

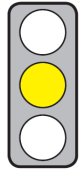
FUTURE NETWORKS AND THE INTERNET

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MAIN ISSUES

Objective of the Communication: The Communication outlines the move towards the “internet of the future” and announces policy initiatives of the Commission for regulating access to new high-speed networks and EU-wide broadband, as well as security and privacy issues.

Groups Affected: Network operators, users and providers of internet services, national regulators.



Pros: The “internet of the future” raises issues of competition, privacy and security and questions relating to the network architecture, which altogether calls for a broad debate.

Cons: As long as regulation of access to new high-speed networks is to be anticipated, incentives to invest in their deployment are reduced.

Changes Required: An ex-ante regulation on access to new high-speed networks should be waived in order to preserve investment incentives.

CONTENT

Title

Communication COM (2008) 594 of 29 September 2008: **Future networks and the internet**

Abstract

► Trends of the “Internet of the Future” and in particular the “Internet of Things”

- The Commission expects the amount of electronic data traffic to be 10 times greater by 2011 than it was in 2006. This estimation is based on the following assumptions:
 - Rooms, machines, vehicles and other everyday items will be equipped with a smart radio tag, which will collect data and set up internet connections in order to transfer information (“internet of things”). For instance, patient data such as pulse rate and blood pressure can be transmitted by implanted sensors to attending physicians and hospitals. Further application areas mentioned by the commission are energy monitoring, traffic systems and building security. The Commission estimates that the number of smart radio tags used by such services is expected to rise from 2 billion today to 600 billion by 2018.
 - The Commission assumes that in future collaboration between enterprises will be intensified due to the simultaneous use of joint applications via the internet (“Enterprise 2.0”). The Commission further expects that software will increasingly be held in the internet on standby, to be accessed by enterprises only when needed. This would lower overheads and engender “a massive productivity leap across the whole economy”.
 - The nomadic use of internet services (“nomadic computing”) will continue to grow as the demand for portable web-enabled devices such as laptops or MP3 players also increases.
- According to the Commission’s figures, approximately 40% of European households currently have broadband access to the internet.

► Investment in and Improvement of Networks

- In order to secure that networks are able to cope with the huge increase in data traffic and that as many EU citizens as possible are able to participate in “the full breadth of the social and economic potential of the internet of the future”, network providers should, according to the Commission:
 - invest in the expansion of high-speed networks which enable new services
 - make broadband access available also in rural areas
 - tackle the transition to IPv6 – which would transform the formatting of internet addresses – along with service providers and device manufacturers.
- Regarding the development of high-speed networks, the Commission understands that not all network operators are “on equal footing”. In order to “keep e-communications markets competitive”, the Commission deems it necessary to regulate the access of “incumbent operators” to the network. Nonetheless, access regulation should not take away all incentives to invest in new high-speed networks, but should allow “investors a sufficient rate of return on their investments”. The Commission intends to submit guidelines on this matter in early 2009.
- Up to 80% of the total costs for construction work are spent on the installation of fibre-optic networks. Therefore the Commission invites competent authorities to:

- provide network operators who wish to develop new networks with access to passive infrastructures such as ducts or manholes, which constitute municipal properties
 - coordinate simultaneous construction work and stipulate that the enterprises concerned share certain facilities
 - provide direct funding for the building of ducts, manholes or dark fibre (“passive infrastructure”).
 - According to the Commission it should be a policy priority to make sure that “the benefits of high-speed networks are available in rural as well as urban areas “. Therefore the Commission:
 - in its Communication COM(2008) 572 put forward for discussion the question of whether today broadband access is essential to being able to participate in society (“universal service”) and is therefore a service that should be made available to anyone who demands it
 - developed a “Broadband Performance Index” for comparing the status of broadband availability in single Member States [SEC(2008) 2507];
 - resolved to revise its guidelines on criteria and modalities of implementation of structural funds in support of electronic communications [SEC (2003) 895].
 - The introduction of the new internet protocol IPv6 would increase the number of potential IP addresses and thus create a further growth of the internet. The Commission projects that 25 % of European internet users will be connected to the internet via IPv6 by 2010 [COM (2008) 313]].
- **Competition Issues**
- New transmission techniques allow network operators the targeted optimisation or downgrading of data traffic flow. In order to preserve the nets’ “neutrality” in terms of the transferral of content, the Commission proposed minimum requirements relating to the quality of these services [Art. 22 (3) Directive Proposal COM(2007) 698]].
 - The “internet of things” requires that networks, devices and safety applications are compatible. However, the Commission is afraid that single operators might try to penetrate proprietary standards in order to reach a dominant market share. This is why the Commission relies on a more “proactive use of standardisation policies” and intends to submit a white paper on the standardisation of information and communications technologies in early 2009.
 - To boost the availability and spread of “interactive content services”, the Commission submitted a Communication [COM (2007) 836] and a Green Paper on copyright in the knowledge economy [COM (2008) 466].
- **Internet Architecture, Privacy and Security in the “Internet of Things”**
- The Commission is preparing a communication on the future architecture of the internet of things, “setting out a series of concrete actions” to be published in early 2009. It will be preceded by a public consultation, which will close on 28 November 2008.
 - The “internet of things” is based on the use of mobile telephony by means of RFID technology (radio frequency identification technology). The Commission refers to the fact that this technology generally allows for unnoticed, automatic data transmission. As the processing and linking of such data may be used for user profiling, “anticipated privacy risks” may emerge. This is why the Commission plans to submit a recommendation on general data protection rules for the use of RFID by the end of 2008.
 - Moreover, the Commission is preparing a communication on “privacy and trust in the ubiquitous information society”. The context of the latter is that two thirds of users are worried about disclosing personal information on the internet, according to a 2008 Eurobarometer survey.

Changes Compared to the Status Quo

- To date, the Commission has not adopted any guidelines on the granting of regulated access to high-speed networks.
- To date, the provision of broadband internet access was not considered to be an integral part of universal services guaranteed in all Member States. This might change.

Statement on Subsidiarity and Necessity for EU Actions

The Commission’s Communication does not address the subject of subsidiarity.

Political Context

At the beginning of this millennium, the European Union set itself the target of becoming by 2010 “the most competitive and dynamic knowledge-driven economy in the world”. For this purpose, in 2005 the Commission presented its strategy framework: “i2010 – A European Information Society for Growth and Employment”, with which it intends to create the basic conditions for fostering growth. However, the issue of the appropriate regulation of access to new high-speed networks is a source of conflict, in particular between Germany and the Commission. Pursuant to § 9a of the German telecommunications law (*TKG*), such new networks are generally excluded from regulation. The Commission, on the other hand, deems this

provision incompatible with EU law and consequently filed a suit against Germany before the ECJ (C-424/07).

The “internet of the future” will require a high radio frequency spectrum. Therefore, of considerable importance is the question of to what extent Member States will make use of radio frequencies which will become free as a consequence of the transition to digital TV. The Commission has requested that Member States do not reserve these for public radio but provide all interested parties with equal access chances by way of open competition. The European Parliament, in contrast, wishes to authorize Member States to issue licences for the use of frequencies according to their individual political preferences.

Options for Influencing the Political Process

Leading Directorate General:
Consultation Procedure:

DG Information Society and Media
Interested parties may comment on the early challenges of the forthcoming “internet of things” by 28 November 2008.

ASSESSMENT

Economic Impact

Ordoliberal Assessment

An EU-wide coverage of broadband access to the internet creates high costs which ultimately have to be borne by the general public. Against this background **there should be an open debate as to whether or not and to which extent a political willingness exists to reimburse expenses for broadband access in scarcely populated areas.** For as such expenses depend on where one chooses to reside – an individual choice – they do not necessarily have to be borne by the general public, especially if the general public does not actually benefit from the financial advantages of choosing to live in such a location, e. g. generally lower rents.

Current calls for tender aim to find out which operators are to be awarded contracts for which dimensions of the universal service. If broadband access becomes an integral part of universal service, the tender terms of Member States should enable all providers of technically compatible infrastructures (telephone, mobile telephony, TV cable, satellite or power cables) to receive the contract. Since if subsidy payments were in fact restricted to a certain technical version, then this would be equal to a distortion of competition.

The deployment of high-speed networks in cities is accompanied by high costs and risks. It is not certain that end users are really willing to pay for the anticipated newly evolved services. Hence, a reliable legal framework which does not impose an additional burden on investment is of crucial importance. Therefore, **the Commission’s proposal that access to new high-speed networks provided by market dominant operators should generally be subject to regulation is therefore to be rejected.** The option of access regulation might lead to several companies waiting for other companies to create new networks so as to finally share the infrastructure on grounds of regulatory provisions. At the same time, operators willing to build new networks might withhold investments until they know for certain that the regulated network access conditions allow for sufficient profits. The investment burden resulting from this dilemma would also be detrimental to the development of new services for end users.

Temporary monopoly profits of pioneer companies should not be prevented by regulation. They are at the heart of each economic progress. **Should a lasting market dominant position occur, measures of competition law may be applied in order to take corrective action?** Where geographic markets allow for competition between various networks, alone the customer’s choice may create pressure on pricing that suffices to prevent any abuse of market power.

Impact on Efficiency and Individual Freedom of Choice

From an economic standpoint, the regulation of access to passive network infrastructures, in particular to ducts and manholes, would at all events make sense, for as long as they are not used to full capacity, the costly doubling of infrastructures is economically highly inefficient. Hence, the Commission’s claim that local authorities should order a shared use of certain facilities should be supported.

To be welcomed is the fact that the Commission has already initiated an open debate on security aspects of the “internet of things”, although the “internet of things” is indeed still in its infancy. In the immediate future, an increased use of RFID technology is only to be expected in the area of logistics, as here particularly its use for optimising processes is becoming increasingly cost-effective. Long-term, however, consumers might also come into contact with products fitted with smart radio tags. The tags’ capacity to set up connections to the internet automatically is highly critical in light of data protection, as the Commission indicates correctly. For instance, unauthorised third parties might access sensitive patient records by way of a reader. It is also quite possible that suppliers of transportation services or retailers furnish customer cards with smart radio tags so as to gain unnoticed insight into mobility and buying patterns of their customers. Such threats to consumer sovereignty should be limited as far as possible. **At least consumers should be able to deactivate smart radio tags,** if desired. Provided that smart radio tags are used in devices, tickets or customer card operators or traders should be obliged to refer to it expressly.

Impact on Growth and Employment

New high-speed networks and an EU-wide coverage of broadband access to the internet might have a positive impact on growth and employment. The Commission's announcement that it intends to have the network expansion of the respective market-dominating operators accompanied by regulatory measures might lower incentives for investment.

Impact on Europe as a Business Location

An EU-wide coverage of modern communications networks would foster the quality of Europe as a business location. However, if high investments were required and if they were financed by subsidies this would lead to higher taxes and public charges and thus result in a negative impact on Europe's attractiveness.

Legal Assessment

Legal Competences

The legal instruments for an EU-wide harmonisation of regulating telecommunications markets can be generally based on Art. 95 TEC. Legally non-binding guidelines, in contrast, do not require any particular legal basis.

In its definition of universal service the Directive 2002/22/EC does not refer to the internal market and therefore is not subject to Art. 95 TEC: in order to safeguard equal competition in the internal market it suffices to regulate that companies obliged to render universal service receive an appropriate compensation for additional costs. Otherwise companies which render or contribute to comprehensive universal service in their Member States would suffer from a competitive disadvantage compared to companies in other Member States which are not bound at all or less bound by this kind of obligation. Even if Member States implement universal service in a form deviating from each other, there is still no risk of distorted competition that would have to be removed by EU action, since Art. 13 of the Directive 2002/22/EC prescribes a compensation for additional costs relating to universal services.

Subsidiarity

The question of whether or not the principle of subsidiarity is met is not raised, as there is no legal basis for an EU-wide harmonised definition of universal services.

Proportionality

The proportionality of single measures resulting from the Commission's communication depends on their definite design.

Compatibility with EU Law

Unproblematic.

Compatibility with German Law

In case the Commission's announced guidelines stipulate provisions on the access to new networks these will be in conflict with the German provision § 9a TKG.

Alternative Policy Options

Not evident.

Possible Future EU Options

Currently, no further measures other than those indicated in the Communication are evident.

Conclusion

The debate as to whether all EU citizens should be provided with access to fast internet irrespective of their place of residence should be based on the costs this would incur. If universal services are put out to public tender, each technically capable infrastructure (telephone, mobile telephony, TV cable, power cables) should be entitled to receive the contract award. An ex-ante regulation of new high-speed networks yet to be built is to be dismissed since this might impede investments. The "internet of things" involves the risk of limiting users' sovereignty, as devices fitted with smart radio tags can automatically activate unnoticed data transfer. However, each consumer should decide individually to which extent, if at all, they wish to participate in the "internet of things".