the IMS (Intelligent Manufacturing System) International Steering Committee.

#### **R&D Policy : A Pillar of Growth Policy**

As explained in the theory of the researcher Tassej, market penetration is always preceded by R&D on the product and on the process, which is needed to produce the product. Greater investment in R&D is almost always needed in applied R&D where a generic technology is transformed in a more specific product.

A crucial moment occurs when the necessary capital, or the necessary support, is missing at this stage of increased need for funds. It is a very risky moment particularly for SMEs that do not have the capacity to continue the effort. It is what we call “the valley of death”. CTI’s mission is to fill this gap and to encourage co-operation between research institutions and SMEs.

Therefore, the motto of CTI is “Science to Market.” CTI builds the bridge between laboratory and market. CTI supports projects in applied research and development (aR&D) between enterprises and universities: “Science to Market.”

In this context, key CTI concerns are to:

- Support the innovation process in the economy
- Develop strategies and policies for the training and retention of aR&D talents for the economy
- Improve and strengthen the collaboration between universities and economy

#### **Strategic Goals**

Important strategic goals for the Swiss Innovation Promotion Agency can be summed up as follows: CTI supports the innovation process in the economy through promotion of applied research and development. It supports the establishment of a competitive applied R&D at the universities. It promotes sustainable entrepreneurship and the launching of start-up companies. It internationalises its activities, as well as efficiently exploiting the interaction between basic research and applied R&D in bringing together researchers from academy and research centres and industry people in the same projects.

#### **Service as a principle**

CTI is a service-oriented organisation and consequently works along key principles such as customer-oriented thinking. It is unbureaucratic (e.g. no submission deadlines for projects). It is



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straightforward and has a solution-oriented militia system and culture of permanent improvement (benchmarking).

## **Beyond Innovation**

What do we intend innovation to be or, better, what do we expect from innovation?

Innovation:

- Is the process of creation of new products, new processes, new methodologies,
- That could be implemented in the market place in a “relatively short” period of time.
- The implementation in the market place should bring new value in terms of jobs and revenues: GDP
- But the “process of creation of the new” is based on accumulated experience and knowledge and a more accurate formula for success in terms of GDP would be:

***“Knowledge x Innovation = GDP”***

This means that a nation or a society has to invest in fundamental and applied research in a very balanced way, and in particular, has to take care of the bridge between the two.

*Knowledge and Innovation: co-operation among European and national institutions for SME*

Knowledge or basic research is mainly at national level. Innovation or applied research is both at national and EU levels

A co-operation is necessary among the funding agencies and institutions in order to bring a more co-ordinated effort for the SMEs

At EU level:

- Encouragement of funding for SME in all projects
- At NMP Priority 3 : IP for SMS
- CRAFT projects

At national level:

- CTI is mainly devoted to the SME sector (more than 85%)
- Co-ordination among EU and national organisations / structures:
- ERAnet: started but better understanding is needed
- Eureka and EC synergy: on-going

## **CTI focus in the period 2004 – 2007**

CTI will emphasise the following topics in its activities for the coming three years:

- Entrepreneurship
- Biotechnology / Life Sciences
- Nanotechnology and Microsystem Technology
- Information and Communication Technology
- Discovery Projects with high innovation and market potential



- Sensibilisation of young talents for science and technology

## Organisation of CTI

a) **Bottom-up project funding:** CTI supports projects in applied R&D between universities and enterprises. Funding is bottom-up. i.e. project partners define the projects. CTI funding is open to all disciplines.

Disciplines are grouped into the four Funding Areas:

- Life Sciences
- Enabling Sciences
- Nanotechnology / Microsystems Technology
- Engineering

b) **Top-down Initiatives:** The top-down initiatives comprise promotional measures focused on strategically important market and business segments in order to stimulate more bottom-up project applications in applied R&D. Top-down initiatives for specific market and business segments are of a temporary nature. They are interdisciplinary.

## The CTI funding process - Successful CTI Funding

Innovation is the focus. Funding criteria are:

- Economic and technological / scientific significance
- Market potential
- Contribution to the promotion of sustainable development
- Clear project and financial plans (revisable milestones).

Important requirements are:

- A clear goal definition
- A coherent planning of the project
- Revisable milestones
- Details about the state-of-the-art
- Results from database and patent research.

Intellectual Property Rights (IPRs) have to be negotiated and clarified between the partners before the project starts. Projects should aim at achieving a short time to market. Regular reviews by CTI experts help to keep the project on track and allow for timely adjustments. And every project ends with an Implementation Plan that points out the implementation of the solution.