

ETNO Reflection Document in reply to the EC consultation on “Future networks and the Internet” – early challenges regarding the Internet of things



November 2008

Introduction

ETNO welcomes the possibility to contribute to the EC consultation document in preparation of a communication from the European Commission on the Internet of Things.

The consultation document elaborates on the future of the Internet and holds a number of policy reflections related to the so called Internet of things. ETNO agrees with the EC's view that the Internet of the future will bring substantial societal and economic advantages for citizens of the EU. ETNO members, in their role of leading network operators, are committed to the widespread development of the Information Society within the EU and are therefore directly interested in any policy development regarding the Internet of Things.

Converging fixed and wireless broadband networks are developing at a very fast pace and make it possible for citizens to be connected anywhere and anytime to e-communications services. The rapid, ubiquitous and solid growth of broadband networks throughout Europe constitutes a fundamental driver for the widespread use of those advanced technologies and applications that will make the Internet of things a reality.

To this extent, ETNO believes that the fast deployment of next generation networks must become more than before a priority goal for the EU Commission when considering policy issues or support actions for the future of the Internet. Next generation broadband access will enable citizens, businesses and public administrations to fully enjoy innovation in services, growing efficiency and reduced costs.

Just recently, the world is facing an unprecedented economic and financial crisis. The ICT industry, given the right conditions, can play a major role in helping overcome this crisis. In order to realize the full potential of our sector, including the Internet of things, industry's ability to grow and invest must be solidly secured.

Therefore, in order to create the right conditions for the development of the Internet of things, ETNO believes that the economic priority of the next few years must be large scale investment in fibre-based Next Generation Networks (NGN) and mobile broadband networks, based on policies offering economic incentives and guarantees for predictable financial conditions over time. ETNO fosters the view that fibre-based access networks require new and adapted rules, different from past regulation, as the new infrastructure needs to be built from scratch.

The consultation document raises some specific issues, on which ETNO wishes to comment, particular with reference to: Interoperability and standards, Internet Governance, Identity management, Naming and interoperability requirements, RFID Applications, Security, and Privacy and data protection.

ETNO's more detailed comments

ETNO supports many of the views expressed within the document prepared by DG INFSO D4 and G2 in cooperation with EPOSS "The Internet of Things in 2020 - a roadmap for the future."¹, Nonetheless, as the "Internet of Things" is still rather undefined at this stage, we would appreciate a clear definition and scope. ETNO understands the "Internet of Things" as being the overall infrastructure of hardware, software and services, allowing seamless connection of physical objects to the Internet, with the aim of exchanging information. Additionally, the "Internet of Things" should not be confused with "Web 3.0," which is broader. Within this framework, ETNO would like to make the following comments:

Policy Challenges in the context of RFID

Security

Most of current consumer concerns about security and privacy are not specifically addressed to RFID, but are rather generic security and privacy concerns. This is mainly due to the fact that, for the time being, most RFID applications do not store or communicate personal data and are not linked to an identified or identifiable person.

Having said that ETNO wants to stress that security is a key issue to be considered for the successful development of RFID applications. Security problems can have a negative impact on the development of new applications if users have a feeling of insecurity. Trust and Security remain the key elements for enabling RFID to be introduced and generalised successfully. Therefore, any future development of

¹ http://www.smart-systems-integration.org/public/internet-of-things/Internet-of-Things_in_2020_EC-EPoSS_Workshop_Report_2008_v3.pdf

RFID should aim at creating an environment where security problems are minimized.

As customer protection is an important sales argument for service providers, there exists a natural incentive for the provision of protective tools, such as encryption, robust authentication procedures and protection against unauthorised data collection to build individual profiling. Therefore ETNO considers that the definition of protective tools should be left to market actors. Self regulation and general consumer protection rules are sufficient public policy tools for the initial stages of RFID development. RFID based services will evolve in time and will get more and more generalised, only then if a self-regulatory approach proves to be inadequate, additional rules could be considered. It is of utmost importance that any obligatory measure remains proportionate and does not imply unnecessary burdens that could prevent innovation and deployment of new technologies.

Additionally, it is important to foster the harmonization of security practices in Member States, at EU level, and at the global level.

Privacy and Data Protection

ETNO believes that Privacy and Data Protection are key issues requiring special attention in RFID applications. Policy challenges already linked to RFID today will be even more relevant in the Internet of Things of tomorrow, and for sure at a larger scale (more networked objects, more information exchanged).

Against this background, **it is crucial to ensure the protection of personal data** particularly through preventive privacy impact assessments, development of less intrusive technologies and public protection awareness. The necessary data protection measures should be taken in the form of voluntary commitments by industry.

Indeed, there are many **privacy enhancing and other market led technologies** that address consumer concerns or even misperception. Such technologies developed by industry are already being widely used. Furthermore, **policy guidelines** developed by European, national and international authorities are also addressing consumer concerns.

Moreover, beyond these market-led protections and policy guidelines, the **EU's current legal framework** is technologically neutral and therefore already covers RFID technology. Directive 95/46/EC (Data Protection Framework Directive) and the national laws transposing the Directive create since many years a comprehensive framework for the protection of the individuals with regard to the processing of personal data and the transfer of such data.

ETNO considers that **any additional legislation is not necessary for new RFID based services and applications** as current rules already cover the issue. New regulation would create more interpretation

difficulties (different rules for each new service) and, as a result, would hamper the development of innovative RFID based services.

The European Commission should carefully consider the fact that new strict rules applying to all future RFID applications might result in undesired consequences and unnecessary regulatory burdens. Before setting any new rules, one should consider the specific privacy risks incurred and, very importantly, appropriately take into account already existing technology and industry-based solutions. The **Security and integrity related minimum set of obligations needs to be proportionate** in order to facilitate the development of new applications fulfilling the privacy and data protection requirements, but also take into account costs and operability issues to allow the development of viable new business models.

Otherwise, **unnecessary regulatory burdens could prevent innovation and speedy deployment of RFID based applications beneficial to society.**

Therefore, ETNO stresses the **importance of customer awareness programs** at all levels (public, private, national, European) in order to explain the benefits of RFID based services. Education and supporting information on the benefits of RFID should be addressed to consumers and citizens.

Identity management, naming and interoperability requirements

Identity Management and Naming are critical parts of the proposed RFID application architecture. But RFIDs are not the only applications that could be associated with Identity Management (or rather Identity Assurance) and therefore the issue relevant to Identity Management should not be confined to specific applications. A lot of work is currently taking place in different SDO's on a more general basis. Moreover the emphasis in Paragraph 3.2.4 on specific elements of Identity Management is perhaps misleading. The emphasis should be on general requirements that would be common to all identifiers that may be of critical importance to the "Internet of Things". Developing principles rather than detailed technical assumptions is the long term approach that allows for a commercial approach to the development of Identifiers.

Interoperability and standards

ETNO fully supports the view that European Industry has an important part to play in the development of the Internet of Things, whilst championing the core values of trust, security and privacy, innovation and entrepreneurship, in particular as these are the fundamental requirements that underpin the principles adopted by the European Union. That is specifically important as the Internet of

things evolves from its early roots, where separate network islands of devices exist which are not interconnected, towards a global fully meshed environment which will be viewed in a similar manner to the global internet we know today.

The growth of this phenomenon will once again require industry to face many of the issues that have already been addressed for the global Internet, such as the need for the rapid development of global standards and interoperability. To support the large number of emerging applications for the Internet of Things, the underlying network technology must be inherently scalable, interoperable, and have a solid standardization base, avoiding that a multitude of de facto standards emerge at either application, industry sector or regional level, which would inhibit global interconnectivity.

Technological advancements regarding the Internet of Things are at an early stage. Issues concerning RFIDs, relevant also for other applications such as the use of identifiers and identity management, are being discussed and developed in different standardisation organisations (SDO'S). Any actions taken on a European level should not discourage innovation and should not pre-qualify winners. In line with the underlying rapid technological advancements, the service industry's dynamics may evolve in unpredictable ways. The way forward should be defined by market dynamics and business decisions, and regulatory actions should not create distortions.

RFID applications

ETNO agrees that the radio spectrum for RFID has been already and clearly harmonised throughout Europe in CEPT (ECC Recommendation 70-03) and EC (Decision 2006/771/EC amended for the first time with Decision 2008/432/EC).

Therefore agrees that there is no need for further activities in the area of development of new regulation to be applied specifically to RFID. In any case, it is of outmost importance that any new regulation does not hamper innovation in this field.

The Decision mechanism, in particular, allows Operators, manufacturers and the industry in general to have a clear picture of the frequencies available for the different applications. The mechanism adopted by the EC (one single Decision regularly amended) is believed to be efficient so far and the future need for additional harmonised spectrum can be therefore perfectly addressed under that policy mechanism.

We recognise that a range of new RFID technologies have been developed for use in different frequency bands, for different applications. The Commission therefore could play an active role in encouraging the harmonisation of such frequency bands, standards

and regulations used within the EU and throughout the rest of the world, as the flow of RFID-based products does not stop at the European borders: i.e. out-of-band emissions must be sufficiently addressed as well as interference from RFID deployed in the band 865-868 MHz towards converging broadcast and mobile applications in the UHF band.

In areas where harmonisation is not complete (yet), the Commission should promote its development in bi-lateral contacts with the EU's trading partners and through the International Telecommunications Union.

Internet Governance

The Internet of Things is starting to develop in a complex technological context, while the Internet still relies on a global network of hundreds of thousands of servers and routers. Without an impartial governing scheme, it will be impossible to have a truly global working Internet of Things, accepted by all parties: governments, intergovernmental organizations, the private sector, the technical community, civil society as well as the users. Keeping governance as generic as possible, while at the same time ensuring that it can respond effectively and efficiently to regional or local needs, is a core necessity.

These considerations underline not only the need for widely accepted global governance, but a sound one as well. The European Institutions and the Member States, each within their own capacity and responsibility but in full consultation and close cooperation with the industry, must assess whether one centralised system will be able to handle the increased traffic due to the Internet of Things applications and whether local governance would be a better approach to manage mass deployment.

ETNO recognises that a number of options exist, not the least of which is the approach being put forward by ECPglobal. These options appear to offer a possible way forward. Although ETNO recognises that an appropriate governing scheme will be necessary in the future, more important at this stage is ensuring a **global coordination and exchange of ideas and approaches**, leading to the adoption of best practices that stimulate innovation and rapid progress. Within such environment the preferred option of global governance should quickly emerge.

Conclusion

ETNO looks forward to remaining engaged in the emerging debate on the "Internet of Things", with the intention of ensuring that all stakeholders achieve maximum benefits when implemented.