

## Dinner Speech MIPLM 5th module 2019

### Company Carl Zeiss AG

(speech version – official company version see below)

#### Dinner Speech

I am Klaus Gnatzig, I am Physicist and I work for ZEISS since 1989, all the time in the patent department. I am heading the patent department since 1996 and I have become European Patent Attorney in 1994.

I have become a patent professional, frankly speaking, because I did not get a “better job”. This statement has two perspectives like the two sides of a medal: From the perspective of job situation, in the late 1980<sup>th</sup> the job market in Germany was difficult for young Physicists. In the field of industrial R&D there were 100 – 200 applicants on each job offer, in the field of patent management about 25 applicants per job offer. On the other side of the medal, when I applied for the job offer I had no idea about the tasks of patent professional, but when I returned from my personal interview I knew for sure that this was the ideal job for me. And still today I am fully convinced about this decision.

If I asked you which products of ZEISS do you know I assume you will respond: binoculars, photographic lenses, planetary and, if you are a hunter, riflescopes. However these activities only contribute to a small proportion to the overall turnover of ZEISS. ZEISS is active in four market segments, each contributing roughly ¼ to the overall turnover:

- **Medical Technology:**  
In this segment the main products are surgical microscopes, ophthalmologic lasers and diagnostic instruments, intraocular lenses (lens implants) and accessories for cataract surgeries.
- **Industrial Quality Control and Research Microscopes**  
In this segment the main products are industrial metrology machines, x-ray tomographic devices for industrial applications, optical measuring devices, light microscopes and electron microscope.
- **Semiconductor Manufacturing Technology**  
In this segment the main products are optical systems for lithography machines as well as machines for mask inspection and repair
- **Consumer Market**  
In this segment the main products are spectacle lenses and dispensing tools for spectacle lenses, and sports optics including binocular, monoculars and gun sights

All four segments sum-up to an annual turnover in the range of about 6 billion €. The annual R&D-spending are in the range of about 10% of the turnover

The patent work within ZEISS is organized within three internal patent departments in Germany as well as one patent professional in the US and CN, respectively. All ZEISS companies together make 400 to 500 priority filings per year and hold about 8500 granted patents

What did change during my work as patent professional?

At first, the working environment has changed from “IT-less” (i.e. purely paper based) along “database assisted” to “IT-based” (based on database without paper files). The next level will become an “electronic workflow”- system using a database in the background.

Over the last 20 – 30 years also in Europe IP has become a strategic tool. This means that based on the business strategy in the respective strategic business unit a patent strategy is deducted and, inventions, patent filings and granted patents are evaluated regarding their fitting to the IP strategy. It has become broadly common that decisions regarding patent filing and maintenance are made by appointed boards instead of individuals to reduce the risk of subjective decisions. The number of priority filings increased considerably. The filing of valuable divisional applications has become general practice, and, as a result of this, the importance of the disclosure in the description has got larger importance as reservoir for additional subject matter to be claimed.

The market relevance of especially Germany and other European countries has declined in some fields considerably. In many business fields, besides the USA, China has grown to become one of the two largest individual markets. For some business fields there is no or nearly no competition and nearly no market in Europe anymore. Accordingly, the relevance of patent protection in China has increased and, concurrently the value of German and European patents has decreased.

The enforcement possibilities for patents has increased in a couple of European countries, especially in Germany, due to the EU enforcement directive. Due to the improved possibilities to prove a patent infringement keeping an invention secret as company secret has become unlikely to work anymore. Therefore, defensive applications or publications have become more usual

Taxation issues have become more important due to an increased sensibility of the tax authorities regarding the value of intellectual property. Beside in the traditional case of cross-border licensing tax issues meanwhile come up also when patents or inventions are assigned between affiliated companies as well as in cases of cross-licensing between unaffiliated companies.

IP has broadly become recognized as valuable asset. This results in patent attacks by so-called non-practising entities, especially in the USA.

Customers have become less willing to buy technology but to buy solutions for their problems. As a result of this, products can hardly be sold anymore purely based on technical specs. In the area of IP protection patents claiming methods for operating or using a machine have become more important because a direct infringement of such claims by a competitor likely can be proven due to the advertisement of the competitor.

Since the middle of the 1980<sup>th</sup> the most important innovations are based, or mainly based, on software implemented inventions. This applies for example for machine controls providing improved processes with optimized velocity, correction of systematic measuring or guiding errors caused for example by bending or temperature changes. But computer implemented inventions also provide

completely new technologies such as super-resolution in fluorescence microscopy due to image analysis or safety features in the automotive field. However, in most of these cases some hardware, the computer as well as the required computer program formed a unit which could be identified and localized.

However just recently changes of business models due to the use of internet and interconnectivity cause new challenges in claim drafting as well as for IP protection in general. For example in some areas the supply of semi-finished products has been or is going to be substituted by supply of specific data e.g. to control a manufacturing machine. Providing services and software updates have become reasonable business opportunities. Collecting data and providing information based on these data (big data) have become an important business factor. On the other side, data and presenting data are excluded from patent protection in most countries.

In the future more and more business activities will become separated between different entities often distributed over several jurisdictions – this can make enforcement of IP rights difficult or even impossible. For example, in a case which was before the US International Trade Commission already three or four years ago the plaintiff held a US patent for generating a dental brace by 3D-printing including the steps of a) recording 3D data of the internal of the mouth with a dental camera, b) evaluating the recorded 3D data and deducting print data for the desired dental brace based on the recorded 3D data, and c) printing the dental brace based on the deducted print data. The defendant (accused infringer) also was a US company but with its business model only the steps a) recording c) printing were performed in the US while the recorded 3D data immediately after recording were transmitted to a foreign company via internet, in this case in Pakistan, the evaluation of the 3D data and the deduction of the required print data were performed in this foreign country and the print data then were transmitted to the US company also via internet. The resulting general legal question is whether the defendant infringed the patent in view of the fact that he did not perform one important step of the granted claim by himself nor in the US but, nevertheless, was able to make full use of the advantages of the patented invention. Such kind of matters will become more and more important in the future, but the patent systems in most countries are not created for such kinds of business.

I thank you for your attention!