



The 6th annual session of the UNECE Team of Specialists on Intellectual Property discussed in its substantive segment the topic “Intellectual Property and Competition Policy”. One of the speakers was **Nikolaus Thumm**, the chief economist of the European Patent Office. In this interview, he gives us his take on how recent developments in strategic patenting may affect competition and innovation in high-technology industries.

The program and presentations of the annual session of the Team of Specialists can be found [here](#).

UNECE: What drives the trend in some industries that leads innovative companies to accumulate large patent portfolios for strategic purposes?

Nikolaus Thumm: The development of the knowledge economy has increased the importance of innovation and intellectual property rights (IPR) as an important economic asset for business. Today, we are witnessing the increasing integration of IPR in top-level business strategies, especially in the high-tech industry. The strategic use of intellectual property (IP) information is growing along with the rising exploitation of IP assets as an additional source of revenue and benefit, for instance through licensing or sale in patent auctions.

Another important aspect to consider is the globalisation of markets and the development in companies of global patent strategies. In the last two decades, there has been a growing trend toward subsequent patent filings, resulting in the growth of so-called patent families.

Furthermore, the increasing complexity of products with overlapping technologies has transformed the business environment for companies in certain sectors. Within this scenario, the acquisition of a growing number of patents to enlarge a company's patent portfolio has been perceived as one means for companies to protect their market segment and their competitive advantage. Patents are being used as a tool to reduce the risk of litigation, improve the owner's negotiating position in cross-licensing agreements, protect products from competitors and in general signal a market lead in certain sectors. One result of this situation is the growing cost of IPR enforcement and litigation.

More recently, companies have devised licensing-fee and litigation strategies, with patents becoming an increasing source of revenue. In the last few years, important companies have acquired an impressive number of patents. For instance, in 2011 a consortium of companies (Microsoft, Apple and others) purchased 6 000 Nortel patents for USD 4.5 billion, while in the same year Google alone acquired 17 000 Motorola patents for USD 12 billion.

Finally, the interrelationship between patents and standards is also becoming more relevant in the development of new technologies and patent portfolios. The digital communication boom has led to a growing number of patent applications linked to standards; the related patents are usually held in pools. Holding essential patents for technologies in standard setting procedures is important for negotiations on the level and share of licensing fees.

UNECE: What impact does this strategic behaviour have on competition and the incentives for and cost of innovation?

Nikolaus Thumm: The year-long patent dispute between Apple and Samsung on smartphone and tablet technologies illustrates the potentially detrimental effects that large scale patent disputes can have on competition and innovation. Enormous sums have been spent on legal fees and will probably be passed

on to consumers. What's more, it remains to be seen whether the short-term costs of IPR protection will promote innovation in the long run.

From the economic theory point of view, the patent system is a second-best solution. Open knowledge markets don't prosper when free-riding can remove the incentive to invest in knowledge creation. To overcome this market inefficiency the patent system has to fulfil its function, i.e. to create innovation and spread technological information, at the cost of competition restrictions and higher product prices. Anecdotal evidence depicting the downside of the patent system has been widespread in the press in recent years. However, it is hard to measure the overall welfare impact of the system, especially when considering its positive impact on innovation. Another beneficial element that is difficult to measure and that only recently received more attention is patent information and its role in enabling follow-up innovation. A complete welfare analysis on the patent system comprising all these effects is still missing.

As globalisation spreads and new patent strategies evolve, concerns are growing about the impact of patenting on competition and innovation. One of the main manifestations of these changes is the so-called "patent thicket". Patent thickets generally describe a situation in which a proliferation of patents can necessitate the negotiation of multiple licences and can increase transaction costs to a level where they become socially inefficient. Sectors with complex technologies, such as the computer and digital communication sector, suffer most from this situation. Inventions in these fields typically reflect the cumulative nature of the innovation process.

The EPO's Economic and Scientific Advisory Board has already identified two potential types of patent thicket. In the first, what are presumed to be low-quality patents are used to protect inventions which represent only a slight improvement on the state of the art. The second involves situations where the stacking of royalties, including those for high-quality patents, might hinder both the commercialisation of the technology concerned and follow-up research in the relevant field. The first type of patent thicket can damage the public image of patents, while the second raises additional barriers to market entry. There is also some concern that fragmentation and blocking problems are on the increase. In a follow-up expert workshop it emerged that the phenomenon is difficult to estimate and appears limited to certain sectors. Further analysis and evidence on the scale and actual welfare implications of patent thickets will have to follow.

UNECE: How are competition authorities and IP offices dealing with this? Are the current legal and policy frameworks, on the IP side and on the competition side, adequate to deal with any problems that may arise? If not, what policy reforms might be needed?

Nikolaus Thumm: It has become clear that low-quality patents entail social costs. Patent offices and regulators should make sure that the quality of granted patents is high, that boundaries are clear, that procedures are rapid and transparent and that easy access to patent information is provided.

The EPO conducted a project called "raising the bar" already in 2007 to enhance the efficiency of the granting system and obtain higher quality patents. This quality policy is in continuous evolution. For instance, last May patent quality was also the subject of a workshop commissioned by the EPO Economic and Scientific Advisory Board. The conclusions were that there is room for improvement in areas such as prior-art search - in particular in Asian languages - and international harmonisation and collaboration, e.g. the exchange of search and examination results.

Moreover, in contrast with US patent law, the European Patent Convention does not allow patents to be granted for computer software as such and for methods of doing business. These are key elements of contention in some of the ongoing legal disputes.

Today, infringement cases in Europe involving several member states have to be litigated in national courts, all of which follow their own rules of procedure. The central European patent court envisaged in combination with a unitary patent regime for the European Union could bring down litigation costs and increase legal certainty.

The EPO has also undertaken intensive international co-operation with other patent offices, aiming at improving practices in a co-ordinated way. Issues surrounding patents and standards are also coming in for greater consideration. In anticipation of further litigation, and to increase transparency in both the patent and standardisation process, the EPO has concluded bilateral agreements with various standard setting organisations to get further access to technical information in non-patent literature and to provide access to information on standard essential patents and their validity.

Improving the patent system is a continuous process. Other possible measures include adjusting the patent fee system and examination rules to give applicants incentives to provide clear claims in patent applications and to reduce uncertainty in the patent grant process.

The patent system has a long history. Today, it is important to ensure that the patent system maintains its resilience as well as its flexibility in relation to present and future challenges. This also means that any change to the system has to take into consideration the interests of all stakeholders concerned.

UNECE: Thank you very much for sharing your insights!