European IP Helpdesk

Stay ahead of the innovation game.

All Star Webinar: IP and Digitalisation

08.07.2020
Roadmap

THEORY
- IP Management and Digitalisation – CEIPi

PRACTICE – International cases
- China IPR SME Helpdesk – Blockchain Technology
- SEA IPR SME Helpdesk – IoT
- LA IPR SME Helpdesk – XKELET
- EU-Japan TT Helpdesk - Video Matching Inc.
PROTECTING DIGITAL BUSINESS MODELS WITH DIGITAL PATENTS

IP Management and Digitalisation

Prof. Dr. Alexander J. Wurzer
CEIPI: Center for International Intellectual Property Studies

CEIPI is a European Center of Excellence for Intellectual Property and an international IP training and research center

The Central European Training Center for Authorized Representatives to the EPO

Training in 36 European cities

An institute at the Law Faculty of the University of Excellence Strasbourg

1,200+ participants p.a. in CEIPI training programs

The European IP institutions run the Executive Board

TOP 50 Global Think Tank
Trends in Application of Digital Patents

Link to EPO Study
Trend of Applications: AI/Blockchain

**FIGURE 4**
Blockchain Patent Applications and Grants

- **CN Applications**
- **US Applications**
- **US Grants**
- **WO Applications**
- **Other**

**Link Trend Analysis Blockchain-Technologies**

**Link Trend Analysis bei IOTA-Technologies**

**Link WIPO Initiative**

**Link to AI Initiative of European Patent Office**
CEIP Education in IP Management

- **Course of studies**
  Founded in 2006 to enable the European industry to gain competitive advantage in digital transformation

- **Executive IP Management Days**
  Annual exchange of industry best practice

- **Conferences**
  Interdisciplinary exchange between industry, academia and institutions to push the development of economic benefits of IP

- **Graduate School**
  Graduate school dedicated to industrial subjects with graduate students from the industry

- **Blog**
  Communication platform for customer-focused IP strategies in times of digitization (www.ipforbusiness.org)
Challenge: Digitalization and IP Design
MIPLM Industry Partner and Best Practice Case Studies
Philips / Signify: Use Case Business

Licensing programs

Each year, Signify invests hundreds of millions of Euros for research and development of new technologies and products. In the course of the research and development work these technologies and products are also protected by patents. We decided to make many of these Signify developed technologies available to those wishing to use them by granting licenses under its patents and sometimes also the related know-how. The conditions of licensing vary for the different technologies.

Link to the business model of Signify
Evolution of Industrial Digitization

Phase 1: Digitization of the machine
Phase 2: Digitization of the machine environment
Phase 3: Digitization of the Ecosystem

Relocation of the system boundaries
Success of IP comes from the market: Exclusive value creation within the business model

Claas: Digital Farming

- Digitization revolutionizes the agricultural machinery industry
- Claas develops electronics and software expertise and exclusifies its own integrated solutions
- High price enforcement

Market dominance and price enforcement by means of an exclusive integrated value chain

Rittal: Integrated, Digital Value Chain and Digital Twin

- Rittal enables with the concept of an virtual prototype and a virtual twin a fully digital engineering
- Automationization across firms boundaries
- Result: Market share and price premiums against strong competition
- First of choice within the relevant set

Market share and price premium through horizontal and vertical integration

Hansgrohe RainTunes

- Agile Product development along use cases and customer journey
- IP-Design is integrated in business development
- Key customers resorts, hotels and cruise ships
- High exclusivity and new meaning to customers

Occupation of a new market with premium prices

Doka / Umdasch Venture: Concremote®

- Industrialization of concrete construction
- Reduction of time span till stripping the formwork
- Reduction of manufacturing time
- Optimization of construction projects (calculation, concrete recopies, refinishing work etc.)

Enhancing of customer productivity
The Success of IP is Determined within the Market by Exclusive Value Added in the Business Model + App
The Success of IP is Determined within the Market
Example: Shazam (US)

Bought by Apple 2017 for 400 Mio. US$
200+ Patent Portfolio
The Success of IP is Determined within the Market
Example: Netflix (US)

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- **Physical product**
  - **Layer 1**: Perspective correction for curved display screens
    - US 10366476 B2

- **Sensor and actuator**
  - **Layer 2**: Client-server signaling in content distribution networks
    - US 8443056 B2

- **Connectivity**
  - **Layer 3**: Digital content distribution system and method
    - US 8433814 B2

- **Analytics**
  - **Layer 4**: Adaptive streaming for digital content distribution
    - US 8631455 B2

- **Digital service**
  - **Layer 5**: Recommending digital content based on implicit user identification
    - US 8887095 B2

- **App + Movie Rental**
  - Individual Content
The Success of IP is Determined within the Market
Example: Tencent (CN) + Mirriad (GB)
The Success of IP is Determined within the Market
Example: ThyssenKrupp (DE)

Digital service
Layer 5

Analytics
Layer 4

Connectivity
Layer 3

Sensor and actuator
Layer 2

Physical product
Layer 1

Method of planning a platform lift
WO 2018193034 (A1)

App + Hololens
Enhanced Sales Productivity

IP-Design at ThyssenKrupp and Microsoft
Goal of an IP Strategy: Creating Added Value Positions with the Customer

Sphere of exclusivity
- Based on a distinctive customer benefit
- Long lasting
- Defensible (also legally)

Strategic prohibition creates exclusive market positions for you.

Competitors can no longer place their offer on the market.

Customer benefit meaning

Your offer

Willingness to pay among markets / customers

The customer exclusively uses your offer.

Customer benefit offered by the competition

IP Design in the Digital Transformation

- **Digital service** (Layer 5)
- **Analytics** (Layer 4)
- **Connectivity** (Layer 3)
- **Sensor and actuator** (Layer 2)
- **Physical product** (Layer 1)

**Physical world**

**Digital world**

- Customer benefit meaning
- Physical Local
- Digital Global
- Willingness to pay

**Physical world**

- Physical
- Local

**Digital world**

- Digital
- Global
IP Design in the Digital Transformation

IP Design in the Digital Transformation

Taxonomy Overview MIPLM Research Projects
The Success of IP is Determined within the Market by Exclusive Value Creation

INDUSTRY CASE STUDY
Hilti
Business model transformation to adapt to the digitization in the construction industry
By Alexander J. Warze & Dr. Stefan Nennes
Dr. Oliver Solnier

Link Case Study Hilti

INDUSTRY CASE STUDY
Heraeus
From amorphous metals to digital business models
By Alexander J. Warze, Dr. Jürgen Wachtler

Link Case Study Heraeus
Digital Transformation – Digital Based Inventions

Requirements according to ISO 9126 (DIN 66272)* – Additional Feature for Digital Business Objects / ISO-IEC 27001

Quality Features for Software Products

Quality Features for Digital Business Objects
Digital Inventions refer to generic digital objects:

- **(Digital) Business Model**: An abstract explanation of the way in which a company functions, i.e. how it creates added value for its customers and does so profitably.

- **Eco-System/Platform**: An Eco-System is a group of businesses or business activities that affect each other and work well together. A Platform is the digital basis for digital services of different individuals or organizations based on a common standard.

- **Cyber-Physical System**: A cyber-physical system (CPS) is a system in which a mechanism is controlled or monitored by computer-based algorithms.

- **User Journey**: A user journey is the experiences a person has when utilizing/interacting with something (typically software).

- **App**: Computer program or piece of software designed for a particular purpose that you can download onto a mobile phone or other (mobile) device.
Digital Transformation – Digital Based Inventions

Invention Appendices: Capturing of underlying invention dependent on the digital object development process:

V-Model

Spiral model

Notification for Digital Based Invention

Scrum

Kanban

Appendices for complete Disclosure of Digital Based Invention

Picture Sources: https://en.wikipedia.org
Digital Transformation – Digital Based Inventions

A procedural model and a digital object are interdependent with the notification process.

Invention capturing

IP protectability

Digital objects

Development process

Notification process

Link EPO Seminar on IP-Design

Picture Sources: https://en.wikipedia.org

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Summary - Outline

- **Digital inventing is different:**
  - Those who master it (China/USA technology companies, 5G telecom companies etc.) develop patent portfolios along use cases like developing software along "architectures".
  - Those who don’t master it do not even know that they have made an invention and that it could be protected by intellectual property rights

- **Digital inventions are different:** More abstract, broader, more aligned with the business model, use case, etc. and not only based on the classic technicality or a technical solution

- **Therefore digital patents are different:** Also more abstract and not coming from physical reality or technical functionality, the inventive idea, but rather from the application, the solution, the use case

- **And Freedom-to-Operate (FTO) for digital solutions is different:** As competition does not come from the familiar technology or from the same product area and the solutions become more complex, the implementation of an FTO is much more complicated or even practically impossible.

Active IP-Design for protecting digital solutions means: Starting point is the business and not the technology and designed will be both – the business object and necessary IP
University Certificates and Diploma in IP Management Cooperation with IP Helpdesk

Education in IP Management in distance learning:

- 8 independent university certificates in IP management
- IP Strategy development
- IP Valuation I
- Integrated IP and innovation management
- IP in the industry 4.0
- IP Valuation II
- Quality in operational IP management
- IP portfolio management and controlling
- Leadership in IP management

University diploma
IP Business Administration

- Consists of all 8 certificates
- and a final examination

More Information: IP Management Education Cooperation CEIPI and IP Helpdesk
University Certificates and Diploma in IP Management Cooperation with IP Helpdesk

More Information: IP Management Education Cooperation CEIPI and IP Helpdesk
Follow us on LinkedIn:
https://www.linkedin.com/company/ipbusinessacademy/
International Cases
Matias Zubimendi

CHINA IPR SME HELPDESK
Blockchain - basics

Blockchain technology
• Definition
• Origin
• How it Works?

Blockchain as a legal tool
• Copyright registration
• Prior use of trade marks
• Cyber theft and trade secrets
Internet courts:
• Introduction
• Jurisdiction

Case:
• Summary
• Decision
• Significance
Lessons Learned

1. Blockchain technology can be used as evidence

2. SMEs can protect trade secrets from cyber theft using blockchain
Background

• A German company developed a computer system and method for provisioning software applications on edge devices in an IoT environment, so as to avoid incompatibility between a software application and the hardware of the edge devices which may lead to erroneous analysis by a IoT cloud platform.
Action Taken

• The company initially filed a priority European patent application. A PCT application is then filed within 12 months of the European application’s filing date, claiming priority from the European patent application. The PCT application subsequently enters Singapore, among other SEA jurisdictions, in the national phase, within 30 months from the European application’s filing date.

• Singapore has a lenient approach when it comes to patent protection compare to other SEA countries.

• There is a ASEAN Patent Examination Co-operation treaty (ASPEC) to help sharing the search and examination results between the ASEAN IP offices to allow applicants in participating countries to obtain corresponding patents faster and more efficiently.
Outcome

• The company was able to protect the invention in Singapore, using the PCT to have more time to decide and file the application

• Having the Singapore Patent granted hastened the prosecution of related patent applications in other SEA jurisdictions (e.g. Malaysia, the Philippines etc.) with the use of the ASEAN Patent Examination Co-operation (ASPEC).

• Using the ASPEC system also made easier to obtain the patent on a software that (maybe) the receiving office would have deem not patentable
Lessons Learned

• Take advantage of the international treaties not just to gain time but to achieve a better result.

• SEA legislation are quite reluctant to give patent protection for computer programme.

• Singapore is however comparatively lenient in this aspect – as evidenced by the recently concluded FinTech Fast track initiative. In this case, the Singapore application has been granted.

• Using ASPEC it could be possible to obtain a software patent in not so cooperative jurisdictions.
Technology for broken arm/leg
GOING BEYOND THE EUROPEAN UNION

DESTINATION: BRAZIL

LESSONS LEARNED
Case Example Japan: Video Matching Inc.

Japanese company Video Matching Inc. is offering an online tool to facilitate interviews between recruiting companies and job seekers, a service in high demand especially now due to the ongoing pandemic.

To protect their idea, they filed a patent application on 25th December 2018 at the JPO with the following title:


Video Matching Inc. requested accelerated examination of the application and succeeded in getting a patent for this heavily software related invention within less than two months from filing (patent registration date: 15th February 2019)!
Overview of Japanese Law

• Japanese Patent Law Article 2
  ▪ “Invention” defined as “the highly advanced creation of technical ideas utilizing the laws of nature”¹
  ▪ The definition of a product specifically includes:
    ➢ “a program”; and
    ➢ “information that is to be processed by an electronic computer equivalent to a program”

• If the invention as a whole is regarded as utilizing the laws of nature, regardless of whether the invention includes computer software, the invention is a statutory invention. Special considerations from the viewpoint of computer software are unnecessary.

• For computer software for business, computer software for games, or computer software for numerical processes:
  ▪ if an information processing apparatus or methodology is concretely constructed by cooperation of software and hardware resources, according to the purpose of use, this invention is deemed to utilize the laws of nature.

https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/handbook_shinsa/document/index/app_b1_e.pdf
Best Practice Case Example Video Matching Inc.

- [Japanese Patent No. 6,480,077]
- 8. A human resource matching method for matching job recruiters and job seekers, the method having a computer execute:
  - a job seeker video acquisition step of acquiring job seeker videos which are presentation videos by job seekers;
  - a job recruiter video acquisition step of acquiring job recruiter videos which are presentation videos by job recruiters;
  - [...] and
  - a matching step of conducting matching between the job recruiters and the job seekers based on follow information of both of the job recruiters and the job seekers.

→ invention could be patented because software and hardware are described as working together, thereby “utilizing the laws of nature”.

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LESSONS LEARNED

- The JPO tends to accept software related inventions as statutory inventions as long as hardware is described operating the software.

- It is important to describe in the specification and drawings a concrete example as to how the operations specified by the software are specifically executed by hardware resources.

- The JPO is very fast in examining applications and if acceleration is requested, the time from filing to grant can become very short.

• For more information on IP protection in Japan please contact us at info@patents.jp
• How can we help you?

• Current evolution of patent applications and filing trends in the AI field;

• IP Design and digital transformation: the concept of digital based inventions:
  ▪ Relationship between Market and IP:
    • Licensing activities > Philips/signify
    • Market driven innovation > ThyssenKrupp
  ▪ Successfull expample from all around the world:
    • Blockchain technologies and China
    • Exporting software IP : South East Asia
    • Medical Innovation and Brazil
    • Japan: Video Matching Inc
Contact:

- European IP Helpdesk
  www.iprhelpdesk.eu
- International IPR SME Helpdesks
  https://www.ipr-hub.eu/
- EU-Japan Technology Transfer Helpdesk
  http://www.eu-jp-tthelpdesk.eu/
- CEIPI
  http://www.ceipi.edu/en/
Thank You!

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