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## ETNO Reflection Document - ETNO contribution to the 2006 Review

### Executive Summary

ETNO believes that a thorough 'root and branch' review of the current EU telecoms regulatory policy is necessary to deliver the optimal regulatory conditions for a period of time that will reach beyond 2010<sup>a</sup>.

The electronic communications sector is undergoing unprecedented challenges globally, requiring innovative firms accelerated capacity to adapt to these challenges. The current system providing inefficient incentives and assistance to market players needs to come to an end in Europe.

Consequently, (ex-ante) pre-emptive economic regulation should by and large also be terminated within the earliest possible timeframe. The previous logic of the EU regulation assumes a wishful and non-described transition from the opening up of monopolies to a final situation where business activities by providers of electronic communication services are not treated differently from other business activities, i.e. are regulated by competition law where interventions are taken only if a dominant position is abused. However, experience so far shows that regulatory interventions are increasing and the policy direction of considering ex-ante regulation as a last resort tool has been largely abandoned. Backward looking models together with a system of inadequate incentives for regulators has led to the regulated perimeter being extended to market areas that didn't exist only a few years ago. They are being regulated under outdated assumptions perpetuating old-fashioned and inefficient market structures far from sound business realities and needs.

To enable the necessary transition to happen, we believe that clearly defined transition steps should be introduced. These would include the review of the current Regulatory Framework. In the meantime, principles and objectives towards deregulation should be introduced and implemented within the existing EU regulatory framework to prevent that the "regulated perimeter" gets beyond legacy issues. Otherwise creative, innovative European firms will be subject to more burdens than those inherent to the business affecting their ability to compete globally.

As the NRF in its current form does not meet the requirements of the marketplace, ETNO proposes further modifications to the current system of market-based regulation. These should focus on improving the largely unused "Three Criteria Test" by giving it an outstanding role by e.g. being treated separately from the decisions and analyses taken by NRAs. Should it be needed for remaining legacy issues after this review period, last resort ex-ante regulation could be considered but should be restricted to non-replicable legacy assets. ETNO calls on the Commission to explore these proposals in its Review, including the early introduction of good regulatory practices such as forbearance in Europe.

The aim of the 1999 Review was to create a regulatory regime that could be rolled back as competition strengthened, the ultimate objective being to control market power through the application of competition law. Consequently, the revised regulatory framework should ultimately put an end to the current sector-specific regulation, leaving it to competition law to deal with electronic communications market failures if any. NRAs would then be in charge of managing scarce resources (numbers, addresses, spectrum, etc.), authorisations and rights of way, and advising NCAs in cases of conflicts.

This paper also provides more detailed suggestions on the issue of harmonisation as well as on the Universal Service and Access and Interconnection Directives.

ETNO's views on spectrum issues related to the review will be submitted separately.

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## I. NRF Review – Regulatory principles<sup>1,2</sup>

### 1. The EU regulatory framework – need for in-depth review

*"Most economic regulation comes from the rulemaking process and the notion that we, as regulators, can always make things just a little better, no matter how competitive the market may already be"*

*FCC Commissioner Kathleen Q. Abernathy*

#### Introduction

This Paper summarises why ETNO believes that the basic concepts, both the objectives and methodology, of the New Regulatory Framework<sup>1</sup> (in the following NRF) need to be reconsidered. In particular, the adequacy of the current approach - in which ex-ante regulation are based on a set of imported competition law concepts and methodologies coupled with the ability of regulators to look into the future - to market developments should not be taken for granted. The paper addresses possible ways to redress the drawbacks of the current framework and suggests ways to adjust the regulatory practice already brought up in the review debate.

ETNO also considers that this Review should be seen as a part of a broader economic policy debate focusing on achieving Lisbon goals. Against this background, we propose that the main outcome of this Review exercise should be a political commitment to establish and implement a timetable for a phased transition away from (ex ante) pre-emptive regulation. It should particularly recognise that this transition is unlikely to follow automatically from the current system and methodology contrary to the promises made when it was introduced.

#### The Marketplace and the EU regulation

The telecom industry is a major enabler for the development of the European economy. The industry is undergoing unprecedented market and technology challenges for which it will have to undertake huge up-front investments to meet the demands of consumers and industry for additional capacity and services in line with i2010 (ICT initiative). These include:

- Technology challenges such as the transformation to all IP networks.
- Investment challenges such as the roll-out of new infrastructure in areas not yet covered by broadband services and/or deployment of new

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<sup>1</sup> BT does not support this RD.

<sup>2</sup> TDC does not support this RD.

- access networks to provide higher capacity broadband multimedia services.
- Market challenges such as convergence, the appearance of new market players, service and business models, market consolidation etc.

It is a key priority for ETNO to ensure that improvements to the NRF are made that both advance investments and ensure enhanced freedom for companies to adapt and respond to globally competitive markets.

The telecommunications markets in Europe have developed substantially since the first regulatory ONP package in 1998. New players and disruptive technologies are changing the market structure in a way that was not foreseen by the existing regulatory structure<sup>b</sup> despite of its purported flexibility and technological neutrality.

The 2003 NRF was drafted to ideally meet market and technology developments<sup>c</sup> by enabling a shift away from specific regulation of the sector and from applying a technology-bound, mechanical ex-ante application of remedies towards reliance on competition rules as the markets became efficiently competitive. The expectation was that better economic regulation would have been achieved by adjusting regulatory intervention to market failures in a proportionate way and only in markets found to be not effectively competitive measured by anti-trust methodology in relevant markets identified by a technologically neutral economic analysis.

However, experience shows how much inertia and lack of common understanding of long term outcomes and objectives has changed the expected rules of the game. ETNO believes that the application of sector specific interventions necessary for the development of competitive markets should be reduced in accordance with the intended goal of deregulation meeting the requirements for flexibility and freedom to innovate and operate in line with market demands and the ultimate goal of maximising welfare.

The outcome of the NRF has been extensively discussed in reports and academic papers. The main focus of this discussion has been on the implementation and the function of its institutional design, both of which have shown to have some important inadequacies (e.g., de Streel 2004, Hocepied 2005, Larouche 2003, Arnbak 2005).

Taking a forward-looking perspective, the inherent problems of the current NRF - increased micromanagement, further interventions, and continued dependency by players on these regulatory decisions for their survival - are likely to continue to grow for at least the next decade if some of the underlying principles are not reconsidered. This is because the NRF itself provides a set of inadequate incentives including the requirement on regulators to look into the future which is increasingly uncertain.

In addition, there is a conflict between the direct objective of the NRF to on the one hand regulate with the intent to remove enduring market power,

and on the other the application of competition law that penalises abuse of market power, and has been largely pre-empted by regulators beliefs on the inability of the latter to resolve market problems identified. The fact that the third criteria of the three criteria test has remained largely unused to date is proof of this. Moreover, the application of the NRF has an underlying tension between its aims of stimulating investment (competition ‘for the market’) and regulating legacy services (competition ‘in the market’). The correct regulatory policies become totally dependent on being able to clearly distinguish these scenarios.

Unless the transition from one regime to another has a clear purpose and direction, the sector will continue to be burdened by regulatory errors, serious disputes and huge variations in practice between Member States. Furthermore, if the goal of transition is made explicit with a clear glide-path, it will provide the telecoms industry with the right incentives to invest, both in the continued deployment of broadband infrastructure as well as in alternative infrastructures and to develop new and competing service models in an environment of converging technologies and services.

## 2. NRF shortcomings – the need for a throughout review

The NRF has shown some significant problems which appear both at the practical level of implementation and embedded in its methodology:

- **Implementation:** The application of the methodology based on market analysis has been time consuming and expensive for both NRAs and industry. The implementation process demonstrates that the NRF has so far failed to deliver the heralded minimisation of regulation and improved harmonisation<sup>d</sup> (Hocepied and de Streel 2005, de Streel 2004). Instead, with a few exceptions, it has maintained or increased the level and dependency on regulation that characterised the sector under the ONP framework. It also raises a number of serious questions and concerns:
  - ‘Markets’ and ‘remedies’ have become conflated,
  - The principle of technological neutrality has not been fully applied (e.g. for the broadband),
  - The expected forward-looking analysis of markets has been replaced by analysis based on information which has become obsolete at the time when remedies take effect.
- **Methodology:** More importantly, the application of some of the basic methodology and concepts in the NRF are the main reasons for the lack of progress toward a level of regulation in line with market and technology developments. The use of competition law concepts (Hypothetical Monopolist Test) have led to “targeted” definitions of market boundaries (e.g. such as bitstream access or call termination on individual networks), which not only don’t correspond to the broader reality of markets, but also create new distortions and problems for all players.

Larouche summarises the criteria for the selection of the relevant markets in the NRF as '*paying lip-service to the alignment with competition law*' while it '*testifies to an original approach*'. This, according to Larouche, ignores that the actual abuse of dominance is the decisive factor when applying the economic test methodology to a definition of the market under competition rules<sup>e</sup>. The combination of ex-post methodology with persistent forward-looking remedies represents a fundamental problem which cannot be ignored<sup>f</sup>.

Some of the practical problems related to the implementation of the NRF - such as delays and the lack of harmonisation - may be possible to resolve. But the principal concerns associated with the NRF such as the analysis of markets, use of dominance as trigger for ex-ante regulation etc. will remain if these concepts are left unchanged.

The forthcoming revision of the Recommendation on relevant markets may reduce the number of relevant markets if its review includes a proper application of the 'three criteria test'. But even if the 'three criteria test' is properly applied (the test is discussed below), it will not change the fundamental problem. The combination of anti-trust market definitions (the use of a hypothetical monopoly test) and ex-ante regulation of artificial wholesale markets triggered by finding of dominance has a built-in inclination towards increased regulation, sometimes referred to as '*regulatory creep*'<sup>g</sup>.

This phenomenon is also prevalent due to some of the concepts and remedies set out in the specific Directive on Interconnection and Access which we discuss later in the paper.

### **3. The EU regulatory framework – possible amendments**

Having in mind both the rapid market developments<sup>h</sup> arising from the increased use of IP based services and the significant challenges ahead (the investment in NGNs, the deployment of new access networks, the further deployment of 3G networks) ETNO cannot accept that the Commission only proposes modest revisions of the regulatory framework. The Commission should engage in a broader policy debate on the direction of regulatory policy in the EU and be prepared to consider alternatives towards sector specific deregulation of the industry.

In addition to all the tensions noted above, the objectives of the Framework Directive are ambiguous. The regulatory framework needs a clearly defined vision to guide regulation. Such a vision is not provided by the number of sometimes conflicting goals set out in today's NRF (Garnham 2004, Hocepied and de Streel 2005) or by the behaviour of many NRAs.

ETNO supports that the focus of EU e-communications policy on should be on consumer welfare. We believe that its fundamental

objective is to improve consumer welfare in form of more competitive offerings (choice) of constantly improving products/services.

Such a vision could be introduced in the reviewed framework by doing three things.

1. Firstly, to set out a simpler over-arching objective based on consumer welfare with the associated requirement for NRAs to engage in a process of true deregulation, thereby enabling the industry to work with as little regulatory intervention and as early as possible<sup>i</sup>.
2. The second step is to include a timetable for the phasing out of ex ante regulation and the milestones needed for this to happen
3. Thirdly to reconsider the methodological approach of the NRF so that if interventions are found necessary, they are applied in line with the development of the market place described above and that remedies some of the problems identified.

The efficiency of NRAs regulatory interventions should not only be measured by the impact on consumer welfare and competition but also on the market growth of the sector. It is increasingly evident that regulation has led to a significant decline in investments by the operators. Deregulation, therefore, results in a positive relationship between investments into the ICT sector and economic growth (see e.g. Arthur D. Little study - Reference 14).

## **Timetable**

ETNO believes that the following three consecutive steps could represent a feasible scenario for the phasing out of regulation:

- 1<sup>st</sup> phase, the short term period (e.g. 2006): where we expect the ongoing revision of the list of relevant markets (Recommendation) will be shortened. The key issue is to avoid the extension of current "regulated perimeter" beyond legacy assets, i.e. to keep the incentives to invest in new access platforms and infrastructures.
- 2<sup>nd</sup> phase, the medium term period (e.g. 2006 - 2012): where the methodological problems of the NRF should be solved to support infrastructure based competition and in a more focussed manner to avoid 'regulatory creep' due to improper market definitions and remedies. This will not only meet the need to invest in alternative infrastructures, but also potentially enable the withdrawal of obligations on legacy markets.
- 3<sup>rd</sup> phase, a concluding phase (e.g. after 2012, but before 2015): where the revised regulatory framework should have put an end to the present sector-specific regulation, and competition law would deal with electronic communications market failures if any. NRAs will then be in

charge of managing scarce resources (numbers, addresses, spectrum, etc.), authorisations and rights of way, and of advising NCAs in case of conflicts. Any residual obligations to be maintained would be an obligation to negotiate any to any interconnection primarily under normal commercial relationships.

The review of the current EU regulatory framework should be instrumental in achieving deregulation in the EU and be consistent with the proposed timetable.

## **Methodology**

Concerning the 2<sup>nd</sup> phase, much of the discussion in the literature on how to improve the methodology of the NRF, takes as a starting point a strengthening of the '*three criteria test*' or the use of the concept of '*non-replicable assets*'. Both are based on a notion of the presence of entry barriers as the underlying justification for regulatory intervention.

We will discuss these concepts but the essential point at this stage is not so much to second-guess whether one or another criterion is better suited, but rather to explore how they can focus the NRF towards a deregulatory path and minimise the possibility of regulatory errors (both type I and II).

- **Non-replicability (of assets)**

The concept of '*non-replicable assets*' has recently been put forward by Lewin and Williamson (2005)<sup>k</sup> in conjunction with a discussion of how emerging markets could be delimited and exempted from regulatory intervention. The concept is, however, of relevance to test whether legacy regulation is still justified as the concept aims to overcome the presence of '*entry barriers*'.

In theory, such a criterion of proven entry barriers in the form of '*non-replicable assets*', better characterises some of the relevant features of telecommunications networks than the current use of the dominance trigger based on anti-trust based market definitions. It provides a useful deregulatory trigger for legacy assets because the underpinning assumptions in the NRF of: (a) a well defined mapping from upstream to downstream for each network; and (b) that the impact of each network can be treated for regulatory purposes in isolation from each other – both are completely undermined in a converged IP environment.

If regulation is focused on a '*non-replicable assets*' criterion, it provides a focus on the legacy facilities that have such characteristics whereby regulated access is still a prerequisite for competition in services. Regarding associated services and products, regulation would be based on competition rules as remedies will only be applied in the case of abuse, thereby allowing for a consistent reduction of the "*regulated perimeter*".

The merits of combining a targeted specific regulation complementary to the use of competition rules is also proposed by Larouche (2003) in his examination of various alternatives to the current approach:

*'...asking whether the failures observed in the telecommunications sector are truly resulting from dominance in the traditional sense or rather from other specific phenomena which are not necessarily linked with dominance in the traditional sense (e.g. bottlenecks, network effects). In the...latter case there is room for a relaxing of regulation. After all a number of markets outside of telecommunications function properly - under the supervision of competition law - despite the presence of one or more dominant players. However, regulation with a narrow focus on the specific phenomena that were identified would remain in place'*

Concerning the definition of 'non-replicable assets', the basic question is how to delimit them. As long as this refers to legacy assets, it should be underlined that the use of this criterion has to be complemented with some sort of forbearance for new access platforms and infrastructures.

In Levin and Williamson (2005), there are suggestions including tests involving a geographical dimension alongside functional equivalency<sup>m</sup>. The proposed test may still leave questions open to further investigation, for example how the commercial availability of an equivalent asset is tested in a regulated environment. Also the use of the 'essential facilities' concept as employed by WTO may provide input to the delimitation of non-replicable assets (OECD 1996, Mason 2005).

A forward-looking perspective is still crucial as otherwise the concept will be counterproductive and suffer from similar problems to the market-based approach in the current regime.

- **'Three criteria test'**

In principle, under the NRF the 'three criteria test' (TCT) is already applicable to determine which markets are susceptible to regulation. In practice however - and apart from the fact that the test does not form an integrated part of the core articles of the FWD - as noted above, the TCT test has not been applied. The three steps are vaguely defined - in particular the third one - and only to a limited extent followed in practice. The consequence is that NRAs can express an opinion that the three criteria are satisfied without any possibility of rebuttal as it is an opinion only.

Nevertheless, an argument in favour of improving the NRF by strengthening the TCT, is that it would require a less radical change of the NRF. This could be carried out by including the TCT in the FWD together with a more extensive clarification of the individual steps.

This clarification may in particular deal with the 1<sup>st</sup> step of the TCT regarding presence of non-legal 'entry barriers'.

So with the intent of progressively reducing ex ante regulation until the date ending this second period one proposal for a significant amendment to NRF concerning criteria for regulation could be:

- To include the TCT in the FWD Article 15.
- To request NRAs to use the TCT before any regulatory intervention in national markets.
- To reformulate the three steps in particular to make it clear that the 1<sup>st</sup> step ‘entry barriers’ needs to be identified in forward looking perspective of at least 5 years in the form of (ignoring here legal barriers and/or barriers due to scarce resources) legacy assets that cannot be replaced.
- Make clear that the TCT does not refer to newly built access infrastructures.

The 3<sup>rd</sup> criterion is of outmost importance to filter out any superfluous regulation since duopolies and oligopolies are characteristics that fall under competencies of competition authorities. There is no justification for regulation of collective dominant position inside a sector-specific regulation simply because of this form of industrial structure.

#### • **The role of time limited forbearance**

- Forbearance has been formally introduced in the US and Canada and was defined by OFCOM in its strategic review 2004 as '*the deliberate and publicly announced decision by a regulator to abstain from regulation*'<sup>n</sup> and is particularly helpful to:
  - Avoid extension of the regulatory perimeter
  - Protect innovation
  - Prevent the distortion of investment incentives by regulation or because a given market is anyway likely to be competitive shortly.

The “wait and see” approach differs from “forbearance” as regulators only abstain from regulation for a certain period or until certain conditions are complied with, for example in relation to emerging markets or new services/technologies where investments need to be secured and protected for at least a period of time.

Both concepts are attractive in principle as they do not discourage investment (‘forbearance’ at least when it is about new markets or for new technologies) in new infrastructures. They carry the potential to shift out the demand curve and create much more welfare than the one obtained by a general ex-ante obligation to give access to the new infrastructures. Experience shows that welfare gains derived from ex-ante access obligations (usually materialised through more emphasis on price reductions than on innovation) are less important than those derived from innovation.

Moreover, time-limited forbearance gives time to see whether other forms of competition or alternative platforms may develop in the market instead of applying a self-fulfilling prophecy that the market will only develop in a preconceived way, i.e. with only one access platform. This would ensure that the right signal is sent to all existing and potential market players.

Ultimately, concerns of market foreclosure, should they materialise, may be tackled through an ex-post approach.

- ‘Dominance’: Finally, it will be important in the review to take advantage of the current discussion on Article 82 and the role of dominance<sup>o</sup>. This debate has been concerned with the need to direct any concerns regarding competition to the effects of a dominant position rather than just looking at the formal identification of dominance. The current use of dominance, or ‘significant market power’, in the NRF could benefit from this debate. The automatic linkage between the finding of dominance and imposition of remedies<sup>p</sup> perpetuates the incorrect notion that the mere existence of a dominant firm is harmful to competition (Oxera 2005, Gual 2005, Sharpe 2004) and is not in line with competition law. Dominance instead should only be seen as an indicator of the need to assess potentially abusive practices.

ETNO thus invites the Commission to carefully reconsider the regulatory principles of the NRF in three major respects:

- Firstly, to ensure the transitory nature of regulation by implementing a consistent deregulatory agenda with consecutive transition phases and distinct and explicitly formulated time limits based on measurable outcomes.
- Secondly, to consider amending the methodology of the NRF by taking into account research on ‘non replicable assets’, the application of the three criteria test and other ways to base regulation on a limited range of legacy assets or facilities, including forbearance, rather than mandating a wide range of electronic services.
- Thirdly, to take into account the ongoing revision of Article 82 and the use of an effect based approach to competition problems rather than the current form-based interpretation.

## II. NRF Review - Harmonisation

One of the major policy objectives of the NRF is to pursue the establishment of an internal market for telecom services:

*3. The national regulatory authorities shall contribute to the development of the internal market by inter alia:*

...

*(c) ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services;*

*(d) cooperating with each other and with the Commission in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of this Directive and the Specific Directives.<sup>q</sup>*

This goal has always, i.e. back to the ONP system, been strongly supported by most of the industry both in order to have a level playing field between operators to ensure fair competition with each other enabling companies to offer customers pan-European services.

Accordingly the NRF provides several mechanisms to achieve this goal whereby the regulatory scope and methodologies were partially pre-defined to avoid 'deviations' including:

- Ex-ante defined list of possible remedies,
- Ex-ante identification of relevant markets to be regulated by the Recommendation,
- The guidelines for market analyses,
- The establishment of ERG and the guidance given by the ERG in form of common positions on various topics, such as bit stream access, remedies, cost accounting etc.
- The Article 7 procedures for approving market identifications and SMP designations.

All these mechanisms confine the discretionary power of Member States and NRAs to pursue possible specific goals and policies.

Accordingly, the system is ideally designed so it can at the same time meet the various degrees of development in individual national markets as every decision on market identification, SMP designation and application of remedies should reach an outcome where there is no difference in the treatment given 'similar circumstances'.

*The need for the relevant rules to be consistently applied in all Member States is essential for the successful development of an internal market for electronic communications networks and services. The new regulatory framework sets out objectives to be achieved and provides a framework for action by national regulatory authorities, whilst granting them flexibility in certain areas to apply the rules in the light of national conditions.<sup>r</sup>*

Further the procedures in the FWD should lead to a proportionate and targeted application of remedies to meet the identified competition problems.

Among the major challenges when harmonisation is on the agenda are:

- Proportionate remedies given the varying scale of national markets. Proportionality is one of the over-arching general principles of European law. Proportionate obligations are especially important in the small member states and the 'micro-states' (e.g., Luxembourg and Malta), in general because:
  - The costs of implementing any regulatory measure (e.g., regulatory product development: IT and other systems, gateways, etc.) vary little between incumbent providers and member states;

- The regulatory benefits are broadly proportionate to the size of the market.
- Varying pictures of ‘effective competition’: The market share of the incumbent operator or the number of competitors should not be used as a measure of whether effective competition exists. For example, small markets can only support a small number of players of scale
- Existence of geographic, sub-national markets: As competitive conditions vary considerably across member states and within them (e.g. urban vs. rural, topology ), when performing market analysis NRAs should be urged to use a much more varying application of regulatory solutions and identification of different wholesale products as appropriate for different geographies.
- Variations in regulatory cultures: Even more important and well-recognised by the Commission are the considerable differences in speed of implementation and the regulatory ‘culture’. Some striking examples can easily be found and it does not appear that the mechanisms of the NRF (and the Treaty in form of ‘infringement procedures’) allow for a sufficiently efficient pressure.

The revisions of the Recommendation on relevant market and of the NRF should enable – according to the degree of effective competition - those Members States that will have advanced further in the implementation to delete markets and obligations from the list whereas others still need to go through the ‘first’ round even after the revised list or the revised Directives has entered into force.

This is key as an important element in harmonisation is to avoid a regulatory ‘race’ where NRAs try to place themselves in upper end of the league (e.g.: as may have been the case with the Italian decision on LLU prices).

Finally a discussion of harmonisation also needs to take into the obvious differences between member states and regions concerning penetration of broadband, 3G and even basic PSTN services. This points again to the need for more differentiated access regulation and also to recognise substituting technologies.

Hence major issues for ETNO concerning harmonisation are therefore at the same time to make sure that the revised NRF:

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| <ul style="list-style-type: none"> <li>➤ Also takes into account regional differences when markets are defined and analysed. This is even more important for example with regard to issues related to aspects of ‘universal service’ where it will be preferable at national level to define how to serve e.g. disabled or social vulnerable citizens by the national social security system or if so justified to deliver services to underserved areas.</li> </ul> |
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- Allows the Commission to give guidance to NRAs to avoid regulatory race for ever stronger measures in the name of harmonisation.

### **III. NRF Review – Universal Services<sup>s</sup>**

The Universal Service Directive (USD) includes in its current version three different areas<sup>t</sup> in an often rather confusing way:

1. Regulation of some retail services including e.g. the default obligation (only for SMP players) of Carrier Pre-Selection
2. Consumer protection measures of either a horizontal character (contracts etc.) or to ensure consumer's capability to retain numbers (Number Portability) or access certain numbers at a harmonised pan-European level (e.g. provisions on non-geographical numbers or short codes such as 00, 112)
3. Universal service measures as such including provisions on general availability of certain services at averaged conditions, a certain level of quality, special tariffs for certain user groups to avoid exclusion and designation of USO providers and financing schemes in case of a USO deficit.

In the long term perspective of the review none of these three areas are in their current form likely to be relevant:

- Re 1: The regulation of retail services should already disappear with the ongoing revision of the Recommendation on relevant markets. It thus will be contradictory to preserve provisions including C(P)S regarding retail regulation in particular as already today regulation is assumed to focus on wholesale level. Additionally the traditional voice services specified for retail regulation are anyway of decreasing importance and thus these articles (16-19) should not be preserved.
- Re 2: While consumer protection as such is an essential feature of a retail sector it is difficult to understand why the telecom sector requires detailed and specific measures compared to other sectors where consumers enter into relationships with the providers of various services. Therefore the main issue is to only include in a revised framework those elements that enable customers to access emergency services (Article 26), to access various types of non-geographical numbers (Article 28), to use pan-European code for internal calls (Article 27.1) and to keep their numbers (Article 30). These provisions could potentially be moved to a revised FWD. Provisions which are outdated such as specification of European numbering space (Article 27.2) should be removed. The Commission also needs to reconsider the need for provisions on quality as the arrival of VoIP/VOB replaces the uniform service requirement by a variety of much more targeted offerings to meet individual demands. Such quality requirements may also have a

negative impact on the entry of new services as recently illustrated by the discussion of 'PATS' and VoIP.

- Re 3: Concerning universal services as such there are two basic elements that need to be addressed:
  - a. Supply of services to include areas (type 'rural areas') or social groups (disabled, social/economically vulnerable) not served under normal conditions. However, there is no logic in continuing a historic tradition of putting specific obligations on the industry particularly as these obligations either distort competition or if applied to the entire industry just is a separate taxation. Such a supply may according to a given national standard be left to and financed by the social security system in the individual Member State if so needed. In case of geographical lack of services e.g. structural funds for deployment of services can additionally be applied.
  - b. The fundamental issue is whether general provision of some 'basic' services and the conditions of delivery need to be mandatory by designation of providers including financing mechanisms in the case that specified delivery conditions deviates from normal commercial conditions. Evidently today's type universal service obligations mainly concerned with PSTN based voice services will be highly inappropriate in a market where a variety of access technologies will compete to deliver various combinations of services targeted much more to individual needs. Already today the Commission's 2005 consultation on the scope of universal service has shown that the penetration of mobile phones makes the current fixed line PSTN-centric USO obsolete and this is further emphasised by the growth in VoIP services.

The Commission's consultation on the scope of universal service 2005 suggested in a long term perspective to redesign 'universal service' so that it does not nominate specific services but instead comprises basic access service, i.e. '*an affordable broadband access link*'<sup>u</sup>. However, this will in many Member States turn out to be either unnecessary or rather counterproductive to the technological development and the much more individualised needs of consumers. Even if such a service is specified in a technological neutral manner it may favour certain solutions or exclude others as the specification will make a choice between the variables of capacity, flexibility and price (e.g. PLC vs. fibre vs. upgraded PSTN vs. cable vs. wireless solutions). In any case such a provision will carry over another fundamental problem of the current regulation of Universal Services, namely interventions in market mechanisms and the following distorting side effects created by designation of certain players. Besides the distorting effects in the market also the current experiences demonstrates that the transactional costs of setting up financing mechanisms<sup>v</sup> are considerable and may surpass any possible advantages.

ETNO suggests thus that the provisions of the current USD are divided between:

- Provisions being obsolete (retail price regulation) and accordingly not carried over in a revised regulatory framework.
- Provisions covered by general horizontal legislation on consumer protection which also shouldn't be carried over, and those consumer protective measures which in a modified form can be included in revised FWD i.e. issues related to numbers/names such as access to 112, 00.
- Provisions of services for certain vulnerable groups by a tendering process financed by the social security system.

## IV. NRF Review – Interconnection and access

The provisions of the Access and Interconnection Directive (AID) are closely linked to the methodology of the FWD (particularly AID Articles 7 and 8) and the recommended changes of the FWD also apply to the AID accordingly. But in case the FWD methodology was not revised substantially, a number of the provisions in the AID cannot be justified in the timeframe of the revised framework<sup>w</sup>. The key provisions of the AID are:

- 1: General interconnection provision
- 2: A list of remedies
- 3: Conditions for intervention by NRAs

And particularly one of the remedies together with the principles for interconnection needs to be revised:

- Re 1: A general interconnection provision

Concerning the general interconnection provisions (Articles 3 and 5) it is evident from various papers (Horrocks) as well as from the note on technology and market trends (see Annex 1) that today's 'classical' interconnection scenario, where interconnection primarily is about exchange of time and distance dependent voice traffic has become less relevant. The basic technology for all services including voice is increasingly based on various IP platforms where time and distance become less relevant. Furthermore many different players offer services in new combinations converged with other services. This will at the point in time where the revised framework enters into force imply that the remaining issue is to have a 'safety net' provision for regulators allowing them to intervene to ensure that interconnection in the sense of any-to-any communication takes place if so needed. This may raise the issue of interoperability but in this respect it should as far as possible be left to the market to decide how interoperability should be arranged.

While standards will be decisive for the future success of converged services produced by various platforms<sup>x</sup> any attempts to prescribe certain protocols or interfaces etc. e.g. by strengthening the provisions of the FWD Article 17 (compare also AID Article 5, 2 for SMP designated companies) will happen at the expense of innovation. The example of Skype which has developed from a closed system to interact with other systems demonstrates that the demand of the market can handle this type of interoperability problems.

A basic interconnection rule in line with the AID's Articles 3 and 5 (but excluding '*associated facilities*') and with a more focussed interpretation of '*access*' (AID Articles 1 and 2) may be justified to safeguard regulators' intervention in case of undue refusals to ensure any-to-any communication primarily however under commercial arrangements.

- Re 2: List of remedies

It has been suggested (e.g. de Strel 2005(2)) that a revised framework should be opened to alternative remedies as the current list in the AID may result in a too mechanical and even cost-inefficient application whenever the SMP criteria for regulation is met. However, although self-regulation in some instances may be preferable we find the two guiding principles for a review of provisions on remedies in the AID should be:

- Proportionality
- Predictability

In this respect the problem is the insufficient application of the principle of proportionality<sup>y</sup>.

The lack of predictability arises when we look at the remedy: '*access to, and use of, specific network facilities*' (Article 12). As the article only lists examples, it is in principle open-ended and it is thus impossible to envisage what are the facilities where access may be made mandatory. This uncertainty is further increased by the equally open-ended definition of '*access*' (AID Article 2-a) in combination with presence of '*associated facilities*' in FWD (FWD Article 2-e, AID Article 2-a).

In practice it means that whenever a company qualifies for regulation in a certain market, it is quite unpredictable which are the network elements that can potentially be covered by regulation. As illustrated by the example of bitstream regulation, regulation can evolve so that also the principle of proportionality is called into question as the regulatory intervention loses its focus and include back-bone transport capacity. This example of '*regulatory creep*' (compared above) will have a serious impact on the development of an investment in NGNs where potentially new service and control functions can be included under regulation regardless of what are the original regulatory triggers.

It is not enough to reduce the list of markets to deregulate. The number of access possibilities listed in the AID Article 12 combined with the definitions of '*access*' and '*associated facilities*' means that regulation

nevertheless, in a disproportionate manner, can be broadened to new services or technologies which were not intended to be covered when the market was defined. Therefore the Article 12 together with the definitions of '*access*' and '*associated facilities*' concept potentially reduces both predictability and proportionality.

Besides adapting the AID to any changes made in the FWD and USD, ETNO suggests the following:

- To obtain a focussed and predictable regulation it is necessary to ensure that regulatory remedies including mandatory can only be applied to specified facilities, i.e. Article 12 should be focussed preferably to Article 12,a and the open definitions of '*access*' as well as of '*associated facilities*' should be made exhaustive in order to avoid unpredictable inclusion of both new elements and service functions and of facilities
- A basic interconnection rule should only ensure an option for regulators to intervene in case commercial negotiations do not ensure any-to-any communications takes but any intervention in development of new alternative technologies should be avoided

## V. NRF Review – Security and privacy

The provisions of the Data Protection Directive on Electronic Communications (2002/58/EC) set an adequate framework to protect e-communications users' privacy as well as the security of e-communications services and applications. E-communications operators are fully committed to enhance consumer trust in the e-communications sector, and this will only be possible if adequate rules concerning the processing and security of personal data are implemented.

However, e-communications operators face a contradictory situation. While under the current Data Protection framework, network operators are only permitted to store and process traffic data for a limited period and for billing and other specified legitimate businesses, based on the recently agreed Directive on Retention of Data (DR) in the e-communications networks, operators will be obliged to retain huge amounts of information relating to customers personal data for Law Enforcement purposes (possibility already foreseen in Art. 15 of the Directive 2002/58/EC).

As the European Commission itself stressed during the adoption of the Directive on D.R., extensive data retention can undermine users' confidence and have a negative impact on the use of new electronic communication services, its development and innovation. ETNO would like to ask for a better clarification regarding the weakening of data protection rules, favoured somehow by LEAs based on the misinterpretation of the notion of public safety. Protection of personal data has been recognised as a fundamental right and as such is an integral part of European culture and

legal system. Data protection helps building and strengthening the trust of customers and is therefore an essential basis for the development of the information society and the competitiveness of Europe

### **Harmonisation**

Also in the area of privacy and security, the achievement of a real internal market for e-communications services should be the final objective. A patchwork of regulatory regimes will prevent the creation of a European wide harmonised legal framework for data protection. Diverging national rules on privacy and security should not constitute barriers to the provision of services and, more generally, barriers to trade. For instance, location data will be essential for the launch of new products and services. The future Regulatory Framework should avoid over-regulation, based on misunderstood data protection principles, which would prevent the introduction of these added value services.

### **Self-regulation**

Considering the fast evolving nature of the ICT sector, any revision of the rules on privacy and on security should take a pragmatic approach. ETNO believes that encouraging self-regulation instruments will lead to a more market-driven approach and consumer-oriented development of standards.

As an example we can mention the issue of unsolicited commercial communications (Art. 13 Directive 2002/58/EC), experience has showed that an opt-in system for unsolicited commercial communications does not make the problem worse, as is the case of the opt-out system, but it has very little effect if not accompanied by strong technological solutions, which must be deployed by industry in a legislative environment free of uncertainties. What is essential to establish is a close dialogue between all players involved to fully understand what is at stake and agree on the means to fight it efficiently. Unfortunately spam is becoming a security threat (dissemination of spyware, phishing, identity theft...). Therefore, cooperation between public and private sector needs to continue to meet a security solution to reduce spam and, more generally, to promote secure and reliable e-communication services for all.

### **Provisions on Directories**

This point has to be considered in relation with the provisions on a Universal Directory Service in the EU Directive. Considering that these services are provided in a competitive environment, market forces should be left to determine their format and presentation, given the fact that the dynamism of the market can create greater advantages to the end customer, as opposed to the strict regulation of these features (e.g.. introduction of reverse search functions).

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# **Annex 1 - Markets and Technology Trends - December, 2005**

## **Annex to ETNO Contribution to the 2006 Review**

The purpose of this document is to outline the trends that are expected to materialise over the next 5 years across Europe (2005-10), it does not focus on specific countries nor on predicting the exact timing and extent of their impact.

The insights in the paper are based on existing literature, work in the FISTERA network, as well as inputs from ETNO member companies. The latter has come from issues discussed in meetings, responses to a questionnaire as well as members' observations.

The document is divided into the following sections:

- 1) Customer and user requirements
- 2) Disruptive technologies and their development
- 3) Market developments from ICT players
- 4) Impact of the customers, technology and ICT players on the industry
- 5) Future role of government for ICT

### **1. Customer and user requirements**

The future requirements will be driven by a number of key factors<sup>3</sup> which drive the changing social relationships and communication patterns:

- |                           |  |
|---------------------------|--|
| <i>Demographics</i>       | <ul style="list-style-type: none"><li>• Aging population and more diverse family structures, making it more difficult to talk about stereotypes but also more difficult to reach a mass-market (growing fragmentation)</li><li>• The EU may not have enough human resources to fuel the productivity growth. Besides, the growth of employment concentrates on educated people, less skilled people have been losing since 1996, thereby re-enforcing another aspect of the digital divide.</li><li>• The EU may need to rely more on immigration</li><li>• Increased urbanisation and globalisation</li><li>• Desire to maintain different languages, cultures and life styles in an enlarged Europe</li><li>• Increased use of distance learning and eEducation</li><li>• Growth of teleworking, less clear distinction between work and personal life, impacting the demand for continuous connectivity and personal mobility</li><li>• Emergence of subcultures</li><li>• Role of virtual communities including for the production of new contents (community TV: community specific contents)</li><li>• Desire to express ones' individuality, often in a way that is accessible to the public domain,</li><li>• Birth of the "citizen publisher" (blogs...): desire to communicate one own's content: after SMS, MMS, and blog, time for images, video and personal TV.</li><li>• Growth of home video (tremendous growth rate of DVDs)</li><li>• Evolution from just simple program management (time shifting) to</li></ul> |
| <i>Changing attitudes</i> |  |

<sup>3</sup> Some of the identified drivers are adapted from the Synthesis report on the FISTERA Thematic Network Study titled "Key Factors driving the future information society in the European research area" (Sep 2002 – Sep 2004)

	<p>programme-related contents (background information like bonuses on DVDs) and in-programme response (simple voting or complex interaction interfering with the narrative)</p> <ul style="list-style-type: none"> <li>• However people are likely to want to be entertained in a traditional way (fairly long standards) (lean-back-sofa entertainment) but new balance between various forms (lean-forward: PCs) and format (on line games) will emerge progressively,</li> <li>• Awareness of political correctness, impacting aspects such as ethical behavior, environmental issues and sustainability</li> <li>• Greater trust in ICT tools and applications</li> <li>• Greater wealth for the vast majority of the European citizens, enabling more spending on discretionary goods such as entertainment</li> <li>• Wish to optimize the available time through multi-tasking and using time-saving solutions Time budget issues: consumers will have to make choices between ways to spent their leisure time (i.e less TV watching and more Internet surfing or the opposite).</li> <li>• Adoption of new and flexible business models, e.g., networked companies.</li> <li>• Consumers are becoming more and more empowered and are seen as the main drivers of the evolutions: bottom-up innovation/ user-led experimentations (podcasting: thousands of user-generated podcasts are available already on iTunes, podcast.net or podcastalley.com), room for tailored/ authentic solutions, open application development/environment. Illustrated by sites such as <i>Second Life</i>, <i>Videobloggers</i> or social software (<i>MySpace</i><sup>4</sup>, <i>Dodgeball</i>)</li> <li>• Users ratings and communities will play an increasing role in detecting and promoting new artists, a traditional role of music or movie production companies, concern about personal security and safety, as well as being "observed" involuntarily</li> <li>• Potential consumer fear of technology provoking technology backlash.</li> <li>• The creation of intermediary providers: trusted agents for citizen, change managers for organisations,</li> <li>• Growing role of search engines (<i>Yahoo</i>: "life engine") and creation of virtual libraries (<i>Google Print</i>): Dedicated search engines and community features will help users navigate through vast offering...!Yahoo!, Google, AOL but also small firms like Blinkx, Singing fish all develop video and music search engines that will ease identification and access to specific content (whether user-generated or premium)...and could become digital distribution platforms if integrated with micro-payments capabilities</li> <li>• Need for financial stability</li> <li>• Demand for better public services that at the same time are more flexible</li> </ul>
<i>Expectations</i>	

While the above factors drive our communication behaviors, there are other elements which need to be considered in providing solutions to these needs. These include:

<i>Value for money</i>	<ul style="list-style-type: none"> <li>• Focus on price and value-for-money as commoditization increases</li> <li>• New solutions must demonstrate clear value over and above the current or substitutable solutions</li> <li>• Some willingness to be loyal due to brand, switching costs or lack of comparable value-added offering</li> </ul>
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<sup>4</sup> Created in 2003, currently 41 millions users, bought by NewsCorp

<i>Simplicity and tailoring to meet the true needs</i>	<ul style="list-style-type: none"> <li>Increased comfort with communicating with suppliers through the internet. An associated incentive is expected for increased self-service</li> <li>Meet the customers where they are, not where they want to be</li> <li>Convenience and simplicity is increasingly sought after as the multitude of possible solutions and pricing plans reduces the transparency for the buyer</li> <li>New solutions should be virtually “plug-n-play” before uptake starts; inter-operability should ideally be seamless</li> <li>Desire to tailor and modify their telecommunication services to suit their needs</li> <li>Creation of simple ecosystem such as the Ipod environment</li> </ul>
<i>Maturity of solutions impacts the uptake of new solutions</i>	<ul style="list-style-type: none"> <li>Less hype around new technologies compared to a couple of years ago. This is impacted by issues over security, unmet expectations, and poor price vs. fulfilling an as yet unidentified need. Customers seem to work from the idea that trial is necessary before commitment. Role of early adopters as well as of laggards</li> <li>Business customers are particularly interested in mobility and flexibility for their staff and are more willing to adopt new technologies</li> <li>Willingness to pay for advanced solutions provided the price reflects the value/benefit gained: pay less for the same, the same for more</li> </ul>
<i>Leverage scale and scope (mainly business customers)</i>	<ul style="list-style-type: none"> <li>Increased buyer power as part of intense competition, industry overcapacity, customer sophistication and market transparency. Also individuals integrate to increase bargaining power, e.g., housing associations</li> <li>Internationalization of business customers across borders, demanding solutions that support their geographic spread, e.g., Nordic and European</li> <li>Preference for seamlessly integrated solutions rather than stand-alone products (e.g. demand for triple play offerings by housing associations)</li> </ul>

## 2. Disruptive technologies and their development

The ICT industry is undergoing significant developments at present, enabled by the technological development. Specifically, the following developments are expected with associated impact (appearing in no particular order of importance or impact):

<i>Expansion in available bandwidth on fixed line</i>	<p>By 2010, there will be significantly higher bandwidths available at cost-effective rate, initially prioritizing downstream capacity. This is due to technological advancements on copper (ADSL 2+), coax and WiMax as the last mile as well as moving fiber closer to the end user.</p> <p>The higher bandwidths will also be available in smaller regional towns.</p>
<i>Unlicensed mobile access, e.g., Wireless LANs</i>	<p>By 2010, we would expect to see wireless LAN access widely in people homes, in businesses and in public places.</p> <p>Newer devices (including mobile phones) will probably be able to roam on and off wireless LANs. This will be backed by infrastructure providers, e.g., Intel suggests that by 2010 every microprocessor that they make will come with some wireless capability.</p> <p>The exact form of wireless LAN capability used in 2010 is not yet clear. WiMax (802.13e) will be significant when it gets built into equipment. But ultra wideband technologies are also developing</p>

	fast, and may become the dominant form of wireless access by 2010.
<i>3G-3.5G</i>	By 2010, 3G will be well established. Higher bandwidth 3G data services will be used, but still have a relatively high cost compared to the alternative (virtual free charge from wireless LANs). The use of data services will primarily come from business people. Much of the focus will be on upcoming closure of analogue TV channels and the debate on how the released spectrum will be reused (i.e digital dividend). New radio models on satellite and the Internet Transition to HDTV will have started, use of MPEG4 for DTV. Traditional broadcasters will face the issue of dealing with a more fragmented audience in a multichannel world, their main source of revenues (advertising) is likely to erode. New forms of nomadic TV will appear, mobile video will become pervasive: mobile (TV on the go: "snack" entertainment and "mobisode") and portable (immersion TV: transport...) allowed by various standards (3G; Wimax, DVB-H, DVB-T...). Development of portable media player (music, video, games...). With portable TV, broadcasting may go through the kind of revolution that took place in the sixties with transistors.
<i>New form of broadcasting: from broadcasting to egocasting</i>	Interactivity becomes a standard feature of the new broadcasting world, new services are deployed. My TV, my program, my schedule: from community TV (contributory participation for <i>Worldmadechannel</i> , videobloggers in New York, Alcatel/ Microsoft's <i>Amigo TV</i> introduced early 2006 to share programs/ events within a community) to personal TV (to create on line contents: <i>My own TV</i> : Alcatel/ Microsoft end of 2006)
<i>Digital cinema</i>	Role of PtoP as a distribution platform and an enabler of on-line content markets: toward peercasting. Likely to start being rolled out in 2006, in the US 15 000 screens will be offered within a ten years period
<i>Alternative access mechanisms, e.g. power line communications</i>	By 2010, alternative access mechanisms (e.g., power line, high altitude platforms, and low orbiting satellites) will be used in isolated instances. The challenges in deploying these technologies relate to commercial viability (sufficient scale and customer base) as well as technical issues (e.g., interference). Of these, power line communications could be used as an alternative to wireless home networks due to the existing cabling.
<i>IP enabled services</i>	By 2010 the majority of services will be migrated and delivered via IP, including many voice and analogue content services. This will provide increased flexibility and cost savings to large-scale operations. The main issue will be to control and operate the services in a way that enables consistent provisioning and delivery independent of terminal, location and time.
<i>RFID</i>	By 2010 RFID will be used extensively, particularly in the Business-to-Business market as a means to track pallets and larger items. Smaller item tagging is likely to be starting. Furthermore, second generation RFID tags with sensing capabilities will start to be deployed.
<i>Home gateways and related terminals</i>	By 2010, a large part of residential homes and small businesses will have a central gateway device as access point to different IP based services. This will be driven by advanced content services and the desire to have easy access to the content from multiple terminals. A significant number of terminals will be integrated, both on the

supply side (e.g., PCs with a multimode server connected to a network competing with consumer electronics) and the demand side (ranging from specialized, dedicated terminals such as video console or general devices such as PCs). As many of these terminals will be connected to a home gateway and local network, two possible models can be used: PC centric or various terminals integrated through a gateway.

Mobile phone uses as credit card or purchasing platform offering pre-payment, billing.

#### *Smart devices*

By 2010, the majority of microprocessors will have radio capability, making it possible for these devices to communicate and enable ambient intelligence applications. This will support the continued convergence of terminals for both business and private life.

Other disruptive technologies which could have some impact by 2010 include semantic web technologies. If they pay off, they may reduce transaction costs by making it easier to find products and services. If this happens it could cause considerable disruption to many industries - including telecommunications. There is also a slow shift to what can be labeled a software commoditization with internet standardization, open source software, and new software technologies which could change the way that businesses compete - but this is really a longer-term trend. The role of satellite is unclear in the short term.

### **3. Market developments from ICT players**

At the overall level, the ICT providers are pursuing financial growth to deliver a return to their respective owners. This will primarily be in the form of continued earnings growth, coupled with the revenue growth to the extent possible. In order to achieve this, the following observations can be made (appearing in no particular order of importance):

#### *Innovation*

- As voice becomes a commodity and prices continue to erode, new value-added services will be pursued on both fixed and mobile platforms. This could include looking at converging content and services across access platforms and into one contract.
- Look towards both evolutionary (e.g., TVoIP) and revolutionary (i.e., push e-mail). Many innovation ideas will not be commercially successful. The few that do and have a good dominant design are the ones that have an industry impact. Grassroots creation of the markets should not be underestimated as shown by the example of radio in the 20ies, ISPs in the 70ies and PtoP recently.

#### *New business areas (inorganic growth)*

- Expand outside historical boundaries, i.e., across borders (internationalisation)
- Venture into new areas, e.g., providing content solutions as opposed to access and basic undifferentiated services.

#### *Cost focus*

- Pursue avenues to increase efficiency and output, e.g., through:
  - consolidating and sharing activities, removing duplication and streamlining activities
  - automating activities where possible, enabling self-service for customers over the web
  - introducing new technology and processes to achieve cost and flexibility improvements
  - outsourcing transactional and routine activities to third parties or forming industry ventures for non-critical activities, e.g., sourcing of MRO (maintenance, repair and operations) to focus effort,

- increase  
flexibility and reduce cost  
- increasing efficiency of customer acquisition and/or retention cost
- Leverage cross-border synergies where possible, e.g., brand and product development, use of infrastructure and platforms, consolidation of purchases
  - Acquire competitors in an effort to achieve scale and scope advantages
  - Look towards stabilising the customer base and attempt to cross- and up-sell services. This should reduce churn levels
  - Improve working capital, e.g., through use of direct-debit from accounts and customers "topping-up" on their user accounts
  - Re-skill staff to address changing requirements, excess headcount and dependency on agencies providing temporary staff; alternatively reduce headcount

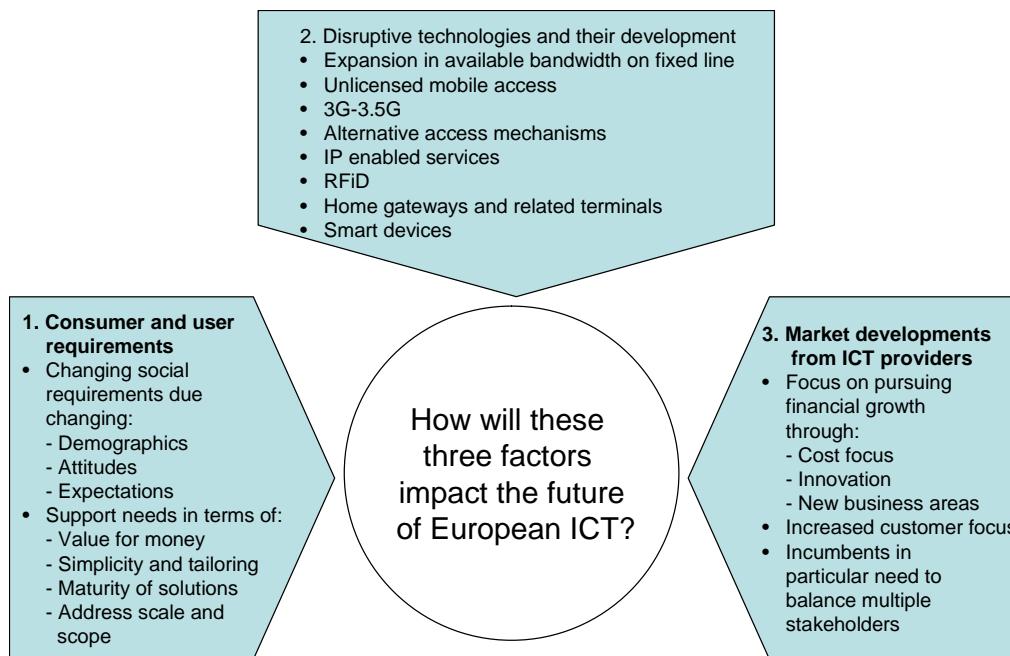
Customer focus is seen as an important differentiating parameter, particularly as the offerings become more commoditised. The increased customer focus will come through:

- Increase focus on customer service as a competitive parameter, e.g.,
  - Single point-of-contact and case workers across product areas
  - Integrate billing and reminders from multiple products across multiple media
  - Multiple channels through which the customer can contact the provider
- Focus on speedy "time-to-customer", e.g., short elapsed time between order and delivery/installment
- Moving from individual products to services or solutions. Assisting customers in setting up the services through implementation assistance
- Decoupling the services/solutions from the access and making them available across multiple platforms
- Pursuing new pricing arrangements, e.g., flat rate to give consumers comfort

For many of the traditional operators, addressing the needs of the financial owners and customers is not sufficient. Into the picture also comes the societal stakeholders, which include the population as whole, employees and in particular those that are unionized, the environment etc. This implies that these operators will have different considerations compared to new or recent entrants. This includes obligations to service a broader customer base, even those that are not profitable, as well as managing the transition of the large employee bases towards tomorrow's less man-intensive operations.

## **4. Impact of the customers, technology and ICT players on the industry**

The summary of the above three factors are summarized in the diagram below:



These three factors will drive the industry, which has been grouped into the following themes:

- a) Definition of the future industry and its structure
- b) Offerings provided
- c) Anticipated players

Each of these themes will be discussed in turn on the subsequent pages.

## A) Definition of the future industry and its structure

The future ICT industry structure will expand compared to the current definition. National foresight studies predict that the ICT industry in 2010 will have significant touch points with healthcare, education, transport and governmental services. Communication solutions can have significant impact on addressing societal issues, e.g., healthcare and applications for older people to allow them to remain independent.

Also, other industries are looking towards the ICT industry to complement their offerings. This includes utility companies offering remote monitoring and provisioning. Other examples include vendor managed inventory (VMI) which through telemetry can be reordered in the right amounts.

Complementary industries face real challenges that may lead them to become part of the ICT industry. Advertising is a particularly good example of this. Traditional advertising models are breaking down, so there may be new ways of advertising linked to communications or information about where people are. Traditional broadcasting is also facing similar challenges and is likely to supplement an eroding revenue base with the supply of new interactive services.

With the vanishing boundaries between previously separated aspects of daily life (e.g., work, learning, leisure), "infotainment" emerges as a substantial, separate category. New working relationships, such as "virtual" companies, are still being discussed in some foresight studies as a means of enhancing the competitiveness of the small and medium-sized companies which dominate many European economies.<sup>5</sup>

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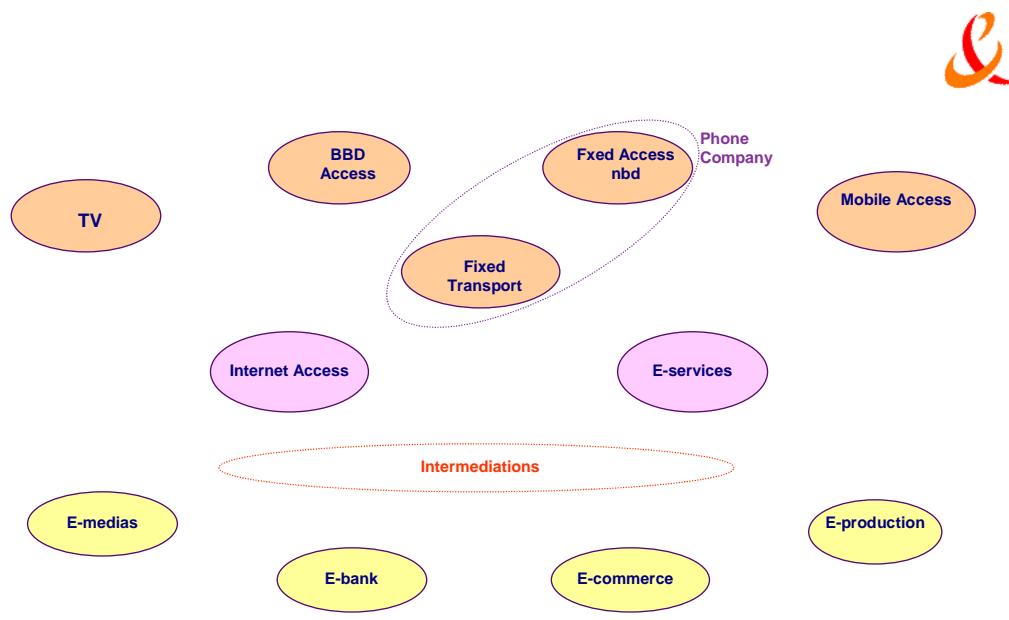
<sup>5</sup> Key Factors Driving the Future Information Society in the European Research Area. Synthesis Report on the FISTERA Thematic Network Study (Sep 2002 - Sep 2004).

As the degree of complexity increases in the industries, integrating these services will increasingly become an element in the ICT industry. This will not only be the case for business customers as it is today, but also for residential customers.

As a whole, the market is still growing, some segments growing very fast indeed (see the growth of Skype reaching 55 millions customers in less than a year). In a "converged" world players from different sectors such as consumers' electronic, equipment and software industry, the content industry and the telecom sector are not "entering" the traditional existing market but first expanding their own activity and therefore creating a new market (see diagram: for instance telecom operators are moving up toward intermediation activities and all kind of e-services).

The move from e-players such as e-Bay should not be misinterpreted. The company is not entering the voice business to compete with traditional voice providers but more strategically adding voice as a service to their platform to better service their customers (5 millions e-mails messages are initiated per day between e-Bay buyers): creating a marketplace base on community. To give another example, personalization, community features and prices should allow Yahoo to compete as well in this market.

In other words, e-providers on the lower part of the diagram are integrating the telecommunications operation that will suit their market needs. Telecom or broadcasting operators (BsB) are moving the other way for similar reasons. All these moves are dramatically reshaping the structure of the industry. An expanded industry structure means a very different landscape.



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However this reshuffling between players will happen with some consolidation going on. It remains to be seen how players' strategies will evolve and in particular if this trend will bring the disappearance of some pure players (ISPs) or if some others can achieve a renewed sustainability (Vodafone, Hutchison...). The remaining role of niche players is also highly difficult to predict.

As large amounts of money are available to be invested in this area, some increased pressure will come from the financial market to further consolidate. They will be accompanied by an even more stringent pressure on costs reduction. Private equity investors will aim at slashing down costs especially in decreasing markets (traditional wireline revenues and Pay TV are declining or flat) if they plan to sell the company bought within five years.

Some tensions will be felt between this financial community urge for drastic costs reductions and none the less the need to further invest in new networks to provide the array of new services that may generate new revenues. In the USA, financial investors are skeptical about the deployment of fiber and this is reflected in the stock market prices. They deem that competition will force all network operators to increase their capital spending, and that the return on capital may fall under its cost.

This will bring more constraints on the access to capital in the coming years.

## B) Offerings provided

The overall themes for the future offerings are solutions, integration/convergence, and value for money, and new services. This is elaborated further below and on the next page:

<i>Products to solutions</i>	The offerings will move away from stand-alone products and towards complete solutions. This also covers more complex products such as TV/video content which will be presented in simply packaged solutions. The solutions will be based on customised mass-market services in easy-to-understand manners that are tailored to meet a specific segment's need. While a complete "a la carte" style of purchases will be possible, it is envisaged that the majority of customers will pick a more or less predefined package. To the extent that it is possible, these will be virtually plug-n-play or at least have a very intuitive set-up and interface. There will be a move away from discussing the underlying technologies as the complexity will be increasingly difficult for the customers to manage. Hence the discussion will move away from PSTN/POTS vs. VoIP and it will simply be telephony. Relieving people from having any knowledge of technology is in itself a technology trend.
<i>Value for money</i>	The demand for bandwidth will continue to grow, both for stationary and mobile applications to support the bandwidth-demanding services, e.g., HD TV. Traditional services will become commodities and the overall revenue streams from this will decline on a like-for-like comparison. Also, easier pricing schemes that better reflect the underlying cost of delivering the given service.
<i>Integration/convergence</i>	Many of the services used today, e.g., voice, SMS, e-mail, instant messaging, MMS, will in the future be independent of the access type and be optimised according to the terminal used for the service. Customers will be able to view many of their services on their device of choice with less concern about how the connection occurs, i.e., via wireline, radio or nomad technologies. By now, the ability to be connected at all times becomes more critical. Furthermore, new services with touch points to related industries will also be mainstreamed. This includes surveillance, telemetry and RFID, as well as remote control of specific actions.
<i>New services</i>	New services will continue to emerge, many of which cannot be envisioned at the present time due to technical issues, packaging or

prohibitive cost. Common elements of the new services will be their innovation and their appeal to a group of "early adopters", who in turn will help get the services onto the market.

Fixed mobile/convergence is highly dependant on consumers' behavior, and it appears likely but difficult to predict, not to mention the fact that, by and large, new suitable business models are still uncertain in that area. This convergence may work both ways however some are predicting it will be mobile-fixed based on the IMS platform developed by 3GPP as the fixed IMS is coming.

The same line of reasoning can apply to the broadcasting/telecom convergence. New business models will appear as operators open their networks to third-party service providers in return for control and a share of revenues.

### C) Anticipated players

Based on the above elements, the industry will be made up of the following:

*Cross-border ICT players* The former incumbents will expand across geographies and become regional players. This is part of a regional and global consolidation that will continue in the industry, partly driven by the need to achieve scale advantages. The smaller country specific players may not survive as services mature the pressure on margins makes it difficult to stand alone. The increasing saturation of traditional markets, e.g., mobile, will encourage these players to look towards nomad and fixed opportunities in an effort to provide convergent solutions. This could be in the form of partnerships.

These players will be moving to an IP network. This enables the service delivery to be independent of access technology and see networks as complimentary. It should also allow for faster provisioning and lower the cost of providing the services. The converged networks should to a large extent offer ubiquitous seamless connectivity, self-selecting the most appropriate connection at any time. This enables true integration of services and allows the customer virtually true mobility. The networks will be upgraded to offer significantly higher bandwidths compared to today, although it will still be biased towards the downlink. There is no set schedule for when the transition to new technologies occurs as this depends on:

- Maturity of technology
- Ability to support planned offerings
- Investments required and ability to postpone these
- Cost of producing services
- Competitor actions

It is possible, that some ICT players will move towards a layered telecom model in its extreme such as BT has done. Here the network is separated into a separate company. It could very well happen that pure network companies, across geographies, would then partly have their own retail business and partly through partnerships with other players.

*Small upstarts focusing on niche areas* Many new players will continue to emerge, often in the wake of innovations and market opportunities. These players are not visible in the market today, much in the same way as months SkyPe has grown very rapidly, and offering a form of communication that

*Global players expanding into new areas*

works well for a specific segment.

Also, the desire to have one's content available everywhere, storage becomes important. This gives room to niche players such as Akamai, who really understand where content needs to be increasingly important in our industry.

Global players in related industries have large ambitions, e.g.:

- Microsoft wishes to make its media centre the core platform,
- Apple looks to view video content on its iPods,
- E-Bay acquired Skype
- BsB acquired Easynet

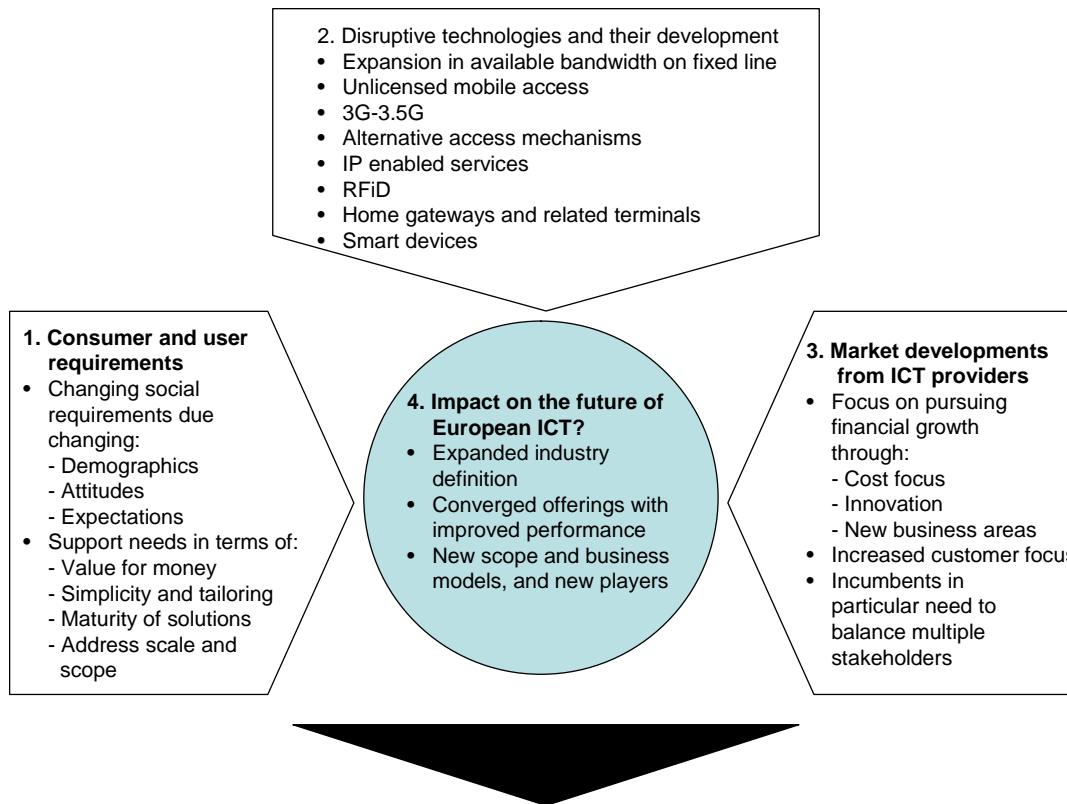
Common for these players are that they can relatively easily enter into the ICT space and integrate some of the role of the current telecommunications providers. All that is required is for them to expand their functionality and they can offer telephony and content. Their strong brands could easily attract many of challengers' current users and reduce the role of the current players to be infrastructure-providers.

New players could also come from adjacent or other sectors, i.e., retail chains, banks, utility companies etc.

There will be a proliferation of alliances as a way to open-up to other players in the value-chain to survive. For instance, alliances with both the consumers' electronics industry and service/content providers will take place. Other alliances are likely to occur with eastern companies (China, India) with some partnerships already in place. The struggle will be as to who controls the revenue streams, the share of revenue streams, and ownership of the customer.

### **Summary**

All-in-all, the future European ICT industry will look different, raising the issue of what the future role of government(s) will be:



### What is the future role of government for ICT?

## 5. Future role of government for ICT

The above trend analysis points out a number of key elements that must be considered by the regulatory framework and policy makers:

- Convergence is here to stay and the emphasis will be on the services rather than the access type or technology. This also implies that unbundling some elements becomes difficult.
- Standards are very important to ensure interoperability. Multiple technologies will continue to coexist and interact with handover, handoff and interference being key elements that must be considered. China and Asian regions are likely to become standards setters.
- Nomadic and unlicensed access technologies will play an important role in the future networks.  
The sooner this is addressed, the faster integrated services can be provided to the general public.
- Incentives are required to make these trends truly available across Europe and not just the large metropolitan areas. The underlying economics of providing services in rural areas is very different from densely populated areas and may require a specific approach.
- Investments in R&D are of key importance.
- New clusters of industry powers will emerge and they are not necessarily the ones that are seen today making it all the more difficult to adopt the relevant public policy: mimicking the market or picking up winners are policies that are likely to fail or not to be sustainable in the long run.
- Financial resources are under strain, therefore policymakers should carefully avoid adding uncertainty (be it legislative, regulatory) to an already uncertain world with business models still to be set up, nor increase the costs because of unnecessary requirements.

- To ease the tensions cautious government interventions can be considered as some regions have already experienced. Local authorities are likely continue to act.
- In Japan, for instance, the government introduced incentives to promote the deployment of fibre optic networks to carriers such as:
  - Loan systems with interest rates lower than the market rate, and,
  - Tax deductions for investment by carriers for digitization.

## **Appendix: Sources used**

- The Telco Product Portfolio beyond 2010: Analysys; 2005
- Cisco presentations (multiple); Cisco; 2005
- ETSI, Fixed/mobile and mobile/ broadcast convergence.
- ETNO's vision for the future, 2005,
- Future of telecommunications: "Vision 2011": The evolution of the European Telecommunication industry; DiamondCluster; 2005
- Fastweb company presentation; Fastweb; 2005
- IPTS reports:
  - Challenges for Identity Management: Biometrics.
  - Prospects for the third generation mobile systems,
  - The future of mobile communications in the EU: assessing the potential of 4G,
  - ICT and social capital in the knowledge society
  - The Future Impact of ICTs on Environmental Sustainability
  - eGovernment in the EU in the next decade: the vision and key challenges
  - A prospective view of the eGovernment in the European Union
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  - Mapping the European Knowledge Base on Socio-economic Impact Studies Of IST
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- Use-IT, consumption in 2010, Idate
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- The personal TV revolution, Alcatel
- World Economic Forum, "2004-2005 Global IT Report"

## Endnotes to Reflection Document

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<sup>a</sup> Assuming the transposition of any changes will take place 07-08 and the factual implementation can be expected not earlier than 09-10.

<sup>b</sup> We refer to the attached note on 'Markets and Technology Trends' which provides an overview of ongoing and expected changes concerning both players and technologies as markets of relevance for the review.

<sup>c</sup> Ignoring the number of sometimes conflicting 'policy' goals such as promotion of infrastructure investment, innovations, access for disabled users, benefits for consumer etc. in FWD Art. 8 (Garnham)

<sup>d</sup> Just to mention the various interpretations of the market 12 or the different methodologies applied for the remedy 'price control'.

<sup>e</sup> Larouche 2003 p. 18

<sup>f</sup> The combination of ex-ante regulation and identification of markets to be regulated based on competition rules were challenged during the 99 review. At that point in time the Commission referred to the merger decisions to exemplify that competition law is also applied ex-ante. However, this ignores the difference that in the case of merger decisions the remedies imposed are one-off interventions which although restrictive, do not impose a detailed continuous behavioural control of the company.

<sup>g</sup> De Strel, 2004, p. 23

<sup>h</sup> See note c

<sup>i</sup> This principle is already recognised by the EC and other EU institutions providing the basis of i2010 and all other ambitious goals like 'better regulation', cutting the red tape such as e.g., non-transparent pre-notification meetings.

<sup>j</sup> See RD236 ETNO Reflection Document in reply to the European Commission call for input - Recommendation on relevant markets, January 2006, [www.etno.be](http://www.etno.be)

<sup>k</sup> It was also part of OFCOM' Strategic Review but not as the ultimate criterion and limit of regulation

<sup>l</sup> Larouche 2003 p.10

<sup>m</sup> Lewin and Williamson p. 27

<sup>n</sup> OFCOM F.26

<sup>o</sup> DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuse, December 2005

<sup>p</sup> As supported and given detailed guidance by the ERG "Common Position on the approach to appropriate remedies"

<sup>q</sup> FWD Article 8,3 and 7

<sup>r</sup> Commission Decision of 29 July 2002 establishing the European Regulators Group for Electronic Communications Networks and Services (2002/627/EC), notably Recital 4:

<sup>s</sup> Compare ETNO Reflection Document RD219 on the Commission Communication on the review of the Scope of Universal Service

<sup>t</sup> Here we ignore the provisions on interoperability of digital equipment and must carry obligations.

<sup>u</sup> Commission Staff Working Document SEC(2005)660 *Annex to the Review of the Scope of Universal Service in Accordance with Article 15 of Directive 2002/22/EC* {COM(2005)203}

<sup>v</sup> E.g., Hultkrantz 2004– although being in favour of universal service - examines for the Swedish regulator various options related to universal service financing: vouchers, auctions etc. and his work demonstrates both the unforeseen side effects and the transaction costs

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<sup>w</sup> We ignore here the provisions concerning conditional access systems

<sup>x</sup> Compare note b

<sup>y</sup> See RD233 ETNO Reflection Document on the revised draft ERG Common Position on the approach to appropriate remedies in the ECNS regulatory framework, January 2006, [www.etno.be](http://www.etno.be)