



# Portfolio Mining & Due Diligence



DeltaTech-Korea Ltd.

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# I. Portfolio Management



1. Reason for PM
2. Extract Value from IP
3. Portfolio Mining
4. Patent Mining
5. Mining Process
6. Expert Review

# 1. Reason for Portfolio Management



- Strategic & systematic handling of the groups of investment assets
  - Ensure that assets are maintained properly
  - Prioritize a portfolio combining the latest market conditions
- Help organizations which projects, programs and other work items should be (1)started, (2)continued or (3)stopped
- Don't have enough money & staff to cover all projects. . .
  - make decisions about when to run a project, keep it going, move it out and change the resource demand

## 2. Portfolio Mining



- (Mining) ① Act of digging deeper into assets to discover **additional opportunities**: ② The process of searching, analyzing, and utilizing portfolio to **benefit a business**



- (Expectations) ① Facilitate the creation of actionable knowledge, ② catalyzes innovations and ③ sustains research communities

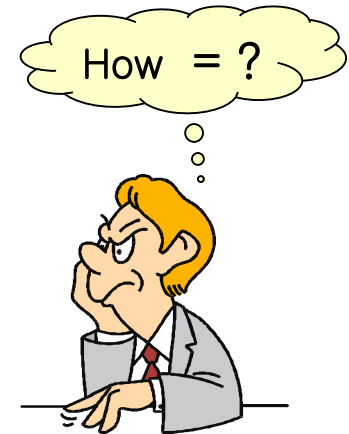
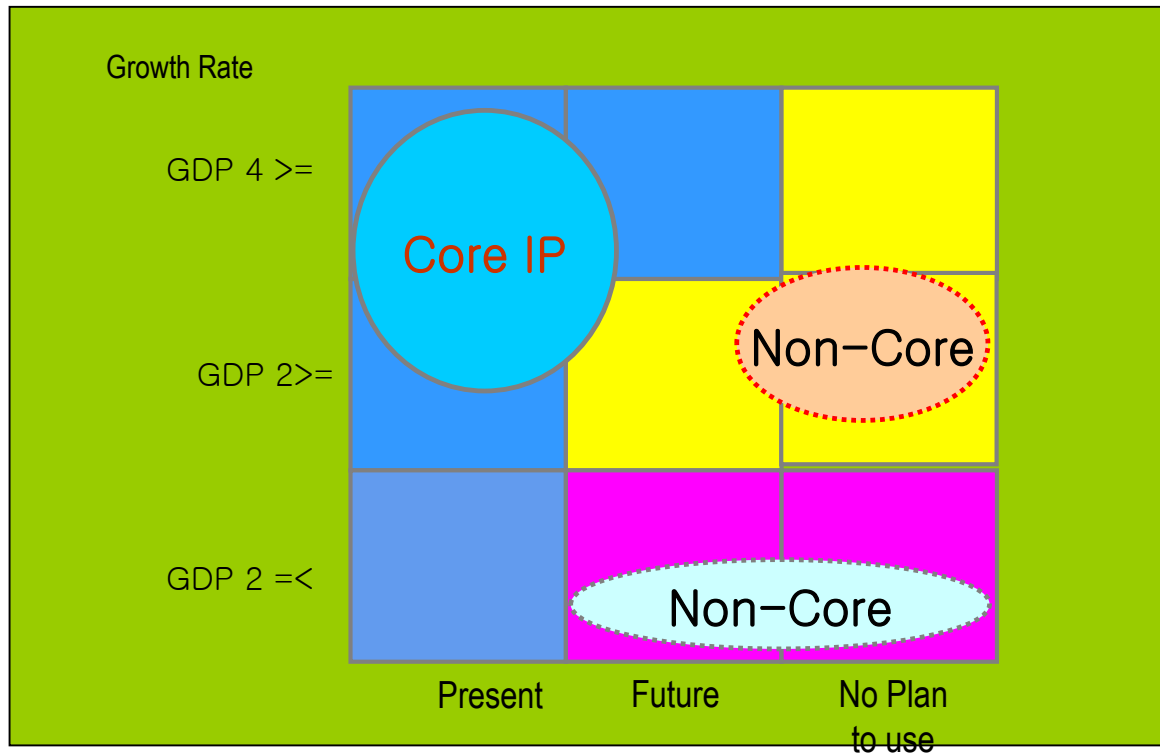


### 3. Extract Value from IP



- Intangible Asset
  - “Anything generated by human mind/ effort which is new, useful, entertaining, esthetically pleasing, etc with the potential to show ROI”
  - Intellectual Property: Copyrights, Patents, Trade Secrets, Know How, Trademarks
- Extract Value:
  - Products v. Licensing
  - Products & Licensing

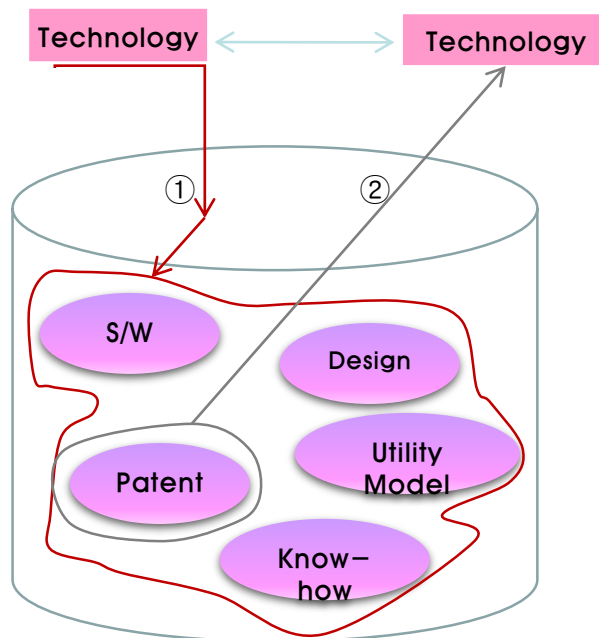
### 3. Extract Value from IP



# 4. Patent Mining



- Act of mining particular patents from a patent portfolio that match one's business or technical requirements
- Identify technologies for license or sell to generate revenue and patent assets for abandon to reduce costs

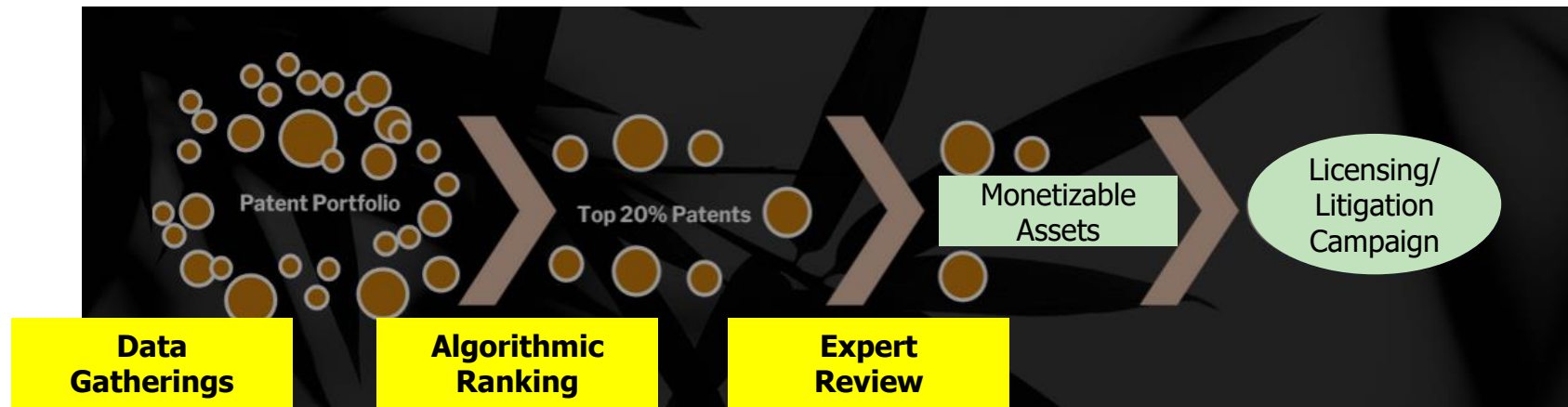




## 5. Mining Process



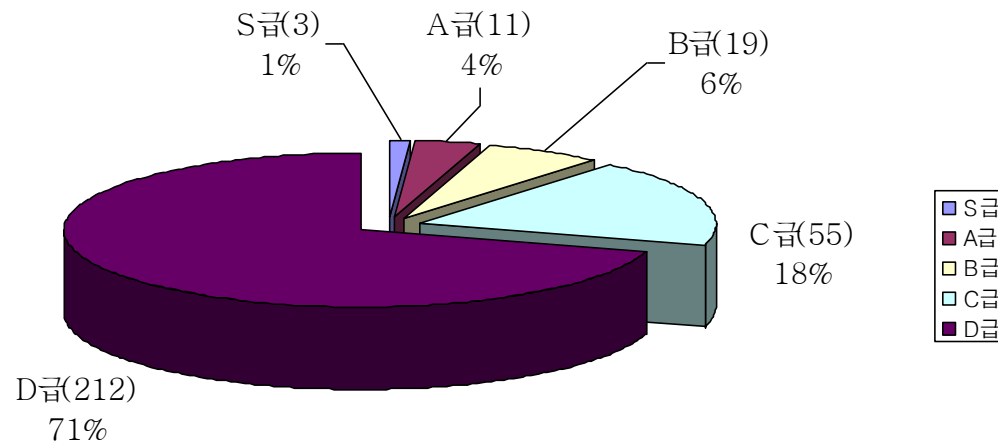
- (Ranking) Use parameters (eg., potential infringers, forward & backward citation, age of patent, foreign application) according to quality
- Identify technologies for license or sell to generate revenue and patent assets for abandon to reduce costs
- Identify evidence of use or even future use in existing products



# 6. Expert Review



- Developers
- Engineers
- Scientists
- Product Designers
- Marketers
- C-suite (executives)



[Technology Portfolio (300): Grade Classification]

# 6. Expert Review

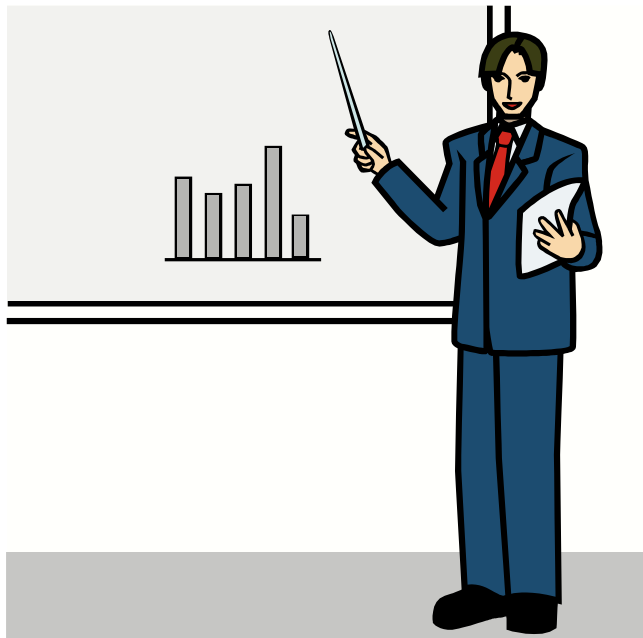


	Assessment Factor	Rating	Remark
Technical Merit	Stage of Development (TRL)	1 2 3 4 5	
	Translate Function into Benefit	1 2 3 4 5	
	Robust Solution to Important Problem	1 2 3 4 5	
	Implementation Barriers	1 2 3 4 5	
Market Opportunity	Market Size & Growth	1 2 3 4 5	
	Identified Niche & Innovators(early Adopters)	1 2 3 4 5	
	Market Entry Strategy: Product/Price/Promotion/Position	1 2 3 4 5	
	Competition	1 2 3 4 5	
Product/Service Assessment	Stage of Development: Concept, PoC, Beta Test, Market Test, Sales	1 2 3 4 5	
	Differentiation: IP Protection, Price/Value Proposition/ Performance/ Channels of Distribution	1 2 3 4 5	
Protect Ability	Appropriate Protection: Trade Secret, Patent, Copyright. .	1 2 3 4 5	
	Broad Vs Narrow	1 2 3 4 5	
	Freedom to Operate	1 2 3 4 5	
	Prior Art: esp of Inventor	Grade	
	Registration Requirements	1 2 3 4 5	
※ Rating Scale: Poor = 1, Below = 2, Average = 3, Good = 4, Excellent = 5			

Grade Scale : “A” Grade = 61 ~ 75, “B” Grade = 46~60, “C” Grade = 31~45, “D” grade = less that 30



## II. Market Players

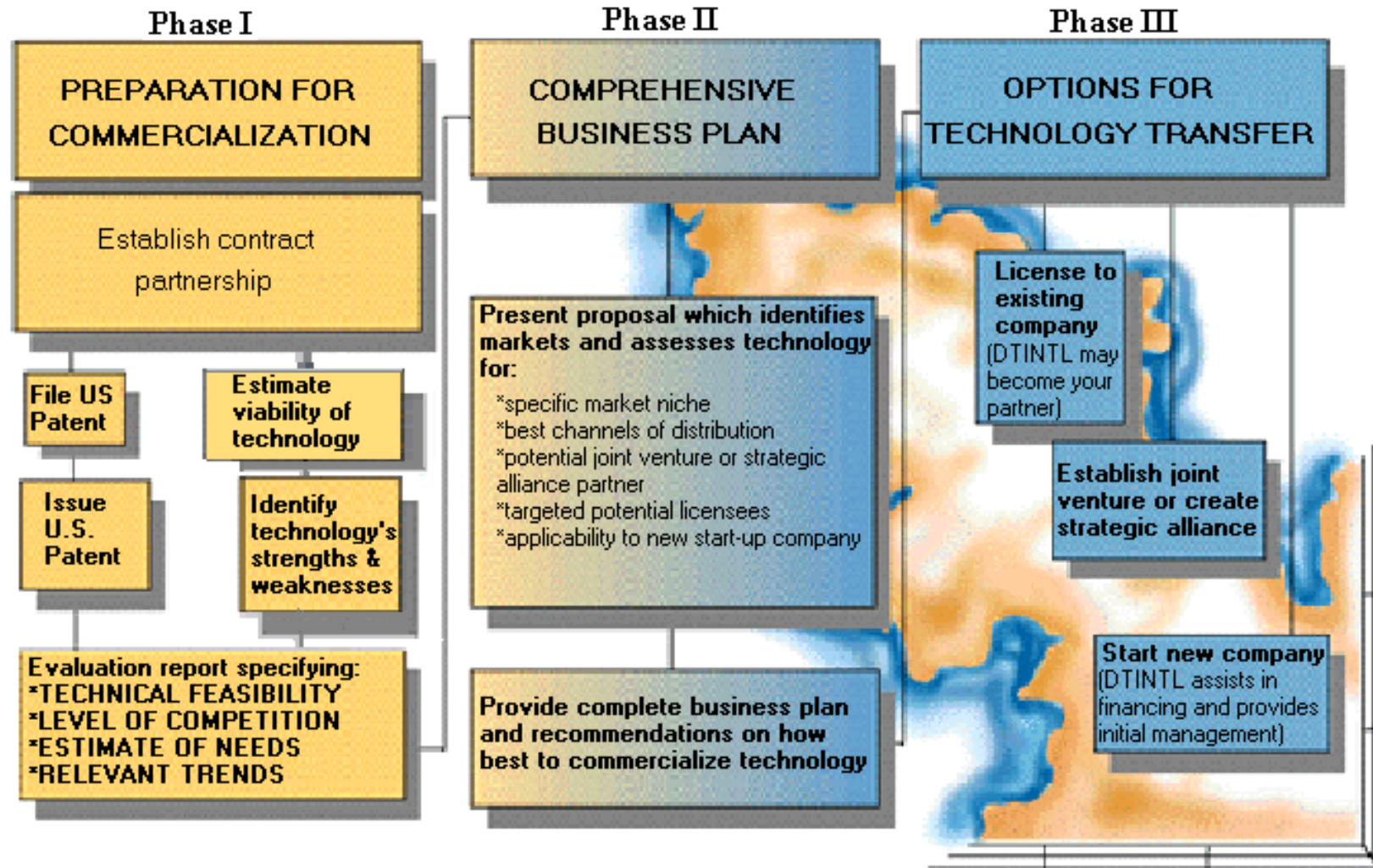


1. TT Work Flow
2. Principal/ Agent
3. Obligations
4. Licensee
5. Licensor

# 1. TT Work Flow



Preparation (Review Report) → Partner Search (w/Business Plan and/or Licensing Proposal) → Negotiation w/ Option partners





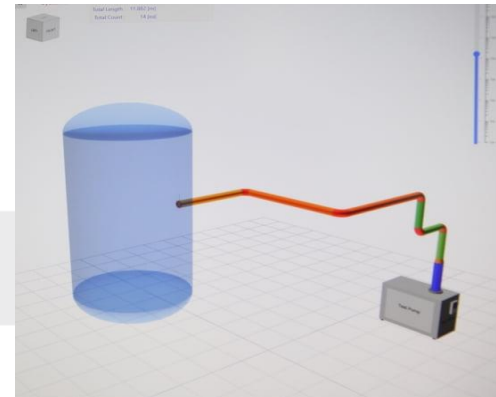
# 1. TT Work Flow



## TECH OFFER ↓

**Title (FITVAC)**

Vacuum System Installation Simulation Solution



**Technology Overview (50 – 250 words)**

Vacuum is the state filtered impurities out of air, which results in making quality & featured product in manufacturing sites such as car-assembly, home air-conditioner, fridge, semiconductor etc. The vacuum status is made from a couple of gadgets configured with chambers, pumps, gauges and more, which is called "Vacuum System." Complying with applications, the cost of vacuum system varies from \$20,000 ~ M\$200. Accordingly, it is the key skill that configuration of pipes, pumps and chambers to reduce installation & operating cost.

Technology offered, FITVAC, is the simulation system allowing users to find the optimized configuration of pipe structure & vacuum pump selection. For more information please refer to <https://fit-vac.com/>

**Keywords**

vacuum equipment, vacuum chamber, vacuum vessel, vacuum tank, vacuum pipe, vacuum pump, vacuum simulation, pipe conductance, pump capacity, pump down time simulation, throughput simulation, conductance simulation, pumping speed, effective pumping speed, pump down time, throughput



# 1. TT Work Flow



## Technical Features & Specifications (50 – 250 words)↵

FITVAC features:↵

- 3D Modelling↵
- Performance Prediction & Evaluation↵
- Simulating any configured cases based SasS↵

↵  
As a result, FITVAC help users make access to FITVAC anywhere across the globe, and simulate diverse application environments wished to install for the manufacturing facilities↵

## Potential Applications (20 – 250 words)↵

Manufacturing company: Semiconductor, display equipment, solar cell, lighting, thin film, coating, evaporation, (metal/dielectric) deposition, (metal/dielectric) etch↵

Vacuum equipment supplier: same as above↵

Vacuum pump supplier: same as above↵

Vacuum pipe constructor: same as above↵

## 2. Principal/ Agent



Authorizing someone to act instead creates an agency relationship

- : (Principal) seeks a result such as license agreement
- : (Agent) makes sales pitches and negotiates license and is paid commission only to obtain the result
- Not an employment relationship
  - : Cannot control how the agent performs the work
- Not a partnership
  - : Not sharing the expenses losses for invention
  - : Not personally liable for business debts

## 2. Principal/ Agent



Technology Application Review			
Metrics		SCORE	MEMO
Technology Readiness Level	1 ~ 2	0	
	3 ~ 4	1	
	5 & Above	2	
Authentication	No	0	
	In the Process	1	
	Yes	2	
Patentability	No	0	
	Possibility	1	
	Yes	2	
Market Launch	In 6 or more years	0	
	4 ~ 5 years	1	
	In 3 years or less	2	
Standalone Product	No	0	
	Yes	2	
Attractiveness of Market Size	Subject to the gut feeling of Consultants	0 ~ 1 ~ 2	
Total Score			

# 3. Obligations



## Agents

<b>Evaluation &amp; Consultation</b>	<b>Identify potential licensees for the properties</b>
<b>Sales Representation</b>	<b>Present &amp; communicate potential license information</b>
<b>Negotiation of Agreements</b>	<b>Work in association with Inventor in the negotiation of sales, licensing, option or other agreements</b>

## Inventors

<b>Technical assistance &amp; Support</b>	<b>Consult with licensees of the Properties and provide</b>
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# 4. Licensee



## Qualification

- Financial strength
- Marketing, promotion and direct sales expertise
- Technology/ R&D capabilities and strengths
- Fit between existing products and new technology

# 5. Licensor



## Responsibilities

- Both contractual arrangement and strategic partnership
- Market driven planning
- Information sharing
- Effective marketing, promotion and support materials
- How can I aid licensee in reaching performance goals





## III. Due Diligence



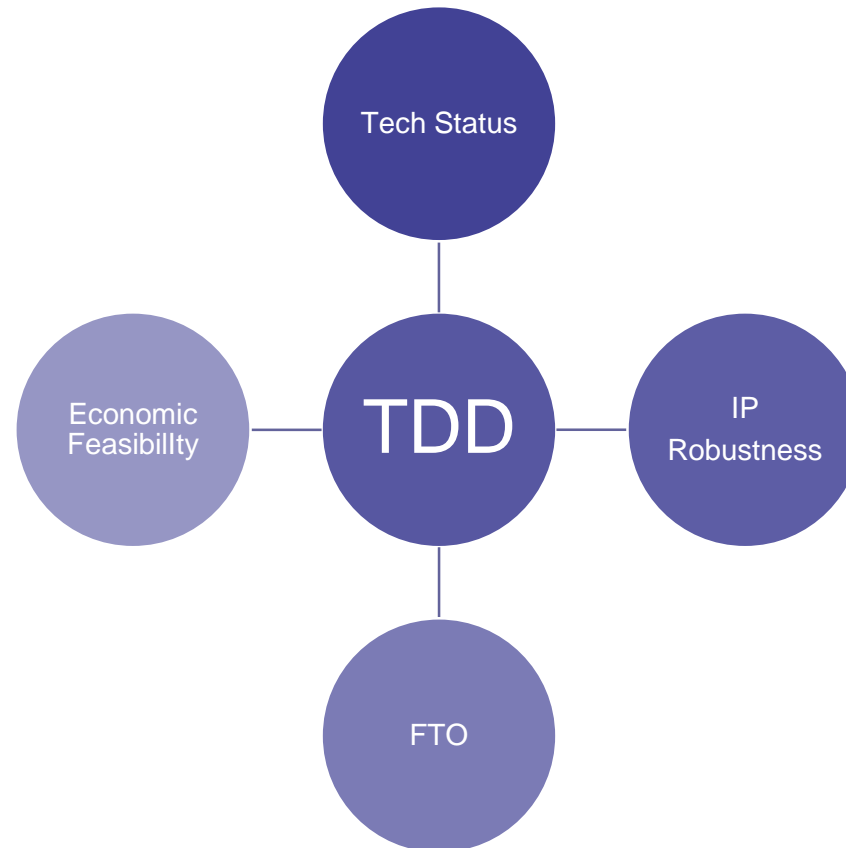
1. Tech DD
2. Technology Status
3. IP Robustness
4. Freedom to Operate
5. Economic Feasibility

# 1. Tech DD



Investigation conducted by buyers for the purpose of reviewing relevant information & documents of sellers, prior to the closing Licensing, JV and/or M&A deals

A technology that is not yet commercialized requires a thorough analysis, Due Diligence from technical, economical and commercial points of view



## 2. Technology Status

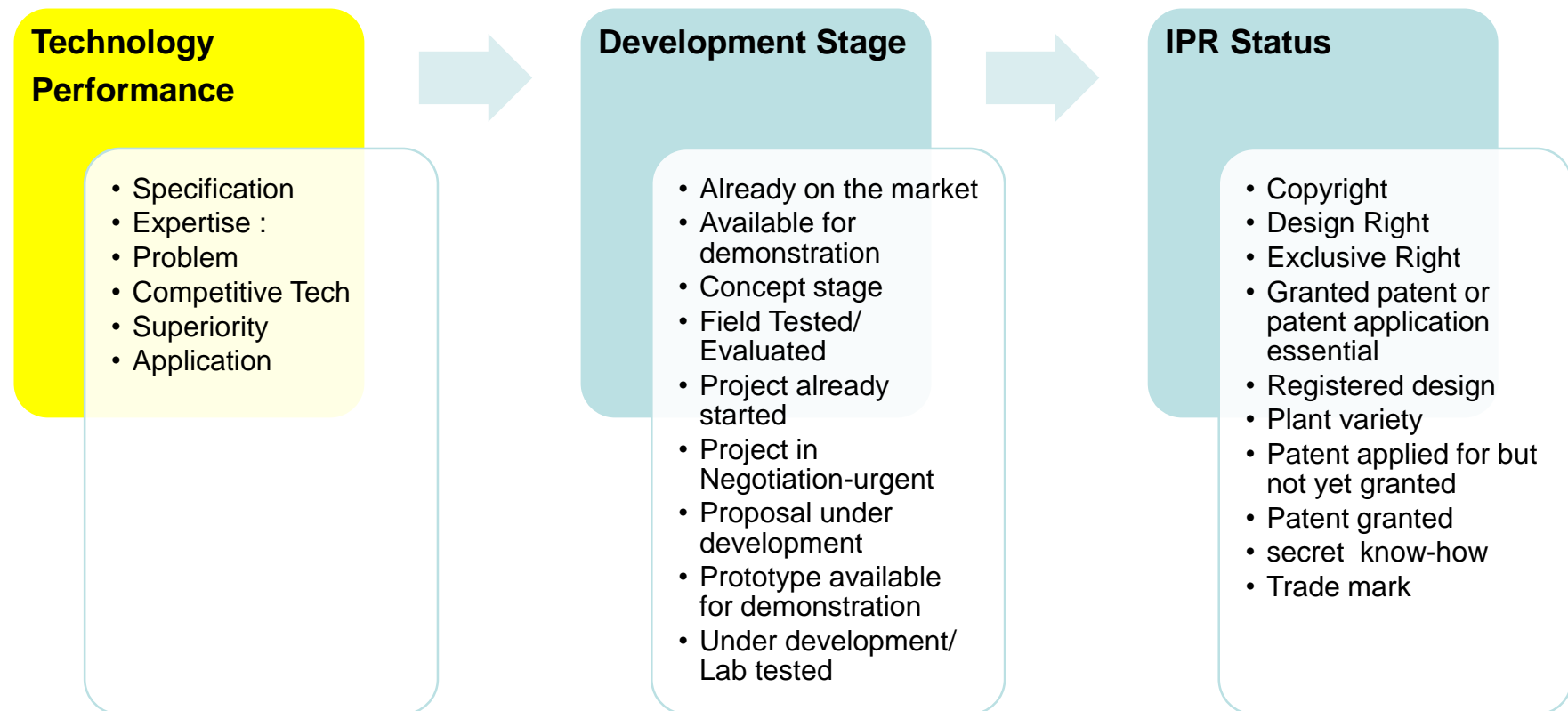


- (Performance) Problem/ Function (Efficacy)
- (Development of Status) In vivo or In vitro data, Proof of Concept, Prototyping etc. (TRL)
- Internal knowledge & competences in practicing a technology to develop the product
  - : Preclinical study (Mode of action/ Target validation)
  - : Clinical demonstration
  - : CMC (Chemistry Manufacturing & Control)
  - : Regulatory data
- Fit of the product in licensee business model and portfolio

## 2. Technology Status



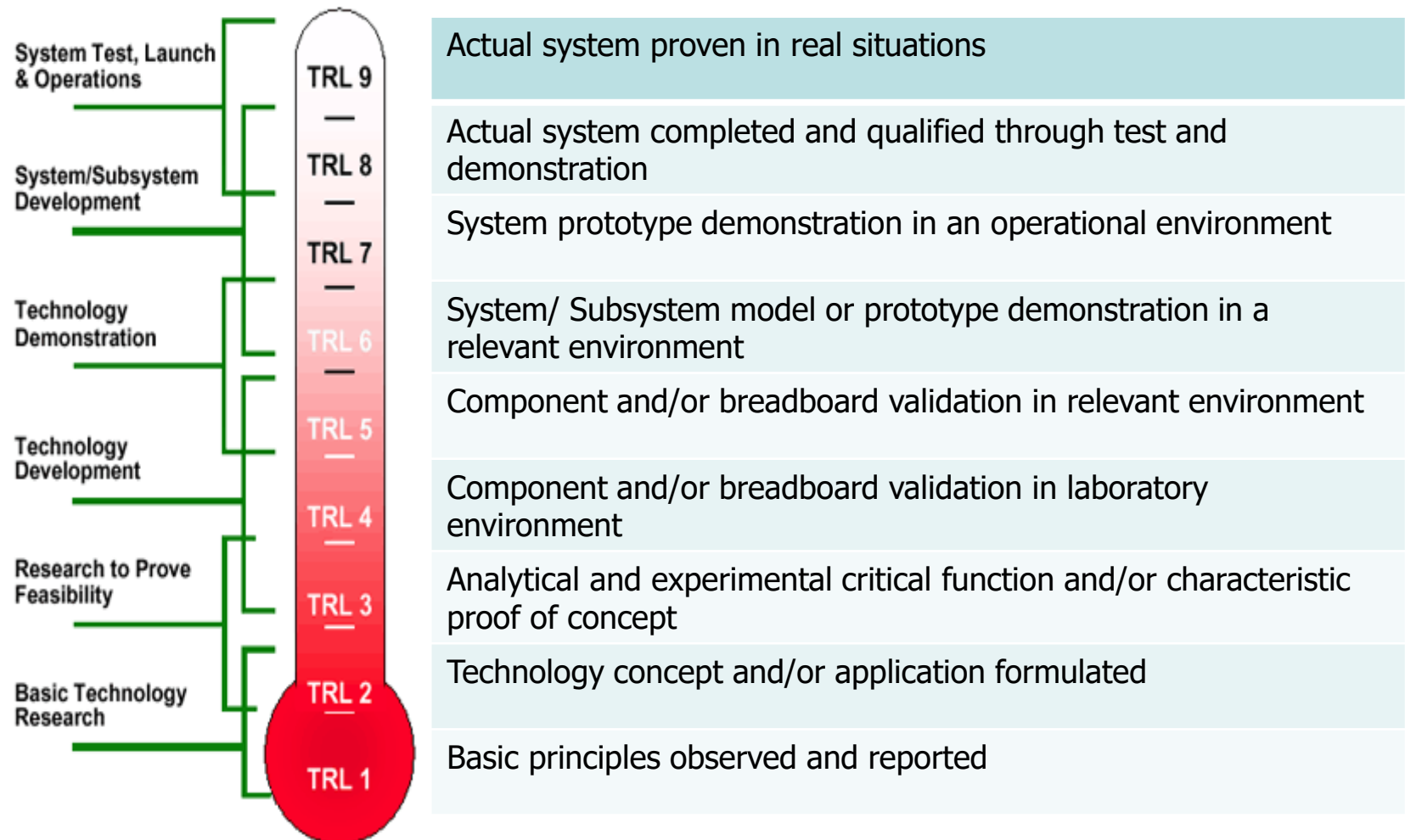
- Identify “usefulness” by Performance, TRL and IPR



## 2. Technology Status



- Measures how close a technology is to be used in everyday activity



### 3. IP Robustness



- Domestic & Foreign ownership of patents and patent applications
- Trade secrets & Know-hows
- Actions taken to preserve their secrecy e.g., Confidentiality agreements, Invention assignment agreements
- Residual lifetime of the patent and possible ways to extend such lifetime



## 4. Freedom to Operate



- (FTO Analysis) Critical for the development of the product covered by licensor/ seller IP
- Identification on the possible infringements on the 3<sup>rd</sup> party IP rights
- Presence of any IP litigation or disputes with other parties
- Any exclusive license agreement and/or financial obligations to 3<sup>rd</sup> parties (eg., distributors)
- Indemnification clauses provided to or obtained from 3<sup>rd</sup> parties related to possible IP disputes

# 5. Economic Feasibility



- Financial valuation of the IP to determine appropriate price based on the development stage of the technology, and value potentially generated by the derived product
- Forecast on development costs including R&D investment, manufacturing costs, facility investment cost, distribution costs, royalty payment, and revenue generation to determine ROI
- Break-even-point
- Best and worst case sales scenario



## IV. Exercise Offered



1. Review Projects on TTCP
2. Assignment

# 1. Review Projects on TTCP



## **"Nano Pro" MMC**

"Nano Pro" MMC yeni texnologiyalar ilə yuyucu, təmizləyici, quruducu və səthi...

[More](#)



## **"East Nano Technologies"...**

"East Nano Technologies" MMC-nin əsas fəaliyyət istiqaməti müasir texnologiyaların tətbiqi ilə motorlu...

[More](#)



## **"Smart Security Solutions..."**

Şirkətin əsas fəaliyyət istiqamətləri həolografik displeylərin istehsalı, Smart Ev sistemləri və...

[More](#)



## **"Azoil Industry" MMC**

Əhəlinin tikinti materiallarına və neftməhsullarına tələbatının yerli istehsal hesabına təmin olunması...

[More](#)



## **"Proline Chemicals" MMC**

Şirkət avtomobil qulluq vasitələri, avtomobil kosmetikası, avtomobil texniki mayeləri, sənaye kimyəvi...

[More](#)



## **"Azcosmetic Group" MMC**

"AZCOSMETICS GROUP" MMC yüksək keyfiyyətli məhsulların istehsalını qarşısına məqsəd qoyu...

[More](#)



## **"Inkor" MMC**

"INKOR" Məhdud Məsuliyyətli Cəmiyyəti nin əsas fəaliyyət istiqaməti neft və qaz çıxarma, ne...

[More](#)



## **"Asqar" Elmi İstehsalat...**

Elmi-tədqiqat işlərinin sənayeyə tətbiqi ilə işlənilib hazırlanmış və xüsusilə neft sənayesində...

[More](#)



## **Bakı Polimer İstehsalat**

"Bakı Polimer İstehsalat" MMC qida və qeyri-qida istehsalçılarna, satış şəbəkələrinə xidmət göstərən...

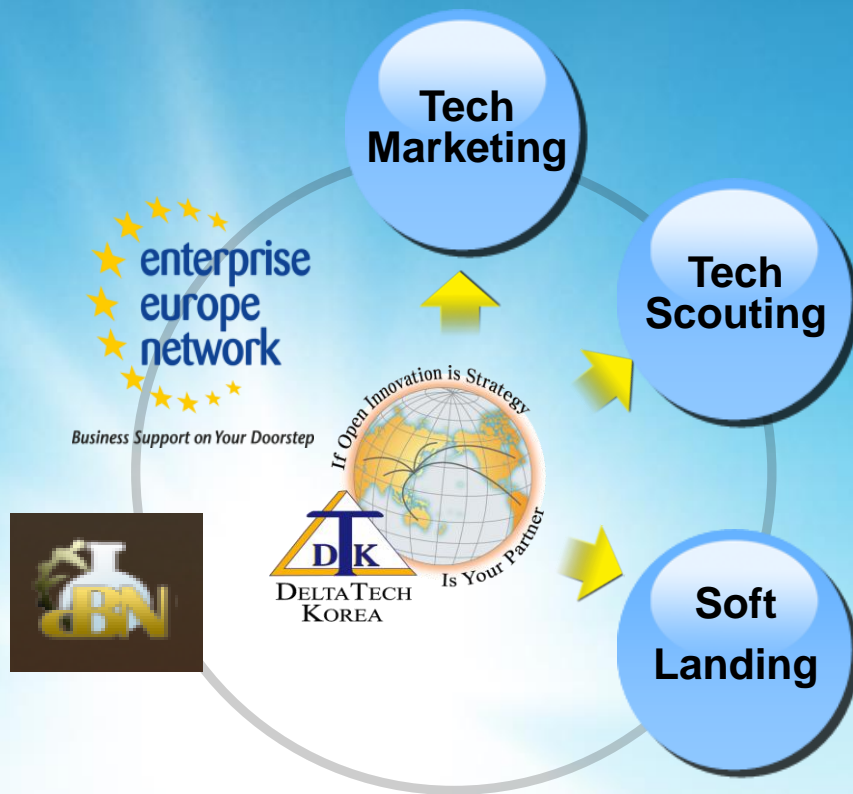
[More](#)

## 2. Assignment



- 1. MAKE A GROUP WITH 3~4 PARTICIPANTS*
- 2. MINE (SELECT) A TECHNOLOGY(PROJECT) WITH ON TTCP AND/OR OTHERS, WITH RATING SCALE*
- 3. WRITE “DUE DILIGENCE REPORT” FROM IP ROBUSTNESS, FREEDOM TO OPERATE AND TECHNOLOGY STATUS PERSPECTIVES*

# THANK YOU!



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