

Modernising ICT Standardisation in the EU – the Way Forward

The Commission's proposals are welcome, but too modest

Vodafone welcomes the Commission's continued interest in reforming Europe's ICT standardisation policies. We think this should become a key priority for the next Commission and should feature strongly in the Commission's current review of digital competitiveness¹. The disparate activities of DG's Enterprise, Information Society and Competition should come together in a single coherent programme of action.

Effective action will require us to address fundamental issues of economic policy as well as technical matters since standardisation has major economic and social consequences:

- ICT is critical to Europe's economy. The sector represents over 5% of European GDP and contributes almost half of its productivity growth. ICT is expected to make a significant contribution to recovery from the current economic downturn and to Europe's longer term fulfilment of the Lisbon objectives². The ICT sector's investment in R&D vastly exceeds any other sector of the European economy.
- standardisation is fundamental to the future of some of Europe's most valuable suppliers (including suppliers like Vodafone, Telefonica, Nokia and Ericsson), many of whom are leaders in global telecommunications and ICT markets today. The stakes for Europe's industrial future could not be higher, particularly at a time when these sectors face acute competitive pressures from elsewhere in the world.
- standardisation delivers enormous benefits to European consumers in terms of interoperability and scale. It affects the prices that consumers will eventually pay for the services, what they will get and how quickly it might be available to them. Getting standardisation right has enormous consequences for consumer welfare.
- reform, particularly in the area of IPR and licensing, is needed urgently. Standardisation used to be an area where Europe had comparative advantage and was largely responsible for enabling global technologies such as GSM, ADSL and DVB. In doing so, it drove collaboration across the European supply chain. Today, the European standardisation process has become a burden on the industry, with litigation and uncertainty hindering innovation rather than fostering it.

Against this background, we regret to find that the Commission's short White Paper fails to rise to the challenge Europe now faces. The Commission's proposals are sensible, but cautious and largely a reactive attempt to preserve the relevance of European standardisation in the face of market developments which otherwise threaten to overtake the existing regime. The Commission also appears to lack urgency: this White

¹ See <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1221&format=HTML&aged=0&language=EN&guiLanguage=nl>

² See, eg, http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=5146

Paper is published more than 12 months after the conference to engage with stakeholders, itself held more than 12 months after the Commission's initial enquiries.

The issues are complex, but a much greater sense of urgency and political priority is required from the Commission.

The fundamental challenge is FRAND

Vodafone believes that the fundamental challenge in EU standardisation today is the operation of FRAND³. Although the Commission is right to note that non-FRAND models (such as royalty-free licensing) have developed for some services, the major collaborative projects to develop fundamental technologies (and the vast majority of R&D expenditure) is likely to be undertaken by large commercial enterprises and to remain based upon the pooling of proprietary technologies within a single standard. This means that FRAND will be a feature of EU standardisation for years to come and that it is vital that it works well.

In the White Paper, the Commission makes brief reference to generic objectives for ICT standardisation (openness, consensus, balance and transparency) which it claims are already observed by the ESOs. As a regular participant in many of these fora and a very significant EU-wide licensee of standardised technology, Vodafone believes that the operation of ESOs today in fact falls far short of the Commission's objectives.

We also think the Commission also significantly understates the importance of the issue in several respects;

- complexity might be an acceptable feature of the standardisation process if it reflected genuine technological benefits and innovation. However, much of today's complexity is not indicative of genuine innovation and does not yield genuine welfare benefits. The resulting technologies are often over-engineered and too complex. Much of the complexity is simply the result of 'defensive' patenting by parties seeking to establish cross-licences for IPR because the existing FRAND arrangements do not work. Vodafone estimates that fewer than 20% of the technologies covered by the current 3G standards are truly essential to core network and handset functionality.
- standardisation and technology development is a multi-round game. For instance, in the development of successive generations of mobile radio technologies (2G, 3G, 4G) many non-European manufacturers who faced high IPR costs for 3G standards are determined to avoid this by developing their own IPR portfolios for 4G or LTE. The resulting patent stacks will be even more impenetrable than their predecessors leading to more complexity and uncertainty⁴. The problem gets worse with each successive round.

³ We are not sure these challenges are confined to the ICT sector and any action on ICT standardisation should therefore be informed by and inform initiatives in other sectors such as logistics or medical devices.

⁴ The GSM standard is estimated to contain over 4600 patents, whilst the UMTS standard contains over 6,800. The next generation of mobile technology, LTE, will see a continuation and acceleration of these trends.

- not only is this complexity of marginal or no consumer or industrial benefit, but it imposes deadweight transactional costs on the participants, increases uncertainty and slows down innovation. Precise data is difficult to source, but the wireless industry spends millions of euros attending ESO meetings every year whilst IPR litigation costs are likely to have been increasing by at least 50% a year since mid 2000. These transactional costs extend to the Commission itself, where DG Competition is currently considering a number of complaints all of which can be said to relate to the malfunctioning of existing FRAND arrangements⁵
- the consequences of the cumulative IPR burden for European consumers and the resulting loss of welfare is enormous. The Commission makes no attempt to measure the welfare loss arising from the current deficiencies of FRAND, but Vodafone has attempted to do so in relation to the costs of UMTS deployment in Europe. We estimate that the 'excessive' cumulative IPR costs arising from the current FRAND arrangements will cost European consumers €42bn-€52 billion in the period 2009- 2014. Annex A provides details of the basis for our calculations.
- the situation will evolve, but is also likely to get worse, as time passes. Disputes have been and will continue to increase as IPR portfolios are increasingly detached from the firms who supply the downstream market⁶ and the incentives of participants in the process diverge even further. New investment vehicles⁷ are acquiring and exploiting IPR portfolios, with these intermediaries being able to exploit (and indeed encourage) a lack of transparency in the underlying rights market. Although the Commission, in common with others, rightly identifies 'transparency' a critical feature of standardisation, the markets for IPR are becoming ever less transparent. This will no doubt prove profitable for some of the firms involved, but it is European industry and European consumers who will pay that price.
- non-European standardisation bodies and policymakers are already taking action to address similar concerns. If Europe does not do so, standardisation activity may be displaced to more efficient fora (as the White Paper concedes has already happened for some ICT activities)
- the European ICT supply chain already faces unprecedented competitive pressures, particularly from new economies such as China. The reform of ICT standardisation must be seen in this context, although the White Paper does not do so. European policymakers must ensure that they first tackle sources of competitive disadvantage which exist within Europe. Reform of the current EU standardisation process should be a top priority in this context.

What can be done to reform FRAND?

⁵ Nokia and others have a long standing complaints against Qualcomm in relation to the licensing of IPR in the 3G standard, and complaints against Rambus and IP COM have also been filed

⁶ Nortel are reported to have recently sold most of their assets except their patent portfolio, see http://www.unstrung.com/document.asp?doc_id=180236

⁷ See e.g. <http://www.intellectualventures.com/>. Total investment in such ventures was estimated to be \$6-8 bn in 2008

The Commission's approach to FRAND reform has been cautious to date. Commissioner Kroes has made a number of helpful but cautious public interventions seeking to encourage those who are seeking changes to existing FRAND arrangements⁸, countering those who often claim that fundamental reform is precluded by anti-trust considerations.

In Vodafone's view, the next step must be a sector-wide and robust analysis of the costs borne by European suppliers and consumers by the current operation of IPR licensing and ICT standardisation similar to that recently undertaken in respect of the pharmaceutical industry.⁹ The EU ICT market is more than three times larger than pharmaceutical sector and spends more than twice as much on R&D. If such an analysis were to also give fresh impetus to the Commission's long-standing competition cases in this area, that would also be a welcome development.

It is not enough for the Commission to limit itself to providing guidance about what kinds of IPR policies that will, in its view, fall foul of anti-trust rules.¹⁰ The Commission should now become more directive about the need for ICT standards developing organisations to implement effective FRAND regimes and provide positive guidance about acceptable ESO IPR policies including possibly a "Model Code or Codes"... In particular the Commission should provide much more detailed guidance on:

- what it considers to be effective prior disclosure of essential IPR. This should include;
 - independent third-party processes for determining the "essentiality" of patents contributed to standards
 - the treatment of SDO members participating in the standardisation process who nonetheless fail to disclose essential IPR. This should include forfeiture of rights to subsequent royalties
 - the treatment of third parties outside of the standardisation process who seek injunctive relief against those implementing a standard in which it is subsequently found they hold IPR.
 - the treatment of third parties who acquire essential IPR from an ETSI member. The Commission should make it clear that any FRAND obligations pass with the IPR
- the obligations upon those participating in the standardisation process to disclose licensing terms unilaterally ex ante

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<http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/08/317&format=HTML&aged=0&language=EN&guiLanguage=en>

⁹ See the Communication from the Commission dated 8 July 2009 "Executive Summary of the Pharmaceutical Sector Inquiry Report" (the "Pharmaceutical Communication") The Commission states that in its pharmaceutical sector inquiry it selected 43 originator companies and 27 generic companies for in-depth investigation representing 80% of relevant EU turnover.

¹⁰ [Ref Tradacette letter]

- the circumstances under which the establishment of collective ex ante royalty caps would be desirable. This should include:
 - the rights and roles of participants, including users of the standards
 - the basis upon which distributions within the cap would be made amongst participants¹¹

The Commission should seek to develop these guidelines in close co-operation with other international colleagues, including the US authorities.

Finally, Vodafone strongly supports the proposals for a single Community patent and unified and specialised EU patent litigation system.¹² Reducing the time, cost and complexity of EU patent litigation would reduce unproductive transactional costs and encourage more rapid roll-out of innovative technologies and services for EU consumers.

These are clearly difficult and complex issues. For some years the Commission and other commentators (including Vodafone) have hoped that the industry participants and ESOs would themselves be able to resolve the problems of FRAND with minimal guidance from the Commission. Various efforts have been made to do this¹³, but none has produced the changes that are required if European standardisation is to safeguard Europe's competitiveness in ICT –and the interests of its consumers – in the years to come. It has become painfully apparent to Vodafone that only decisive action by the new Commission can do this.

¹¹ There are many potential allocation rules, see http://papers.ssrn.com/sol3/papers.cfm?abstract_id=949439 for a review

¹² See the Pharmaceutical Communication at pp 20-21.

¹³ See, for example, the attempts by NGMN to require ex ante IPR declarations for LTE in 2007, http://www.ngmn.org/nc/news/ngmnnews/newssingle2/browse/1/article/ngmn-announces-new-sponsors-and-unprecedented-agreement-on-innovative-ipr-regime.html?tx_ttnews%5BbackPid%5D=20&cHash=e92e887f95

Annex A

Estimating the benefits of reducing IP fees on UMTS and LTE devices

We seek to estimate the benefit to European consumers of reducing 'excessive' IP fees on 3G and 4G devices. We define this as the increase of consumer surplus in EU Member States resulting from a decrease in the price of devices.¹⁴ The difference in the consumer surplus is measured as the difference between the base case forecasts of future device sales and average selling prices (ASP), and the counterfactual demand forecasts that results from a decrease in the ASP due to a decrease in the IP fees.¹⁵

There are three components of consumer surplus: the additional surplus resulting from a price decrease for the base case device sales¹⁶; the additional surplus resulting from additional device sales as a result of the ASP decrease¹⁷; and the benefit to these new additions of using mobile technology.¹⁸

We measure the welfare impact of reducing the current level of IP fees on UMTS and LTE devices to 10% for the period 2009 to 2014. IP fees are assumed to currently comprise 25% and 13% of the wholesale ASP for UMTS and LTE respectively.¹⁹ Reducing IP fees to 'reasonable' levels reduces the ASP by 13% in 2009 and by 9.4% in for Western Europe and 12.5% for Central & Eastern Europe in 2014.²⁰

The decrease in the ASP results in an increase in the demand for devices. The increase in the demand for devices is determined by the own price elasticity of demand for devices.²¹ We note that there are several sources indicating a high price elasticity of demand for devices. For example, Bernstein Research highlights the high elasticity of UMTS handsets. It notes a 33% decrease in the Motorola RAZR in 2005, resulted in a 100% increase in sales (implying an elasticity of -3).²² Similarly, the Brattle Group notes²³ that while there are few empirical studies on price elasticities for 3G/4G handsets, there are many studies for the PC market. Since both devices are focused on access to broadband services, the elasticities should be similar. These studies show that elasticity typically ranges from -1.4

¹⁴ Device price is the wholesale average selling price (ASP). We assume decreases in the ASP will be passed through to consumers.

¹⁵ The base case forecast is sourced from Strategy Analytics' *Global Handset Revenues, ASPs & Price-Tiers: 2003-2014*, and *Global Handset Sales Forecast by Country: 2002 to 2014*. Data was obtained for Western Europe and Central and Eastern Europe regions. Data was also obtained on mobile broadband device demand and price. This was sourced from Analysys Mason's *Mobile Broadband in Europe: forecasts and analysis 2009-2014*.

¹⁶ Calculated as base case quantity of devices multiplied by the difference between base price and new price.

¹⁷ Calculated as difference between base price and new price multiplied by the number of additional devices, divided by two.

¹⁸ Calculated as the number of additional devices times the relevant ARPU (We use different ARPU for handsets and mobile broadband devices).

¹⁹ We estimate a single average price decrease for all UMTS/LTE devices, weighted on proportion of sales for each technology.

²⁰ The difference in the weighted average price decrease is due to the increasing proportion of LTE devices.

²¹ We use a constant elasticity model, where the percentage change in quantity is given by the following: $(p_1/p_0) - 1$.

²² <http://blogs.barrons.com/techtraderdaily/2008/05/01/apple-att-iphone-subsidy-would-dramatically-boost-unit-sales-bernstein-says/>

²³ Brattle Group, *The Costs of the ITC Downstream Exclusion Order to the U.S. Economy*, Technical Appendix, July 10, 2007.

to -3. We estimate the welfare effects using the mean estimate of -2.2 and upper bound estimate of -3.

The benefit to EU consumers of reducing IP fees for 3G and 4G devices to 10% is €41.6 billion over 5 years between 2009 and 2014, using the mean elasticity estimate. This rises to €51.9 billion using the upper bound elasticity estimate.