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Konstantinos Karachalios



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The challenge of patent governance in ICT Standards, seen from a patent authority's perspective

Presented at NBR-EWC Workshop on “China’s Standards and Innovation Policy
– Sharing the Benefits in the Emerging Global Knowledge Economy”

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In the 90s, technological and regulatory developments irreversibly changed the business landscape, spurring the growth of the industries of telecommunications, computers, and audio-video consumer electronics. An underlying factor was the large scale migration to digital technologies with the incorporation of programmable software, in a rush to always greater performance and new functionalities. Another factor was the liberalisation in broadcasting and telecommunications, within the broader framework of globalisation.

Fiercer competition and greater value placed on intangible assets have been enhancing the role of patents. Correspondingly, the technical harmonisation necessary for the interoperability of electronic devices enhanced the role of technical standards. Thousands of patent applications are now filed in conjunction with the elaboration of new ICT standards.

Standards by their very nature relate to products having high market volumes. Past examples include optical media (e.g., CD and DVD), audio compression (e.g., MP3), video compression (e.g., MPEG), mobile telecommunication (e.g., GSM), digital television (e.g., DVB), and personal computer interfaces (e.g.,

¹ Although the facts and evidence on which this article is based are provided by several EPO departments, this text and the conclusions drawn ultimately reflect the personal opinion of the author, but not necessarily of the EPO

USB). With so many products at issue, and markets so big, there are often very high stakes involved when a patent dispute related to industry standards arises in court. All considered, the stakes are enormous and ever growing.

Over and above standards, companies are escalating patent filings with the aim of improving the state of their intellectual property rights (IPR) ammunition when entering markets where they or others are already established players. This is the case, for instance, of computer or telecom firms, incumbents in or entering the consumer electronic market, or of upcoming Chinese and Korean companies with global ambitions. This is terrain for strategic patenting, patent thickets, and many patent applications of incremental nature, which prompted the EPO attempts to *raise the bar*.² This is also the terrain for conflict between the camp of those who want no patents on software and those, who with their IPR, want to exploit their dominant position, either alone or in an oligopoly³. With this in mind, the public opinion and some actors in the standardisation bodies themselves, often perceive the patent world as an obstacle, rather than a stimulus to innovation. And, last but not least, this is the location where the trajectories of geopolitics and technology meet and tensions are rising. Not only companies, but states and regional entities are using standardisation and the resulting platforms for gain or to maintain technological leadership⁴. It is not by coincidence that the World Intellectual Property Organisation has recently published a report on standards and patents, pointing also to the challenges that arise from the interplay between these two systems.

From our perspective, the one of a public authority for processing and examining patent applications, we experience that companies have been and are still

² C. McGinley 'Taking the Heat out of the Global Patent System' , *Intellectual Asset Management* August/September 2008

³ Alliances and strategies shift over time; The IP strategist of a flagship corporation in the ICT field told at a conference of the Brookings Institution ('The Limits of Abstract Patents in an Intangible Economy'; January 2009, Washington DC) that the company is changing tack in this field and would halve their patent applications.

⁴ Scott Kennedy, Richard P. Suttmeier and Jun Su 'Standards, Stakeholders and Innovation - China's evolving role in the global knowledge economy', NBR special report 15, Sept. 2008

adjusting to this new framework—the development of new IPR strategies and new models of business. For instance, companies have learnt to coordinate the standardisation process and the patent prosecution process, deliberately delaying the patent examination process, adjusting the claims to fit the standardisation outcome. The EPO is carrying out studies to examine how this behaviour influences pendency times and thus increases uncertainty in key technological fields.

Aiming to establish better rules, national, regional, and international standardisation bodies are also adjusting their IPR policies. As we all know, the European Commission is also looking at this area. But for the sake of flexibility and speed, private standardisation consortia, driven by businesses, trade associations, or even communities of individuals, are also created *ad-hoc* to execute their mission and be dismantled, bypassing established formal standardisation bodies completely, and sometimes leaving little traces.

The interfaces between the world of patents and the world of standards are many. Both systems enable knowledge creation and diffusion, and support innovation and growth. Both are at the crossroad of technology, business, economics, and law. Both are within the sphere of plural national and regional interests, occasionally cooperating, more often competing. The scope for explicit policy making is broad and manifold.

EPO's involvement

Against this background, the EPO has not been standing still. Since the 90s, there has been an effort to incorporate the prior art generated by standardisation bodies in databases, and to establish contacts and liaisons with them. In 2006 a joint working group, including experts from several concerned EPO departments, invited representatives of selected Standardisation Organisations (SDOs) to a workshop at the EPO. One might wonder why patent offices should bother to

come into dialog with SDOs, instead of putting all their resources into solving the problems with their formidable backlogs. Before the meeting, this was also largely the opinion within the EPO.

I can assure you that now we - and by saying “we” I mean all involved circles within the EPO, up to the highest level - perceive the interaction between patents and standards as a public policy issue, one that has the potential for exerting serious impact both on the functioning and the reputation of the patent system. Thus, doing nothing is not simply inertia, it is a strategy with some winners and many losers and we are not sure that the patent system will continue to be on the side of the winners in the long term, if things continue in this manner. This conviction was reinforced when we examined the tension between standards and patents through the lens of the “Scenarios for the Future,”⁵ I will return to this topic later in the paper.

Looking at the standardisation process from the perspective of a patent office, the main concern is that formal standardisation bodies do not always give themselves dissemination and confidentiality rules compatible with the patent system for both their input and output documents, and if they do, they sometimes experience a lack of enforcement of such rules. Confidentiality rules, if there are any, are sometimes not spelled out clearly for all stakeholders, with specific reference to the dates of public dissemination or of expiry of confidentiality of the documents.

Confidentiality rules may also prevent the use of such documents in the patenting process as prior art. This becomes a serious problem when companies participating in concrete formal standardisation undertakings do not seem to respect such alleged, but not enforced, confidentiality rules, free-riding thus on the ideas of original innovators. Such grey zones at the interface of two systems

⁵ Scenarios for the Future, EPO, 2007
<http://www.epo.org/topics/patent-system/scenarios-for-the-future.html?banner=topics2>

so vital for the technical progress, pose a real threat not only for the companies' good reputations, but for technical progress itself. For the ones that are reluctant to the argument I make, I hint to the recent launch by the European Commission of a tender to carry out a "Study on the interplay between standards and intellectual property rights (IPRs)". Point 1.5 of Annex 1 to the contract conditions explains what should be studied and why.⁶

With regard to Europe, another problem from the EPO's perspective is the US first-to-invent principle, which takes submissions to SDOs as proof of conception rather than of anticipating prior art. This should be a matter to be included in the current transatlantic dialogue with the aim to harmonise norms and legal standards.

Moreover, each standardisation body has its own history, policies, rules, and formats. Some ad-hoc SDOs produce relevant documents in strategic patent fields but are difficult to follow-up. The world of standards is in permanent turmoil. As mentioned before, tracking the date of the disclosure of contributions before or during meetings of SDOs is essential in the patenting process. EPO's Information Acquisition Directorate puts significant extra effort to procure these specific types of documents, because the data to be harvested is not well structured, scattered over several locations and its prior art nature is not always perfectly clear.

Significant additional investment is also needed for EPO's examiners to remain abreast of new developments in terms not only of technology, but also of information retrieval. Specific training is necessary and periodic attendance at strategic standardisation meetings are part of this, in order for the EPO's experts to keep up with the public disclosure of submissions and to understand them.

⁶ http://ec.europa.eu/enterprise/newsroom/cf/document.cfm?action=display&doc_id=3828&userservice_id=1&request.id=0

Finally, some cases involving standards have been matter of appeal at our Boards of Appeals and case law is being elaborated. There is also European case law developed in litigations.

The standards-patents issue seen through the scenarios lens

But let me go back to the mentioned 'Scenarios for the Future' work. As some of you may know, these scenarios were developed by the EPO in the course of an inclusive and collective project that lasted three years and were published in spring 2007. They have at their heart the battles around production and appropriation of codified knowledge, in particular the conflicts linked to the emergence and control of global technological platforms.⁷ Although their prediction accuracy proves astonishing, including the double crisis, financial and environmental, their strength is at another level. We made a genuine effort to capture the dynamics of the most important actors, the potential agents of change, the ones whose logic does not accept any other limit than their own rationale. We identified four such “warriors,” veritable “machines de guerre” in Deleuzes' terminology, and asked ourselves how things could develop if each one of them imposes its logic. Of course, this is an abstraction, but one that succeeds to frame the issues and identify blind spots in strategies.

Almost two years ago, I participated at another standards-related conference in Beijing and on that occasion I made a presentation about the outcome of the standards-patents tension in the contexts of the four scenarios, which was further enriched for a keynote speech at the Computer, Freedom and Privacy

⁷ As described in Dieter Ernst's studies, e.g. “A New Geography of Knowledge in the Electronics Industry? Asia's Role in Global Innovation Networks”, Policy Studies 54, East-West Center, 2009, Available as pdf file at <http://www.EastWestCenter.org/pubs/3242><<http://www.eastwestcenter.org/pubs/3242>

Conference 2008 at Yale University. I would like to present here a very brief summary and refer to the mentioned presentations for the full background.^{8 9}

Market Rules

In the scenario where - despite the recent heavy questioning of the wisdom of the Washington Consensus - the ideology of a largely unregulated market continues to dominate, it is no surprise to see the big, western or de facto westernised flagship corporations dominate. The setting of standards will remain a battleground between these powerful players. The ultimate reward: the 'golden patent' with its potential for technological lock-in. There are many losers, but also winners. The winners are those who manage to create oligopolies, gain ever increasing market share and therefore the ability to plough some of their profits back into further R&D. In doing this, they are able to secure their dominance in the market, and offer greater product differentiation, leading to even increased market share. For the end users, there are advantages to be gained from this globalised approach, as important technologies are more or less affordably priced and business-driven technological diffusion of low carbon technologies seems to work. But ultimately, the sting in the tail is the considerable degree of privatisation of knowledge, with the increasing transaction costs of sharing, and the growth of only few key technologies, creating reliance on technological monocultures and vulnerability to supply chain disruption.

Whose Game

In the scenario where the Washington Consensus of smallest possible government is overturned, explicit political power makes a comeback and increasingly regulates markets; it is geopolitics rather than business-as-usual that makes the game. The newcomers and fast-followers skilfully use the spreading of global innovation networks to absorb cutting-edge technology,

⁸ 'Standards, IPRs and Competition', Symposium by MofCOM and ETSI, Beijing, 31 October 2007; http://portal.etsi.org/docbox/Workshop/2007/2007_IPR_Symposium/002.1.%20EN%20-%20EPO_KARACHALIOS.pdf

⁹ <http://www.cfp2008.org/wiki/images/7/75/KarachaliosKeynote.pdf>

whereas the incumbents increasingly fail to use IP to maintain technological superiority. Thus, the new entrants become increasingly successful at shaping the evolution of the global industrial architecture. Their companies, actively supported by state policies, use the known lethal weapon of IP and industrial standards to establish economic and geopolitical advantage. Adapting and changing the existing rules goes hand in hand with an increase of their geopolitical influence. The US and the EU react with the erection of new trade barriers based on high carbon tax, which leads to the emergence of two dominant trading blocs by 2025 – the Transatlantic and the Asia/Pacific. Globalisation as we know it is finished, at least for now. Competing trade zones battle for skills and knowledge with rival IPR regimes and rival, non-compliant standards, even for the Internet. Interoperability ends at the border of each block.

Trees of Knowledge

In a world where status-quo critical, societal groups become the dominant driver and shape the political agenda, popular movements – often coalitions of civil society, businesses, concerned governments and individuals – are profoundly challenging existing IP norms. The planetary scale of the challenges – economic and environmental – favours broadly shared agendas and undertakings, individual optimisation strategies are not any more *en mode*. As the IP system fails to adapt to this new political reality, diminishing societal trust and growing criticism result in its gradual erosion. Powerful foundations and mighty “flagship” corporations, the business models of which are based on absorbing ubiquitous creativity and integrating diverse technologies on patent-free platforms, ally themselves with those movements and help decisively shift the balance. Knowledge is supposed to remain a common good, while acknowledging the legitimacy of reward for innovation plays less and less a role. Thus the patent system is shrunk drastically and only a very few patents are granted in the sensitive field of standards, as there is strong societal pressure for IP free technological platforms.

Blue Skies

In the fourth scenario, where techno-politicians and futurists, become the dominant driver, limits other than technical are unacceptable. These proponents of the techno-fix have convinced a lot of people that not to do what appears doable in order to reach superhumanity or at least transhumanity is considered as a cardinal sin. However, the priorities and the logic of the technocrats are not necessarily those of capitalists. And, for a long time, the trajectories of the IP needs of emerging complex, interdisciplinary technologies have been in conflict with the ones of classic, discrete technologies. There has been thus a mounting pressure from several sides to regulate the use of patents. As the question “who pays for the deal” poisoned the negotiations for a post-Kyoto convention to tackle the challenge of climate change, the patent system found itself – once more – in the inconvenient position of the scapegoat. Allegedly in order to guarantee broad availability and diffusion of key environmentally sound technologies, and this included almost all global ICT platforms, a split of the patent system occurs abandoning the one-size-fits-all core feature of TRIPS. The former patent regime still applies to classic technologies while the emerging ones use other forms of IP protection, such as the license of rights. As the IP system splits across industrial sectors, the “soft IP” regime with licenses of rights is introduced as a rule in almost all standard-related technological fields for telecoms, audio-video-media and computers. Exclusivity of patents is thus abandoned in these fields of industrial standards.

These are the four scenarios and I would like to emphasize that – as I explained before – they are neither our plans nor our visions, as they reflect the dynamics of players beyond our control. I keep repeating this fact, because we see that in translations to some languages, including Chinese, the translators face difficulties in making this difference. I can thus imagine the shock of our partners in these countries to think that the EPO has a preference to or – even worse – it plans any of these dark outcomes. So, please, no plans, no visions, simply an intellectual effort to understand extreme complex dynamics and to frame

uncertainties, to reduce the space where '*we don't know that we don't know.*' Scenarios can also serve to create consensus in strongly polarised conflict situations and I am convinced that the mentioned set of scenarios have such a potential.¹⁰

But what could be the relevance of such an approach in the case of formal, *de jure* standardisation, formally based on consensus, and in a discourse where the term 'balance' appears at least once in each paragraph?

To put it in a sentence: we think that patent proliferation with many me-too inventions in the field of ICT standards have the potential to lead both systems, standards and patents, into a serious crisis. As indicated above, this fact is already on the radar of policy makers and of consumer organisations. And to add a second sentence, seen narrowly, we think we cannot afford to just be passive and look inactively upon how systemic lack of transparency undermines societal capital to the patent system. It is precisely in this field, with games of lock-ins and potential ambushes, where the danger for the *patent* system to be perceived as a *latent* system, that means to turn to mean its opposite, is real.¹¹

For this reason, and beyond technical measures, we are intensifying the dialogue with leading SDOs and participate in international fora, where such issues are discussed, my presence here as EPO representative is a testimony of this will. We are full member of ETSI, have a membership at ITU and have concluded Memorandum of Understandings with ETSI and IEEE-SA, going further than for mere documentation purposes. EPO regularly participates as an observer at the

¹⁰ The strength of the EPO scenarios as a tool to create consensus and identify blind spots was proven in many cases under very different and challenging circumstances

¹¹ Konstantinos Karachalios and Shirin Elahi '*Transparency, trust, and the patent system*' Journal of Intellectual Property Law & Practice 2009; <http://jiplp.oxfordjournals.org/cgi/reprint/jpp155?ijkey=LdUzrnVw9WE1EGe&keytype=ref>

Global Standards Collaboration meetings and what we say there seems to count.¹²

But we go even further. As presented at a Workshop of DG Enterprise of the European Commission,¹³ we think that there is an urgent need for enhanced cooperation and information exchange between standardisation organisations, patent offices and competition authorities. There are practical steps that can be taken to improve transparency and reduce uncertainty and systemic risks. Patent offices, with their wealth of publicly available information, can play a pivotal role in this context, provided there are recipients for this information.

For instance one could make relevant information about uncertainty in specific areas of pending patents publicly available.¹⁴ Patent offices could prioritise hot spots inside specific industrial sectors, thereby increasing certainty. In addition to the questions that are asked in the tasks description of the above mentioned intended study of the European Commission¹⁵, some further critical questions could be posed:

- Which applicant behaviour in the patent process is a leading indicator of potential abuse?
- Which targeted information should patent offices send to competition authorities and SDOs and when?
- Which targeted information should competition authorities and SDOs send to patent offices and when?

¹² Unanimous resolutions at GSC12, GSC13 and GSC14, encouraging SDOs “to cooperate with the relevant Patent and Trademark Offices to provide access to technical information for use by such Agencies that should help them improve the quality of patents being granted”.

¹³ See 'The complex universe of ICT standards and patents'; Workshop of DG Enterprise 'IPR in standardisation'; Brussels, 19 November 2008
http://ec.europa.eu/enterprise/newsroom/cf/document.cfm?action=display&doc_id=3648&user_ser vice_id=1&request.id=0

¹⁴ For now: pure data elements and statistics, of the type that are not currently database searchable but which are nevertheless public through file inspection

¹⁵ *Supra* 6

- How can the transparency and accessibility of patent related information be improved in order to make monitoring IP rights, including pending ones, easier?

I know that some still question such an engagement, but I am deeply convinced that a smoother and more transparent interface, a kind of informal and voluntary 'co-governance' between both systems, would not only prove beneficial for the vast majority of stakeholders and actors involved, but could prove decisive for the long-term stability of the patent and the standardisation system.

And, to draw the lessons from EPO's 'Whose Game' scenario, such measures could help attenuate rising geopolitical tensions and technological nationalism which threaten to fragment the world again into antagonistic trade and geopolitical blocks. Something we really cannot afford if we want to face the multiple global challenges that humanity faces today.