

The background of the slide is a close-up photograph of blue water with numerous small, concentric ripples, creating a textured and shimmering effect. The colors range from light blue to a deeper, darker blue.

Essence Kernel-Based Enterprise Method Architecture

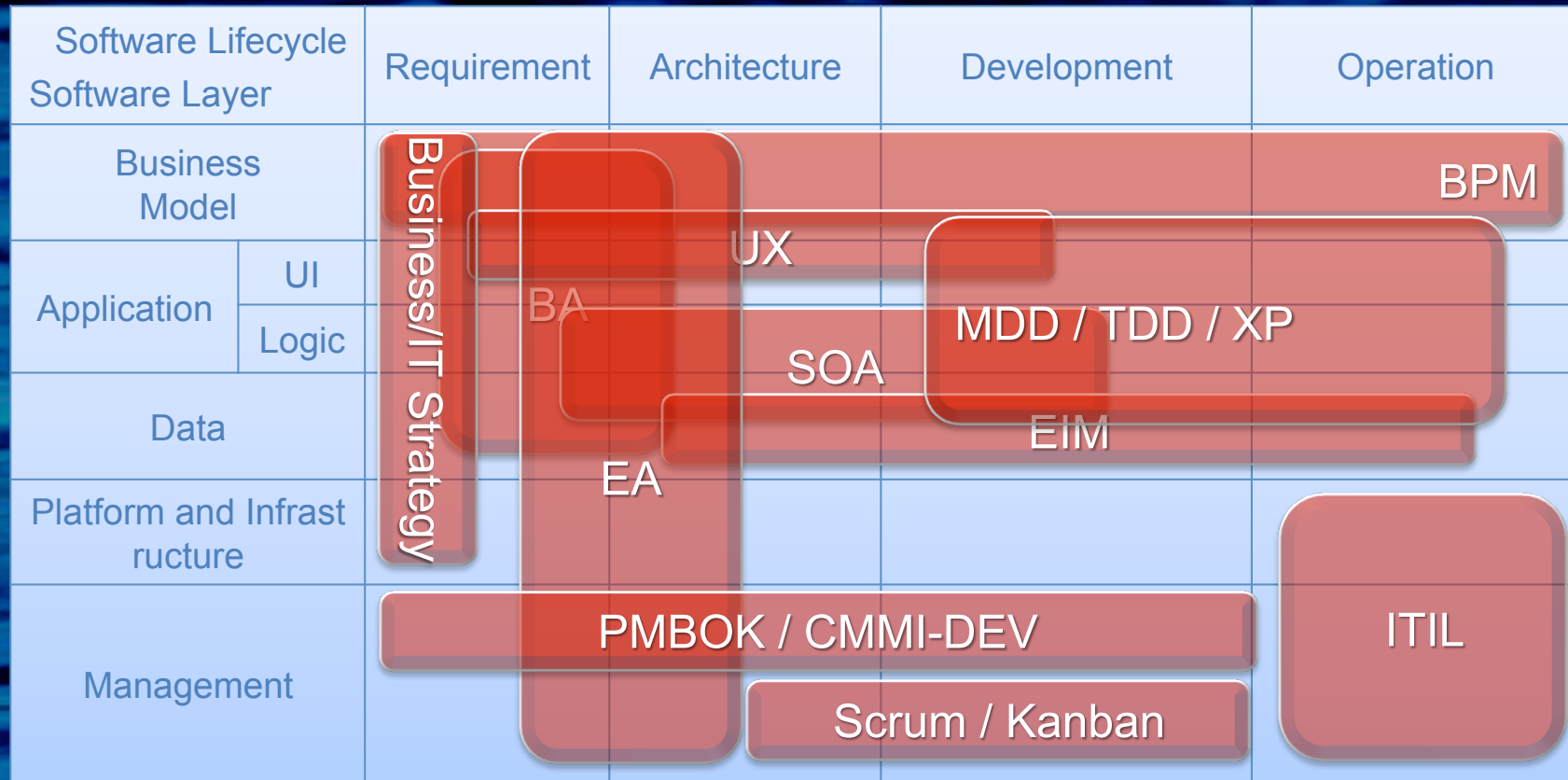
June 20. 2013

Dr. June Sung Park

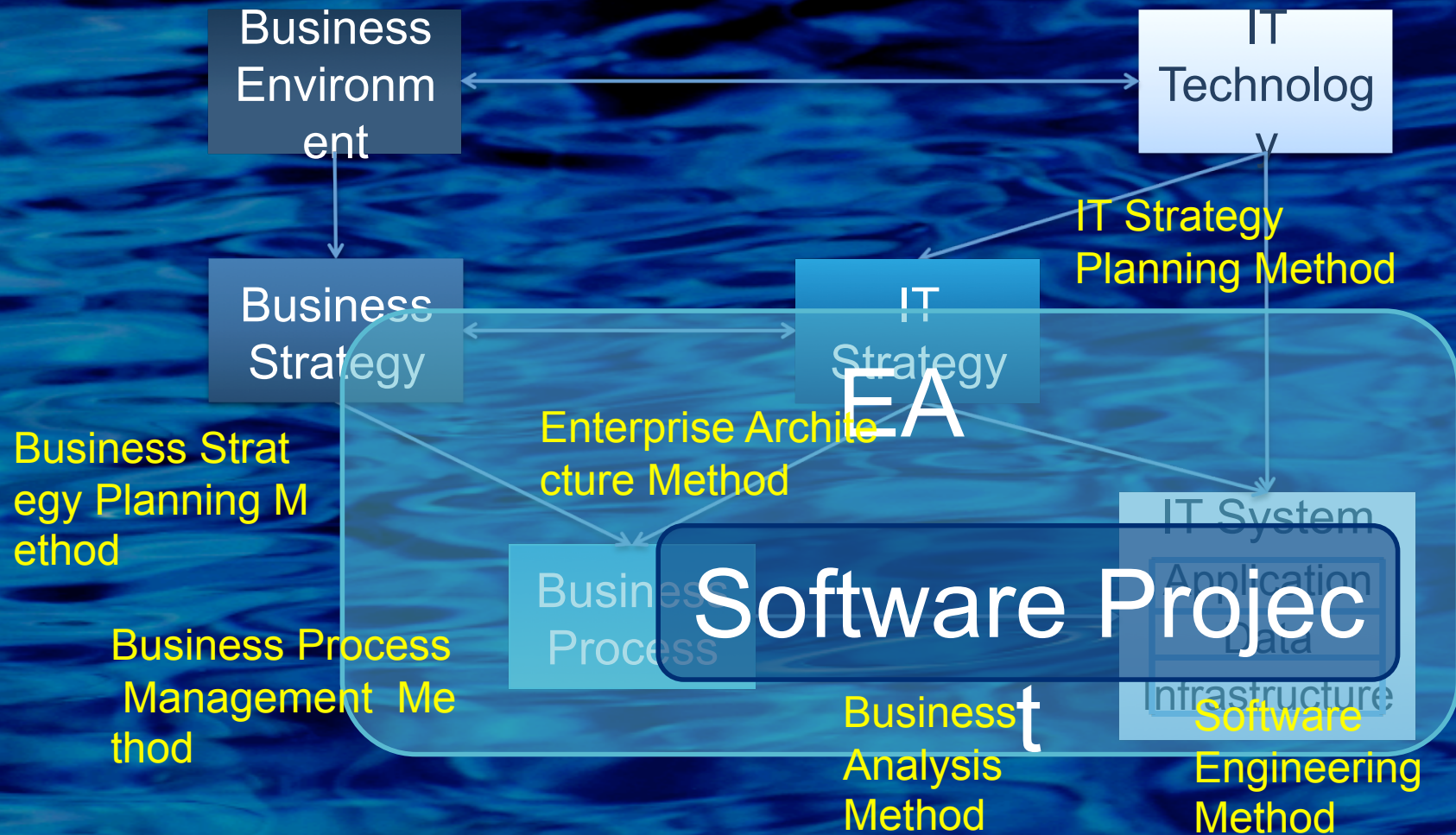
Professor, Korea Advanced Institute of Science and Technology

Executive Chairman, SEMAT

Methods in Enterprises



Business-IT Alignment



Enterprise Method Architecture

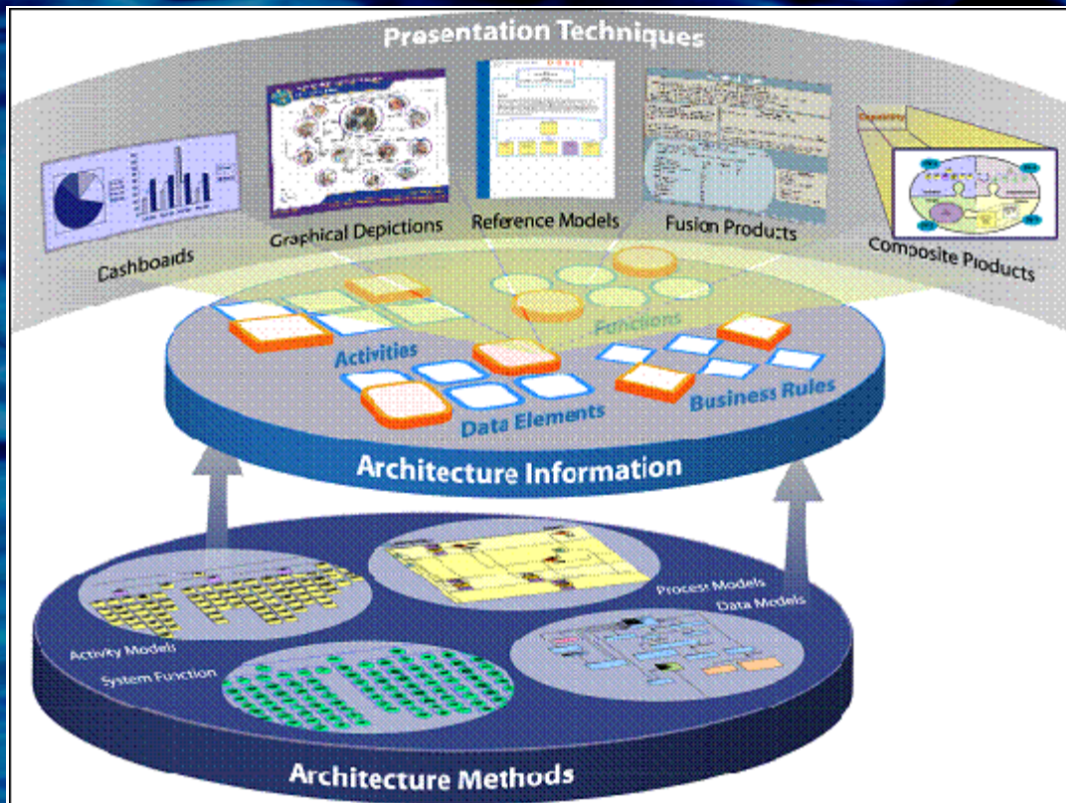
- Understand all methods used in an enterprise
- Analyze their relationships
- Minimize, standardize, integrate and share the set of methods

Enterprise Method Architecture

↑ Is a federation of

Method

Example: US DoD



Do methods produce **consistent** models across different views (e.g. across process, information, use case)?

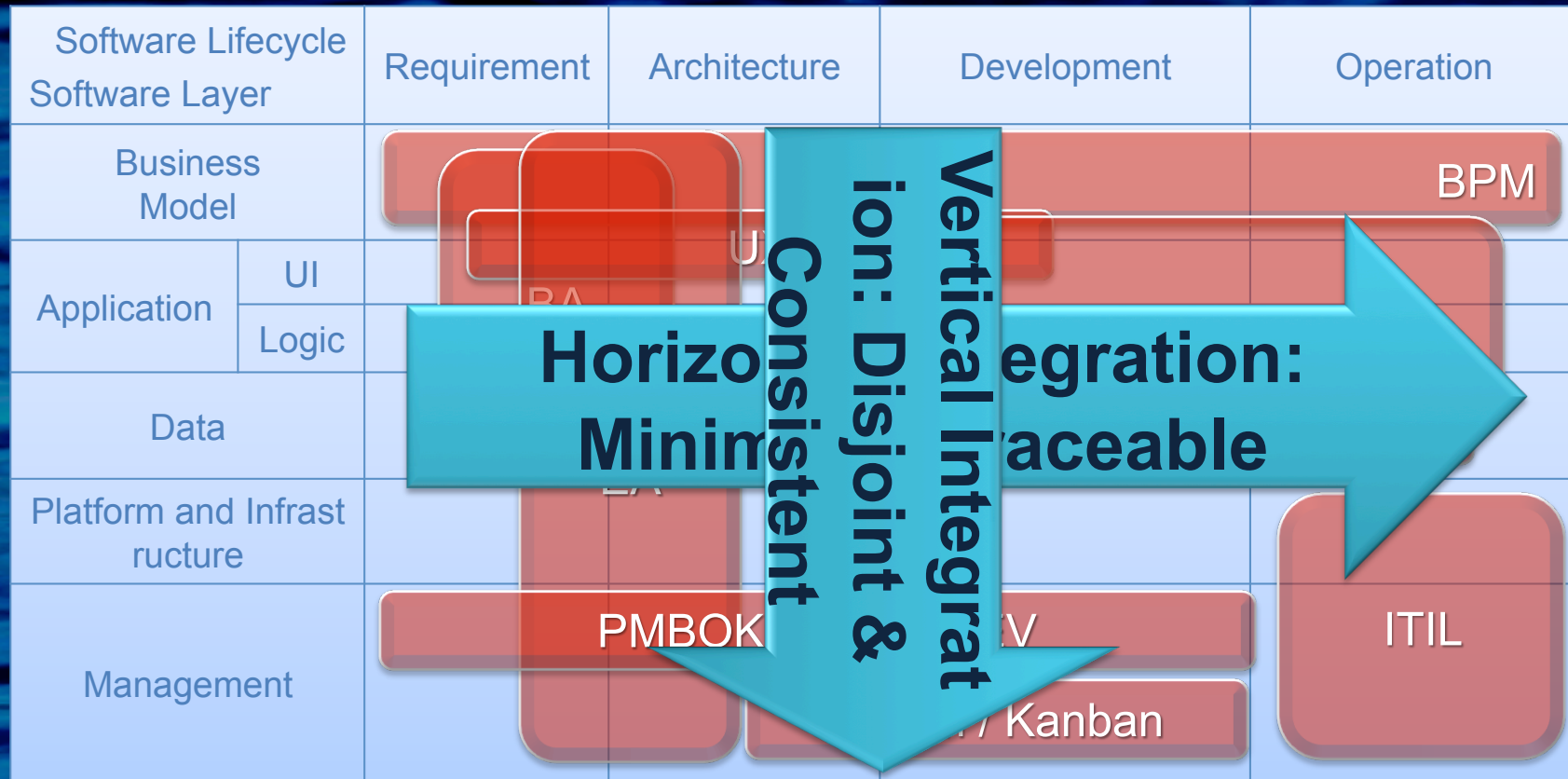


Do methods produce models **traceable** across different abstraction levels?

Example: DoDAF Meta Model (DM2)

- Define concepts and models usable in DoD's 6 core processes:
 - Capabilities Integration and Development (JCIDS)
 - Planning, Programming, Budgeting, and Execution (PPBE)
 - Acquisition System (DAS)
 - **Systems Engineering (SE)**
 - Operations Planning
 - Capabilities Portfolio Management (CPM)
- Establish guidance for architecture content as a function of **purpose**
- Make DM2 so the architectures can be **integrated**, analyzed, and evaluated to mathematical precision
- Establish and define the constrained **vocabulary** for description and discourse about DoDAF models and their usage in the 6 core processes
- Specify the **semantics and format** for federated EA data exchange between architecture development and analysis tools and architecture databases
- Support discovery and understandability of EA data:
 - Discovery of EA data using DM2 categories of information
 - Understandability of EA data using DM2's precise semantics

Methods Integration



Essence Approach to EMA

Enterprise Method Architecture

↑ Is a federation of

Method

M. E. C. E.

↑ Is composed of

Practice

Comparable

↑ Is described using

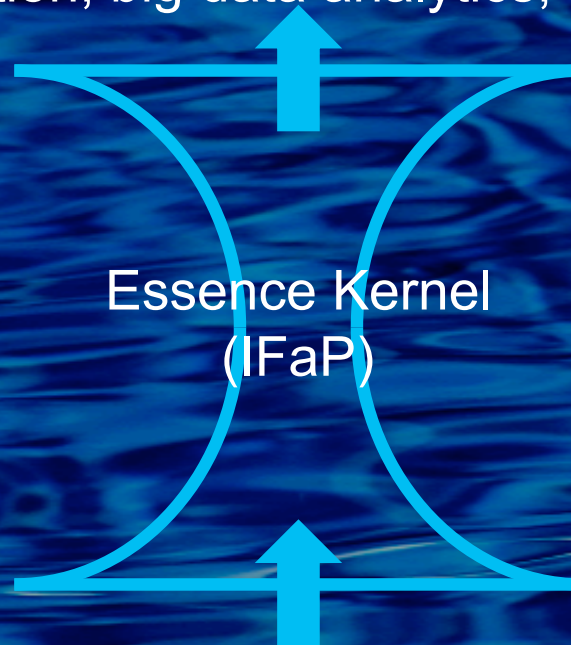
Kernel

Standard Vocabulary,
Semantics
and Format

Essence Approach to EMA

Hour Glass Model of Middle Out Architecture

New demands for methods
(e.g., cloud migration, big data analytics, enterprise mobility)



New emerging best practices

Advantage of Essence Approach

Adaptive &

M. E. C. E Innovative

Minimal,

**Diverse, Yet Sufficient
Yet Coherent**

Kernel-Based
Practices

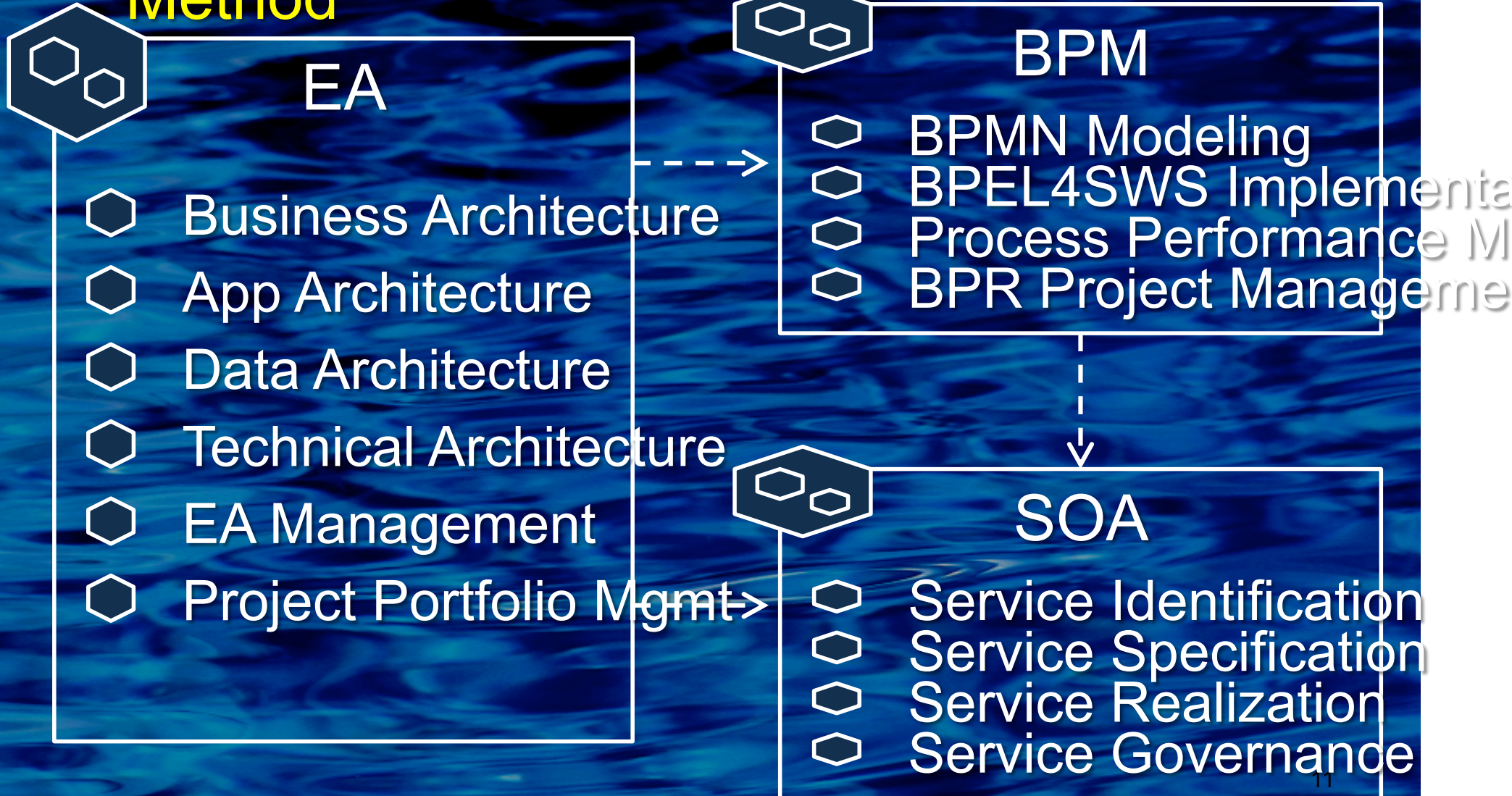
Practices
Integration
into Method
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Methods I
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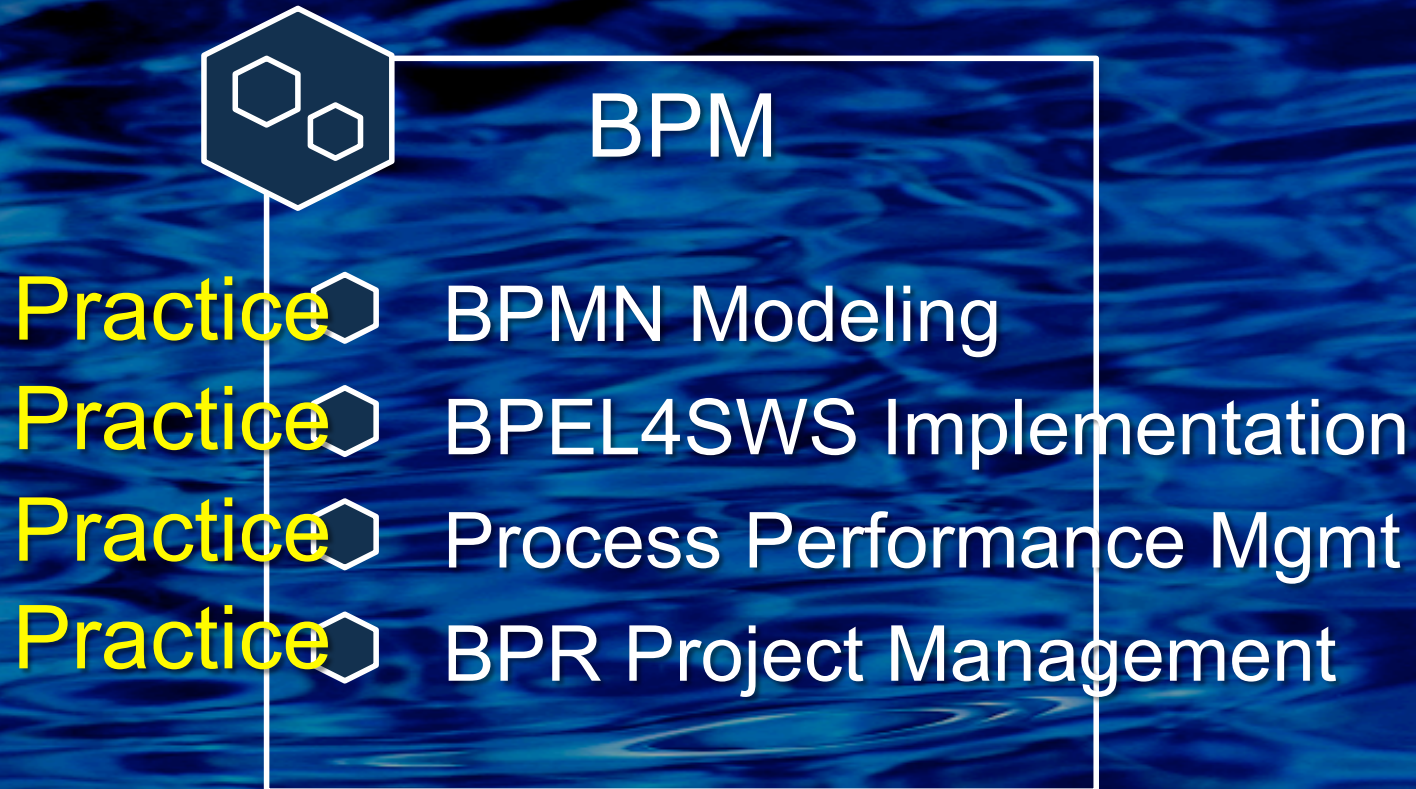
Example EMA

Method



Method

Method



Practice Template

Practice



BPMN Modeling

Kernel
Alphas

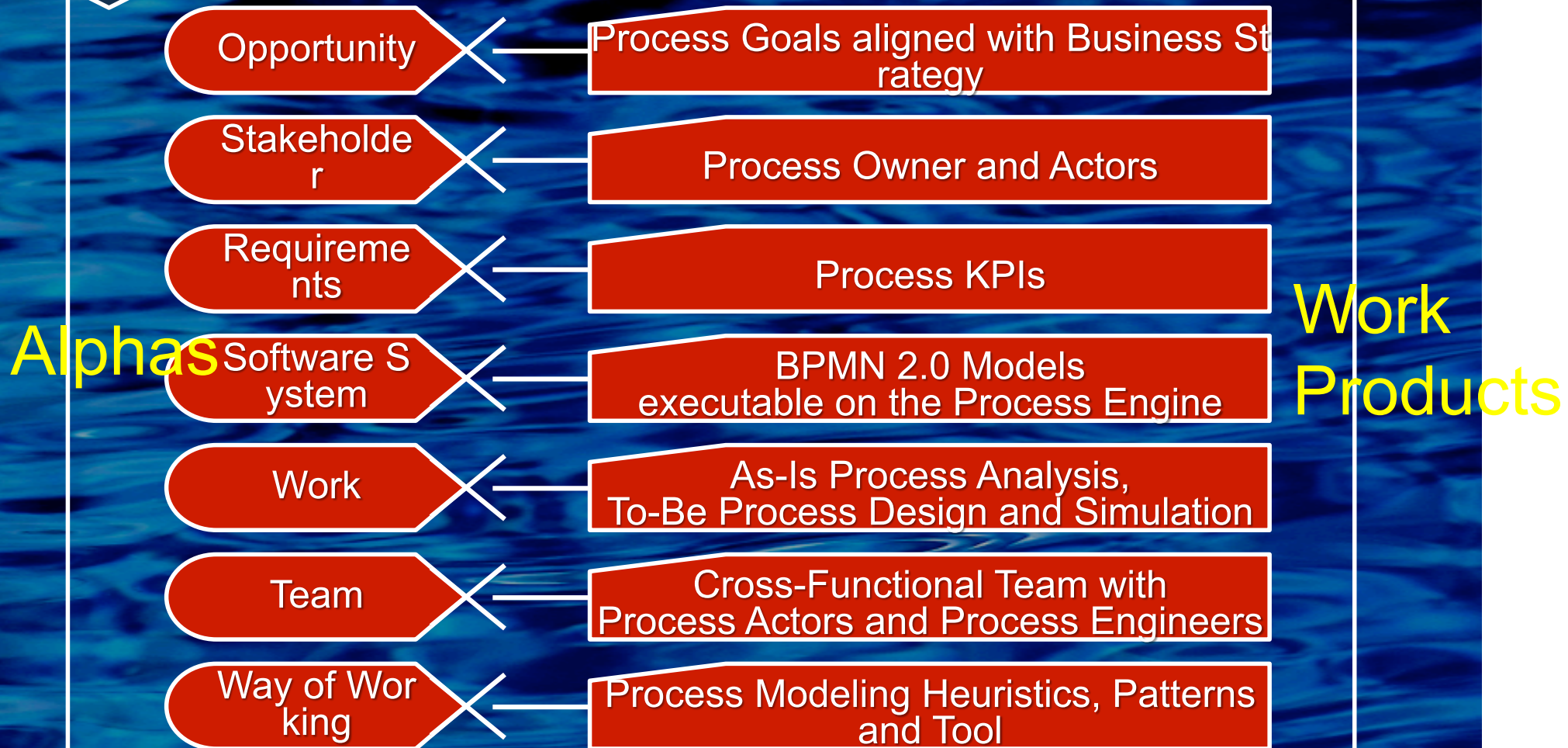


Kernel
Activity
Spaces

Practice Instantiation



BPMN Modeling

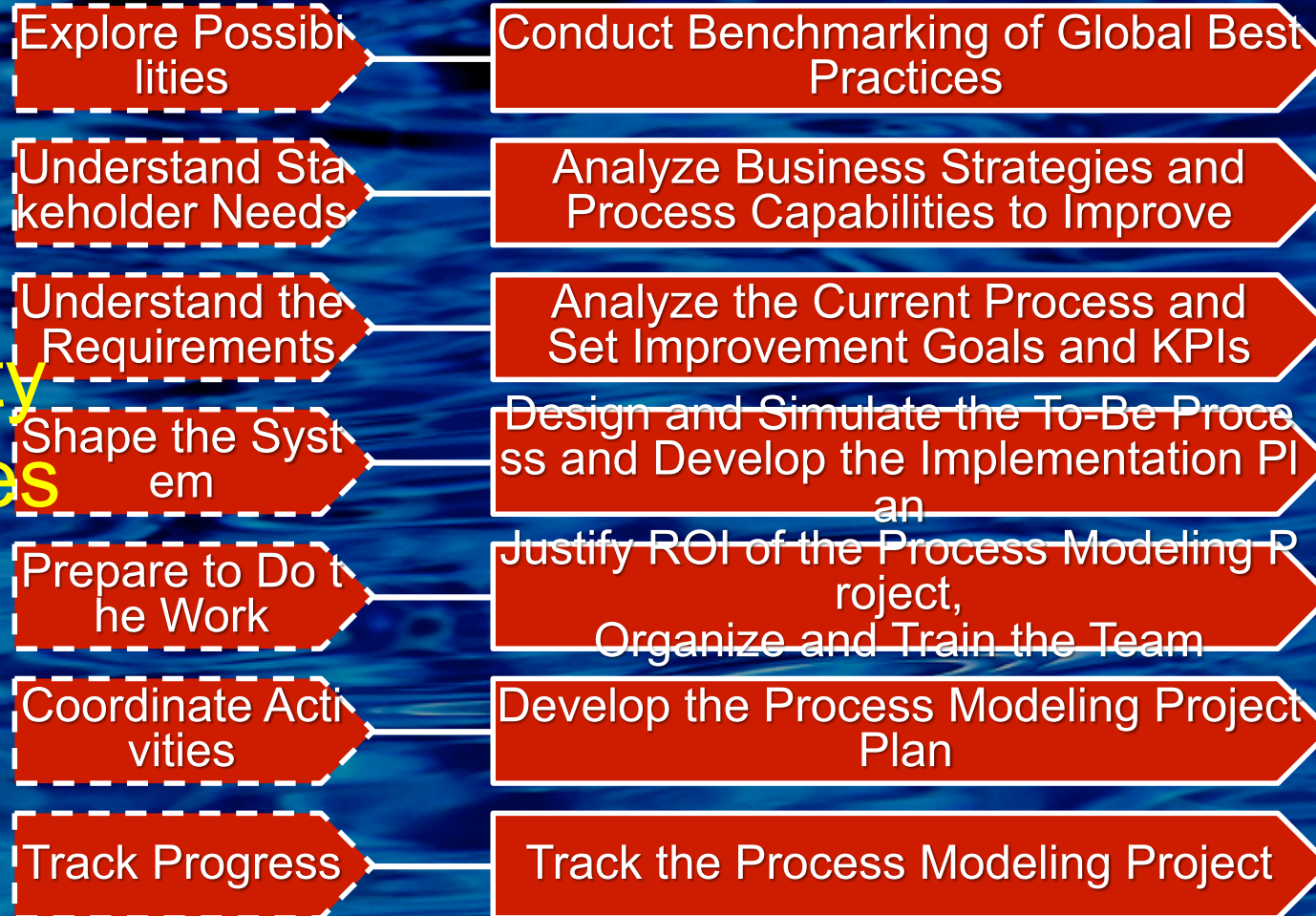


Practice Instantiation



BPMN Modeling

Activity Spaces



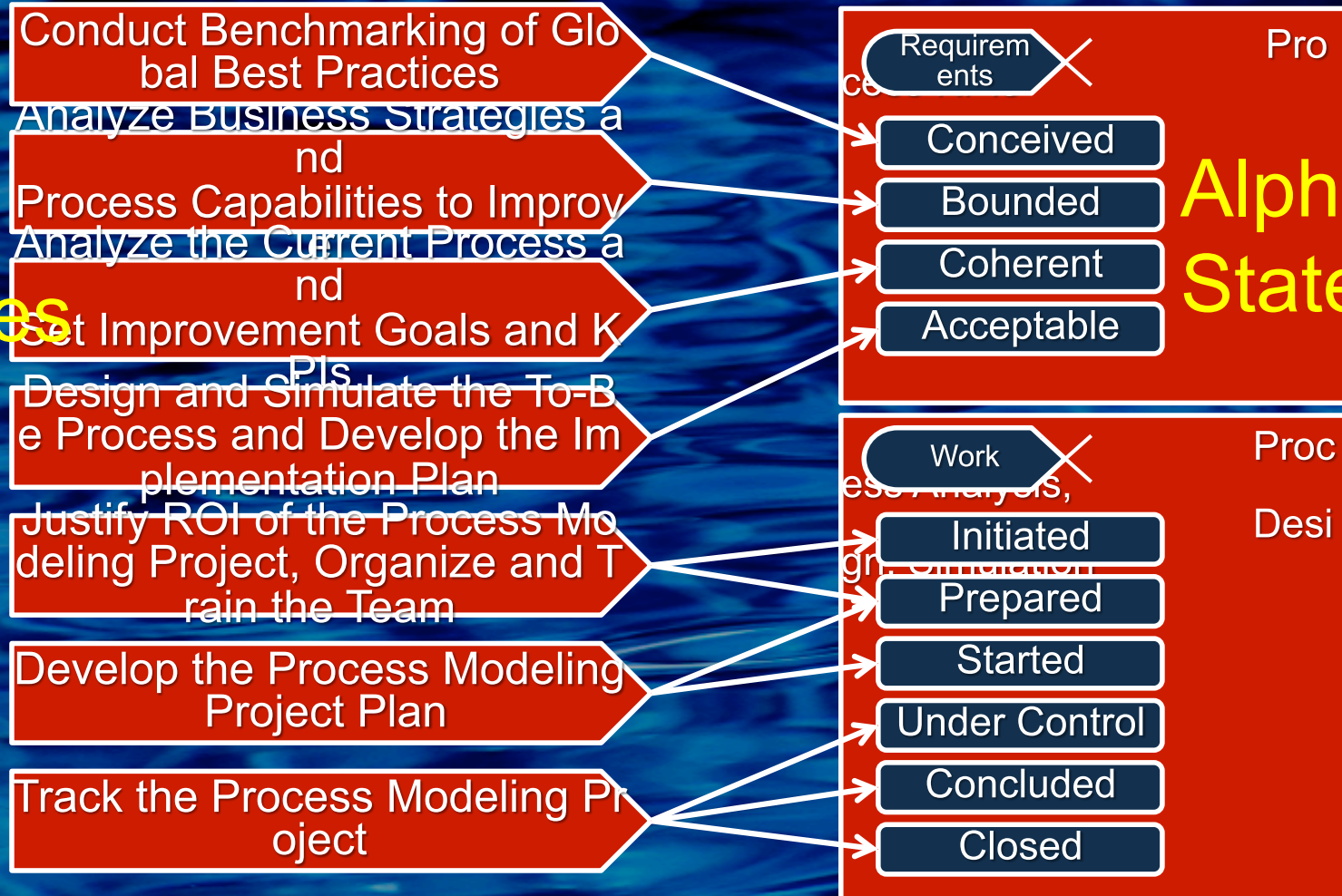
Activities

Practice Instantiation

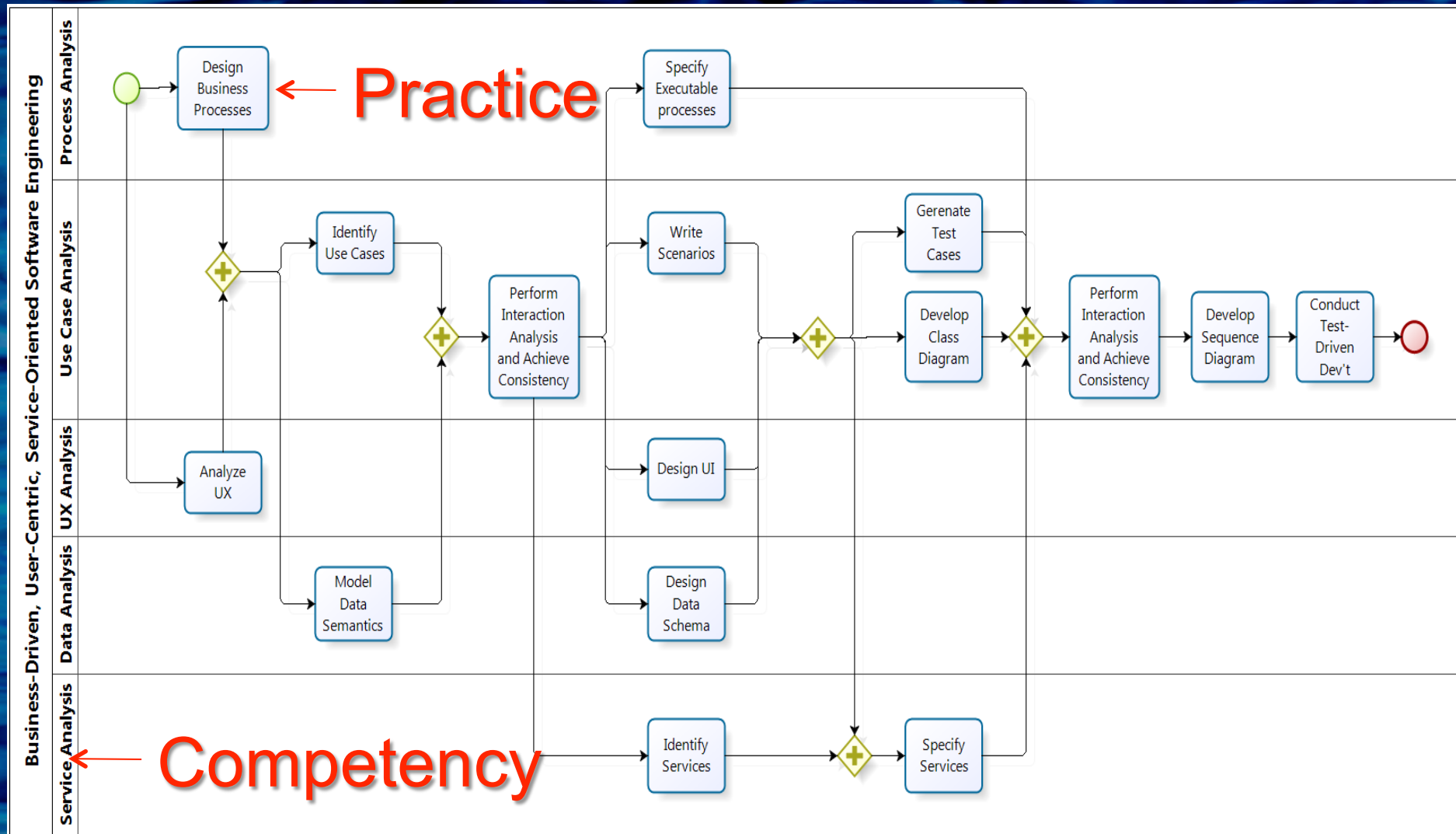


BPMN Modeling

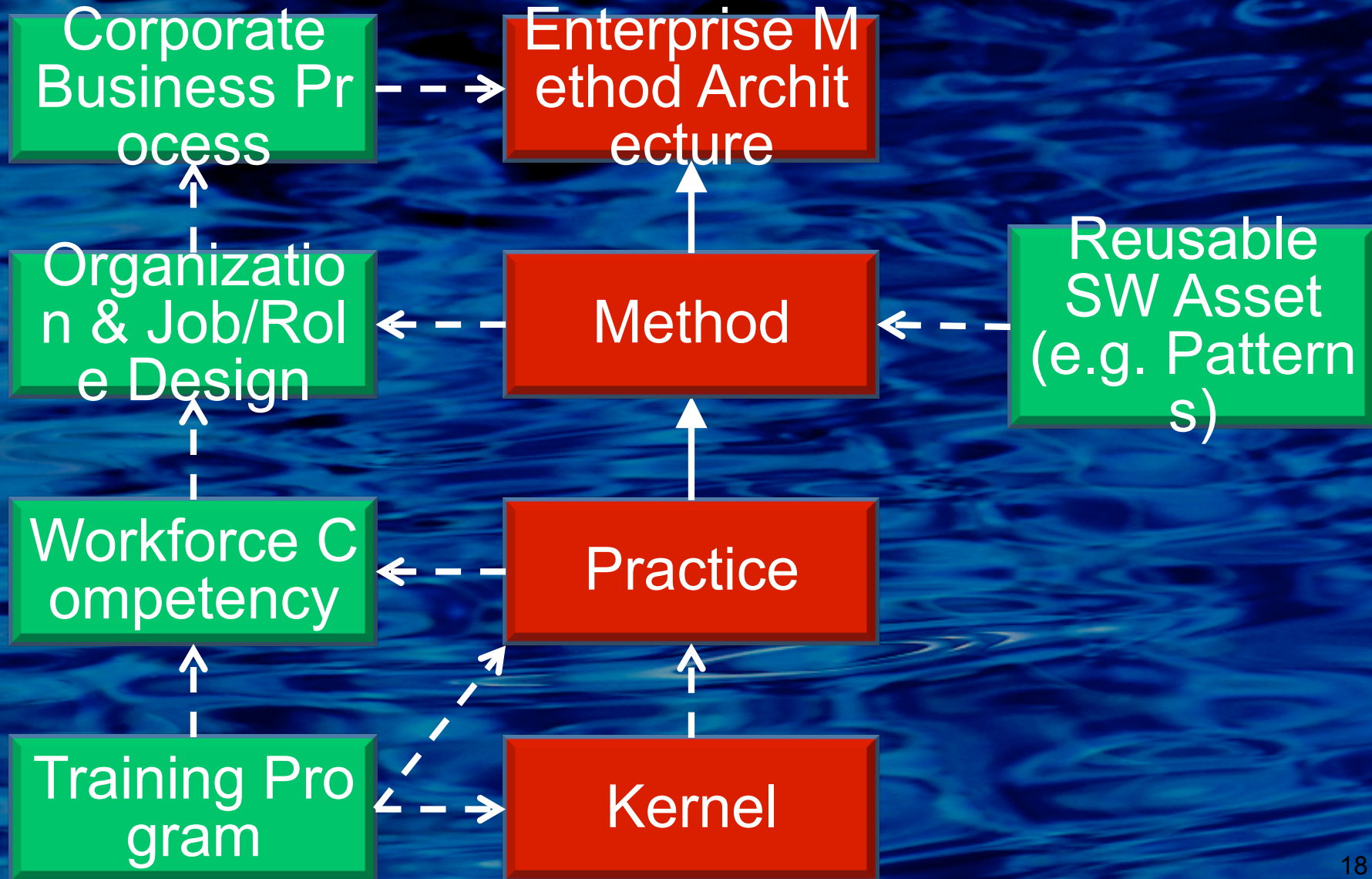
Activities



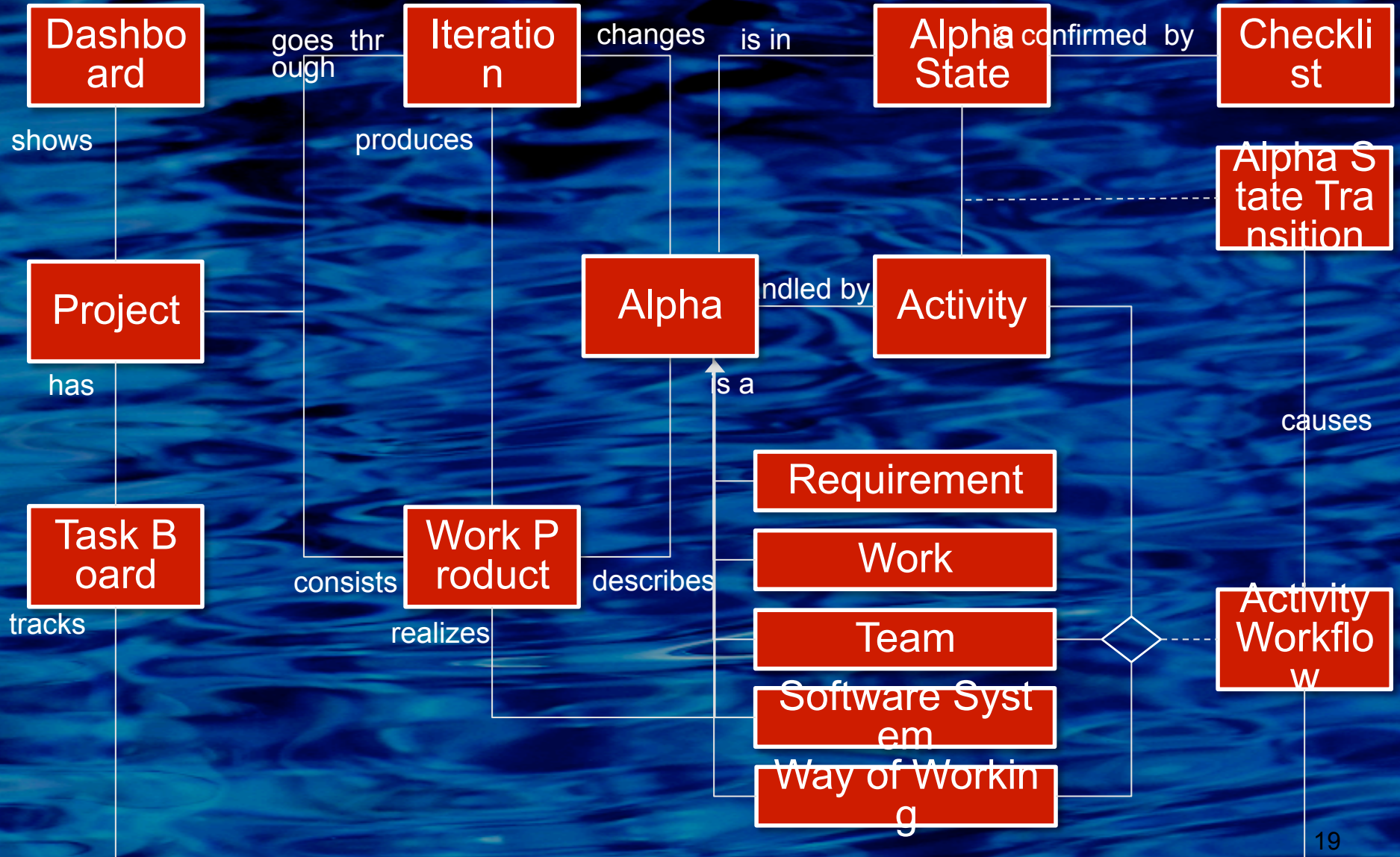
Method Composition



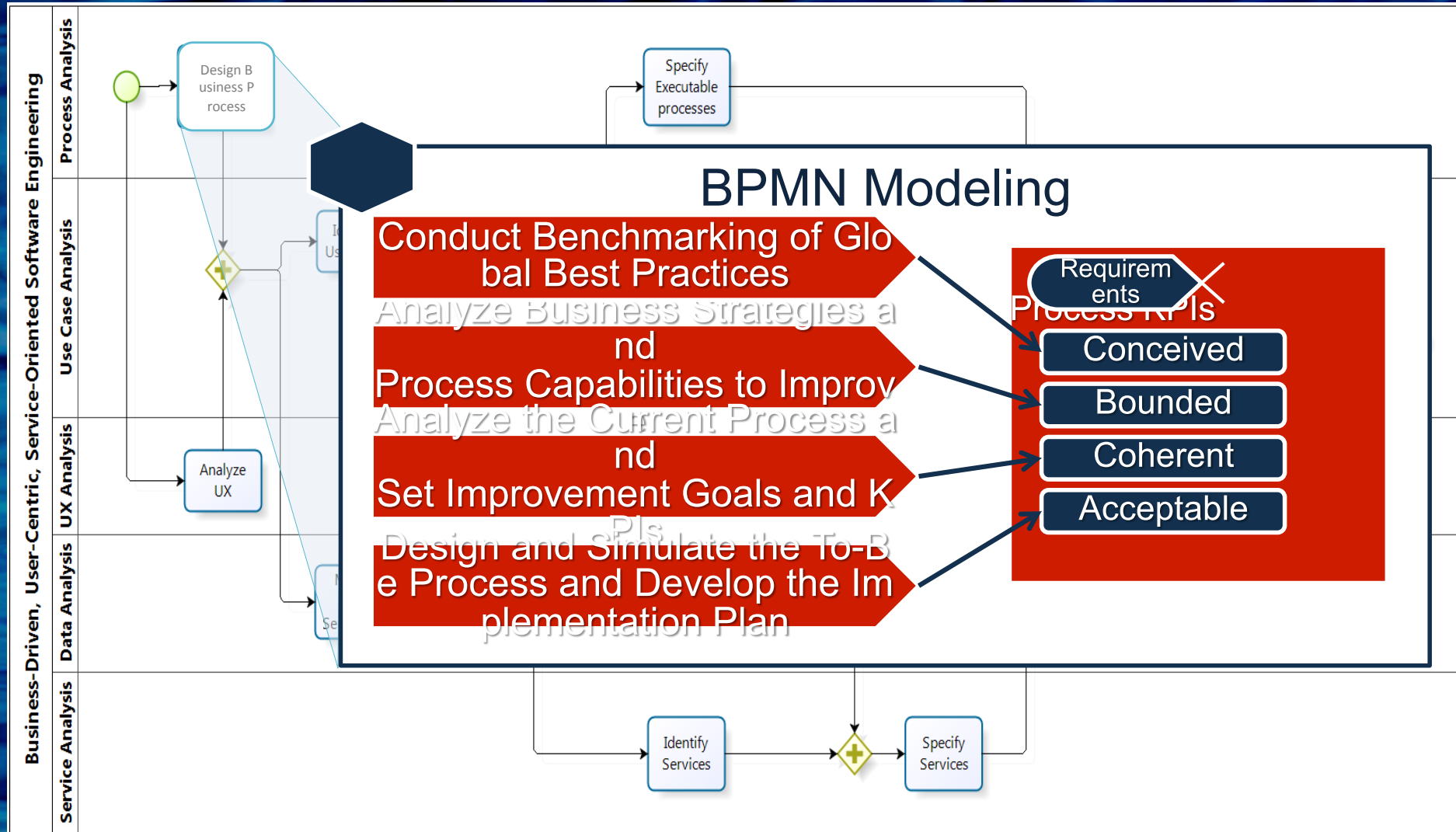
Institutionalization of EMA



Management of Essence-Based Project



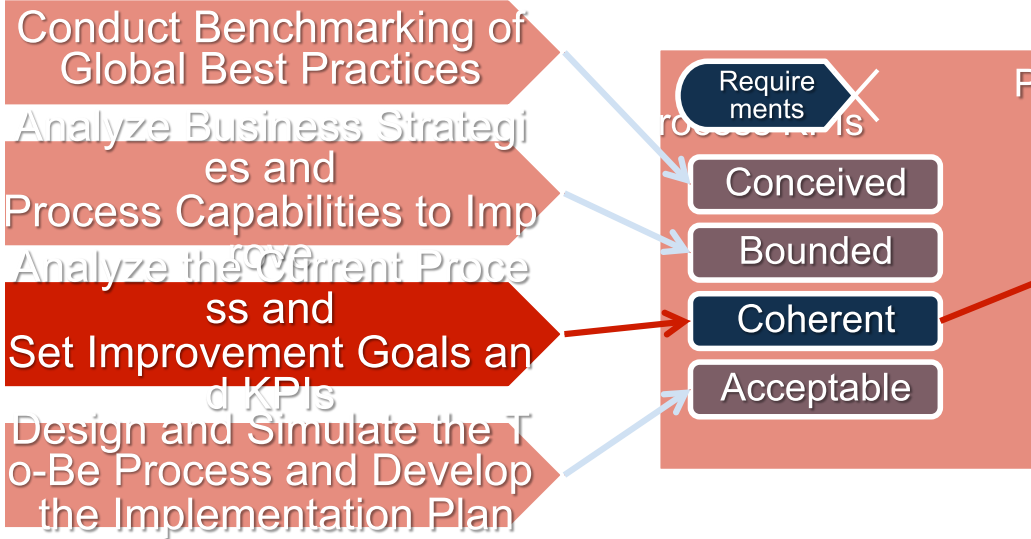
Case Study



Case Study

Design Business Process

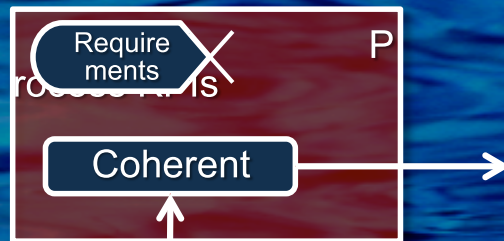
BPMN Modeling



Checklist

- ✓ Process goals are determined.
- ✓ As-Is process is described.
- ✓ Process problems are identified.
- ✓ Root causes of the problems are identified.
- ✓ Process KPIs are defined.
- ✓ Target KPIs are set.

Case Study

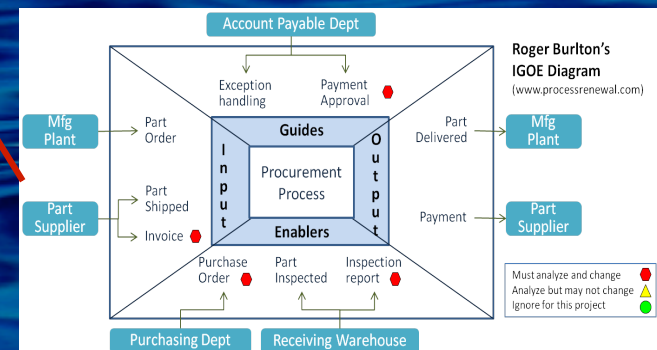
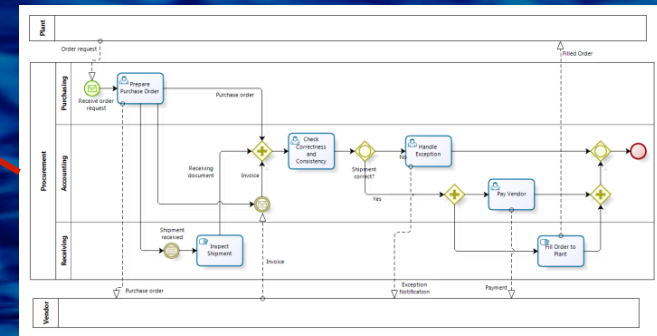


Analyze the Current Process and Set Improvement Goals and KPIs

- ### Checklist
- ✓ Process goals are determined.
 - ✓ As-Is process is described.
 - ✓ Process problems are identified.
 - ✓ Root causes of the problems are identified.
 - ✓ Process KPIs are defined.

✓ Target KPIs are set.

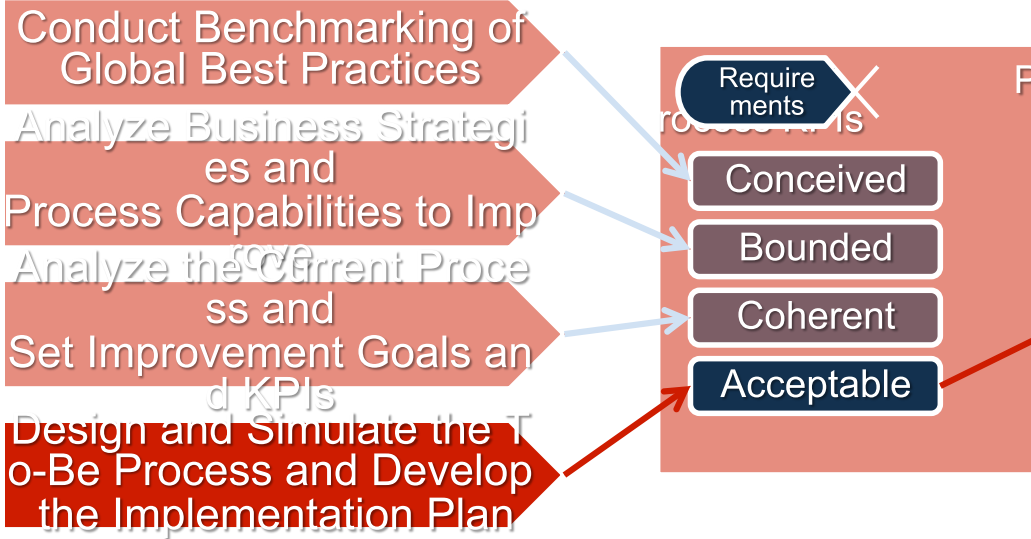
Level 1 Metrics	Performance Attributes				
	Customer-Facing			Internal-Facing	
	Reliability	Responsiveness	Agility	Cost	Assets
Perfect Order Fulfillment (RL.1.1)	✓				
Order Fulfillment Cycle Time (RS.1.1)		✓			
Upside Supply Chain Flexibility (AG.1.1)			✓		
Upside Supply Chain Adaptability (AG.1.2)			✓		
Downside Supply Chain Adaptability (AG.1.3)			✓		
Supply Chain Management Cost (CO.1.1)				✓	
Cost of Goods Sold (CO.1.2)				✓	
Cash-to-Cash Cycle Time (AM.1.1)					✓
Return on Supply Chain Fixed Assets (AM.1.2)					✓
Return on Working Capital (AM.1.2)					✓



Case Study

Design Business Process

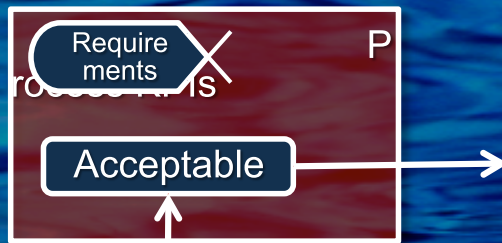
BPMN Modeling



Checklist

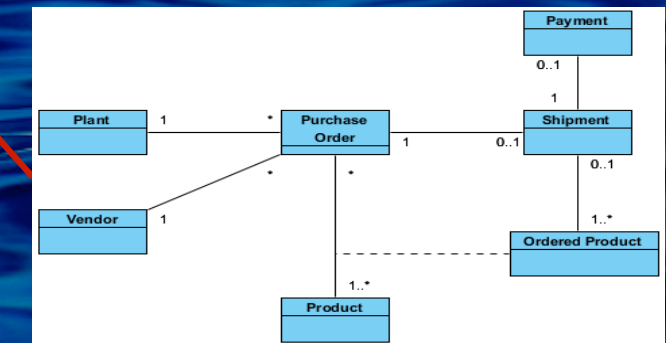
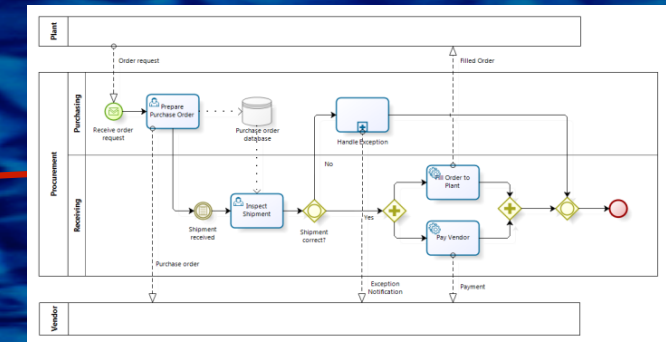
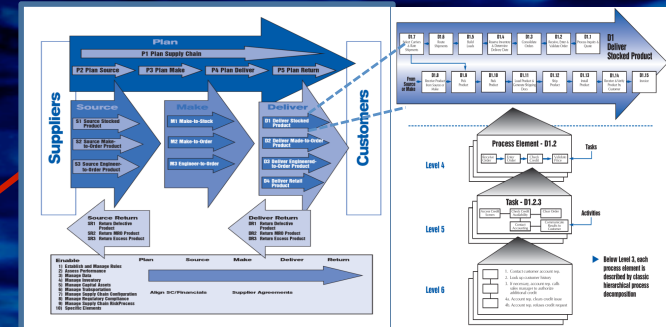
- ✓ Global best practices are analyzed.
- ✓ Industry reference models are analyzed.
- ✓ Applicable BPR patterns are selected.
- ✓ To-Be process is designed.
- ✓ Information requirements are defined.
- ✓ Business rules are specified.
- ✓ Process simulation attains target KPIs

Case Study



Design and Simulate the To-Be Process and Develop the Implementation Plan

- ### Checklist
- ✓ Global best practices are analyzed.
 - ✓ Industry reference models are analyzed.
 - ✓ Applicable BPR patterns are selected.
 - ✓ To-Be process is designed.
 - ✓ Information requirements are defined.
 - ✓ Business rules are specified.
 - ✓ Process simulation attains target KPIs.



- ✓ Organization and jobs are designed

Conclusion

- We need to build a library of practices using the common kernel,
- not just for software engineering, but also for other disciplines essential for business-IT alignment
- We need to develop an easy-to-use tool to compose practices into a method, and a marketplace where global best practices can be traded.
- We need to produce success cases of developing and managing Enterprise Method Architectures based on Essence.
- We need to extend the kernel to accommodate ever expanding use cases and technologies of software.

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Thank YOU!