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Patents and Standards:

A modern framework for standardisation involving intellectual property rights

Respondent profile

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Ericsson is the driving force behind the Networked Society - a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfil their potential and create a more sustainable future.

Our services, software and infrastructure - especially in mobility, broadband and the cloud - are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities. With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions - and our customers - stay in front. Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2014 were SEK 228.0 billion (USD 33.1 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.



Introduction

Ericsson welcomes the European Commission's initiative and appreciates the opportunity to send comments in response to the public consultation on patents and standards.

The questionnaire contains many questions that relate to many different aspects of standardisation and patents. We have tried answering the questions by using our experience with standardisation in the wireless telecom industry (especially ETSI and similar standard developing organisations SDO's). It is important to acknowledge that Ericsson is one of the main contributors to the wireless telecom standards and at the same time one of the important implementers of wireless standards. The vast majority of the products and services offered by Ericsson are related to standards. Ericsson therefore needs to have a balanced view taking into account the interests of both patents holders and users of the standard.

In our answers we have not addressed the study on Patents and Standards carried out for the European Commission by Ecorys and TU/e; the input gathered from companies active in the different ecosystems seems rather limited (e.g. the study references 4 – 6 interviews with stakeholders in communications technology) and the study describes a number of theoretical problems for which solutions are suggested that are often as theoretical or impossible or inefficient to implement in practice. It is therefore important that the European Commission carefully considers the different data and positions that will be brought forward as a result of the current questionnaire and that it correctly describes the problems that may be addressed and the balanced solutions for such problems. A pure quantitative analysis driven by the number of responses will not necessarily provide the balanced view on the situation and, if any, the useful changes that may be further considered.

Successful standardisation inevitably attracts many users; very often the number of users quickly grows to become much more significant than the number of contributors to the standard. In some ecosystems that have witnessed remarkable growth thanks to the standardisation, a number of those users have grown to become much stronger than any of the innovators that contribute to the standardisation. This strength allows them in practice to exercise a very important influence on the public debate around standardisation.

In that sense the questionnaire may present some risks as it appears to be focused very much on the potential (sometimes pure theoretical) issues that some individual users of the standard in theory could be confronted with. The interplay between standardisation and patents is a very dynamic and complex ecosystem that has the potential to create a lot of questions related to intellectual property rights (IPR), competition law, procedural law, economic theory, etc... It may be an interesting exercise to look at these different issues in detail and try to improve a number of things; however, one should also be careful not to forget the context.

Standardisation involving patents is a voluntary act from companies willing to share their inventions with others in order to build a standard.



A trend towards more/less standards involving patents is therefore influenced by:

- 1) the possibility for the standard developer to receive a return on its investment within a reasonable 'commercial window of opportunity' as expressed by the Advocate General Wathelet in the case of Huawei / ZTE before the Court of Justice of the European Union;
- 2) the possibility for the standard user to get access to leading edge technology for a compensation that is reasonable so that its burden will not prevent the standard from being implemented.

in that order; without contributions there is no standard.

Q 1.1.1 Fields of standardisation involving patents: To your knowledge, in which technological areas and/or fields of on-going standardisation work are patents likely to play an increasingly important role in the near future? What are the drivers behind this increase in importance?

The Patents and Standards study refers to four industries;

- Telecommunication industry (mobile telephony)
- Consumer electronics industry (video and audio recording and reproduction)
- Automotive industry (smart mobility)
- Electricity grid industry (smart grids and smart metering)

From a pure technical point of view standardisation can play an increasingly important role as many different markets benefit from the advantages that standardisation offers. It is well recognised that standardisation plays an important role in cases where interoperability is required. In addition, standardisation can also be very effective organising co-creation between different companies to ensure the best possible technologies are combined in a performance driven standard. For example the standardisation that has marked the mobile telecom industry has gone much further than organising interoperability between different systems; the wireless telecom industry has created high performance standards that have been able to offer more and more services to customers anywhere and anytime.

Both the IT and Telecom industry provide solutions that are increasingly important in other industries such as the automotive (both private and professional) industry. There are many more fields where standardisation can play an essential role going forward.



As indicated above, successful standardisation goes beyond mere interoperability and encompasses performance driven improvement. Such standardisation requires open collaboration between contributors willing to share their most innovative technology with others (contributors to & users of the standard). Those contributors & users can be competitors, suppliers, customers and other actors in the ecosystem and thus the sharing of sensitive information on leading edge technology is not straightforward. Therefore, standardisation requires a good system to protect the intellectual property of those willing to contribute that technology to the standard. It is therefore not surprising that successful (performance driven) standardisation involves and is built on patents.

However, the technical and commercial benefits of standardisation and the presence of a good working patent system are not sufficient for standardisation to work. There is at least one other defining factor that is required to make (complex) standardisation work and that is the will of the different participants to the ecosystem to make the system work. The success of standardisation in the telecom industry can be used to evidence this. The wireless telecom system has been increasingly standardised (both in terms of geographical spread and of high tech innovation) since the late 1980's. Since that date its success has increased year by year thanks to the will of all parties in the ecosystem to make it work; the will of companies to contribute their best technology to the standard (thereby making their best technology accessible to all) and the will of the companies using the standard to provide for a fair compensation for the use of this standardised technology.

For many decades this standardisation system has worked in the telecom sector and allowed this sector to thrive and create a worldwide unprecedented dynamic.

The success of this telecom standardization can be identified on all levels:

1. Geographical reach

Initially the standardization effort in the wireless industry was focused on the improvement of cross border interoperability (first within Europe), and eventually evolved to become a truly global effort creating standards with a worldwide reach.

2. Creation of a well working ecosystem

The successful telecom standardisation has created a very important market thanks to which there have been

- Mass market advantages such as price efficiency: prices of telecom equipment have dropped enormously over the last 2 decades; one can buy a new mobile phone today for less than 10 EUR (without subscription).
- Diversification: the market that was created thanks to the progressing standardisation was very soon large enough to have different, specialized segments (high margin lower volume) next to mass market segments (low margin, high volume) thereby driving innovation at the level of the standard users. The telecom standardisation effort has created an ecosystem ready for use by new entrants with good ideas and/or new business models.



3. Technical innovation

The success of the standardization effort has attracted not only many users of the standard but has also new contributors to the standard. This success has allowed telecom standardisation to go beyond mere interoperability questions and to truly be a very innovative co-creative process involving many companies active in different market segments, in different parts of the world. Furthermore, thanks to the participation of many different companies from different levels in the ecosystem, the standardisation process has been able to predominantly focus on relevant innovation, i.e. innovation that has been taken up and used by the market and provided benefit to the end users.

As indicated above, in order for the standardisation to work there needs to be a will to contribute the best possible technology and a will to compensate for the use of this technology. In that sense standardisation has ultimately the same driver than any other economic activity, namely the possibility for a return on investment in a timely and efficient manner.

Standardisation further requires a consensus driven collaboration between different parties where everyone can benefit from the standard so created.

Q 1.1.2 Trends and consequences: Do you see a general trend towards more/less standards involving patents? Are there any practical consequences of this trend? Are business models changing?

Standardisation requires amongst other things, a certain level of transparency, openness, impartiality, consensus, efficiency, relevance and consistency¹. Patents are a very good intellectual property right allowing participants to standardisation to achieve efficient protection whilst enabling very early dissemination of the protected idea. However, patents may also give rise to some more complex issues.

With the growing integration of the telecom world with the IT world, we have witnessed the entry of new companies in the telecom ecosystem with different corporate, commercial and engineering culture. Typically these companies have not contributed very much of their key leading edge technology to open standards as they have been working in a very different business culture. Standardisation in the IT world is more determined by de facto industry standards and thus the business models are very different.

This evolution is very well described in an article by John D. Harkrider, a partner at Axinn, Veltrop & Harkrider, LLP, and former co-counsel to Google in its acquisition of Motorola Mobility and counsel to Google in the SEP investigation by the FTC. The article was awarded in the “Antitrust Writing Awards” competition of the Institute of Competition Law/Institut de Droit de la Concurrence. The

¹ Key principles established by WTO



article won in the category 'Business Articles' on Intellectual Property². In one of the paragraphs the article deals with the entry of the IT companies into the Telecom ecosystem and the impact that this entry had in such ecosystem. We find it illustrative for the question raised above.

Apple, Microsoft, and Google Enter the Smart phone Space. In the mid-2000s, three firms that previously had little history in the telecommunications industry entered the smartphone space: Apple, with its iPhone; Google, with Android; and Microsoft, with Windows Mobile. These firms all had different business models and all had different patent holdings, which led to very different strategies.

Apple wanted to sell a high-end device and did not want to license either its software or design patents to competitors. Microsoft wanted to license its operating system to OEMs and was willing to license its patents, provided it could earn significant revenues from them.

Google had a very different strategy. It wanted to broadly distribute its free Android operating system to encourage OEMs to enter the smartphone space, enabling as many consumers as possible to access the Internet on low-priced mobile devices. Google's strategy posed a threat to both Microsoft and Apple because it lowered the prices and profits that they could earn on smartphones. In particular, Android posed a significant threat to Microsoft's desktop operating system monopoly, as consumers increasingly substituted from desktops to mobile devices.

Because Google, Apple, and Microsoft were not telecommunications firms, however, none of them had significant portfolios of network protocol SEPs and therefore they could not enter into a broad SEP cross license as incumbents had traditionally done.

Microsoft and Apple, however, had significant portfolios of non-SEPs. In fact, at the time of the announcement of Google's acquisition of Motorola Mobility, Microsoft had approximately 18,000 patents and Apple had approximately 4,500 patents. These firms, however, had invested very little in network protocol technologies. For example, by the announcement of the Motorola Mobility Acquisition, Apple had declared only 23 U.S. patents as essential to ETSI and Microsoft had declared only one.

Google had an even more significant problem—it lacked a significant portfolio of both SEPs and non-SEPs. This was not because Google had failed to make significant investment in R&D. Indeed, Google spent more on R&D as a percentage of sales than Apple. Instead, it was due to the fact that Google was a young company and therefore did not have sufficient time to accumulate patents and, as a firm with strong connections to the open source community, had historically been skeptical of the merits of patenting software.

All three of these firms adopted very different strategies to address their lack of network protocol SEPs. Apple sought injunctions against Android OEMs, such as Motorola, Samsung, and HTC, for allegedly infringing design patents, such as those covering the rounded corner

² "Seeing the Forest Through the SEPs" by John D. Harkrider; <http://awards.concurrences.com/article/winning-award-articles-101>



of the iPhone and software patents, such as those covering “swipe to unlock.” Apple—when it chose to license its patents—sought up to 10 percent of the base price of Android smartphones as royalties on just a handful of its patents.

In contrast, Apple refused to pay anything to SEP holders like Motorola. Instead, Apple exploited the asymmetry in FRAND remedies. After more than three years of fruitless negotiations, Motorola Mobility sued Apple for infringement. Apple countersued, alleging, inter alia, breach of contract and claiming that it had no obligation to pay the FRAND rate set by the court without Motorola bringing hundreds of individual patent infringement actions.

For its part, Microsoft also sought injunctions against Android OEMs using non-SEP software patents. Unlike Apple, however, Microsoft was willing to enter into patent cross-licenses, though at highly disadvantageous terms.

Specifically, Microsoft reportedly required Android OEMs to pay license fees of \$5 to \$15 per device (amounting to 5 to 10 percent of the base price of many devices), and in some cases, to agree to sell smartphones using Windows as well. That strategy reportedly has earned Microsoft more than \$1 billion in annual royalties from Android OEMs. (source: “Seeing the Forest Through the SEPs” by John D. Harkrider, pages 25-26; <http://awards.concurrences.com/article/winning-award-articles-101>)

Successful standardization inevitably attracts many users. In some ecosystems that have witnessed remarkable growth thanks to the standardisation, a number of those users have grown to become much stronger than any of the innovators that contribute to the standardisation. This strength has allowed them to become far more influential than the companies that have created the standard. Such influential power can also be used to either tailor the standardisation to another business model, to reach short term commercial goals that may jeopardise long term standardisation incentives or even to promote non standardized solutions and reduce the further progress of standardisation.

As indicated already in the response to question 1.1.1 it is not so much the business model, or the changes thereof, that are central to the standardisation effort and success, but rather the possibility for the standardisation effort to attract the best possible solutions. Without this the standardisation effort will weaken and attract fewer contributors. We would therefore like to reiterate the statement made above: standardisation has ultimately the same driver than any other economic activity, namely the possibility for a return on investment in a timely and efficient manner. Without that there will be no effort put into the creation of technology that can be contributed to standardisation.



Q 1.1.3 Standardisation prevalence/complexity: In general, do you observe an increasing role of (any type of) standardisation in your fields of activity/interest? Are standards becoming more, or less, detailed and comprehensive? How does this trend impact on the functioning of the standardization system?

Ericsson is active in telecommunications since 1876 and has always been active in standardisation; without standardisation there is no telephony. Since the 1980's Ericsson has been involved in the set up and deployment of a broader international standardisation effort in the wireless telecommunication. This standardisation has so far been a very successful effort and has, as indicated above, evolved from pure interoperability to performance driven standardisation. This has had a beneficial impact on the "usability" of the standard (i.e. the standardised technology offered its users more possibilities such as video streaming) which has in turn promoted a better deployment of the standard.

The standards in the wireless telecom industry remain very comprehensive, at least when looking at standards created/adopted by 3GPP, ETSI, ITU, etc... There are, in the telecom ecosystem, more Standard Development Organisations (SDO's) incorporated worldwide. Some of those SDO's are set up with a purpose to deal with more regional/local aspects that would benefit from standardisation. It is unclear how these new emerging SDO's activities will further develop and how comprehensive and detailed their standards will be going forward, neither is it clear whether these regional/local standardisation effort will have an impact on interoperability between the different standards.

Impact on the functioning; the increased complexity and comprehensive nature of the standards have led to an increasing number of patents that protect the technology contributed to the standard. The (legal) complexity that results from this has allowed in the recent decade for many arguments and theories to be created. Notwithstanding, these different theories when looking at the growth figures of the wireless ecosystem it is clear that the factual evidence does not support any theory pointing at a potential systemic deficiency.

If standardisation is to play an ever increasing role and is used in a broader way, then it is important to emphasise that there is a need for flexibility and thus for general principles that can be applied in a very flexible manner to very different situations.

Q 1.1.4 Standardisation in support of innovation: Do you consider that standardisation involving patents contributes to innovation and to the uptake of new technologies? If so, in which areas? Would technologically neutral standardization promote innovation equally well in these areas? Should standardisation be less specific by excluding those elements that are covered by patents?

The enormous evolution that the telecom industry has witnessed over the last three decades is primarily driven by the increasing importance of standardisation. The best known examples are the standards that have been created in the telecom sector and more specifically the wireless standards in the WWAN and WLAN area. As indicated above standardisation has moved beyond solving mere interoperability issues and has focused on performance.



Via work performed in the different SDO's, the standardisation has created the technology that enables broadband wireless connections. This technology has been used to make smartphones and to create a variety of services and software solutions that would not have worked without the broadband connections. Therefore, in the wireless telecom industry standardisation has not only contributed to innovation but it has actually created the conditions required for the creation of innovative new products, systems, services, etc... Thanks to the wireless open standards new companies were created and existing companies were able to create new products and services.

Furthermore, in the wireless ecosystem the standardisation in itself is very innovative and has attracted for many decades the best technological solutions from the different contributors. Once the standard is fixed and publicly available it has been implemented on a very broad (worldwide) scale thereby attracting many companies that have started innovating 'on top of the standard'.

All of this has been possible because the system provided a fair return for the enormous investment in innovation that was made accessible for an entire new ecosystem. This attracted new entrants in the ecosystem and allowed for the standardisation to have a global impact (interoperability) and accelerate the pace of innovation considerably (performance).

We do not think that "technologically neutral standardization" can provide the required innovation, interoperability and performance for the telecom industry.

Wireless cellular standards are highly complex and are intended to exist and improve over many decades. In order to achieve this, the standards for global wireless communication systems are developed within the SDO framework. Creating and developing these complete new blueprint type standards requires a highly complex and strict standardization process. This process involves many different stakeholders, such as network equipment vendors, service providers and research institutes. It further requires multiple steps to be taken, including setting performance requirements, identifying technical problems to solve, researching and proposing solutions, and finally selecting one solution based on the best technology for each technical problem. Furthermore this whole process is continually repeated as more functionality is added to the standard over time.

These technical solutions need to be created by companies willing to invest their resources into doing so. Therefore there needs to be a business model that supports their investment. The open standardisation process used in the telecom sector is best served (as the facts have proven the last 25 years) by a system that uses the patent protection and ensures accessibility to the standardised technology via the FRAND commitment.

If standardization would be less specific, its uptake could be smaller as companies implementing the standard would need to invest more development resources to implement (translate) the standard requirements into technical solutions.



Q 1.2.1 Issue of over-/under-inclusion: Are there fields of standardisation in which you consider that standards include too many patented technologies? Are there areas in which standards would benefit from including more patented technologies? Please explain.

Standardisation is neutral on the question of patents. Complex, performance driven standardisation in fields that are technologically challenging will automatically include more patents than simple and more straightforward standards that only deal with a small technological challenge; the more there are technical challenges to be met, the more it is likely that the solution to these challenges will require more technical innovations.

Q 1.2.2 Criteria for inclusion decision: What should be the criterion/criteria to use when deciding on whether or not to base a standard on a patented technology and/or to include a further patent-protected technology into a standard? How can a possible cost and benefit analysis be done? What could be used as benchmarks?

The basis for inclusion of a technology in a standard is the fact whether or not the technology solves a technical issue that the standardisation process wants to address. The goal of standardisation is not to create patents but rather to solve technical challenges via the joining of forces from different companies / research institutes / etc... with different technical backgrounds and capabilities.

In the framework of standardisation patents are:

- 1) a means for the participants in the standardisation exercise to share confidential information in a prudent manner that allows the patent holders to secure their ownership over the technology that is created by them;
 - 2) a result of an innovative and successful standardisation exercise. A patent is granted by a third party (patent office) after it is established that at a minimum a number of criteria are fulfilled. Therefore, if the technology that is contributed to a standard allows for the generation of many patents, then this is an indication of the fact that the contributed technology is innovative and has a certain value.
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Q 1.2.3 Process for deciding on inclusion: Who should take the decision of including (or not) patented technologies into a standard? Should the entity suggesting the patented technology for inclusion be asked to justify the inclusion? If so, what elements should be covered, at minimum, in the justification?

This question is in part dealt with in 1.2.1 and 1.2.2 above; in essence standardisation is neutral on the question of patents.

Typically the inclusion of a technology (whether patented or not) into a standard is a consequence of the technological choice made by the relevant technical committee as a whole. In an open and



transparent standardisation process this means that there is a peer review mechanism prior to the acceptance of a certain technical solution for inclusion in the standard. So the decision is not forced by the contributor of the solution but rather defended by the contributor and evaluated by the other members of the technical committee. The decision to include technology is based on technical merits.

Furthermore, it is important to highlight that at the moment of submission of the technical contribution to the standardisation process, the patent is usually not granted and is thus just a patent application. At that moment there is no certainty that the patent will be granted nor that such finally granted patent will read on the approved technical specification.

Q 1.2.4 Disputes over inclusion: Are you aware of legal disputes over a decision to include (or not) a patented technology into a standard? What were the main facts and what was the outcome of the dispute?

We are aware of only a few such disputes, which we believe have all been resolved.

Q 2.1.1 Best rules and practices: A variety of rules and practices govern standardisation involving patents. Which elements of these rules and practices are working well and should be kept and/or expanded? Which elements on the other hand can be improved? Would you consider it helpful if standard setting organizations would be more explicit about the objectives of their patent policies?

There are different levels of rules and practices that we would like to mention.

In general the key principles of the WTO (transparency, openness, impartiality, consensus, efficiency, relevance and consistency) are very good guiding principles for the SDO's and can most likely be applied to SDO's active in different sectors.

When looking at more detailed rules and practices we would like to refer to the ETSI rules and guidelines (including the ETSI IPR Policy) as fairly well balanced.

The involvement of countries (government agencies) is useful and enriching in many different areas but may be problematic when these countries have sole decisive power (without industry counterbalance) or the monopoly of advice (without consensus of industry) on sensitive topics that need to be addressed by SDOs (e.g. IPR Policies).

Because of recent developments in different SDO's, we are concerned that the consensus requirement is being challenged and becoming challenging. The reason for this is a normal dynamic that is inherent to all successful SDO's and has already been highlighted above; successful standardisation attracts many implementers. The more the standard becomes successful the more it will attract companies that purely implement the standard and that do not contribute to the further evolution of the standard.



In order for standardisation to survive its success and to continue to be successful, sufficient attention needs to be given to the interests of all the stakeholders in the standardization process, including the interests of those who contribute to the standardization effort. Recent discussions about the IPR Policies of different SDOs have made it clear that a pure majority / winner takes it all vote will be detrimental in the long run as it could be decided by 1) companies that have only a short term interest (i.e. use the standard for the smallest compensation possible without taking into account the investment needed to create and further develop it); 2) companies that may have competing business models and prefer to reduce the impact of open standardisation.

The essential questions that SDOs need to address is 1) how to attract the best possible technology and 2) how to make sure that it is implemented in the broadest possible way; the first question relates to the return on investment requirement highlighted above, the second on the fact that the technology should be accessible and the terms and conditions for that access should be reasonable for both parties so that the standard can be implemented on a large scale and continued investment remains incentivised.

Q 2.1.2 Trends and initiatives: The pertinent rules and practices are constantly evolving. Do you see any particular trends? What are recent improvement initiatives that you find promising or worthwhile of attention? Are there initiatives outside the SSO domain that you find helpful (e.g. patent quality initiatives by patent offices)?

Since a couple of years there is a lot of discussion in the telecom ecosystem on the notion of FRAND and on standard essential patents. Economic theories of hold up and royalty stacking are developed and used to try to weaken the rights that the holder of standard essential patents has in accordance with intellectual property law.

The enormous attention that these theories have and continue to receive is quite remarkable as the entire wireless telecom industry has for many decades been characterised by very strong growth figures and a geographical expansion of the market, constant improvement of technology thanks to innovation in the broadest possible sense and the departure and arrival of multinational companies in the sector.

Furthermore, these debates risk to devaluate the value of standard essential patents and thus to frustrate further investment in standard creation and improvement.

On the positive side we believe that the continued open dialogue in ETSI and ITU between industry members, government agencies and SDO staff, may have helped the different players to get a more nuanced and better understanding of these complex topics. There is risk, however, that this knowledge may be used in a manner that may weaken the standardisation incentives.

We welcome the initiatives taken by the patent offices to improve the patent quality; e.g. the EPO initiative 'Raising the bar and quality inclusion'. This initiative, if successful, will in the mid to longer term have also positive effects on the standard essential patents and thus on the standardisation as a whole. There are other patent offices that are entertaining similar initiatives and it would be great



to see further harmonization between the different patent offices (e.g. IP5 work, patent prosecution highways, PPH-initiative) to also help improving the patent quality worldwide.

As many standards in the telecom area are implemented on a global basis, it is important to work on further harmonization between the different patent offices. Patent (e)quality and efficient processes in the patent offices are areas where further worldwide harmonization should be focused upon.

Q 2.1.3 Differences in SSO rules and practices: Do you see significant differences between SSOs in terms of their patent policies and/or treatment of standard essential patents in practice? If so: What are the practical consequences of these differences? Which of these differences (if any) pose problems? Which of these differences are justified?

Telecom related SDOs (in particular: ITU and ETSI) have traditionally had very similar patent policies principles and treatment of standard essential patents in practice, although some policies are less exhaustive and more flexible than others. As indicated by Mr. Josh Wright, Commissioner of the US Federal Trade Commission (FTC), leaving a great deal of flexibility [in standard policies] presents very clear efficiencies and should not be considered to be problematic http://www.ftc.gov/sites/default/files/documents/public_statements/ssos-frand-and-antitrust-lessons-economics-incomplete-contracts/130912cpip.pdf)

Recently, many of the above mentioned SDO's have taken different initiatives to discuss their respective IPR Policies. These discussions are ongoing and have so far resulted in the adoption of language to address the transfer of patents.

On February 8, 2015, the IEEE has completed a closed and controversial process by adopting a new patent policy that is very different from that of any other SDO Ericsson is aware of. The different new policy: effectively eliminates the availability of injunctive relief for standard-essential patents; recommends "reasonable rate" factors aimed at de-valuing standard essential patents; attempts to dictate to patent holders on what level to exhaust their patents instead of focusing on ensuring access to the standard, as is the original intention of FRAND; and sets up a new different reciprocity standard.

Ericsson is disappointed by these changes and believes they will damage IEEE's position in the industry as these changes may deter innovators from contributing technology to future IEEE standards.

In addition, there are an increasing number of initiatives to create local SDOs that are said to be more capable or focused on meeting specific local requirements, as well as government interventions to create templates for IPR Policies or centrally controlled bodies with direct authority over the SDO's and their IPR policies (e.g. creation of TSDSI in India, MIIT initiative in China to create a template for the SDO's, IPR Thinktank creation in India to advise on IPR policies, etc...).

It is not clear yet what the precise impact of these evolutions will be as the evolutions have still to materialise. If the results of all these initiatives would be that there are more and more differences



between the policies of SDO's that deal with similar, adjacent or overlapping technologies, then there is a risk that standardisation may be weakened via policy differences of these SDO's. A similar risk could occur when the individual SDO's would create increasingly detailed rules to determine the behavior of their members.

Q 3.1.1 Scope of transparency issue/Priority areas: Is there sufficient patent transparency in the fields of standardisation that are of interest to you? In which of these standardisation field(s) is patent transparency particularly good and in which field(s) is it insufficient? Please explain.

We believe that the primary goal of the declaration system as currently set up, is to make sure that implementers can rely on the fact that the patent holders who make declarations will make their contributed technology accessible (on F/RAND terms). It was not intended to create a detailed and regularly updated list of all standard essential patents regularly updated.

We believe that in general in the ICT sector there is sufficient patent transparency; the 3GPP data can be consulted and information on contributions, accepted contributions, etc... can be retrieved from the databases; ETSI has made in the recent past improvements in the database system, furthermore ETSI has established co-operation agreements with a number of patent offices in order to create a better knowledge of the prior art in the patent offices and thus improve transparency and patent quality.

Q 3.1.2 Ex-ante transparency: In your experience, is there sufficient knowledge about the relevant patent situation during the discussions leading to the setting of standards? Have you experienced a situation where a standard was decided based on significantly incorrect assumptions about the relevant patent situation? What were the causes of such incorrect assumptions and what were the consequences? Could all relevant stakeholders participate in the discussions?

Yes, in principle there is sufficient knowledge about the patent situation, and especially about the willingness of the patent holder (standard contributor) to provide access to the contributed and protected technology.

We have only exceptionally experienced a situation where a standard was decided based on incorrect assumptions about the patent situation.

In general, in technical discussions all relevant stakeholders can participate in the discussions (at least in the major SDO's in which we substantially contribute and participate).



Q 3.1.4 Non-transparent aspects: In those areas where you deem patent transparency insufficient, what aspects of the patent situation are insufficiently transparent: (1) existence of patents, (2) validity of patents, (3) essentiality of the patents for the pertinent standard, (4) ownership of the patents, (5) enforceability of the patents, (6) coverage of patent by existing licences/pass through and (7) others? Please explain.

The (1) existence of patents and (4) ownership of patents is sufficiently transparent.

The fact whether or not a patent is (2) valid, (3) a standard essential patent, (5) enforceable (because there is infringement), can, in case of dispute, only be determined by a court. Thus if transparency in this area is felt to be insufficient co-operation of the different patent offices will have to be combined with co-operation of all competent courts (that fall under the same jurisdiction as the competent patent office).

In an attempt to increase transparency regarding licensing terms, even though confidentiality obligations normally protect the business relationship between the parties of a specific license agreement, some companies have made statements in the past in respect of efforts to strive for reasonable terms and conditions. Increased transparency and predictability has been identified in the past by a number of stakeholders to be useful. Having that said systems of so called ex-ante declarations have proven difficult in practice.

Q 3.1.5 Consequences/risks: What are the consequences of insufficient patent transparency? What risks occur, and what are the (financial) impacts if these risks materialize? If appropriate, distinguish between ex-ante/ex-post transparency and between the different aspects of patent transparency above.

Ex-ante there seems to be, in general, sufficient patent transparency. The cases of patent ambush are very rare and where the existence of such a practice was established, the decision of agencies has created sufficient deterrent for companies to be very cautious in the future. This may have created an issue of “over declaration” but then again the declaration-system as currently existing in most SDO’s is primarily intended to make sure that contributors to the standard make it clear that they will provide access to their contributed technologies.

Ex-post transparency could be improved when looking at the situation of an individual patent (e.g. when looking at whether or not a specific patent is essential, valid, etc...). However, given the complex nature of standardisation in ICT and the many patents that are involved, licensing negotiations on an individual patent level are not the norm. Instead patent holders offer a license to their portfolio of standard essential patents (including the patents that will be granted during the term of the license) and standard users want to make sure that they have the rights required to use the standard. Assessment of probability of validity and/or essentiality have an impact on such licensing negotiation. In order to obtain this patent peace, licensor and licensee have technical discussions about the patent portfolio, followed by commercial discussions on the license and royalties. In these discussions, parties have to take a decision whether to license or to litigate.



Therefore, the improvement of the ex post transparency may be best obtained by focusing further on patent quality thereby further reducing the questions about the patents in the portfolio.

Q 3.1.6 Cost of coping individually: How do you deal with situations where you perceive that patent transparency on one or several aspects of interest to you is insufficient? Do you gather information pro-actively or do you wait to be contacted (e.g. by patent holders requesting royalties, by implementers asking for licences)? What costs are involved in dealing with situations of low patent transparency?

As patent holder we have the experience that there are virtually no more users of the standard that reach out pro-actively to the patent holders in order to ask for a license.

Q 3.2.1 Trigger of obligation: Patent declaration obligations could be triggered either by membership of a standard setting organization, or by participating in a specific standardisation project or by having directly suggested a (patented) technology for a draft standard. What are your views on the respective triggers (advantages, disadvantages)?

It seems fair and reasonable that patent declaration obligations are triggered in case there is direct participation in a specific standardisation project or in case there is a suggestion made to incorporate a technology in a draft standard where the proponent owns the patented technology or has filed a patent for the suggested contributed technology.

A declaration obligation that is linked to the mere fact that a company is member of a certain SDO may be problematic as there are more and more areas, more standards, more patents, etc... In that sense, we would like to refer to the Clause 4.2 of the ETSI IPR Policy and section 2.2 of the ETSI Guide on IPRs.

Q 3.2.2 Required effort: What effort should be required from a patent holder in identifying relevant patents in his portfolio? Should these efforts be contingent on the degree to which the patent holder participates in a specific standard setting process (for example whether or not he has actively contributed the technology in question)?

We refer to the answer provided above to Q 3.2.1



Q 3.2.5 Blanket declarations: Some standard setting organizations require their participants to declare that, in general, they hold essential patents over a standard without requiring that these participants identify each of these patents specifically. Do you believe that such declarations provide for enough transparency? Please justify your answer, where necessary distinguishing situations where you consider that this approach is sufficient from those where you do not.

The answer to this question was provided for in the answer to question 3.1.1 i.e. the primary goal of the declaration system as currently set up, is to make sure that implementers can rely on the fact that the patent holders who make declarations will make their contributed technology accessible (on F/RAND terms). It was not intended to create a detailed list of all standard essential patents that is regularly updated.

Q 3.2.7 Consequence of non-compliance: What should be the consequences if a patent holder has failed to comply with its declaration obligation (for the standard, for the patent holder, for licensing negotiations)? Should the respective standard setting organizations take action and what should this action be? Are the consequences of non-compliance sufficiently clear in your experience?

Such consequences should be highly dependent upon the specific facts of the case. In general, we would think that many of these issues would be dealt with outside the SDO. For example, in cases where the allegation of non-compliance is made, it would not necessarily be for the SDO, but rather for the court or arbitration (the latter provided there is agreement of both parties) to decide on the conduct of the patent holder and on its alleged non-compliance. Courts (and, if agreed, arbitration panels) have the competence to determine whether the patent holder fulfilled its obligation (and thus whether or not the patent holder's behavior has been compliant or not).

Q 3.5.2 Public patent landscaping: Public patent landscaping in the context of standardisation would be an exercise where (1) patents that are relevant to the particular technological/product area to which the standard relates are identified and (2) this information is then shared with all interested parties. Do you see benefits of such public patent landscaping and in which areas would this be particularly useful? Who should perform this exercise (e.g. patent offices, commercial service providers, public authorities) and how could this exercise be financed?

Ericsson does not immediately see real benefits of such public patent landscaping, as it fear that the exercise will most likely result in unreliable data. The exercise can be used together with many others (such as an analysis of the different contributions and their acceptances) in order to try to improve the general insight of the parties involved, but will on a standalone basis risk to become unreliable.



Q 4.1.1 Prevalence: How common is it, in your area of activity or interest, that standard essential patents are transferred? Are standard essential patents transferred more, or less, often than other patents? Do you see any trend in the transfer rate? Do transfers usually concern individual patents or larger patent portfolios?

In general, we believe that companies like Ericsson, that are both contributors to and implementers of the standard, prefer to keep their patents in a portfolio to be able to cross-license them. A cross-license allows these companies to have freedom to operate. However, as we will explain below there are good reasons for those companies to transfer as well as to acquire patents through transfers. Ericsson, for example has acquired several patents from universities that otherwise would not have been able to make use of such patent/s. For universities the transfers of patents are common practice, although in most of the cases these patents are non-essential to any standard.

Transfers usually concern both, individual patents and patent portfolios: Ericsson for example acquires individual patents from universities. We regularly also acquire or divest patents when we sell or buy a company. Other times we acquire or divest patent portfolios.

Q 4.1.2 Issues and consequences: In your experience, what are the typical issues that arise in the context of transfers of standard essential patents? Are such transfers leading to more or less fragmentation of SEP ownership? 3 Are these transfers leading to more or less disputes/litigation? 4 What is their impact on royalty rates for the transferred patents and on the total royalty rate for all patents essential for a standard?

Transfers of patents can lead to both less and more fragmentation, depending on whether or not patents are sold or bought and by who they are bought or sold.

To the question on whether these transfers lead to more or less disputes/litigation, the answer is that it depends on each individual case. However, we are not convinced that there is an automatic direct causal link between fragmentation and litigation.

Regarding transfers of SEPs and their impact on royalty rates, we believe that a transfer should not affect the requirement for the terms and conditions to be FRAND. In the case of transfers of SEPs both the original owner and the new owner will be under a commitment to offer a license on FRAND terms.

Q 4.1.3 Non-practising entities: Have you encountered transfers of standard essential patents to entities that do not produce or market products including the technologies covered by these standard essential patents? What particular consequences have you observed?

Yes, we have encountered transfers of standard essential patents to entities that do not produce or market products including the technologies covered by these standard essential patents.

For the ecosystem to continue to grow, reasonableness must be applied by all patent owners, both non-practising entities (NPEs) and practicing entities.



Q 4.2.1 Impact on effectiveness: Is there a risk that SEP transfers circumvent existing patent policy rules of standard setting organizations or render them less effective? Please explain and if possible cite specific examples.

Reference is made to the answers provided hereunder to question 4.2.2.

Q 4.2.2 Specific rules: In your area of interest, are there specific rules governing SEP transfers and what is your experience with them? Where there are no specific rules, would you see a need for such rules? What should be their objectives (achieving transparency about ownership, providing legal/business certainty, reducing litigation risks, facilitating smooth licensing process, fostering research and innovation activity, etc.)?

Article 6.1bis of Annex 6 in ETSI's IPR Policy requires members that transfer patents subject to a FRAND undertaking to include appropriate provisions to ensure that the undertaking is binding on the transferee and all successors-in-interest. ITU-T/ITU-R/ISO/IEC joint Guidelines for Implementation of the Common Patent Policy (Article 7) require their members to make reasonable efforts to notify the assignee or transferee of the existence of such license undertaking. Other SSOs like CESI also deals with the transfer of standard essential patents in their IPR Policies.

There is large number of SSOs all over the world with different structures, business models, and philosophies. It would be too risky to conclude that in all and each of them such rules should apply. However, *in general* we consider it as beneficial to incorporate such rules in standard-setting organisations.

Transfers can foster research and innovation activity, e.g. in cases when patent holders are not interested to manufacture (as is usually the case with universities). The revenues received from a transfer of patents are in many cases reinvested in R&D. Also companies that have a R&D program in place but cannot recoup their investments on a timely manner due to hold-out or other reasons, can receive the needed cash-flow by transferring some patents. Such cash-flow allows them to continue with their R&D activities.

Q 4.2.4 License of right: Have you been involved in the use of a License-of-Right system? What benefits and risks are, in your opinion and experience, linked with this? Are there important differences across national jurisdictions that reduce the reliability of License-of-Right provisions?

The 'license of right' is a unilateral written declaration of the patent holder towards the Patent Office, in which the holder (once accepted by the licensee) "irrevocably" renounces the right of exclusive use and the right of interdiction against whatever user who pays a "reasonable" (Art. 23



German Patent Act) or “appropriate” (Art. 43 Agreement relating to Community Patents) remuneration.³ In exchange, the renewal fees for the patent are reduced (in Germany by half).

As explained above the benefit for the patent holder is that renewal fees are reduced. The risks/disadvantages are that

(1) the patent holder has made an irrevocable commitment to license the patent/s and cannot make use of its right to exclude infringing unwilling licensees (e.g. when confronted with an infringer that refuses to start negotiations or negotiates in bad faith);

(2) in case of dispute the Patent Office will decide what a reasonable compensation will be. Although the latter could be seen on a first sight as a “benefit” (litigation costs would be saved) there are also risks linked to such procedure.⁴

For the licensee the benefits are that

(1) it will obtain a license paying a reasonable compensation and that

(2) in case of dispute the patent office will determine what a reasonable compensation will be (less costly than litigation).

It has been proposed using the License-of-Right in the context of standardisation. Both appear to share the same goals, i.e. access to the patents in exchange of a reasonable compensation. However, a FRAND commitment can never be a License-of-Right. First, because a declaration towards the Patent Office is a requirement of License-of-Right, whereas the declaration whereby a patent holder commits to provide access to its technology on FRAND terms is to be made towards the SSOs. Second, in a ‘license of right’, a withdrawal is possible through a written declaration to the Patent Office anytime as long as the patent holder has not been informed of any intention to use the invention.⁵ This would imply a real threat of “hold-up”, since a standard essential patent holder could sign a License-of-Right and withdraw after its patent/s is/are incorporated into the standard.

³ See Decision of the Bundespatentgericht (Federal Patent Court of Germany), 12 January 1994 – 4 W (pat) 27 und 34/92 (Lizenzbereitschaftserklärung), Gewerbliche Rechtsschutz und Urheberrecht 1994 Issue 8-9, 605.

⁴ See H. G. Eggert “Lizenzbereitschaft - ein untauglicher Kompromiß”, Gewerbliche Rechtsschutz und Urheberrecht 1972, Issue 5, 232; , Decision of the Bundesgerichtshof (Federal Supreme Court of Germany), 15 June 1967 - Ia ZB 13/66 (BPatG) “Altix”, Gewerbliche Rechtsschutz und Urheberrecht 1967, Issue 12, 655 (657). According to Oppenländer several studies on ‘license of right’ have shown that they are rarely used to achieve licensing agreements. See K. H. Oppenländer “Die Wirkungen des Patentwesens im Innovationsprozeß”, Gewerbliche Rechtsschutz und Urheberrecht 1977, Issue 5, 362 (370).

⁵ See R. Schulte, Patentgesetz mit Europäischem Patentübereinkommen, 6 ed., Köln et seq.: Carl Heymanns, 2001., Sec. 23 marginal No. 13; Agreement 89/695/EEC, Agreement relating to Community Patents of 15 December 1989, Article 43.2.; C. Tapia, *Industrial Property Rights, Technical Standards and Licensing Practices (FRAND) in the Telecommunications Industry*, Carl Heymanns Verlag, 2010, pages 22-23.



Q 5.1.1 Target areas: What are the situations/external factors which render a patent pool useful? Are you aware of specific standards for which a patent pool would be useful but where there has been a failure to create one?

In theory a patent pool can be successful if it attracts as many patents to the technology and as many patent holders as possible. Patent pools covering more narrowly defined standardised technology have more chances to be successful. See for example “audio codec” (Via Licensing AAC) and “video codec” (MPEG LA, H264 also known as Advanced Video Codec, or H265 also known as HEVC). With more narrowly defined technology it is easier to identify the patent landscape and to bring a significant portion of all relevant patents into the pool. It is clear that this does not imply any statement as to the quality of such technology. When dealing with complex standardised technology, patent pools might be more difficult to use as they are inherently not well equipped to deal with the magnitude of technologies and patent holders. Multiple patent holders represent multiple contrasts of interests. Constructing a pool under such conditions is more difficult as it represents many different complexities that need to be resolved (in addition to the number of patents and patent holders, there are also questions related to standard bundles, cross licenses, reciprocity requirements, etc;..).

Another element that can be important to consider for the creation of a successful patent pool is to have a well-defined scope in terms of products. In the framework of standardisation this may be challenging when the standard evolves and, during its lifetime, is implemented in new or very different types of products.

Timing is also a very important factor to render a patent pool useful. If by the time the patent pool starts working patent holders have already signed many licensing agreements, they may be less interested in joining a pool. With many signed agreements, the entity in question already has a licensing program in place and has no use for the pool.

Q 5.1.2 Benefits of patent pools: What are the benefits of patent pools in the above situations (Q 5.1.1) respectively for patent holders and/or patent users? What aspects in patent pool governance are particularly relevant in practice to ensure the realization of these benefits?

A potential benefit is the fact that transaction costs for users of the technology may be reduced. This may have an impact on the costs to obtain a license on the patents covered by a pool; i.e. the costs generally are lower than what the standard user would have paid if negotiated with each pool participant individually.

One additional factor to consider in the governance of the pool is the fact that many standard users may already have signed licensing agreements covering the patents contributed to the pool. For a patent pool to be efficient and not detrimental for the ecosystem it is indispensable that the standard user obtains in such situation a reduction of the fees to pay for the patents of the pool. This way the standard user will not pay twice for the same patents. This may substantially complicate the pool governance.



Finally, as indicated elsewhere in the questionnaire, the wireless telecom standards are standards that evolve very much during their 'lifetime'. Evolutions occur regularly and new standard essential patents are almost granted daily. This may create further challenges for a pool to deal with.

Q 5.1.4 Difficulties of pool creation: What are the main difficulties in setting up a patent pool and how can they be addressed? Are there differences in national law or its application across countries of the EU/EEA or worldwide that make patent pool creation more difficult?

As indicated above, one of the main difficulties in setting up a relevant patent pool is to attract a large number of standard essential patent holders and standard essential patents.

In order to achieve this, a pool needs to find a system that satisfies all different interests and licensing strategies. For example, some of the members may not approve that their patents are used in litigation whilst others may agree to litigation in cases of disagreement between the pool and implementer.

Patent pool members also need to agree on other issues such as the scope, the revenue share, the price structure, possible cap, etc. These can be very long discussions in cases when over 30 companies are involved, each of them having different criteria. The main challenge of the pool is to find a middle ground. It comes therefore as no surprise that patent pools may be difficult to create for complex technology standards.

Q 5.1.5 Costs of pool creation: What are the costs involved (do you have estimates)? What do these costs depend on? How are they usually (pre-)financed?

Patent pools are usually not pre-financed. Licensors expect to recoup the costs from recurring royalty revenues later on.

Q 5.2.1 Decision to participate in pool: What factors influence a patent holder's decision to participate in a pool or not?

In addition to the points raised in the previous responses, one additional question that may be relevant to the patent holder is whether the technology is key to the business of the patent holder. When dealing with the core technology of a company, it is not surprising that such company may elect not join the pool. A company in such situation may have limited incentive to allow a third party (the pool administrator) taking control over the licensing of key patents that result from very labour and capital intensive investments in R&D.

Another important factor is the need for companies to be able to cross license. As such cross licenses are very often asymmetric, the pool may become an additional complexity rather than a tool that improves efficiency.

Notwithstanding the foregoing, we believe that when dealing with more narrowly defined standardised technology, such media codec, a patent pool may be a very good option for patent



holders. Pools may also be useful for more complex technologies if the different challenges mentioned above can be overcome (see responses in 5.1.1 and 5.1.2).

Q 5.2.2 Incentives for pool participation: How can this balance be influenced positively? What incentives can be provided by public authorities and/or standard setting organizations to increase patent pool participation?

The formulation of the questions in this section 5 of the questionnaire, may give the impression that the use of patent pools could be the solution for some of the issues described in the questionnaire. We are not convinced that this is the case.

The use of patent pools may not be the right choice when dealing with complex and continuously evolving technology. As explained above, if pools are too broad in scope their success is more uncertain. As indicated above it may be difficult to deal with the different complexities, and to find a middle ground amongst many licensors with different business models.

Standard-setting organisations in the wireless telecom industry do not force members to participate in patent pools. Allowing SSOs to mandate one kind of patent pool, would eliminate the healthy competition amongst patent pools. Furthermore, if an entity would be forced to join a pool, it could reconsider submitting its strategic assets in the standard setting process.

Q 5.3.1 Right moment for pool creation: What is the right moment in the standard setting process to start the process of creating a patent pool? What part of work on setting up a patent pool start could/should be done in parallel to the standard setting discussions?

In theory the ideal time to create a patent pool for standard essential patents would be before the standard is set. However, at that point of time, patent holders do not know which patents from their portfolio will be granted, essential, what the strength of each patent will be, etc.

Logically one could state that it is advisable that members start the discussions on the creation of the patent pool when the standardisation starts. This would still not solve many of the issues that have been identified above when dealing with complex constantly evolving standardised technologies. Furthermore, this would imply one single patent pool per standard. However, in reality there are competing patent pools with different structures to accommodate different business models. We do not consider it is the role of the standard-setting organisation to impose the participation of the pools or eliminate the healthy competition amongst patent pools.



Q 5.3.3 Role of public authorities: What contribution can public authorities make to facilitate patent pool creation? What role could publicly owned patents play? Are there specific features of non-EU legal systems that could be useful also in the EU? Under what conditions and to what purpose would public financial support be beneficial?

If public authorities would decide to facilitate voluntary patent pool creation, then one way would be to finance the examination of the patents submitted to the pool. Another possibility could be to provide tax advantages on the revenues obtained by the patent pools.

However, as indicated above Ericsson believes that participating in a patent pool is just one way of conducting FRAND licensing. Patent pools can be very useful instruments to improve licensing efficiency. This does not alter the fact that in other cases patent pools cannot offer a good solution to deal with the different and complex issues that surround the licensing of complex and evolving standardised technology.

Companies should remain free to choose how they license their standard essential patents. The important thing is to make sure standard essential patent owners comply with the FRAND licensing practice, not to determine which mechanism should be used to make such FRAND licenses available to the market.

Q 6.1.1 Notions "fair" and "reasonable": How, in your view, should the terms "fair" and "reasonable" be understood? Which of the above methodologies do you consider particularly appropriate, which other methodologies do you find important and what could be an appropriate mix of references?

Technology sharing within the telecoms sector standardisation is ensured by way of patent holders' commitments to license their essential patents on FRAND terms. One of the two major purposes of the FRAND commitment is to ensure that a standard cannot be blocked, i.e. the FRAND commitment is a promise that the patent owner will license its patents on FRAND terms to allow third parties, including competitors, to manufacture standard compliant products. On this basis, the telecom industry invests billions of Euros developing standards and standardised products whose performance and interoperability reaps the benefits of robust standardisation that relies on the best available cutting edge technologies.

However, it is important to emphasize that FRAND has a second purpose: to provide innovators a return on their investments in order to incentivize continuous investment in further development of open standards. FRAND is not designed to permit implementers of the licensed technology to obtain standardised technology at prices that fail to adequately reward R&D efforts. This means that the FRAND licensing system is a delicate balancing act in which SDOs seek to obtain the best technology and the greatest participation by innovators, on the one hand, while creating reasonable conditions for commercial implementation by licensees and users of the standard, on the other.

FRAND licensing is a critical element of future standard development. The "fair" and "reasonable" aspect of the FRAND commitment imposes a certain constraint on what a licensor can charge in that it should avoid requiring compensation that would result in a blocking of the standard or of its broad implementation by standard users. The enormous success of the telecom standards is clear evidence



of the reasonableness that licensors have historically used and continue to use. As the standards continue to evolve and improve, it is important to emphasize that FRAND is not designed to permit users of the licensed technology to obtain rights to the technology at prices that fail to adequately reward R&D efforts, as this would reduce both the incentive to innovate and the incentive to participate in standards development. Holders of essential patents must receive a fair return on their R&D investments to ensure future innovation. Otherwise, companies may stop contributing to open standards and, in the long run, this would cause a shift from open standards to proprietary technologies that preclude interoperability, reduce efficiency and consumer welfare, and allow a limited number of companies to acquire monopoly power in a manner other than growth through superior product or business acumen.

The current regime with FRAND licensing has served the ICT sector well, and also benefitted consumers; the spectacular growth of the telecom market and the fact that there are today more than 7 billion mobile subscriptions in the world are a clear evidence of this success. There is therefore no evidence of any systemic problems or a sign that the FRAND notion cannot be applied in practice. National courts have shown the competence to assess FRAND issues.

As there is no one size fits all licensing regime, any further clarification of the FRAND system must be carefully considered. Ericsson believes that it is not always appropriate for SDOs or competition authorities to prescribe specific principles governing commercial terms, such as royalties or a royalty base. Instead, such commercial issues should in principle be left to commercial negotiations.

In addition to the above mentioned principles, Ericsson further believes that FRAND requires a patent holder to consider a commercially reasonable rate for the standard in light of the value of the technology to the end products when making a FRAND offer.

In the questionnaire some methodologies for defining FRAND are put forward; they will be briefly commented below.

- FRAND definition by reference to the incremental value of the technologies adopted in the standard in comparison to alternative technologies that were rejected;

Ericsson considers this approach to be flawed for a number of reasons. First, the technology that is chosen to become part of the standard is picked because of its superior qualities it represents in comparison to the technologies that were not included in the standard. It seems therefore not logic to determine the value of the chosen technology by reference to the one that was rejected. One of the reasons why this argument is brought forward is that it relies on a theoretical framework, based on the premise that owners of two “almost equally-valuable” technologies would bid each other to a (substantially) lower FRAND rate (just above zero) just in order to have their technology embedded into a standard. Such assumption is false as it does not take into account the fact that any company requires a sound return on investment in order to survive. Finally, this approach is also infeasible, especially in cases of complicated standards with large patent portfolios. Requiring the licensee and licensor in a case of negotiation of hundreds of essential patents on a global basis to incrementally quantify the value of each patent would be a waste of resources, and would in these cases not be practically feasible in the negotiation of a FRAND license.



- FRAND definition focusing on the value of the technology before the standard was adopted; This theoretical approach (often referred to as “ex ante”) has been commented extensively by different academics. Ericsson wants to highlight two elements that are less commented upon. First this theoretical argument fails to take into account that telecommunication, or communication for that matter, is completely reliant on standardisation. The interoperability and end to end user performance achieved through standardisation is inseparable from the technology itself. Second the standard continues to evolve; e.g. some parts of the 2G standard started being developed in the 90’s early 2000’s and are still being further developed today. At the moment standard development starts (if such a precise moment could be determined) it is already difficult to foresee what will happen to the standard a couple of years later, how it will further evolve. The ex ante approach fails to take this element into account and seems to work with an assumption that the standard is static.

- FRAND definition by reference to the market value of similar transactions outside of the standardization context; This theoretical argument fails to take into account that telecommunication, or communication for that matter, is completely reliant on standardisation. The interoperability and end to end user performance achieved through standardisation is inseparable from the technology itself. Moreover, as indicated above, the fact that an invention has been chosen for inclusion in the standard is a strong indicator of the value of the invention. As discussed above, a competitive standard necessarily needs to include only the best technical solutions, adopted after the evaluation, competition, and testing of the standard-setting process, in order to become the standard of choice of operators and implementers.

- FRAND definition by reference to the actual transactions relevant to a given standard (if possible) or similar standards. Of the different methodologies suggested above, this seems to be the most useful and realistic one. It is also a methodology used by many courts all over the world and one recommended by former judges who have presided over many patent and standard essential patents cases⁶.

⁶Rt. Hon. Professor Sir Robin Jacob: “Competition Authorities Support Grasshoppers: Competition Law as a threat to Innovation”, <http://fordhamipconference.com/wp-content/uploads/2014/10/6A-2-Jacob-Robin-paper.pdf>; Bo Vesterdorf: “Antitrust Enforcement and Civil Rights: SEPs and FRAND Commitments”, http://www.herbertysmithfreehills.com/-/media/Files/PDFs/2014/Antitrust_Enforcement_and_Civil_Rights.pdf



Q 6.1.2 Examples of non-FRAND licences: Are you aware of cases of licenses of standard essential patents that, according to you, do not fulfil the FRAND terms and conditions? Please be as specific as possible.

Patents are not an executable title; the intervention and decision of a court is required in order to enforce patents that are disputed. In case of continued disagreement, parties can go to court and ask for a FRAND adjudication by a third party.

Q 6.1.3 Time required for negotiations: In your experience, how long does it take, on average, to negotiate FRAND terms? What does the length of negotiations depend on? Is it more or less difficult/fast to reach an agreement on FRAND terms and conditions for standard essential patents licenses compared to other similar patent licensing deals?

It is very difficult to give an average length. One thing is clear; it has become increasingly difficult to get users of our technology to start negotiations and even more difficult to sign a license without the intervention of the courts. As a result the time it takes to negotiate FRAND terms has substantially increased over the last years.

In conclusion, we believe that the length of the negotiations of a FRAND license depends mostly on the willingness of the licensee. There are of course other elements such as the existence of cross licensing possibilities, the desire to have additional licenses that cover non-standard essential patents, etc... But all these elements can be dealt with in a reasonable timeframe if the licensee is a truly willing licensee.

Since the last four to five years it has become much more difficult to bring a user of the standard to either commit to start negotiations on a FRAND license or to opt for FRAND adjudication in a time and cost efficient manner. This has clearly impacted the average duration of FRAND license negotiations.

Q 6.1.4 Initial offer or outcome: Do the terms "fair" and "reasonable" relate to the initial offer of the patent holder or to the actual outcome of negotiations? Are you aware of FRAND adjudication cases where there was a large difference of terms and conditions between the last offers of the licensor on the one hand and the last offer of the licensee on the other?

We believe the FRAND commitment relates to both the final offer and the outcome of the negotiations. The outcome of negotiations can e.g. depend on circumstances that both parties first become aware of during the negotiations.

There are not many publicly available FRAND adjudication cases; some more recent cases in the US have caught much attention. In many of these cases the difference between offer and counteroffer is material. This is not a surprise as the absence of such material difference would most likely lead to the conclusion of a license agreement without the intervention of a third party adjudicator.



Q 6.1.5 Other methods of ensuring reasonableness of licensing terms and conditions: Can patent pool prices for a given standard be a proxy for FRAND terms and conditions? What are the limits of the use of patent pools as a proxy? How can bias coming from such a method be avoided?

The decision of a company to join a patent pool may be influenced by many different reasons. These reasons may impact the commercial terms that a company is willing to accept when joining a patent pool and may affect the commercial terms that the patent pool in return asks from the market. Therefore it is difficult to give a general answer to this question.

Q 6.2.1 Existing guidance: To your knowledge, what guidance on FRAND definition already exists (regulators, standard setting organizations, courts)? Which of this guidance do you consider as particularly useful? Would you welcome additional guidance? If so, on what specific aspects of FRAND?

This question was answered in 6.1.1 above.

Q 6.2.2 Unilateral ex-ante disclosure: Would you welcome a larger role for unilateral ex-ante disclosure of licensing terms in order to facilitate the licensing of SEPs? What form could it take? How should SSO mechanisms be shaped to facilitate this instrument? Should they be mandatory or voluntary? Should the disclosure only concern the most restrictive terms?

Reference can be made here to the experience that ETSI has had with the voluntary unilateral disclosure of commercial licensing terms. From that experience it would appear that this system is not very successful.

One of the issues with such a system is the implications of the non-discrimination requirement and the (false) expectations that this may create. Furthermore, the incorporation of the patents into a standard does not alter the fact that licensing negotiations are commercial negotiations, and the impact of such negotiations can be substantial and influence behavior, corporate communication (e.g. for listed companies), investment opportunities, competition, etc... Forcing one element of these commercial negotiations to be public may either have no effect (due to the relevance of the information) or create a very important distortion to the balance in the commercial negotiation.



Q 6.2.3 Ex-ante setting of parameters: Alternatively, would it be efficient to set FRAND parameters - within the limits of competition law - at the beginning of discussions of a technical committee within or outside an SSO in order to facilitate the future FRAND licensing? Such parameters could be: the royalty base (at end product or component level, if component what component (s)), royalty type (lump sum, per unit price, percent value of a product/component). What other parameters could be discussed upfront to make licensing more practical, without violation of competition rules?

Reference is made to the answers provided under 6.1.1 and 6.1.2.

Further we would like to refer to section 6.1 of the ETSI IPR policy that clarifies that the FRAND license is given to sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED whereby "EQUIPMENT" is defined (in section 15) as any system, or device fully conforming to a STANDARD.

This guarantees the right of the patent holders to license at the level where a product fully conforms to the standard and thus avoids risks of double dipping or complex multi-level licensing deals.

In addition, Ericsson believes that, in the context of wireless telecom standards, the value determination based on a component of a standardised mobile device product is not a fair approximation of value of these standardised technologies, as the component costs does not account for investment in making the standard. The component costs merely reflect essentially the cost of making a piece of hardware without R&D other than that related to the manufacturing of the component. There are many parallel examples that clarify this point further;

- the price of a film is not set by reference to the price of the DVD on which the images are stored. This doesn't come as a surprise for the manufacturing cost of a DVD has no relation to the cost of making the film, which includes production, direction, screenplay, music, acting etc.... It is the value of the IPR to the end product that is important. The value to the end user is not limited to the DVD but rather is essentially driven by the content that is contained by it.
 - the price of a book is not set by pure reference to the price of the paper and ink that was used to make it but rather to the intellectual work that was required to create the story. End users do generally not buy the book for its paper and ink but rather because of the intellectual creation that is contained in it, i.e. the story. The story gives value to the paper and ink.
 - the price of a medicine is not set by mere reference to the production cost of the pill but rather to the intellectual property that was obtained via R&D. End users would not buy the pill for the pure ingredients; these ingredients need to have a health effect that has been proven and sufficiently tested.
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Q 6.3.1 Advantages of portfolio licensing: What are the advantages of portfolio licences respectively for the patent holder and for the implementer? How important is the so-called "freedom to operate" or "patent peace" between companies? Please cover in your answer also issues of scope (e.g. geographic scope, product scope, inclusion of future patents).

Q 6.3.2 Determination of portfolio license value: How can the value of licences over large portfolios be determined if there is disagreement over the validity, essentiality/infringement or enforceability of (some) patents included in the portfolio? Is sampling (i.e. the review of a representative set of patents) a good approach for the evaluation of a patent portfolio? If so, how should sampling be done?

1. Portfolio licensing

The advantages of portfolio licensing are essentially "freedom to operate" and "patent peace" and efficiency.

If complex standardisation continues to be important (e.g. for the realization of the Digital Single Market goal) then the industry will need to continue to rely on portfolio licensing to share technology.

Furthermore, standards are constantly evolving and new essential patents are issued every week. Typically the portfolio licensing takes future patents (and thus the evolution of the standard) into account and thus it is the most efficient manner of licensing. Without portfolio licensing license negotiations would be never-ending and could be reopened at every grant of a new patent. In addition, transactions costs would be insurmountable for small licensees that need a license to large portfolio.

Finally, patent infringement, essentiality, and validity can be inconclusive and expensive to decide, and thus an essential benefit of a broad portfolio license for the licensee is that it can get a license to all patents to ensure that it will not be sued, even if it believes some patents to be invalid or not infringed.

2. Portfolio license negotiations

A negotiated portfolio license will help both the patent holder and the licensee to reduce costs (no litigation costs) and provide clarity in a timely manner. Furthermore, as license agreements tend to have a term of many years, parties generally include in the licensed patents also future patents that read on the standard and that are granted during the term of the license; this provides freedom to operate for the entire term of the license. Given the constant evolution of the standard such an inclusion of future patents is important to guarantee 'future freedom to operate'.

3. Challenges to validity, infringement and essentiality

Ericsson is convinced of the importance of patent quality improvement; however we believe that this improvement should essentially be taken care of upstream (at the level of the patent offices)



and preferably not by promoting litigation and giving up patent peace unless otherwise agreed by the parties.

Q 6.3.3 Cross-licenses: What are the advantages of cross-licensing? What problems arise? How do the concepts "fair" and "reasonable" apply to cross-licensing?

Cross-licensing involves two firms granting mutual access to one another's essential patents, typically with running royalties or a balancing payment below what would normally be charged without the "cross-license", to reflect the mutually agreed relative strength of their essential patent portfolios. It can also reduce transaction costs, foster innovation and generally enable firms to focus their time and resources on developing and selling products rather than on negotiating and possibly litigating over patent licenses.

Q 6.4.1 Pertinence and impacts: In your experience how common is royalty stacking and in which areas of past, ongoing, or planned standardization does it exist or will it likely occur? What problems arise in such situations? How do individual companies deal with such situations and what are the (financial) costs?

The topic of royalty stacking has recently received a lot of attention thanks to an article written by Wilmer Hale & Intel highlighting the problem by reference to exaggerated guestimates that would apply in the telecom industry if the hypothesis used by the authors of the article would be fulfilled – quod non.

Ericsson does not believe there is a systemic royalty stacking problem in the mobile telecom ecosystem and would like to refer an article written by Keith Mallinson in September 2014 that refutes the paper written by Intel & Wilmer Hale by reference to financial and economic data from different sources (source: 'Mallinson on Intel & Wilmer Hale Smartphone Royalty Stack', IP Finance, 19th Sept. 2014, <http://www.wisearbor.com/pdfs/Mallinson%20on%20Intel's%20Smartphone%20Royalty%20Stack%2019Sept2014.pdf>)

The article states in its introduction the following:

"Estimates of patent licensing costs for smartphone manufacturers are greatly exaggerated. Allegations of excessive fees paid and resulting harm to manufacturer profits, incentives to invest and compete are faulty and unsupported by the facts -- which show much to the contrary.

A working paper entitled The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones (the "Paper") has been published by one in-house lawyer at Intel and two outside counsel from WilmerHale. Intel Vice President and Associate General Counsel Ann Armstrong and WilmerHale's Joseph Mueller and Timothy Syrett argue that aggregate patent licensing fees including SEPs and non-SEPs are excessive at around \$120 per \$400 smartphone. They conclude that "few suppliers are meeting the basic goal of selling devices for more than the costs



incurred in supplying them,” imply that this is due to the alleged royalty stack, and state that “those costs may be undermining industry profitability—and, in turn, diminishing incentives to invest and compete.”

Allegations of excessive royalties and harm pile high in smartphones

The Paper’s economic and empirical analyses are deficient and defective. In contradiction to its findings, evidence shows that licensing fees:

1. Are not undermining profits and are not preventing manufacturers from covering more than their costs. According to Credit Suisse, handset manufacturer operating profits since 2007 have tripled to \$51 billion on \$326 billion revenues in 2013.

2. Are not excessive. There is no basis for arbitrary price caps on smartphone patent fees, or limits based on chip manufacturing costs. The latter are unrelated to patented technologies and the value they generate more broadly in the entire device, its use in mobile networks, or across the broader ecosystem including services and applications. Methods of determining charges follow well established principles and benchmarks in bilateral negotiation. Patent licensing fees are analogous to licensing fees for book, music, movie or software publishers, which typically exceed greatly the cost of the physical mediums on which they are published and distributed.

3. Are nowhere near \$120 in aggregate; and there is copious evidence actual payments are much lower than purported. The Paper inexplicably and erroneously disregards fundamental offsets in cross-licensing which greatly reduce or eliminate fees paid to many patent owners. This figure is also systematically biased and inflated by including rates demanded by licensors, even where there is no evidence anybody—including those who have little or nothing to cross license —actually pays such rates. And, where there is, instead, copious evidence that rates actually paid, if at all, are substantially less—orders of magnitude less in some instances. For example, court-adjudicated rates were much lower than “demanded” rates in various cases, and yet the higher figures were used in calculating the above total.

4. Are helpful, not detrimental, to the highly competitive and flourishing smartphone ecosystem. By every measure the patent system and the risk-reward balance it strikes—spurring innovation, market entry and competition while not overburdening licensees—is unmistakably working very well

Other authors have come to similar conclusions (e.g. Anne Layne-Farrar, *Intellectual Property and Standard Setting*, paper submitted as background material for Item VII of the 122nd meeting of the OECD Competition Committee on 17-18 December 2014. In addition, courts have also come to the same conclusions (cf. Judge Davis in *Ericsson Inc. v. D-Link Systems, Inc.*, Case No. 6:10-CV-473 (E.D.Tx Aug. 6, 2013).

Courts also acknowledge that royalty stacking is, unless proven otherwise, a theoretical issue. Last August the District Court for the Eastern District of Texas argued that “[t]he best word to describe Defendants’ royalty stacking argument is theoretical. (...) given the opportunity to present evidence of an actual stack (...) Defendants came up empty”. The Court continued by stating that the Defendants’ expert “never identified an actual royalty stack” [*Ericsson Inc, v D-Link Systems, Inc.*..



Case NO. 6:10-CV-473, US District Court for the Eastern District of Texas Tyler Division, August, 6 2014, page 36].

Finally, stacking has received a negative connotation. However, stacking can also be the result of the increasing integration of more valuable technology into a device. More (patented) technology => more value and thus higher stack of royalty. As long as such royalty stack is corresponding to the value that the technology adds and remains reasonable, there should be no problem for the consumer. This is confirmed by the sales numbers; in many markets the more expensive smart phones (integrating different complex features that can benefit from the connectivity) are the ones that are selling the most. In this regard one could refer to the record sales that Apple has recently posted for its fourth quarter of 2014.

Q 6.4.2 Co-ordination mechanisms: What forms of voluntary co-ordination mechanisms are, or could be, efficient for situations of royalty stacking? Should they be limited to a single standard, or cover families of standards, or cover all standards related to a type of product? How can the abuse of such mechanisms, for example by a group of dominant license-takers, be avoided?

We refer to the answer provided above to Q 6.4.1

Q 6.5.1 Current business practices: On what level of the value chain (e.g. component, bundle of components, final product) does SEP licensing currently take place in the fields of standardization in which you are active/interested? Is this business practice applied by all patent holders/implementers or are there different business practices?

In the mobile telecom industry, the business practice has always been and continues to be to license the final product (i.e. in most cases the mobile phone).

"Virtually every mobile phone manufacturer with a licensing program or that reveals its rates at all, including EU companies (Alcatel-Lucent, Ericsson, Nokia, Siemens), North American companies (InterDitigal, Motorola, Nortel, Qualcomm), and Chinese companies (Huawei, ZTE), has publicly stated in recent years that its mobile standard-essential patent licensing rates are based on a percentage of the entire handset price, as illustrated with LTE. Licensing on this basis is a long-standing practice and was widely recognized since the introduction of 2G GSM, as noted by the International Telecommunications Standards User Group in 1998 and in 2G and 3G standards by several other observers including PA consulting Group (2005), Credit Suisse First Boston (2005) and ABI Research (2007)." (from: Keith Mallinson 'Mallinson on Intel & Wilmer Hale Smartphone Royalty Stack', IP Finance, 19th Sept. 2014, <http://www.wisearbor.com/pdfs/Mallinson%20on%20Intel's%20Smartphone%20Royalty%20Stack%2019Sept2014.pdf>)



Q 6.5.2 Royalty base: How should the royalty base be selected to allow licensing for different types of products (products that rely entirely on a given standard or set of standards, or rely mostly on a set of standards or on multiple technologies)? For a given implementation of a standards in a product, to what extent would it be desirable or feasible that the royalty type be streamlined, e.g. in a percentage of the product value, royalty per unit sold, or lump sum?

Ericsson believes that it is not appropriate for SDOs or authorities to prescribe specific principles governing commercial terms, such as royalties or a royalty base. Instead, such commercial issues should be left to commercial negotiations. As standards are implemented in very different products serving very different purposes, the value that the standardised technology brings can be different. As a result, narrow definitions of value basis may jeopardise broad application of standards rather than facilitate it. Past experience has shown that, at least in the wireless industry, interested parties have been able to apply a pragmatic approach to new products and services using the standards; feature phones turned into smart phones, laptops were equipped with wireless technology (WiFi and WWAN), tablets, wireless routers, cars and other M2M applications and products have all been introduced using 2G and 3G technologies. The existing IPR policies have been able to deal with these situations and where disagreement continued courts have been able to decide.

In practice, most license agreements for standard essential patents provide for the royalty rates to be calculated in function of the end-product in which the standardized technology is used (cf. the answer to question 6.5.1 above). One of the reasons for doing so is that the value added by the standardized technology to the final product will not be the same in each case; for instance, the same 3G, LTE or Wi-Fi standard can be used in a phone, a tablet, a laptop or even a “connected” car.

The conclusion of the above mentioned examples is clear; setting different prices to consumers with different valuations of a good is often welfare enhancing. If a producer must set one price for a good that different consumers value differently, it may set a price that is too high for consumers that place a low valuation on the good to choose to buy it. If the producer can charge different prices to different consumers, it can charge a high price to consumers that place a high valuation on the good and a low price to consumers that place a low valuation on the good so that both types of consumer buy it. This can enable more consumers to buy the end-product and expands output.

If FRAND royalties are calculated (incorrectly) by reference to the price of the smallest component that implements the essential patents in question, whilst the value created by the standardized technology in such components typically is only fully realized in the end-product, then the value of such standardised technology is largely disregarded.

The example set out above shows that price differentiation enables more consumers to buy an end-product, which expands output. Price differentiation thus helps an essential patent owner to set FRAND royalty rates and is the most efficient approach to ensure that the patent holder achieves a fair return on its investment, while also promoting and maximizing the wide adoption of the standard.



As a result, in the telecommunications standard-essential patent context and based on industry practice, we believe that royalty rates based on, and applied against, the entire market value of the end product are appropriate.

More guidance is always useful, but then again a request for more guidance is not specific for standard essential patents; valuation of IPR is not always an easy exercise. Therefore, incentives should be focused on parties trying their maximum to come to a negotiated license agreement and do not use SDOs or public authorities to intervene in what is in essence a commercial dispute.

Q 6.5.3 Need for clarity: Is this issue, in your opinion, currently addressed in the patent policies of the standard setting organizations in your area of activity/interest? Is there a need for more explicit rules or should this be left open?

This question has been answered before in the questionnaire. Reference is made to 6.1.1; 6.5.1 and 6.5.2

Q 6.5.4 Impacts of changes: What are the advantages of giving or denying the patent holder the right to licence only on one level in the value chain and thus of allowing or prohibiting that he refuses licences to implementers on other levels? Please distinguish between impacts on patent holders, on component makers, on end product makers and on the standardization system itself.

There are many reasons why licensing at different levels of the value chain may be problematic and even render the compliance with the FRAND commitment impossible. Before addressing these issues, we would like to comment the terminology used for this topic. Indeed, the use of the words “refusal to license” puts the entire debate in a very negative spotlight. As indicated above, the essence of standardisation is for parties who have contributed their technology to a standard to make such technology accessible. This is the main goal described in the horizontal guidelines (paragraph 280 and 283) as well as in the IPR policies of many SDO’s (e.g. ITU). Therefore, the refusal to allow the technology to be accessed would be problematic; the refusal to grant a license does not have to be.

Furthermore, if holders of standard essential patents would not, within the limits of the commitment made to provide access to the standardised technology, be allowed to some level of freedom in their licensing policy for their standard essential patents, then the consequence is not so much a “refusal to license” but rather an “obligation to license” even in absence of an assertion. Such obligation is problematic in dynamic markets where new business models, new products and services and new companies can appear and disappear in a very short time frame.

If patent holders would be forced to grant a license to any potential licensee:

- this may impact the existing ecosystem of licensors and licensees via the effects of patent exhaustion. As a result the patent holder would in a scenario where a new licensee at

another level in the value chain claims a license, be required to revisit existing licensing agreements and verify whether the new license of standard essential patents can create a problem (e.g. the risk of double-dipping). Depending on the outcome of that exercise, and upon the new licensees' demand to receive a license that covers the patents with claims that read on its product or rather a license to all standard essential patents that read on a standard, the patent holder may be forced to replace existing licenses with new agreements on different levels and do so while respecting its FRAND commitment (if at all possible). This will have a real impact as it will open the debate regarding contractual revisions, rescission, damages and compensation.

- the patent holder will be faced with an increased risk that it can no longer comply with the FRAND commitment.
- the patent holder will be confronted with an important increase in transaction costs as a result of more complex licensing, increased risk of litigation and increased cost for monitoring. For example, while the sale (e.g., volume, sales price, location) of end-user products including the patented technology is fairly visible, the sale of components that may practice aspects of the patented technology is much less transparent and thus requires more monitoring efforts from the patent holders. Moreover, one of the results of this increased complexity may well be that it will become impossible for the patent holders to receive FRAND compensation in certain scenarios (e.g. because an infringement cannot be spotted or because the complexity of licensing is such that the cost of licensing becomes more important than the revenues).
- the possibility for the patent holder to enter into cross licenses (may be reduced as there are typically far less companies active in upstream businesses (e.g. chipset sales) than there are in more downstream (e.g. OEM producers). As highlighted above cross-licensing reduces transaction costs, fosters innovation and increases patent peace. It is therefore important to try to create as much possibilities as possible to enter into cross licenses. Furthermore, existing cross-licenses may be severely impacted by the working of exhaustion (similar to the points raised above).
- finally the total impact on the patent holders' position and on its FRAND obligations will lead to uncertainty and possibly to additional litigation that in turn will affect the standardization negatively.

By making the FRAND commitment the patent holder commits to provide access to his patented technology on FRAND terms (and thus, provided he is compensated, not to use the exclusionary rights that are linked to his patents. It would be surreal to accept that such FRAND commitment would allow the licensee to be unfair and unreasonable towards the patent holder.



Q 6.6.1 Definition in practice: In your opinion, what is the best definition of the non-discrimination principle? What aspects of non-discrimination do you find important? Is there sufficient clarity on what non-discrimination means and how it is to be applied in practice? Does the non-discrimination principle relate to the initial offer of the patent holder or the actual outcome of negotiations? Does it relate to an offer isolated to a single standard or to multiple standards? Do you consider that the non-discrimination principle creates obligations on the (potential) licensee?

“Non-discriminatory” does not mean that all license agreements must foresee the exact same F/RAND compensation; there may, in certain cases, indeed be different objective justifiable motives to treat licensees (even if they are similar) in a different way. Justifiable motives can in such cases be for instance; the potential for cross-licenses, a guaranteed volume, a lump sum license vs. a royalty based license, multi-mode vs. single mode, etc...

Another important element to take into account is the highly dynamic nature of certain ecosystems that rely heavily on standardisation. Because of this dynamic nature, one may also need to take into account that there can be difference between license agreements to the same standardized technology that are concluded at different periods of time, without such differences causing to breach the non-discriminatory part of the FRAND commitment.

Q 6.6.2 Pertinence: In your experience, is the non-discrimination commitment sometimes/often broken? In what ways is it broken? Please provide examples. Is there sufficient transparency about licensing terms to allow participants to assess whether they are discriminated against?

We do not have the experience that the non-discrimination commitment is often broken.

With regards to the transparency issue, we would like to refer to the answer provided to the above question 6.6.1 and highlight that licensing agreements are commercial and thus confidential agreements. This confidentiality works both ways as it not only protects the commercial licensing terms (e.g. royalty rate) but also commercial business secrets of the licensees (e.g. detailed financial results such as volume sales, product details, etc...).

Q 6.6.3 Justification for discriminations: Are there any reasons why individual implementers could be excluded from the obligation to license to (reciprocity)? What would justify different terms and conditions for FRAND licenses?

This question has been answered before in the questionnaire. Reference is made to 6.5.4; 6.6.1 and 6.6.2



Q 6.6.4 Cash-only/cash-equivalent: One idea discussed in the standardization community in order to make licensing terms comparable in cases, where non-cash elements such as cross-licenses are used with some implementers, is to foresee that a cash-only offer is made. What is your opinion on this? Should this idea apply only in some instances and, if so, in which? Should this be a genuine self-binding offer or would a cash equivalent estimation of non-cash components be preferable?

In the answer to the question 6.3.3, and elsewhere in this questionnaire, we have highlighted the important benefits that cross-licenses represent for the ecosystem. Eliminating the possibility to cross-license may reduce patent peace and limit substantially licensing efficiencies.

Furthermore, as indicated above in the answers to question 6.5.2 Ericsson believes that it is not appropriate for SDOs or authorities to prescribe specific principles governing commercial terms. Instead, commercial issues should be left to commercial negotiations.

Q 6.6.5 Other mechanisms/differences in national jurisdictions: What other mechanisms for ensuring non-discrimination are you aware of? What are their respective costs and benefits? Where and how should they be implemented (at standard setting organisations or in regulations)? Are there differences across national jurisdictions in the EU/EFTA or worldwide that negatively impact on these solutions?

We are not aware of other specific mechanisms in national jurisdictions.

Q 7.1.1 Pertinence of the issue: In your experience how often do disputes over SEPs arise, notably in comparison to patents that are not standard essential but comparable? Are there typical circumstances that make disputes particularly likely to arise? What role do business models or product life-time cycles have in this regard?

Taking into consideration the number of different standards and the corresponding high frequency of licensing negotiations worldwide, disputes over standard essential patents are rare. However, we have noticed that in recent years there has been an increase in the number of disputes over standard essential patents. This is not surprising as the wireless telecom market has grown substantially and the stakes are high.

One of the circumstances that can make disputes likely to arise when confronted with an “unwilling licensee” is the particular commercial dynamic in the standardised wireless telephony ecosystem. As indicated above, the wireless telecom is marked by the availability of blue print standards. Such standards allow the users to get access to the technology even if they have not concluded a license. This means that users of the standard can, from a pure practical point of view, start commercialising products that incorporate the standard without first having to negotiate and sign a license. This may create the subjective (but clearly erroneous) feeling that no compensation is required and that

infringement of standardised IPR is acceptable. Disputes typically arise when a potential licensee refuses to negotiate and/or sign a license on FRAND terms and instead tries to gain unfair advantages over its competitors by refusing a FRAND compensation for the use of standardised technology.

Q 7.1.2 Main areas of disputes: What are the main areas of disputes over SEPs (infringement/ essentiality, validity, value, etc.)? How are these areas related in the practice of negotiations and litigation?

Like in most patent related disputes, once a dispute has started, typical subject matters of the dispute are infringement, essentiality, validity and value. Specifically for standard essential patents there are also discussions on the FRAND nature of terms and conditions.

Q 7.1.3 Cost of disputes: What are the typical costs of settling SEP disputes? What factors drive these costs in practice and to what extent? How do firms try to minimize costs?

There are no typical costs of settling standard essential patent disputes as costs tend to vary substantially depending on the jurisdiction, the complexity of the arguments made in the dispute (e.g. cross licensing questions) and other elements. In general, a jurisdiction with large discovery possibilities carries larger costs than one with no or limited discovery possibilities.

The main drivers of costs are usually discovery costs and lawyers' fees. The importance of the cost varies with the subject matter, jurisdiction, etc.... Finally, a country by country and patent by patent approach instead of a global portfolio approach will further drive costs for settling disputes over standard essential patents.

Q 7.1.4 Impact of disputes on standardization: Do you perceive an impact of disputes on the standardization work itself? Do standardization participants foresee future disputes and adapt their behaviour during the standardization process accordingly?

The outcome of disputes may in certain cases drive companies to review and, if required, adjust their licensing practice. If the outcome of disputes would distort the balance between contributors to the standards and users of the standards than this may, in the mid to longer term, have an impact on standardisation. This point has been addressed extensively in previous answers to this questionnaire.

Furthermore, as indicated above, there have been very little disputes on the technical standardisation process.



Q 7.2.1 Usefulness of alternative dispute resolution: In your experience, does ADR currently play an important role in resolving SEP disputes? Is it regularly considered/discussed when SEP disputes arise? Do you see any trend in its prevalence?

So far ADR has, in our opinion, not played a significant role in resolving disputes over standard essential patents. In order for the use of ADR in standard essential patents disputes to be successful and used, it requires the consent of both the patent holder and the licensee to submit their dispute to a form of ADR.

In cases where the user of the standardized technology is not willing to negotiate and/or sign a license agreement, there is a risk that ADR will not be used to solve a dispute, but rather to try to further delay the resolution of a dispute. Such delay may be caused by initially engaging in discussions on the modalities of ADR and eventually refusing to participate e.g. because of a lack of agreement on such modalities.

Q 7.2.2 Target areas: Which situations/external factors render an alternative dispute resolution mechanism particularly useful? In what areas of patent based standardisation would ADR be particularly useful?

The use of ADR mechanisms can for instance, in certain conditions and subject to the collaboration of the parties, be useful for such parties to come to an amicable global solution within a reasonable time frame on a comprehensive portfolio of patents.

Q 7.2.3 Suitable forms of ADR: What form of ADR (mediation, arbitration, other) do you consider suitable for what type of conflict?

ADR can be suitable for almost all disputes. Which type of ADR to choose for which disputes and how to tailor the ADR process, is depending on the parties and their willingness to negotiate and ultimately, enter into a license agreement in a timely and efficient manner.

Mediation can be a good process to help the parties, with the assistance of a neutral third party, to work towards an amicable solution. However, mediation does normally not result in a binding decision and thus its outcome is generally not enforceable.

Arbitration may be a way to settle disputes (over standard essential patents). However, arbitration is not suitable to define all the actual details of a patent license agreement. For arbitration to be a good option, it requires for both parties to agree on the substantial part of the relevant terms and conditions of a patent license agreement before going into arbitration, such that the process itself is contained around a very specific matter left unresolved (like the license rates). This inherently comes with challenges as the parties enter into arbitration due to the inability to agree. Therefore the arbitration mechanism is a good one but does in practice have limitations as suitable only for cases where parties are on speaking terms.



Q 7.2.4 Benefits of ADR: What are the benefits of alternative dispute mechanisms applied to SEP disputes respectively for patent holders and/or patent users? What are the most important conditions to ensure that these benefits materialize?

We believe that ADR can provide benefits for both parties. In general, ADR is faster and less costly than regular litigation. In a mutually agreed ADR both parties can reach a global solution over a global patent portfolio. This provides patent peace and freedom to operate which is beneficial for the patent users.

We believe that it is important that both parties mutually and carefully define the scope of the ADR and try to resolve as many differences as possible prior to the beginning of the ADR so that the ADR process can be focused and targets the few unresolved issues left.

Q 7.2.5 Difficulties and costs: What are the main difficulties and costs for parties in agreeing to and setting up a given dispute resolution mechanism? What do the costs depend on? Do rules on ADR differ between jurisdictions and does this create problems?

Usually there are no main difficulties to set up a given dispute resolution mechanism once the parties agree to use ADR. However, as indicated above, discussions around the setting up of an ADR may in some instances be used as a means to delay negotiations.

Costs related to ADR depend of various items such as: place of arbitration, subject matter of the dispute, use of discovery etc...

There are some differences between jurisdictions but also between different ADR institutes although most of the reputed institutes have relatively similar rules. The differences that exist between their respective systems in general do not materially affect the ADR.

Q 7.3.1 Your experience: Are you participating in SSOs that have ADR mechanisms? To your knowledge are they being used? If so, what are the experiences? If they are not used, why not?

The most important SSOs for our activities do not have a mandatory ADR mechanism.



Q 7.3.4 Voluntary/mandatory: What are the benefits and risks of making ADR mandatory for the resolution of SEP disputes? What consequences would this have for participation in standardisation, for licensing negotiations and for the implementation of a standard? If ADR would be made mandatory: Should it be linked to membership in SSOs, or to the fact of contributing a patented technology to a standardisation process, or other? Should there be an opt-in/opt-out possibility at the declaration stage? Should ADR replace litigation completely or should it be a mandatory step (e.g. mediation) before litigation?

If ADR would be linked to the membership of the SSO, then it would not be very effective as it would not bind the licensees who are not members. In such scenario the ADR mechanism can be used as a means to delay the conclusion and implementation of a license agreement as indicated above.

With regards to the question on a possible mandatory step of mediation prior to litigation, we believe that the main danger could be that such a mandatory mediation may be used to delay the negotiation process. If made mandatory, sufficient safeguards should be put in place to make sure that the mediation would not impact the possibility to have FRAND adjudication in a timely and efficient manner.

Q 7.4.1 Specificities of ADR for SEP disputes: Which particular features should ADR mechanisms have in order to be (more) suitable for SEP disputes? What would constitute a ADR mechanism "tailor-made for SEP disputes"?

We believe a co-operation between the SSO and the ADR institute (that should remain independent) can help the latter to become/remains sufficiently aware of the SSO rules, the industry practice, the ecosystem, etc...

An ADR mechanism that could be very helpful for disputes over standard essential patents would one whereby the parties can reach a global solution over a global patent portfolio as indicated in our answer to Q 7.2.4 above and Q.7.4.2 below.

Q 7.4.2 Scope of ADR: Which issues such as rate, validity, essentiality and infringement should be addressed by ADR in SEP disputes? Which territory should be covered? When is the adjudication of a global license suitable and when not? Should ancillary claims also be addressed and if so, how?

We believe that all of the above mentioned issues can be addressed in ADR. Furthermore, as the standardisation effort in the telecom sector is a global effort (the standards work in all countries of the world), the ADR should allow for this global reach to be reflected in the dispute resolution process. Without the possibility of such global reach, the ADR mechanism may be used as a means to further delay the dispute resolution that it was intended to make more efficient.

We believe that a global license is appropriate in cases where a player has made heavy investments in a global standard which is reflected by its patent portfolio. As indicated above the telecom



standards operate on a global basis. To allow for this global reach to be fragmented into local licenses 1) does not serve the general purposes of the standardisation, 2) goes against the idea that licenses should provide freedom to operate and 3) may create incentives for behaviour that in the long run will kill incentives for standards to have a global reach (e.g. local protectionism). We therefore believe that, in these cases, the adjudication of a global portfolio license is suitable in order to achieve a cost efficient result.

Q 7.4.4 Timeframe: What would be a reasonable timeframe for dispute resolution mechanisms? In which cases is an accelerated procedure suitable? In what procedural and/or substantive ways should this accelerated procedure differ from the regular one?

We believe that in many cases one year should be a sufficient time frame for the parties to bring their arguments and defenses and have an outcome to the dispute.

Accelerated procedures may be problematic from the point of view of the parties' rights to bring a proper defense. However, in cases where the hold out behaviour of the users of the standard has created substantial delay and where there are no serious arguments brought forward, it might be justified to tolerate an accelerated procedure. The specific circumstances of each case will be determining in this regard.

Q 8.1 Defences for patent holder: What needs to be done to ensure that holders of standard essential patents have effective means of obtaining appropriate remuneration for their patents and to defend themselves against implementers who are unwilling to pay royalties or who delay payment of such royalties? What can standard setting organizations do in this regard?

When a patent holder is confronted with a company that uses its patents but refuses to accept a license for such use, then recourse to injunctive relief is a legitimate remedy for the patent holder.

Without the right to apply for injunctive relief, patent holders would be left without an effective remedy to obtain a fair and reasonable royalty in an efficient manner and in a reasonable time frame. Without the right to apply for injunctive relief, unwilling licensees have no or very little interest in entering into licences and have every incentive to force patent holders to start litigation. Such litigation comes at a cost and takes time. Therefore, if the right to seek an injunction would be taken away from these patent holders, then this would place a disproportionate and excessive burden on them and will trigger a substantial devaluation of standard essential patents.

Some industry participants (followed by a few academics) have suggested that Essential Patent holders should be prohibited from seeking injunctive relief against implementers who manufacture products that infringe an Essential Patent holder's patents by implementing such standards without paying FRAND royalties for their use.

Patent holders have a basic right to seek and, under appropriate circumstances, obtain injunctive relief. Having exhausted reasonable efforts in offering and negotiating a license on FRAND terms, it must be legitimate for an Essential Patent holder to seek and obtain an injunction against a potential licensee.

This is a widely accepted principle and recognized by the European Commission: “The right of a patent holder to seek and, under appropriate circumstances, obtain injunctive relief is one of the basic rights of patent holders to prevent others from using their patented inventions. Essential patents should be no exception to this universal rule. In situations where holders of essential patents have exhausted reasonable efforts in offering and negotiating a license on FRAND terms, it must be legitimate for them to seek, and subject to the courts’ approval obtain, an injunction against a potential licensee that is unwilling to negotiate in good faith on FRAND terms and in a timely fashion”.

A restriction of this right could contravene the fundamental right of the patent holder to access the courts and seek effective remedies in order to protect its intellectual property.

Allowing Essential Patent holders to seek injunctive relief remains the most prudent course of action to encourage parties to reach negotiated agreements.

The role of SDO’s in this regard is fairly limited as the right to seek and obtain injunctive relief is very much determined by national law (often subject to international treaties). SDO’s could try to ask their members to voluntarily reduce the right to use injunctions. However, in light of the current evolutions with increasing signs of the widespread of hold out in the market (cf. our answers to question 6.1.3), it may be difficult to reach consensus in the SDO’s on any text that would further reduce the right of the standard essential patent holders to enforce their rights. As indicated, the main purpose of the SDO’s is to try to keep a fair balance between 1) the possibility for the standard developer to receive a return on its investment within a reasonable commercial window of opportunity; 2) the possibility for the standard user to get access to leading edge technology for a compensation that is reasonable so that its burden will not prevent the standard from being implemented.

Q 8.2 Protection against abuses: How can it be ensured (at the same time) that injunctions based on standard essential patents are not abused to either exclude companies from implementing a standard or to extract unfair, unreasonable or discriminatory royalties from them?

These questions in essence relate to the theory of hold-up. There have been many studies in relation to this theory and how it could affect the telecom industry. However, there is no evidence of the existence of a systemic problem affecting the entire industry.



There are a number of recent sources that have clearly confirmed this total lack of empirical evidence. One of which is a recent paper by Anne Layne Farrar⁷ who states: *“Despite the 15 years proponents of the theories have had to amass evidence, the empirical studies conducted thus far have not shown that holdup or royalty stacking is a common problem in practice. Some have pointed to historical examples to establish holdup, citing early aviation and vacuum tube radio patent litigation involving numerous patent holders and government intervention. However, careful historical sleuthing demonstrates that while these famous cases are indeed examples of heated IPR disputes over blocking rights, they are not examples of holdup or royalty stacking.”*

In addition we would like to refer to the report published by the International Association for the Protection of Intellectual Property (AIPPI) which contains a comparative legal analysis for the specific conditions in which injunctive relief or similar orders of exclusions are available for infringement of standard essential patents for which there is a FRAND commitment. The legal analysis covers many jurisdictions including the United States, Germany, the Netherlands, Italy, France, United Kingdom, Japan, South Korea, China and India. Some conclusions from the report⁸:

- *In most jurisdictions, the respective national patent law, general principles of civil law, IPR Policies of SSOs, and/or competition law may grant the defendant additional arguments, defences, and/or a standalone claim against the patentee's request for an injunction for the infringement of a SEP.*
- *The various cases that have been reviewed by the Committee suggest that in most jurisdictions holders of FRAND-committed SEPs are far from certain to be awarded injunctions (and even less likely to obtain preliminary injunctions).*
- *The cases reviewed by the Committee further suggest that there is no apparent reason to believe that national judges cannot consider whether or not injunctive relief for FRAND-committed SEPs is warranted in any particular case.*

The report indicates that court-ordered injunctions are not granted automatically in the case of standard essential patents. So courts do evaluate the facts, including the fact that the patents are part of a standard, and are in general well- equipped to handle these issues.

⁷ Anne Layne-Farrar, Intellectual Property and Standard Setting, paper submitted as background material for Item VII of the 122nd meeting of the OECD Competition Committee on 17-18 December 2014; another source can be found in a recent decision of the US ITC (“In the Matter of Certain Wireless Devices with 3G and/or 4G Capabilities and Components thereof, Inv. No. 337-TA-868, US ITC, June 13, 2014”), where a reference is made to references a letter from the TIA to FTC indicating that “Telecommunication Industry Association has never received any complaints regarding such “patent hold-up” and does not agree that “patent holdup” is plaguing the information and telecommunications technology standard development processes.

⁸ AIPPI Special Committee on Patents and Standards (Q222) Report – Work Plan Item #5, Availability of injunctive relief for FRAND-committed standard essential patents, incl. FRAND-defence in patent infringement proceedings



Q 8.3 Prevalence of injunctions: According to your experience, in which fields of standardization and in which situations are/were injunctions based on standard essential patents threatened and/or actually sought? What are/were the consequences? Please be as specific as possible.

As indicated above in the answer to question 8.1 injunctions are a necessary remedy for the patent holder to make sure that it received FRAND compensation for the use of its standard essential patents. Without the right to apply for injunctive relief, unwilling licensees have no or very little interest in entering into licences and have every incentive to force patent holders to start litigation. Therefore, if a user of the standard is unwilling to negotiate and/or conclude a license at FRAND terms, then patent holders are entitled to use injunctions.

Q 8.4 Consequences of banning injunctions: Are you aware of national jurisdictions that have banned injunctions based on standard essential patents or that have restricted injunctions even against unwilling implementers (court cases or legislative changes)? Did this impact on the licensing negotiations, on the royalty rates and/or on the risk of getting no remuneration at all? How did patent holders reacted in these jurisdictions?

We are not aware of such jurisdictions.

Q 8.5 Awareness among stakeholders: In your experience, is there sufficient awareness among standardization participants of the recent EC antitrust decisions cited above? What role can standard setting organizations play in ensuring awareness of these antitrust decisions? On what aspects of the issue as such would you welcome additional guidance, if any?

We believe there is sufficient awareness among the participants in the ETSI and ITU special committees on IPR.
