Mega Trends of Emerging ICT

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The further dynamic development of the information society will largely depend on the application of the emerging new development of ICT .
There are several disruptive technologies and new mega trends which will have a determining influence for the future development.

The most important mega trends of ICT are as follows:

- Next Generation Internet

  Internet both national and world scale has become a fundamental part of our economic and social infrastructure. It is a driving force for innovation, the change in education, health care and government. The Internet therefore becomes a critical infrastructure. It will play a key role in the sustainable development of the economy and society.
  The vision of the future Internet has started to evolve. It is anticipated that significant changes to the Internet will be driven by the rapid proliferation of mobile and wireless devices and other changes can be expected. It is a high priority for scientists, and government as well, that from vision go forward to action to continue the further development of Internet to meet the challenges of the future.

- Next Generation Networks - NGN

  Next Generation Networks can be defined as networks with a packet switching architecture, providing existing and new, emerging services with a loosely coupled, open and converged communications infrastructure. It is bringing forward a series of innovative opportunities, but also a greater array of challenges, touching upon competition, interconnection agreement and new business models. An important question is how NGN are different from the Internet. These questions will be discussed in the presentation.

- Participative web as a new platform of IT.

  The use of the Internet is characterized by increased participation and interaction of Internet users who use it to communicate and express themselves. The most prominent concept to describe this evolution which uses the Internet's inherent capabilities more extensively is called 'participative web' (also called Web 2.0). It

means an Internet increasingly influenced by intelligent, web services based on new technologies empowering the user to be an increasing contributor to developing, rating, collaborating and distributing Internet content and developing and customizing Internet applications.

- Service Oriented Architecture (SOA)

  Service-oriented architecture (SOA) is a software architecture that uses loosely coupled software services to support the requirements of business processes and software users.

  SOA can also be regarded as a style of information systems architecture that enables the creation of applications that are built by combining loosely coupled and interoperable services.

  The main drivers for SOA adoption are that it links computational resources and promotes their reuse. Enterprise architects believe that SOA can help businesses respond more quickly and cost-effectively to changing market conditions.

- Radio Frequency Identification

  Radio Frequency Identification (RFID) is an emerging technology consisting of three key pieces: RFID tags (miniaturized chips); RFID readers; and a data collection, distribution, and management system that has the ability to identify or scan information with increased speed and accuracy. Compared to the bar code system, RFID promises long-term gains in supply chain management, transportation, defence and health care, to mention a few. RFID is increasingly used in commercial supply chain applications through aggregate level tagging, for example tagging of pallets.

- Dynamic development of the e-economy.

  A mayor shift is taking place from the traditional economy to the e-economy. E-economy is now expected to accelerate become more and more pervasive in companies and people's life.
  There are some indicators which underline this progress:

  - By 2008 the number of Web users will reach 278 million in Western Europe

  - The ratio of Web users to buyers will increase from 41% in 2004 to 62% in 2008

  - E-commerce will reach over 2.217 billion Euro

  Emerging devices and technologies in the area of wireless communications are expected to further accelerate the expansion the e-economy