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
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

**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 Learning
- Machine Translation
- AI

**Dataset**
- Patent
- Trademark
- Paper
- News
- Government grant
- Financial statement

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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.

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

2 Case study of AI patent analysis in China
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.

• 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.

<table>
<thead>
<tr>
<th>Financing scale</th>
<th>Patent Number</th>
<th>Enterprise</th>
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<tbody>
<tr>
<td>179 26 8 6.4 6.3 4 3 2.8 2.5 2.1</td>
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Global artificial intelligence influences in countries around the world

Global artificial intelligence influences in countries around the world.

- **Investment trend in machine learning**
  - Government bidding situation

- **Artificial intelligence competition.**
  - 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.
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.
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

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.
Technologies and growth companies and inventors

<table>
<thead>
<tr>
<th>代表企业</th>
<th>企业名称</th>
<th>领域专利量</th>
<th>国别</th>
<th>AI研发投入/融资额</th>
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</tbody>
</table>

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

Representatives and potential companies in the field of computer vision
### 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.
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.
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.
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

**R&D staff**
- The value of IP for innovation
- Patent types and scopes of protection
- Introduction to patent application documents
- Foundation in patent literature

**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

**Advanced**
- Patent mining methods
- Prevention and control of patent infringement and R&D duplication
- Competition monitoring and technology landscape analysis

**Patent staff**
- The value of patent management
- The patent application fee payment process
- Project proposal writing for innovative enterprises
- Requests for IP standards compliance

- How to select an IPR agency
- International application fee payment processes
- European and American application process fees
- Other countries’ process fees

- Quality management in service organizations
- Patent information management
- Patent valuation management
- Patent licensing management

**Patent manager**
- Foundational skills in retrieval and analysis
- Methods for novelty searches
- Interpretation of the PRC Patent Writing Law
- Patent drafting and correspondence (mechanics/chemistry/electronics)

- Patent mining methods and techniques
- Patent drafting and correspondence (advanced)
- Overseas patent drafting and correspondence
- Patent infringement analysis
- Technology landscape analysis

- 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

**Management staff**
- Enterprise IPR management and strategy
- Enterprise IPR capacity building
- IPR portfolio management
- Enterprise IPR risk control
- Building an IPR valorization system

**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

**Patent staff**
- Enterprise IPR management and strategy
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Providing and managing global R&D innovation information

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