

## **Future organization and positioning of ETSI**

*Discussion document submitted by the Dutch members and observers of ETSI*

### Introduction

1. The European Telecommunications Standards Institute (ETSI) plays a central role in the European telecommunications industry. Its creation was highly appropriate in the period when state telecommunications monopolies were being dismantled and a European ISDN market was developing. The GSM standard developed by ETSI became a worldwide success, on the basis of a Memorandum of Understanding drawn up and signed by the CETS countries. Not least, European suppliers and network operators have been able to benefit from this. ETSI proved successful in a number of other areas too, such as in relation to DECT, though market players have not adopted all the ETSI products to a similar extent. This is true of ERMES, among others.

2. Since the creation of ETSI in 1988 the market on which ETSI concentrates, and also the environment in which the institute operates, has changed in all kinds of respects. There are various indications that these changes could be relevant to the desired structure of ETSI.<sup>1</sup> This document discusses a number of these changes. Figure 1 shows the changes and their interrelationship. In the background a trend towards technology-neutral regulation is at work. Developments are occurring under the influence of political changes such as privatization, liberalization, the abolition of monopolies and the introduction of competition.

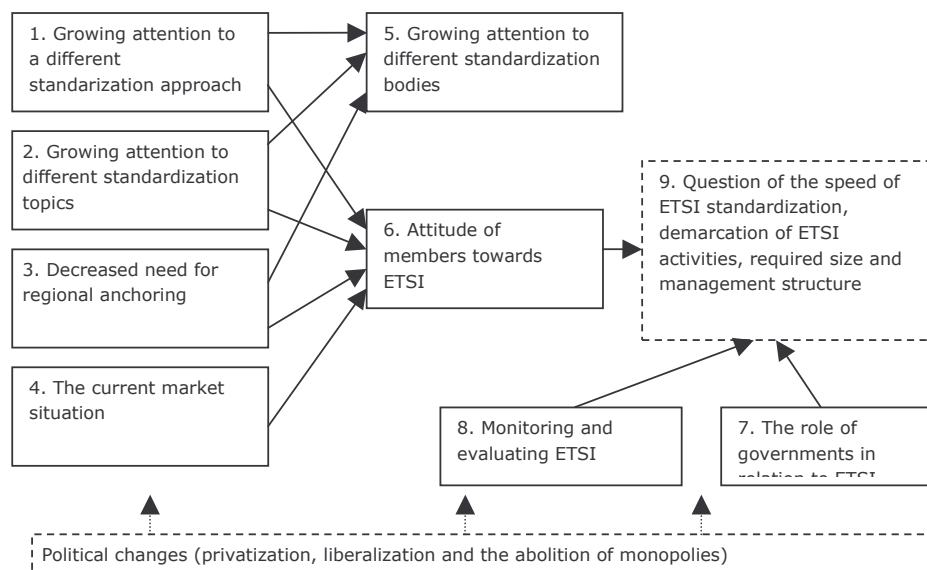


Figure 1: Mutual coherence of the changes identified and their possible influence on ETSI

<sup>1</sup> For example the Portuguese delegation recently proposed that the future of telecommunications standardization be discussed with the aim of defining the future role of ETSI (GA41 Temp. Doc. 03, Portuguese Delegation, 4 February 2003).

3. There is an impression that these changes are causing the speed of the development of standards and the intensity of demand for ETSI standards to decrease. A number of discussion questions are therefore formulated below, the central feature of which is the extent to which the changes discussed affect expectations regarding ETSI (the dotted box on the right-hand side of figure 1). The arrangement of this discussion document follows the numbering of the blocks in this figure.

## **1. Growing attention to a different standardization approach**

1.1 There is a great diversity of methods for arriving at common specifications (which may or may not have the status of standards or formal norms). ETSI's approach is largely prompted by the traditional way of working in the telecommunications sector, which for a long time was characterized by monopolistic and closed markets and the strong interdependence of technology and regulation. In the past the PTTs were able to a certain extent to impose standards (products/services) on the market from their monopoly position.

1.2 Standardization methods which we encounter in the IT world tend to take as their starting points diversity, competition between companies and also competition between technologies. They are also more characterized by a bottom-up approach. They are partly a reaction to accepted methods in the telecommunications industry and have a different dynamic. The telecommunications and IT worlds therefore apply different standardization approaches. In spite of the major differences, the *areas of application* of these approaches are beginning to grow towards each other.

1.3 This is being promoted by the new regulatory system, particularly the New Regulatory Framework for Electronic Communications Networks and Services. This is intended to be transposed into national legislation not later than 24 July 2003, though this transposition has not yet been completed in all the member states.

1.4 The telecommunications world seems to be assigning more importance to ways of standardization which differ greatly from the way ETSI works. For example, standards are being established retrospectively ('ex post') by the Internet Engineering Task Force (IETF): only when there is evident support and interest is a self-developed or submitted technical specification elevated to a standard. For the time being this way of working is reserved to the IETF.

1.5 At present the IETF is the only organization which assumes that a specification can be elevated to a standard after it has become clear that there is acceptance by the market via the 'standards track'. The greater the market acceptance, the greater the stability of the specification and hence the greater the inflexibility of making further changes. Four stages are gone through in this context: successively these are an Internet draft, proposed standard, draft standard and standard. What one therefore actually has is ex-ante specification with phased ex-post acceptance.

1.6 An advantage of the ex-post approach is that the need to predict the demand for standards is eliminated. In the case of 'major' standards such as those for mobile telephone it turns out that there is around a decade between conception and the moment when the first products are marketed. After that the standard must continue to retain its value for a number of years before investment by market players can be justified. The uncertainties and unpredictable factors inherent in technological development, such as economic ups and downs and consumer behaviour, make it extremely difficult to make a proper estimate of precise future need so far in advance.

1.7 An ex-post approach can also reduce problems relating to interests which are strongly at odds with each other. Instead of potentially crippling discussions about achieving a single standard supported by everyone, several technical specifications can be worked on

at the same time. The ex-post choice to elevate a specification to a standard need not then be made until later, when the market has already indicated the value it attaches to the technologies that have been developed.

1.8 A drawback to an ex-post approach is that important aspects such as security, quality of service and interoperability slip into the background; nor is any attention paid to the requisite facilities which must be created for the regulators.

Table 1 compares the ETSI approach on various points with alternative approaches which we have come across in relation to a number of other bodies and forums.

*Table 1: Comparison of ETSI's approach to standardization with alternative approaches*

<i>ETSI approach</i>	<i>Alternative approach(es)</i>
Ex-ante or anticipatory standardization (assumes a certain predictability of the demand for standards)	Ex-post choices. This means that it is possible to develop several competing standards at the same time, i.e. 'ex ante'. The market makes a retrospective choice from these, hence acceptance takes place ex post
Consensus on the part of all those concerned	Only those who are of a like mind join in the standardization process
One standard for each area of application	Possibly overlapping standards and sometimes even overlapping activities in the same organization
Integrated standards for total systems	Standards for a specific (OSI) layer
Relatively easy victim of damaging strategies by holders of intellectual property rights <sup>2</sup>	Less sensitive to intellectual property problems
Focus on a single standard because of economies of scale and network externalities	Focus on diversity of standards, confidence in gateways to achieve network effects
Price competition within the standard	(Price) competition between standards
One standard for everyone	By means of diversity, difference user types can be served by different standards
Covering systematically determined fields	Ad-hoc coverage when an actual need arises

1.9 The greater interest in other methods of standardization is being expressed in the increasing extent to which telecommunications companies are involved in standardization environments other than ETSI and the increasing extent to which other organizations' standards are being adopted. Companies are increasingly shopping around for the most suitable environment in which they can arrive quickly, effectively and efficiently – particularly where their own resources are concerned – at a technical specification with sufficient critical mass. § 5 will show that the choice often falls on bodies other than ETSI.

## **2. Growing attention to different standardization topics**

2.1 In the case of standardization both within the telecommunications domain itself and outside, shifts can be observed in the attention paid to specific topics. In recent decades it was above all the technical, physical interface between peripherals and network and between the networks themselves and their elements which played a central role in the standardization discussion. In the case of radio communications, for example, NMT, MPS/TACS and GSM were central, in the case of fixed-line systems ISDN and X.25. In this way integrated

<sup>2</sup> The development of UMTS and ITU-T's efforts to achieve a harmonized worldwide standard for third-generation mobile telephone shows that it is precisely this kind of standardization process that can easily fall victim to intellectual property strategies by companies with opposing interests.

standards came into being with the emphasis on detailing the lowest layers of the OSI model.

2.2 At present the attention paid to standardization is beginning to shift towards a number of other areas. Future networks are increasingly being built up from 'planes' (services, control, transport, access) which are characterized by growing mutual independence in their development.

2.3 In this regard parties are concentrating on other areas which are important for arriving at valuable services or functional devices. A number of years ago the creation of the WAP forum and various initiatives for control systems such as Symbian led to development of this kind. It is worth noting that to promote their own technology a group of manufacturers opted to carry on these activities outside the regular standardization bodies.

2.4 Some examples of areas which are currently topics of interest are:

- Application interfaces such as Parlay and Jain (Java APIs for Integrated Networks). It has been noted in this context that Parlay is working closely with ETSI, OMA and 3GPP, on the principle that the participants will only issue a single set ('ex ante');
- Control systems relating to network infrastructures (OSS). In this context it has been noted that the TeleManagement Forum already works closely with ITU-T. The intention is that in future the specifications of TMF will be issued as Recommendations from ITU-T;
- Control systems for the peripherals (phone management systems);
- Platforms for content-related areas of application such as streaming formats, whether or not supported by Digital Rights Management (DRM) technologies;
- Numbering and addressing, especially in the Internet domain;
- (Micro)payment systems, and
- The use of open source software in various areas both inside and outside the telecommunications domain.

2.5 Many of these areas go beyond the domain of a single network technology and are suitable for use in combination with a wide range of fixed and mobile networks. The standardization vacuum which arose in a number of these areas has been filled by industry forums and in other ways. For example, informal standardization forums<sup>3</sup> exist for Parlay and JAIN, and the TeleManagement Forum (TMF) is working on its New Generation Operations Systems and Software (NGOSS). It should be noted here that TMF and NGOSS are working closely with ITU-T, 3GPP, leading to an enhancement of overall legitimacy.

2.6 In the case of streaming audio/video and other technologies, in the case of DRM systems and partly also in the case of control systems for peripherals, there is less standardization and major market players set the de-facto standards. These are far from always being open. The best-known example of this is Microsoft with among others its PocketPC control system, the .NET platform and the WMA format with associated DRM implementation.

2.7 ETSI is in fact involved in many of the developments referred to, generally via alliances (liaisons, MoUs, collaborative frameworks). ETSI itself has also taken initiatives, the Tiphon project being an example. Nevertheless, it is precisely in areas in the list set out above – which are increasingly attracting the attention of market players – that ETSI does not occupy a leading position.

2.8 A second development which may be relevant is the possible decline in the demand for standards in the field of telecommunications as a whole. It is also being noised that 'the mission has been accomplished', that the demand for telecommunications standards has

---

<sup>3</sup> One is concerned here with informal standards in the context of regulation; formal agreements between the parties involved do in fact often exist.

been sufficiently met for the time being. The market will no longer be able to grow appreciably and the market position and state of the technology will consolidate. It is possible for now to proceed with the standards already available. At the same time it may be the case that, completely separately from the telecommunications domain, demand for standards in quite different technology areas such as those of nanotechnology and biotechnology is increasing.

2.9 A third trend is the increasing mutual links between forums themselves and the search by the forums for new operational alliances, first and foremost with ETSI.

### **3. Decreased need for regional anchoring**

3.1 To an increasing extent the regulatory environments in various world regions are growing towards each other. For example, the differences in spectrum allocation, rules for peripherals and numbering/addressing are becoming less and less. This is partly the consequence of agreements in the framework of the WTO. Companies – and this is certainly true of the European operators – are also aiming more and more often for a global strategy instead of a differentiated regional one. As a result of takeovers, European and American companies in particular have increasingly become world players with sales interests in global markets.

3.2 The technology also now more readily permits any regional implementational differences which may be required without this being associated with major economic sacrifices. For these reasons it is becoming less and less important to develop standards that specifically tie in to a regional context. The contrary may even be true: regional anchoring could even have a delaying effect on the aim to generate leading world standards.<sup>4</sup> This development is causing a decline in the demand for standards to be developed which are anchored in a specifically regional context.

3.3 It is generally accepted that the availability of formal, European telecommunications standards gives backing for manufacturers, since reference to these standards facilitates access to the European market. ETSI is one of the standardization bodies recognized by the EC and in that capacity can draw up formal European standards. According to this argument the market would benefit from the availability of a large number of (ETSI) standards. This argument applies less and less, however.

3.4 Since, under pressure from WTO agreements, the differences in regulation are becoming less and less, it is less important whether or not a standard has formal status. For example, we can see that suppliers and customers are managing to introduce products in Europe for which there are no formal European standards. Examples are the (Euro-)DOCSIS technology for cable Internet and the Flex standard for semaphony (which is being deployed in the Netherlands for the C2000 network for public order and safety). Neither the EC nor its member states any longer have the freedom to prescribe a particular standard, even if they would like to do so out of industrial politics considerations.

3.5 Another argument which promotes discussion of the need for regional – European – standardization is that as the 'best boy in the class' the EU proactively determines the concrete details of WTO stipulations to the effect that standards should not operate in ways that protect markets.

---

<sup>4</sup> In practice membership of ETSI is open to market players in any world region (certainly now that it has recently been decided that market players from other regions who have associate membership have rights virtually identical to those of the other members). Nevertheless it is evident that specifically European interests are strongly represented as regards actual decision-making power.

#### **4. The present market situation**

4.1 The past five years have been an extraordinarily turbulent period for the telecommunications sector. It was often hit even harder by the economic setbacks than companies in other sectors. One reason for this was that stock markets punished network operators for their expansion strategies in the second half of the 1990s, when large sums were paid for takeovers and to acquire licences for third-generation networks. It does not look as if the next few years will be much easier.

4.2 At present the priority for many network managers is therefore to exploit and if possible further expand networks which have already been constructed, to consolidate and in many cases to survive. As regards Next Generation Networks, a battle is currently under way for the starting positions, aiming at market positioning and securing a sufficiently large customer base. In addition investment in (the expansion of) GSM and UMTS must first be shown to be profitable. This circumstance is having repercussions on other players in the value chain, including suppliers. Many development departments have been downsized. In addition the public seems to have less enthusiasm for new mobile services such as i-mode and MMS. In the light of major investment in these services the business case is coming under pressure.

4.3 We would also mention here the circumstance that mainly new and often smaller market players are active in rolling out or possibly rolling out all kinds of new, innovative forms of telecommunication, such as wireless fixed access networks (WiFi, LMDS), fibre optic networks for consumer access (FttH) and hotspots (WiFi again). These market players regard technology as an off-the-shelf resource and have little involvement in the development of standards.

4.4 Finally, how the world looks the moment the economic tide turns is an important question. Will companies again turn to ETSI with greater demand for standards or will they turn to other forums? The fact that many positions in the industry will then be occupied by new people who will often have a greater affinity with the IT world and with competition between technologies will certainly play a role here. It is conceivable that as regards the choice of standardization domain they will be inclined to 'shop around' for the most appropriate body rather than choosing in advance a procedure within ETSI.

4.5 On the other hand, to take 3GPP as an example, the situation whereby the global market players have decided jointly to standardize the third-generation mobile systems still applies. At present 3GPP2, which is being developed as a competing third-generation mobile system, also exists. These two partnership projects, 3GPP and 3GPP2, have decided to work together more and more closely, especially in the area of the core networks. This collaboration is anything but a fragmentation of activities.

4.6 As the decisions of the 8th meeting of Global Standards Collaboration show, many recognize the need for close collaboration in specifying the Next Generation Networks, NGN. In the context of the fixed-mobile conversion, it is also telling that many regard the 3GPP core network specifications as the basis for NGN.

4.7 This market situation has had clear negative implications for demand for new standards and the willingness of market players to contribute to the development of standards. The expectation is, however, that demand for new standards will increase if the economy recovers. The willingness of players to contribute will, however, depend greatly on the answers to questions such as:

- In what direction will the market develop?
- What technologies (competing with each other) will play a principal role?
- What standardization organizations can play a principal role in this?

Depending on the specified technology, global acceptance of the standards developed may be necessary, where appropriate with regional emphases.

## **5. Growing attention to different standardization bodies**

5.1 Connected with the aspects discussed in paragraphs 1 to 3 (growing attention to a different standardization approach, to other standardization topics and decreasing need for regional anchoring), a shift has recently been identifiable in the relative importance attached to the results of bodies which set telecommunications standards.<sup>5</sup> Sometimes this concerns organisations which were previously mainly active in the area of (in-building) data communications technologies and computer networks. In some cases different bodies (including ETSI) can compete with each other owing to overlaps in the areas in which they operate. They can also compete with each other, however, as regards companies' attention and the degree to which those companies make their (scarce) senior experts available for the purposes of the standardization process.

5.2 Three bodies which have an increasingly high profile in the telecommunications sector, namely 3GPP, IEEE en IETF, are briefly discussed below.

### 3GPP (Third Generation Partnership Project)

3GPP plays a central role in developing and adopting the UMTS standard. The market has urged that this standard be developed not in an ETSI framework but in a new international body to be set up. 3GPP is successful in that it is succeeding in developing a worldwide family of standards which also satisfied the US and Japan. This avoids tensions about technology and access to markets between regions (inter alia in a WTO context). It is expected that in the future too 3GPP will continue to play a central role in telecommunications centralization. The question, however, is whether a structure of this kind, in which regional standardization institutions in turn again participate in a worldwide organization, is an efficient and effective approach for arriving at standards, and does not lead to an erosion of ETSI's role.

### IEEE (Institute of Electrical and Electronics Engineers)

Another remarkable development is the growing attention to the use of IEEE standards in the telecommunications domain. The IEEE is developing standards which formerly mainly found their way into in-building data communications networks. Ethernet technology, however, which forms the basis of a number of successful IEEE standards, is starting to advance further and further into areas where until recently traditional telecommunications standards dominated. For example the Gigabit Ethernet (GE) and the 10 Gigabit Ethernet (10GEA) standards are always regarded by users as fully-fledged alternatives for the transport of large data flows over greater distances.<sup>6</sup> Growth areas such as WLAN/WiFi and fibre optic networks are also increasingly building on ethernet technology and ignoring more traditional telecommunications technologies such as ATM and SDH.<sup>7</sup>

### IETF (Internet Engineering Task Force)

IETF too has gained significantly in importance over the last ten years, together with ICANN, responsible for Internet addressing. In the telecommunications domain switches and routers

---

<sup>5</sup> For example in the sense of active involvement or in the sense of adoption of the standards drawn up.

<sup>6</sup> As elsewhere, the Dutch university and research network Surfnets now uses these standards virtually exclusively.

<sup>7</sup> In the market for FttH networks, for example, it is expected that the more telecoms-oriented aPON technology (ATM Passive Optical Network, based on ITU standard G.983.1 and also known as Full Service Access Network – FSAN) will displace ethernet-based systems such as point-to-point Optical Ethernet (OE) and ePON (Ethernet Passive Optical Network).



are increasingly being employed on the basis of the Internet Protocol (IP), at the expense of the positions held by the more traditional circuit-switched exchanges and their successors. With the advent of IPv6 the role of Internet technology will presumably increase even further. Many of the standards which form the basis of NGN (fixed networks) and the core network of 3GPP/3GPP2 have their origin in the IETF.

5.2 Besides these three organizations (3GPP, IEEE and IETF) reference must also be made to the prominent role of 'looser' standardization forums such as Bluetooth SIG<sup>8</sup>, the WAP forum and Symbian Limited. Here too it turns out that companies have explicitly chosen not to place with ETSI the standardization of an area which is important to them.

## **6. Attitude of members towards ETSI**

6.1 The foregoing shows that the size and nature of members' demand for ETSI standardization is subject to change. This is expressed inter alia by the circumstance that in a considerable number of processes members are less and less prepared to make their senior specialists available. In other activities, such as *Plugtest*, enthusiasm does exist for evaluating their own work with other specialists over a short space of time.

6.2 Besides a general decrease in involvement in the standardization process, we are also increasingly seeing ETSI members withdraw completely. This is particularly true of operators; whilst they used to be the driving force for processes within CEPT and ETSI, many no longer regard standardization as part of their core activity. Many parties involved have dismantled their R&D activities; for example (both in the Netherlands and elsewhere) has a small research department compared to the size of the business, and KPN sold its KPN Valley research unit to TNO in spring 2003. Operators are still interested in the creation of open standards (and above all the vendor independence arising from them) but no longer want to invest in them. An example is E-plus, which recently resigned its membership and now keeps up with developments as a member of the KPN Group.

6.3 There are also indications that many members have problems with the degree to which ETSI is adapting to their wishes. They regard ETSI as an organization which exists by the grace of the task which has been laid on it by its members; ETSI should not pursue any interests of its own, but only the sum total of the interests of its members. They therefore look with disfavour on the fact that within ETSI itself legitimation for its continued existence and the retention of its present size, which is motivated by ETSI's role as an employer, seem to be considered more important than responding to demand from its members.

6.4 This situation is resulting – in the view of those concerned – in childish negotiations about matters to which attention and energy should not be devoted at all. It is also happening that priorities are not being assigned to the right areas. Increasingly it seems that these negotiations are being conducted between equal parties (ETSI v. its members), which in the view of a number of members should not be the case at all.

6.5 The question is whether a 'higher interest' is at work at ETSI other than the sum total of the interests of its members. In the past there was indeed such a higher interest in the form of the role which ETSI played in the European regulatory framework. The European Commission issued mandates to ETSI, inter alia to draw up Technical Bases for Regulation (TBRs).<sup>9</sup> The importance of ETSI's role in fleshing out the European regulatory framework has declined greatly, however (partly as a result of WTO agreements). A second higher interest – that of the availability of open standards in the (European) market – can be well

---

<sup>8</sup> Special Interest Group.

<sup>9</sup> This in turn uses the EC as the basis for Common Technical Regulations (CTRs).



looked after via national governments' representation on ETSI. This would mean that the only higher interest which would play a role would be the cumulative interests of the members.

6.6 Those concerned also note that the present management structure consisting of the General Assembly, the Board and the Financial Committee makes it difficult to address the present discrepancy between supply and demand.

About ETSI members' actual need for activities it is noted that ETSI should operate in a more demand-oriented way. Its tasks should be as follows:

1. The necessary maintenance of existing standards (this is a declining body of work).
2. Tackling new standardization activities if it turns out that there is an explicit need for them among members, the members together choose to have this need fulfilled in an ETSI context and the members are willing to invest substantially in the standardization process. The extent to which present processes such as NGN and MESA have sufficient support among the members will then be self-evident.

6.7 Certain members do not regard activities such as the secretariat role for other organizations (such as 3GPP) and hosting forums such as OMA as tasks which they need or regard as appropriate within ETSI. On the contrary: activities of this kind may be at the expense of ETSI's vitality and nimbleness. A secretariat role (such as in relation to 3GPP) can be regarded as to some extent an erosion of ETSI; people do not want to maintain a body of this size and quality to fulfil this kind of role.

6.8 In addition this is regarded as an increase in the political influence over 3GPP exercised by Europe and as such is supported by ETSI's 'pure European' members. It should be noted that ETSI is the only regional standardization organization which does not have its own 'shadow committee' for UMTS matters. There is also general agreement that 3GPP is the only collaborative framework whose viability was made certain of beforehand. The present structure of 3GPP is therefore the right one, in the present situation. 3GPP2 was therefore simultaneously set up according to a virtually identical structure. The European members feel that they have a lot of influence via ETSI and that ETSI provides extensive access to the work of 3GPP.

6.9 When taking on new tasks the question must always be asked which of the following tasks is dominant and how desirable that is:

1. Pure facilitating support (host, creator of opportunities);
2. Technical involvement and the progress of the process;
3. Representation of the members' interests.

The above means that the size of ETSI's package of tasks and activities may be subject to change, as demand increases or decreases. ETSI should be structured in such a way that it is flexible enough to respond to this changeable situation. This demands a certain capacity to adapt and a positive attitude as regards responding to external signals. It may also be that ETSI has outlived (part of) its aims; if that is so it must now accept that and be nimble enough to respond to the new situation.

6.10 In the light of the above a discussion within ETSI in order to arrive at a possible reorientation of its aims is recommended.

## **7. The role of governments in relation to ETSI**

7.1 For several decades the telecommunications sector has had a special market structure. The national PTTs played a central role in the field of standardization too. When the market structure changed radically as a result of privatization and other factors, this also

had an effect on various forms of standardization in the sector. In Europe, for example, CEPT has transformed itself from an organization for network operators into one for governments.

7.2 With the advent of ETSI a new model has also been chosen for the development of European standards, in which all kinds of interested parties (network operators, suppliers, governments, users) play a part. It is very important to find the right relationship in consultation with and participation by interested parties. In ETSI, governments play a relatively large role as regards choices and strategy (though this role has declined in significance over the years). This role could be applied to give a positive direction to changes which are needed at ETSI.

7.3 The question is what governmental role is desirable in the ETSI context. On the one hand one can argue that the market should increasingly be the driver in standardization and that governments should only be involved in the background, creating the right preconditions. This fits into the more hands-off role that governments have adopted in this sector over the last few decades. On the other hand one can argue that Europe has traditionally been relatively strong and effective in the area of government control, and that it is precisely when the going is tough that companies expect more from government as regards strategic processes of this kind.

7.4 In the light of the desired orientation towards demand at ETSI and the present management structure which possibly hinders this orientation, there is indeed a role for the national governments. By coordinating their actions with each other a clear signal can be given to ETSI to implement reforms with the aim of enabling the organization to respond quickly and more comprehensively to actual demand. The so-called council working group at the EU is perhaps the right platform where national governments can (informally) coordinate their interests as ETSI members.

## **8. Monitoring and evaluating ETSI**

There is a need for indicators to determine the demand from members for ETSI activities and to evaluate the institute's performance. How can these best be measured? Clearly, ETSI's output in terms of numbers of standards or numbers of pages is far from being a useful indicator. ETSI's board has considered possible indicators, partly to determine which 'bodies' are important. The question is always at what location the decisions are made which are relevant to the world market. So far it has not proved possible to devise objective indicators for this; it might be possible to make a fresh attempt to do this.

### **Provisional conclusions**

Based on the foregoing, six provisional conclusions can be drawn, which are as follows:

1. It seems as if the demand for standardization at ETSI is declining and that only a somewhat smaller, more directed demand for ETSI activities remains. There are indications that ETSI should respond to this more adequately.
2. There are indications that ETSI should take as a model the higher effectiveness of some other organizations. This must be done whilst preserving the responsibility which ETSI has as a social and progressive employer.
3. In the light of recent discussions about the future of ETSI it would seem desirable that there should be a clearer delineation of its standardization activities, taking account of both the content and the methodology of standardization, in particular the balance between 'ex ante' and 'ex post'.
4. There seems to be insufficient understanding of the implications of ETSI taking on new activities such as Plugtest and forum hosting for OMA. This means that there is a risk of an undesirable balance arising between (1) technical involvement and the progress of the process, (2) the representation of the

members' interests and (3) the pure facilities support (hosting, creator of opportunities).

5. In the present situation a more pro-active attitude can be expected from governments, which should normally take a cautious approach, as a discrepancy threatens to arise between ETSI's direction as an institute and the interests of its members.