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Method to Identify Focus Areas for New Product Development

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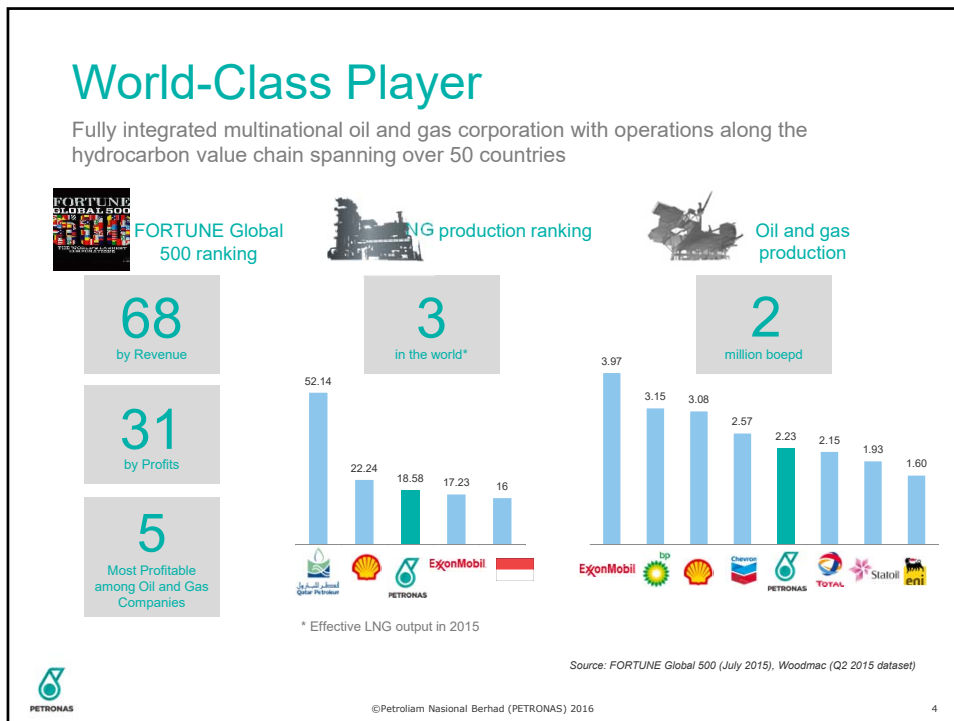
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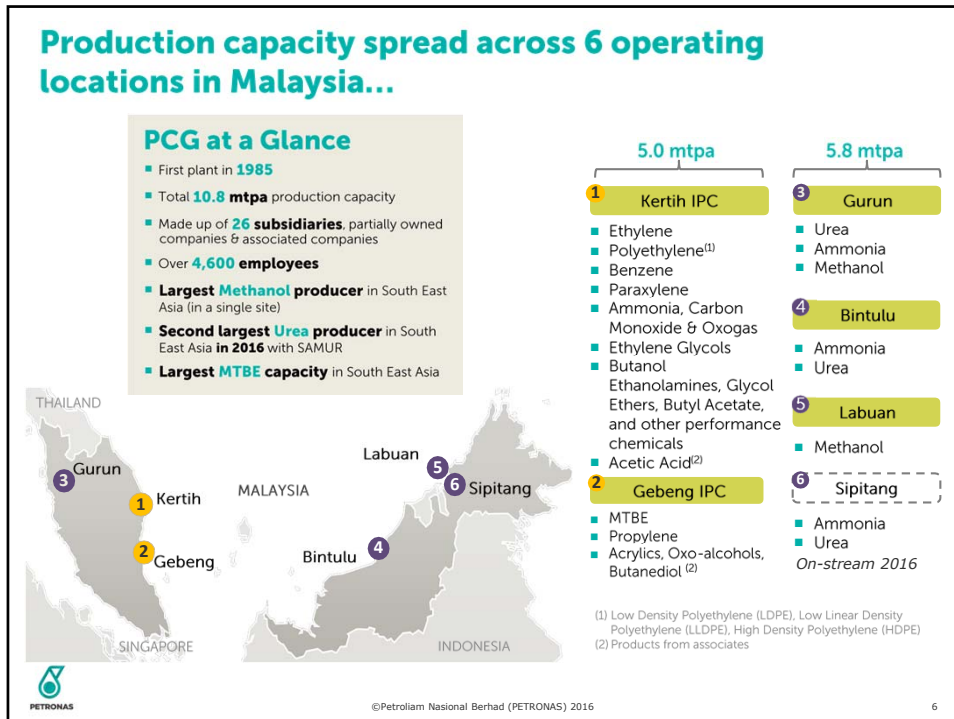
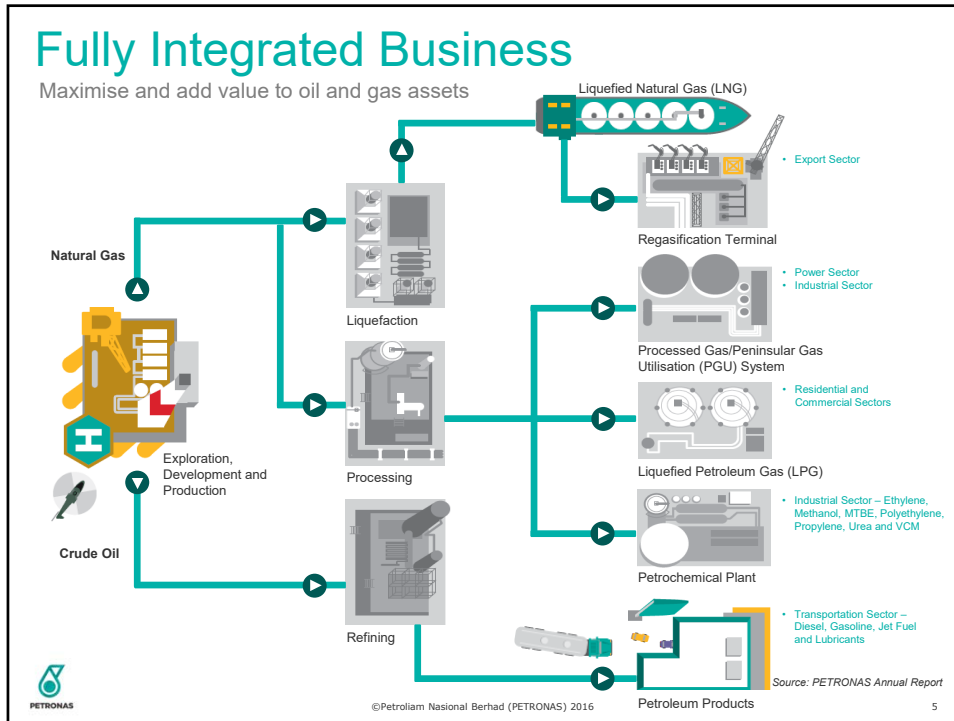
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Abstract

A key element in a New Product Development (NPD) Strategy is the identification of focus areas. This determines the "hunting ground" for a more successful NPD initiatives. However, companies still struggle and give less attention in this space due to the rigorous and complex processes involved. This then leads to a disconnection between the resources and goals in the NPD strategy which resulted in failed initiative and the whole NPD systems is seen as ineffective. To solve this and to identify these focus areas, we developed a systematic process and practical tools processes. These were then applied it in a modified Deplhi workshop approach discussed as a case study in this paper. The facilitated workshop enabled the identification of high numbers of potential focus areas. Prioritization of the outcomes was done using an Opportunity/Feasibility (OFM) matrix. The simple and straight forward method we developed has been shown to be practical and effective in identifying focus areas to pursue NPD projects, leading to a successful program. This process can be extended to use in other identification of business growth opportunities as well.





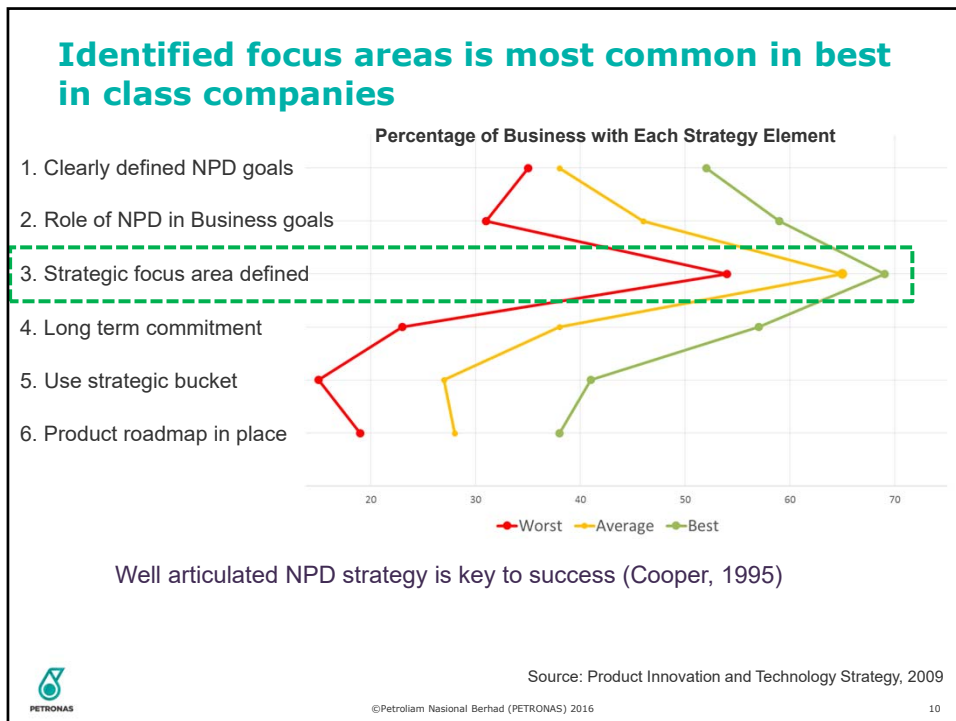
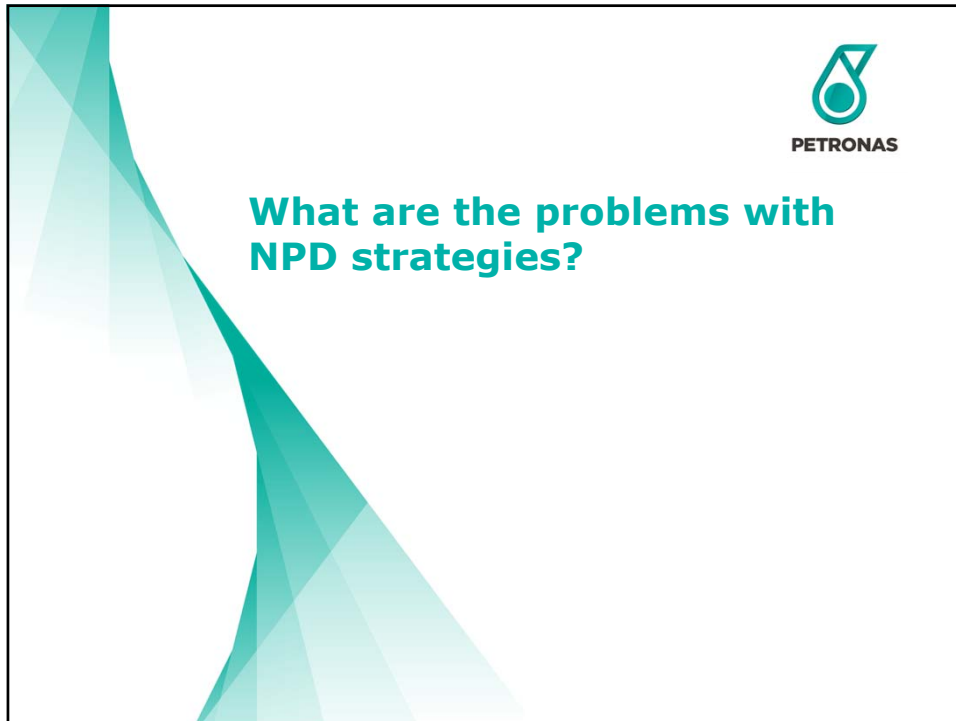




We will cover...

- What are the problems with NPD strategies?
- Why we needed an NPD Strategy?
- How we set the context for NPD?
- How we identified focus application areas?
- How do we use the focus application areas in our NPD roadmap?





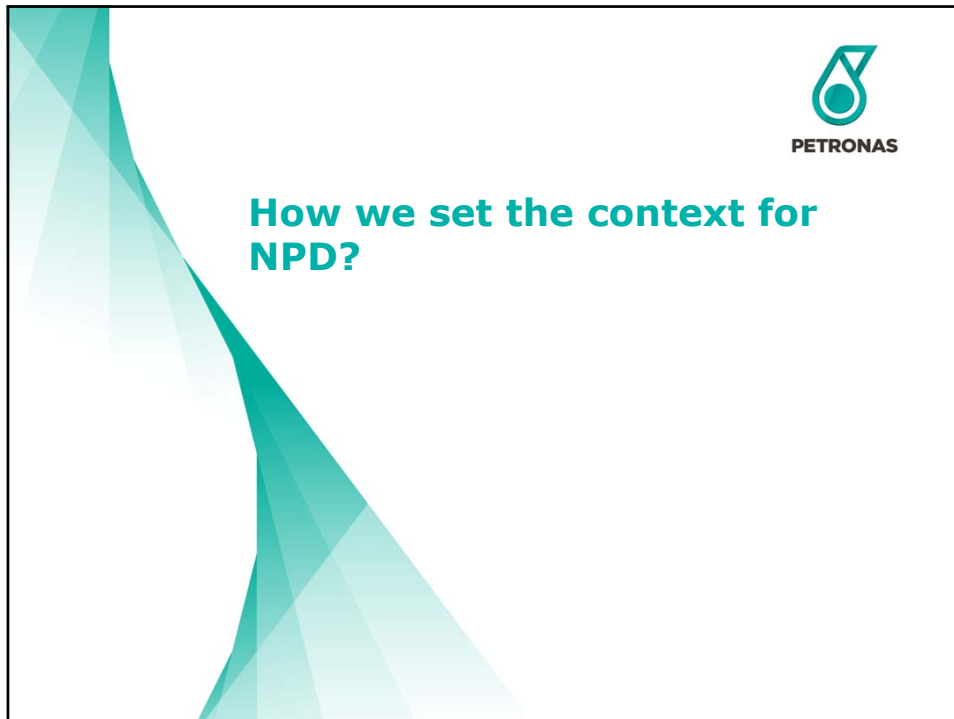
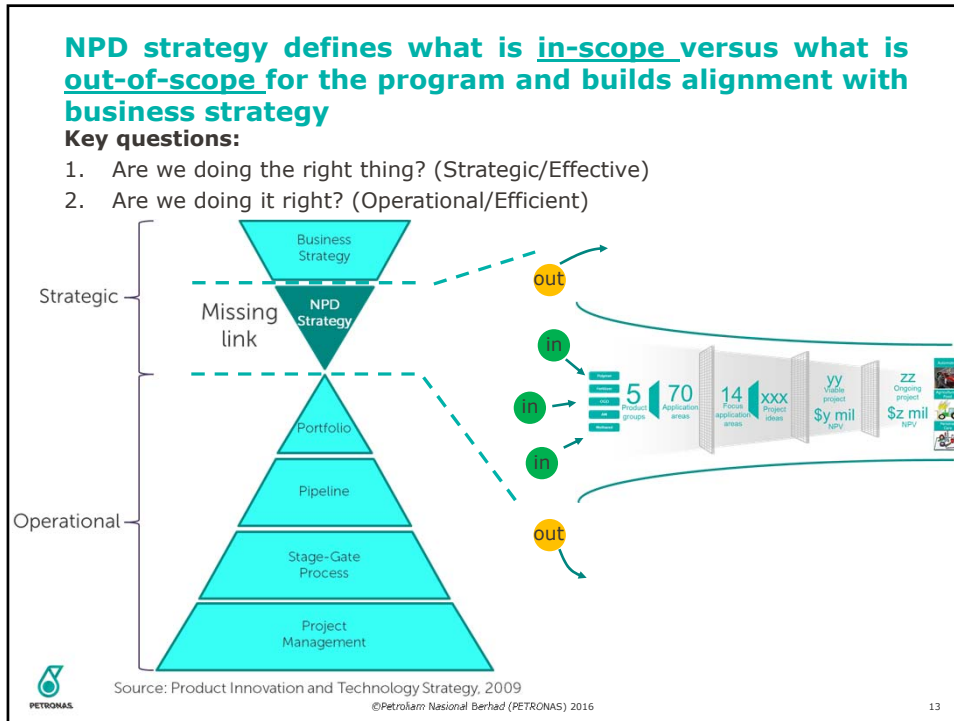


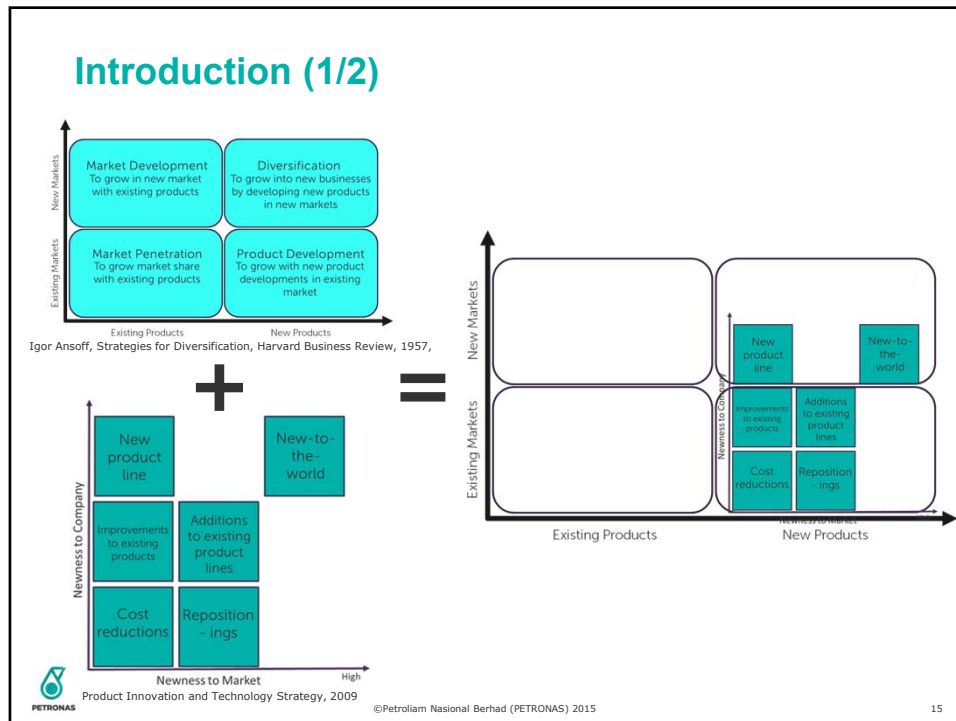
We had issues...

- Inexistence of NPD strategy
- Strategy articulation is poor
- Too high level

And we found the missing link...

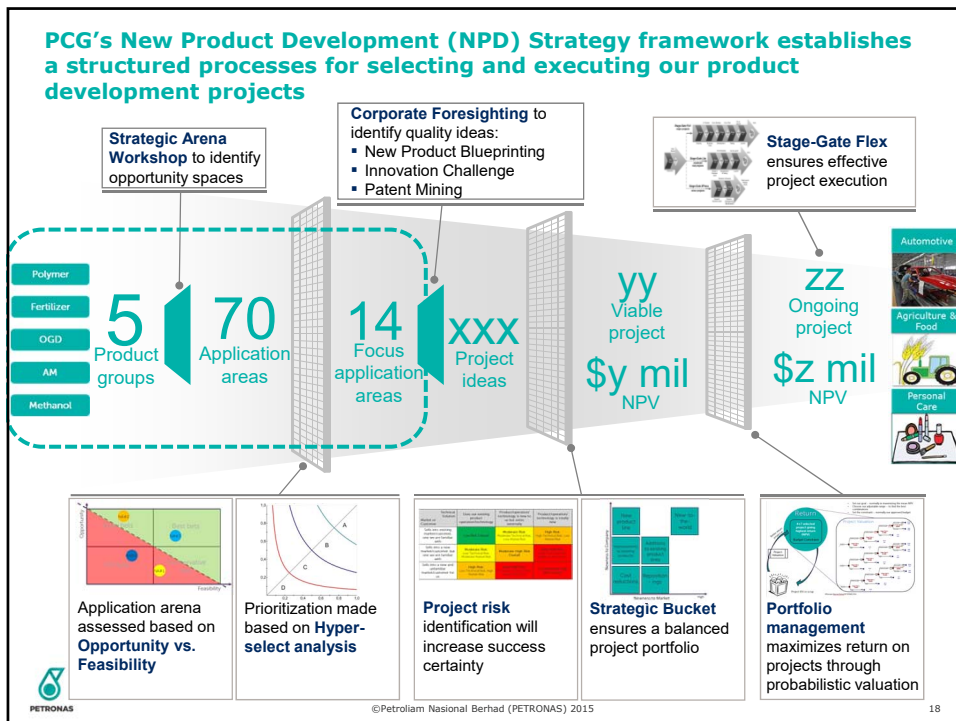






Introduction (2/2)

- Application area is defined as group of customers with similar needs
- The definition is crucial as it allows the aggregation of customer needs can be properly analyzed and translated in NPD project



Polymer
Fertilizer
OGD
AM
Methanol

5

Product groups

NPD is focused on products well within our product application capabilities.

PCG's Product

<p>C1</p> <ol style="list-style-type: none"> 1. H2 Rich Gas 2. Hydrogen 3. Oxogas 4. Carbon Monoxide 5. Methanol 6. Ammonia 7. Urea <p>C2 & C3</p> <ol style="list-style-type: none"> 1. Ethylene 2. Propylene 3. High Density Polyethylene (HDPE) 4. Linear Low Density Polyethylene (LLDPE) 5. Low Density Polyethylene (LDPE) <p>> C6</p> <ol style="list-style-type: none"> 1. Benzene 2. Paraxylene 3. Hydrocarbon Condensate 4. Pyrolysis Gasoline 5. Heavy Aromatics 	<p>C4 & C5</p> <ol style="list-style-type: none"> 1. Iso Butane 2. Methyl tert-butyl ether (MTBE) 3. Monoethanolamine (MEA) 4. Diethanolamine (DEA) 5. Butyl Carbitol 6. Butyl Acetate 7. Butyl cellosolve (TM) Solvent 8. BTG Brake Fluid Component B-260 9. Butanol 10. Polyglycol CF45 11. Polyethylene Glycol (PEG) 12. Diethylene Glycol (DEG) 13. Isobutanol 14. Monoethanolamine (MEA) 15. Monoethylene Glycol (MEG) 16. Triethanolamine (TEA) 17. Amine SD 18. BUTOXYPOLYGLYCOL BASIC 19. Crude Glycol 20. UCARSOL™ 21. GT AR814 aq.50 22. TERGITOL(TM) NP 23. TERGITOL(TM) 26L
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Conversant Products

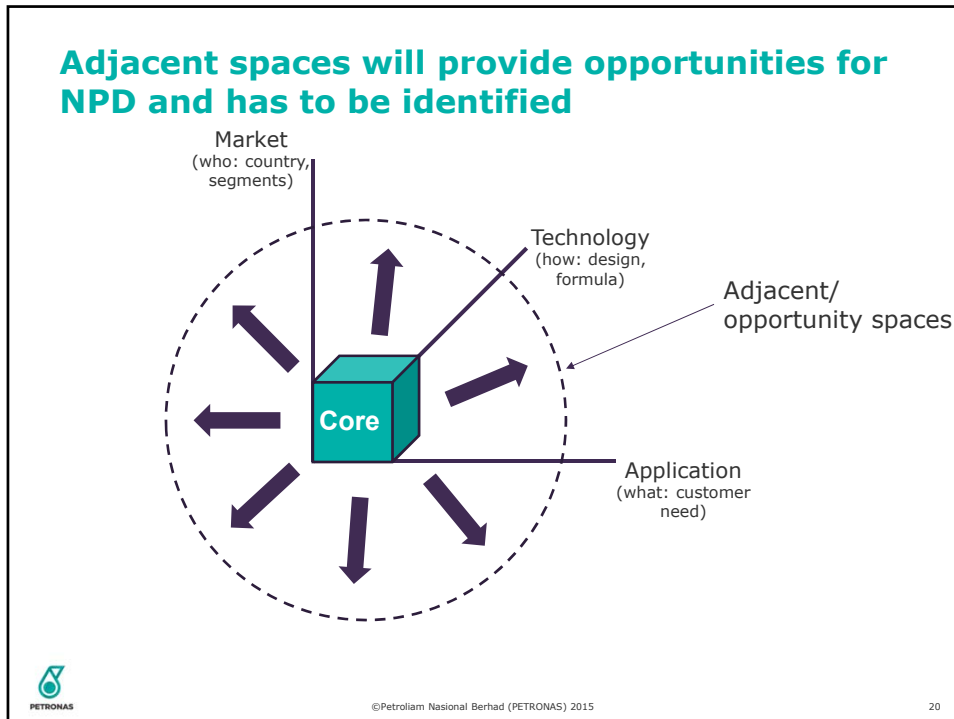
22 conversant products

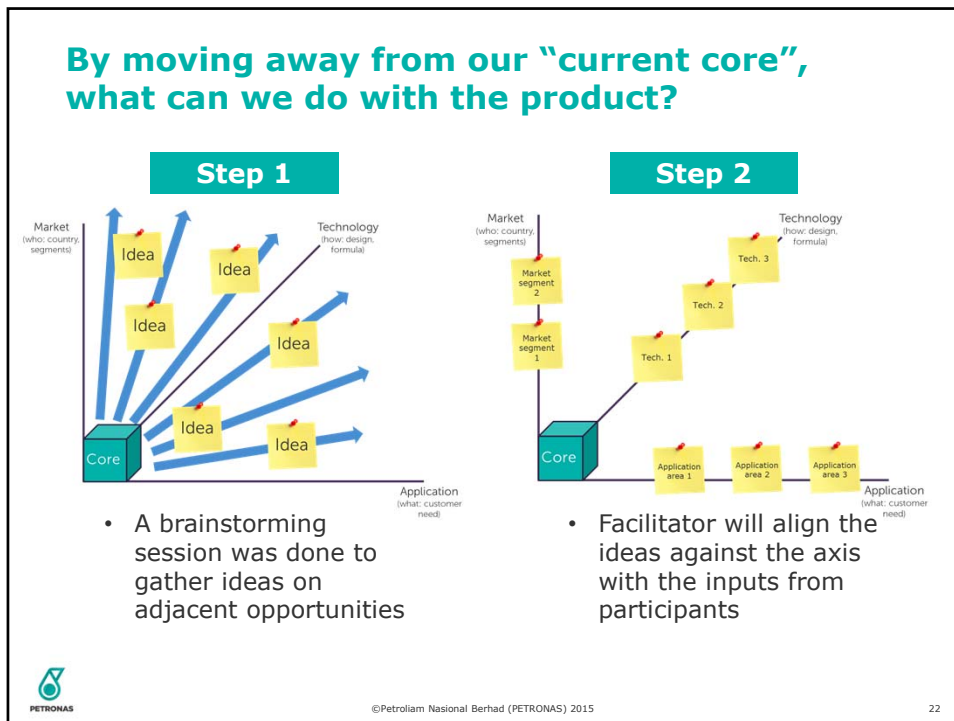
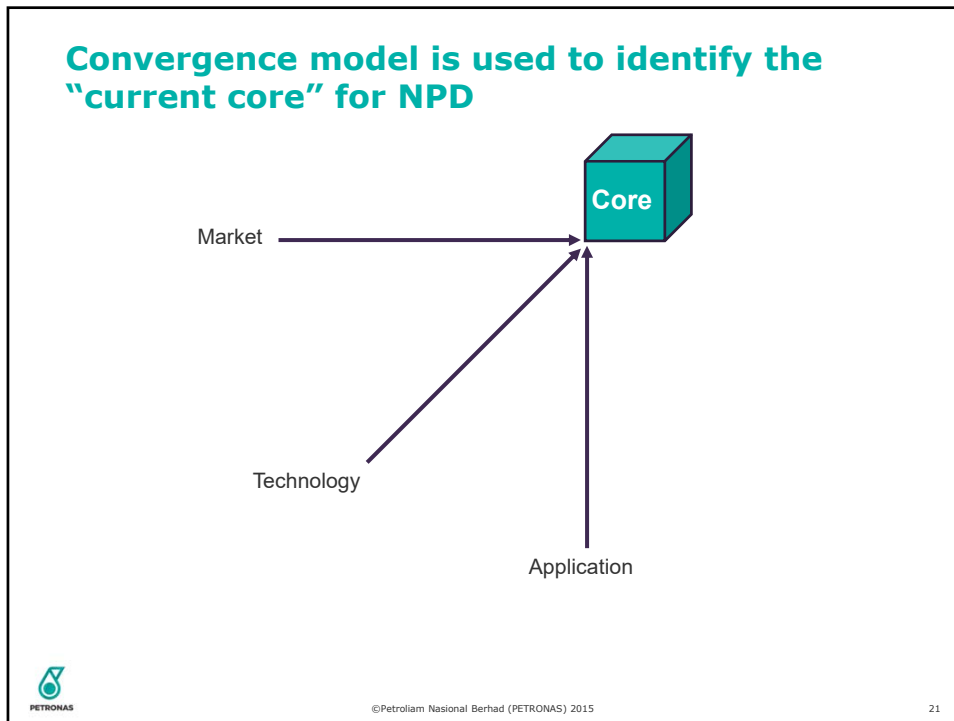
Product Technical Capability (Application)

- 1 We have no capabilities/no staff
- 2 We lack some important capabilities and a plan is needed to acquire them.
- 3 Existing staff can acquire capabilities in less than 1 year
- 4 Some new skills required but they can be acquired in 3 months or less
- 5 Well within our capability. No new skills or knowledge required

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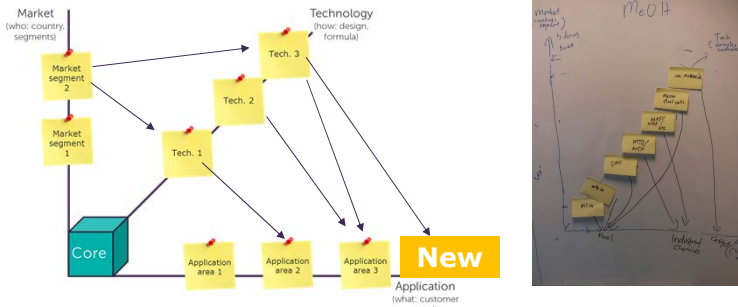
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Confirming application areas

Step 3



- A brainstorming session was done to gather ideas on adjacent opportunities



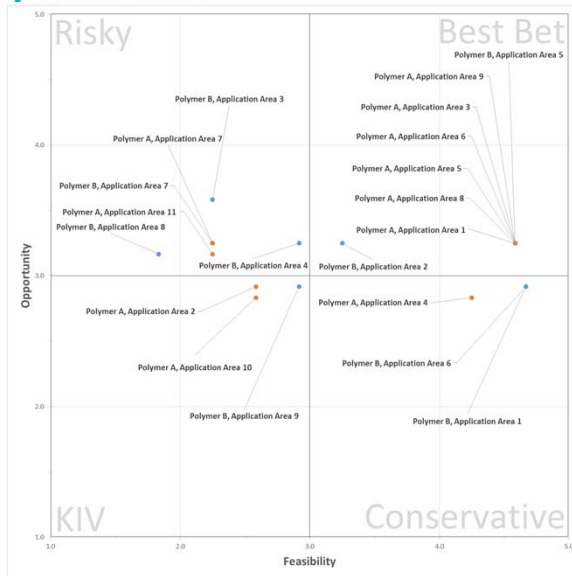
Scaling Statements used to score application areas

SUGGESTED FACTORS FOR OPPORTUNITY			Scaling statements (Score)				
Dimension	Factor	Explanation	1	2	3	4	5
Volume	Synergy opportunities	Possible additional benefits to other projects or activities, or the possibility of new opportunities in combination	None	Little	Will help to complete product portfolio	Important	A key part of a major initiative
	Industry / market readiness	How easy will it be for customers or adopters to take up the product; do they have to change their behaviour or processes?	No expressed demand OR requires major change of customer behavior	Some customers have asked for this but requires some change in customer behavior	Definitely attractive to most customers; no change to customer behavior required	There is pent up demand for this	
Platform for future growth	Future potential	Product is a platform for future products or could open new markets beyond the project timeframe	Update of an existing product	May lead to further variants of applications	Will definitely lead to further product variants or applications	Could lead to a new product line or several applications	This is the beginning of a major new business OR many further applications are foreseen
SUGGESTED FACTORS FOR FEASIBILITY			Scaling statements (Score)				
Dimension	Factor	Explanation	1	2	3	4	5
Characteristics of the product	Technical challenge	How confident are we that the technology in the area is technically feasible at all?	Key features not yet demonstrated.	Some key features not demonstrated but we're confident they can be	Key features have been demonstrated in pilot plant, but others remain, no demo plant not available	Key features have been demonstrated in demo plant, but others remain, commercial plant not available	Commercial plant in operations, at least 1
	Skills and knowledge	Market knowledge	Our understanding of size and requirements of the market	Market size not supported by data	Market estimated within a factor of 2 or 3 with some data support	Enough data to size the market to +/-50% and requirements	Market size known to +/-20%
Technical capability		Do we have the required technical competences venture in this area?	We have no capabilities/no staff	We lack some important capabilities and a plan is needed to acquire them.	Existing staff can acquire capabilities in less than 1 year	Some new skills required but they can be acquired in 3 months or less	Well within our capability. No new skills or knowledge required

Source: Scoring Methods for Prioritizing and Selecting Innovation Projects (Mitchell et. Al., 2014)



Opportunity x Feasibility matrix was used to identify best bets



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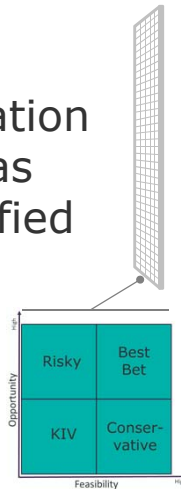
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Product application focus area is a defining attribute of an NPD effort. In particular it establishes the focus for developing ideas for new products

22
conversant
products

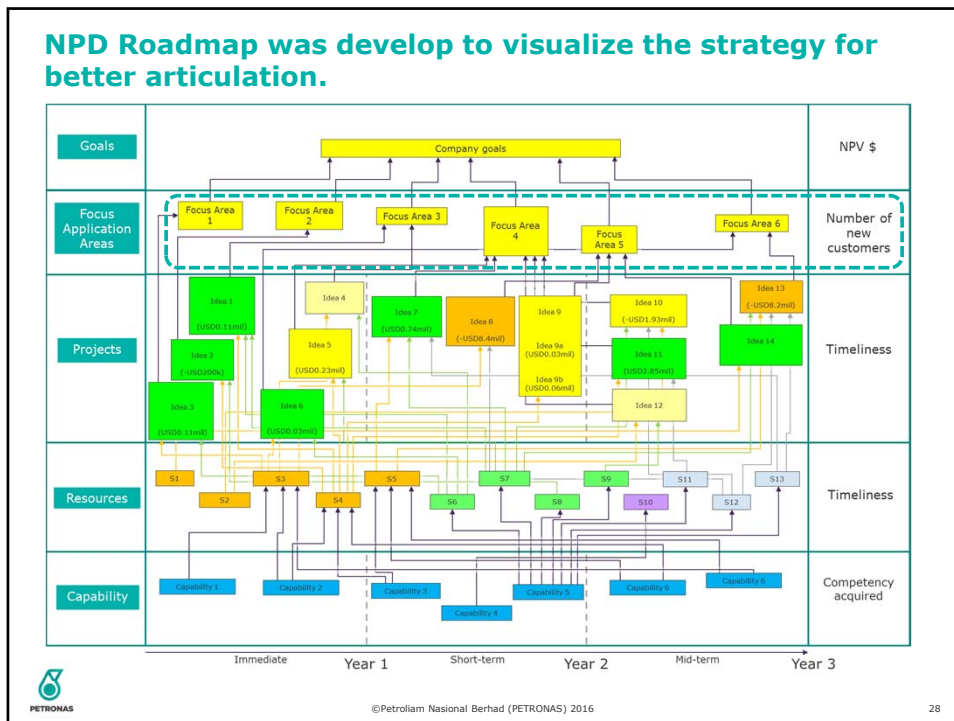
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Application
Areas
Identified

14 Focus
Application
Areas
Identified



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Challenges

- To some, strategic clarity is not a welcoming solution as ambiguity is the place to easier breed pet projects
- With the identification of focus application areas, pet projects were dropped and resistance had to be managed

Success factors

- Well designed tools and robust process
- Getting the right workshop participants



Summary and way forward

- Identification of specific/focus application areas will benefit by having a more focused business with the limited resources working on targeted promising opportunities
- This provides the basis for further identification of NPD projects aligned with PCG's vision in **delivering innovative customer solutions**



"To be the preferred chemical company providing innovative customer solutions"



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