

Strategy for Successful Overseas Technology Commercialization for Taiwan Bio-Pharma Industry

Presented by Danny Kim September 1st 2017



Agenda

1. Market overview of technology commercialization

2. IP commercialization strategy

3. IP monetization strategy



1. Market overview of technology commercialization



Market Comparison for Technology Commercialization

Sorting		S. Korea	Taiwan	Japan	Germany	U.K.	U.S.
Tech Export	Amount (magnificatio n)	9,765 (1.0)	1,114 (0.1)	34,549 (3.5)	71,437 (7.3)	45,607 (4.7)	136,271 (14.0)
Tech Import	Amount (magnificatio n)	15,540 (1.0)	5,374 (0.3)	4,843 (0.3)	54,364 (3.5)	19,377 (1.2)	89,415 (5.8)
Scale of Tech Trade (magnification)		25,305 (1.0)	6,488 (0.3)	39,392 (1.6)	125,801 (5.0)	64,984 (2.6)	225,686 (8.9)
Tech Trade Balance		-5,775	-4,260	29,707	17,072	26,230	46,856
Balance Ratio		0.63	0.21	7.13	1.31	2.35	1.52

Source: OECD, Main Science and Technology Indicators, 2016/1

International comparison of technology trade volume (2011)

Eco system of IP commercialization in Korea



Government – Key Driving Technology Areas

Korea government select and focus on 25 promising areas for technology commercialization in 2017

No	Promising Tech Area	Details
1	Connected Smart Factory	3D printer/scanner, etc
2	Next-gen Secondary Battery	Ultra High Capacity Secondary Battery, etc
3	Data Intelligence	Big Data Processing/Analysis, etc
4	Artificial Intelligence(AI)	AI SW, etc
5	IoT/IoE	Sensor, Module, Device, etc
6	Wearable Device	Smart Glass, Smart Watch, etc
7	Smart/Echo Building(home/building)	Energy Management System(BEMS, HEMS), etc
8	Augmented/Virtual Reality	Augmented Reality Device/Service, VR Device, etc
9	Smart Farm	Smart Greenhouse, etc
10	High Efficiency Solar Energy	High Efficiency PV Generation, etc
11	Smart/Micro Grid	Energy Management, Energy IOT, etc
12	Unmanned Vehicle	Drone, etc
13	Next-gen Display	Flexible/Transparent Display, etc



Government – Key Driving Technology Areas

No	Promising Tech Area	Details
14	Intelligent Robot	Industrial Robot, etc
15	Intelligent Semiconductor	Next-gen Semiconductor Materials, etc
16	Fuel Cell	Automobile/Power Generation Fuel Cell, etc
17	Advanced Medical Device	High Resolution Imaging Diagnosis Device, etc
18	Smart Healthcare	Remote Medical Treatment Service, etc
19	Next-gen Medical	Stem Cell Medicine, etc
20	Bio Material	Bio Fuel, Bio Plastic, etc
21	Nano Material/Structure	Nano Composite Material, etc
22	Future Fusion/Composite Material	Polymer Substitute material, Superconducting Material, etc
23	Next-gen Automobile	Autonomous/Electric Vehicle, etc
24	Smart City	Intelligent Transportation Infra, etc
25	Fine Dust	Fine Dust Detect/Monitoring, Reduction Device, etc
\bigcirc	Climate Change Field	Global Warming, Energy Resource Saving, etc

※ 10 promising areas and climate change area in red text are preferred and encouraged



Eco system of IP commercialization in Taiwan



Government – Key Driving Technology Areas

Taiwan government is making a heavy commitment of resources to promoting seven sectors of the economy as the key to transforming Taiwan's industry, "**5+2 Industrial Innovation Plan**", in 2016.



2. IP Commercialization Strategy



IP Strategy by Timeline



- Landscaping
 - Technology analysis
 - Market analysis
- IP valuation
- IP strategy

- IP commercialization
- Tech marketing
- Partner search
- Due diligence
- Deal negotiation
- Startups incubation

- IP monetization
 - IP licensing
 - IP litigation
- Business strategy
 - JV, M&A, IPO, etc





IP Commercialization

IP commercialization is the process whereby ideas for new (or improved) products, processes or services are developed and commercialized in the marketplace.

"IP + COMMERCIALIZATION = INNOVATION"



Process to success

- Landscaping (IP/Technology/Market)
- SMK (Sales Material Kits)
- Technology marketing (Offline? Online?)
- Partnering search (Co-develop/Investor)
- IP valuation (cf. evaluation)
- Deal Negotiation (Data package)



Startup Incubating Procedure





Case Study 1: Profiling Service for Technology Marketing of 000 University

Project Overview

Target Technology

a. 30 biotech that 000 University owns

Customer Needs

- a. To promote abroad Biotech that 000 University is securing & make the first deal case of a international tech transfer for 000 University
- b. Need to proactively initiate the international tech transfer because universities in Korea are so dependent on domestic technology transfer that they can not escape the low ROI environment



The consulting service we will put to 000 University for the marketing of the 30 biotech and pharma technologies is proposed in two phases as described below.





Current progressive status

Candidate Tech 1. Biocompatible Particles and Method for Preparing the Same (Drug Delivery Technology)

→ Going on early due diligence with an Ireland company

Candidate Tech 2. Use of TRIM72 as a Target for Muscle and Heart Enhancer

 \rightarrow Face to face meeting in Bio Europe, and going on early due diligence with an American company



Candidate Tech 3. Use of Inhibitors of Leukotriene B4 Receptor BLT2 for Treating Asthma / Use of Inhibitors of Leukotriene B4 Receptor BLT2 for Treating Human Cancers

→ Face to face meeting in Bio Europe, and going on preparation of CDA with a German and Japan companies

Candidate Tech 4. Composite of Enzyme and Carbon Structure Complex, Method for Producing the Same and Use Thereof (topical applications, e.g., woundcare)

→ Going on early due diligence with an UK company



Collaboration roadmap with 000 University



Phase 2	Phase 2. Consulting Service (Licensee)
Intensive consulting	Data Package Delivery / Deal Negotiation Service / Complete PJT



No.1 University in Korea for Technology Commercialization in 2020

Group

Case Study 2: Hanmi Pharm Major Deals of Hanmi in 2015





Hanmi's Global Partners and Collaboration

Collaboration with global partners on various co-development and business opportunities for synergy effect



SPECTRUM

Co-development & Licensin

Boehringer

Exclusive licensing

China including Hong Kong, Macau

Poziotinib Pan-HER inhibitor

WW ex. Korea, China

HM71224 **BTK** inhibitor Exclusive licensing WW ex. Greater China, Korea

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Due Diligence Reviews 2010~2015

# of dilig	gence (product)	# of diligences (company)
Biologics	22	13
Small Molecules	33	30
Total	55	43

* Average 5.5 companies per product



Spectrum of Open Innovation



iGroup

Network Matters

Evolution to Open Innovation

"Be the Best" vs. "Work with the Best"



- The Best Organization
- "Invent It Here!"

Assumptions

We should be the best We should get things done by ourselves to earn money



- Lean and mean organization
- "Play bigger than its size!"

Assumptions

We should work with the best We should increase PoS and grow the pie to earn the money



Partner of Choice



1. Trustworthy

- 2. Value adding
- 3. Knowledge & Experience
 - Knowledge / Experience / Skills

4. High performer

- Various mutual cooperation model
 - Licensing-in / -out
 - Collaboration Research & Development Licensing
 - Joint Venture Strategy
 - M&A
 - Etc



Key Success Factors for Technology Commercialization

- Right technology
- Speed is important!
- Be the best!
- Quantity
- Technology Development

- Right Market
- Deal Optimization
- Work with the best!
- Quality
- Technology Disclosure



3. IP Monetization Strategy



IP monetization

Companies with patents and other intellectual property assets can choose from a wide array of methods to generate economic returns from their IP portfolio with a relatively small investment. Leveraging these assets can generate new revenue streams, strengthen strategic control over profits, and reduce risk.



How to monetize patents

- I. Via pure licensing and sales of patents
- II. Via assertive licensing and sales of patent
- III. Via M&A (stock transfer) and IPO of companies

Which one looks better? In English?

VS

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lantro, served sel crackers		A Thin cut of beef w/
Thin crust Mexican Pizza		sautéed onions tomato
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Shrimp	AR AND	Contraction property and the second s
XTRA TOPPINGS: 1.00 each Spinach	Ser Ser	Chiles Relienos
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	1999	& smothered w/ cheese
		Sirloin Steak a la Mexicana 20.99
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Best way to maximize profit

- Ι. License out issued patents
- II. License out pending applications
- III. License out know-hows







a received an application for a patent for « and useful invention. The title and descrip ion of the investion are enclosed. The require-tion of the investion are enclosed. The require-ments of law have been complied with, and it has been determined that a patent on the in-vention shall be granted under the law.



(19) United States (12) Patent Application Publication (10) Pub. No.: US 2012/0084822 A1 Durkee et al. (43) Pub. Date: Apr. 5, 2012 (54) INTERACTIVE TELEVISION NETWORK Related U.S. Application Data AND METHOD INCLUDING CONTENT (63) Continuation of application No. 09/848,581, filed on May 3, 2001, now Pat. No. 8,108,892. SEARCHING Publication Classification (75) Inventors: James R. Durkee, Denver, CO (US); David Crawford Gibbon. (51) Int. Cl. Lincroft, NJ (US); Behzad H04N 21/20 (2011.01) Shahraray, Freehold, NJ (US) (52) U.S. Cl. 725/93 (57) ABSTRACT (73) Assignce: COMCAST CABLE HOLDINGS, LLC, Philadelphia, The present invention is directed to content searching of PA (US) various databases in an interactive television network: caching programming for rebroadcasting to interactive television (21) Appl. No.: 13/313.357 network subscribers; and interactively offering goods and services referred to in broadcast programming to interactive (22) Filed: Dec. 7, 2011 television network subscribers. MAT REPORT OF ELEMENT BORNES HIRE 312 a - 254 NED/PERCENT R 288 18 ₹ 268 84 .252 (#%) 312

"RINP

Most important factors to investors

- I. Your people
- II. Your business plan
- III. Your technology (whether IP is secured or not is the key!)





Tips for successful IP monetization

"Like Americans in America"



KEEP CALM AND ENJOY OUR

FAREWELL PARTY



Tips for successful IP monetization

[Q1] Obvious?

- You have found that combining compound X with compound Y has a anti-balding effect.
- The preceding document P1 states that compound X has antibalding effect.
- The preceding document P2 states that compound Y has a anti-balding effect.
- Can you get a patent?



Tips for successful IP monetization

[Q2] Obvious?

- You have developed a way to treat disease Y by administering compound X.
- In the preceding document P1, 400 compounds represented by the chemical structural formula A are described. One of the 400 compounds is compound X.
- In the preceding document P2, the compounds listed in the preceding document P1 have therapeutic effects on 50 diseases. One of these 50 diseases is disease Y.
- Can you get a patent?



Let's cooperate mutually!

Thank You

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