

3M IP RISK MANAGEMENT & **3M** IP Systems

< 커넥트코리아 사업 활성화와 산학협력 발전을 위한 워크샵 >

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발표내용

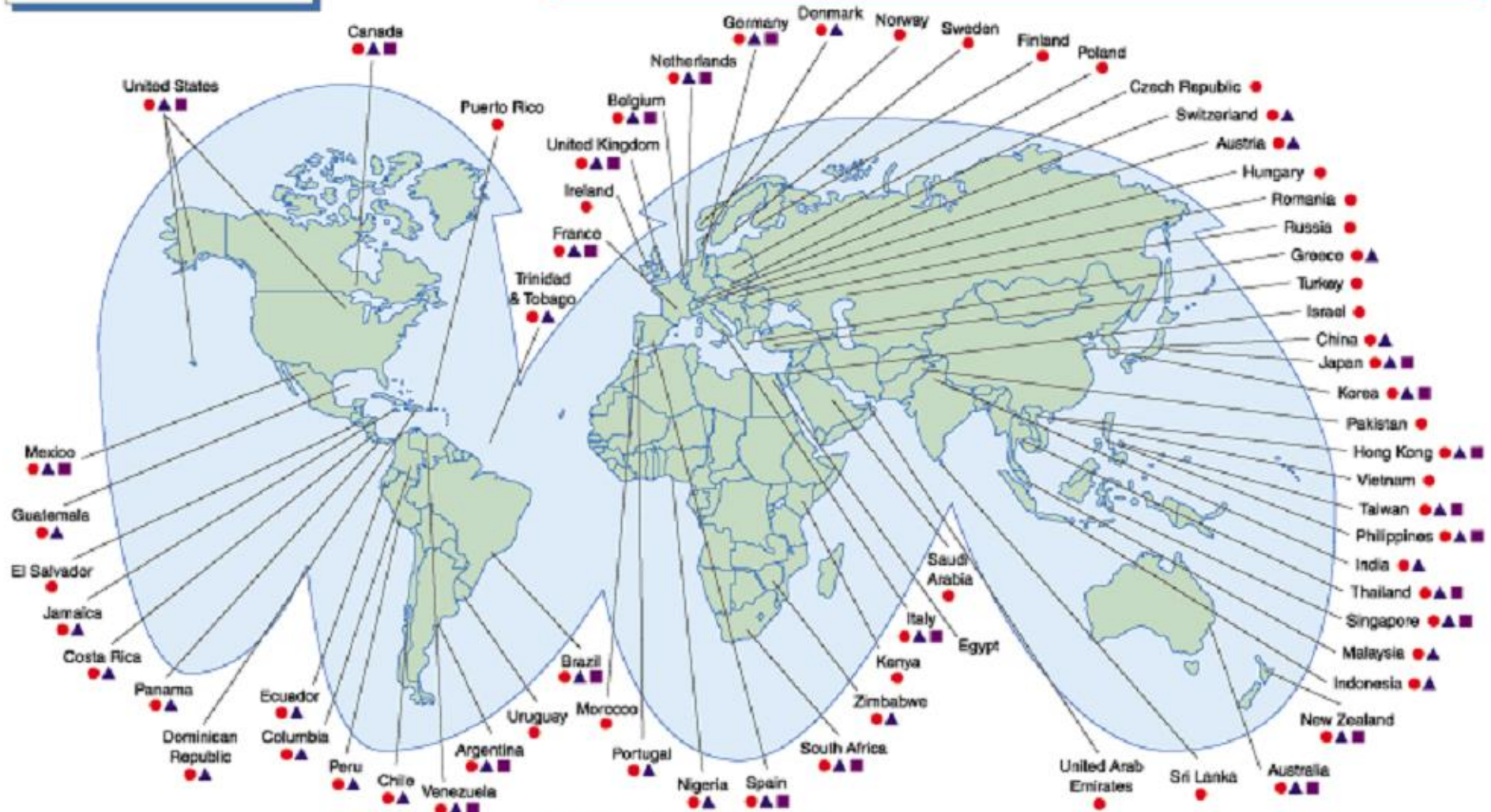
1. 3M/3MKorea/3M IPC소개
2. 신제품개발시의 IP Risk Management
: IP Deliverables in e-NPI (New Product Introduction)
3. IP 출원 시스템
: e-ROI System (Record of Invention)
4. Summary

3M's Global Operations

Key

- Sales and Marketing
- ▲ Manufacturing or Converting (42 Regions)
- Research and Development

Global Organization
>> **System 차원의 IP 관리의 필요성 대두!!**



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3M Fact

Year-end 2005

Sales

Worldwide.....	\$21.2 billion
International (61% of total).....	\$12.9 billion
Net Income	\$3.2 billion

R&D Expenditures (6% of Sales)

For 2005.....	\$1.2 billion
Total last 5 years.....	\$5.8 billion

Employees

Worldwide.....	69,315
United States.....	33,033
International	36,282

Organization:

- More than 35 business units, organized into 6 businesses:
 - * Consumer and Office
 - * Display and Graphics
 - * Electro and Communications
 - * Health Care
 - * Industrial and Transportation
 - * Safety, Security and Protection Services
- International Operations in more than 60 Countries
- Sales in over 200 Countries

3M Korea Facts

Year-end 2005

- Established
1977
- Sales
1,044 bil.won
- Employee
1,244
- Business Organization
 - Industrial
 - Automotive & Specialty Materials
 - Electro & Communications
 - Safety, Security & Protection Services
 - Health Care
 - Graphics & Traffic Systems
 - Consumer & Office
 - Optical Systems

3M Korea Operation

• (Seoul) Head Office

• (Hwaseong) Plant

Manufacturing Item

- LCD film
- Respirator

Manufacturing Item

- Industrial Tapes
- Tape for Diaper
- Interam
- Respirators
- Scouring Pad
- Electrical & Electronic Products
- Automotive Products

• (Pyongtaek) Distribution Center

• (Suwon) Innovation Center

• (Daegu) Branch

• (Busan) Branch

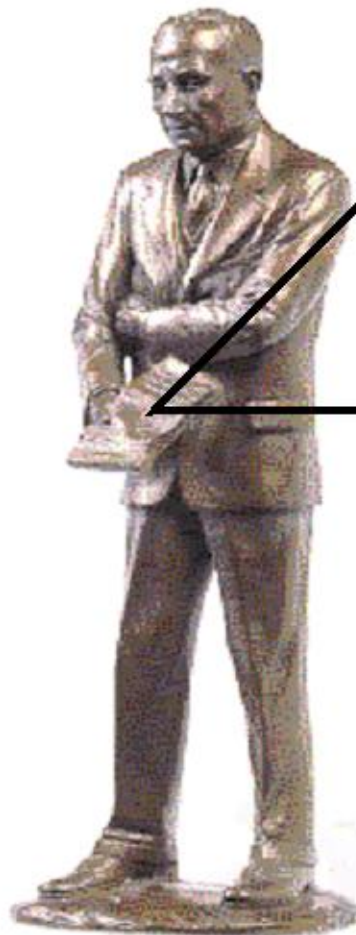
• (Naju) Plant

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IP is Embedded in 3M's DNA



Patented Nov. 17, 1925.

1,562,414

UNITED STATES PATENT OFFICE.

WILLIAM LESTER MCKNIGHT, OF ST. PAUL, MINNESOTA, ASSIGNOR TO MINNESOTA MINING AND MANUFACTURING COMPANY, OF ST. PAUL, MINNESOTA, A CORPORATION OF MINNESOTA.

HAND BLOCK FOR ABRAASIVES, ETC.

Application filed November 14, 1922. Serial No. 96428.

To all whom it may concern:

Be it known that I, WILLIAM LESTER MCKNIGHT, a citizen of the United States, and a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful improvements in Hand Blocks for Abrasives, Etc., of which the following is a specification.

This invention relates broadly to supporting and retaining means, more particularly to an improved hand block for supporting and retaining a sheet of abrasive material or the like, and especially one characterized by the feature of retaining each sheet by the pressure of the hand grasping the block and for inserting the sheet relatively to the block when in use, together with certain other features to be pointed out hereinafter.

While this invention, for the sake of convenience, is illustrated as embodying a hand block adapted for carrying an abrasive sheet or for otherwise having an abrasive element associated therewith, it will be understood that the block as illustrated may be employed for other similar purposes, or may be embodied in combination with other mechanism as will occur to those skilled in the art, and therefore this invention has a wide field of utility for other purposes than the specific ones herein discussed.

The principal objects and advantages which characterize this invention reside in the provision of improved means for carrying and retaining an abrasive element; the provision of improved flexible means for carrying and retaining an abrasive element; the provision of improved means for carrying and sustaining a sheet of abrasive material; the provision of improved flexible means for carrying and sustaining a sheet of abrasive material or the like; or one adapted for having an abrasive element otherwise applied thereto; the provision of a compressible and flexible hand block for carrying and sustaining a sheet of abrasive material or the like, or one adapted for having an abrasive element otherwise applied thereto; the provision of an improved hand block for carrying a sheet of abrasive material or the

like and characterized by the feature of proper weight, flexibility, if desired, and shape rendering it convenient to be grasped for use; the provision of an improved hand block for carrying and sustaining a sheet of abrasive material or the like, characterized by the provision of sheet retaining means actuated by the grip of the hand; the provision of an improved hand block for sustaining a sheet of abrasive material or the like, characterized by the provision of hand pressure actuated sheet engaging means; the provision of an improved hand block for sustaining a sheet of abrasive material or the like, characterized by the provision of means for confining the sheet relatively to the block by the application of manual pressure to the latter; the provision of an improved hand block characterized by the introduction integrally therewith of hand-pressure actuated sheet engaging means; the provision of an improved hand block for sustaining a sheet of abrasive material or the like, characterized by the introduction thereto of hand-pressure actuated sheet engaging means and further characterized by features of flexibility; the provision of an improved hand block for retaining a sheet of abrasive material or the like having means for confining the sheet relatively to the block by the application of manual pressure to the latter, each block being further characterized, if desired, by the feature of flexibility; the provision of an article of the character described that is highly efficient in operation, permits the user to manipulate the sheet of abrasive material without bringing his hands in contact with the surface being treated, or with the abrasive material, and which article may be manufactured at low cost together with certain further objects and advantages which will hereinafter be pointed out or appear.

This invention is further characterized by the provision of a structure which may be produced in one of several ways, and, therefore, as this description proceeds, I will outline therein brief reference to certain alternate preferred methods for making the device of this invention.

The foregoing and such other objects and advantages which may appear or be pointed out in this description proceed are attained

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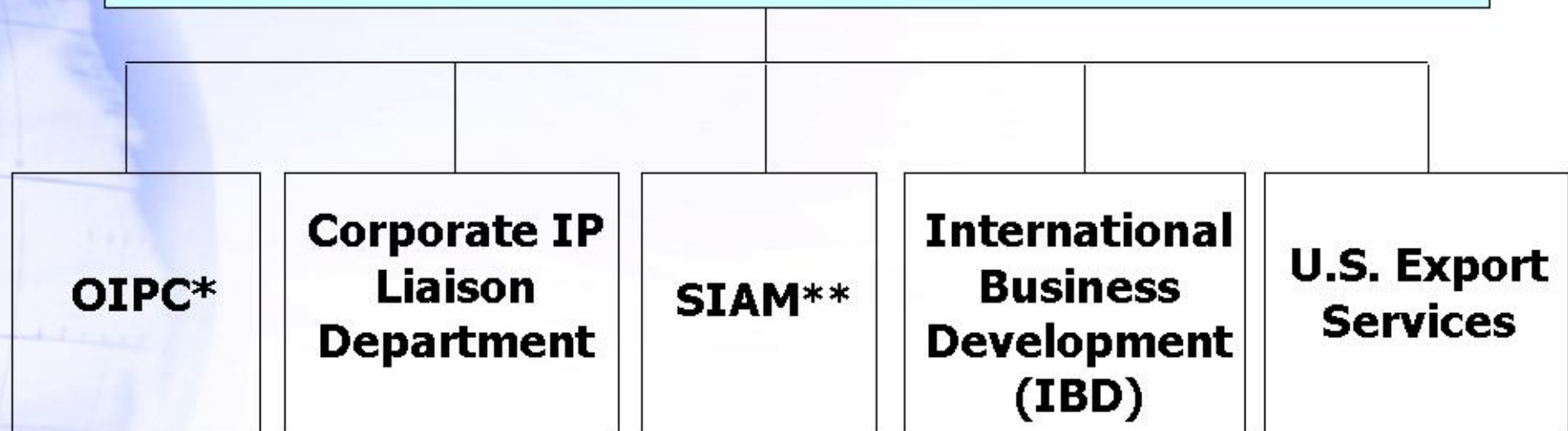
3M IP Management Principles

- IP is embedded in 3M's DNA and drives growth
 - Every successful 3M business has relied on IP
 - Greatest leverage comes from managing IP globally
- Strong local leadership coupled with excellent global communication is essential
 - U.S. business units are responsible for globally managing IP, but excellent technical and business communication among 3M and its affiliates is essential
- 3M's complex organization demands coordination by 3M IPC's global IP network

Organization :

3M Innovative Properties Company

3 Innovative Properties Company



*** Office of Intellectual Property Counsel**

**** Strategic Intellectual Asset Management**

3M IPC's Global IP Network

3M Innovative Properties Company

OIPC

IP Liaison

SIAM

EUROPE

U.S.

St. Paul Austin

International Team

ASIA PACIFIC

LATIN AMERICA

CANADA

In-house General Counsel
for
3M's Affiliates

Selected Outside Counsel

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3M IP POLICY

CORPORATE INTELLECTUAL PROPERTY POLICY

Each business unit and non-affiliated research or development organization shall have a written, worldwide intellectual property strategy and implementation plan.

Technical personnel shall know the worldwide patent and non-patent literature relating to their area of activity.

3M shall protect its substantial investment in research and development by obtaining, maintaining and enforcing patent, copyright, trade secret and similar rights in inventions or works of authorship resulting from such research and development.

3M shall not infringe or use without permission the valid, enforceable intellectual property rights of others.

3M shall select, utilize and defend global brand assets such as “3M”, “SCOTCH” and “POST-IT” to enhance corporate recognition and leverage the marketing of its products.

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Intellectual Property includes patents, trademarks, copyrights, trade secrets, mask works and industrial designs.

신제품 도입 프로세스

: NPI (New Product Introduction)

- is a 7 phase / 6 gate process;



- requires defined deliverables at each phase;
- is a risk / resource management tool;
- drives consistency of purpose and an appropriate level of risk management / resource investment in each phase; and
- has several deliverables associated with **“intellectual property”**

The Four IP Deliverables

- **IP generation**
 - Creating intellectual property including patents, brands, trade secrets
- **IP strategy**
 - Forward looking IP plans including a vision of the final IP portfolio, how it supports a business strategy, and how it creates value
- **Rules of engagement**
 - How we interact with customers, partners & vendors without compromising our IP position
- **Freedom-to-practice**
 - Can we make, use & sell our product without infringing the valid patents of others?

IP Generation Deliverable

Phase 2
Concept

1. Perform a state-of-the-art patent and literature search on top concepts
2. Collect and prioritize ROIs
3. File early patents

Phase 3
Feasibility

1. Perform a patentability search
2. Set up current awareness search & ETA databases
3. File patents

Phases 4 and 5
Development
and Scale-up

1. Complete highest priority patent filings
2. Review whether new inventions have occurred in this phase and prioritize additional patent filings

Always: (1) Know the worldwide patent and non-patent literature; (2) Use 3M's many search tools; (3) Be alert to new inventions; (4) Promptly write ROIs; (5) Actively engage in the patent process

ROI (Record of Invention, 발명신고서) 기재사항

Description of the Invention

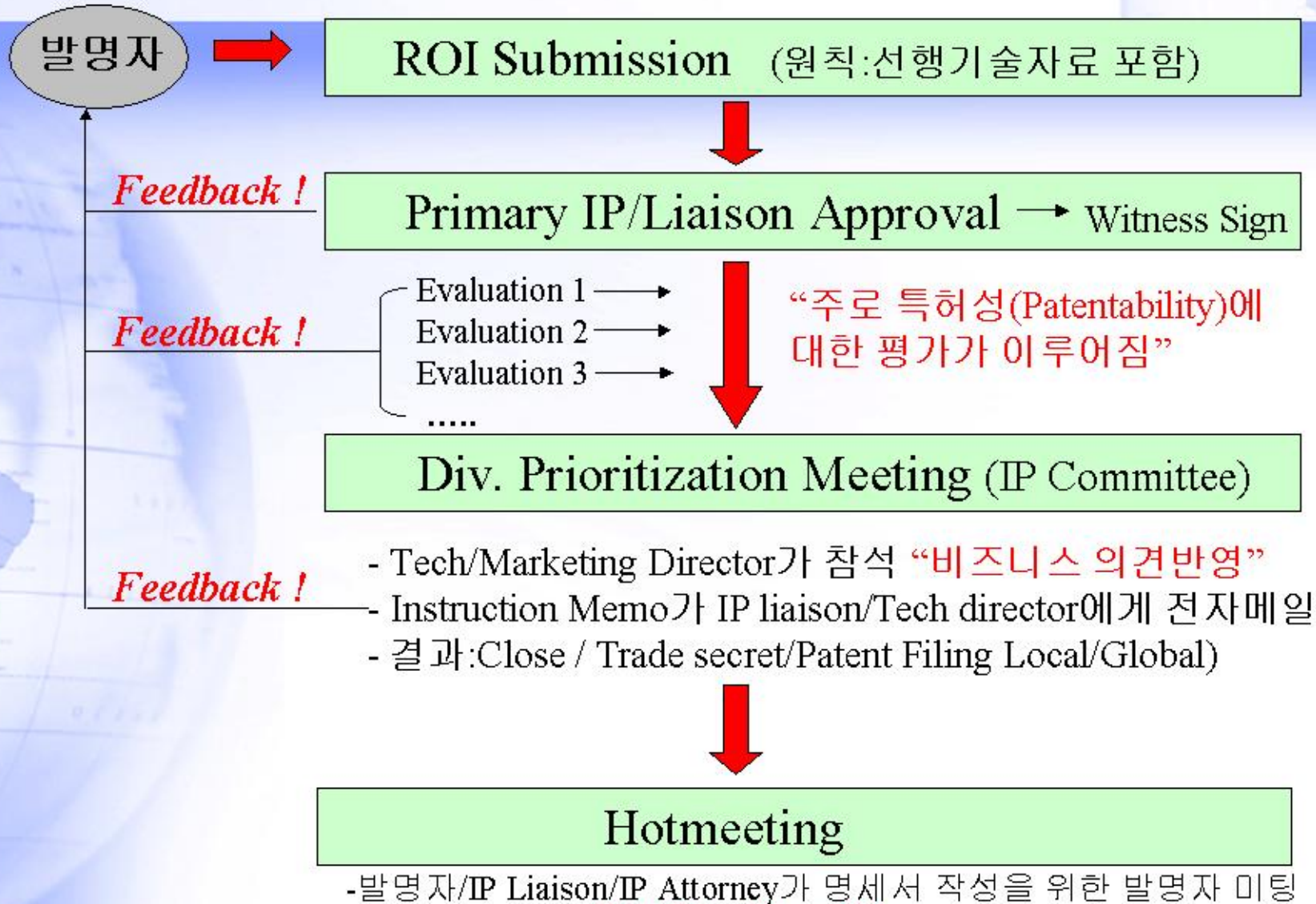
(A short description of the invention. Description optionally includes a) summary, b) point(s) of the invention, and c) explanation and problems of current technology. Avoid use of code names, jargon, acronyms, etc. unless defined.)

Utility with Advantages of the Invention

(Describe utility of invention, and difference(s) or advantage(s) over previous approaches.)

Examples (Provide one or more detailed examples which illustrate the invention. Essential drawings, graphs, or photos which help explain the invention can optionally be included in this section.)

ROI Review 절차



“주로 특허성(Patentability)에 대한 평가가 이루어짐”

Hotmeeting

- 발명자/IP Liaison/IP Attorney가 명세서 작성을 위한 발명자 미팅

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3M의 출원시스템의 특징(Summary)

1. **Database**를 기초로 한 전자출원시스템(**Electronic-ROI System**).
2. 원칙적으로 발명자가 선행기술조사를 직접 하게 한다(**3M IP Policy**).
3. 발명자(**Investigator**)/**IP Liaison**이 **Evaluators**를 직접 지정할 수 있다.
4. 발명심의회팅(**Prioritization Meeting**)날까지 모든 정보(**Evaluator의 comments**)가 수렴되고 이를 자료를 기초로 최종 출원여부 결정된다.
5. 출원여부결정(발명심의회팅)시 **Business Justification**이 반영된다.
6. 상기 발명심의회팅(**Prioritization meeting**)는 **Business Unit** 마다 탄력적으로 운영된다.
7. **IP Liaison**의 역할이 상대적으로 크다. **IP** 부서가 프로젝트진행에 있어서 직/간접적으로 간여한다.

Rules of Engagement Deliverable

Phase 2
Concept

1. Prior to any outside contacts, develop the rules for disclosures, sampling, VOC, and outside R&D
2. Execute a CDA or vendor agreement if necessary to move forward

Phases 3, 4 and 5
Feasibility,
Development,
and Scale-up

Repeat Phase 2 deliverables in light of new information

Always: (1) Strive to work with the customer without disclosing or receiving confidential information; (2) Avoid brainstorming and joint inventing with the customer; (3) Use a CDA if confidential information is involved; (4) See early advice from 3M legal

Types of Customer Interactions

- Disclosing 3M confidential information
- Receiving customer confidential information
- Possibility of joint inventions with customer



Customer Interactions: What's at Risk for 3M?

- When disclosing confidential information
 - 3M's ability to obtain patents
- When receiving confidential information
 - May restrict 3M's interaction with other companies if we cannot use the information we have received
 - May limit 3M's ability to conduct R&D and sell products
 - May affect 3M's ownership of and right to use joint developments
 - May create obligations that are difficult to meet
 - May result in substantial liabilities

3M's Rules of Engagement

- Guiding principles
 - 3M does not want to disclose our own confidential information unless we are sure that we really need to and the timing is right
 - 3M does not want to receive confidential information from others
 - 3M prefers not to make joint inventions with others
 - ***Corporate Policy.*** It is the general policy of 3M not to accept information from the outside under a confidential relationship
 - Exceptions are made to this general policy depending on the merits and the necessity of the situation

Managing Customer Interactions to Protect 3M

- When disclosing 3M confidential information
 - Minimize or avoid disclosure – disclose only if necessary
 - Preserve patent filing strategy
 - Protect 3M's trade secrets
 - Consult with attorney for possible CDA
- When receiving customer confidential information
 - Minimize or avoid receipt – challenge customer's request for an agreement and never offer one first
 - Consult with attorney on whether and how to do this
 - Never sign outside CDA without attorney approval – only a General Manager can sign for 3M

Managing Customer Interactions to Protect 3M

- When there is a possibility of a joint invention with a customer
 - Avoid situations in which 3M and customer brainstorm on how to design, improve or modify a product (even if there is a CDA)
 - Seek IP input if this becomes necessary or desirable

Freedom to Practice Deliverable

Phase 2
Concept

Perform a state-of-the-art patent and literature search on top concepts

Phase 3
Feasibility

Perform formal search of the patent art, based on the best available description of the product, with review by IP team and attorney sign-off

Phases 4 and 5
Development and
Scale-up

Review FTP based on new information (e.g., new art or changes to the product)

Always: (1) Know the worldwide patent and non-patent literature; (2) Be alert to new changes in product or art; (3) Consult with 3M legal if there are any questions

Freedom-to-Practice

- What is it?
 - A legal opinion provided by a patent professional, based on the information provided to him/her.
- What can go wrong here?
 - 3M can be sued for patent infringement.
 - We can waste R&D dollars working on new products that we do not have the freedom to use or sell.

Freedom-to-Practice

- Issue: Can we make, use and sell our product without infringing the valid patents of others?
 - Same as “clearance” and “freedom-to-use”
- Why do we need it?
 - It is part of 3M’s Business Conduct and IP Policies to respect the IP rights of others
- When do you need it ?
 - On every 3M product that is sold for the first time by 3M Korea

Caution ! Legal Expert Required!

- Determination of infringement (or lack of it) is based on claim interpretation
- Claim interpretation must be performed by a qualified patent professional



“ 특허성 (Patentability) VS 특허침해 (Infringement) ”

*But we filed a patent application!
I thought that means we have the right to use
our invention!*

No, it does not. Patents are an “exclusionary right”.
We have the right to keep others from using our
invention, but we do not necessarily have the freedom
to use it ourselves.

How can this happen?

Summary - IP Task vs. NPI Phase

NPI Phase	Tasks Associated with Intellectual Property Considerations Core Deliverable NPI			
	Freedom-to-Practice	IP Generation	IP Strategy	Rules of Engagement
Phase 2 Concept	Perform a state-of-the-art search of patent and literature art on top concepts.	Perform a state-of-the-art search of patent and literature art on top concepts. Collect and prioritize Records of Invention, including those originating from other business units or technology centers. Early Patent Filings	Develop a preliminary IP strategy (including Brand): Will we seek patent protection, publish defensively, or do nothing? What is the extent of current protection? Do we anticipate the need for in-licensing others' IP? How will the IP portfolio support the business strategy for the concept? What will the brand strategy be for the concept, and is there a need to perform a trademark clearance search?	Prior to any outside contacts, develop the rules for disclosures, sampling, VOC, and outside R&D. Execute a CDA or vendor agreement if necessary to move forward.
Phase 3 Feasibility	Perform a formal search of the patent art, based on the best available description of the product, have a review of that art by the IP team and a signoff by the attorney.	Perform a patentability search of related art and literature, and pending patent applications. Set up a current awareness search & ETA database. Authorize patent filings. Develop prioritized plan for patent filings. Additional Patent Filings.	Formalize the IP Strateg (including brand and licensing). Develop well-reasoned IP strategies for patent filing, licensing, defensive publications, and branding; articulate how those strategies support the business strategy. Identify potential in-licensing opportunities. Assess whether out-licensing (e.g., in adjacent markets) is an attractive option; seek advice and input from SIAM.	Repeat the Phase 2 deliverables in light of new information.
Phase 4 Development	Review FTP based on new information. New information could be new art or changes to the product.	Complete highest priority patent filings. Review whether new inventions have occurred in this phase and prioritize additional patent filings.	Review the IP strategy and modify, if necessary, based on new information.	Repeat the Phase 2 deliverables in light of new information.
Phase 5 Scaleup	Review FTP based on new information.	Ensure patent filings are completed.	Review the IP strategy and modify, if necessary, based on new information. Review or revisit in- and out-licensing opportunities; involve SIAM where appropriate.	Repeat the Phase 2 deliverables in light of new information.

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High Level RACI Matrix

	Technical Leader	IP Liaison	IP Attorney	Technical Management	IRS Searcher	Marketer
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Process Step: Relationship Code: **R**=Responsible(4), **A**=Accountable(3), **C**=Consultation(2), **I**=Informed(1)

Activity						
Searching prior art	A	C			R	
Search analysis	A/R	C	I	I		I
Maintaining Technical notebook	R	C		A		
Writing Records of Invention	R	C	I	A		
Rules of Engagement	C	R	R	A		C
Freedom to Practice Analysis	R	C/R	A	I		
Freedom to Practice Sign-off	I	C	A/R	I		I
Patentability Analysis	C	A/R	C	I		I
Current Awareness	A/R	C			R	
Authorize filings	I	R	C	A/R		
Strategy: patent	C	R	R	A		
Strategy: licensing	C	R	R	A		C
Strategy: defensive publications	C	R	R	A		
Strategy: Brand			C	I		R
Strategy: In-licensing	C	C	R	A	C	

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Summary (3M IP Management 특징)

1. **IP Leadership** : 모든 신제품개발 프로젝트에서 **IP People**의 역할이 크다.
2. **IP Portfolio 관리** : 비즈니스 판단을 상대적으로 중요시 함.
3. **e-NPI Process (Six-Sigma: DFSS Project)**
:4가지 **IP Deliverables**를 프로젝트 진행시 동시에 고려 분석한다.
4. **Database**를 기초로 한 **IP system화 !!**
5. **IP Guidelines** (예-고객과의 **IP**관련 비즈니스 대화시의 Q&A)
6. **LIRC (Legal Issue Review committee)**에서 중요 법률적 사안 (특허권양도/라이선싱/JDA등)에 대하여 최종 심의를 한다.



Thank you !!

연락처

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