



Intellectual Property and Intellectual Property Management

MN 3060

Session 09: IP Management

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IP Management

The process of identifying, protecting, and utilizing IP assets strategically to add value and support business objectives.

Eg:

1. Safeguard innovations and discoveries to ensure competitive advantage and value creation.
2. Generate revenue streams through licensing, sales, or partnerships based on IP.
3. Differentiate products and services from competitors to increase market share.
4. Minimize risks related to IP infringement, ensure compliance, and reduce potential legal disputes.
5. Form strategic collaborations to enhance innovation and access new markets.

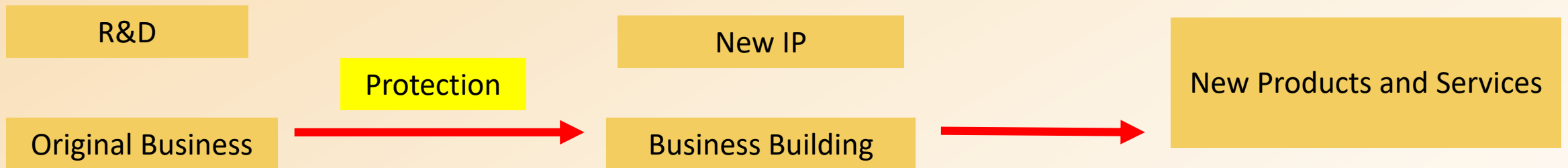


1 . IP operations and management

2 . IP Portfolio management

IP Operations: Disseminating R&D Results to Society

Pathway to Innovation and Commercialization



Foundation for Business Success

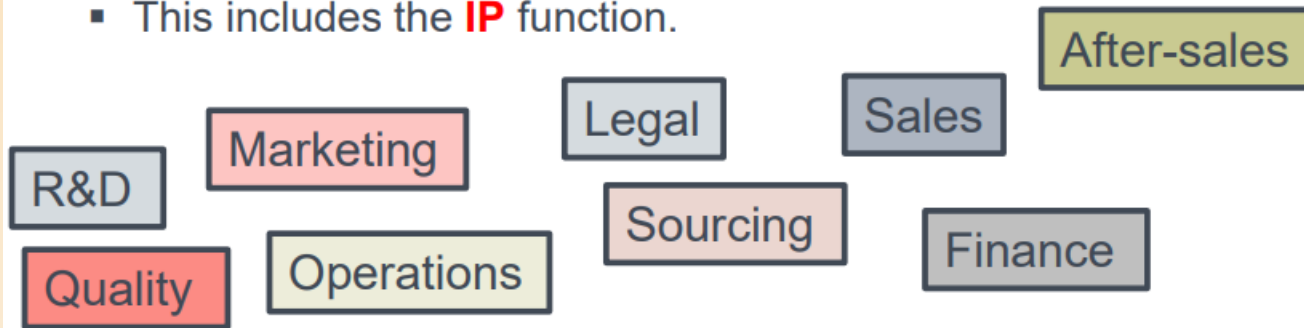
IP as an Asset: Comparable to land and buildings, IP underpins business value.

New IP Generation: Results from R&D form the basis for new products/services.

IP Policy: Guides enterprises in leveraging IP for business growth.

Not the preserve of R&D

- It is important to note that the innovation process is not the preserve of R&D.
- All corporate functions have crucial roles to play in morphing the "Bright Idea" into a "Final Product"
- This includes the **IP** function.



At each stage of the innovation process, IP has a crucial role to play

What is the external IP environment like?

How can IP data & IP data analytics help?

What are the key innovations and how should these be best protected?

What IP risks exist and how should these risks be mitigated?

Are there control points of interest (e.g. Standards), and can IP assist here?

What about the business relationships with others (suppliers, collaboration partners, customers), and how is IP best handled here (contractually)?

Can IP encourage investment / support?

Are there key IP messages to be communicated?

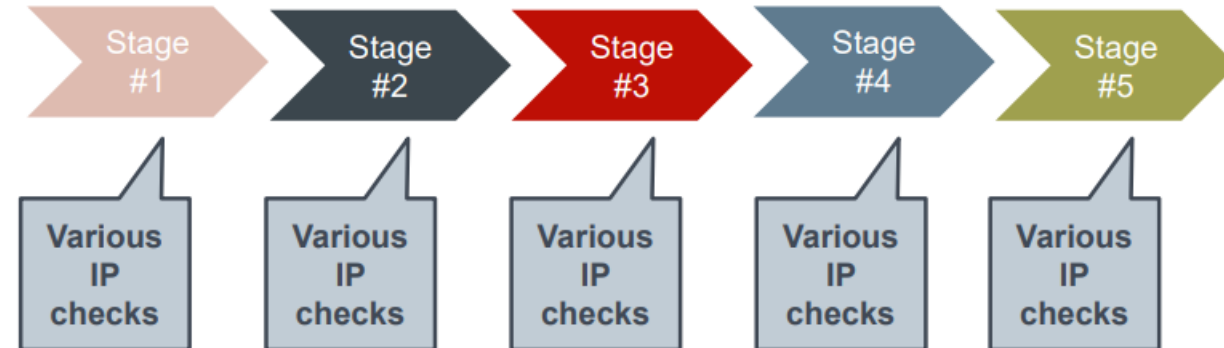
A stage gate process

- The innovation process is typically a stage gate process.
- A Stage-Gate process can be defined as a framework where large innovation programmes are divided into phases (stages).
- Each phase or stage is preceded by a review session (gate), where ideas are assessed and deemed worthy of further development or not.



The innovation process & IP

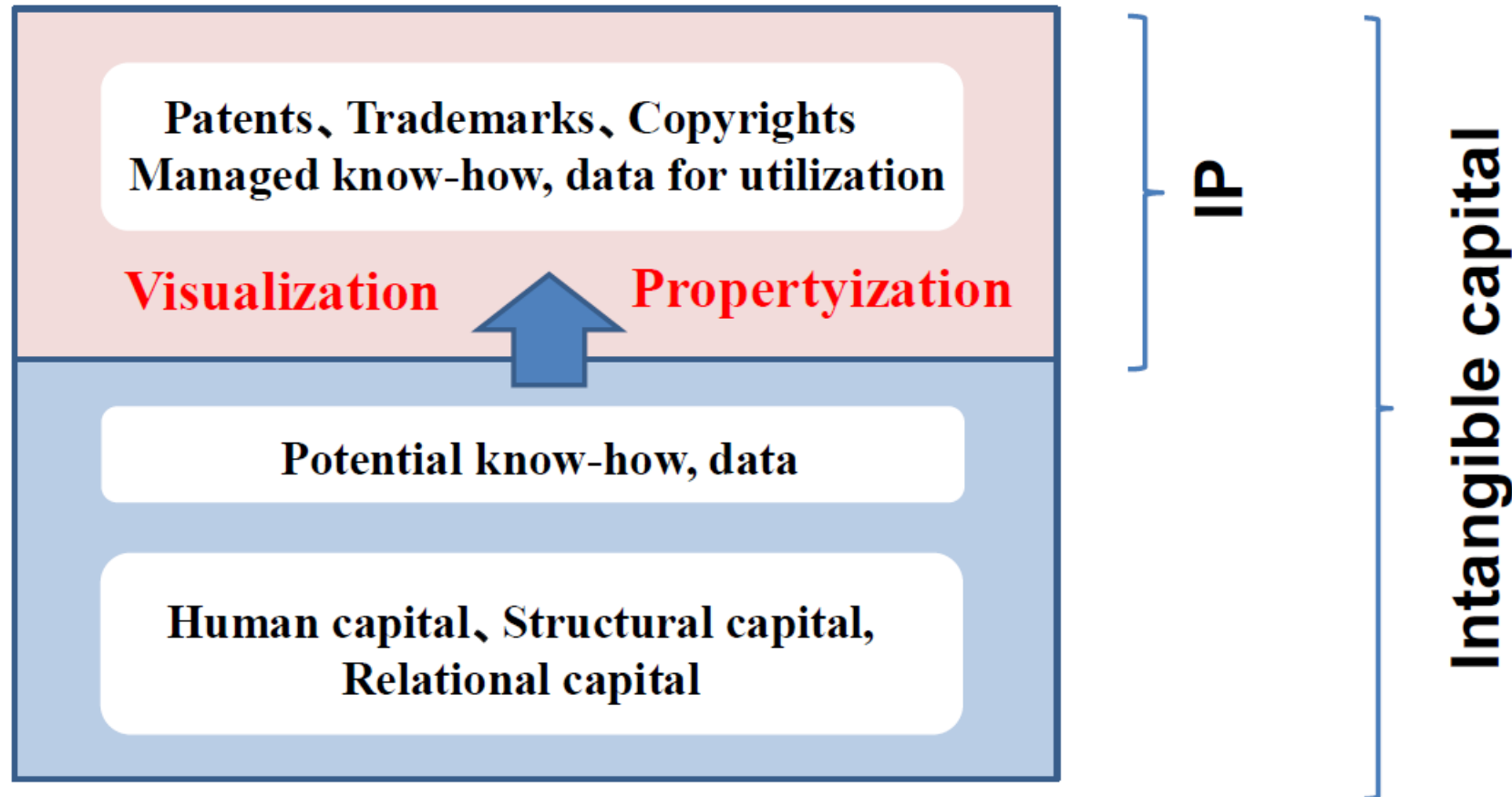
- During the innovation process different IP relevant decisions need to be taken at different stages associated with different uncertainties.



Creative Ideas for Business as IP

Visualization → Propertyization → IP Creation

Creative ideas for business are IP of companies



IP operations are to make intangible capital IP

Visualization

The process of identifying and conceptualizing ideas, innovations, and intellectual assets within a business context.

Example: A team of engineers brainstorming new product designs might create sketches and diagrams to visualize their innovative concepts before they proceed with development.

Propertyization

The process of transforming intangible assets, such as ideas and innovations, into recognized forms of property that can be legally protected.

Example: A software development company takes a novel algorithm it has developed and files for a patent, thus propertyizing the algorithm as a legally protected intellectual asset.

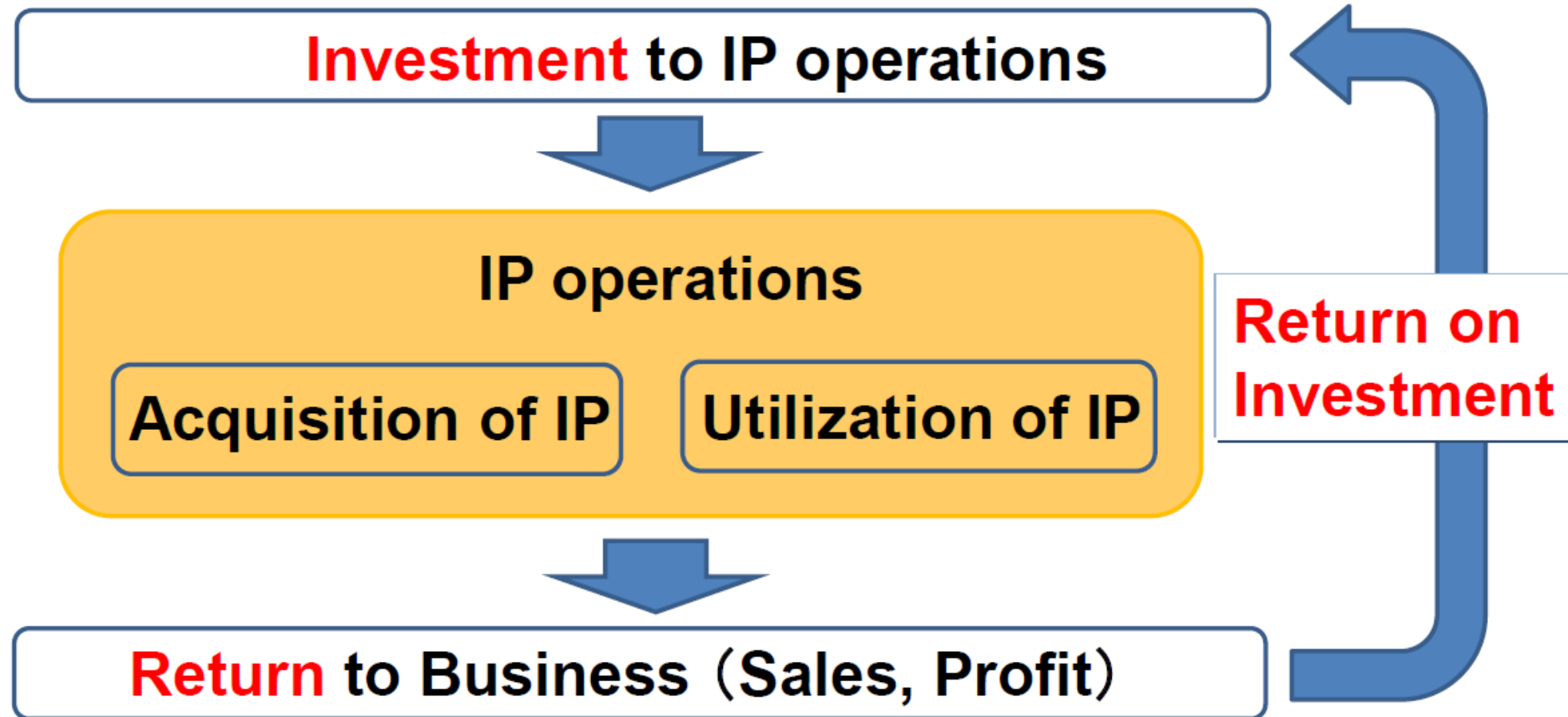
IP Creation

The outcome of the processes of visualization and propertyization, resulting in the establishment of legally recognized IP assets.

Example: After successfully visualizing and propertyizing a new invention, a startup files a patent application, which leads to the official granting of a patent, thus creating an IP asset that can be commercially exploited.

Business judgment

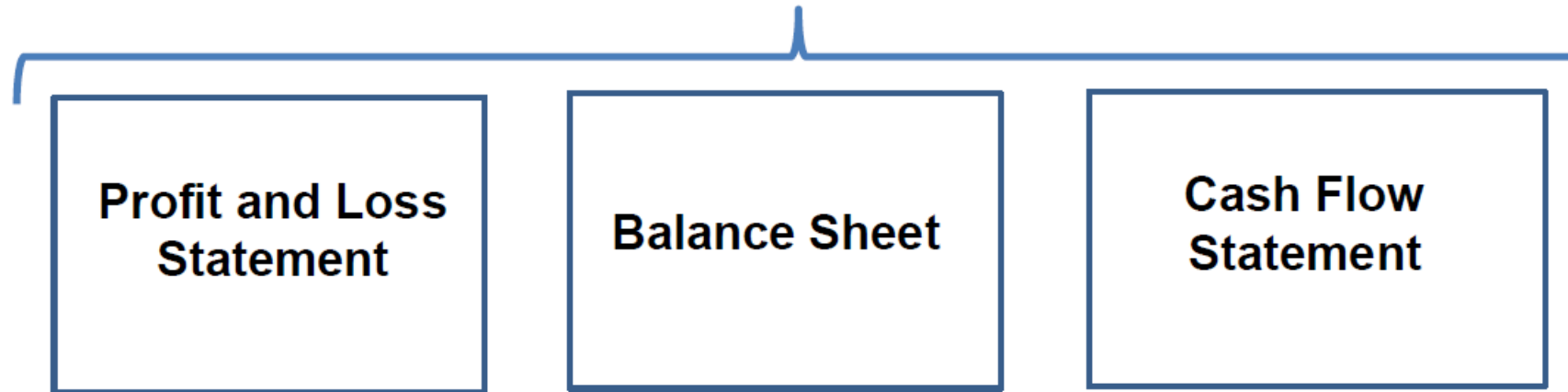
Return on investment is fundamental measure



Stock holders need to know ROI

Managers check business on Financial Statement

Financial Statement = Annual result of business



→ **Investors judge their investment on financial statement**

ROI should be described in financial statement

What is ROI of IP ?

Contribution to business is necessary

- **Contribution to sales and profit (Offensive use)**
 - **Enforcing IP to competitors**
- **Contribution to suppress IP risk (Defensive use)**
 - **Avoiding IP enforcement from competitors**
- **Return of investment on R&D or branding**
 - **Licensing, financing by use of IP**

Only holding IP is no meaningful for business

Contribution to sales and profit

Increasing profitability by use of IP

- **Raising market share → increasing sales, profit**

Exclusive use of IP such as trade secret and IP rights

Elimination of counterfeit products

- **Creation of new business → new sales, new profit**

Finding a new market by original technology with IP

Creation of new business by M&A among companies with IP

- **Overseas expansion → new sales in new countries**

Expanding business into foreign countries with use of IP

Return may be estimated from increased profit

Contribution to suppress IP risk

Risk management is essential for IP section

- **Modifying products or service**

Avoiding IP infringement for reduction of IP risk

- **Cross license**

In the case of balanced IP, mutual license is agreeable

- **License IP in and purchase of IP**

In the case that it is impossible to avoid IP infringement, licensing the IP in, purchasing the IP should be necessary.

Return may be estimated from reduction of IP risk

Return on R&D and branding

Investment on R&D and branding returns by IP

- **Licensing useful IP out**

Acquiring IP income from the other parties

ex) License income from useful patents, loyalty from franchisee

- **Sale and license of non used IP**

Acquiring IP income from the other parties

ex) In the case of withdrawal from business

- **Financing with use of IP**

Financing, investment from bank or the other parties

License income and financing amount is return

IP management index

Clarifying IP Strategy through Targeted Indices

IP Strategy	Targeted Index	Example
Offensive Position	IP Income as a Business Goal	IP Index: $\text{IP income} - \text{IP expense} > \text{targeted value}$
Defensive Position	Risk Reduction as Priority	IP Index: $\text{IP risk} / \text{Sales} < \text{targeted value}$
Balanced Position	Return on IP Investment	IP Index: ex) IP index = Return from IP / Investment to IP $> \text{targeted value}$

Key Points

- **Offensive Strategy:** Maximizes IP income through active use and commercialization.
- **Defensive Strategy:** Focuses on reducing IP risk to protect existing business assets.
- **Balanced Strategy:** Emphasizes a balanced approach with targeted returns on IP investments.

Types of IP operations

IP Operation	Description	Key Activities
IP Identification	Recognize and document valuable innovations and assets	Invention disclosure, IP audits
IP Protection	Secure legal rights to protect IP assets	Patent filing, trademark registration, copyright
IP Management	Organize and maintain IP assets	Portfolio management, renewal tracking
IP Commercialization	Generate revenue or value from IP	Licensing, joint ventures, IP sales
IP Enforcement	Defend against unauthorized use or infringement	Monitoring, litigation, dispute resolution



IP Management – Risk Measures and IP Utilization

Minimize IP Risks and Maximize IP Utilization

IP Operation	Description
Planning IP Strategy	Develop plans aligning IP with business goals
IP Data Management	Organize and secure IP data and records
IP Education	Train teams on IP awareness and best practices
IP Acquisition	Obtain patents, trademarks, and copyrights
IP Search	Conduct searches to avoid infringement risks
Defensive Actions	Protect assets from infringement and misuse
Offensive Actions	Utilize IP to gain market advantage
Cooperative Actions	Partner with others to leverage IP effectively

IP risk management

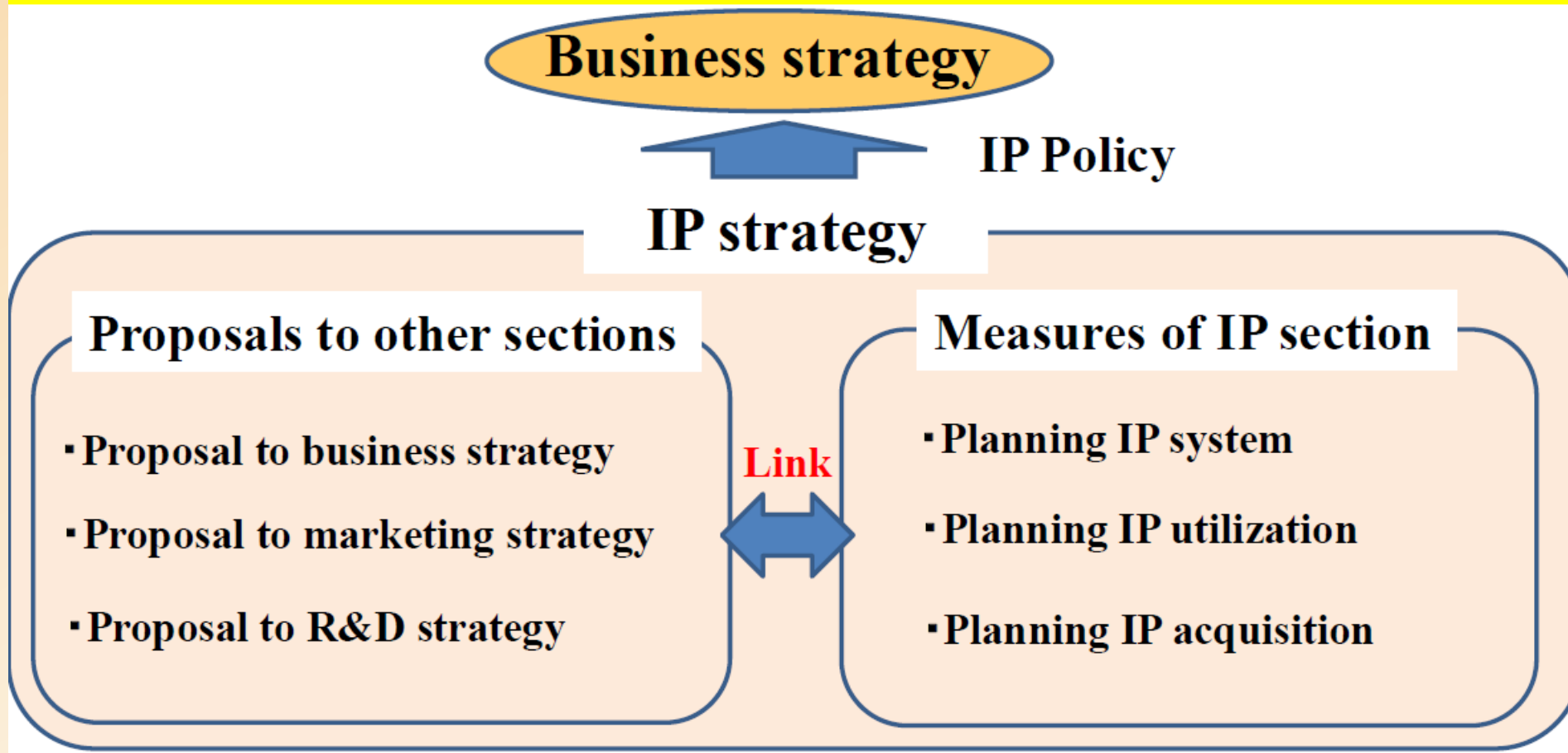
- IP risk management is the systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analysing, assessing, treating, monitoring and communicating.



Name of IP risk	Person managing it	Date IP risk materialises
Date first identified	Business unit impacted	General IP risk mitigation approach
Probability	Person who identified it	Specific IP risk mitigation action
Impact	Products / services potentially impacted	External IP risk mitigation help
Geo coverage	Source	Unique / others affected

Planning IP strategy

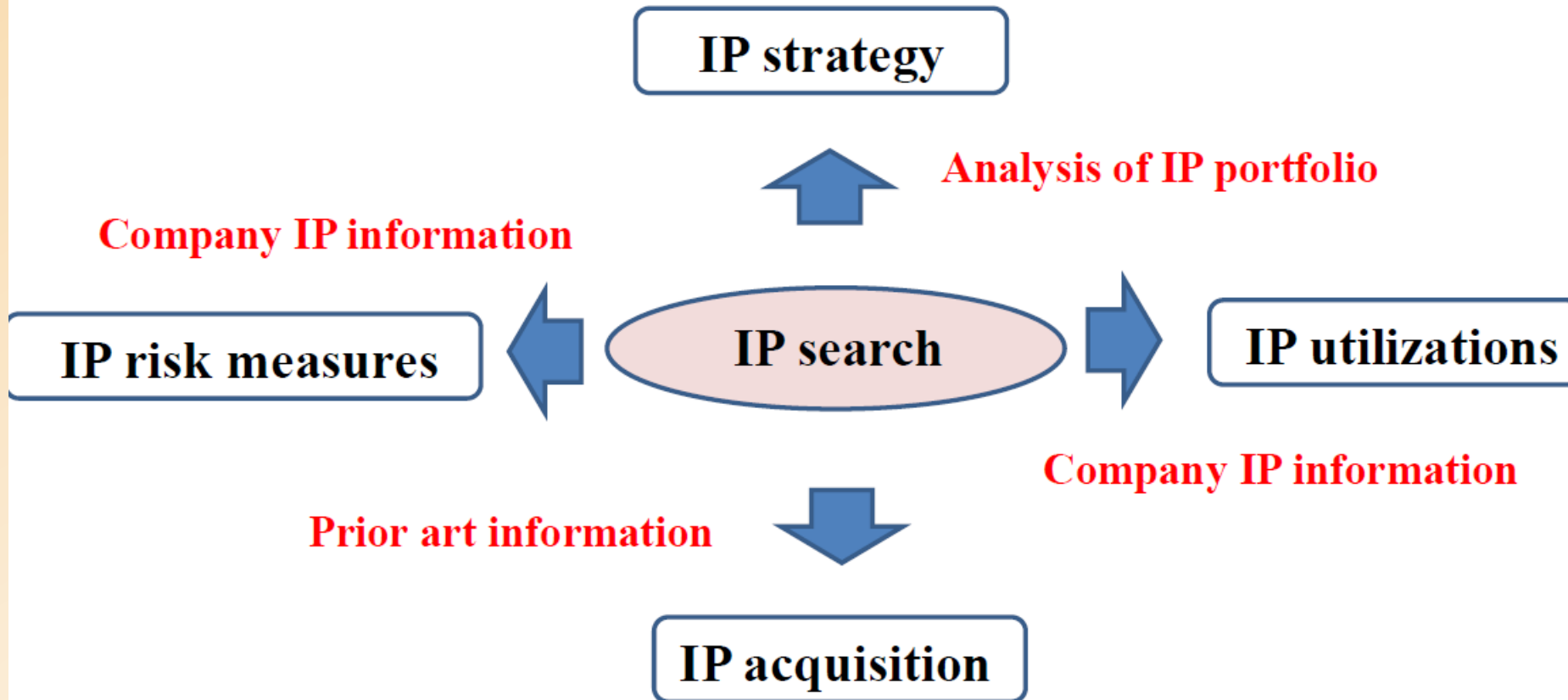
Making IP policy as a compass for business



IP strategy is integrated with business strategy

IP search

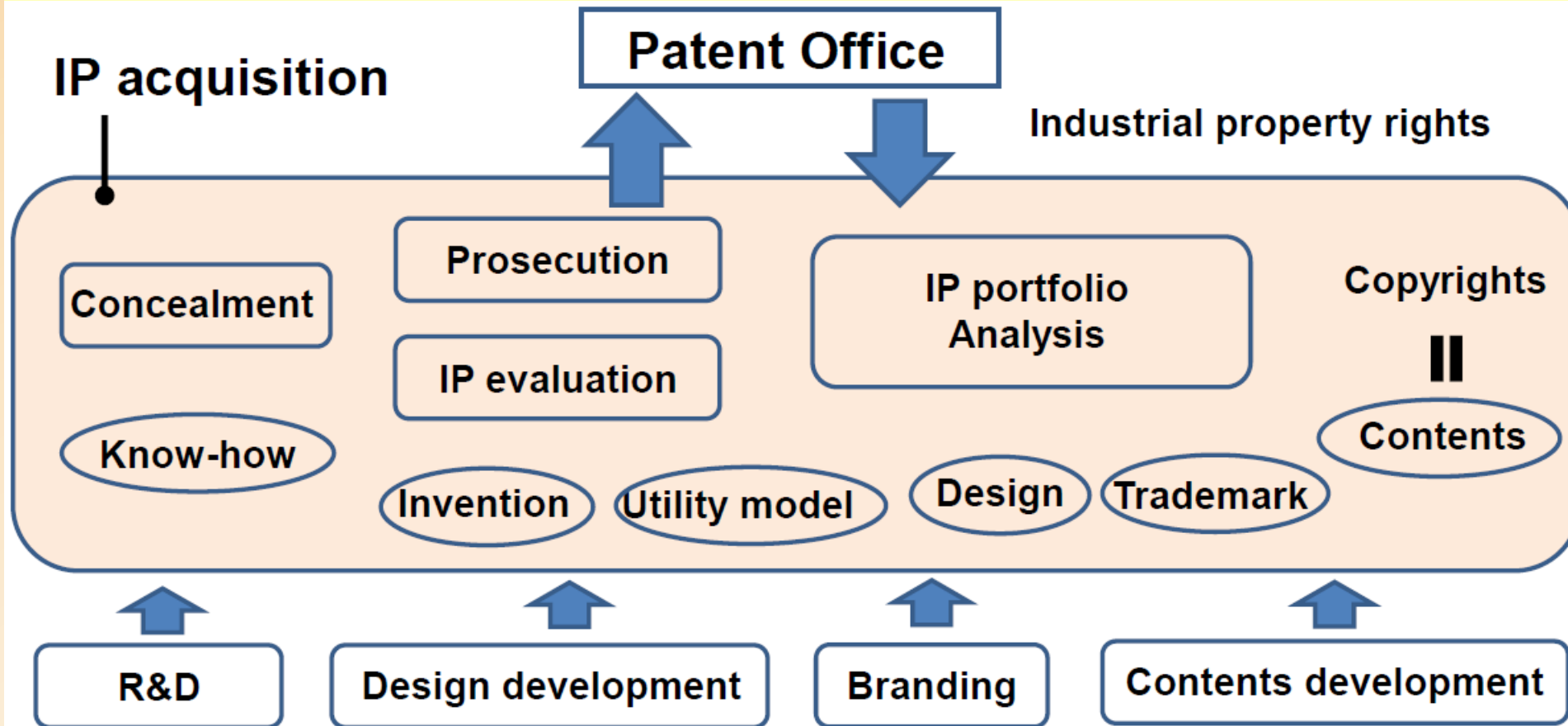
IP operations are based on the information of IP



IP search is necessary for every IP operation

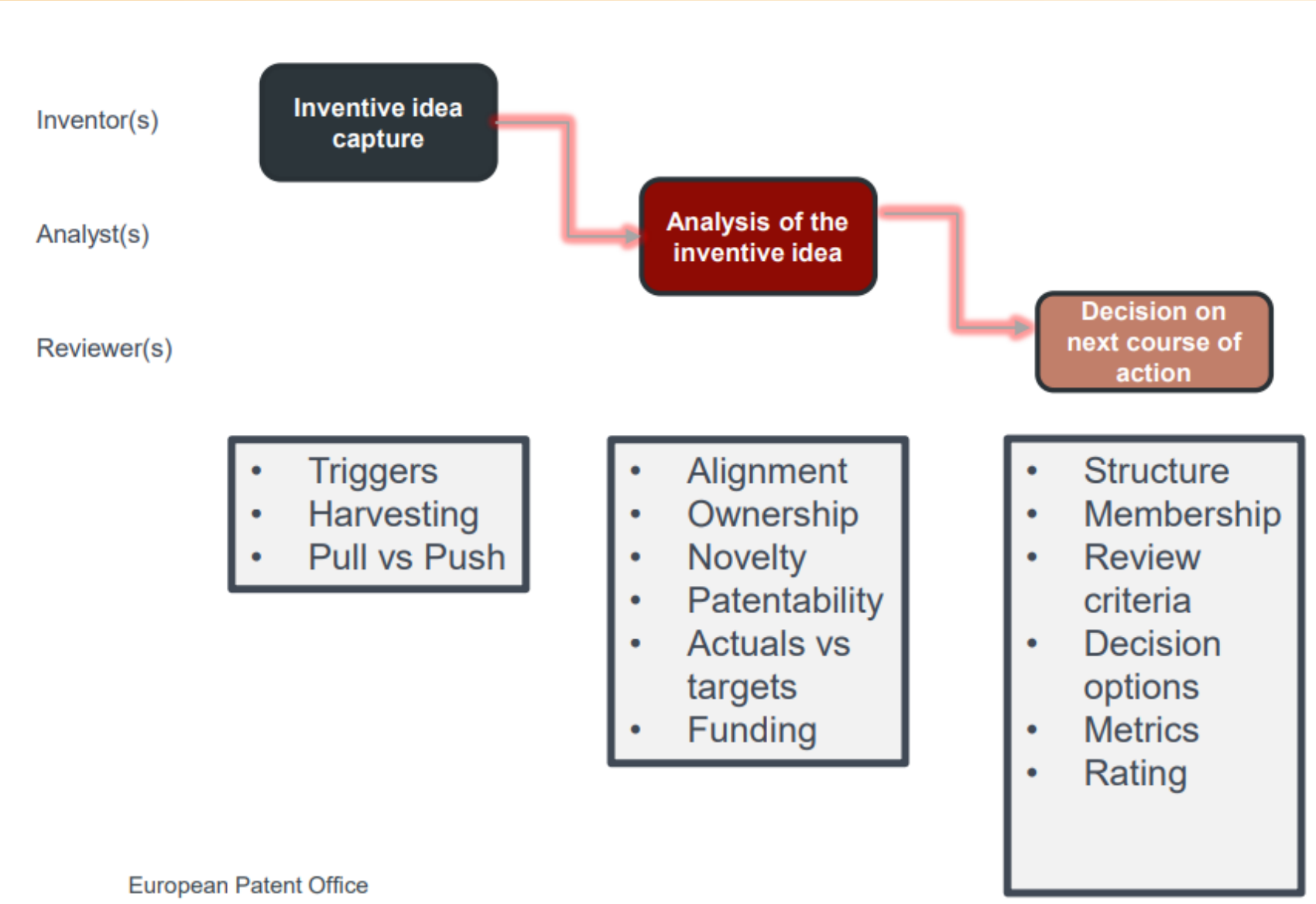
IP acquisition

Operations differ depending on the type of IP



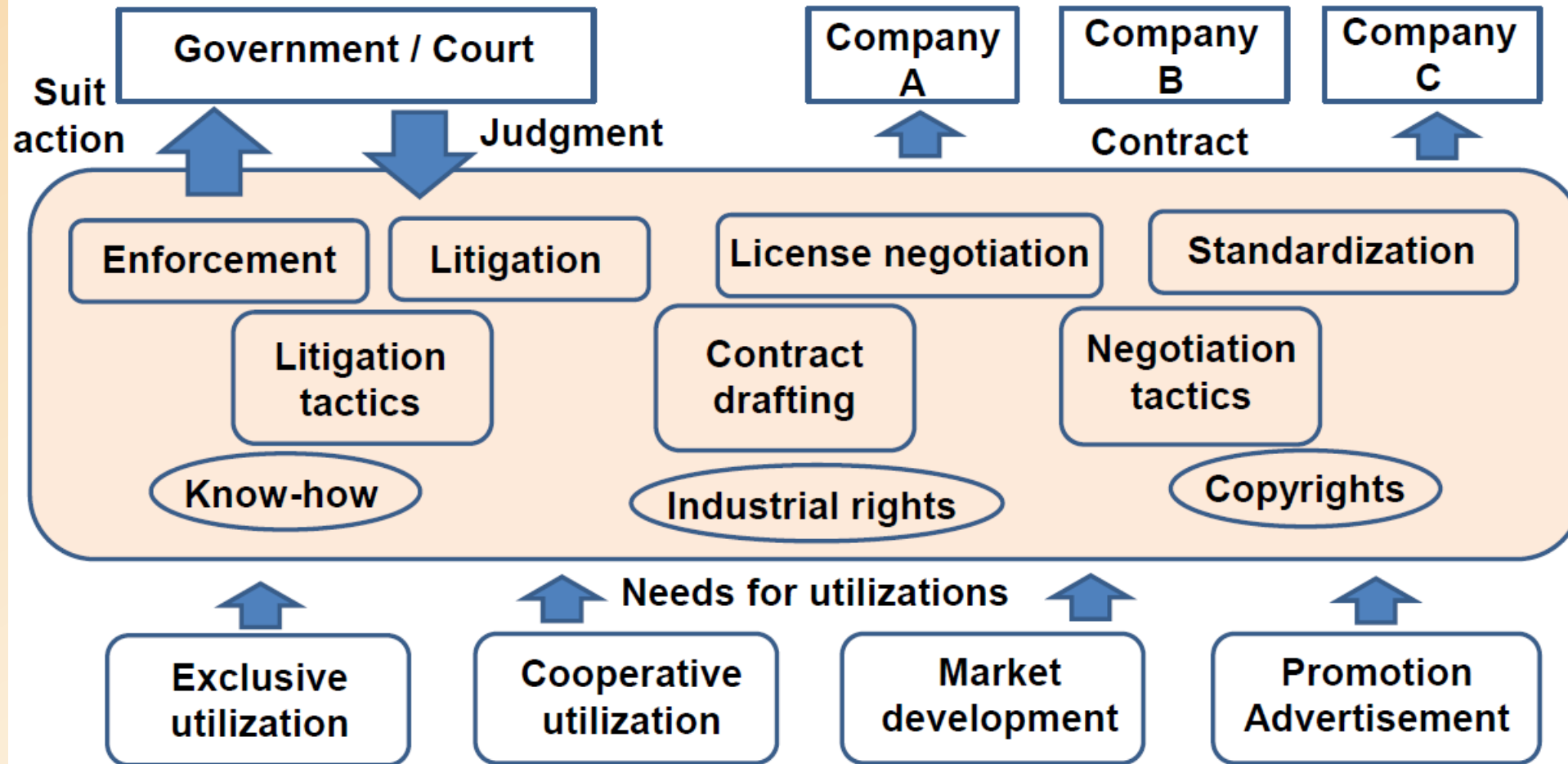
Acquisition of industrial property rights is majority

Process in Simple.....



IP utilizations

Operations differ depending on purpose of use of IP



IP litigation is a part of operations as IP utilization

One product - many IP rights

Trade marks

- iPhone
- Product "xxx"
- Start-up tone



Copyright

- Software
- User manuals
- Ringtones
- Start-up tone
- Images

Patents and utility models

- Data-processing methods
- Operating system
- Operation of user interface

Designs

- Form of overall phone
- Arrangement and shape of buttons
- Position and shape of screen

Trade secrets

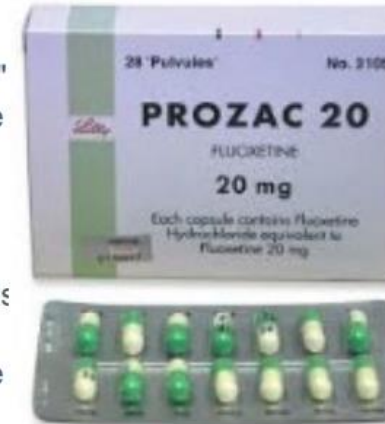
- Some technical know-how kept "in-house" and not published

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IP & open innovation

Some misunderstandings

- Some people have taken open to mean open to all.
- Others have understood open to mean free.
- Others still have taken the word open to mean that it is an intellectual property rights or patent free zone

Open Source with IP Strategies

1. Calm Open Innovation Environments

The company controls the IP dynamics, setting the terms for collaboration and managing how IP is used and shared.

In a calm open-source environment, the company has more control over how its open-source projects are shared, used, and expanded. It often sets boundaries around core IP while leveraging open collaboration to innovate.

Examples:

- **Pharmaceutical Partnerships**
A pharmaceutical company collaborates with universities, controlling the licensing terms and managing IP outcomes from joint research.
- **Google's Tensor Flow**
Google releases Tensor Flow as an open-source platform for machine learning, allowing external developers to contribute, but Google maintains control over updates and core direction. This benefits Google by encouraging ecosystem development while retaining key aspects of its technology.

2. Turbulent Open Innovation Environments

External entities have significant influence, and the company must adapt to shared IP policies or industry standards.

In a turbulent environment, a software company contributes to larger open-source communities where it must follow broader community-driven IP and use policies.

•Examples:

- **App Development on Open Platforms**
Mobile app developers work within established IP rules set by major platforms like Apple or Google, following their guidelines on app features and IP.
- IBM contributes to the Linux operating system, but as part of the Linux community, IBM accepts the terms of the General Public License (GPL) and aligns with the IP policies set by the broader community. IBM gains access to a robust ecosystem but does not control the IP terms.



IP risk measures

Key IP Risk Measures

1. Analysis of Other Companies' IP

Monitor competitors' IP portfolios to identify potential infringement risks and trends.

Example: Regularly review patent filings and trademark registrations of key competitors.

2. Watching and Analyzing Competitor IP


Keep track of competitor IP activities to anticipate challenges and avoid unintentional infringement.

Example: Set up alerts for new patents filed by competitors to assess potential overlaps with your products.

3. Change of Product and Service

Modify offerings if there's a likelihood of infringement.

Example: If a competitor files a patent that could affect your product, consider redesigning the product to avoid infringement.



Key IP Risk Measures continue....

3. Actions for Invalidation

Take defensive measures against infringement claims, including legal appeals.

Example: Engage in a legal battle to challenge the validity of a competitor's patent that is perceived as overly broad or unjustified.

4. License In / Purchase of IP

Consider licensing or purchasing relevant IP to mitigate risks.

Example: Obtain a license for a critical technology to avoid infringement and ensure compliance.

5. Cross-Licensing

Collaborate with other businesses to share IP rights, enhancing strategic alliances.

Example: Engage in a cross-licensing agreement with a partner company to leverage each other's technologies while minimizing infringement risks.

IP data management

Data Management is the Foundation of IP Operations:

- **Inventor and Reward Data Management**

Manage records of inventors and associated rewards to incentivize innovation.

- **IP Evaluation Data Management**

Track and assess the value of IP assets to inform decision-making.

- **Applications and Maintenance Management**

Oversee the lifecycle of IP rights, including filing and maintenance.

- **Patent Law Firms Data Management**

Maintain relationships and communication records with legal advisors.

- **Filing Expenses, Annuity, and License Fee Management**

Monitor costs related to IP filings and ongoing maintenance fees.

- **Contract Data Management**

Organize and manage contracts associated with IP rights and agreements.

IT System:

**Essential for
Effective IP Data
Management**



IP education

Evaluation of IP Skills: Pathways to Improvement

- **On-the-Job Training (OJT)**

- Enhance practical skills through hands-on experience.

- Engage in real-world IP projects to apply theoretical knowledge.

- **Workplace Rotation**

- Gain new experiences through reassignment.

- Develop a versatile skill set as an IP Manager.

- **Improvement of Global Communication**

- Foster skills through overseas experience and handling international cases.

- Build a global perspective on IP practices.

- **Encouragement to Pursue Patent Attorney Certification**

- Support personal career advancement through professional challenges.

- Provide resources and mentorship for certification preparation.

- **IP Education for Engineers and Sales Employees**

- Tailored training sessions to enhance IP understanding.

- Workshops on patent processes, trademark management, and copyright basics.



IP portfolio management



IP portfolio analysis

Understanding IP Positioning: Key to Strategic Success

- **Purpose-Driven Analysis**

The analysis depends on the purpose of the strategy.

- **Essential Elements:**

- **Global Strategy:**

 - IP Portfolio Analysis by Country**

 - Understand regional strengths and opportunities.

- **R&D Strategy:**

 - Patent Portfolio Analysis by Technology**

 - Assess innovation capabilities and gaps.

- **Brand Strategy:**

 - Brand Portfolio Analysis by Product**

 - Evaluate brand strength and market positioning.

- **Product Strategy:**

 - IP Portfolio Analysis by Product**

 - Optimize product development and market entry.

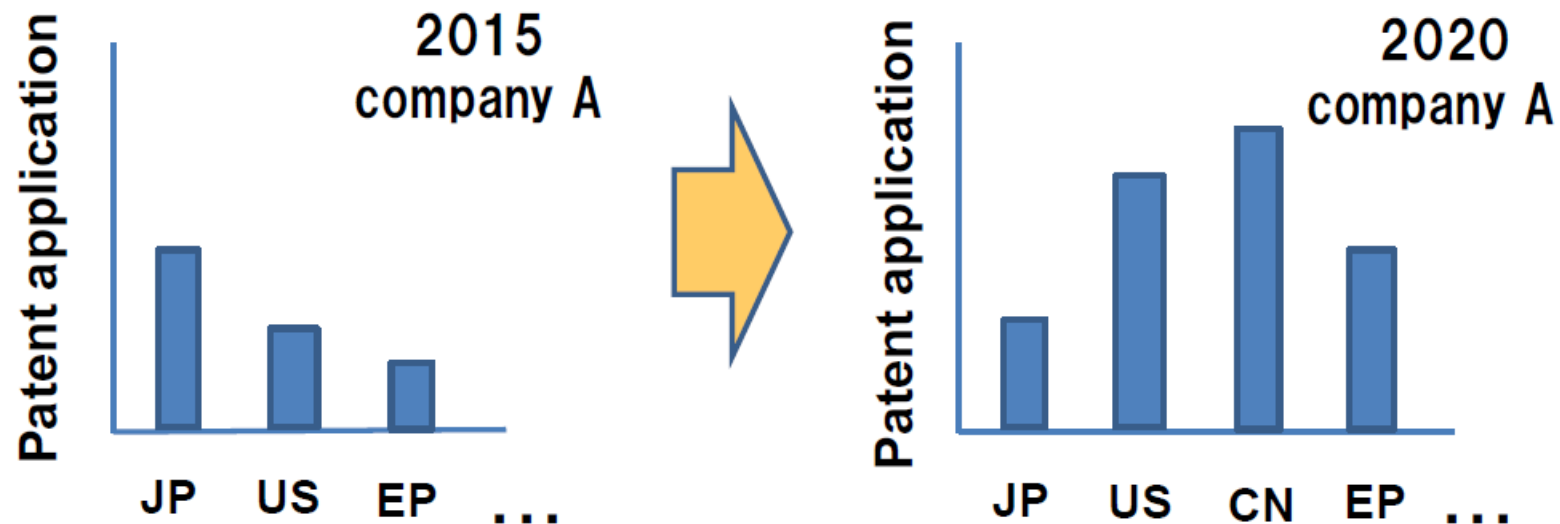
- **Design Strategy:**

 - Design Portfolio Analysis by Product**

 - Protect innovative designs and enhance competitiveness.

Analysis of IP by country reveals global strategy

Analysis of patent portfolio of other company



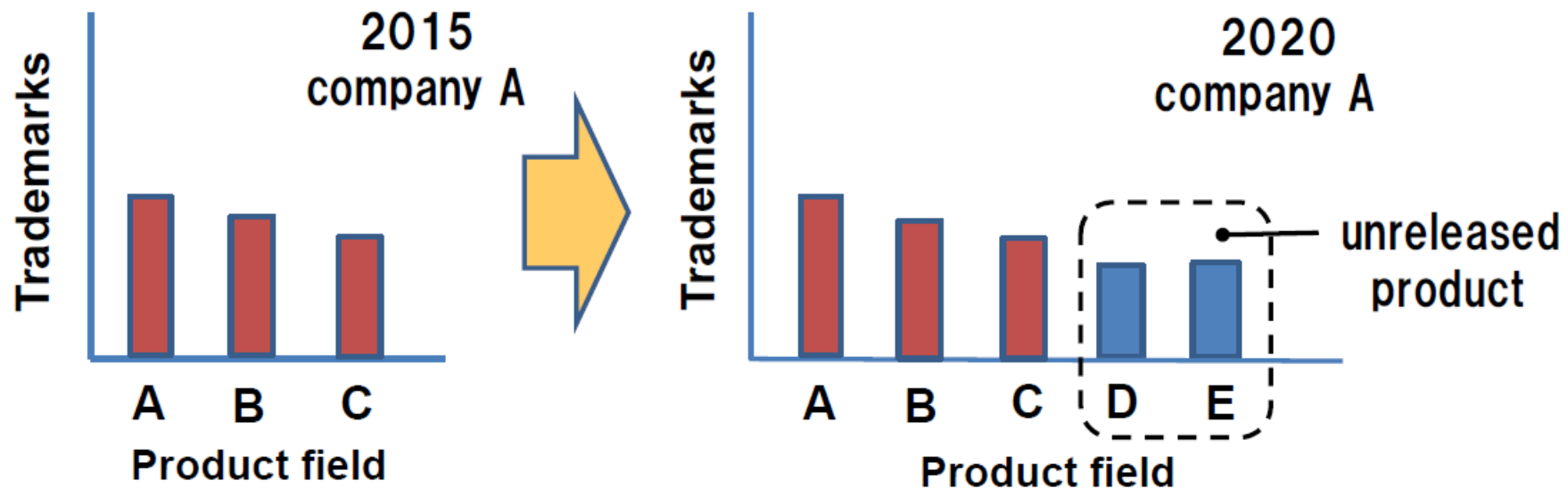
From Japan to Foreign countries, especially, China

Important information for considering global strategy

Analysis of product strategy

Analysis of IP by product reveals product strategy

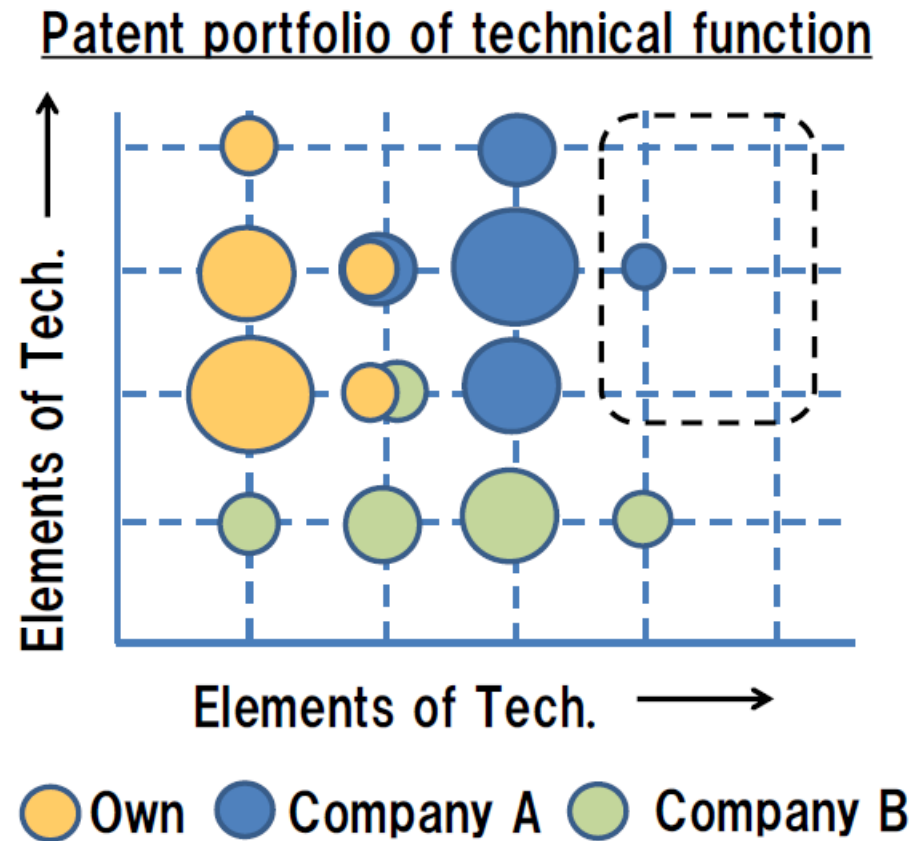
Analysis of brand portfolio of other company



Expand from existing products to new product field

Important information for considering product strategy

Analysis of IP by technology reveals R&D strategy



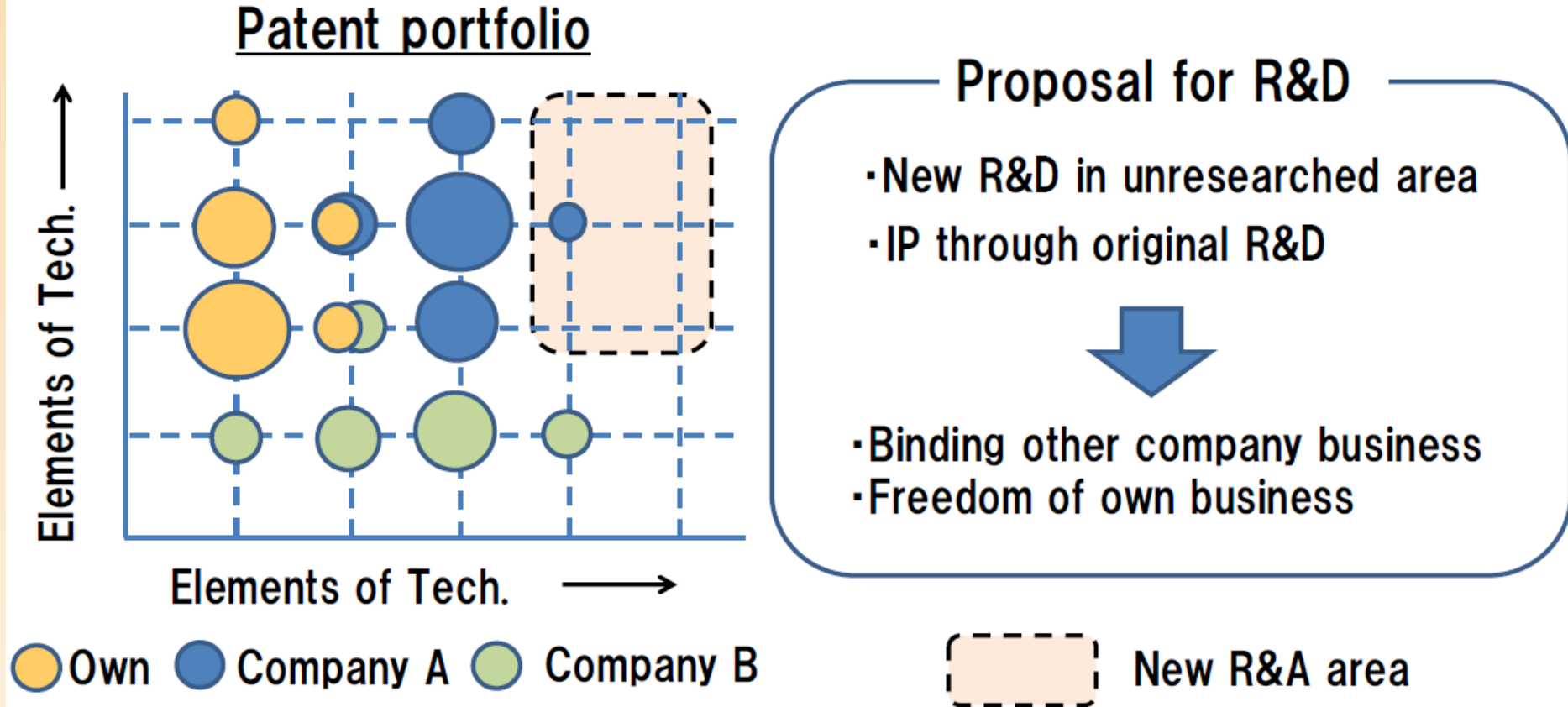
Results of analysis

- R&D focused by company A
- R&D focused by company B
- Competitive area
- Non-researched area
→ Possible original R&D
- R&D trends from history
- Trends of joint R&D

Essential information for new R&D • Alliance

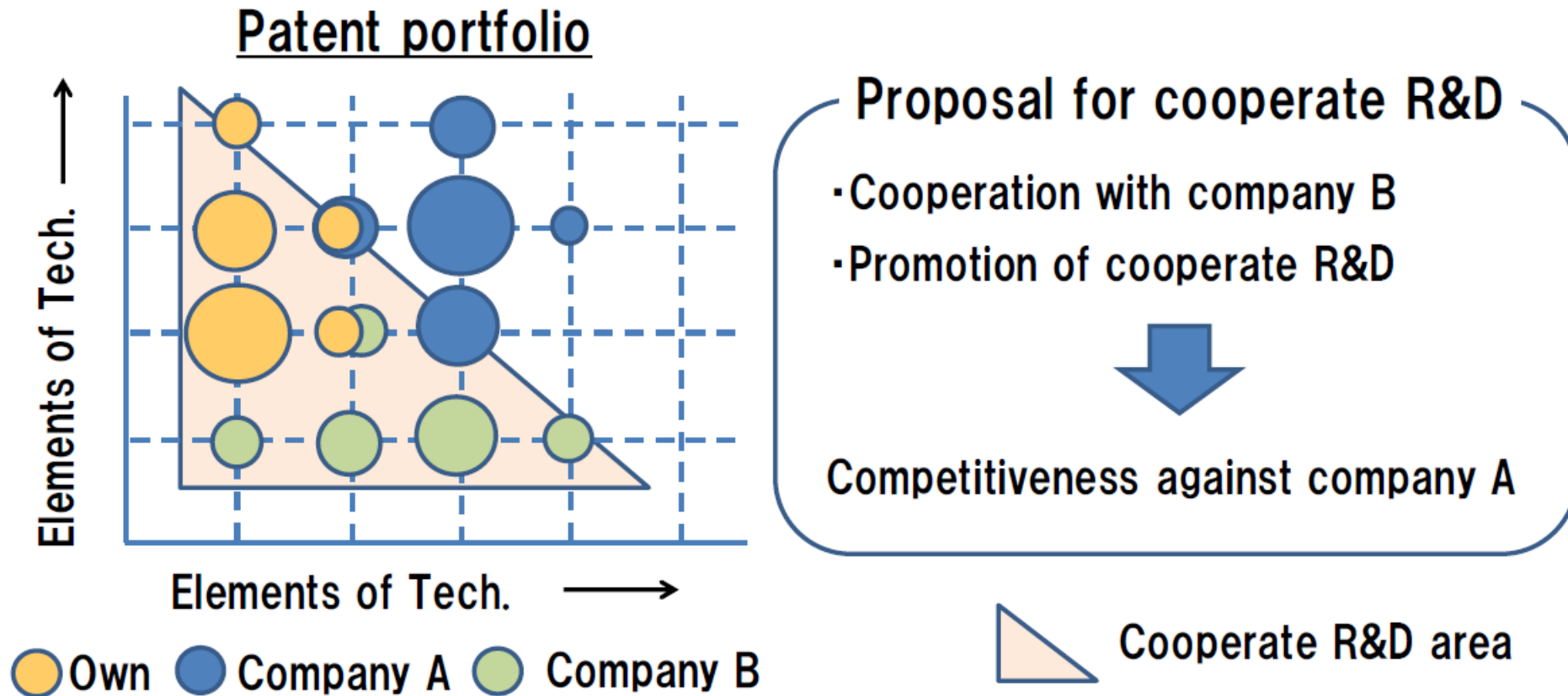
Proposal to R&D strategy

Proposal of R&D strategy by IP portfolio



Promote new R&D by analysis of IP portfolio

Proposal of M&A strategy by IP portfolio

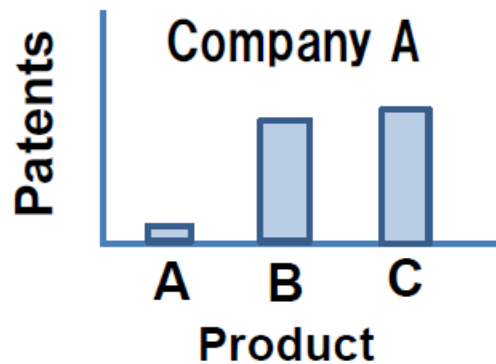
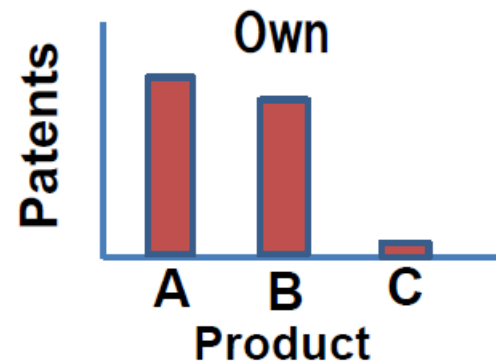


Efficient investment on R&D by analysis of IP portfolio

Proposal to IP negotiation

Proposal of IP negotiation tactics by IP portfolio

Patent portfolio



Proposal for IP negotiation

Business: Expand product C

→ License from company A is required

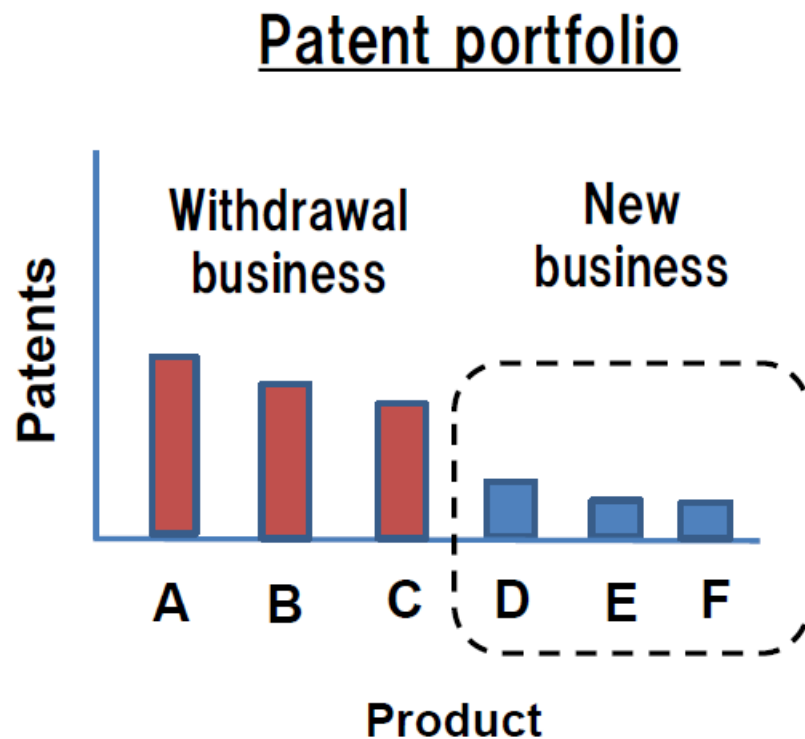


Consideration of cross license
by patents of products A

Promotion of business strategy by IP portfolio

Proposal for sale of IP

Consideration of sale of IP asset by IP portfolio

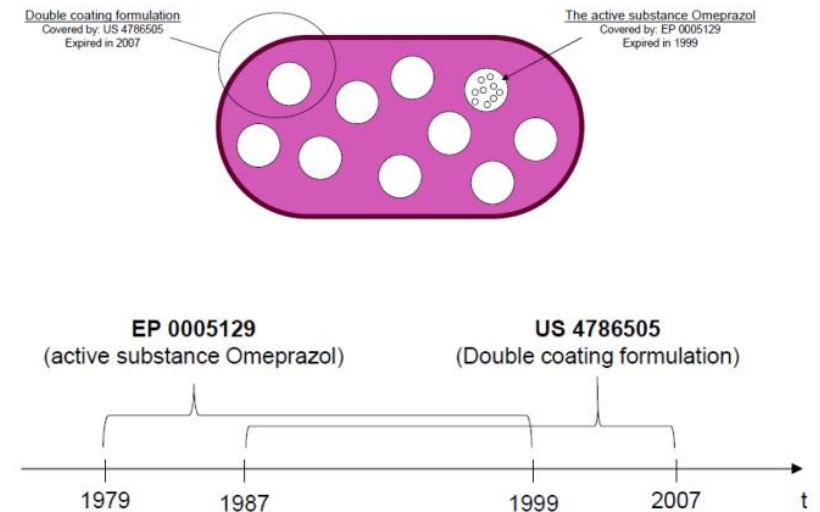
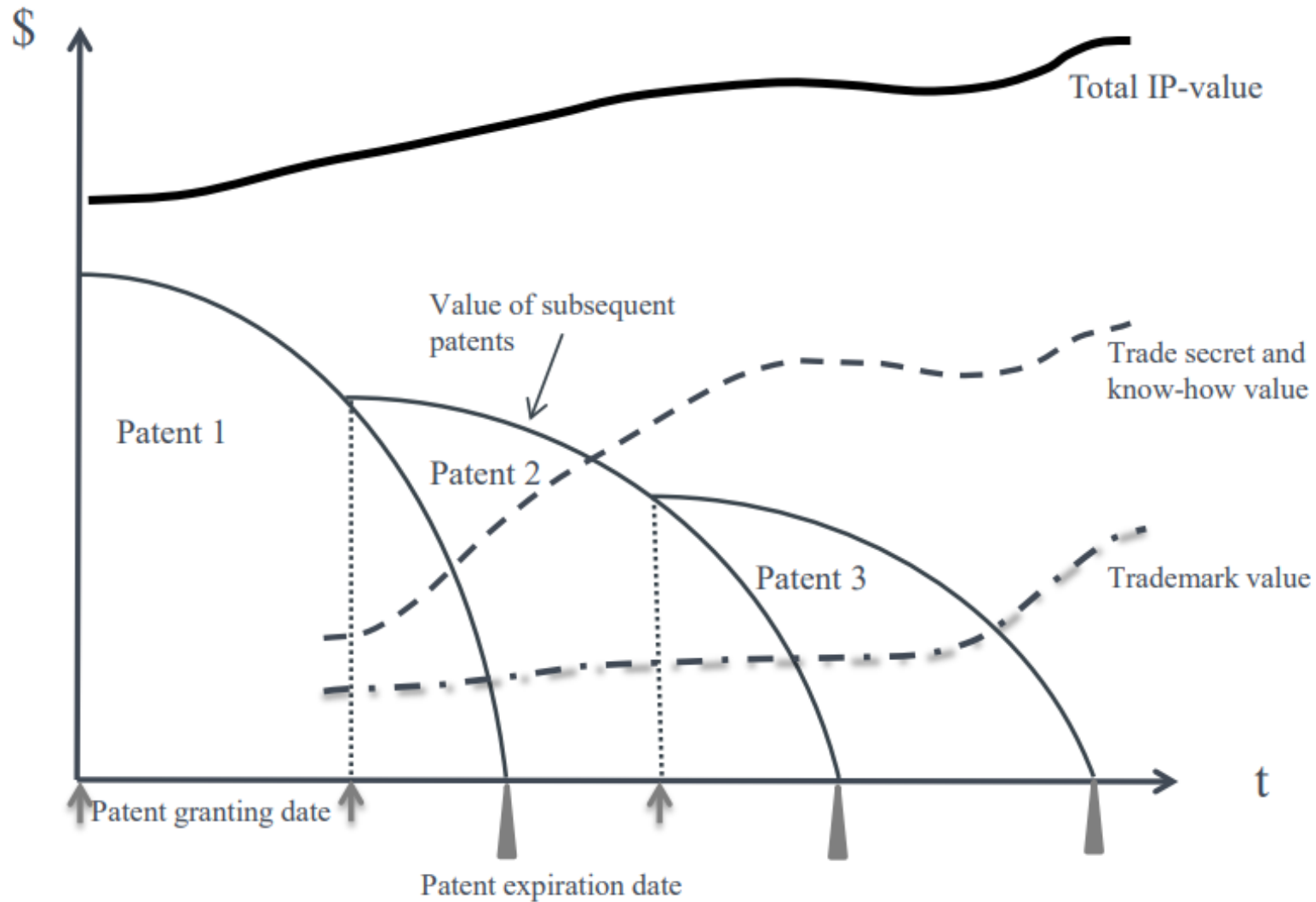


Proposal for sale of IP

- Expand new business
→ huge R&D investment
- ↓
- Sale of IP of withdrawal business
→ Investment for new R&D
IP for new business field

Contribution to business strategy by IP portfolio

Value extraction: combining various IPR



Thank you!