

SOUTH-EAST ASIA
IPR SME HELPDESK

CHINA IPR
SME HELPDESK

EIT Startups community training

Intellectual Property and the internationalisation of Artificial Intelligence (AI)



European Institute of
Innovation & Technology

The EIT is a body of the European Union



European
Commission



Artificial Intelligence and IP Issues

China and Vietnam

Dr. Jörg-Michael Scheil
IPR SME Helpdesk Webinar
May 28, 2020

Speaker's Bio



Name: Dr. Scheil, Jörg-Michael
Firm: Schulz Noack Bärwinkel (SNB Law)
Location: Ho Chi Minh City, Vietnam

- Dr. Jörg-Michael Scheil is a partner of Schulz Noack Bärwinkel (SNB Law) and chief representative of the firm's Shanghai Branch since 1999 and the Ho Chi Minh City Branch since 2012.*
- He studied law and sinology at the University of Göttingen and Chinese law at the East China Institute of Politics and Law. Before joining SNB, he worked at the Düsseldorf office of a major international law firm.*
- Michael advises mainly European industrial clients on a broad range of IP issues in Asia, including patent and trademark matters, as well as on commercial and corporate law. He has represented many European patent owners on strategic patent disputes and infringement cases with Chinese competitors, covering a range of sectors including food and healthcare, automotive, chemistry and industrial equipment manufacturing. Technology transfer projects and joint ventures in the healthcare industry in China and Vietnam have become another focus point of his work.*
- Michael is admitted to the bar in Hamburg, Germany. His working languages include English, German and Chinese and he also has basic knowledge of Vietnamese.*

**SOUTH-EAST ASIA
IPR SME HELPDESK**

**CHINA IPR
SME HELPDESK**



Main issues

- *AI trends in China and Vietnam*
- *National AI strategies and regulations*
- *Patentable subject matter*
- *Blockchain*
- *Who can be applicant and inventor?*
- *Copyright issues*
- *Recommendations*

What is Artificial Intelligence

- *Artificial intelligence (AI), sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and animals.*
- *Leading AI textbooks define the field as the study of "intelligent agents". i.e. any device that:*
 - *perceives its environment, and*
 - *takes actions that maximize its chance of successfully achieving its goals.*

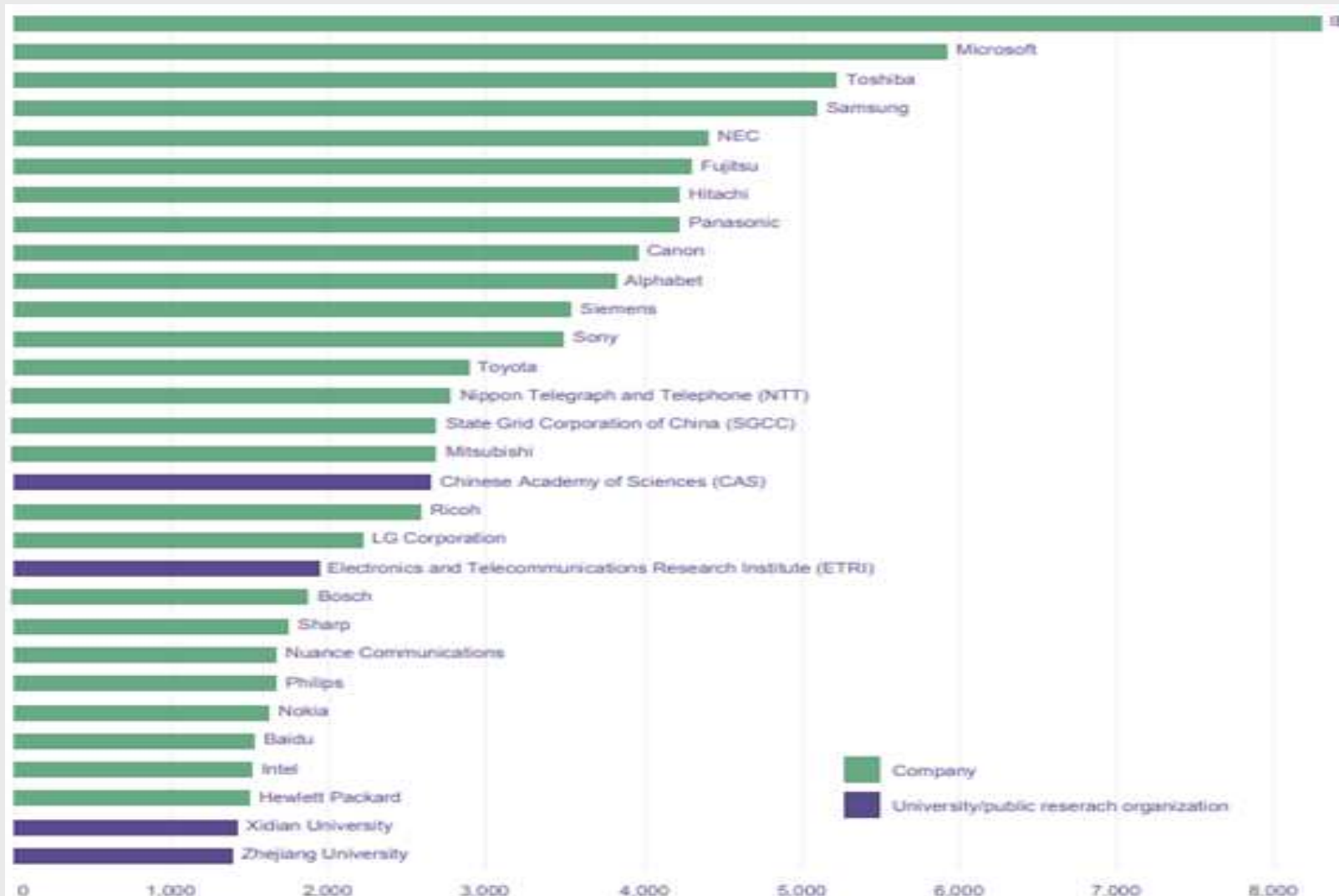
Main Applications of AI

- *The top fields in which artificial intelligence (AI) technologies are employed are:*
- *Telecommunications: computer networks/internet, radio and television broadcasting, telephony, videoconferencing, and VoIP.*
- *Transportation: aerospace/avionics, autonomous vehicles, driver/vehicle recognition, transportation and traffic engineering.*
- *Life and medical sciences: bioinformatics, biological engineering, biomechanics, drug discovery, genetics/genomics, medical imaging, neuroscience/neurorobotics, medical informatics, nutrition/food science, physiological parameter monitoring, public health.*

China's AI Roadmap of 2017

- *The Chinese State Council released a three-step roadmap for the development of artificial intelligence on 20 July 2017 (Plan for the Development of New Generation Artificial Intelligence (Guo Fa [2017] No. 35), 国务院关于印发《新一代人工智能发展规划》的通知 (国发〔2017〕35号)).*
- *China laid out plans to become a world leader in artificial intelligence (AI) by 2030.*
- *The government aims to make the AI industry worth \$150 billion.*
- *China's three step program outlines its aim to use AI in a number of areas from the military to smart cities.*

Chinese Applicants of AI Patents



Note: Fujitsu includes PFU; Panasonic includes Sanyo; Alphabet includes Google, Deepmind Technologies, Waymo and X Development; Toyota includes Denso; and Nokia includes Alcatel

- *Scientific and academic institutions play a very active role among Chinese AI patent applicants*

Copyright Registration in China

- *China is member of the Berne Convention*
- *Separate Copyright Law, currently new draft published for public comments*
- *Copyright registration is not a precondition to copyright enforcement, but may be helpful evidence of ownership in enforcement actions.*

Acquiring a Copyright in Vietnam

- *Vietnam is a member of the Berne Convention*
- *Copyrights dealt with under unified IP Law*
- *A copyright owner and author may register with the Copyright Office of Vietnam. Although registration is voluntary, it may be useful later for evidentiary purposes if the owner and author have to prove ownership and/or authorship of the work.*

Patent Applications China (1)

- *The PRC Patent Law covers three types of patents, i.e., inventions, utility models, and designs.*
- *Term of patent protection for inventions is 20 years, and 10 years for utility models and designs.*
- *As with trademarks, foreign applicants are required to submit patent applications in China through an officially licensed patent agent.*

Patent Applications China (2)

- *Foreign applicants from any WTO member country or region may directly file a patent application in China. It is also possible to extend a PCT international application into the national phase in China.*
- *The CNIPA has entered into a Patent Prosecution Highway (PPH) agreement with the European Patent Office (EPO).*
- *Cost of 1 standard invention patent application in China may be 4000-5000 EUR.*

Patent Application Process Vietnam (1)

- *A patent application will be published in the 19th month from the date of priority or the filing date if the application has no date of priority.*
- *A patent application under the Patent Cooperation Treaty (PCT) will be published within two months from the date it is accepted as a valid application and enters the national phase.*
- *A patent application containing a request for earlier publication will be published within two months from the date the VNIPO receives that request or the date it is accepted as a valid application, whichever is later.*

Patent Application Process Vietnam (2)

- *A request to examine the substance of an application for an invention patent must be submitted to the VNIPO within 42 months.*
- *Cost of one standard invention patent application may be 2000-3000 EUR.*

AI Situation in Vietnamese Industry (1)

- *Leading groups and companies (BKAV, Vingroup, FPT) in different industries start to develop AI-based production in Vietnam.*
- *Industries that are applying AI are telecommunication, traffic, education and software production, and banking.*
- *The Ministry of Planning and Investment and the Ministry of Science and Technology have been holding seminars with these leading companies to encourage AI development.*

AI Situation in Vietnamese Industry (2)

- *However, as pointed out by a director of FPT Group, Human resources of AI are still lacking.*
- *University of Technology has started to offer courses and lectures on AI.*
- *(Poll question)*

China - Invention Defined (1)

- *Art. 2 of the Patent Law: „a new technical solution put forward for a product, method or the improvement thereof’.*
- *The Implementing “new technical solution relating to a product, a process, or improvement thereof”.*
- *‘Technical nature’ is a prerequisite for a patent.*
- *Art. 25 Patent Law: Scientific discoveries, as well as rules and methods for mental activities are not patentable.*

China - Invention Defined (2)

- *The 2006 Patent Examination Guidelines states that the followings are considered to be the rules and methods for mental activities under Art. 25.1(2) of the Patent Law and are excluded from patentability*

“pure rules and methods for mental activities, such as a computer program relating only to an algorithm or rule for mathematical computing rules, or computer programs per se, or computer programs recorded in mediums, or rules or methods for games”.

If a claim is defined by rules and methods for mental activities in the whole contents, it shall not be granted a patent right.

Vietnam - Exclusions from Patentability

Art. 59 of the Law on Intellectual Property (as amended in 2019):

„Mathematical methods; methods for doing business; methods for playing games, computer programs, and presentations of information are unpatentable subject-matter.“

Vietnam - Can computer software or algorithm form part of a wider patentable invention? (1)

Guidelines for examination of patent applications issued by Intellectual Property Office of Vietnam (“IP Vietnam”):

A computer program, and an invention relating to computer program, is patentable if the claimed subject-matter has a “technical character” and is a technical solution for resolving a technical problem by technical means to create a technical effect.

Vietnam - Can computer software or algorithm form part of a wider patentable invention? (2)

Guidelines provide that “method for quick calculation of division is not patentable, however, calculating apparatus designed for implementing such method can be patentable. Method for calculation to design electrical filters is not patentable, however, the electrical filters designed by such method is patentable”.

The following claim has been accepted by the Patent office

“Decoder for decoding a video from a data stream into which syntax elements are coded using binarisations of the syntax elements...”.

China - Can computer software or algorithm form part of a wider patentable invention? (1)

- *While computer programs “per se” may not be patentable, it is possible for an invention that incorporates a computer program to be patentable subject matter. The 2006 Examination Guidelines stipulate that a computer program may be patentable if ‘the combination of software and hardware as a whole can really improve prior art, bring about technical results, and constitute a complete technical solution’.*

China - Can computer software or algorithm form part of a wider patentable invention? (2)

- *Following Art. 2 of the Patent Law and Rule 21 of the Implementing Regulations, an application relating to a computer program is only the subject matter of patent protection if it constitutes a technical solution. To satisfy this requirement, the application must: (i) solve technical problems (ii) use technical measures, and (iii) be capable of producing a technical effect. An application will only constitute a technical solution when it meets all three of these criteria.*

China - New Patent Examination Guidelines 2020

- *On 31 December 2019, National Intellectual Property Administration (NIPA) finally released a new specialized Section added in the Guidelines for Patent Examination, which has become effective on 1 February 2020;*
- *The new version of the guidelines specify how examination will be carried out with regard to AI patent applications.*

Ineligible Subject Matters (1)

E1: *Method for analyzing economic sentiment indicator based on index of electricity consumption, wherein:*

S1: selecting a geographic area; collecting the index of electricity consumption of the area;

S2: conducting calculations and analysis via computer to obtain a conclusion about the economic sentiment indicator.

Ineligible Subject Matters (2)

E2: *A visualization method for dynamic emotional opinions, wherein:*

S1: collecting information and categorizing them into different emotion classifications;

S2: identifying the emotions as positive, neutral, or negative;

S3: establishing visualized geometric layout for emotions to create information ensemble.

Eligible Subject Matters (3)

E3: *A method for nodes communication of blockchain and a device thereof, wherein: the nodes are business nodes, said business nodes save certificates from authorization centers CA, and a trust CA list has been pre-configured, such method comprising:*

S1: a first block node receiving communication request transmitted by a second block node;

S2: determining whether the CA certificate of the transmitted request is within the trust list, if so, establish communication; if not, do not establish communication with the second block node.

Eligible Subject Matters (4)

E4: *A method for logistics dispatching, wherein: increasing the dispatching efficiency by notifying a batch of users to pick up their deliveries, such method comprising:*

S1: Upon arrival of a pre-determined area, a courier sends a pick-up-notice request to a central sever via a portable terminal;

S2: the sever receives the request and sends a pick-up notice to all the users within the pre-determined area;

S3: users pick up the deliveries based on the notice.

Principles Underlying the Examples

- 1. A claim shall comprise not only features with regard to algorithm or business rules but also technical features.*
- 2. A claim as a whole shall be a technical solution, comprising technical problems, a technical solution for solving the problem as well as certain accomplished technical effects.*
- 3. For satisfying the inventiveness requirement of a claim, technical features and features with regard to algorithm or business rules should support one another in function, meaning, the combination of technical features and features with regard to algorithm or business rules solves certain technical problems and accomplishes certain corresponding effects.*

China - Who is Inventor?

- *Art. 13 of Implementing Regulations of the Patent Law: “inventor” or “creator” referred to in the Patent Law means any person who makes creative contributions to the substantive features of an invention-creation.*
- *Section 4.1.2, Chat. 1, Part I, Guidelines for Patent Examination: inventor shall be an individual, and an entity or organization shall not be filled in the request.*

China - Who can apply for a Patent

- *For independently-invented creation, the inventor has the right to file patent applications (Art. 6.2 of Patent Law);*
- *For co-invented creation or one party in execution of a commission given to it, contract prevails, otherwise the right to apply for a patent belongs to co-inventors or the party who actually made the creation (Art. 8 of Patent Law; Art. 339 of Contract Law);*
- *For service invention, contracts prevails, otherwise the employer has the right to file patent applications (Art. 6.1 of Patent Law).*
- *Using the facilities or equipment of the employer is normally indication of service invention.*
- *Remuneration needs to be paid to employee inventors based on regulations and company internal guidelines.*

Vietnam - Who can be Inventor and Apply for a Patent based on AI?

- *No concept of AI as inventor recognised in Vietnamese law at the moment.*
- *The right to register a patent in Vietnam only applies to organizations and individuals which are:*
 - *Authors who have created inventions by their own labour and at their own expense;*
 - *Organizations or individuals who have supplied funds and material facilities to authors in the form of job assignment or hiring.*

China - Who is Creator? (1)

- *Art. 11 of Copyright Law: citizen (公民), legal person, and other organizations can be the author of a copyright.*
- *Therefore, in general, a legal person can be the author of a copyright. In a recent judgment issued by Beijing Internet Court, a creation (creation A) purely generated by AI system has been rejected as a “work”, hence, no one owns the copyright of such creation nor is the author. However, the AI owner further makes comments and analysis to creation A to form Creation B, then in such case, the AI owner is the author and owns the copyright of Creation B.*

China - Who is Creator? (2)

- *It seems that AI-generated computer system cannot be the author of a copyright in the near future.*
- *Art. 11 of the newly-released draft of Copyright Law: “Citizen 公民” has been amended into “Natural Person 自然人”*
- *The amended draft law is currently open for public comments.*

Vietnam - Who is Creator?

- *According to Vietnam's IP Law, copyright holders are organization or individual such as:*
 - *Authors;*
 - *Co-authors;*
 - *Organizations and individuals who assign tasks to authors or who enter into contracts with authors;*
 - *Heirs;*
 - *Assignees of rights*

Blockchain Patents China

- *The National Intellectual Property Administration of China has awarded 2,191 blockchain patents between 2017 to 2019.*
- *At the end of 2019, Tencent had applied for 777 blockchain-related patents in China, making it the top applicant in the country ahead of Alibaba in second place.*
- *Tencent has applied blockchain technologies to a range of areas including finance, taxation, gaming, charity, supply chain financing and health care.*
- *In August 2018 Tencent worked with the Shenzhen municipal government to launch China's first blockchain-based electronic invoicing (fapiao) system.*

No Legislation on Blockchain in Vietnam Yet (1)

- *Vietnam has not yet passed any regulation with regard to Blockchain.*
- *In 2017, however, the Prime Minister approved a project for “improving the legal framework to manage and handle virtual assets, cryptocurrencies and virtual currencies”. In particular, the Prime Minister assigned the Ministry of Justice (MOJ) to develop a project and advise the Government in completing the legal framework on virtual assets and virtual currencies.*

No Legislation on Blockchain in Vietnam Yet (2)

- *On March 23, 2020, MOJ issued Report No. 70/BC-BTP to the Prime Minister “on reviewing the legal framework related to the application and development of products and services which were developed base on the blockchain technology platform and some specific proposals for blockchain technology”*
- *Currently the focus seems to be in other fields, and there is little to no rapid development to be expected in this segment of the legal framework in the next 12-24 months.*

Recommendations

- *Claim drafting for AI patents:*
- *Avoid claims that only refer to algorithms or mathematical operations*
- *Requirement of technical solution can be ensured by referring to a device or apparatus implementing the KI operation*
- *Use clearly defined terms and steer clear of marketing terms*
- *Avoid „black box“ scenarios*
- *Describe structure of KI and interaction with environment clearly*

Recommendations (2)

- *Have proper contracts in place if your company engages in joint R & D activities with entities in China (or Vietnam)*
- *Make sure to include rules about ownership of inventions in line with applicable law*
- *Have internal patent and employee remuneration guidelines in place for your local subsidiaries*

Contact

Ho-Chi-Minh-Stadt

Suite 702, 7th Floor
Empire Tower
26-28 Ham Nghi Street, District 1,
Ho Chi Minh City, Vietnam
Tel. +84 (0)28 6258 4949
Fax+84 (0)28 6254 9666
Email: snb.vietnam@snblaw.com

Shanghai

Suite 2302, International Trade
Center
2201 Yan An Road (West)
200336 Shanghai, China
Tel: +86 (021) 6219 8370
Fax: +86 (021) 6219 6849
Email: snb@snblaw.com

Hamburg

Baumwall 7
20459 Hamburg,
Germany
Tel: +49 (040) 3697 960
Fax: +49 (040) 3620 88
Email: snbhh@snb-law.de

www.snb-law.de

