Agile Project management – Tor Vergata University

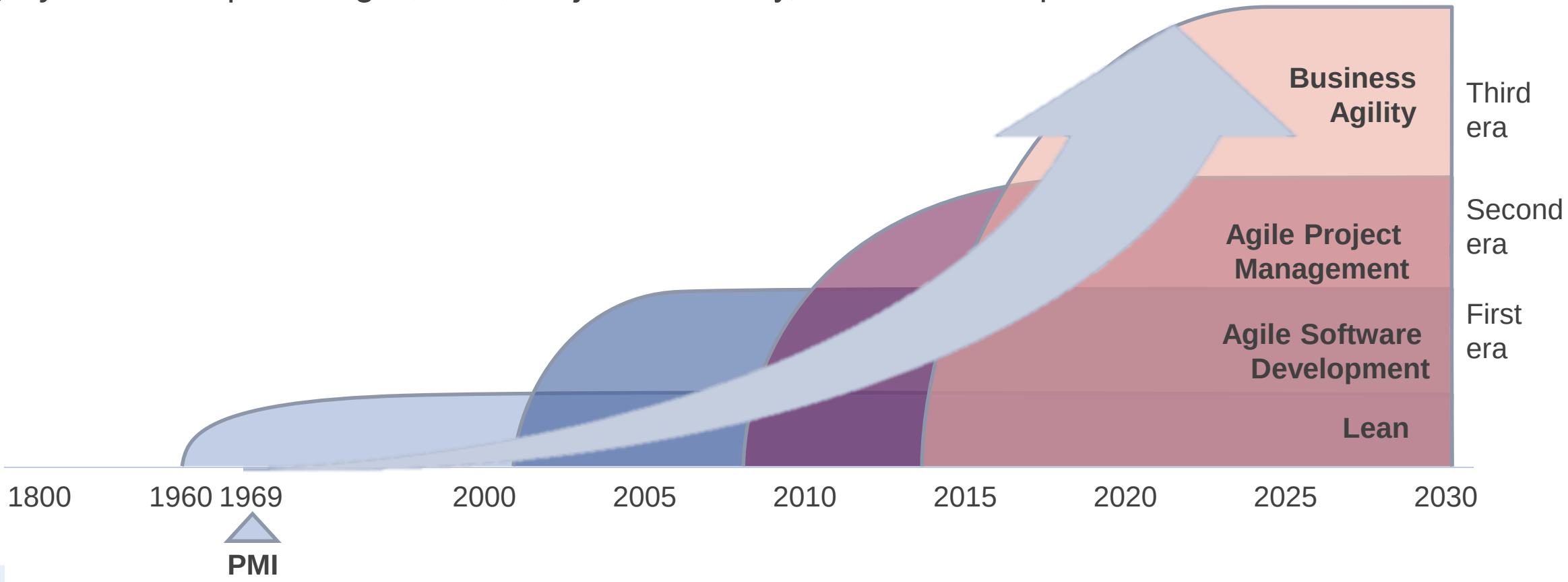
May 2021

Agility

The three eras of Agility

Agility started in 2001 with the Agile Manifesto that included some features coming from Lean (automotive production).

PMI started speaking on agility in the Software Extension of the PMBoK (2014), moving faster to the agility with Discliplined Agile, Flex, Project Economy, Citizen Development……



Agile started from Lean

5 lean manufacturing principles that can be considered Agile:

- Specify the value from the perspective of the end customer by product family.
- Identify all steps in the value stream for each product, eliminating those steps that don't create value whenever possible.
- Make sure that the steps of value creation happen in a tight sequence, so that the product flows smoothly to the customer.
- With the introduction of flow, customers can receive value in every business.
- Repeat the continuous improvement process until you reach a state of perfection where perfect value is created with no waste.

Lean techniques are also Agile:

- Constant pace of activities dictated by customer demand (JIT - Just In Time);
- 5S technique (classification, order, brilliance, standardization, support)
- Continuous and efficient management of information (the flow of information plays a fundamental role
- in lean manufacturing);
- A3, using only one side of the paper to develop a structured troubleshooting process.

From Lean to Total Quality Management

UNI EN ISO 9004:2000 (and 9001:2008) defines 8 principles for Quality management:

1. Customer orientation
2. Leadership
3. People engagement
4. Process approach
5. Systemic approach to management
6. Continuous improvement through: updating, relationship with the customer, little improvement where possible, process control, innovation.
7. Decisions on facts: sales analysis, statistics and marketing analysis, customer feedback, macro and micro economic indicators.
8. Win win relationships with suppliers.

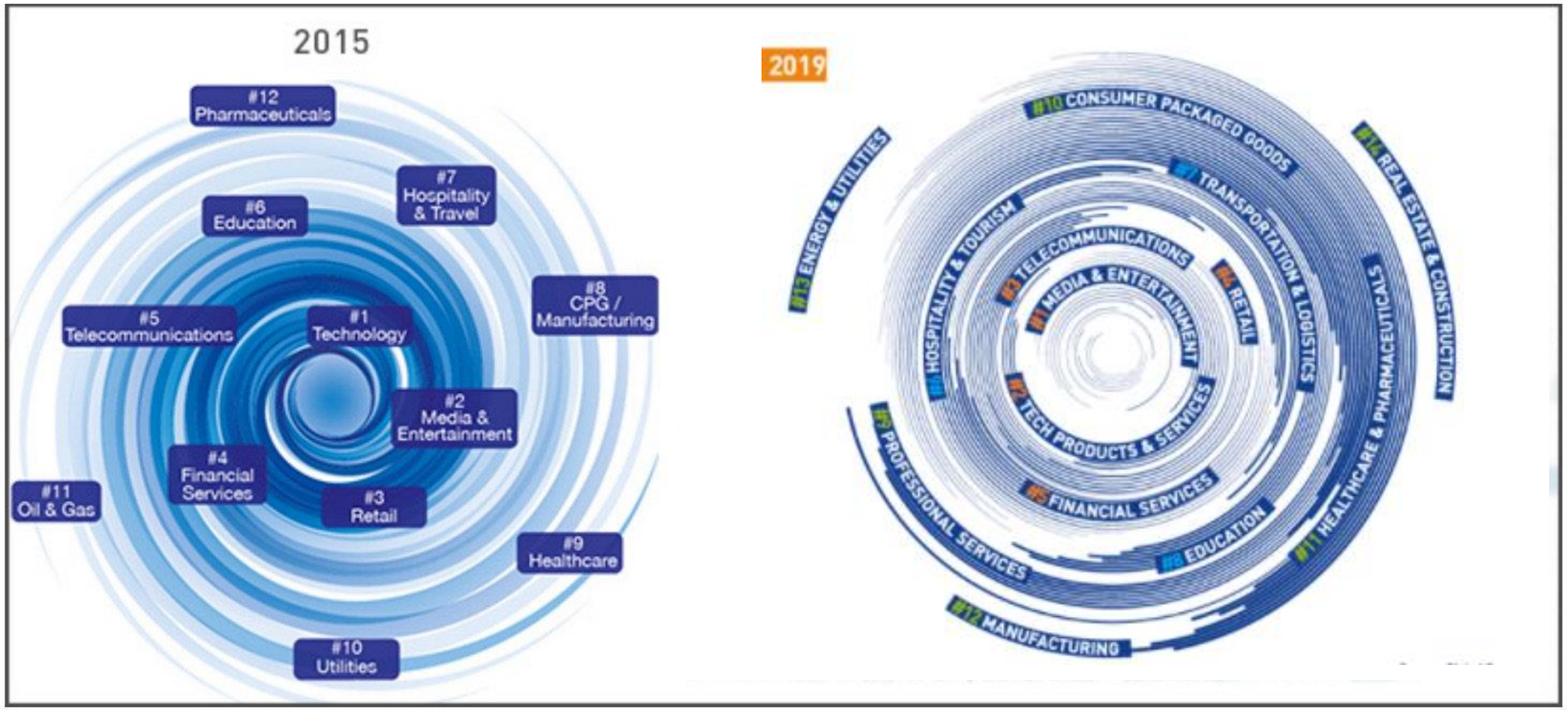
Quality is not only control……

- Focus on value (Customer orientation)
- Total Quality Management
- Lean Implementation
- Six Sigma

Motorola produced using Six Sigma

Digital vortex

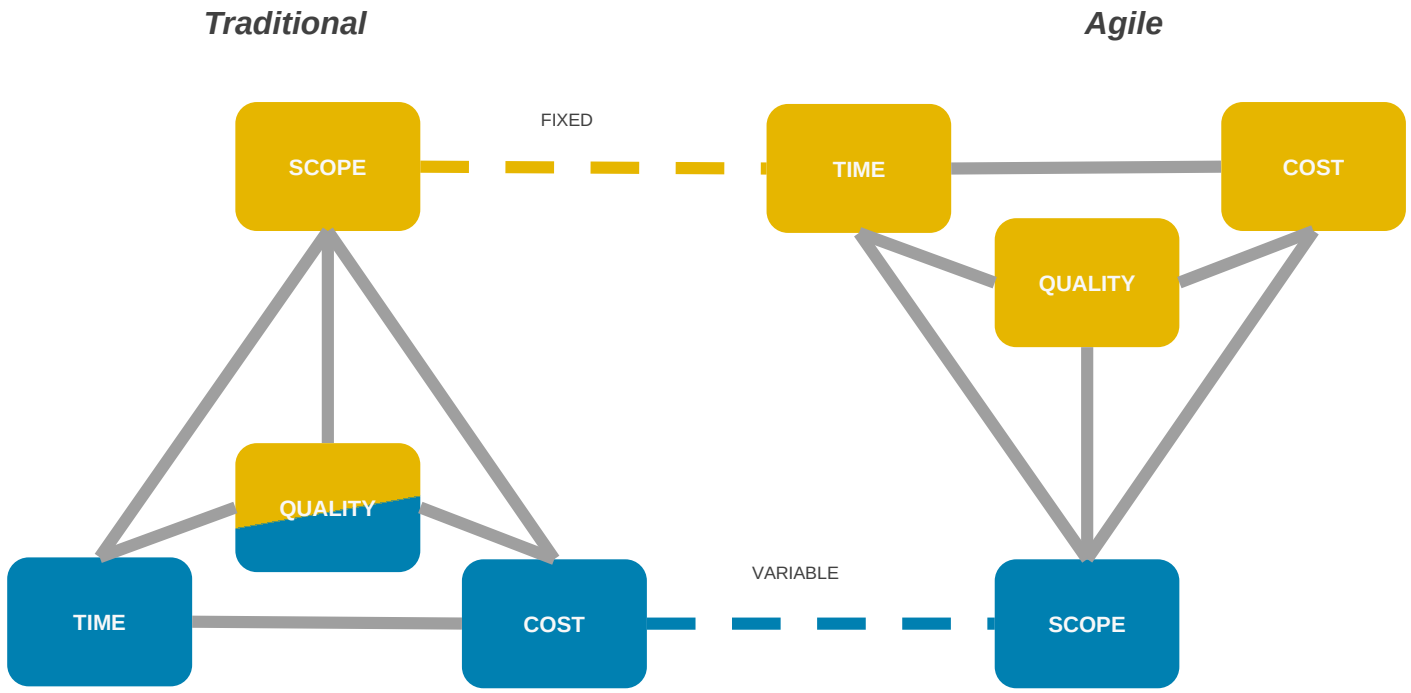
The digital transformation is changing the competitive rules of all markets very rapidly.



The change of the paradigma

Agile change the iron triangle

Focus is on Time and Costs



What is a project

A project is a temporary initiative undertaken to create a product, service or result with unique characteristics.

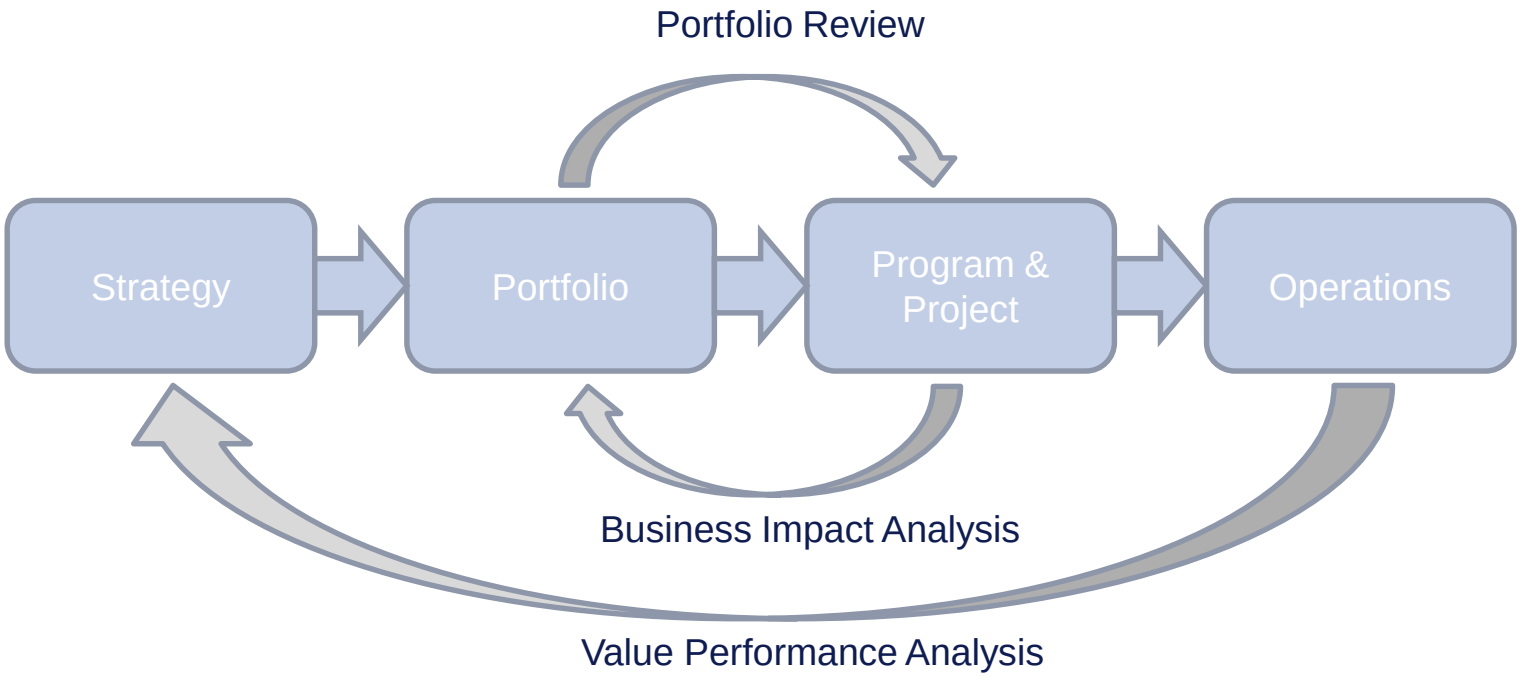
Keywords are:

-**Temporary.** The project must necessarily have a defined beginning and end. The temporary term does not necessarily indicate a short duration, some projects can last for many years.

-**Uniqueness.** Each project creates a unique product, service or result. There is therefore a profound difference between the industrial production of automobiles, for example, and the creation of a single product, for example the assembly line to produce them.

Organizational Project Management

The relationship between a project, program and portfolio can follow a process that arises from corporate strategy and can end in operations.

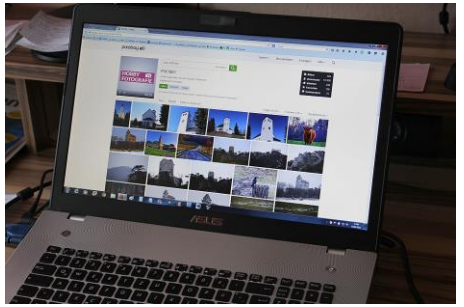


Types of project life cycle

Predictive life cycles, in predictive life cycles (also known as "fully plan-driven") the scope of the project, the times and costs required to carry it out are determined as soon as possible. Predictive life cycles are usually preferred when the product to be supplied is known, when there is a substantial basis of industry practice.

Iterative and incremental life cycles, are the cycles in which the project phases (also called iterations) intentionally repeat one or more project activities while the understanding of the product by the project team increases. Iterative and incremental lifecycles are usually preferred when an organization has to manage changing goals and scope, to reduce the complexity of a project, or when partial delivery of a product is beneficial to stakeholders.

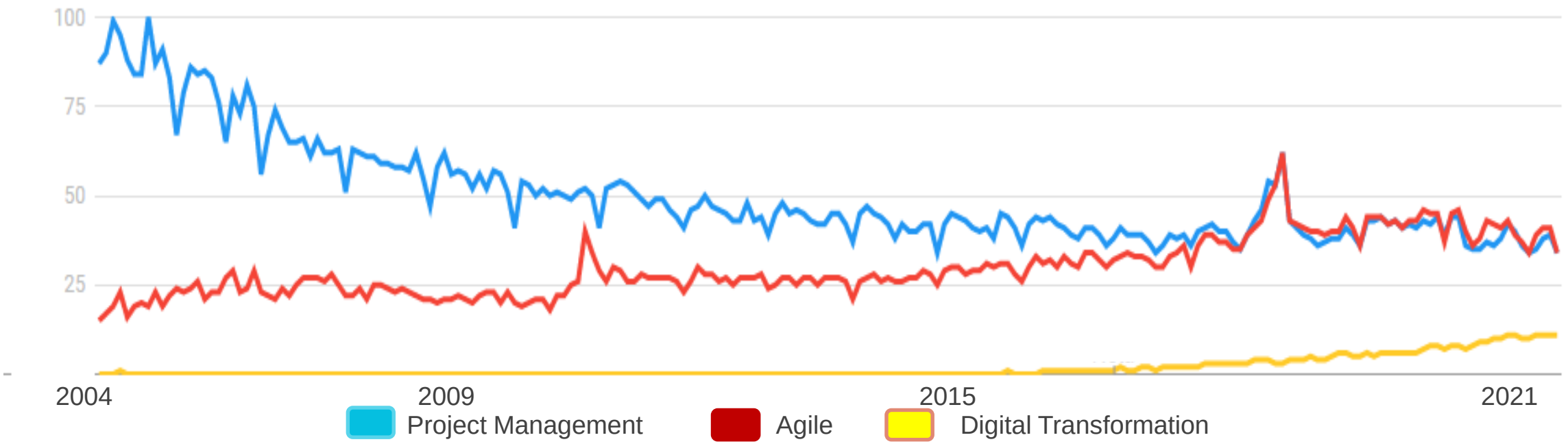
Adaptive and Agile life cycles, also known as “change-driven” or “agile” methodology, are aimed at responding to the high levels of change and the continuous involvement of stakeholders. Adaptive methodologies also have an iterative and incremental character but differ in that the iterations are very rapid (generally with a duration of 2-4 weeks) and involve fixed times and costs. Adaptive methods are usually preferred when dealing with a rapidly changing environment, when requirements and scope are difficult to define in advance, and when it is possible to define small incremental improvements that will provide value to stakeholders.



Project management, Agile and Digital Tranformation on Google

New technologies promote a Digital Tranformation.
Project management can drive Digital Transformation.
Agile ensure the adaptability.

Project management requires agility in un uncertain world.



** Source Google Trends 06 April 2021- https://trends.google.it/trends/*

Project management to support business Agility

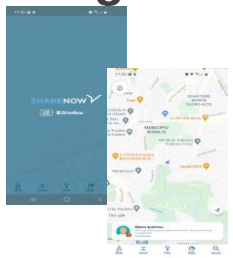
A lot of companies apply Business Agility. Daimler and Lego are an example.

DAIMLER

First Automobile

Mercedes Benz W136

Car2go ChangeNow



My Taxi FreeNow

1885 — 1932 — 1936 — 1949 — 2008 — 2009 — 2014 — 2017

LEGO

First toy

Plastic brick

Lego Movie

Lego app

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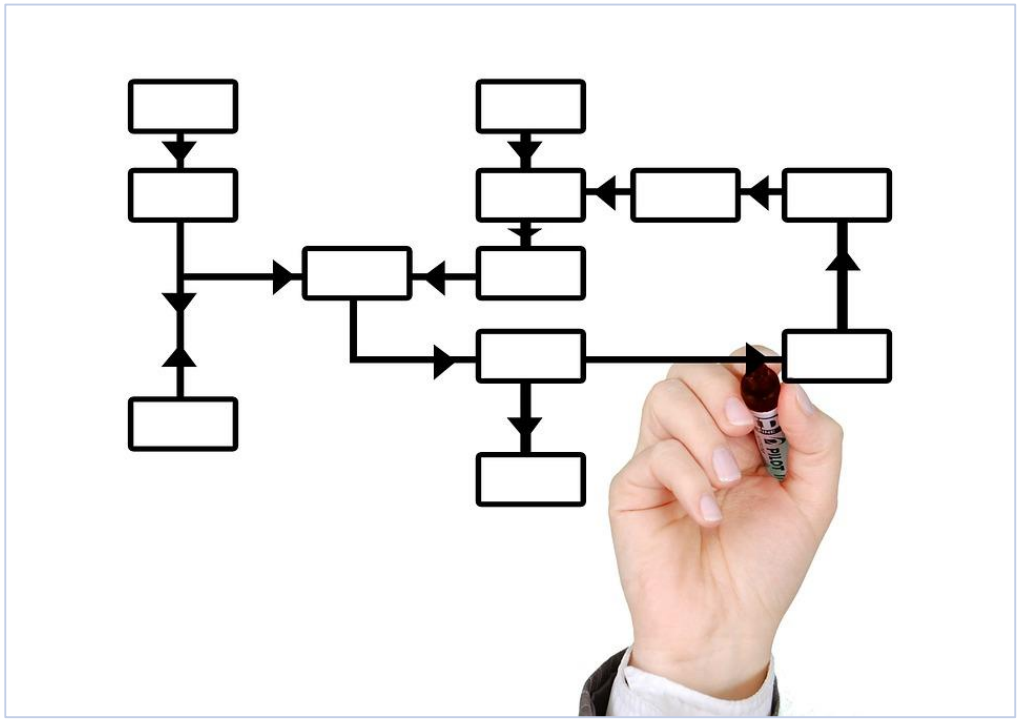
Enterprise Agility - Organization Vs Entrepreneurship

A company performing Business Agility requires a balanced mix of:

- Organization and Process to ensure stability
- Entrepreneurship and Adaptability to create innovation



Organization and Stability

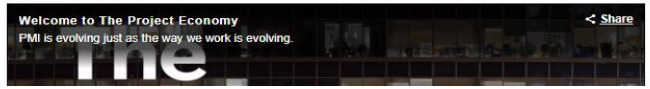
Entrepreneurship and Innovation

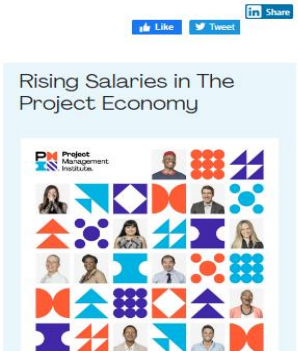
Project economy and Citizen Develpoment

Drive Success in a World of Change

The Project Economy is one in which people have the skills and capabilities they need to turn ideas into reality.

It is where organizations deliver value to stakeholders through successful completion of projects, delivery of products, and alignment to value streams. And all of these initiatives deliver financial and societal value.





https://www.pmi.org/the-project-economy

https://www.pmi.org/citizen-developer

Agile Frameworks

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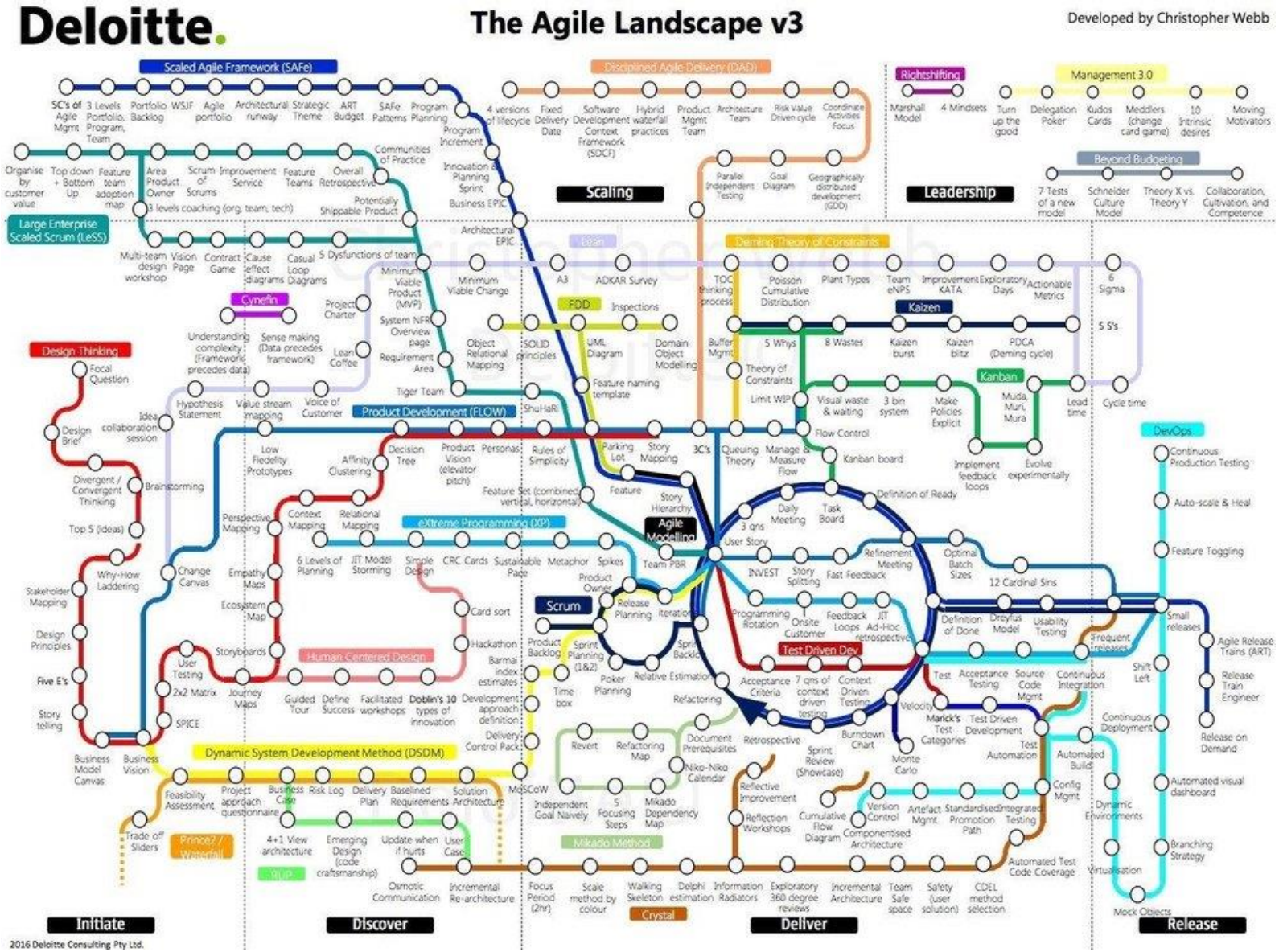
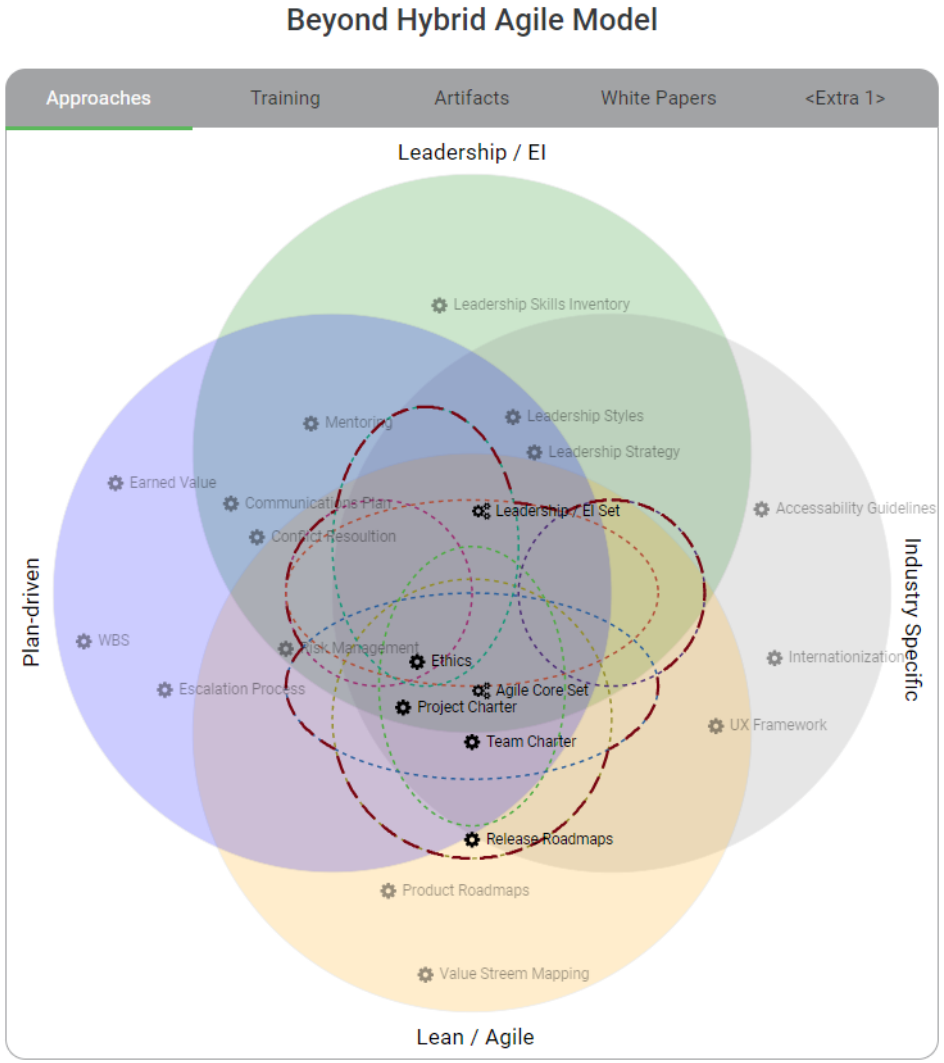
Deloitte Agile landscape



Beyond Hybrid Agile



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Choose Model: Complex

Project Characteristics

Team Size
1 | 10 | 30 | 100 | 200+

Team Member (In)Experience
10+ Years | 5-10 Years | 2-5 Years | 0-2 Years

Lean / Agile Adoption
Low | Low to Medium | Medium | Medium to High | High

Requirements Uncertainty
5% | 20% | 25% | 35% | 50%+

Project Criticality
Time | Medium funds | High funds | Single Life | Multiple Lives

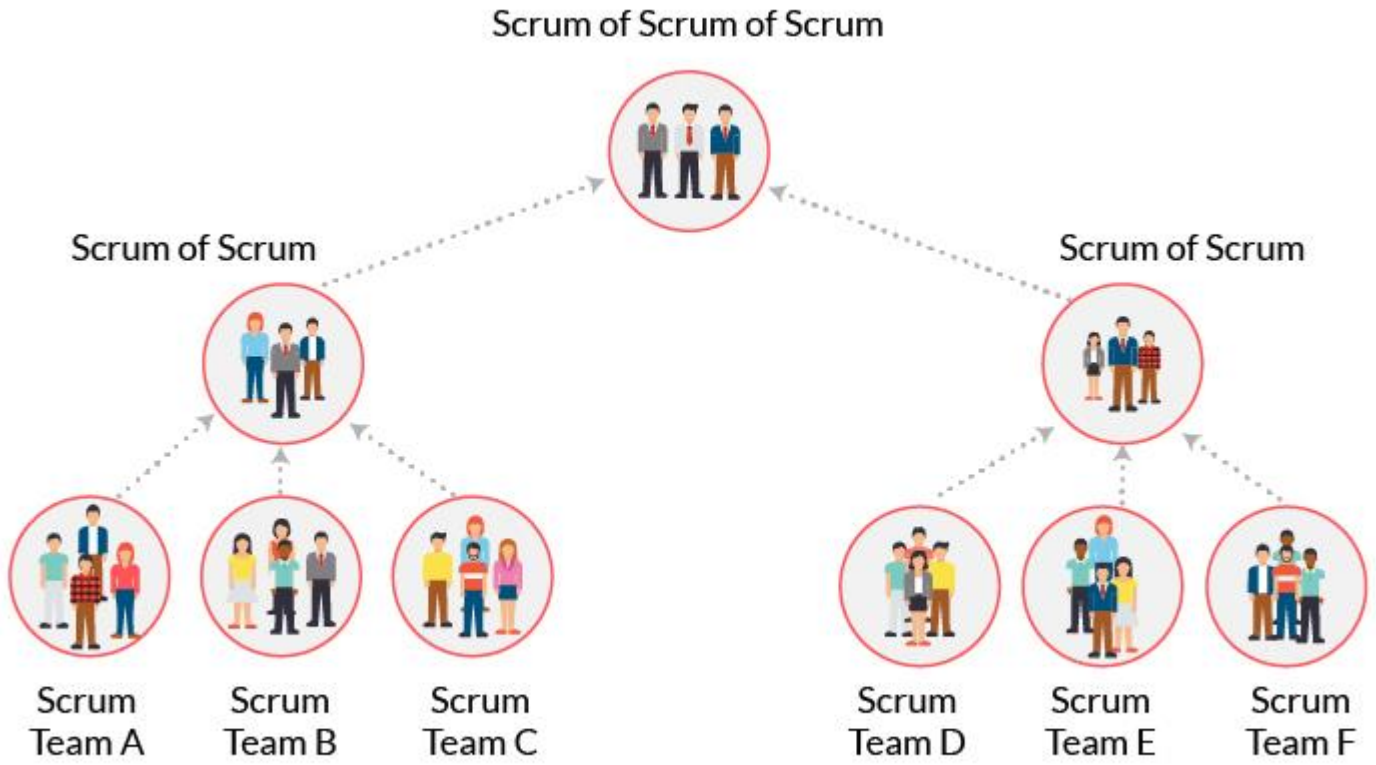
Client View of Change
Open | Somewhat Receptive | Cautious | Avoiding

Industry Focus
Not Industry specific | Somewhat Industry focussed | Industry Focussed

(979, 271)

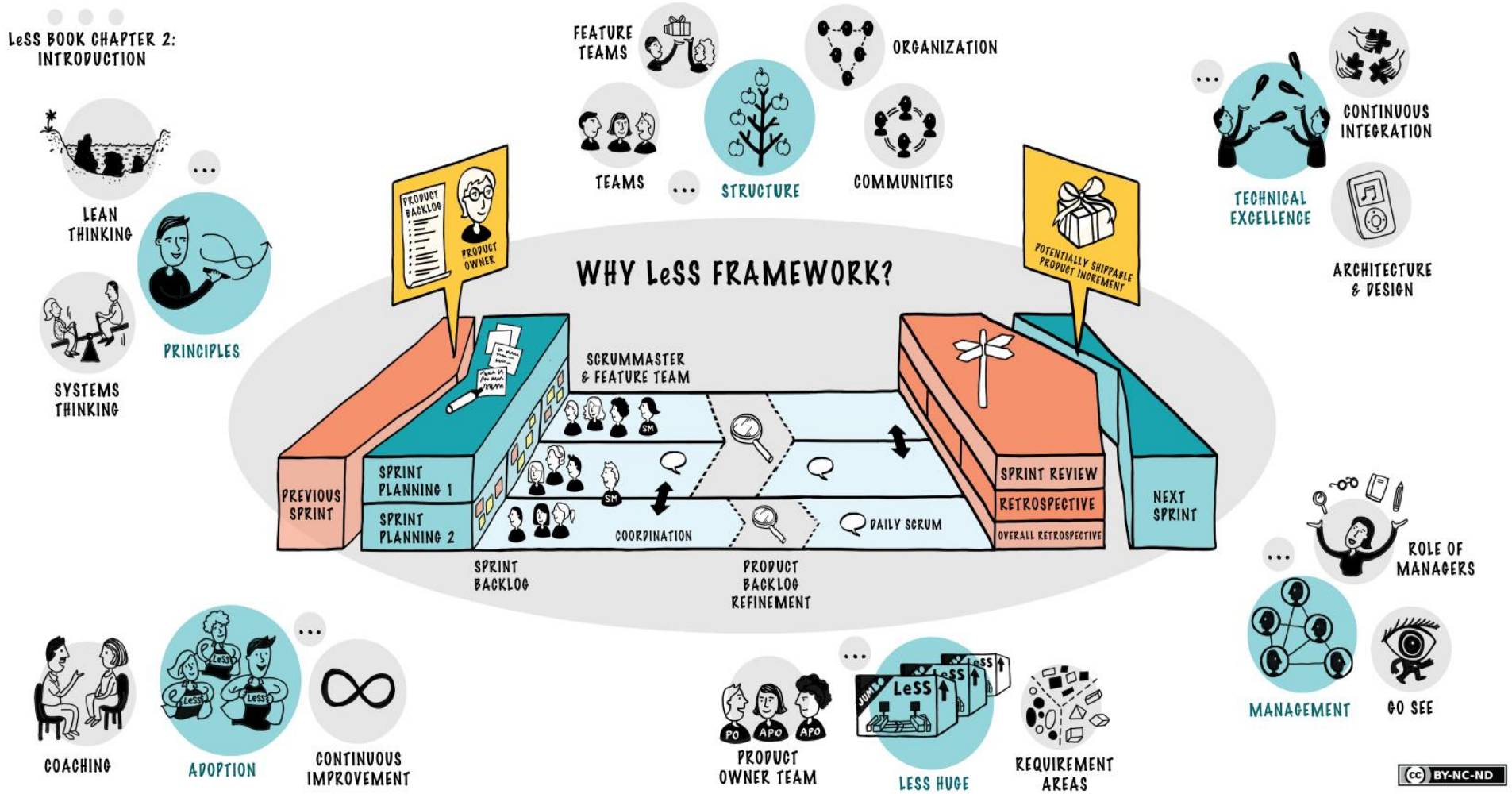
Scrum of Scrum

Scum of Scrum is an easy way to expand the Scrum approach, proposed by Jeff Sutherland in 2001.



Large scaled scrum (LeSS®)

Described in 2013 by Craig and Bas.



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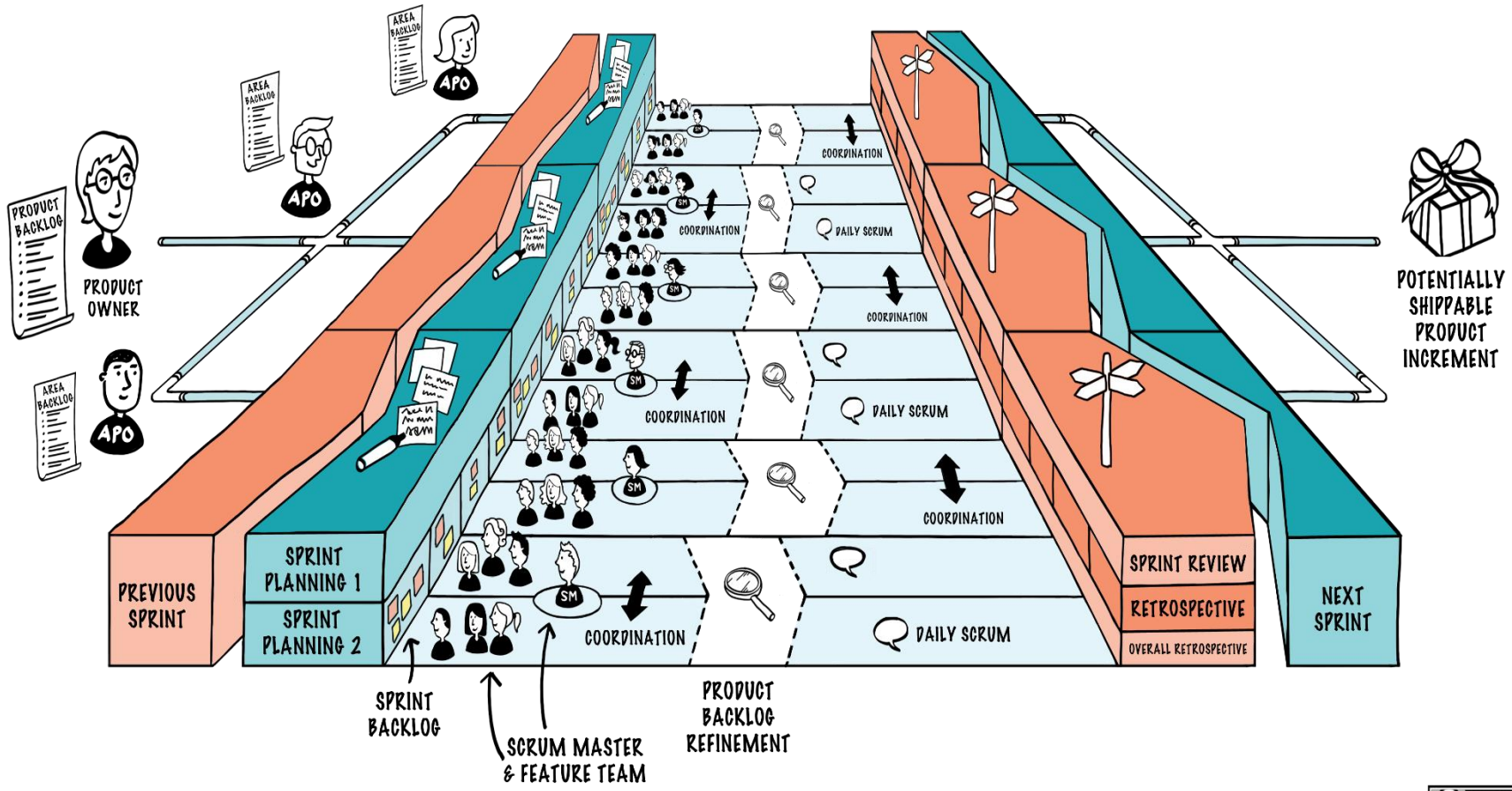
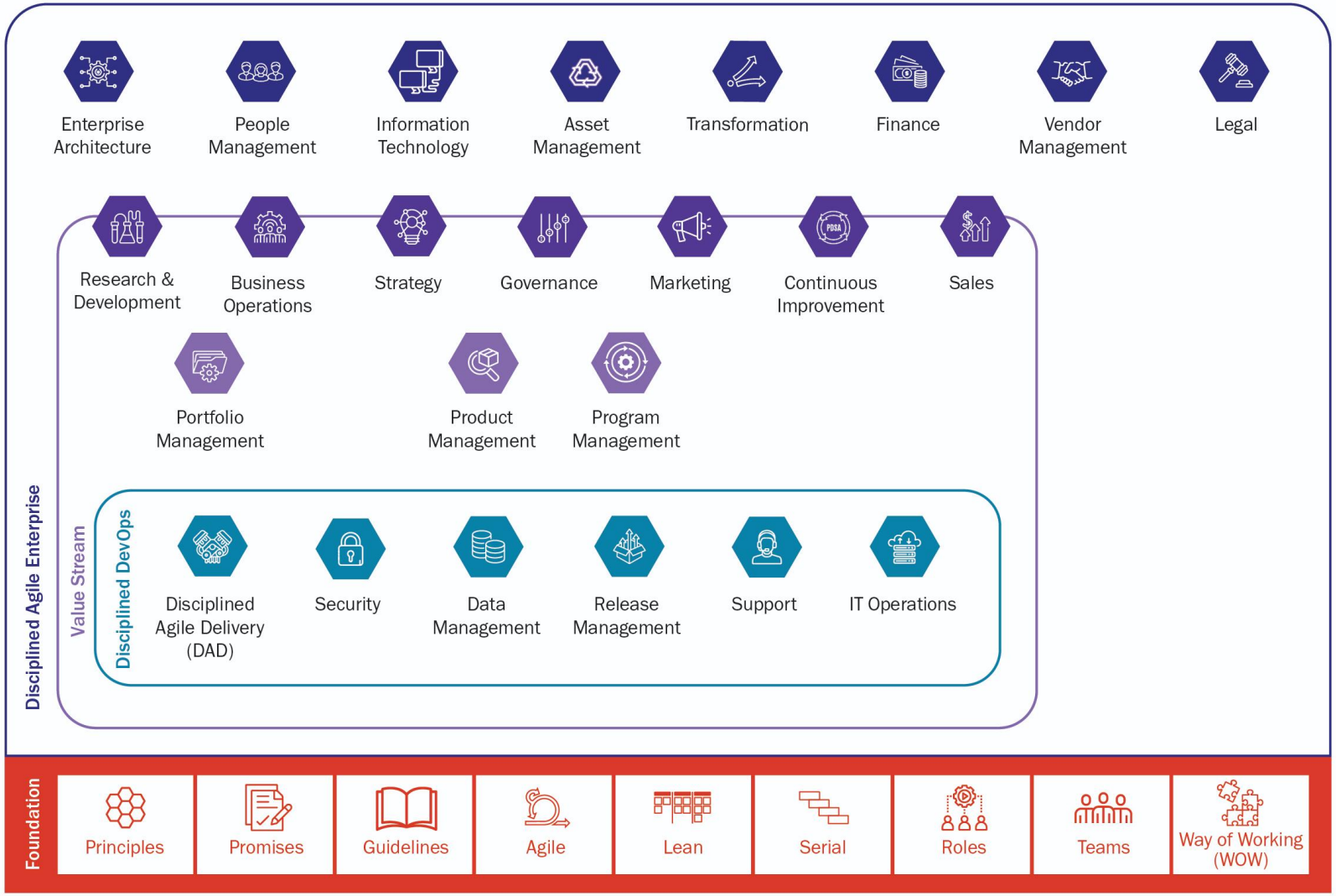
Large scaled scrum (LeSS®) - Huge LeSS

For larger projects, the Huge LeSS framework can be used.



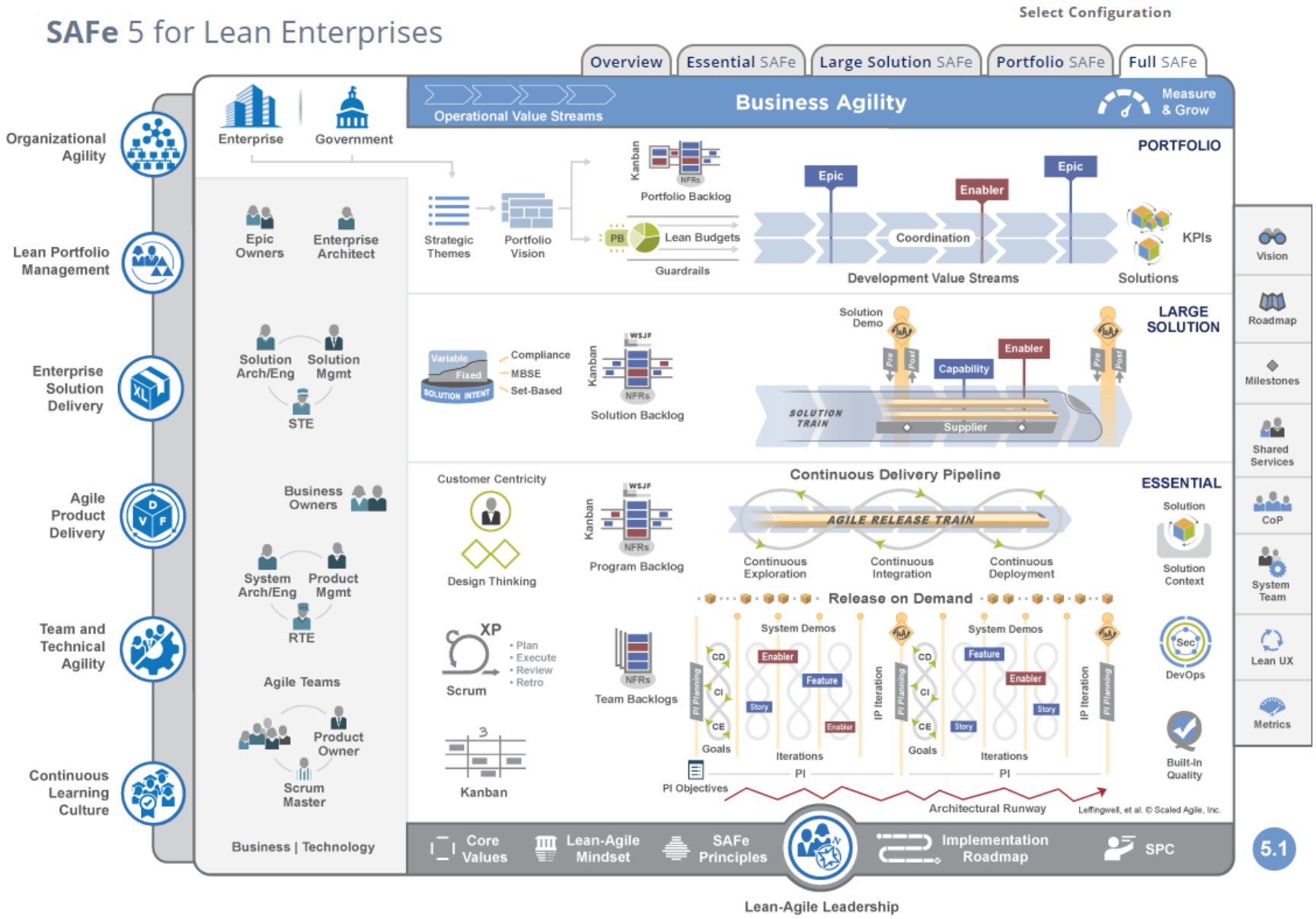
Disciplined Agile - the toolkit

Disciplined Agile is a toolkit divided into 4 components intended for different aspects, from enterprise management to delivery with the most well-known DAD.



Scaled Agile Framework

Since 2011 Dean Lefflingwell has developed a framework called the Scaled Agile Framework.
In the evolution of the framework there has been an increasing attention to the Business in a model based on the product.



Agile tranformation Experience

The context

Robotic company works in a complex environment with 4 key elements:

The pulse of agility

- focusing on value
- Focusing on continuous improvement

The quality

- Respecting the quality guidelines

The globality

- Working with teams in 5 countries in 4 continents

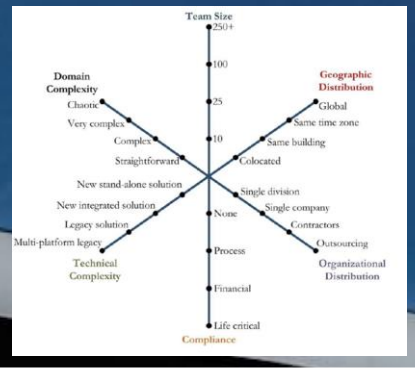
The safety

- Ensuring the safety of the customers and the technicians

The Approach

Approach includes several steps in an adaptive approach.

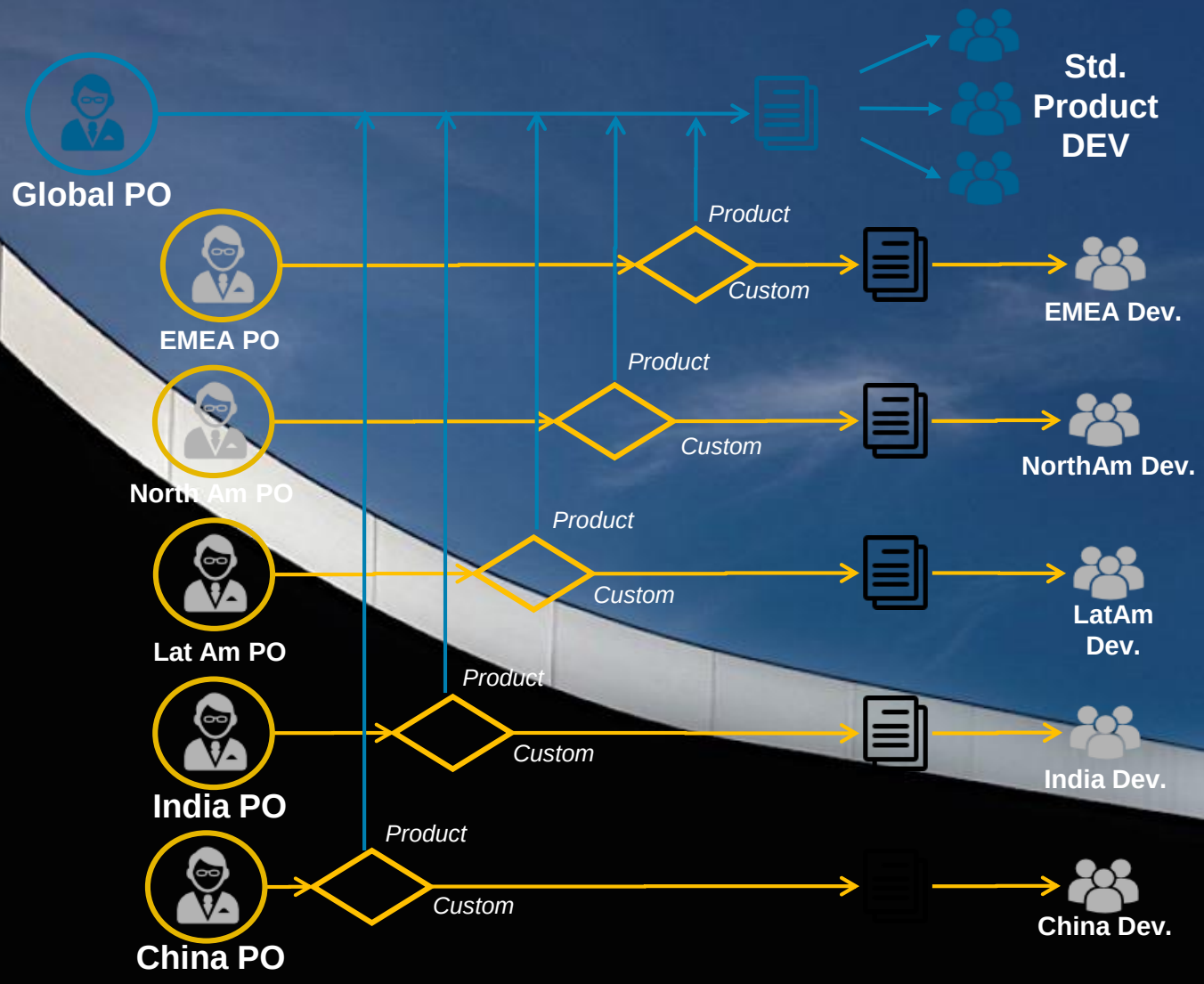
Oct-Nov 2019	Dec 2019	Jan 2020	Jan-Feb 2020	From Feb 2020
Agile Maturity assessment	**Training on Agile Mindset**	**Choose the Way of Work**	**Taylor the Way of Work**	**Use the Way of Work**
Robotic company Digital Department was ready to Agility. Agility was used a team level All the countries have different approaches	Training sessions introduced different approaches and an overview on the most common Scaled Agile frameworks.	Starting from the Disciplined Agile recommendation has been analyzed the characteristics on the context.	SAFe® Essential has been identified as the best way of work with few tailoring aspects. The tailored approach includes the review of the approach with all the internal Departments (Quality, HR,….)	Robotic company started using the new approach in Covid19 period. Restrictions force to change some way of works (creating remote meeting)



Continuous Improvement

Using a continuous improvement approach at each iteration the way of work has been adapted to better support the activities.

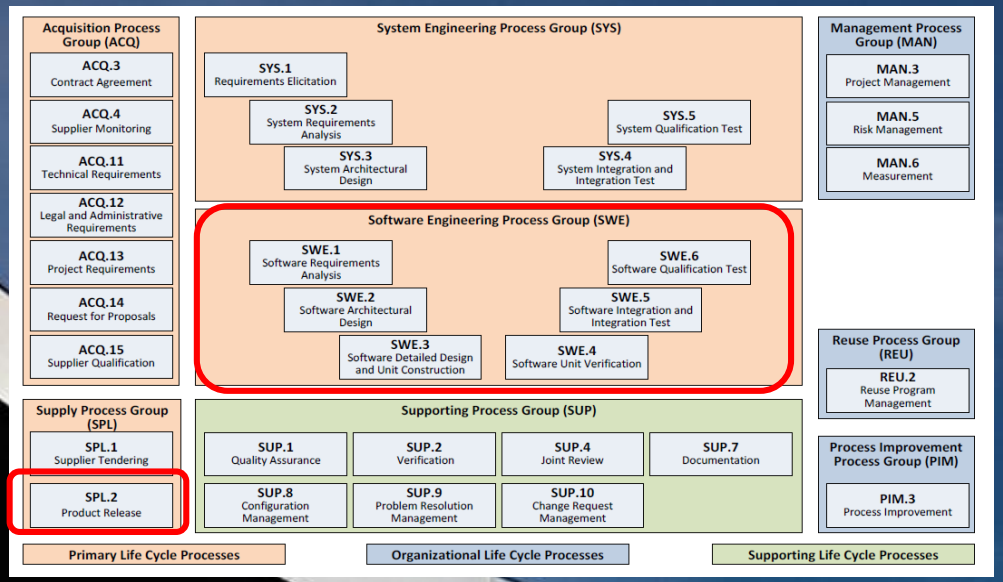
A new organizational structure

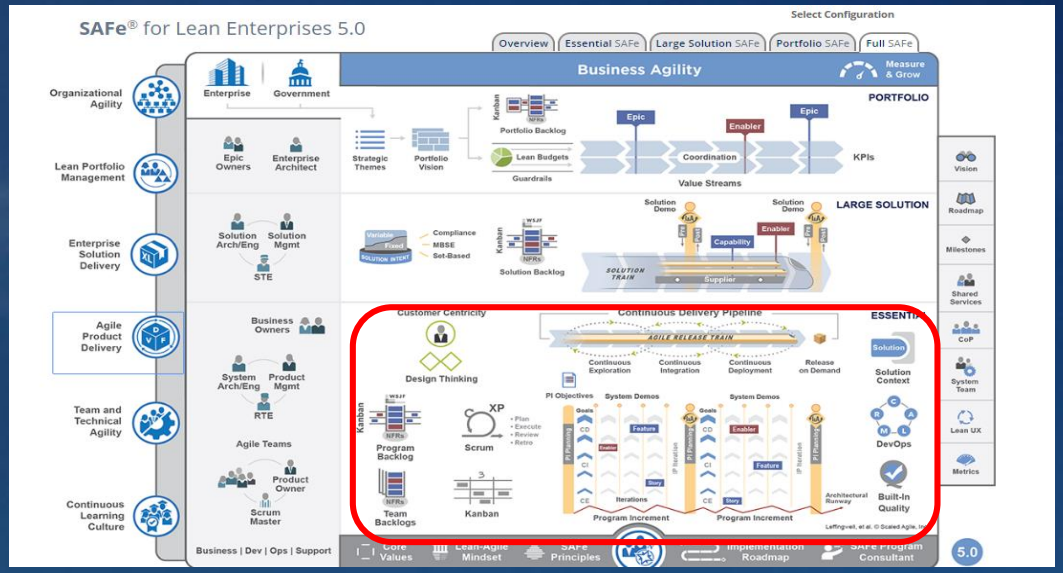


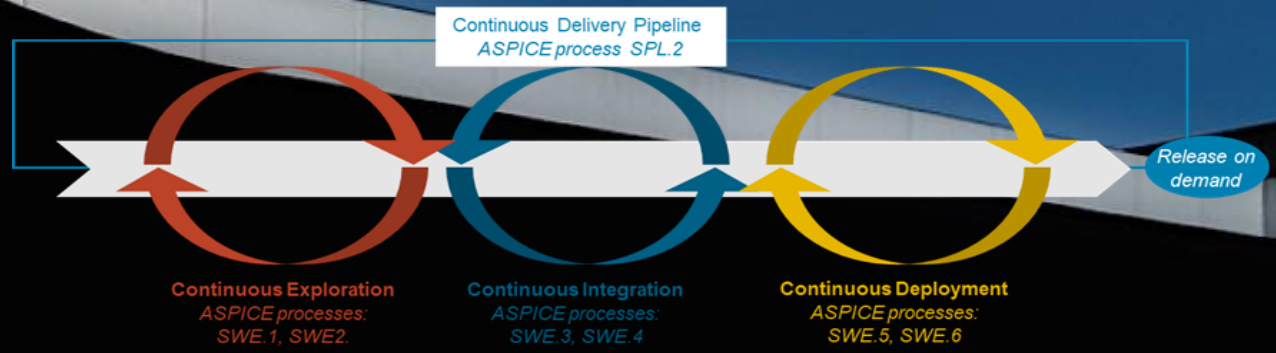
- **Global Product Development** will be driven by a group
  - Global Product Owner & Backlog
  - for Global Product Development Priority and plan
  - Assignment of tasks to Global Product Dev. Teams
- **Local projects and customization** will be driven by Regions
  - Region Product Owner & Product Backlog
  - Region priority and plan
  - Assignment of tasks to Region Dev. Team
- When **Regions** needs a **Global Product feature**:
  - Region defines the related User Story
  - User story is taken in charge by Global Product Owner in Global Product Backlog
  - Global Product Owner defines priority and planning according to Global Product Plan

The value from the constraints

The model has been based on SAFe® with few adaptation to be also aligned with Automotive Spice



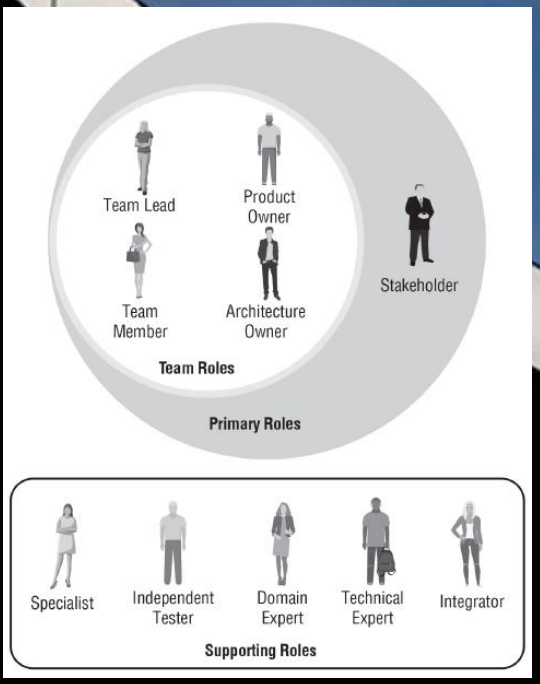




Enterprise Agility designs a new roles

Roles has been defined tailoring from Disciplined Agile® and SAFe®.
New roles were added to the Company Job Roles.

Disciplined Agile

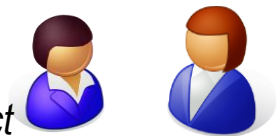


Internal Organization

Stakeholders

Team Manager

System Architect



Release Train Engineer (RTE)

Product Owner

Scrum Master

Team members including:

- *Tester*
- *Build Integrator*

SAFe

The transformation

	From Before…..	…. To NOW!!!!
Team organization	From country silos…	… to a global team
Product organization	From a lot of products..	.. To few customized value trains
Planning	From a long term planning….	…to iterations planning in a roadmap
Architecture	From a solid architecture…	… to a modular and flexible architecture

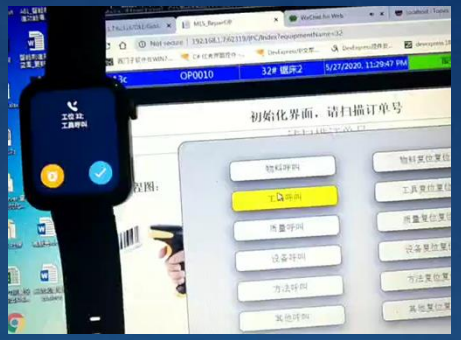
The results

For the Customer *(feedback from the customers)*

- **More quality**
- **Delivery fast**
- **Delivery on time**

For the team *(internal survey)*

- **Excellent way to collaborate**
- **Responsibility and interdependency**
- **Clear organization**



For the company *(internal data)*

- **Increase productivity** *many times*
- **Increase time to market** *many months*
- **Increase margins** *many times*

Carmine Paragano

NTT DATA ITALIA
Program & Project Manager
Agile Coach and Agile Transformation
Trainer on Project Management e Agile

PMI CENTRAL ITALY:
IT Director
Disciplined Agile Champion

Certifications:
Project Management (PMP Certified)
Scaled Agile (SPC 5 Certified)
Agile (PMI-ACP Certified)
Disciplined Agile Senior Scrum Master
Scrum Master
Lego Serious Play Facilitator
Cobit 5 (Foundation Certified)
CMMI

Activities:
1 Book
3 Articles on L'imprenditore
4 Articles on "Il Project Manager"
Talks at Universities and events (La Sapienza, Luiss, Tor Vergata, Roma Tre, Lum, Cassino, Agile Lean Conference, SEDA, PMI,..)