How the Patent Data supports technology decision making and innovation

专利大数据如何支持技术决策和创新

智慧芽信息科技（苏州）有限公司

Focusing on innovation and R&D, PatSnap has developed through steady and continuous investments for over 11 years

- Close to 1000 employees worldwide, of which 500 are in China, of which 70% are technology developers
- Total investment in research and development exceeds RMB 200 million

PatSnap– vendor of interconnected R&D intelligence

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Client ecosystem

Enterprise | Government | University/ Research institute | Service institute/ Law firm

Product and capability

Data Cleaning | Entity Extraction | Data Visualization | Relationship Map | Semantic Search Engine

Technology

Natural Language Processing | Computer Vision | Machine Leaning | Machine Translation | AI ……

Dataset

Patent | Trademark | Paper | News | Government grant | Financial statement | ……

How the Patent Data supports technology decision making and innovation ?

- 1 Patent data is an effective indicator of R&D activities and economic development
- 2 The guiding role of patent intelligence on technology R&D and industrial chain construction
- 3 The Reference Significance of Patent Value for the Transformation of Scientific and Technological Achievements

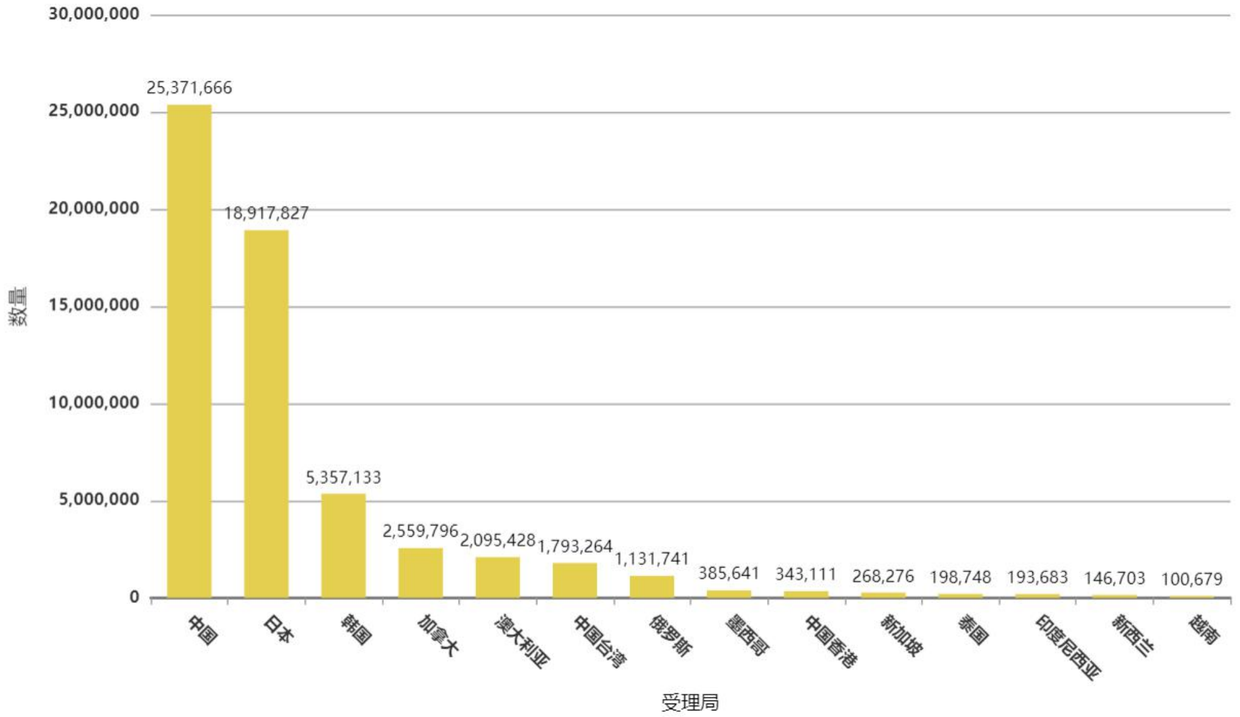
01

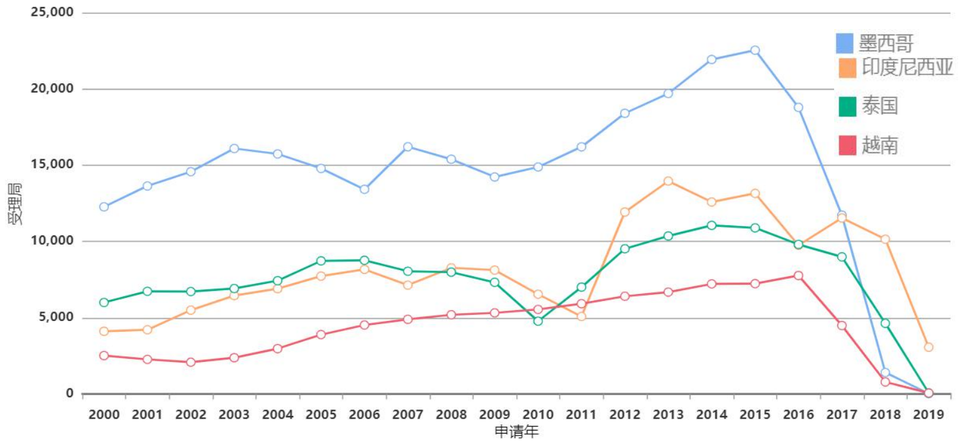
PART

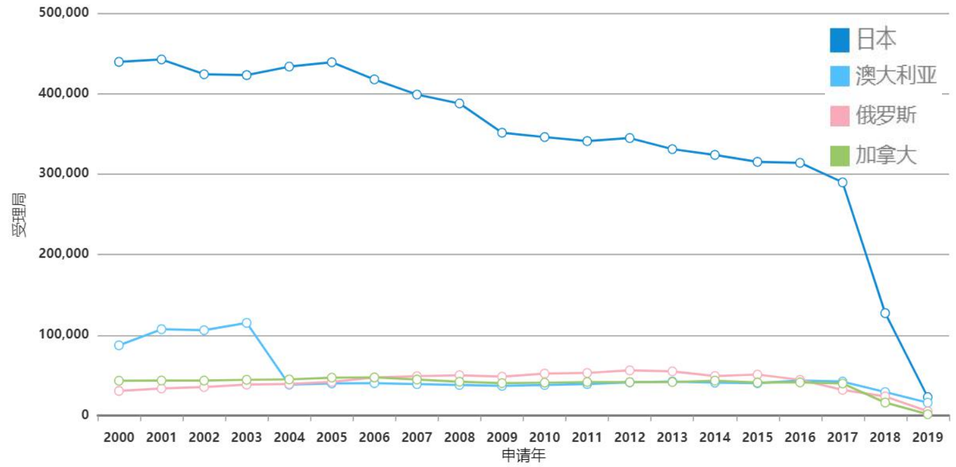
Patent data is an effective indicator of research and development activities and economic development

APEC countries Patent overview

- The patents of China, Japan and Korea account for 80% of the total patents of APEC organizations.
- Patent applications are on the rise: China, Indonesia, Thailand and Vietnam
- Patent applications are on a downward trend: Japan, Canada, Australia, etc.



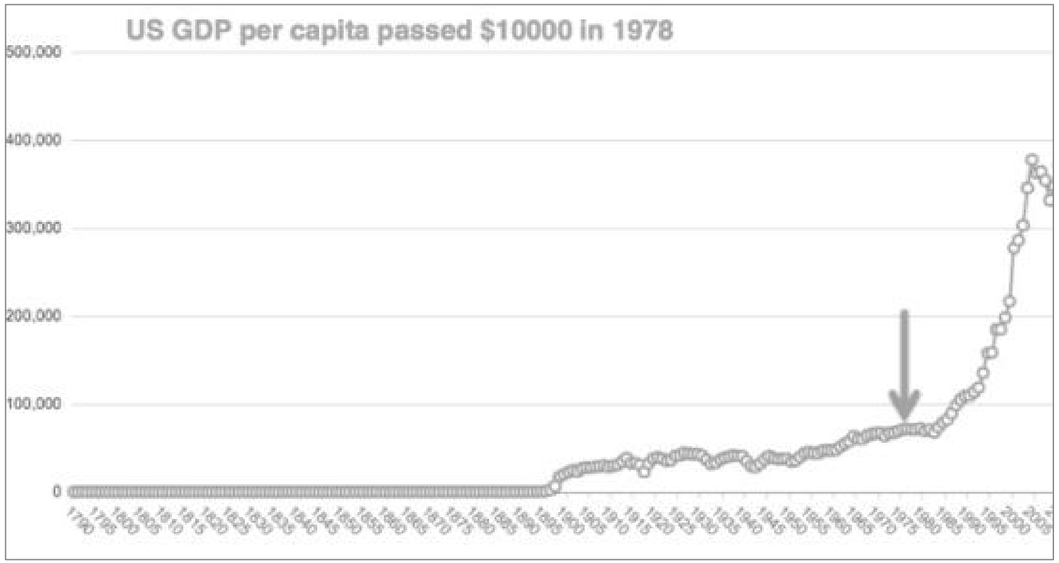




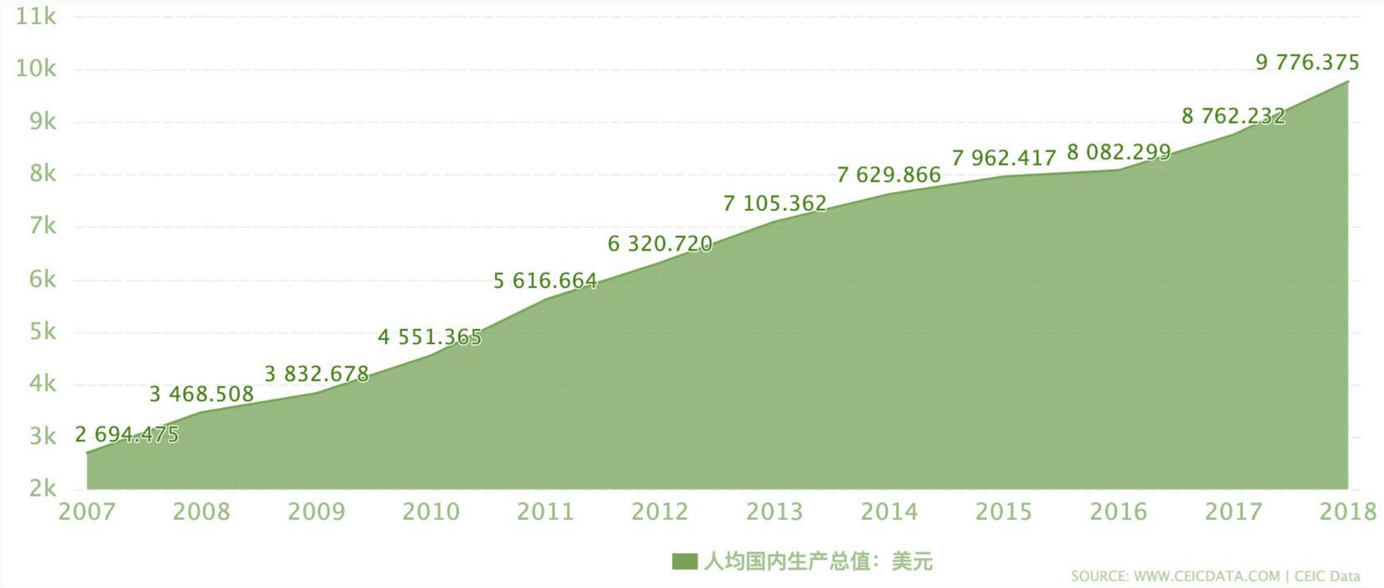
Consumer upgrades drive customer focus innovation

When the per capita GDP exceeds 10,000 US dollars, the number of patent applications has risen remarkably.

Take China as an example：
its per capita GDP is $9000. It is entering an innovation-driven economic model



United States



ChIna

以中国为例，其正在迈入创新驱动的经济模式

China's current per capita GDP: $9000

Thailand's GDP is close to the point of explosion. The current technology's activity can be monitored through patents.

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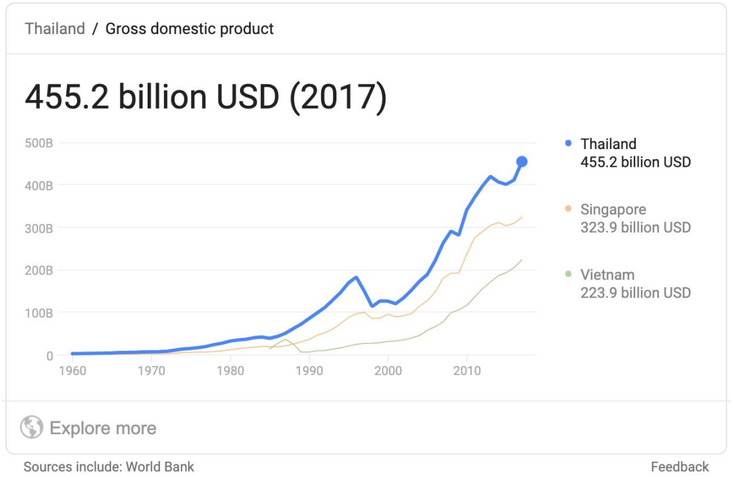
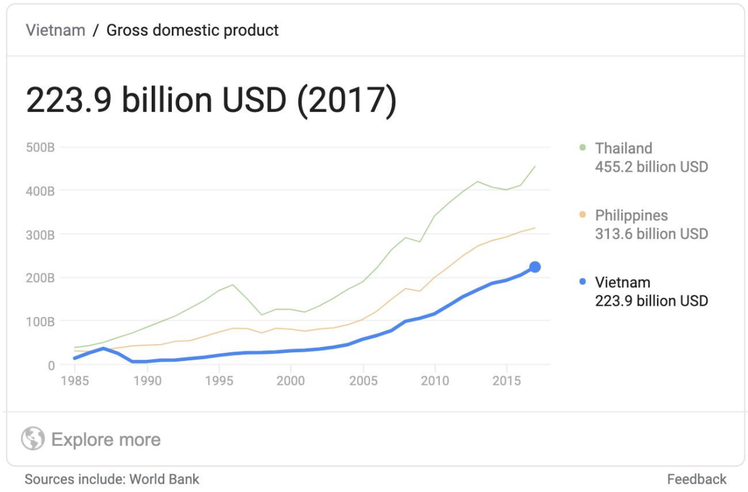
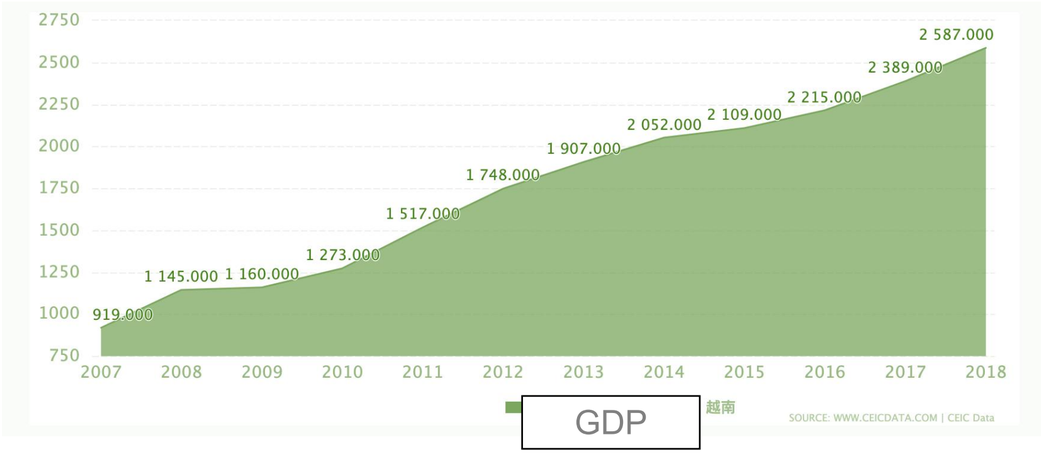
Thailand



Vietnam





02

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The guiding role of patent intelligence on technology research and development and industrial chain construction

2 Case study of AI patent analysis in China

2.1 Patent support us to understand the industrial distribution of the region

- Through the conclusions provided by patent analysis, it can effectively help a certain area to sort out the health of the industry. This will help the region's technology and economy to develop better.

2.2 Provide suitable environment for innovation

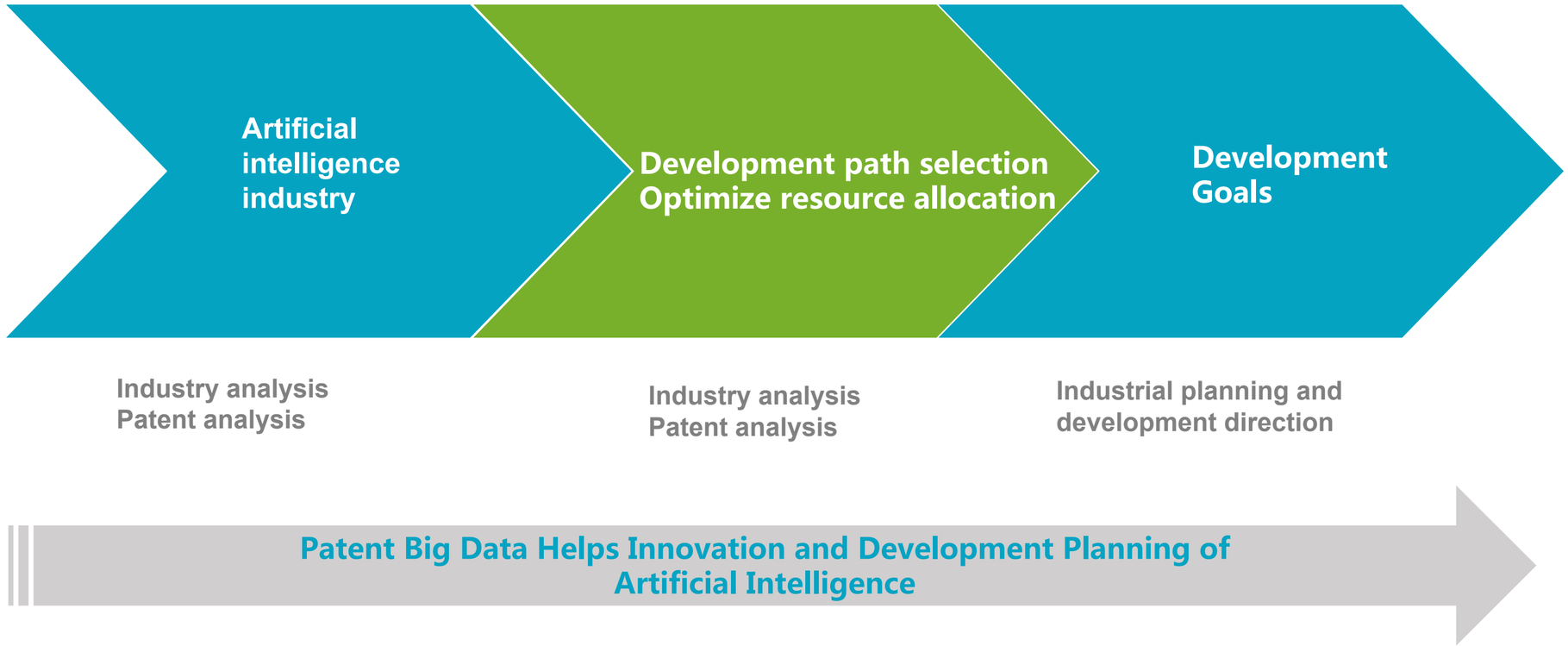
- For the research institution or R&D, it will have more clear direction. Technology is easier to develop in this region。
- Eg., in Thailand or Vietnam, if my technology is more concentrated and the local environment matches this industry. Then my research results or inventions will be better transformed and developed here.

2.3 Highly matched talent & inventors

- Patent analysis can help companies or governments find the right people to work with.

Patent Big Data helps to understand the industrial distribution of the region and helps the innovative subjects find a suitable place for their own development.

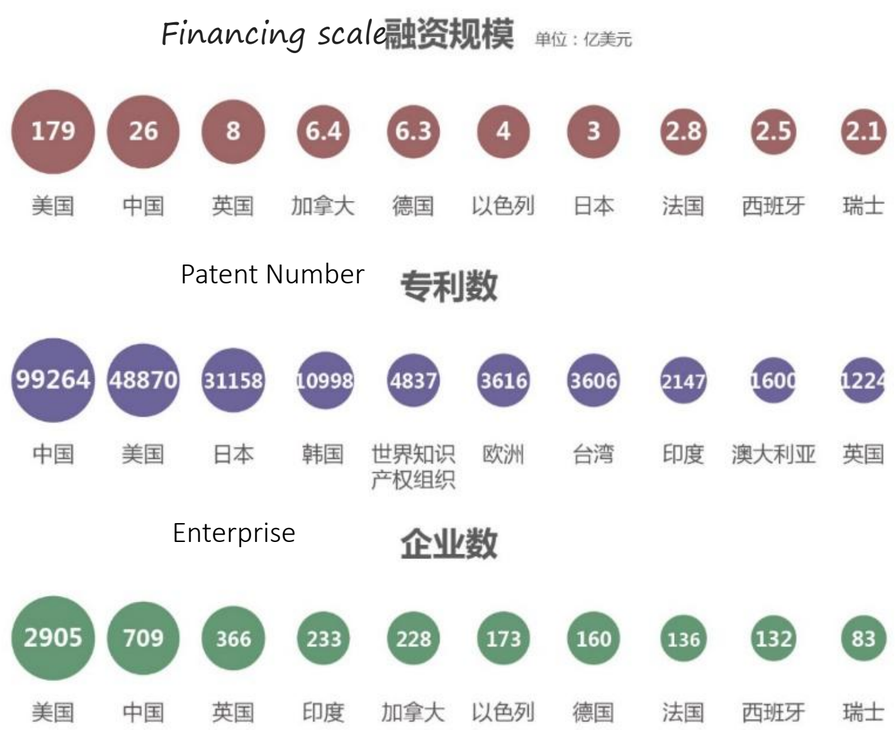
有助于了解区域的产业分布情况，有助于创新主体寻找适合自身发展的落脚点



- Start with patent analysis. We deeply integrate patent information with industry status, development trends, policy environment, market competition and other information to provide cutting-edge information and decision-making reference for policy formulation.

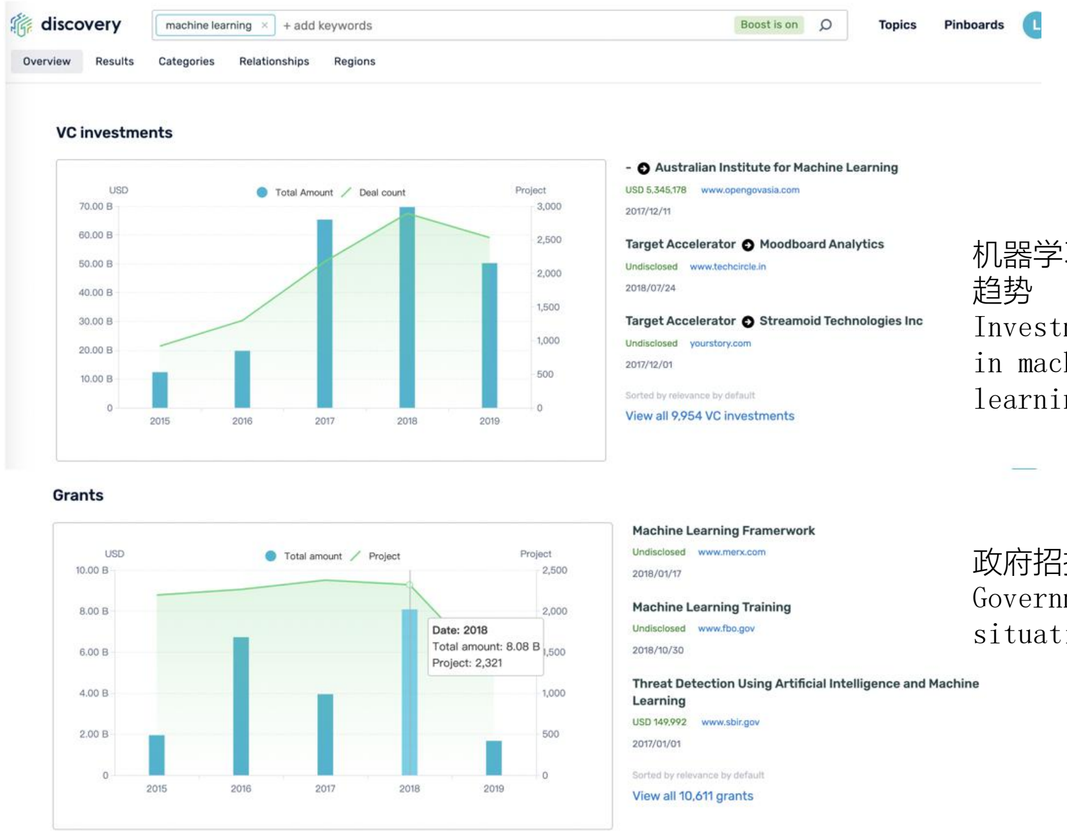
Artificial intelligence competition. 人工智能竞争格局

- Industrial outbreaks China keep pace with the United States
- From the perspective of the comprehensive national influence of artificial intelligence (patent number, financing scale, number of enterprises), the United States leads the world in artificial intelligence, followed by China.



全球各国家人工智能影响力排名

Ranking of artificial intelligence influences in countries around the world

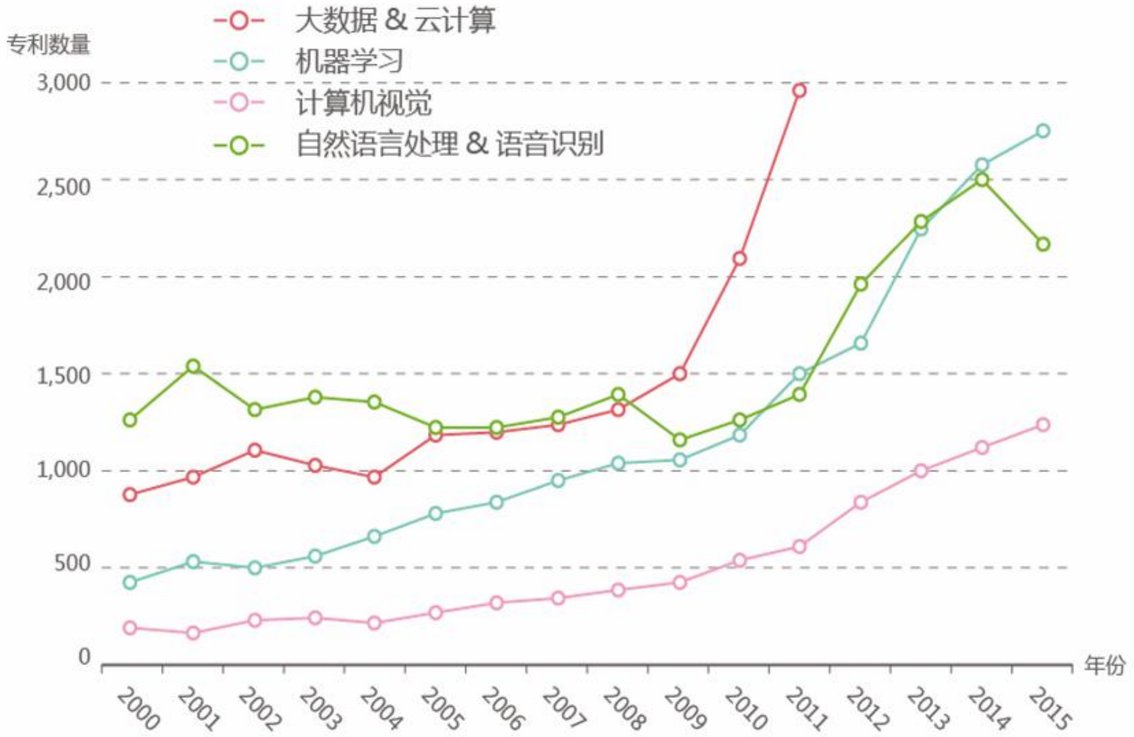


机器学习领域投资趋势
Investment trend in machine learning

政府招投标情况
Government bidding situation

Global innovation resources 全球创新资源情况

- Four major areas (basic data, machine learning, computer vision, natural language) are growing rapidly
- Big data is the core key to artificial intelligence, and it has become the supreme competition of major players.



全球人工智能核心技术发展趋势

Landscape of PatSnap 智慧芽3D 地图

机器学习领域的专利分布地图

Patent distribution map in the field of machine learning

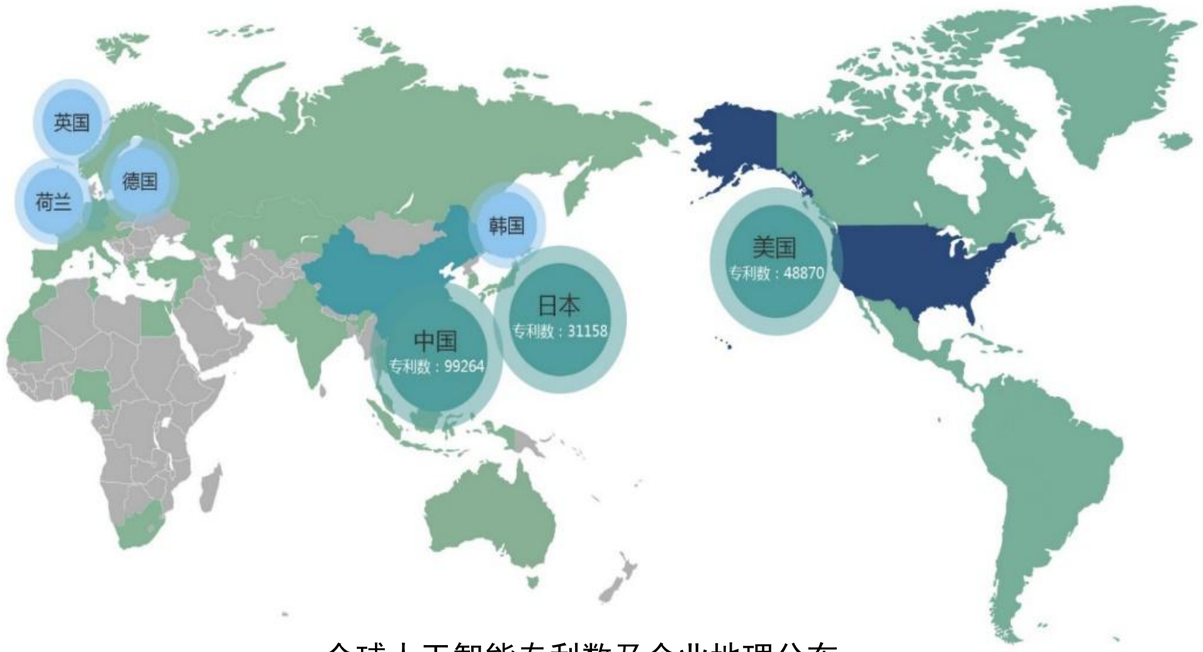
大数据&云计算领域的专利分布地图

Patent distribution map in the field of big data & cloud computing

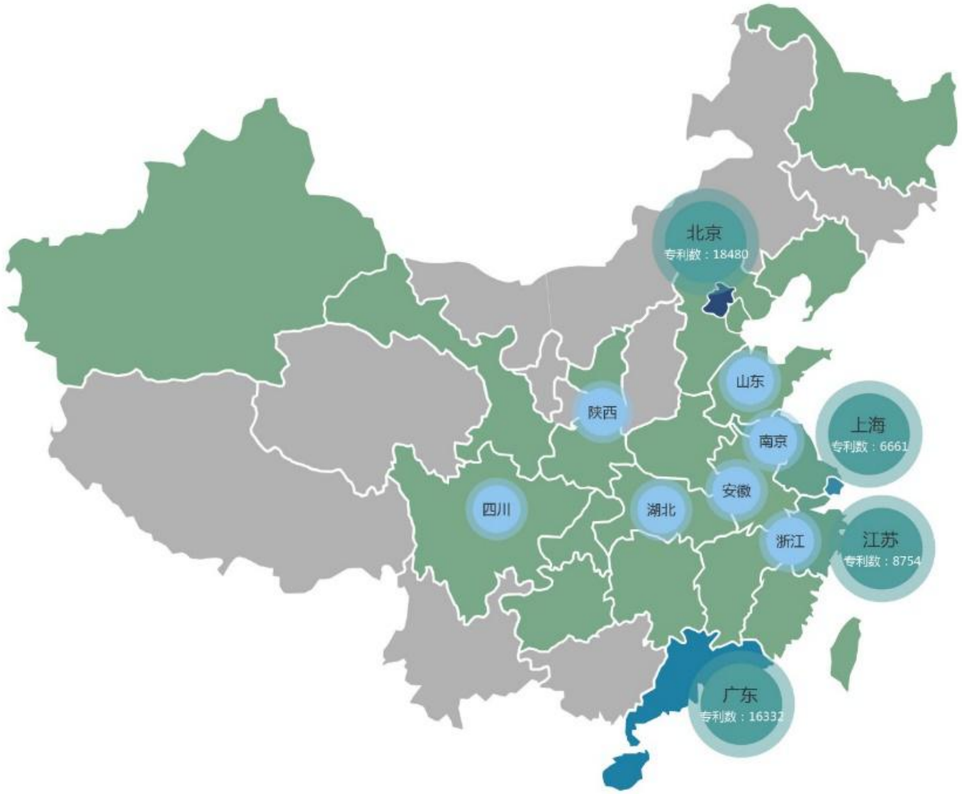
Global innovation resources 全球创新资源情况

创新主体资源情况-创新主体数量剧增 - Innovative subject resources the number of innovative subjects has increased dramatically

- The United States, China, and the United Kingdom account for 65.73% of the total number of companies in the world. Beijing, the Yangtze River Delta, and the Pearl River Delta are the focus of the industry.



全球人工智能专利数及企业地理分布



中国人工智能专利数及企业分布

Technologies and growth companies and invertors

代表企业	企业名称	领域专利量	国别	AI 研发投入 / 融资额
	SAMSUNG	245	韩国	
	中科院	107	中国	
	COGNEX CORPORATION	105	美国	
	苏州福丰科技有限公司	94	中国	
	SONY	80	日本	
	EASTMAN KODAK COMPANY	77	美国	
	CANON	71	日本	
	汉王科技股份有限公司	67	中国	
	MICROSOFT	63	美国	
	PHILIPS	62	荷兰	
	QUALCOMM	51	美国	
	北京中星微电子有限公司	48	中国	
	INTEL	44	美国	
	ELECTRONICS & TELECOMMUNICATIONS RESEARCH INSTITUTE	36	韩国	
	华为	35	中国	
	株式会社リコー	33	日本	
	Nvidia	30	美国	
	上海银晨智能识别科技有限公司	27	中国	
	株式会社ニコン	27	日本	
	IBM	27	美国	

计算机视觉领域代表及潜力企业

Representatives and potential companies in the field of computer vision

- Global innovation resources - The new force is suddenly emerging
- China resources. - We also found some technologies and growth companies and invertors through patent information in China.

Development Planning + Construction of the Industrial Ecosphere + Investment Promotion

发展规划+构建产业生态圈+招商引智

2.1 Patent support us to understand the industrial distribution of the region

- Four major areas (basic data, machine learning, computer vision, natural language) are growing rapidly
- Big data is the key to artificial intelligence, and it has become the supreme competition of major players.

2.2 Provide suitable environment for innovation

- China's artificial intelligence base layer is concentrated, and technology giants focus on application scenarios.
- Beijing, the Yangtze River Delta, and the Pearl River Delta are the focus of the industry.

2.3 Highly matched talent & inventors

- Domestic and global, which companies and talents can cooperate with in Suzhou

03

PART

The Reference Significance of Patent Value for the Transformation of Scientific and Technological Achievements

Use the ability of patent value assessment to help companies and institutions make technology transfer

Case1

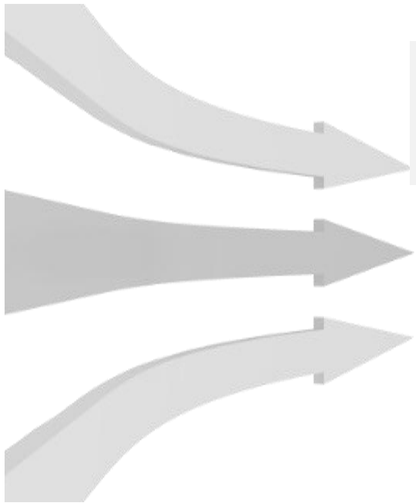
Patent valuation to reveal the technology value$

Patent valuation model based on 25 dimensions + global patent transaction data
=PatSnap patent valuation ($)

O-Film Tech has purchased lens-related patent held by Fujifilm and 100 percent stock of Fujifilm Tianjin for $28M, consisting of patent transfer fee of $15M and licensing fee of $1M, involving 1040 patents. The pricing is based on the PatSnap valuation. Considering the industrial patent value standards and the estimated output of the market in 3 years to come, the value of patent right and patent application right is higher than the transaction consideration. Ultimately, the transferring and licensing fee was determined at a reasonable level through negotiation.

Lenovo bought mobile patents from Unwired Planet for $100M as part of its movement into the global market.

including 3G, LTE and other key mobile technologies



Unwired Planet patent portfolio valuation in 2016: $ 117M

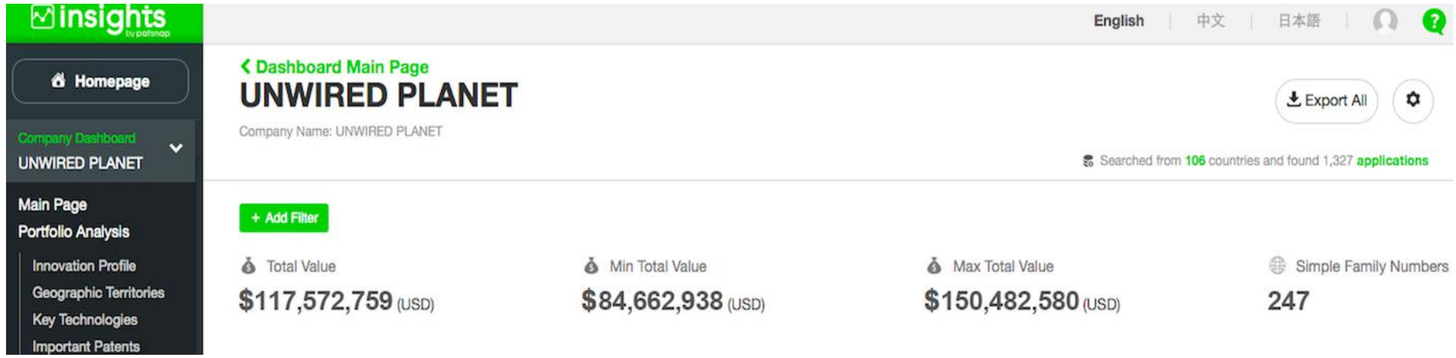
Case2

Lenovo purchased 21 patent portfolios in 2014, costing $100 million, and the price we estimated in 2016 was $117 million.Given the changes in related markets and technologies during the past two years, this valuation still has a high degree of credibility.

要向全球市场进军?联想一亿美元买Unwired Planet所持专利-CSDN.NET

2014年3月21日 - 继29亿美元收购摩托罗拉后,联想又从Unwired Planet手中购买了21个专利组合,这些专利包括3G和LTE移动技术以及其它重要的移动专利。这项投资是联想知识...

https://www.csdn.net/article/2... - 百度快照



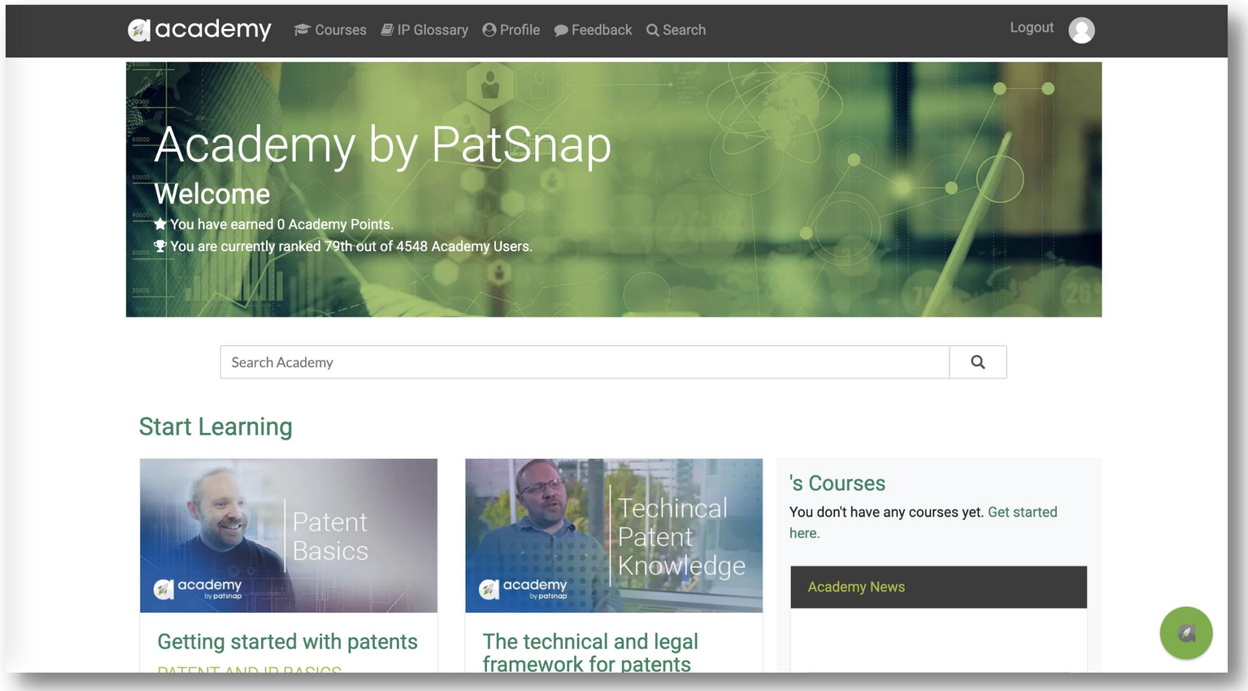
联想公司曾在2014年花费 **1亿** 美元现金购入了 Unwired Planet 所持有的21个专利组合。而我们使用 **智慧芽英策(Insights)** 在2016年对Unwired Planet 所持有的专利进行价值评估的总价值约为**1.17亿**，考虑到两年多市场及技术的变化，因为智慧芽专利价值评估给出的结果是可靠的。

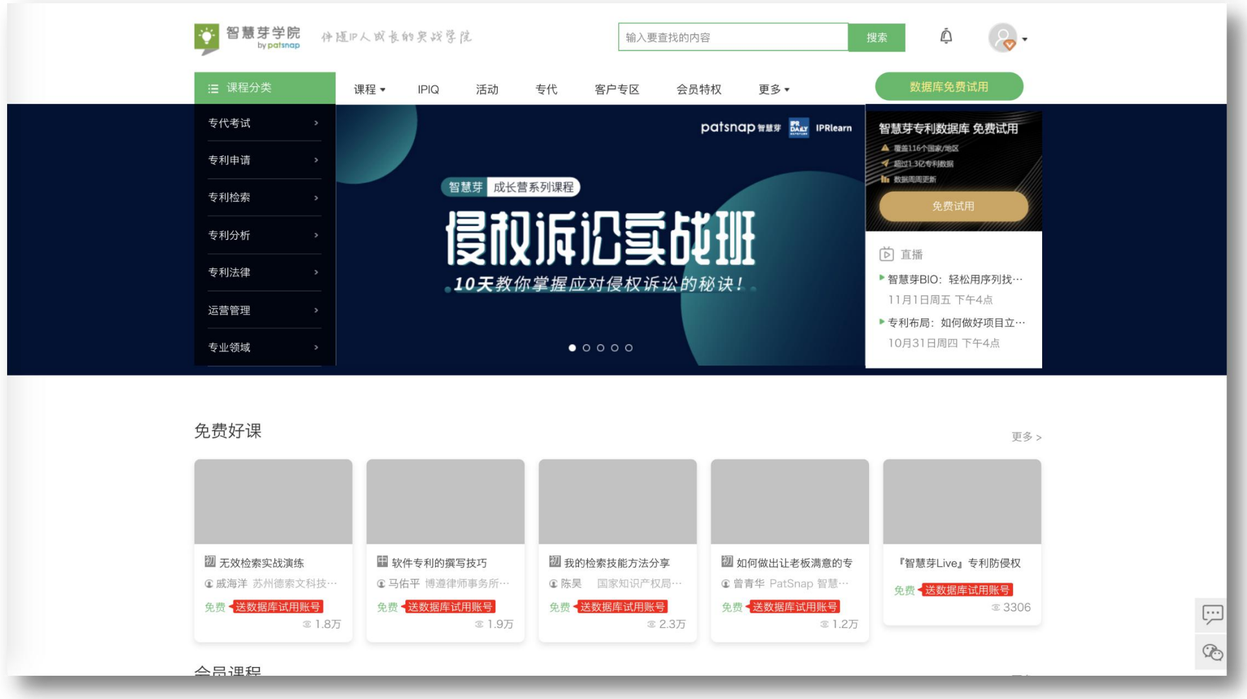
PatSnap Academy

Academy

我们提供体系化的专利课程， 中英文两套， 帮助大家提升运用专利的能力。 我们很愿意和组织合作 ，办各种培训， 营造一个知识产权的氛围。欢迎大家来和我们一起打造生态圈。

We offer a systematic patent course in both Chinese and English. Help everyone improve their ability to use patents. We are very willing to cooperate with the organization and carry out various trainings to create a good intellectual property atmosphere. Welcome everyone to join us to build an ecosystem.





PatSnap Talent Training - Curriculum framework

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	R&D staff	Patent staff		Management staff
		Patent manager	Patent engineers	
Foundational	• The value of IP for innovation • Patent types and scopes of protection • Introduction to patent application documents • Foundation in patent literature	• The value of patent management • The patent application fee payment process • Project proposal writing for innovative enterprises • Requests for IP standards compliance	• Foundational skills in retrieval and analysis • Methods for novelty searches • Interpretation of the PRC Patent Writing Law • Patent drafting and correspondence (mechanics/chemistry/electronics)	• Enterprise IPR management and strategy • Enterprise IPR capacity building • IPR portfolio management • Enterprise IPR risk control • Building an IPR valorization system
Intermediate	• Using patent information to support R&D • Patent search methods and strategies • Definitions and assessment of the three patent features • Step-by-step writing technical disclosures	• How to select an IPR agency • International application fee payment processes • European and American application process fees • Other countries' process fees	• Patent mining methods and techniques • Patent drafting and correspondence (advanced) • Overseas patent drafting and correspondence • Patent infringement analysis • Technology landscape analysis	Litigation attorneys • IPR dispute response strategies • Comparing infringing technologies • Techniques for collecting and assessing evidence • Enterprise patent and licensing transactions • Patent valuation • Patent standardization • Patent investment and financing
Advanced	• Patent mining methods • Prevention and control of patent infringement and R&D duplication • Competition monitoring and technology landscape analysis	• Quality management in service organizations • Patent information management • Patent valuation management • Patent licensing management	• Patent packages/portfolio management • Case studies in patent reviews and invalidations • The US and EU patent examination systems, with case studies • Patent litigation responses, with case studies	

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Providing and managing global R&D innovation information

PatSnap official website: www.zhihuiya.com

Scan QR Code to stay informed. Learn more.

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