

# ITEA PO Days 2022

## How to shape your PO

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# Project Outline template

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# Market view

## Market State-of-the-Art (SotA) Analysis

- A market SotA analysis is an analysis of the current market you are aiming at with your solution/innovation
- A market SotA analysis should cover the following topics:
  - Describe the scope of your targeted market in terms of location (national, region, worldwide,..) and targeted type of customers
  - Describe the current existing products or services in the market and what are their strong and weak points
  - Describe who are the main competitors in this market
  - Describe the influencers (regulations, integrators & distributors, ..) of this market

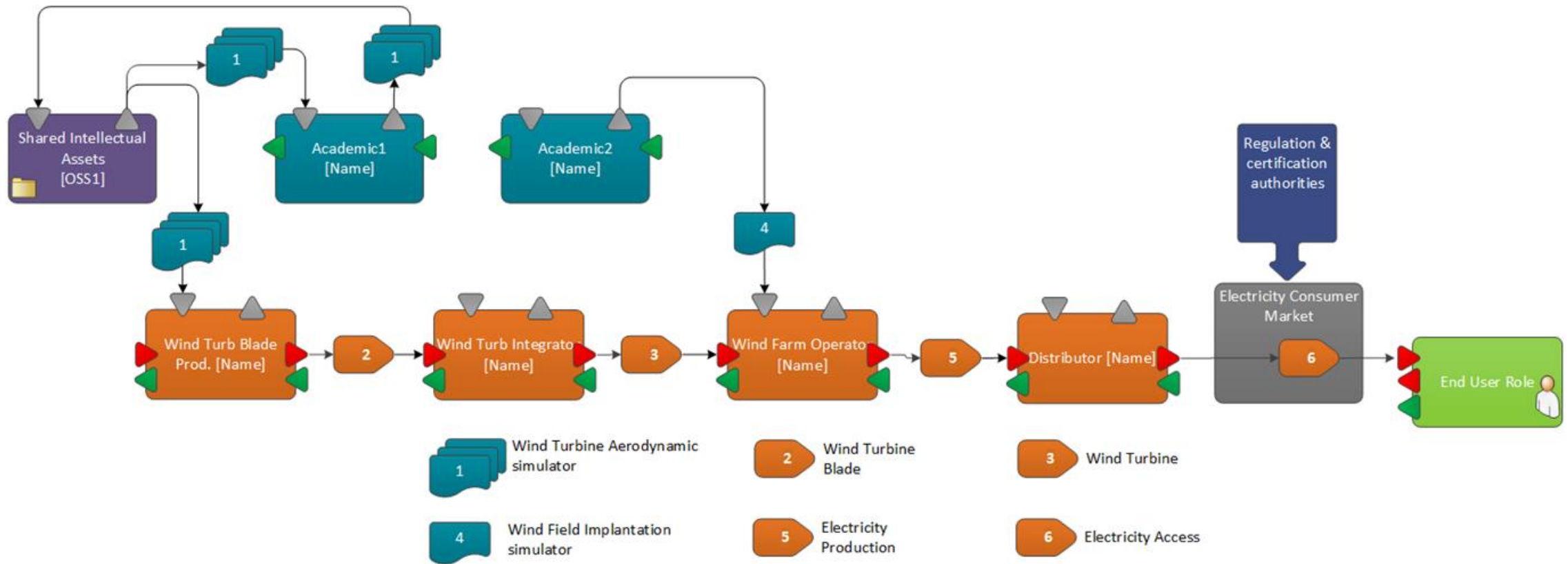
# Market view

## Market value chain analysis

- What is a market value chain?
  - Representation of the various processes producing products or services and delivering them to the market
  - A market value chain diagram shows the different actors in the chain adding value and finally delivering those product or services to the customer/end user
- What is indicated in a market value chain?
  - Where and how value is created and by whom
  - Actors' positionings and relationships and what is the money flow
  - Peripheral actors and factors (e.g. regulations, integrators, distributors, ..) who influence the market(s)

# Market view

## Market value chain diagram



- *Note: A more detailed description of the market value chain analysis is included in the PO template package*

# Technological view

## Solution Concept: Design

informal

- A **solution concept** is an **abstract representation** of your targeted solution
  - A free drawing is ok!
  - Show the targeted **technologies** (e.g. SW, HW, processes, algorithms, repositories, meta-models) as well as the interfaces between them
  - The **organisation** of the technologies show how the unique capabilities provided by that solution concept are delivered

formal

- A **solution concept** also has a more formal representation:
  - A set of **essential properties** of the innovation which have a tangible value for the user
  - A set of **functions** which provide these **essential properties**
  - A set of **technical elements**, invisible to the user, which deliver these functions and that you can trace back and forth with the abstract representation
  - A set of **Dependency Links** between **Essential properties**, **functions** and **technical elements**

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## Solution Concept: Essential property

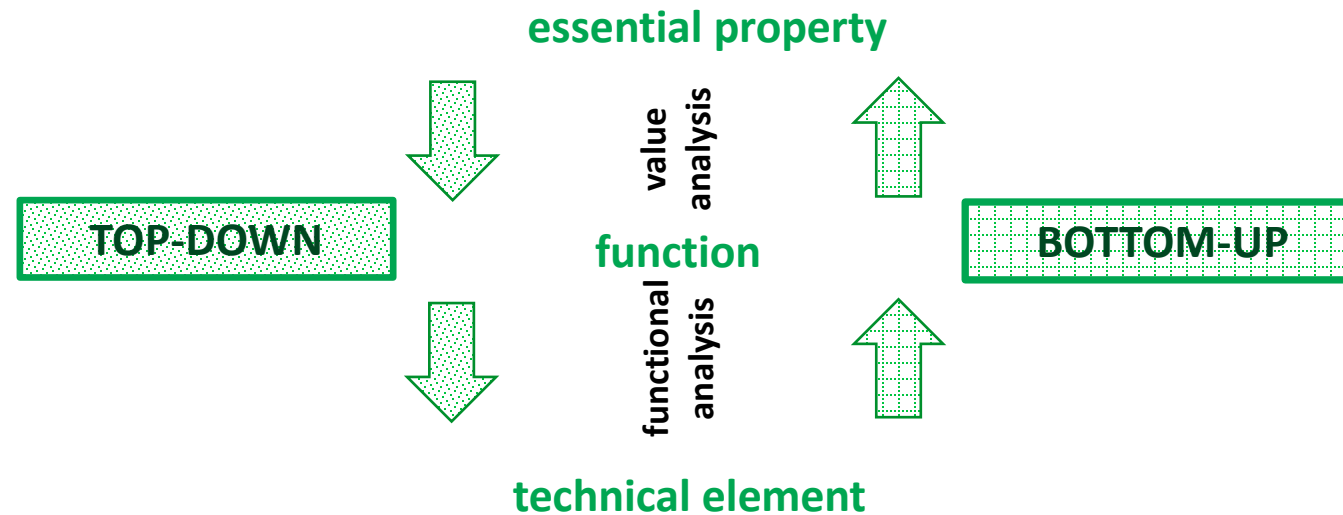
essential properties

- An **essential property** answers positively to the next questions:
  - Is it a **benefit** of the solution concept? Does it have a value for the user?
  - Does this benefit **differentiate** the solution concept from existing ones?
- The clear definition of the essential properties helps to describe a **unique selling proposition** compared to the competition
  - Essential means both a **high value** for the **proposal** as well as for the future **business**

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## Solution Concept: Analysis

- Capturing the **value** of a solution concept with its essential properties occurs in two steps (in **constant bidirectional review & feedback**):
  - by a **functional analysis** and a **value analysis**
  - Does this benefit **differentiate** the solution concept from existing ones?



- The following representation by means of **Suh Matrices** (next slide) will exemplify the logical steps of the analysis



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## Solution Concept: Suh Matrices

Functional Analysis

- The Suh Matrix **FAM** allows the **identification and coupling** of:
  - the **technical elements** of the solution concept – (lines in FAM)
  - the **functions** produced combining technical elements – (columns in FAM)
  - and **which technical elements** contribute to **which functions** – (arrows)

Matrix **FAM**:

<b>FUNCTIONAL ANALYSIS</b>	Function 1	Function 2	Function 3
Technical element 1	↗		↗
Technical element 2	↗	↗	
Technical element 3			↗

Value Analysis

- The Suh Matrix **VAM** captures the **causality links** between:
  - the **functions** – (lines in VAM), as identified in FAM (bottom-up approach) or as directly deduced from the essential properties (top-down approach)
  - and the **essential properties** (columns in VAM), associated to the whole solution and defined from the user perspective as its **tangible benefits**

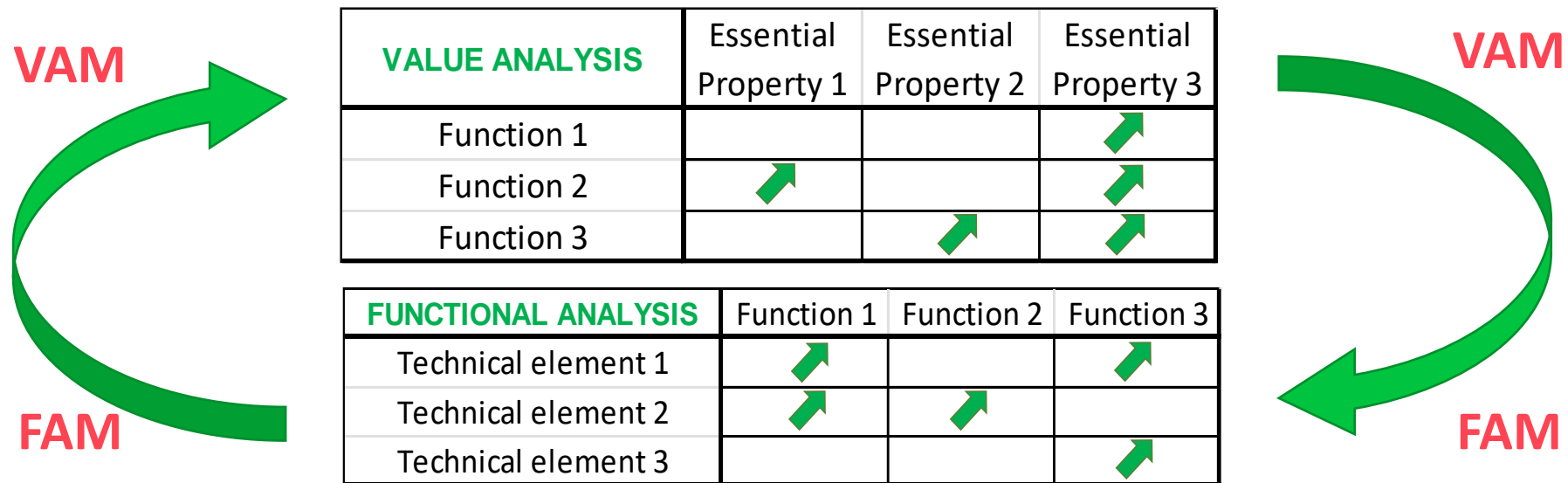
Matrix **VAM**:

<b>VALUE ANALYSIS</b>	Essential Property 1	Essential Property 2	Essential Property 3
Function 1			↗
Function 2	↗		↗
Function 3		↗	↗

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## Solution Concept: Feedback loop

- The links/feedback between the two analysis blocks allow to scope the project, up front and during the whole project lifetime



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## Challenge Portfolio: Design

- **After** formulating the solution concept, it is necessary to **identify the challenges**, technical or scientific, raised by the technical elements and their related functions (s. **FAM**)
- The challenges will be studied and tentatively solved within the project with constant **reference** to the **State of the Art**
- Together they build a **challenge portfolio** whose objectives are
  - to capture the **interdependences** as well as the “**missing links/blocks**” and
  - to design the approach to a **solution/work** path
- The challenge portfolio allows describing and scoping the project’s **scientific ambition** and it can of course include **verification**, **use case** or **demonstrator** descriptions

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## Challenge Portfolio: Description

- Each **challenge** identified within the portfolio needs to be detailed answering the following questions:
  - which are the **technical elements** involved?
  - which are the **functions** involved?
  - which **use cases** is it targeting?
  - **Challenge description**: How/why the involved technical elements, functions and use cases raise that particular challenge? Why is this challenge new w.r.t the state of the art?

Challenge name:	[Name]
Involved technical elements:	[List of technical elements from the solution concept]
Involved functions:	[List of functions from the solution concept]
Targeted use cases:	[List of targeted use cases]
Challenge description:	[Challenge Description w.r.t. the State of the Art]

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## Challenge portfolio: partners contribution

- A final table mapping the challenges and the corresponding partners' contributions will highlight the competences of the latter for the challenges they plan to tackle

Partner	Country	Challenge 1	Challenge 2	...	Challenge n
Partner 1	A	x			x
Partner 2	A		x		x
Partner 3	B	x	x		
...	...			x	x
Partner n	D	x		x	

- Later in the (Full Project Proposal) work packages and task headers include the challenges that they aim to address

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## Solution concept & Challenge portfolio: PO/FPP

- Different representations should be delivered for review during the PO and FPP phases

	WHAT			HOW
	Free style graphical representation & explanation	Functional analysis + Value analysis matrices & explanations	Challenge Portfolio	Work package and task description
PO	X	X	X	
FPP	Revised version (if necessary)			X

*Note:* A more detailed description of the Solution concept and Challenges portfolio is included in the PO template package

# Quantified objectives and quantification criteria

## Key Performance Indicators

- Key Performance Indicators (KPI):
  - Quantify your targeted project output.
  - Represented by three values (Initial, Current, Target)
  - Project management tool: monitor the progress of the targeted achievements
  - Unique selling proposition
- KPIs must be SMART:
  - **S**pecific (the KPI must be unambiguous)
  - **M**easurable (the KPI must be measurable in order to: indicate its progress, prove if the target has been reached and serve as a commercial argument to sell the final solution after the project)
  - **A**chievable (the KPI must be achievable by the current consortium)
  - **R**elevant (the KPI must demonstrate the uniqueness of the project results)
  - **T**imely (the KPI must be achievable within the project's time frame)

# Quantified objectives and quantification criteria

## Key Performance Indicators types

Three important types of KPIs:

- Key innovation-related KPIs
- Unique selling proposition KPIs
- Progress on market access KPIs



# Thank you!



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