

Clash of Cultures?

How to align and reconcile IT- and physical product-development processes and cultures in practice



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We need to talk!

- Agile (hybrid) methods and mindset have become the cornerstones of IT-development-organizations
- More and more the value of physical products is driven by smart IT-solutions
- In practice we find the day-to-day practice of embedding agile practices in physical-product-development rather slow
- As a result we experience major challenges of aligning and optimizing integrated product development processes in the daily practice





Prof. Dr. Ayelt Komus

*With all my heart: change organizations
for success and fun to work in*

*By profession:
Professor,
Advisor, Sparring Partner,
Keynote Speaker*

*Area of expertise: organizational design,
IT management, agility in
hardware/hybrid, change*

*Also important: the outdoors
(cycling, sailing, SCUBA diving, hiking,
golfing – still learning)*

*#curious #experiments
#GetToTheBottomOfThings
#ChangeForFuture*



Sonja Gerz

*With all my heart:
making change happen,
reasonable and pragmatic*

*By profession:
Consultant & Coach*

*Area of expertise:
agile and scaled agile approaches in
software and hardware, IT management,
(hybrid) project management*

*Also important:
passionate Scandinavian fan*

*#creative #structured
#NoDowntimeAccepted*

Let's look at it from a bird's eye view



They are different! (and why)

IT-product development and physical product development **is** different!

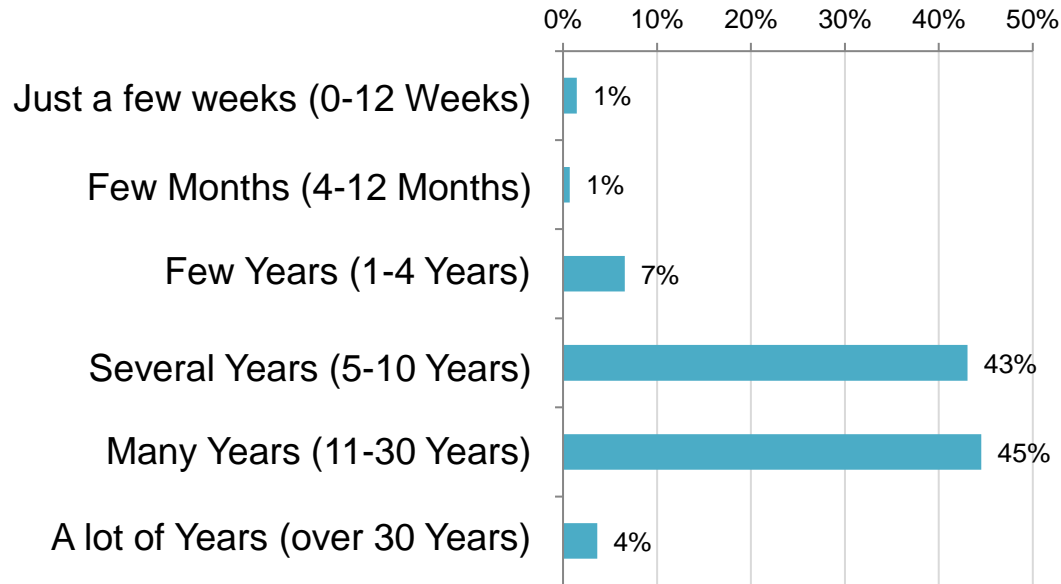
- Physical products
Long term usage, once delivered difficult to change, production is a major topic
→ Avoid Change, think first!
- Software, IT-products
Short term products, once delivered already updated
Fast product development, creativity and mastering complexity are key
→ Focus on learning, experiments,
“permanent beta”



Product life cycle (1/2)

- The products of over 90% of the participants have been in use by customers for between five and 30 years.

How durable are your products in use by customers?



n = 137 (Single Choice)

Survey „Agile and lean in development of physical products“

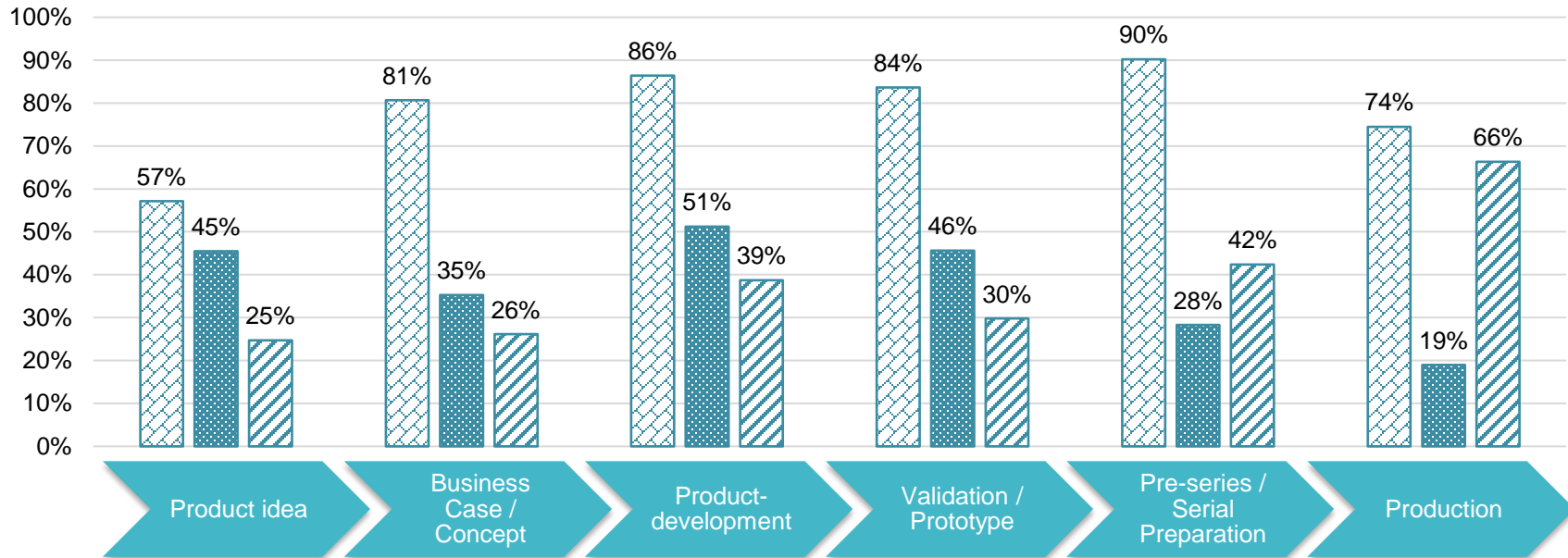
www.process-and-project.net/studie-status-quo-pep

Importance of the methods in the phases in PMP

Studie "SQ PEP - Agil und Lean im Produktentstehungsprozess"



Proportion of high and very high importance of methods in the individual phases of the PDP*

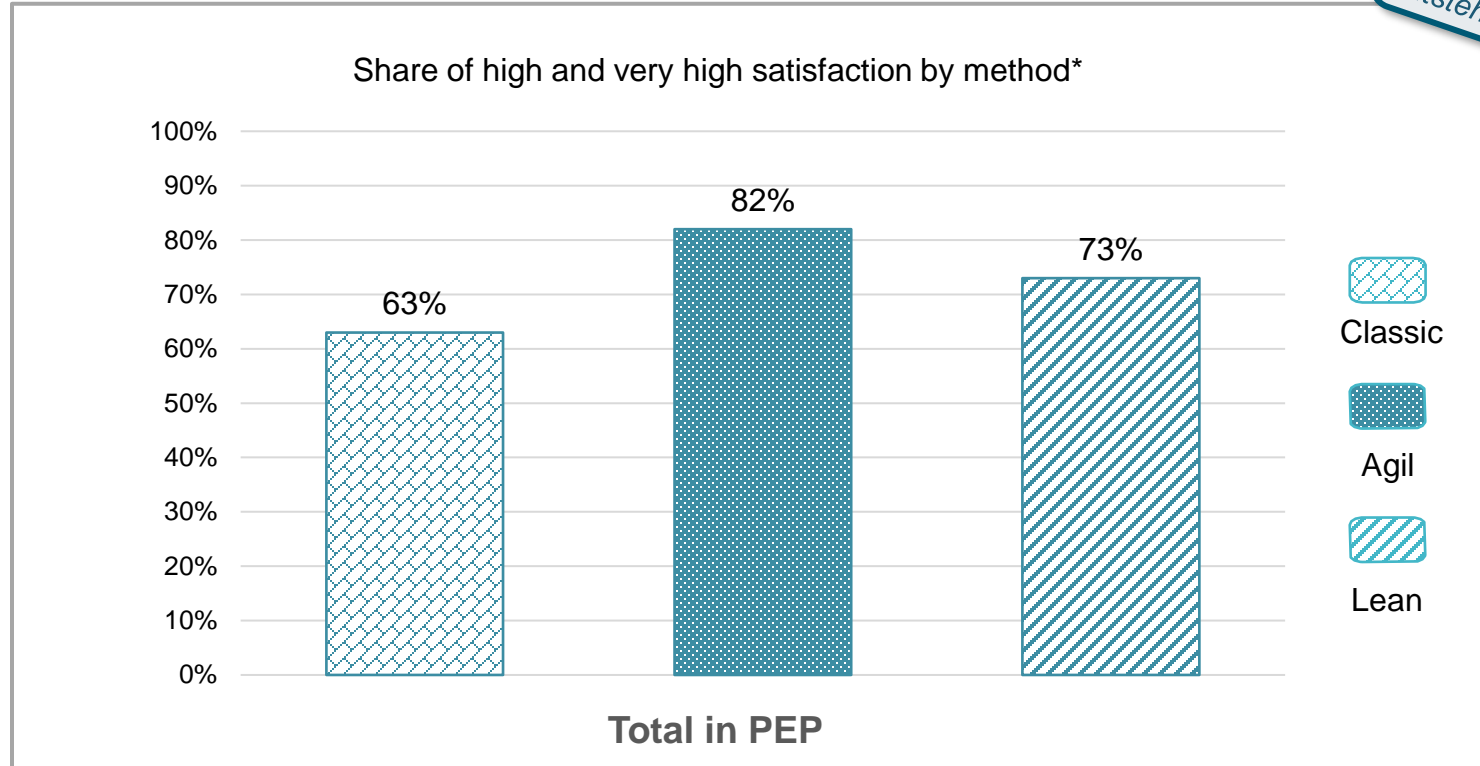


*(Proportion Sum "very high importance" / "high importance" related to the question: "How strongly do [...] approaches shape the design of the phase [...]?")
Further information for „n“ etc. Look study report SQ-PEP.

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Satisfaction with method – lean, agile, classic

Studie "SQ PEP - Agil und Lean im Produktentstehungsprozess"

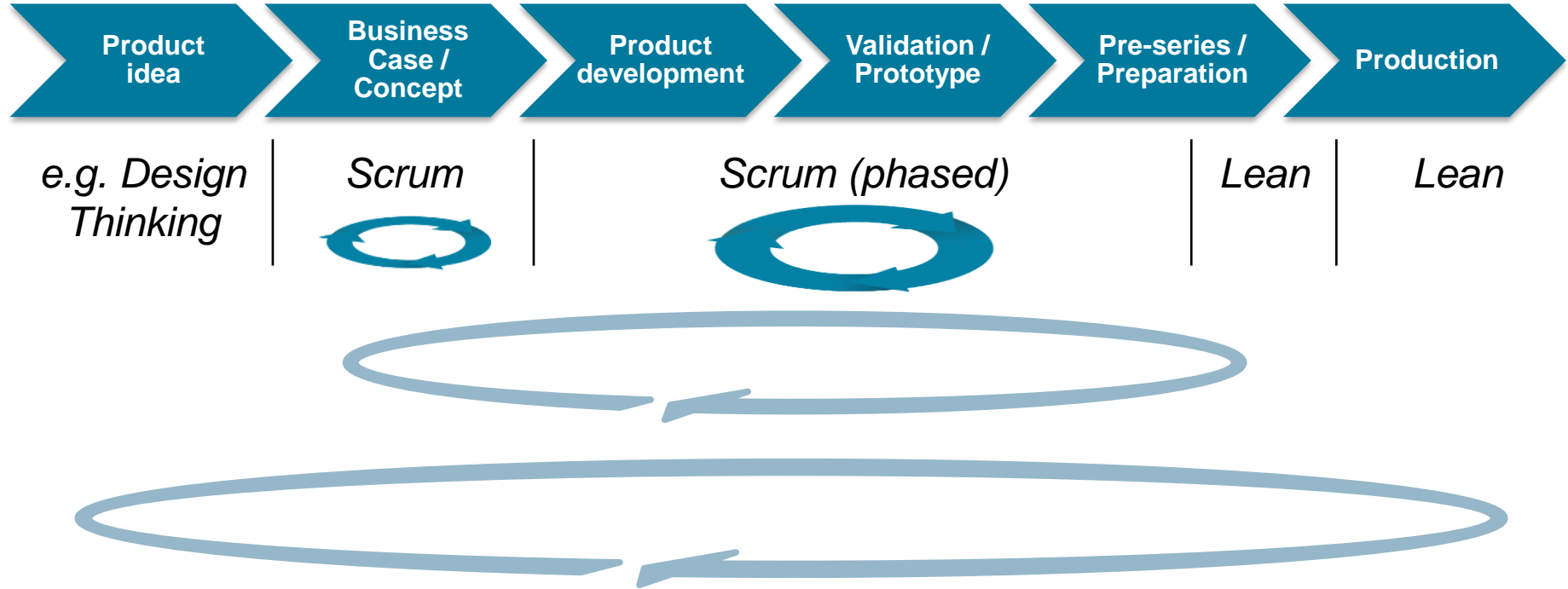


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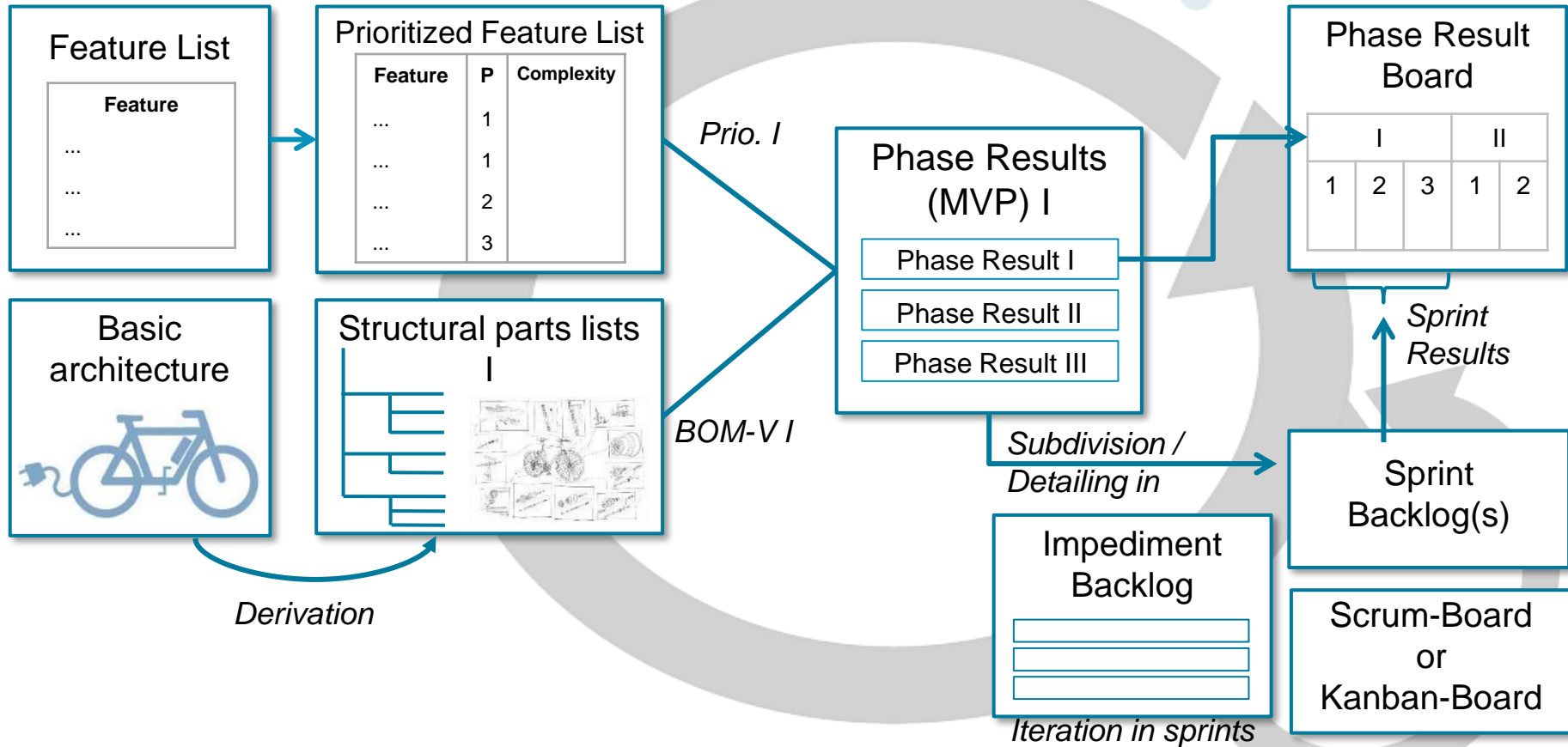
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Agile methods can also be used for products with hardware components

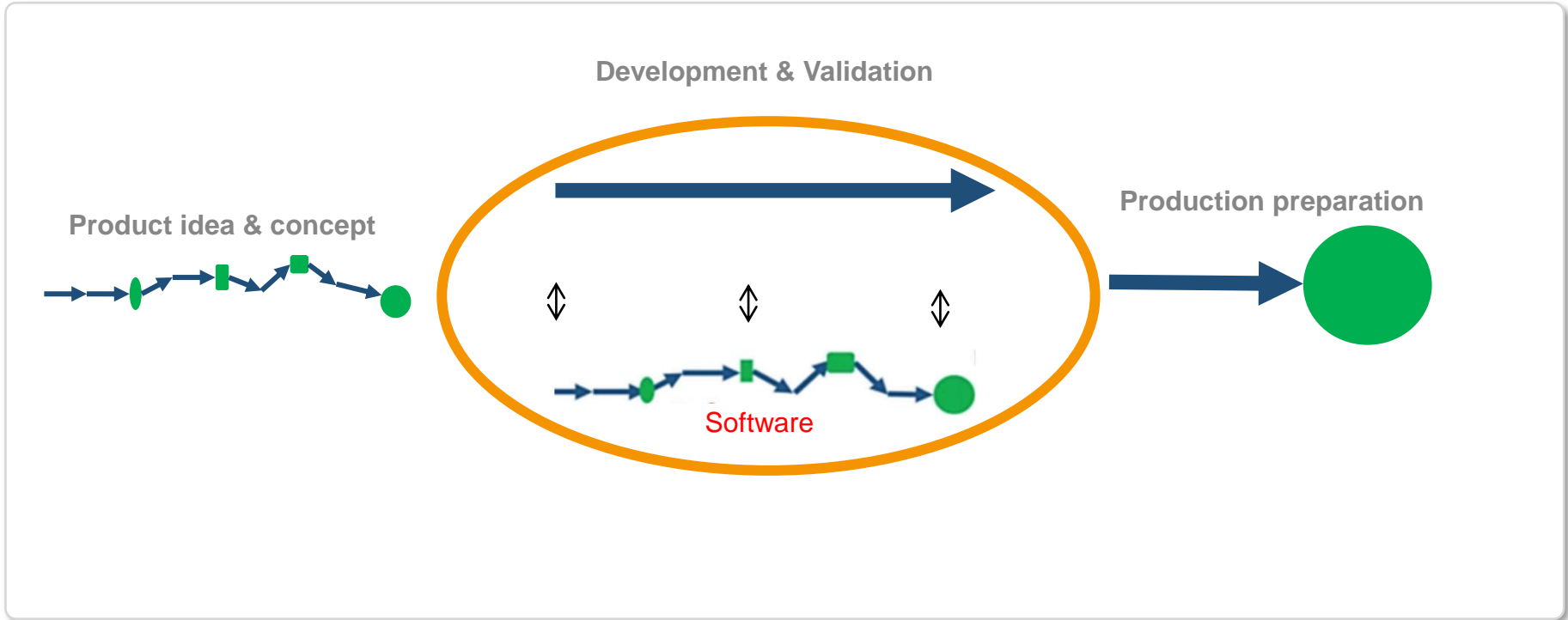
Agile methods in the product development process:



Artifacts in the agile PEP



Approaches and philosophies in general practice



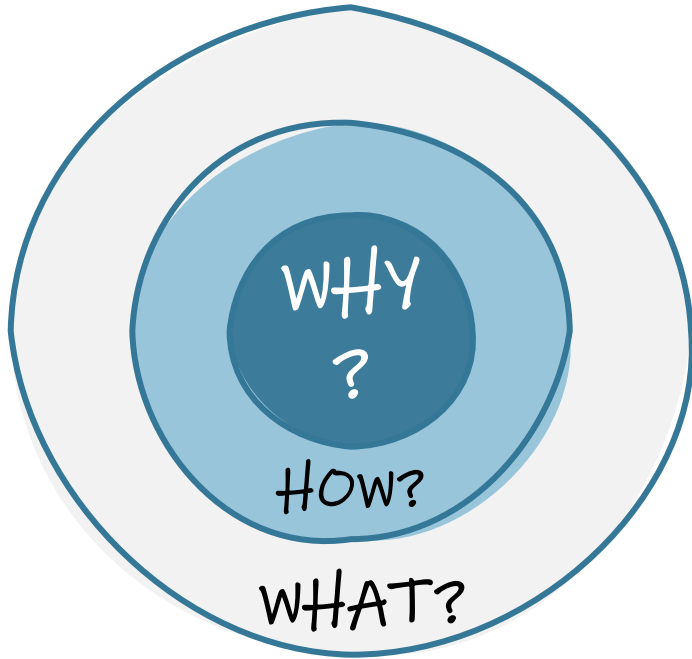
5 Success factors...

... to better align and improve the combined software & hardware development process

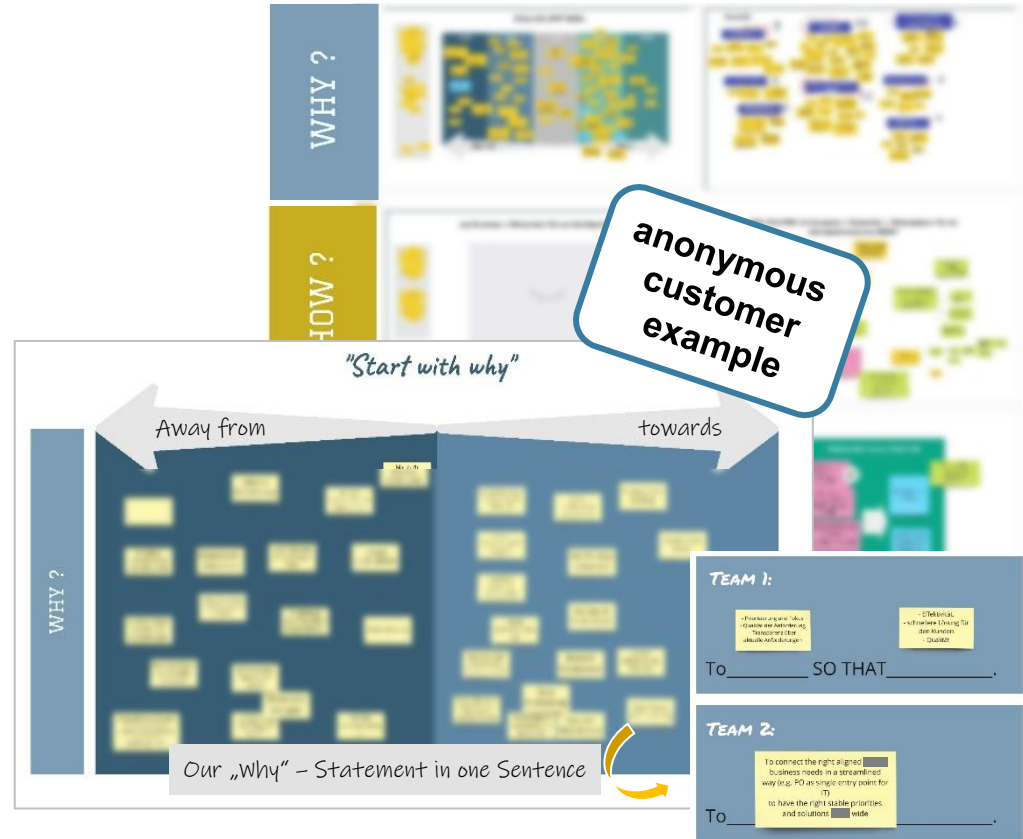
- Start with WHY
- Understand and respect the way it is
- Chances & potentials of different approaches
- Change organization and process towards (more) hybrid approach
→ *Helpful Agile und esp. Scaled Agile techniques and approaches*
- Change as continuous journey „Marathon NOT Sprint“:
→ *Proceed in small steps with direct benefit for the teams*



Start with WHY & understand and respect the way it is

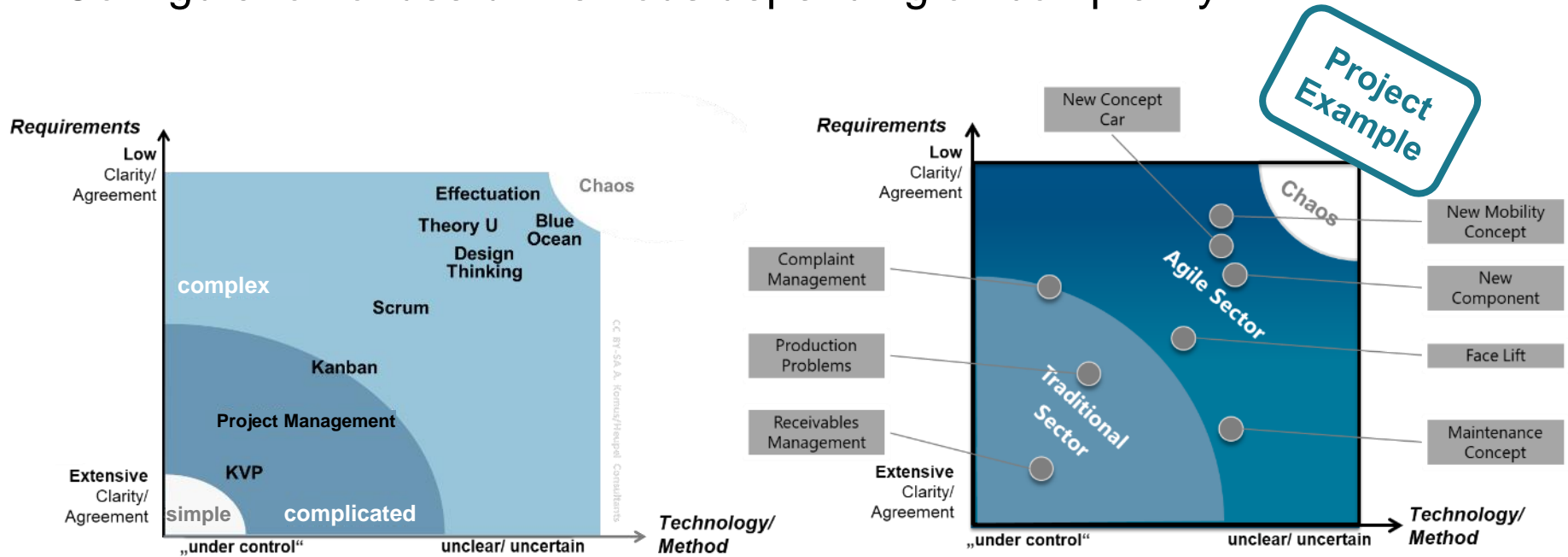


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Identify chances & potentials of different approaches

Configuration of useful methods depending on complexity



According to: Ralph D. Stacey: Strategic Management And Organisational Dynamic: The Challenge of Complexity

Reasonable use of agile methods in hardware / PEP



Eigenverantwortlichkeit (Kompetenz bewältigen)

Einhaltung Endtermin

Kontinuierliche Verbesserung & Weiterentwicklung

kürzere Durchlaufzeiten

Anpassung an geänderte Anforderungen

übergeordneter Nutzen für den Kunden

Daily Meetings

Time Boxing

Förderung fachlicher Expertise

Limitierter WIP (Wortk in Progress)

Daily Meetings

Schnelle Entscheidung & Informationsaustausch durch im nächsten Kontakt

Klare Verantwortungen

Retros

Visualisierung (Kanban-Board, Burndown, etc.)

Reviews & Retros (Tägliche)

stark Nutzen-prozentierter Backlog

Sinn/Nutzen vermitteln

das Produkt, nicht die Aufgabe steht im Mittelpunkt

konsequente Priorisierung des Backlogs

Schnelles Kunden-Feedback (kurze Iteration, viele Releases)

Kompetenz-Verlagerung ins Team

Schnelle, über-problemlöse Ergebnisse in Kunden-Zyklen (Minimal Viable Product)

tolerierende Planung und über-Prüfung oder Prioritäten im Backlog

frühzeitiger & wiederkehrender Einbezug der Kunden

interdisziplinäre Teams sind allen benötigten Fach-funktionen

gemeinsame Projektzeiten / Team-Rituale

Produkt im Mittelpunkt

Chances and potentials of agile elements

Sprint planning

Clutch Blade

CFD Analysis

Cross Pin OD 13mm vs 11mm support slot peening decision

Case Cap (design with complexity) Reduction of fatigue approximation

LSD

Daily Gating (provide by Agile) (around good build program)

Improve Calculation accuracy

re-do reduction of fatigue simulation

Staten tracking Simulation

Finish Presentation

Backlog freeze in case of high costs of the prototyp

Backlog freeze in case of high costs of the production plant

Latest possible date for the backlog freeze

Produkt-idee

Business Case Konzept

Produkt-entwicklung

Validierung Prototyp

Vorserie Produktions-vorbereitung

Produktion

Anforderungen (Lastenheft)

Konzept (Machbarkeits)

Design-Freeze Prototyp

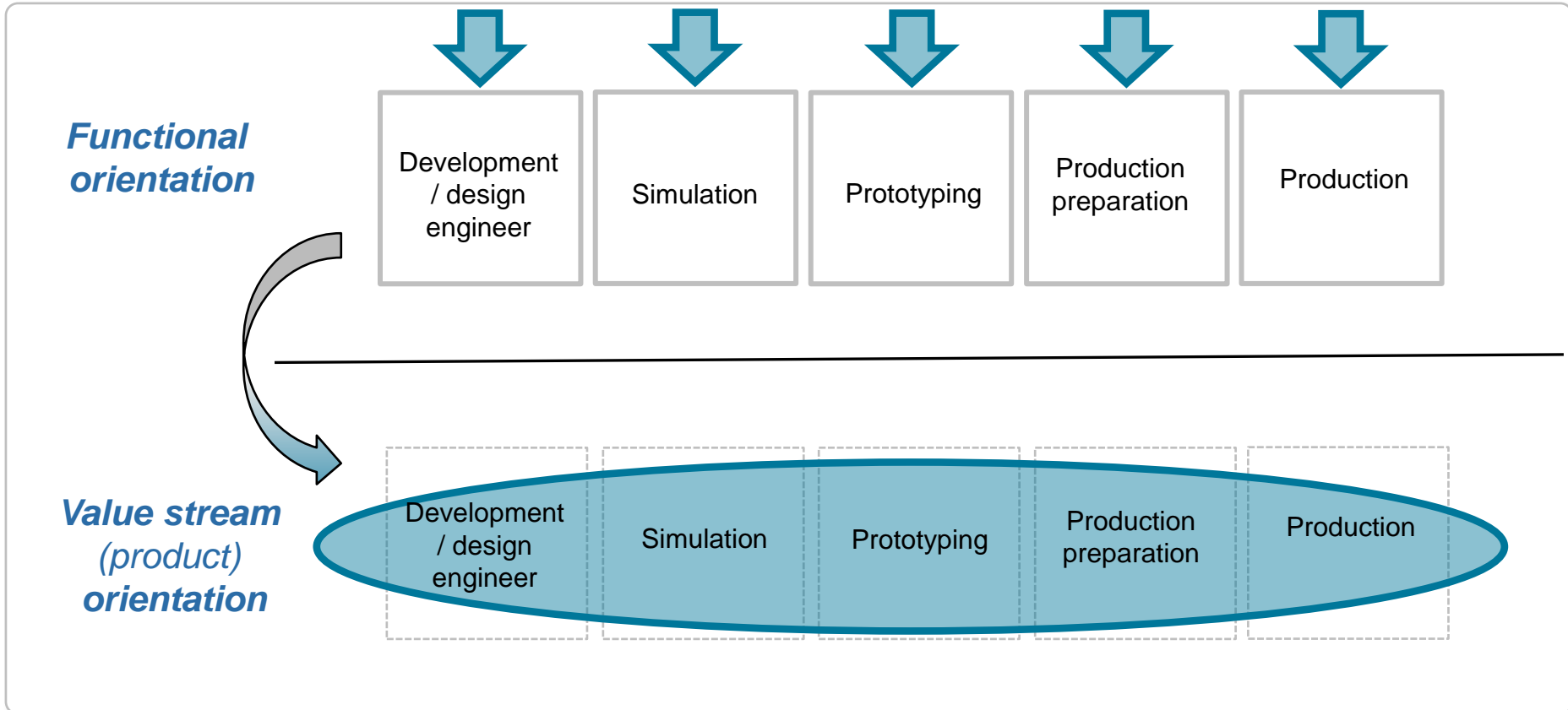
Design-Freeze Vorserie

Design-Freeze Serie

Produktions-start

Backlog Freeze – As late as possible, as early as needed

Reinforce product and customer orientation → through *crossfunctional teams*

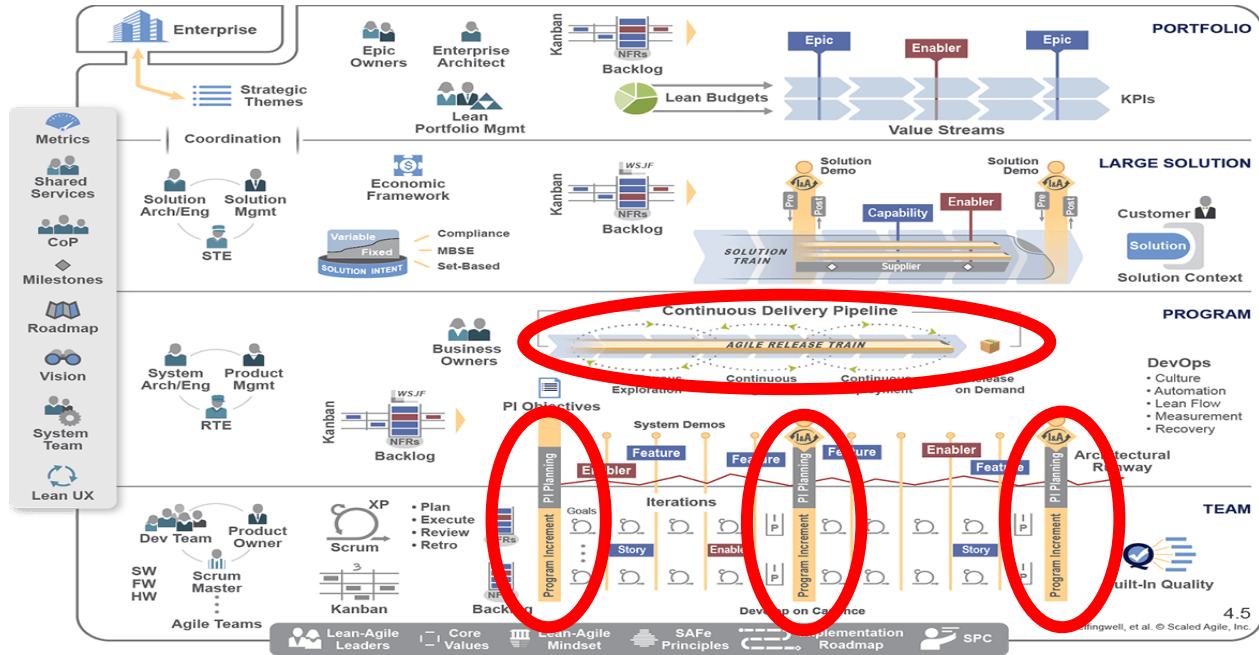
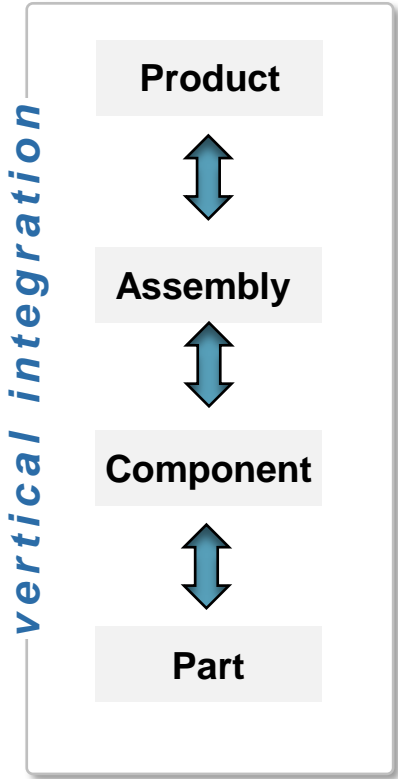


Reinforce product and customer orientation

→ through *integration & synchronization on different layers*

SAFe® for Lean Enterprises

Full SAFe

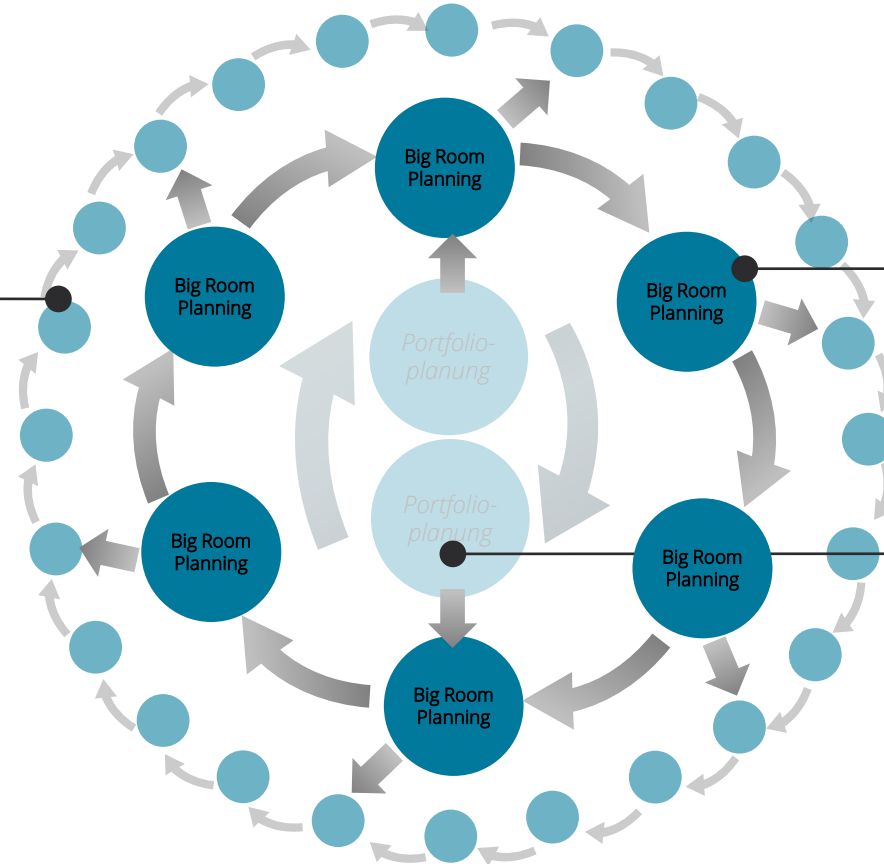


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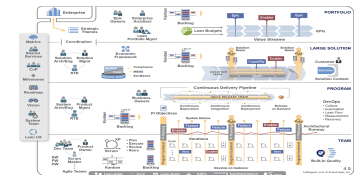
Joint “heartbeat” to align and synchronize teams

Sprint planning
(2 weekly cycle with sprint
plannings per squad)

Program planning
(2 monthly cycle with big room
plannings)



Portfolio planning



Praxisbeispiel: Courtesy Heupel Consultants

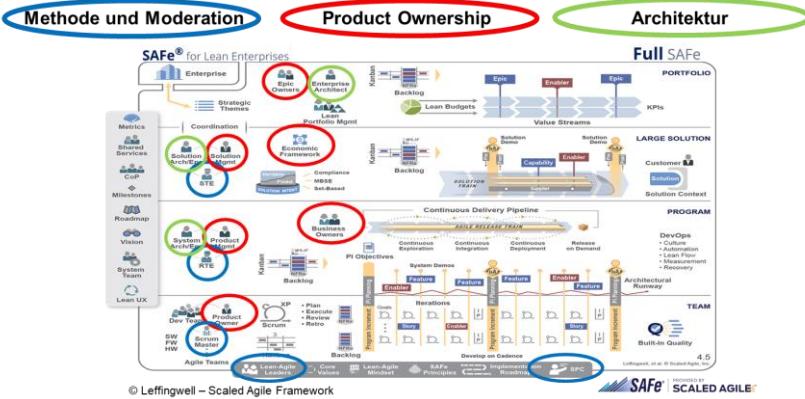
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Big room planning to align dependencies



Courtesy of Heupel Consultants

New understanding of roles



Design of product owner role in a hybrid approach

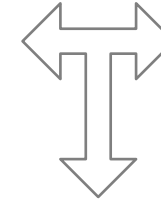
Project Example

customer view

Technical feasibility



product management



Engineering

profitability



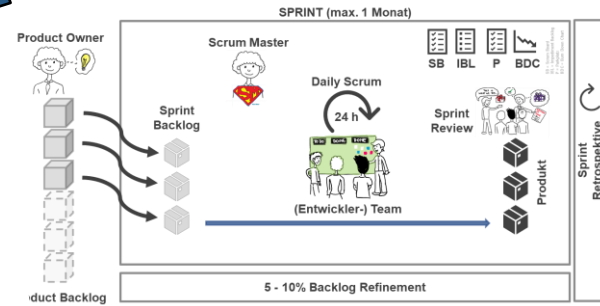
project lead

Product Owner Team

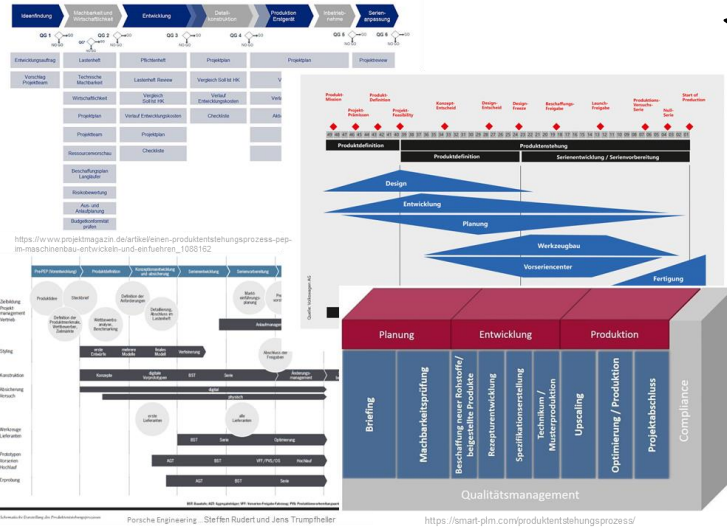
Find the right combination of different approaches

Agile approaches are NOT a replacement, rather a useful extension

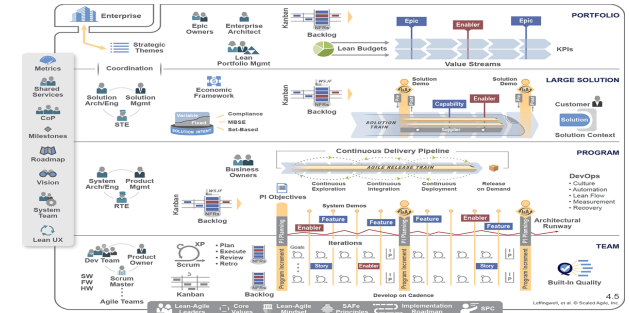
Impulse of agile approaches



Design organisation's individual approach



Current way of working (examples or classic approaches)



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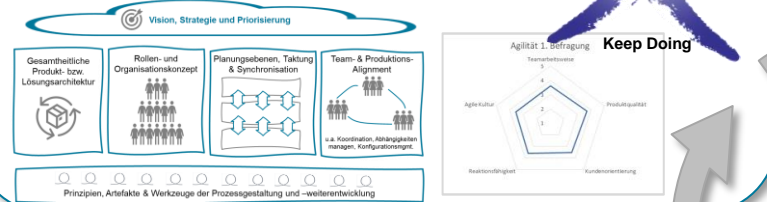
Change as continuous journey „Marathon NOT Sprint“

... proceed in small steps with direct benefit for the teams

Project
example

1. Identify need for action

- Agile Assessment
- Point of view, Transition Team
- External evaluation



2. Developing & agreeing on a target



4. Create sprint schedule

Backlog To Do Doing Done Obsolete



3. Create & coordinate phase planning

| | | | | |
|---|---|---|----|---|
| | I | | II | |
| 1 | 2 | 3 | 1 | 2 |



*Culture eats
formal organization
for breakfast*

NETZWERKEN, VORTRÄGE & WORKSHOPS

über
25 Top Voices

LIVE
Big Room Planning

Die Jahresveranstaltung für die Community aus
IT-, Prozess- und Projektmanagement sowie dem agilen Umfeld
mit aktuellen Impulsen zu Management, Digitalisierung und Change

PRAXISFORUM
DAS EVENT 

**#MetaverseInDerPraxis #Telekom #BoostAgileLeadership
#LeanPortfolioManagement #DeutscheBahn #ProcessMining
#Bosch #OKR #FrauenteamUndResilienz #Change
#BusinessContinuityManagement #Flixbus und vieles mehr...**

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SYMBIO



TEAMWILLE

09. + 10. MAI 2023

In Hör-Grenzhausen (nahe Koblenz)
oder im Stream online

jetzt Tickets sichern

eine Veranstaltung im Rahmen des

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