

# ***How To Benefit From Agile Methodologies?***

*Putting The „Active Ingredients“  
Of Scrum And Agility To Work*

Wiesbaden

October 19, 2017

Prof. Dr. Ayelt Komus

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 [www.twitter.com/AyeltKomus](https://www.twitter.com/AyeltKomus)



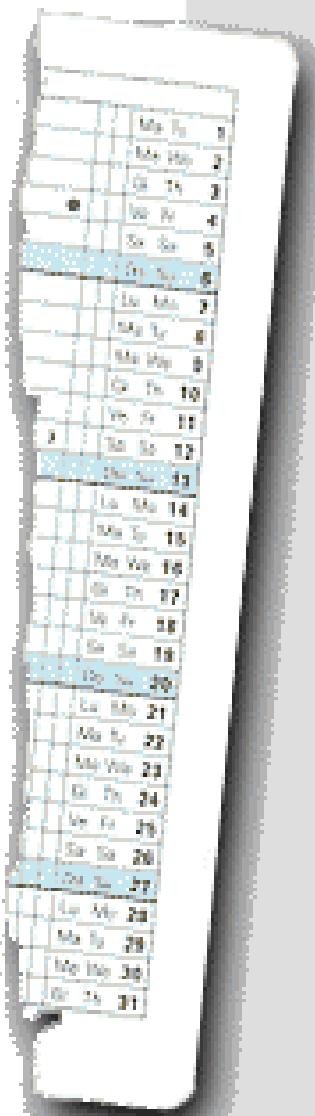
**HEUPEL**  
**CONSULTANTS**

Wissen.Wege.Wirkung



Process and Project

# Agenda



- Why Agile?
- What's „Agile“?
- Is It Either Agile Or Classic? Hybrid Practices
- Agile = Poor Quality And Documentation?
- Agile And Regulated
- Scaling - Portfolio Management - Choosing The Appropriate Approach
- How To Start/ Implement Agile Methods?

# Prof. Dr. Ayelt Komus

- Professor of Organizational Design and Information Systems
- 12+ high-profile studies, 50+ publications, 100+ keynotes/ lectures, 150+ interviews/ media reports
- Co-Initiator of „Modellfabrik Koblenz“ (Model factory Koblenz)
- Scientific director of data center - University of appl. Sc. Koblenz
- Certified Scrum Master (3 organizations)
- Scientific advisory board Heupel Consultants
- Scientific advisory board member „Projektmagazin“



Further information [www.komus.de](http://www.komus.de)

# Current Initiatives (sorry, some in German only)

## Surveys/Studies

- My Digital Profile  
[www.mein-digital-profil.de](http://www.mein-digital-profil.de)
  - **Status Quo Agile**  
[www.status-quo-agile.net](http://www.status-quo-agile.net)
  - „**Projektumfeldstudie[www.projektmagazin.de/oekosystem-projekt](http://www.projektmagazin.de/oekosystem-projekt)**
  - Agile Procurement Survey  
[www.process-and-project.net/agile-procurement-survey](http://www.process-and-project.net/agile-procurement-survey)
  - Multitasking in project management
  - BPM Compass
  - Agile PMO
  - Evidence Based „Success Factors in Project Management“
  - Metastudy BPM-quintessence
  - Process-/IT-Management in Chemistry /Life Science
  - COO in Corporate Practice
  - Quality in BPM
  - BPM and Six Sigma
  - IT-Radar for BPM and ERP
- [www.process-and-project.net/studien](http://www.process-and-project.net/studien)

## Workshops

- Agile Project management (07.11.17)
- Agile PMO (08.11.17)
- Agile Procurement (09.11.17)
- Webinar Scrum and agile methods (10.11.17)
- BPM Compass (17.10.17)
- Project management Success Factors (Inhouse)  
[www.process-and-project.net/workshops](http://www.process-and-project.net/workshops)

## Events

- **11<sup>th</sup> “Praxisforum” Process and IT Management**  
(June 12<sup>th</sup> 2018) [www.praxisforum.eu](http://www.praxisforum.eu)
- **3<sup>rd</sup> “Praxiswerkstatt” Digitization and Agility**  
(June 13<sup>th</sup> 2018) [www.praxiswerkstatt.eu](http://www.praxiswerkstatt.eu)



**Process and Project**  
[www.process-and-project.net](http://www.process-and-project.net)

# Heupel Consultants



- ▶ Practical experience for science
- ▶ In-depth knowledge for practice

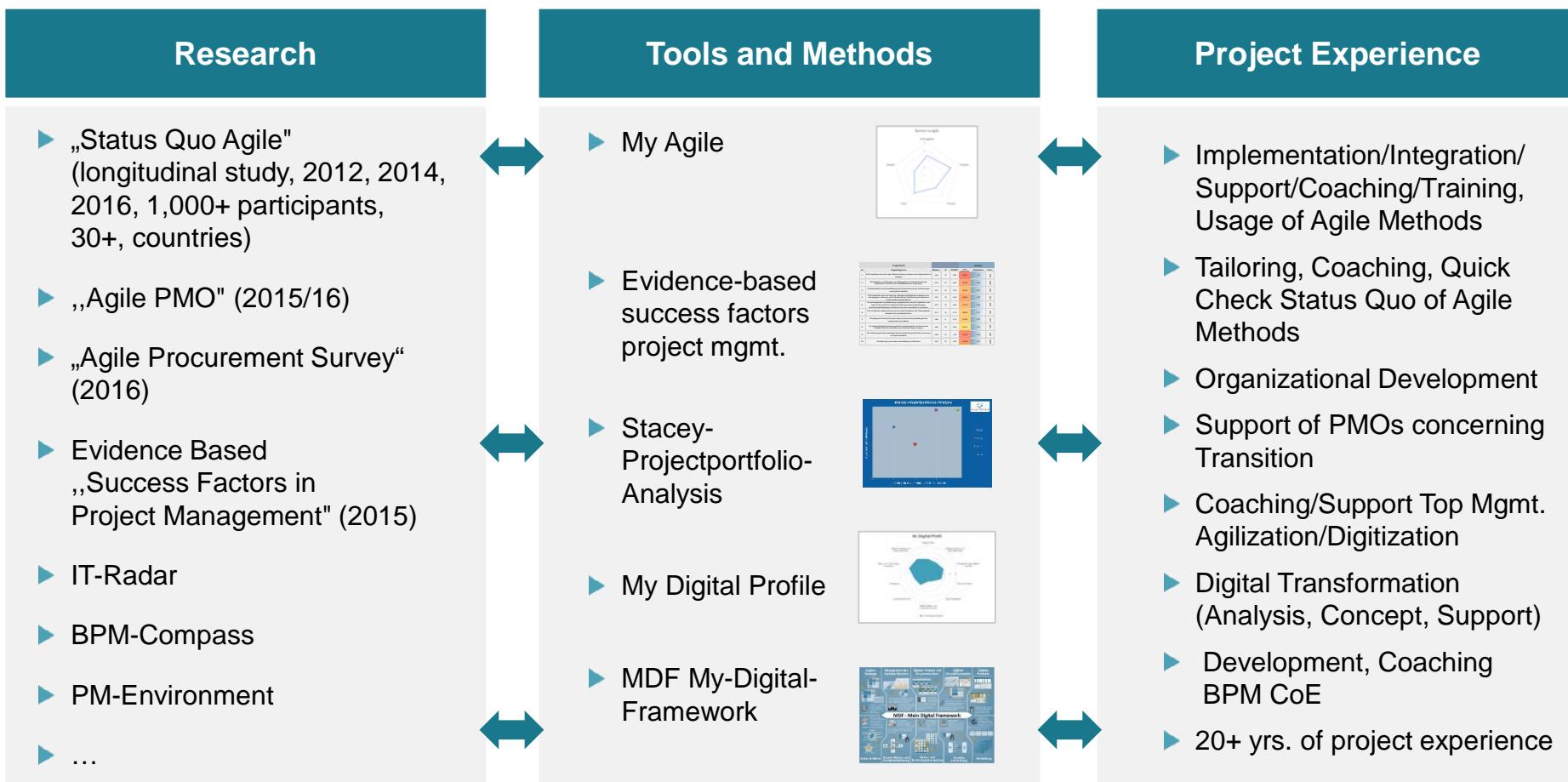


[www.heupel-consultants.com](http://www.heupel-consultants.com)

# Heupel Consultants

## Connecting Science and Business Success

### Synergy of Science and Practice



# Companies We Supported Successfully



„Kennen und schätzen gelernt haben wir Heupel Consultants als „Risiko-Manager“ in einem essentiellen Projekt für uns. Seitdem begleiten sie uns nun schon seit Jahren als Sparrings-Partner bei Themen mit Prozess- und IT-Bezug.“



F. Röttger, Geschäftsführer,  
AggerEnergie GmbH



„Gelebte Kompetenz zu ‘agilen Methoden‘ im Einkauf-praxisgerecht, fundiert und umsetzungsorientiert auf die Herausforderungen der Beschaffung ausgerichtet.“



O. Schell, Bereichsleiter Beschaffungsmanagement, Messe Frankfurt GmbH

Trianel Energie

„Konkrete Unterstützung bei der Gestaltung des Prozessmanagements. Umsetzungsorientiert, fundiert und nutzenorientiert.“

Julia Jeub, Leiterin Vertriebs-/ Handelsreporting & IT-Koordination, Mainova AG Frankfurt am Main



„Das systematische Vorgehen und die Fähigkeit, Dinge auf den Punkt zu bringen, haben mich beeindruckt. Wir sind jetzt deutlich besser aufgestellt, um Projekte wirtschaftlich abzuwickeln.“



R. Sichler, CIO,  
Pfalzwerke AG



Gute Ideen voller Energie.



„Wissenschaftlich fundierte Erkenntnisse und Erfahrungswissen aus der Praxis kombiniert zu einer pragmatischen zielorientierten Vorgehensweise geben uns wichtige Impulse bei der wertorientierten Weiterentwicklung unseres PMO-Ansatzes.“



Dr. Jan Holthuis,  
Head of Corporate IT Demand & Project Office,  
Boehringer Ingelheim Pharma GmbH & Co. KG



Boehringer Ingelheim

Pharma GmbH & Co. KG



„Die praxisorientierten Handlungsempfehlungen haben uns die Potenziale agiler Methoden wie Scrum aufgezeigt. Jetzt haben wir eine Basis, unsere Organisation agiler zu gestalten.“

Anne Beck, Funktionsbereichsleitung Strategie, Struktur, Prozesse bei Die Zieglerschen e.V.



„Ein Sparrings-Partner auf Augenhöhe: von einer pragmatischen, mittelstandstauglichen Konzeption, einer exemplarische Umsetzung in unserem ERP-System ABAS bis hin zur internen Personalentwicklung.“

M. Mittenbühler,  
Geschäftsführer,  
PEMAT GmbH



„Heupel Consultants habe ich als Partner „auf der anderen Seite des Tisches“ kennengelernt. Durch die kooperativen, lösungsorientierten Anregungen konnten wir kritische Projektsituationen erfolgreich managen.“

Jost Hermanns,  
Geschäftsführer,  
NetCologne GmbH



„Die Fähigkeit von Heupel Consultants, auch in klassischen PM-Ansätzen denken zu können, unsere Aktivitäten kritisch-konstruktiv zu begleiten und letztendlich die Branchenthemen zu verstehen, war entscheidend für den großen Erfolg von Scrum in unserer Organisation.“

Stefan Haake, Prokurist,  
BAS Abrechnungsservice  
GmbH & Co. KG



„Gefallen hat uns insbesondere die systematische Vorgehensmethodik - ohne viel Schnick-Schnack und pseudogenauen Kalkulationen. Entscheidend war, die betroffenen Kollegen emotional mit ins Boot zu bekommen.“

A.Driessen, Geschäftsführer,  
Stadtwerke Soest GmbH



*Why Agile?*  
*What's „Agile“?*

# *Why Agile?*

# 3 Assumptions....

## 3 things we wish were true...

- The customer knows what he wants
- The developers know how to build it
- Nothing will change along the way

## 3 things we have to live with...

- The customer discovers what he wants
- The developers discover how to build it
- Things change along the way

<http://commons.wikimedia.org/wiki/File:Change.jpg?uselang=de>



# Agile Methods From A Bird's Eye View

- Renouncement of Big Design Up Front
- Autonomous Teams – within defined boundaries
- Focusing, Flow-Orientation
- Simplicity, Visualization, Transparency
- Continuous Learning



# Planning Horizon Of Process Management Initiatives

*Uncertainty of  
knowledge/  
prediction*

**increasing vagueness**

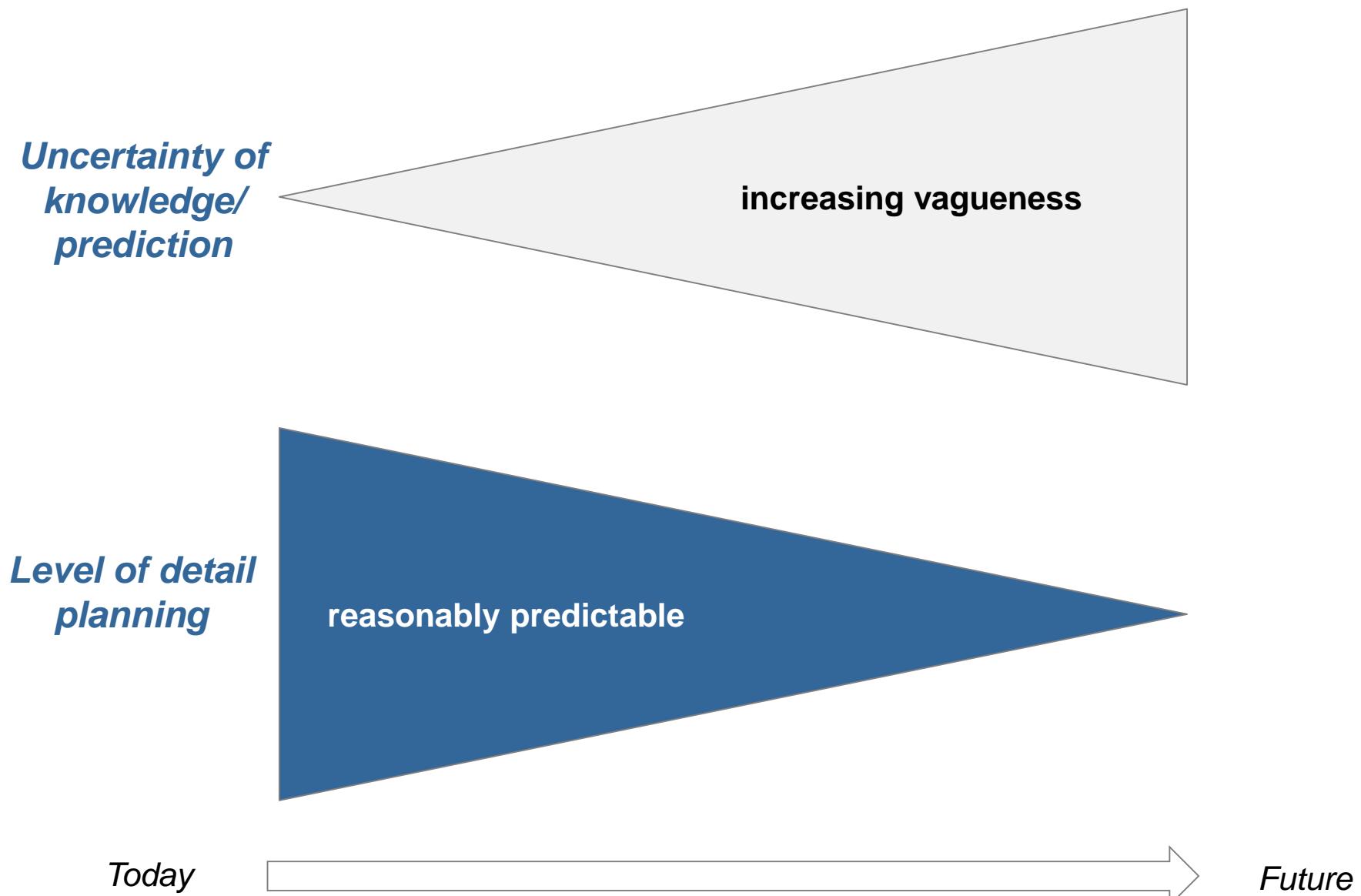
*Today*



*Future*

Based on idea of Schlereth, CanDo

# Planning Horizon Of Process Management Initiatives



Based on idea of Schlereth, CanDo

# Planning Horizon Of Process Management Initiatives

*Uncertainty of knowledge/prediction*

increasing vagueness

*Level of detail planning*

Excess planning

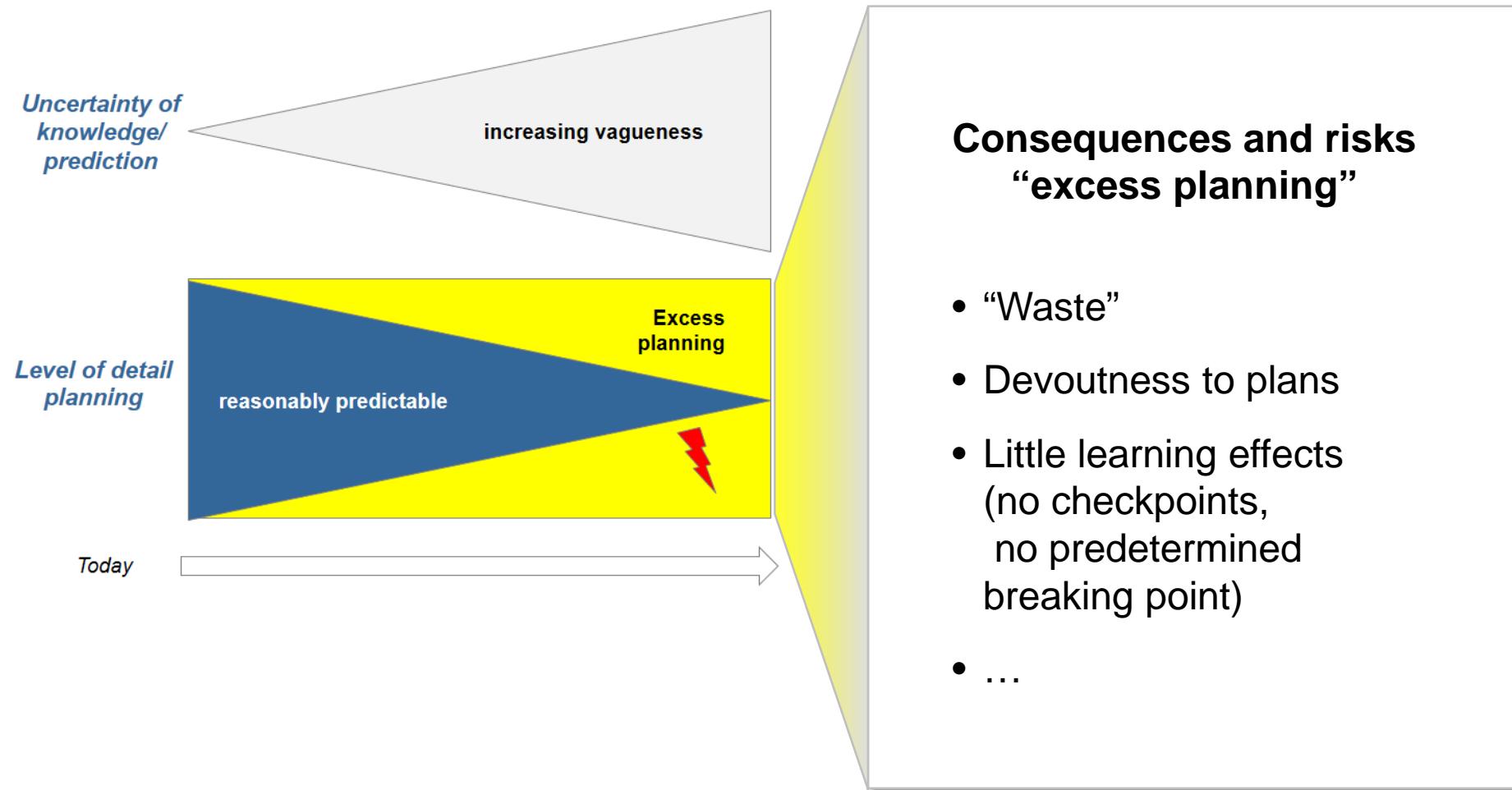
reasonably predictable

Today

Future

Based on idea of Schlereth, CanDo

# Consequences – Excess Planning



Based on idea of Schlereth, CanDo

# *What's "Agile"?*

# Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

**Individuals and interactions** over processes and tools

**Working software** over comprehensive documentation

**Customer collaboration** over contract negotiation

**Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck

Mike Beedle

Arie van Bennekum

Alistair Cockburn

Ward Cunningham

Martin Fowler

James Grenning

Jim Highsmith

Andrew Hunt

Ron Jeffries

Jon Kern

Brian Marick

Robert C. Martin

Steve Mellor

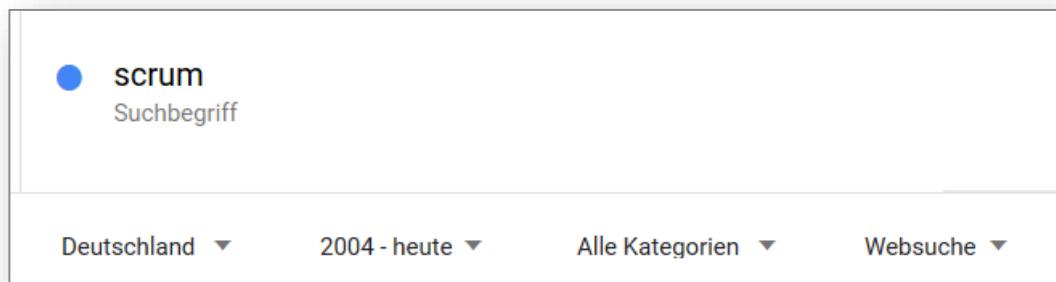
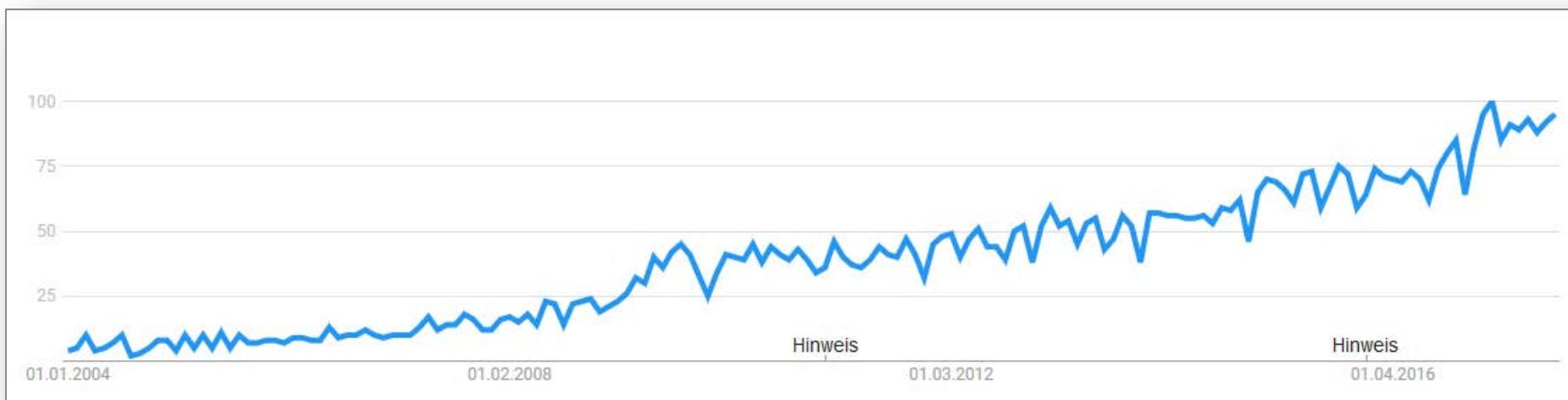
Ken Schwaber

Jeff Sutherland

Dave Thomas

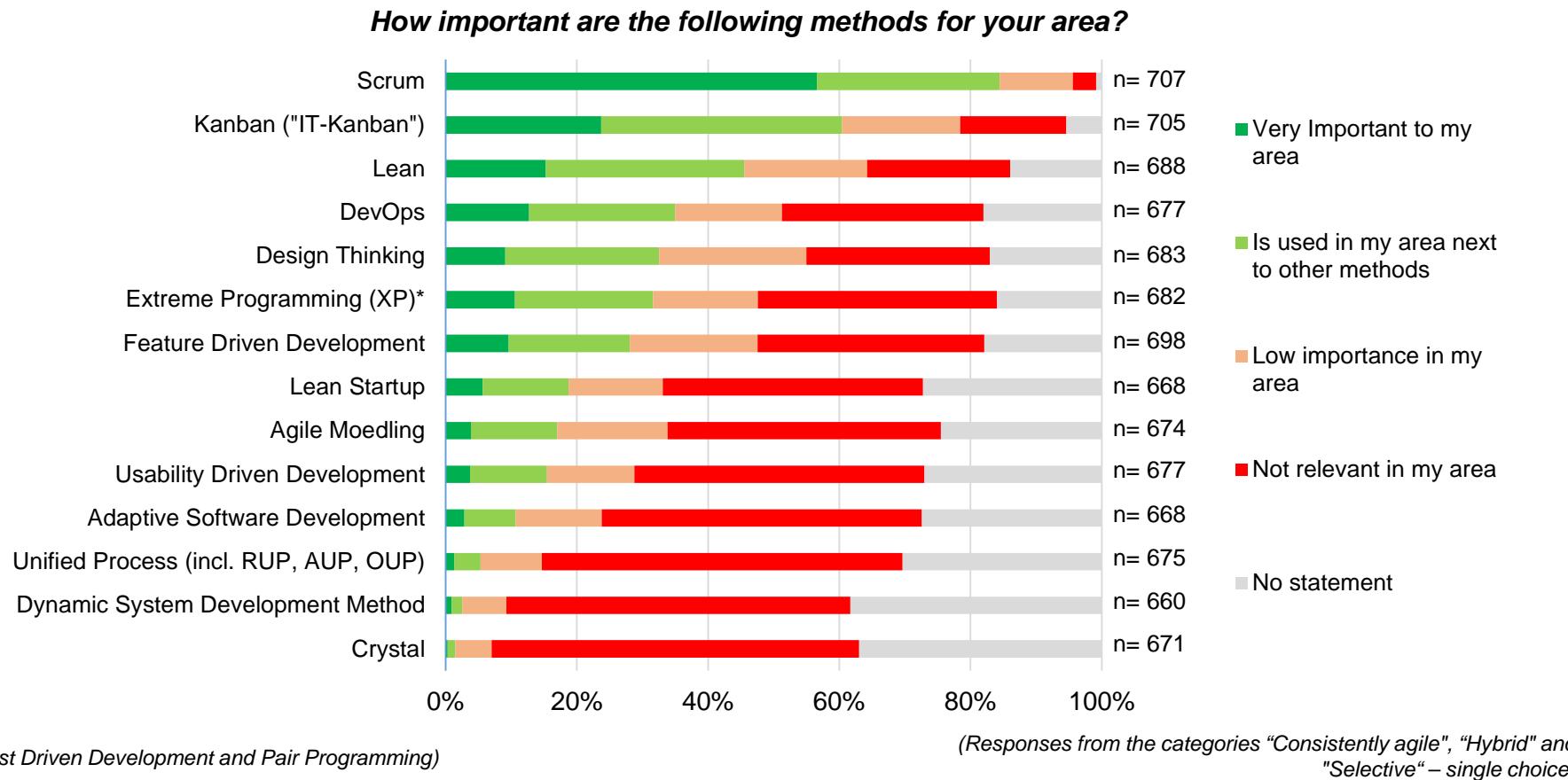
# Scrum – Interest Google Germany

„Scrum“ – Google Germany



Source: <https://trends.google.de/trends/explore?date=all&geo=DE&q=scrum>, abg. 16.10.2017

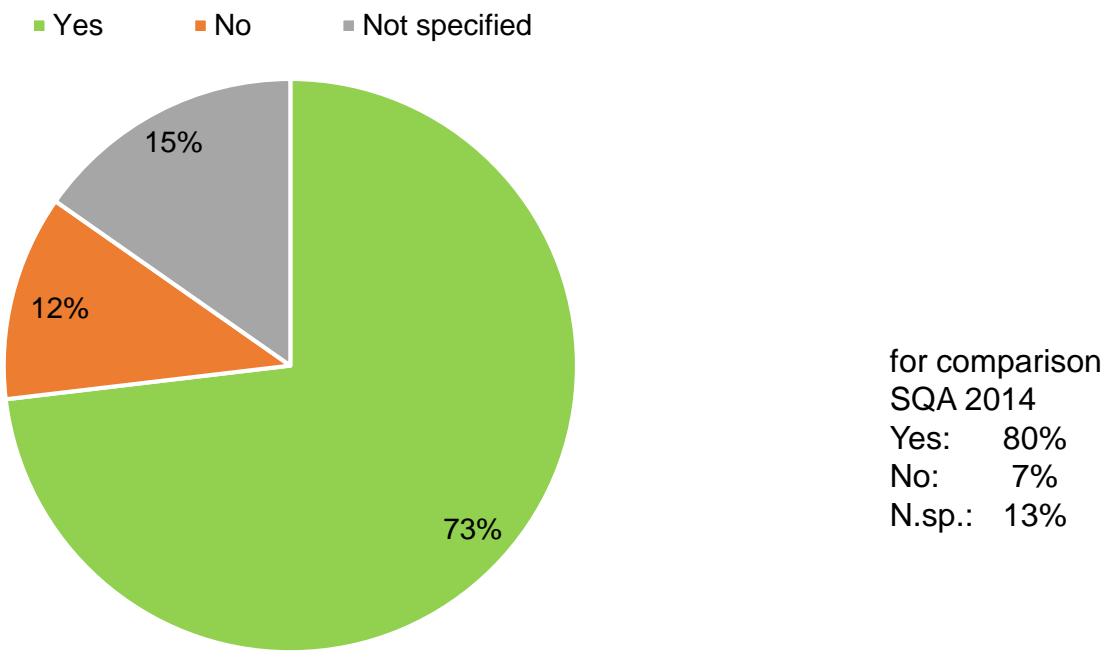
# Importance Of Agile Methods



**Scrum is still the most common method.  
DevOps is gaining in importance.**

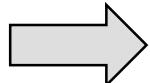
# Improvement Of Results And Efficiency Due To Agile Methods

*Did the usage of agile methods lead to improved results and efficiency?*



n=733

(Responses from the categories "Consistently agile", "Hybrid" and "Selective" – single choice)

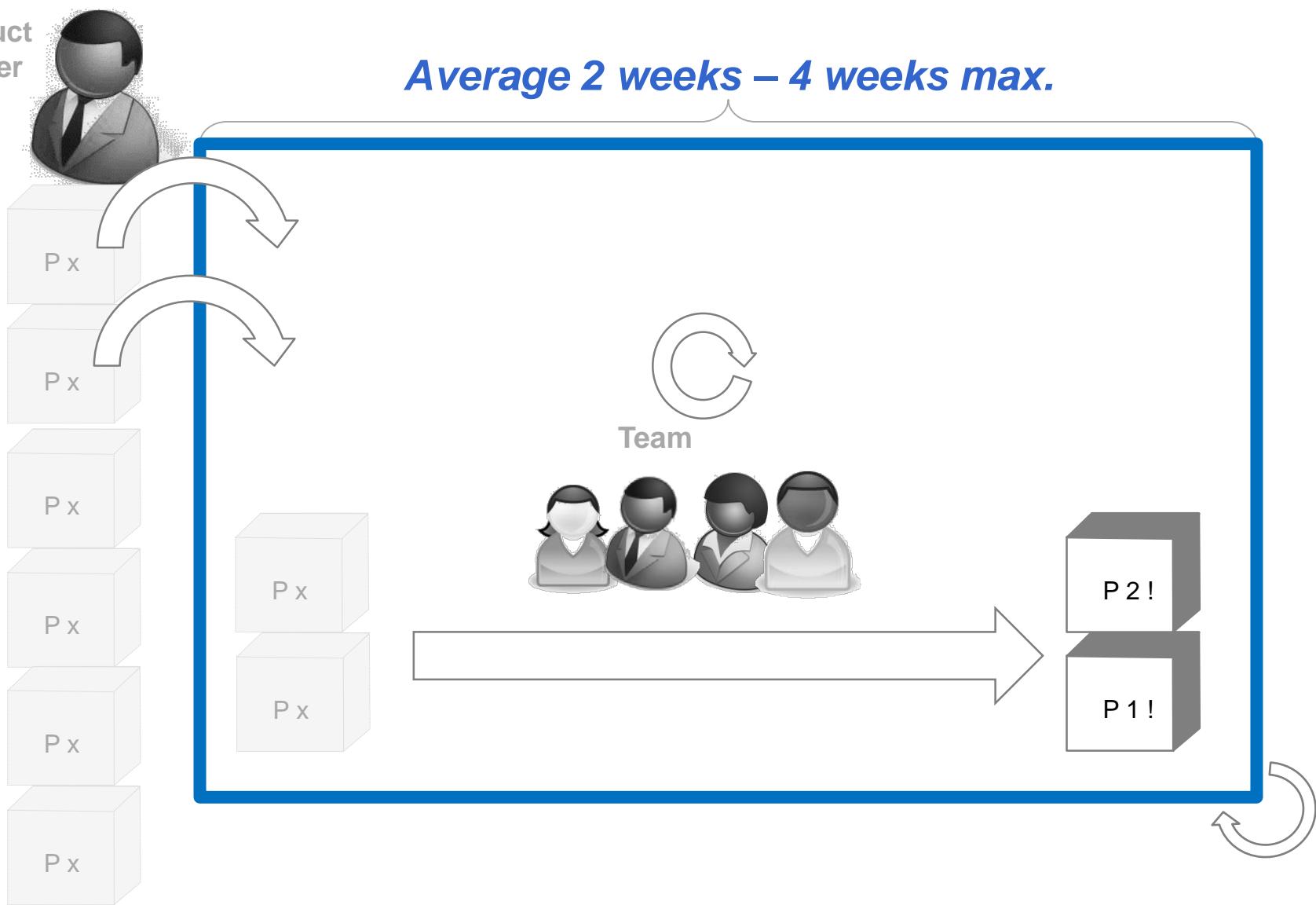


***Again, the vast majority of respondents see improvements through agile methods.***

# Manageable Planning Horizon – 2 Weeks

Product  
Owner

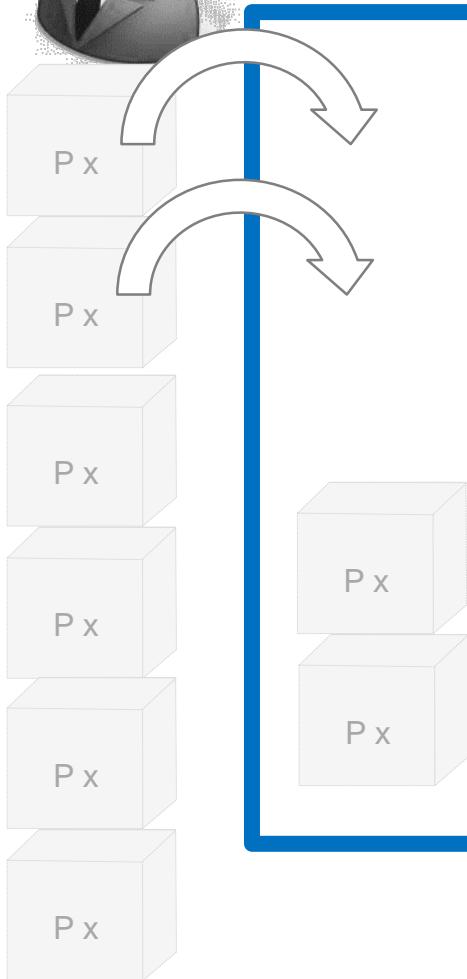
*Average 2 weeks – 4 weeks max.*



# Freedom Within Defined Boundaries

Product  
Owner

What!

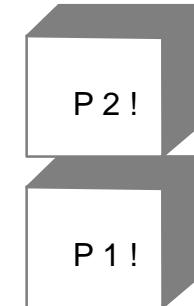


„Protected Space“

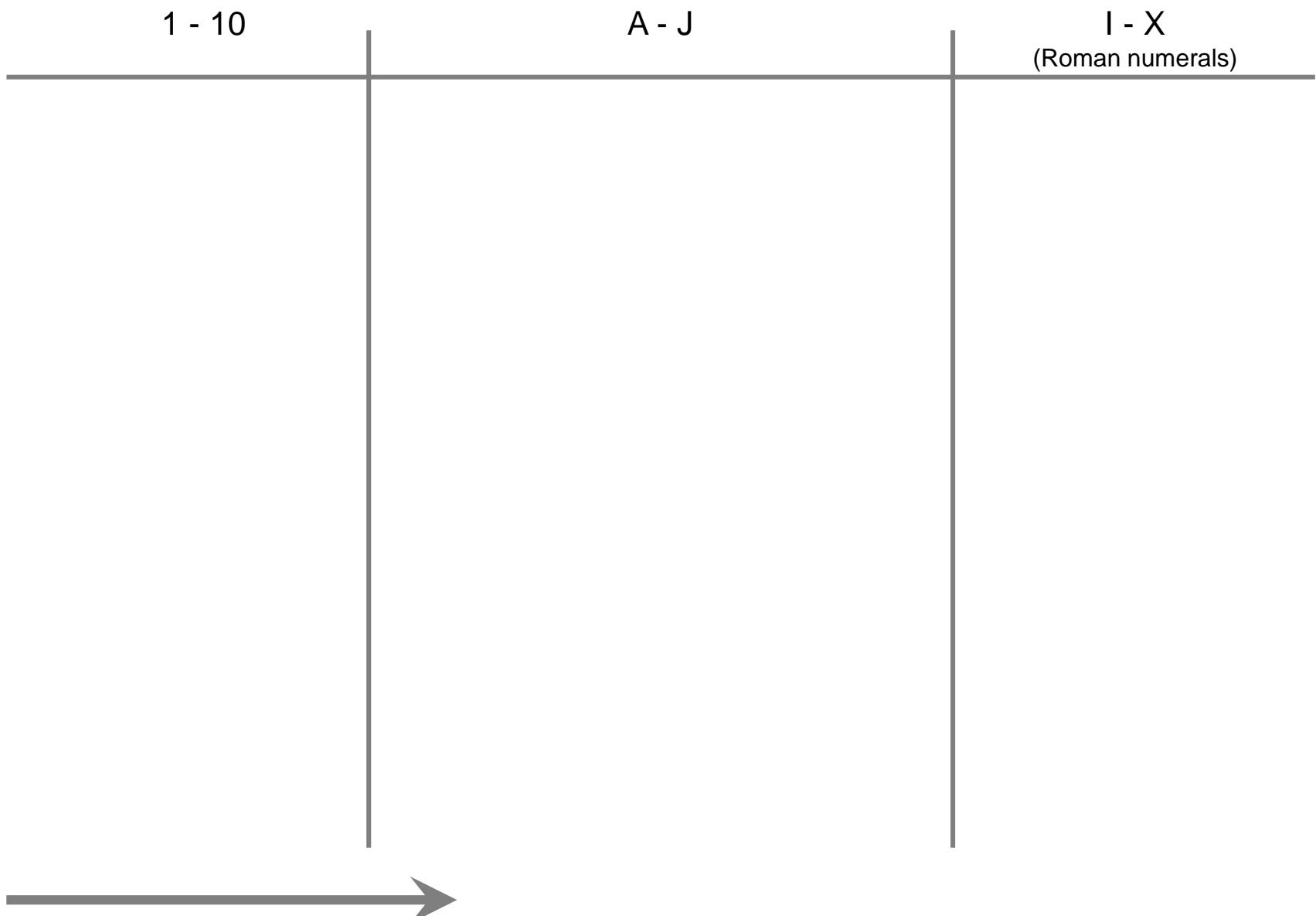


Team

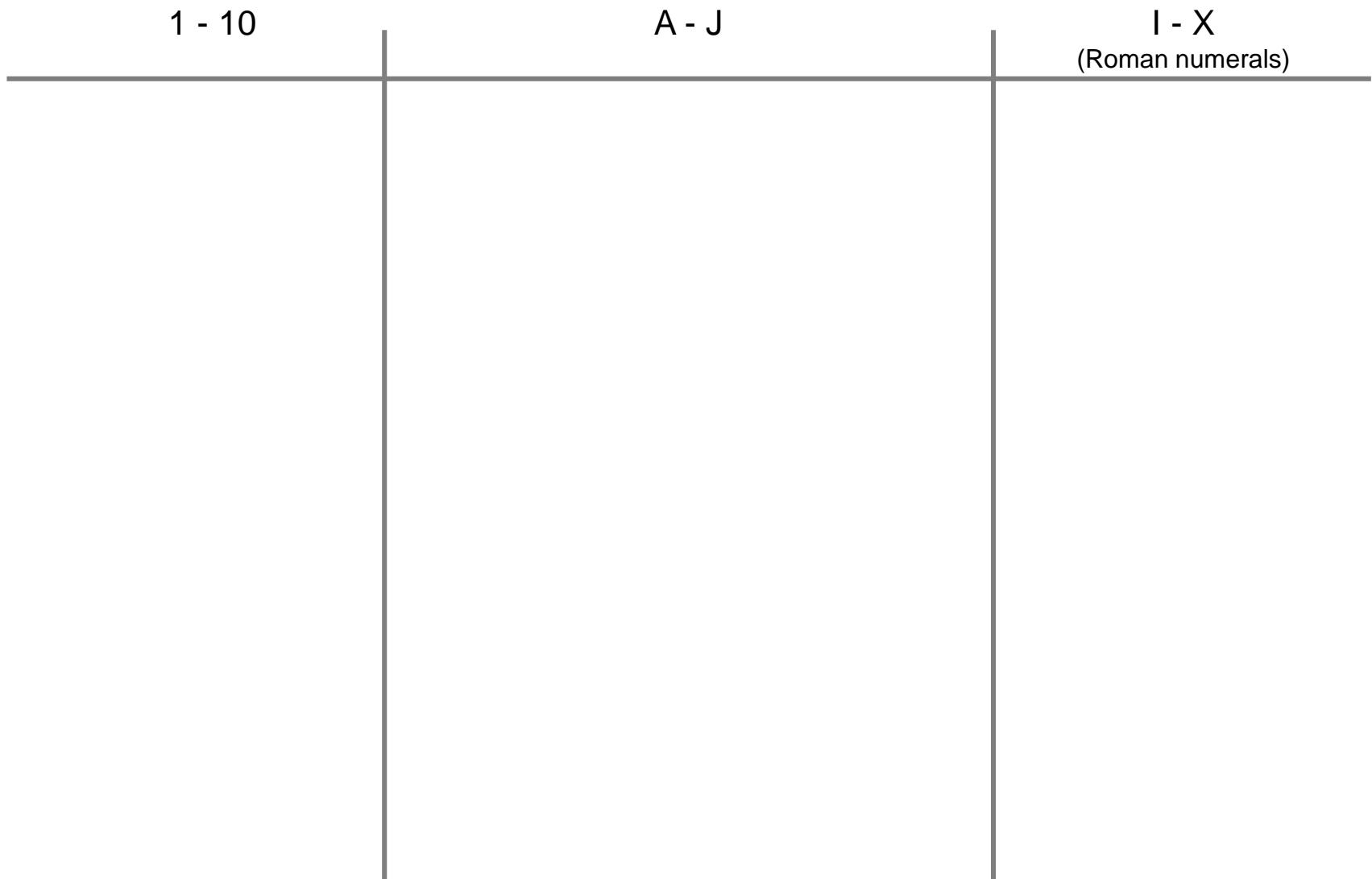
How!



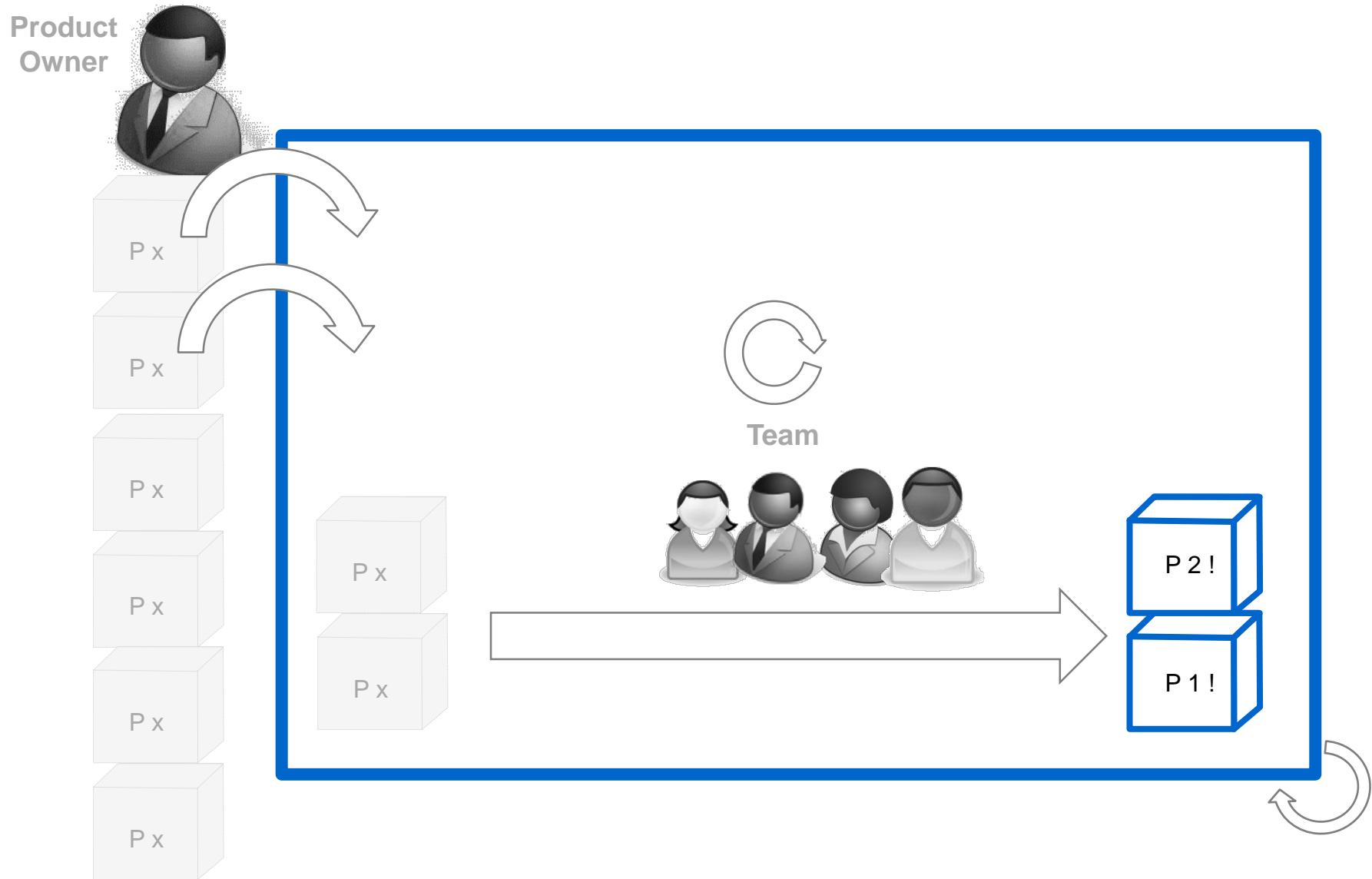
# Work-In-Progress-Exercise – Step 1



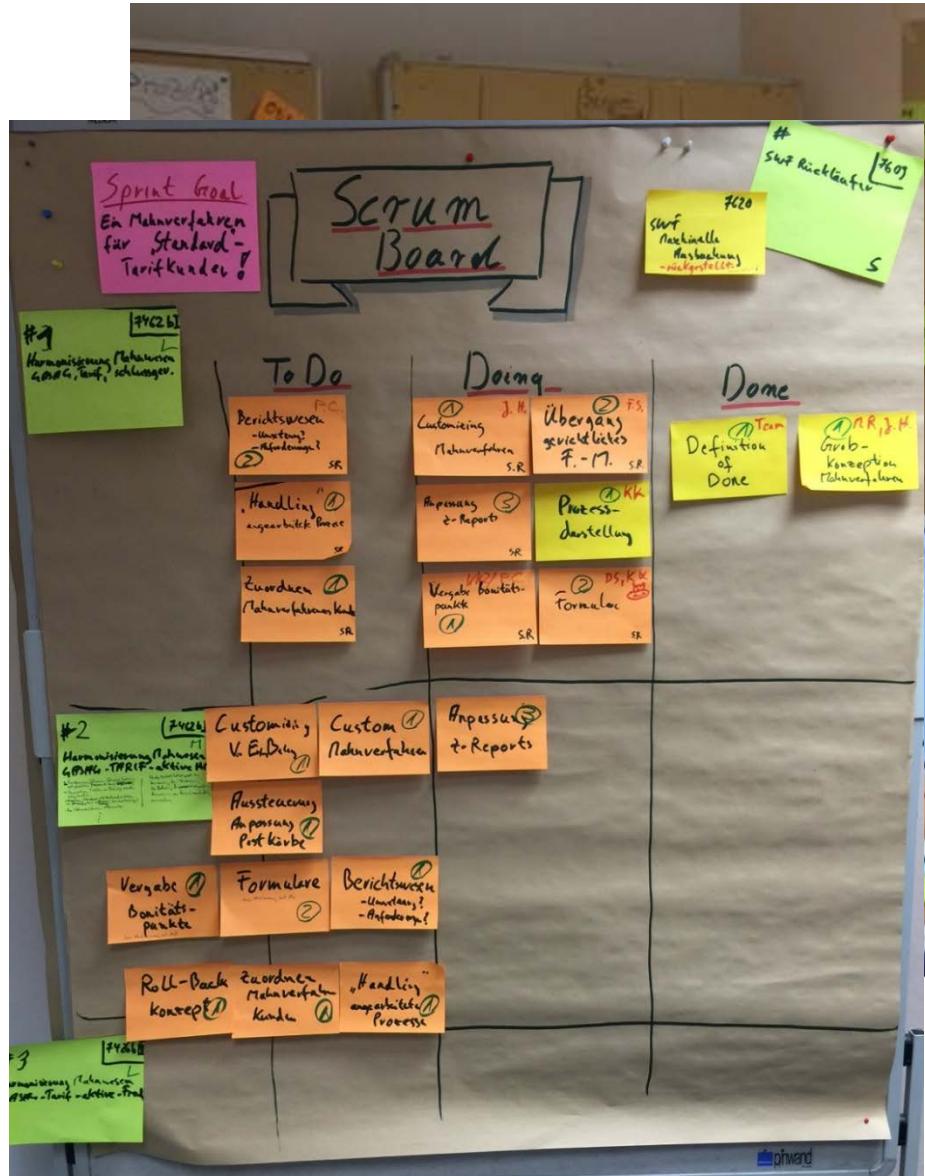
# Work-In-Progress-Exercise – Step 2



# Focus - Ensured With Narrowly Defined Sprint-Backlogs

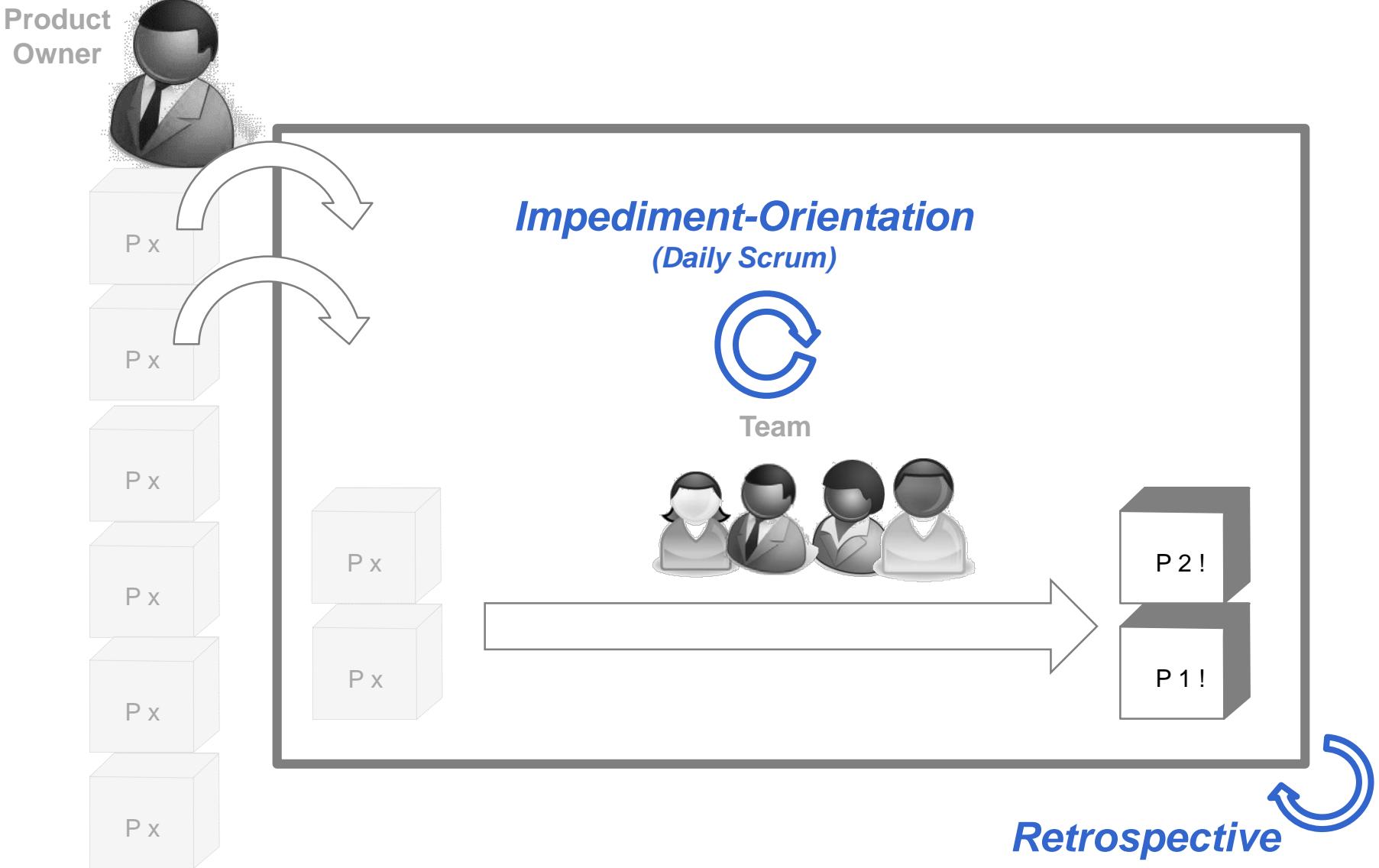


# Simplicity, Simple Visualization, Haptics



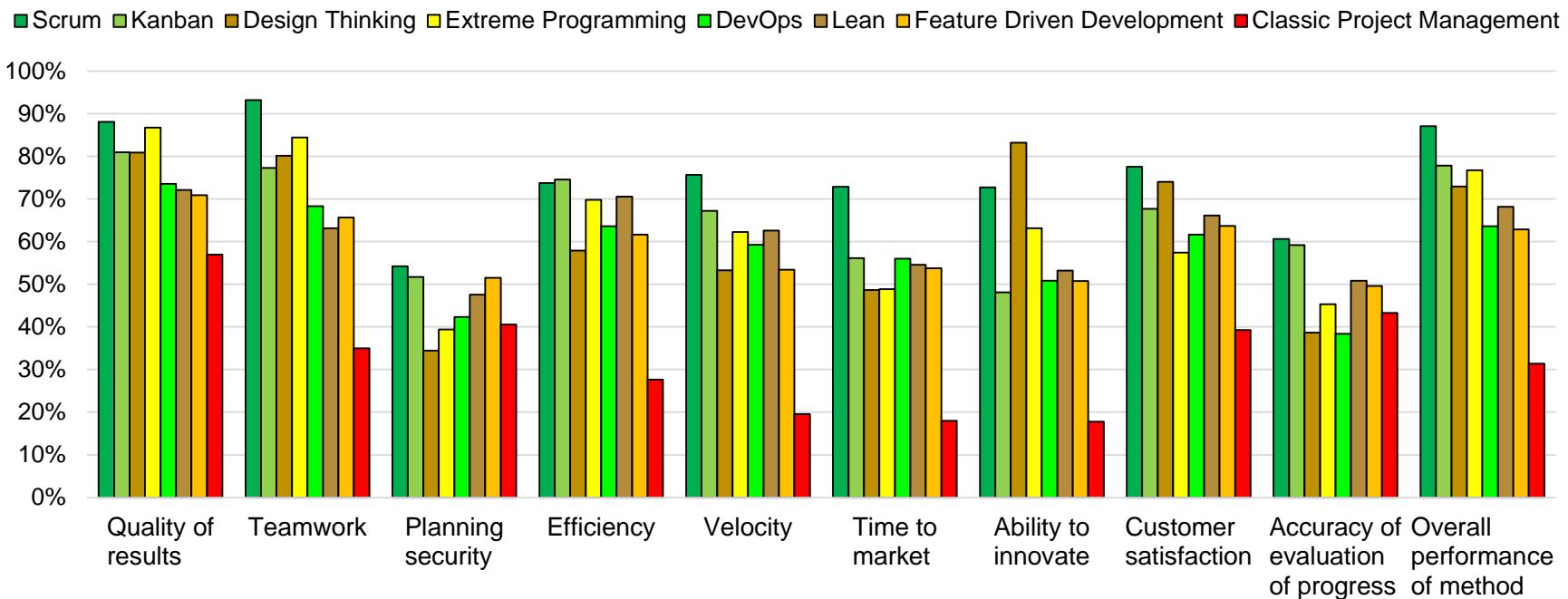
Source: Heupel Consultants, April 2016

# Inspect and Adapt – Continuously



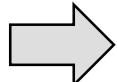
# Success Rates Agile Versus Classic PM

*Sum of the "very good" and "good" ratings*



n: see individual evaluations\*

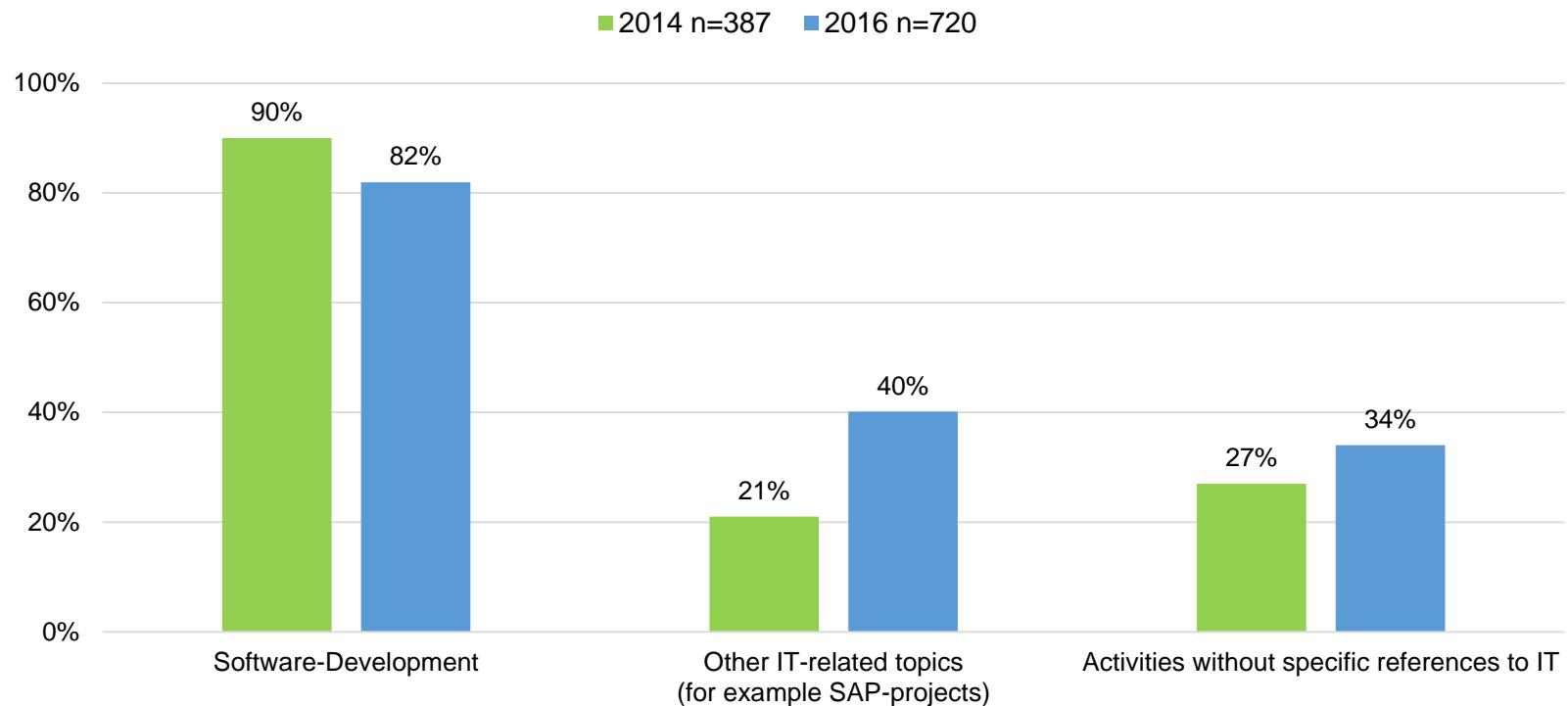
(Responses from the categories "Consistently agile", "Hybrid", "Selective" and "Consistently classic project management" – single choice)



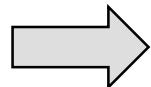
**Agile methods are also clearly superior regarding Quality of results, Customer satisfaction, and Accuracy of evaluation of progress**

# Fields Of Application And Usage

*In which areas do you use agile methods/ project management?*

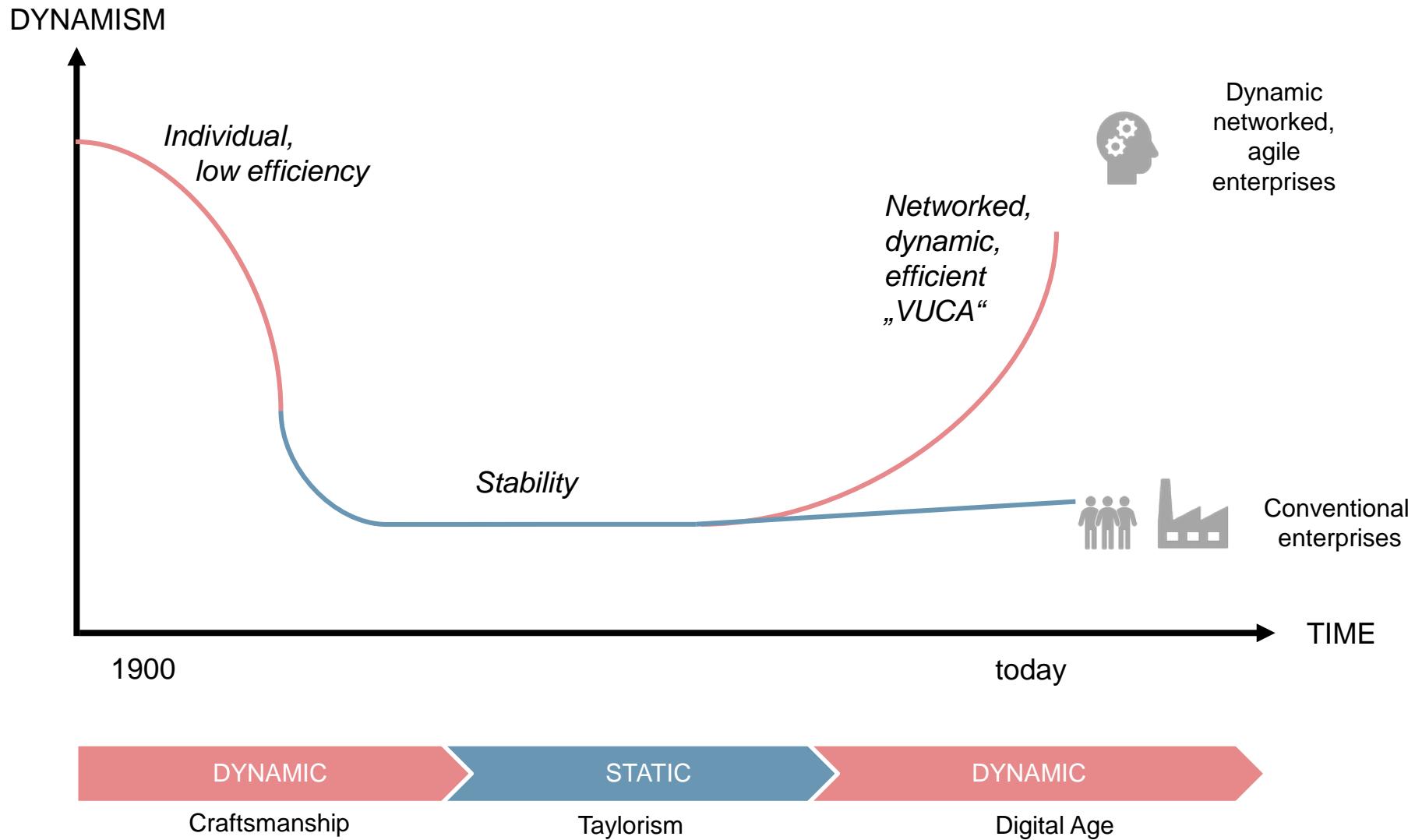


*(Responses from the categories "Consistently agile", "Hybrid" and "Selective" – multiple choice)*



***Agile methods are no longer used only  
in software development***

# The Taylor-Tub

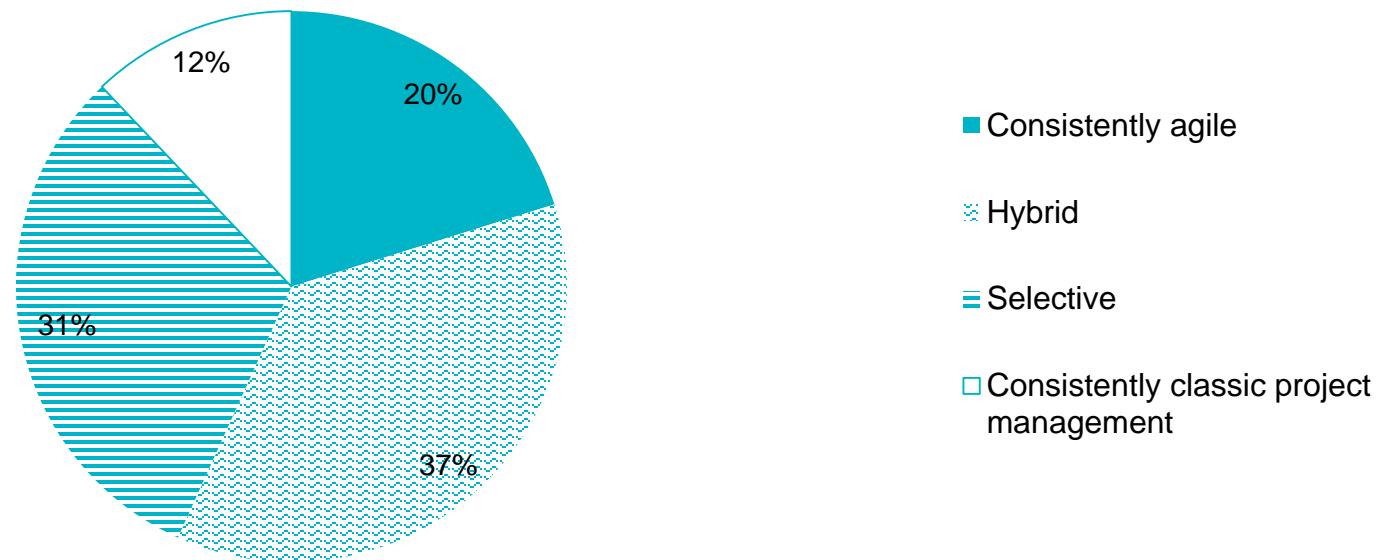


Concept: Gerhard Wohland

# *Is It Either Agile Or Classic? Hybrid Practices*

# Fields Of Application And Usage

***In which form do you use agile methods in your area to plan and execute projects/ development processes?***



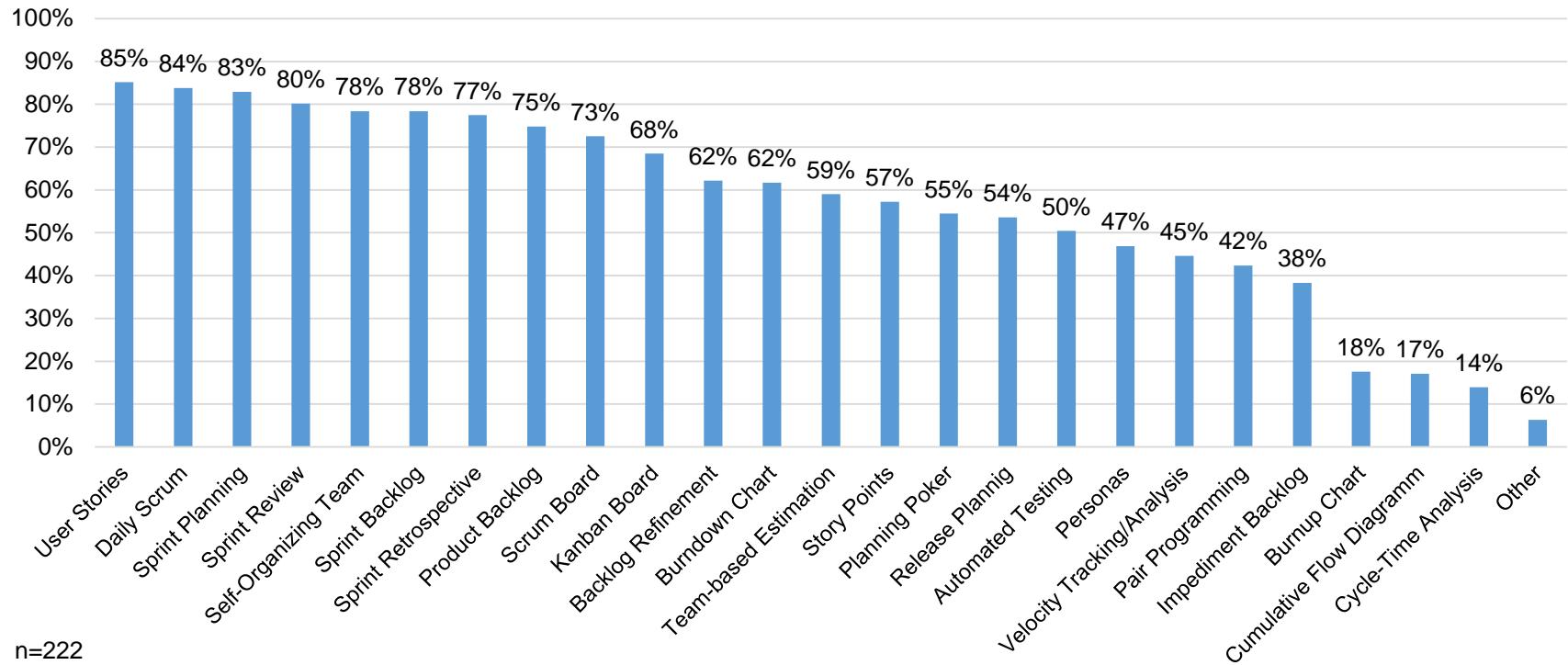
n=902

(Responses from the categories "Consistently agile", "Hybrid", "Selective" and "Consistently classic project management" – single choice)

***Only a minority uses agile methods consistently  
“by the book”***

# Usage Of Agile Techniques

*Which agile practices do you use?*

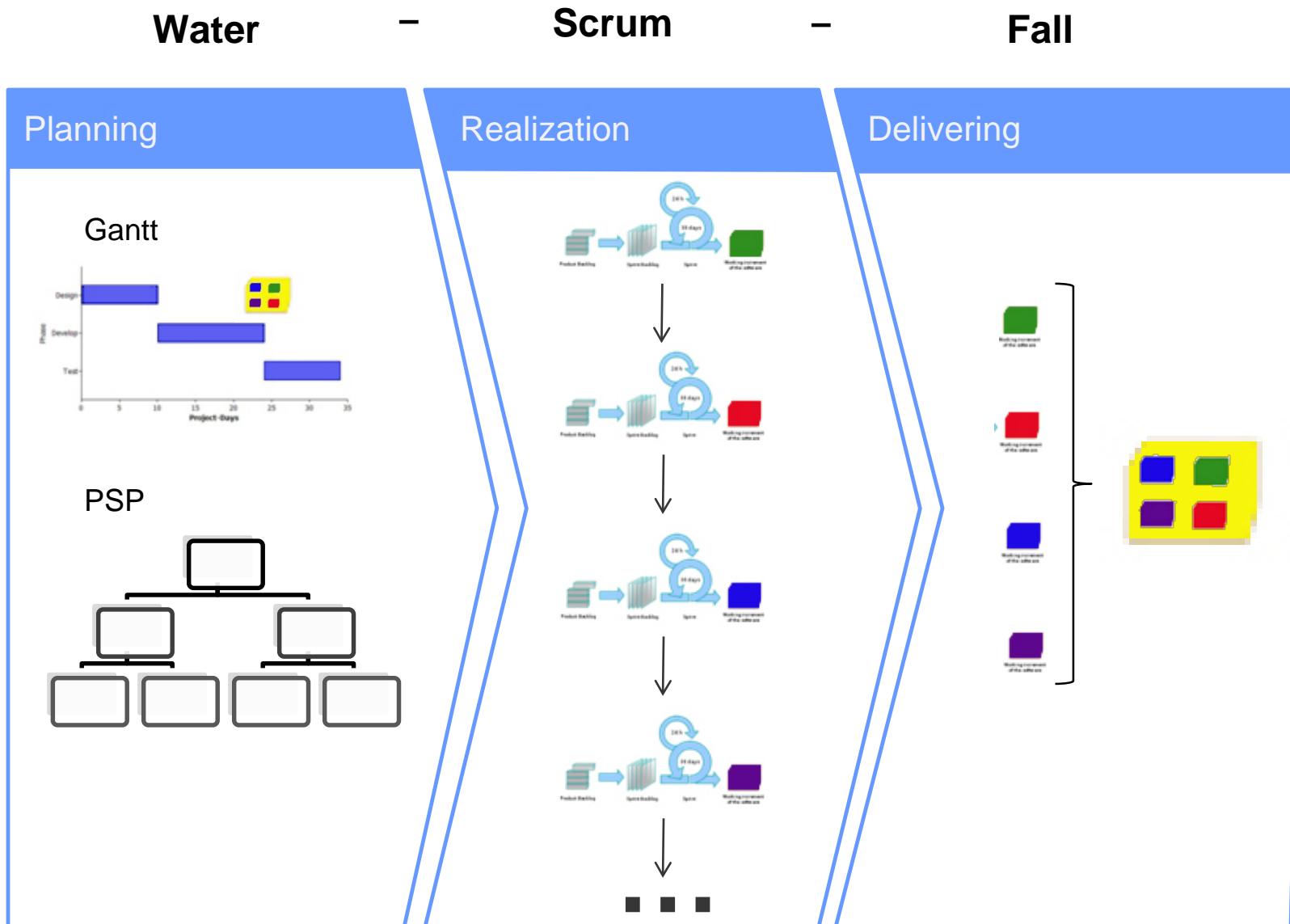


(Responses from the categories “Consistently agile”, “Hybrid” and  
“Selective” – multiple choice)



**Many very common techniques can also be used  
in classic project management**

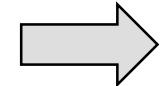
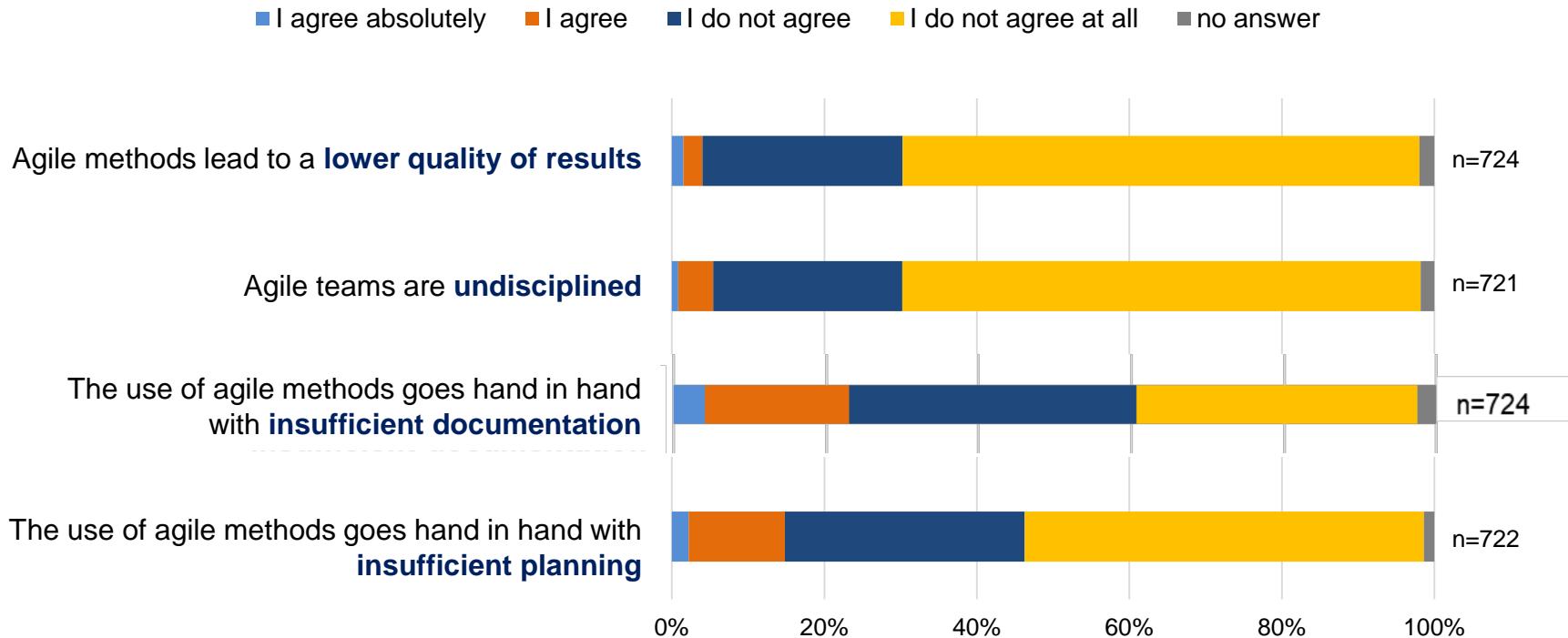
# “Water–Scrum–Fall”



*Agile = Poor Quality And Documentation?*

# Agile Methods And Quality, Documentation

*How much do the following statements correspond to your opinion?*



***Quality, Discipline, Insufficient Documentation and Planning are hardly an issue***

# Reasons To Use Or Not To Use Agile Methods

*Why did your organization decide to work with agile methods?*



(Responses from the categories "Consistently agile", "Hybrid" and "Selective" – multiple choice)

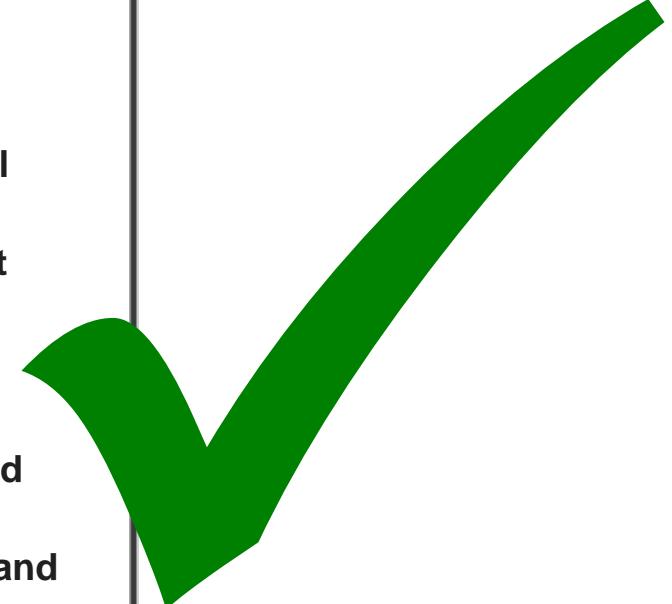


**Quality, Risk minimization and Predictability are often the motives for using agile methods**

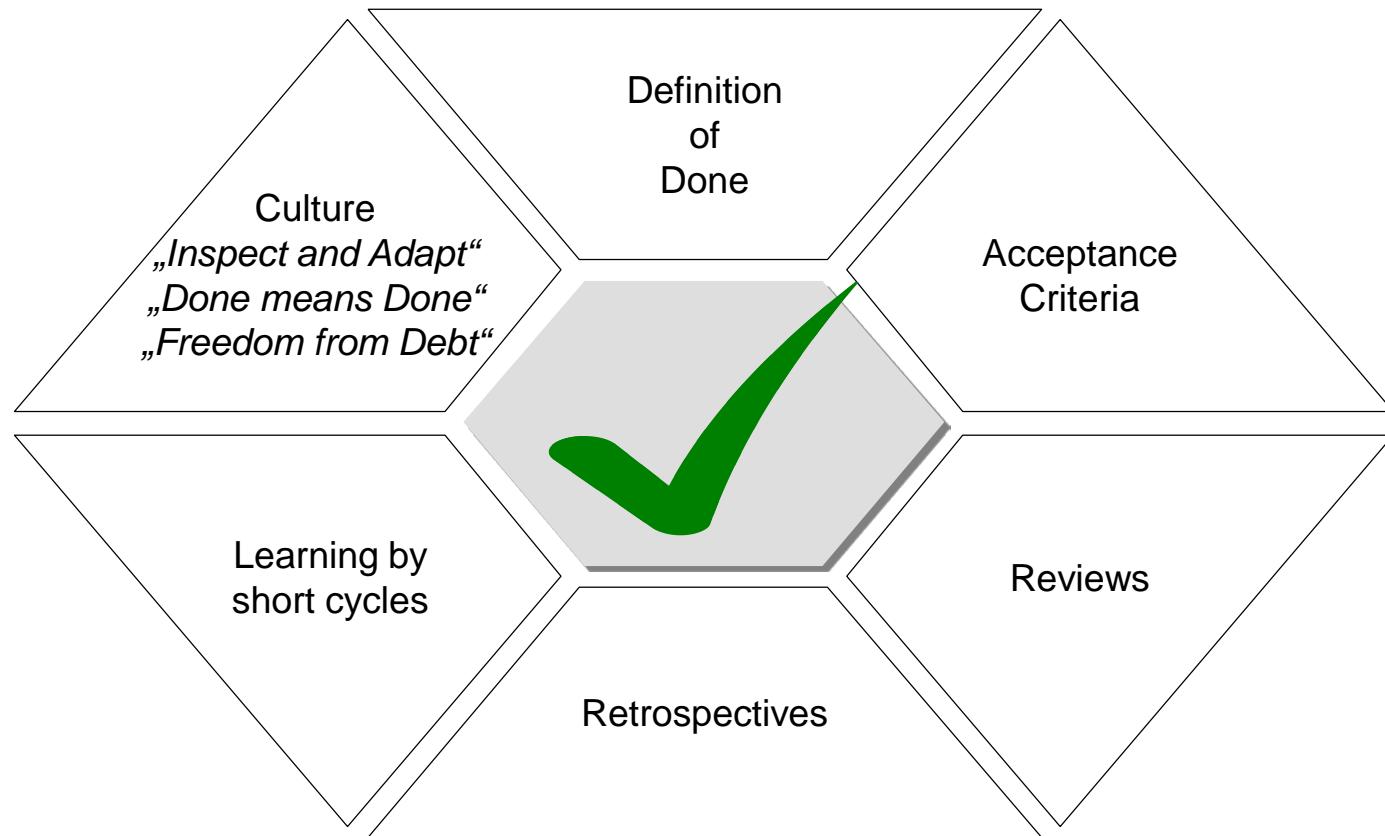
# DoD – Definition Of Done

## Sprint Review: Done means Done!

1. Code produced (all ‘to do’ items in code completed)
2. Code commented, checked in and run against current version in source control
3. Peer reviewed (or produced with pair programming) and meeting development standards
4. Builds without errors
5. Unit tests written and passing
6. Deployed to system test environment and passed system tests
7. Passed UAT (User Acceptance Testing) and signed off as meeting requirements
8. Any build/deployment/configuration changes implemented/document/documented/communicated
9. Relevant documentation/diagrams produced and/or updated
10. Remaining hours for task set to zero and task closed



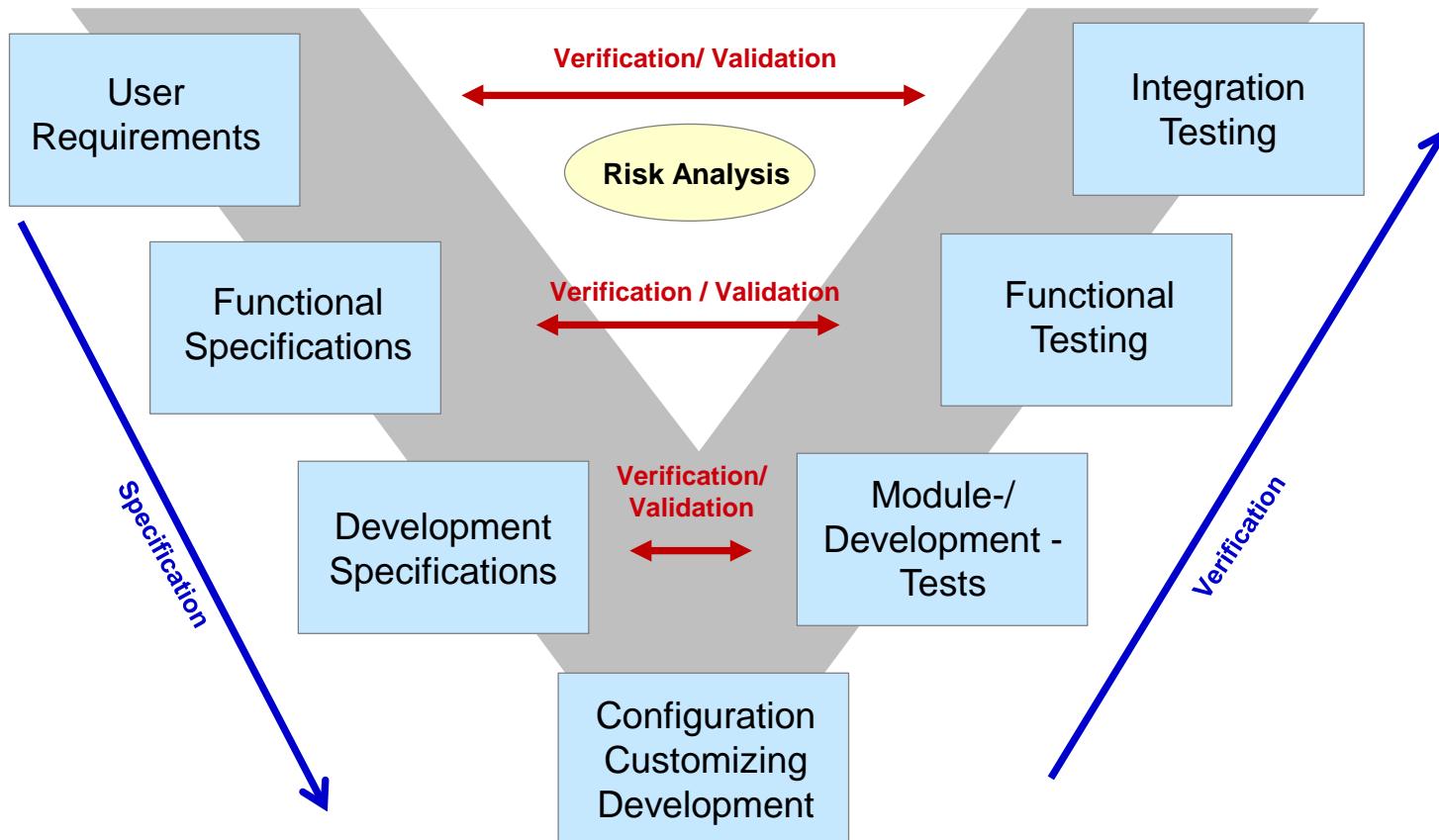
# Quality In Agile Methods



*Agile And Regulated*

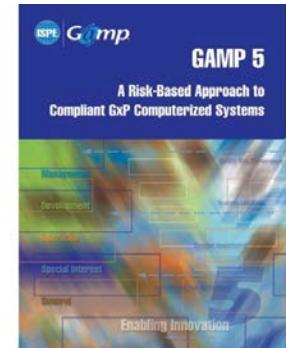
# Classical Approach

**V-Model for prospective validation -  
Sequential approach, each phase completed**



# Requirements from GAMP 5

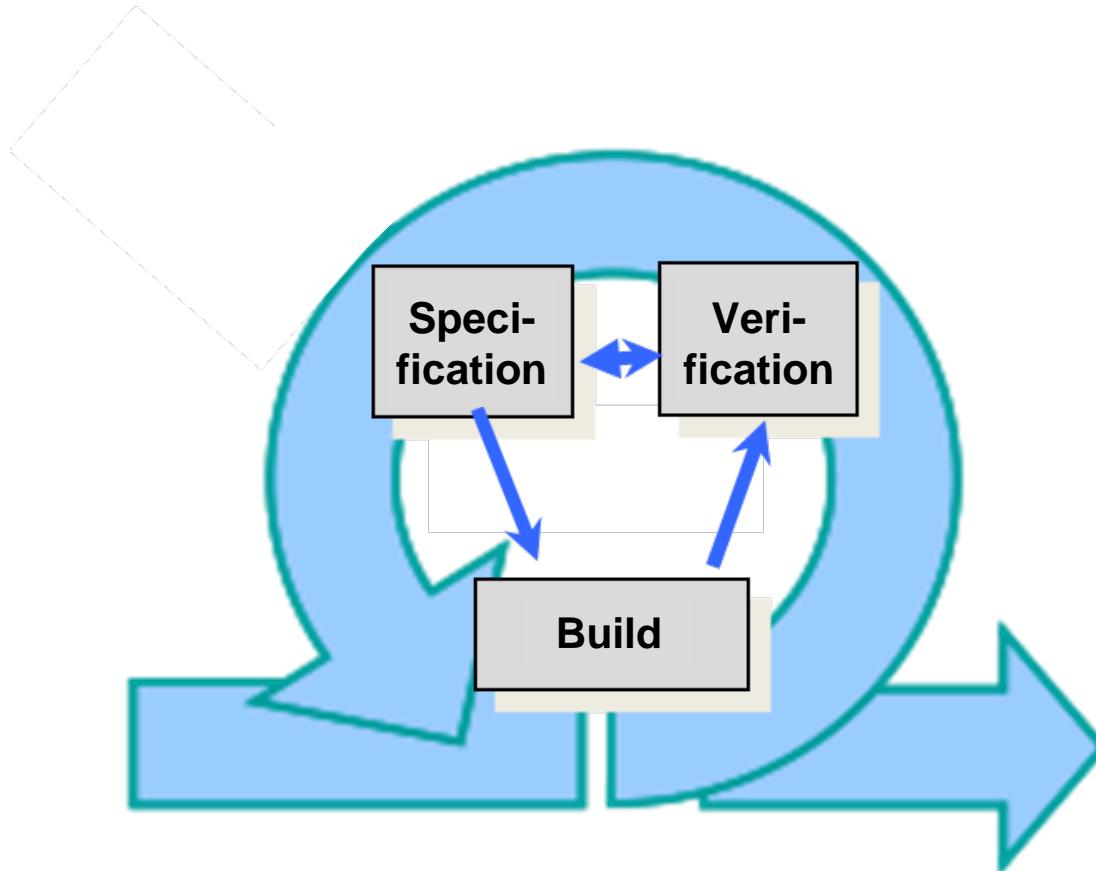
## Quotes from GAMP 5 regarding Agile



- "Formal (change) control should **not be introduced too early** during development in order to minimize non-productive work during what are naturally iterative or evolutionary processes."
- "At the **end** of the development **phase** document review and approval should act as the **formal verification** that the document content is complete, accurate, and fit for intended use."
- "Changes made during approved prototyping work are **exempt** and should be subject to these controls **only** when they become **documented design proposals**."

# Sprint As A Small Waterfall („V“)

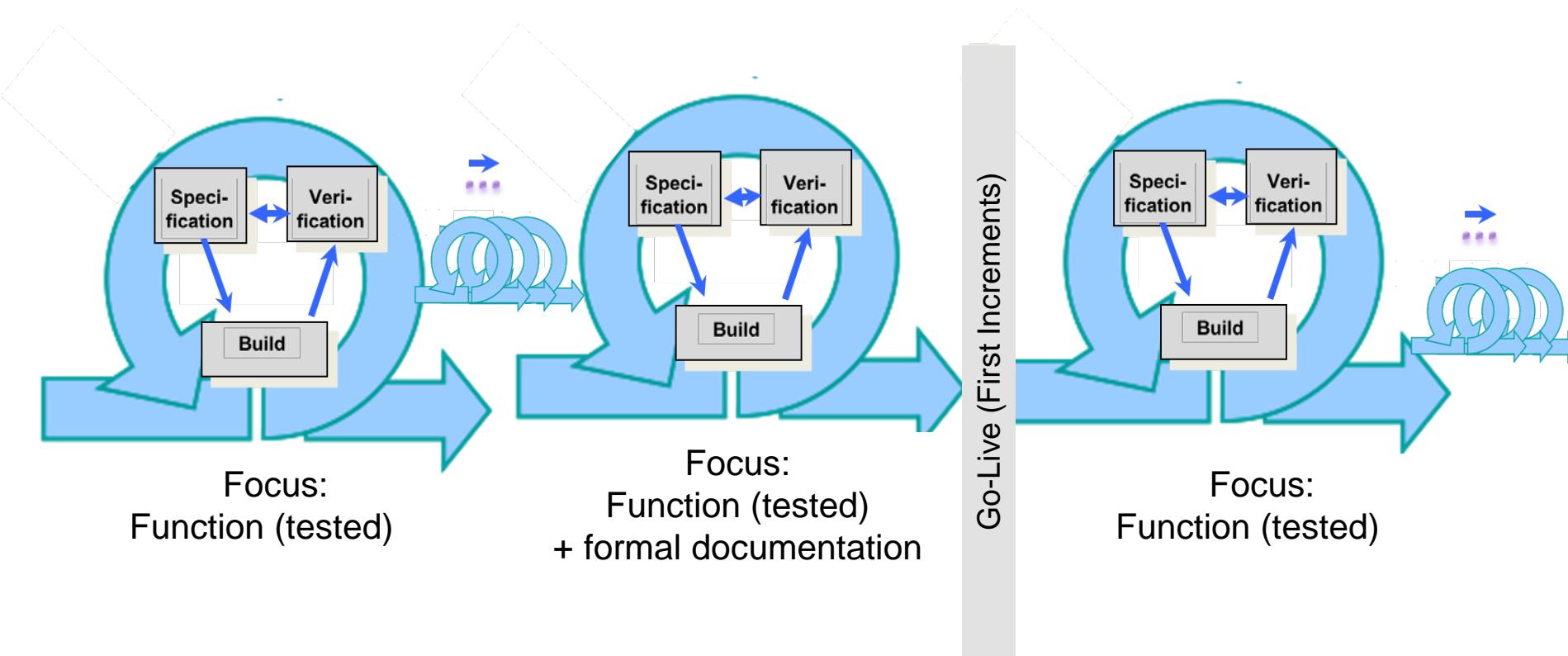
Sprint



Source: Komus/Komus, CHEManager

# Possible Adapted Validation Procedure

## Scrum cycle with sprint for formal proof in regulated environment



Source: Komus/Komus, CHEManager:

<http://www.chemanager-online.com/en/topics/pharma-biotech-processing/scrum-regulated-environment>

# Good Arguments For Using Scrum In Regulated Environment

## Close contact with people involved in the projects

- Direct user input for the formulation and prioritization of user requirements
- Testing of the product at the end of each sprint cycle
- Early involvement of compliance-aspect and learning curve
- Early user involvement and knowledge transfer

## No accumulation of incomplete documentation

- By the end of the sprint all tasks have to be completely finished (for example with documentation and approval)
- No postponing of documentation

Accordance of documentation and **actual** updated technical and organizational system !

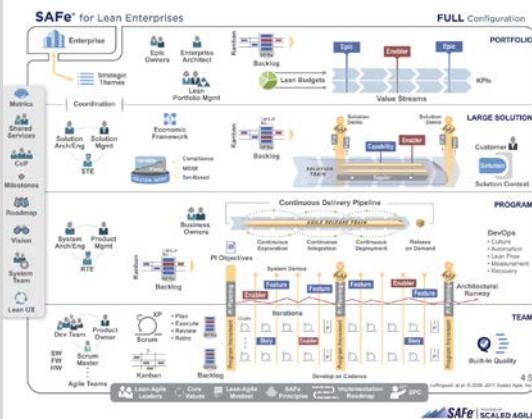


*Scaling  
Portfolio Management  
Choosing The Appropriate Approach*

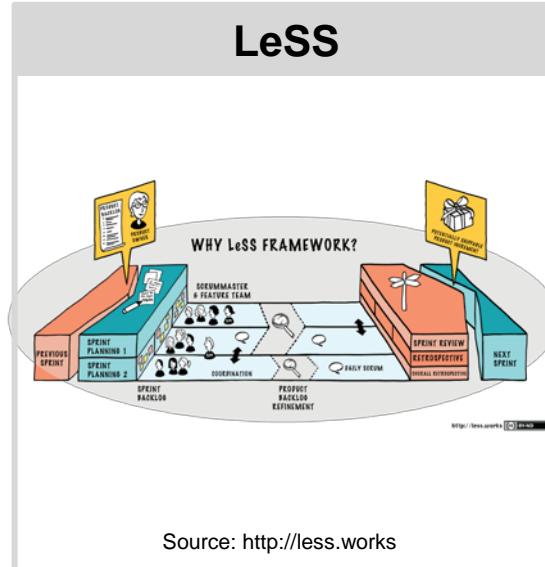
# *Using Scaled Agile-Approaches In Hybrid Portfolios*

# Agile Scaling Approaches

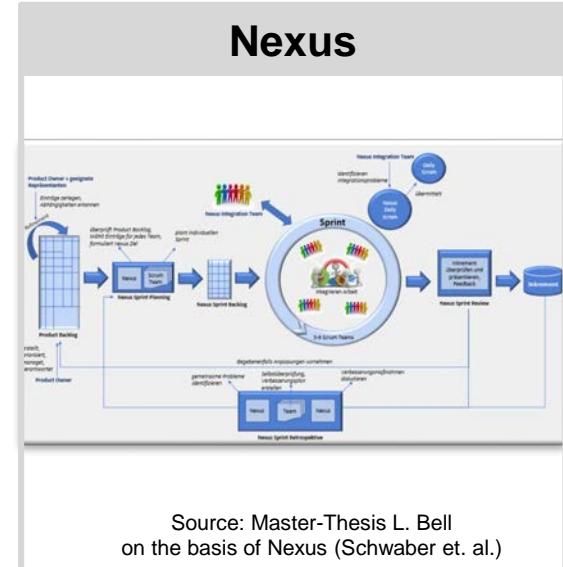
## SAFe



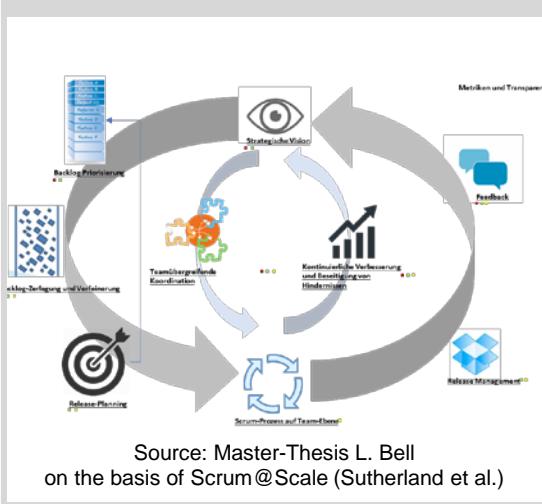
## LeSS



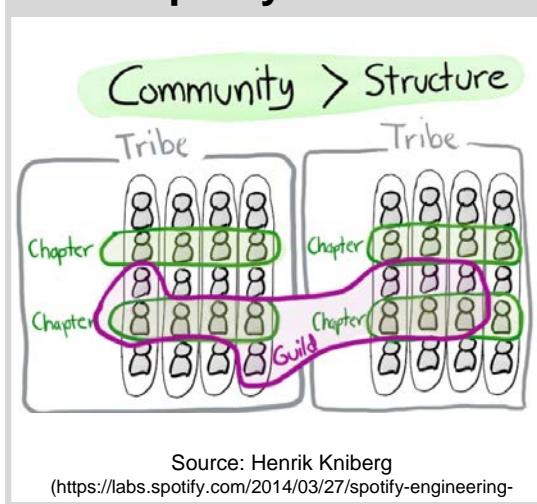
## Nexus



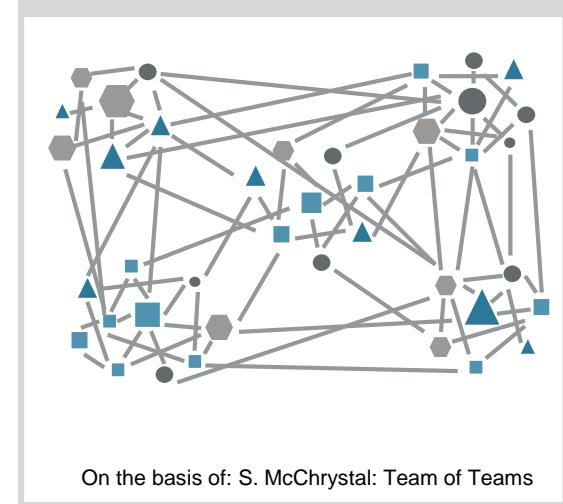
## Scrum@Scale



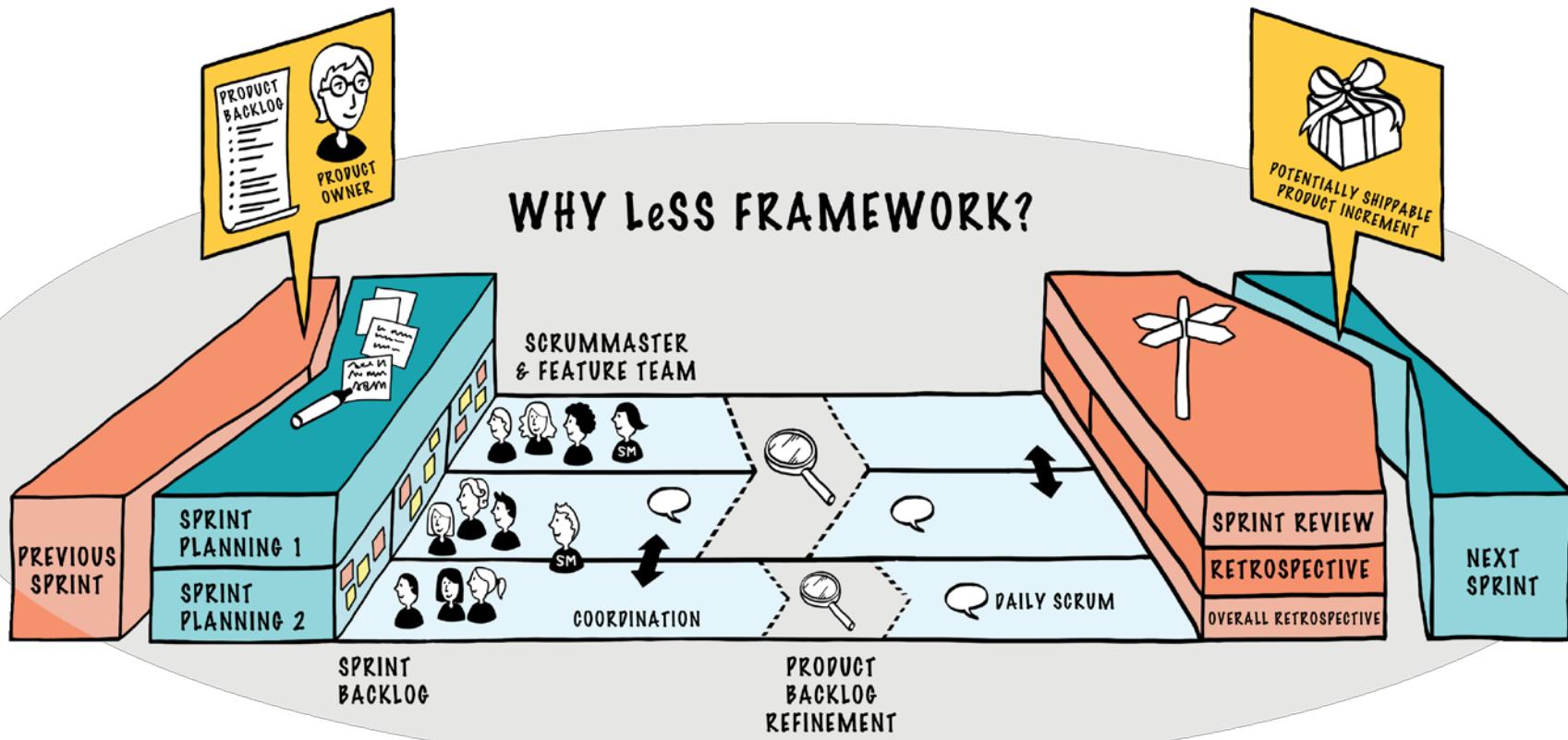
## Spotify Model



## Team of teams



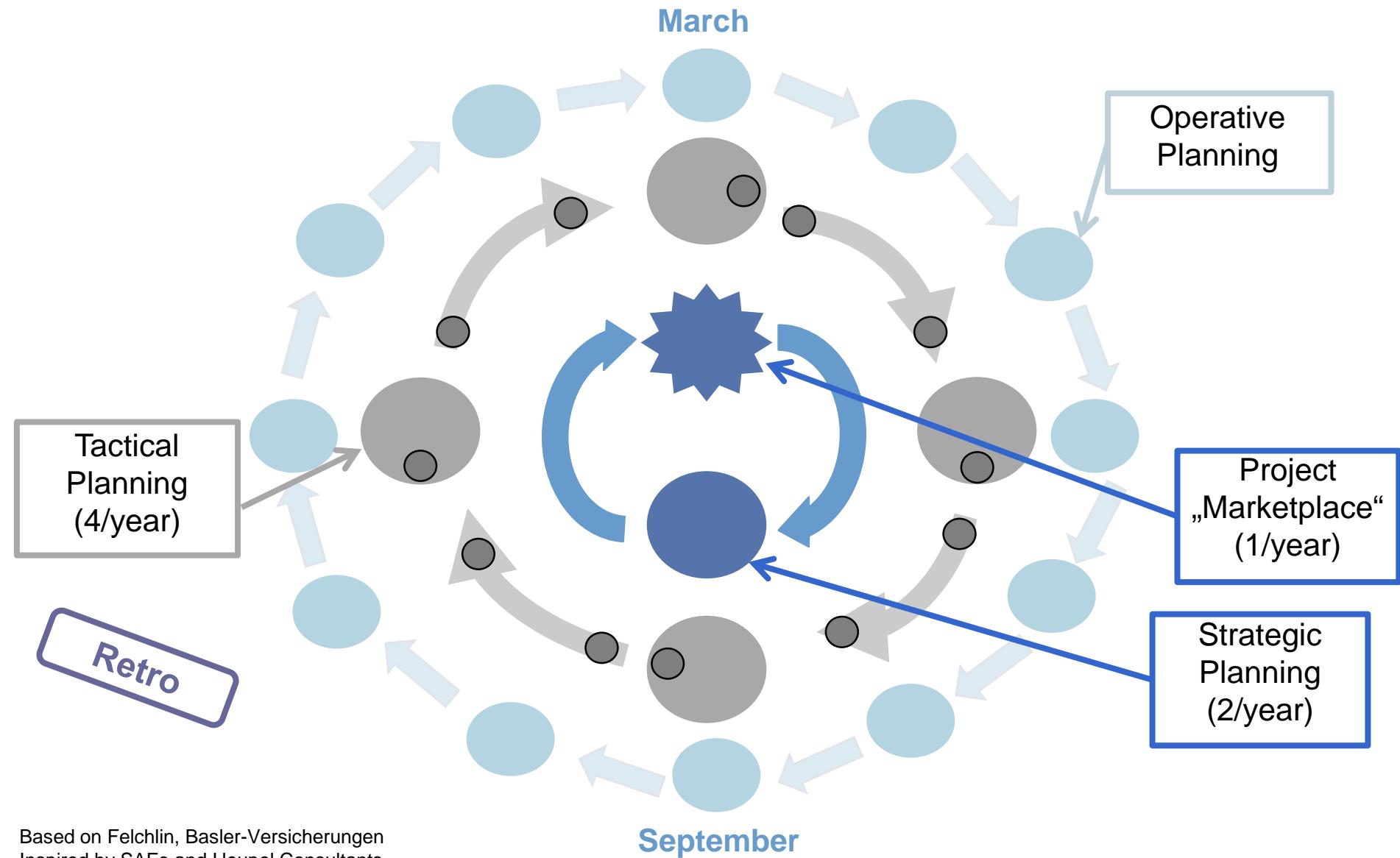
# LeSS Framework – Basic Structure



<http://less.works>

Source: <http://less.works>

# Project Portfolio Management – Synchronized „Heartbeat“



Based on Felchlin, Basler-Versicherungen  
Inspired by SAFe and Heupel Consultants

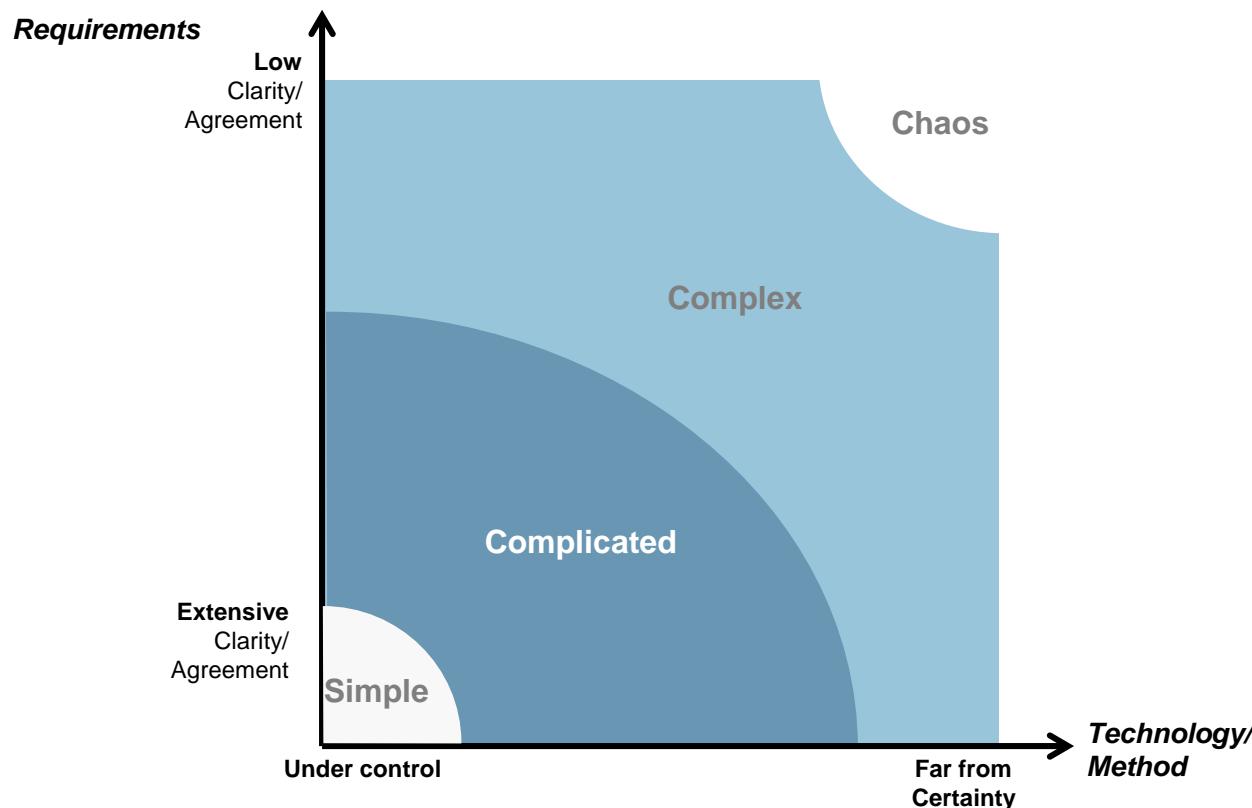
# Simplicity, Simple Visualization, Haptics (2/2)



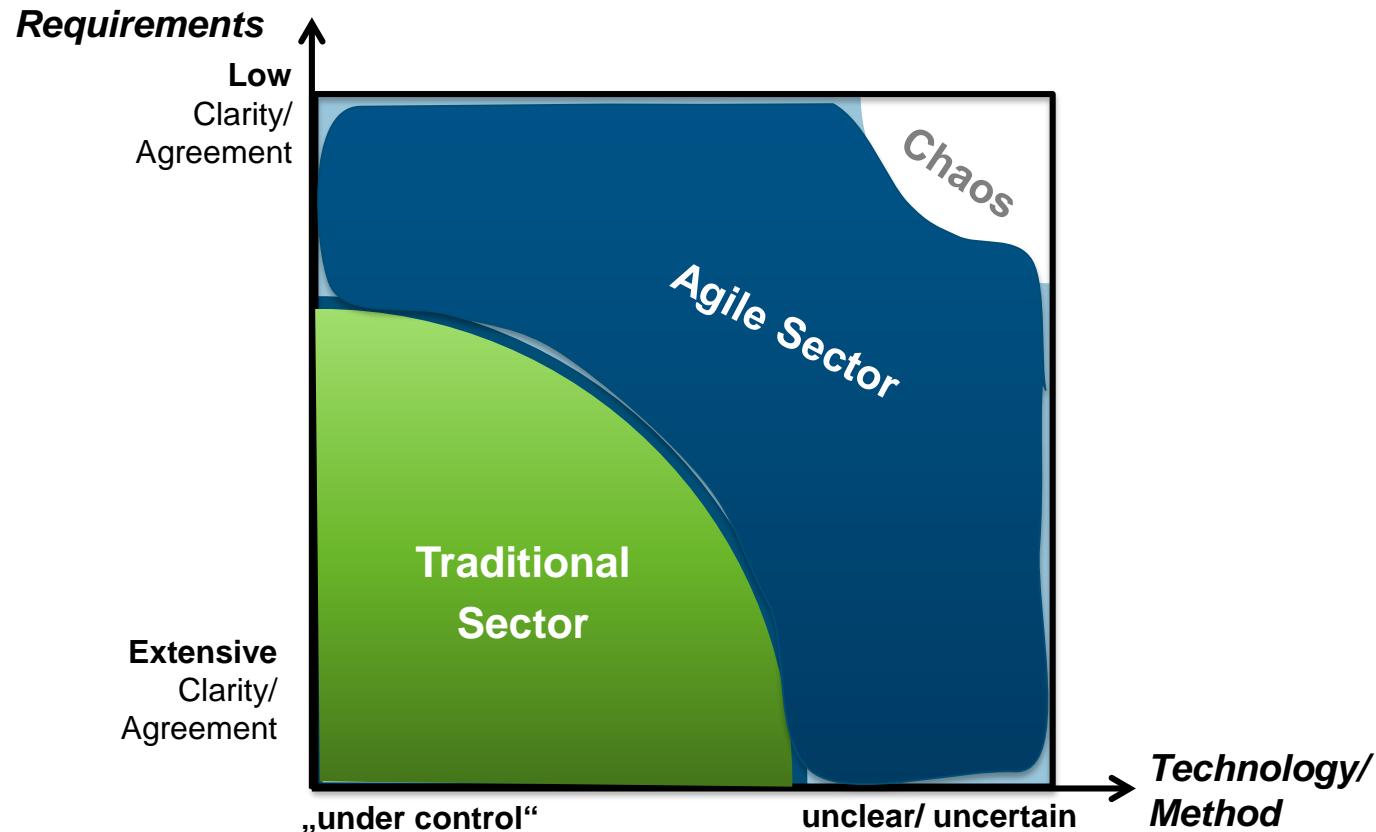
Entnommen: Kniberg/Roost: Is SAFe evil? [http://gotocon.com/dl/goto-cph-2015/slides/HenrikKniberg\\_and\\_LarsRoost\\_IsSAFeEvil.pdf](http://gotocon.com/dl/goto-cph-2015/slides/HenrikKniberg_and_LarsRoost_IsSAFeEvil.pdf)

# *Where To Use How Much Agile*

# Complicated Versus Complex – Stacey Matrix

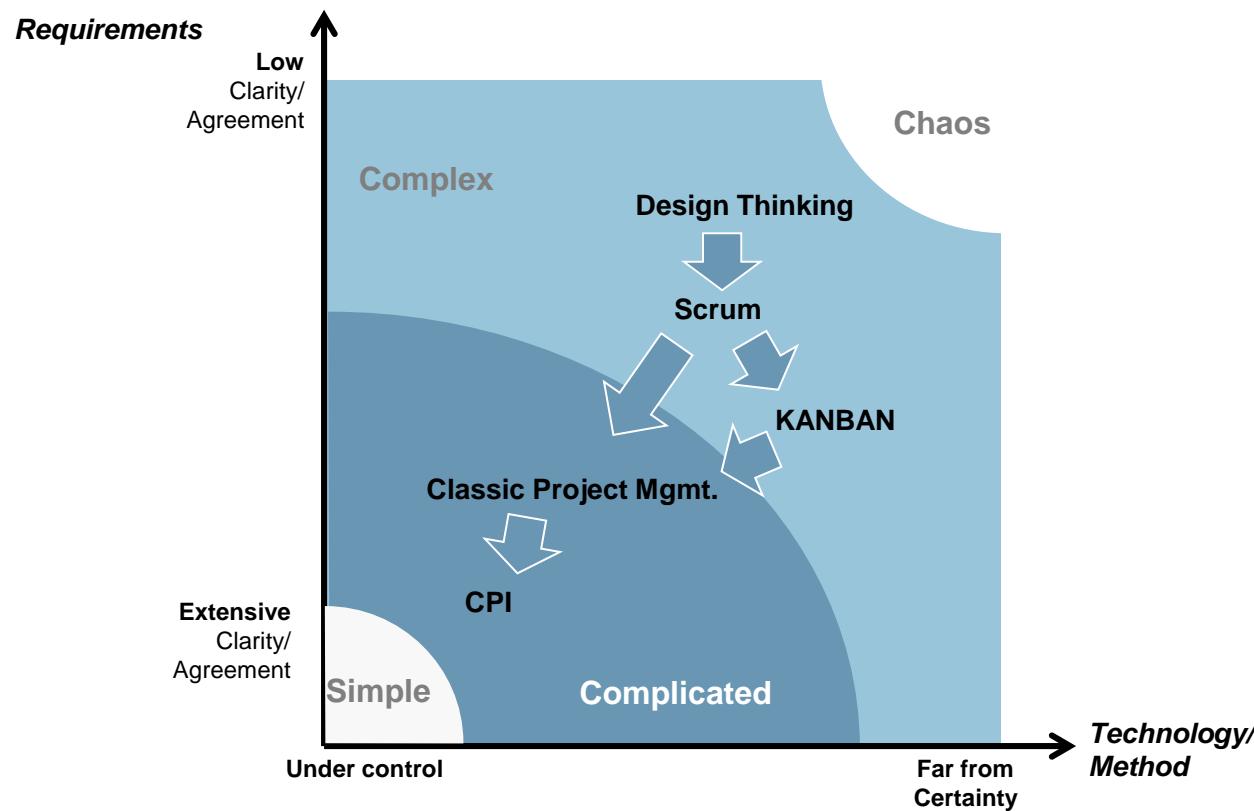


# Complex Versus Complicated

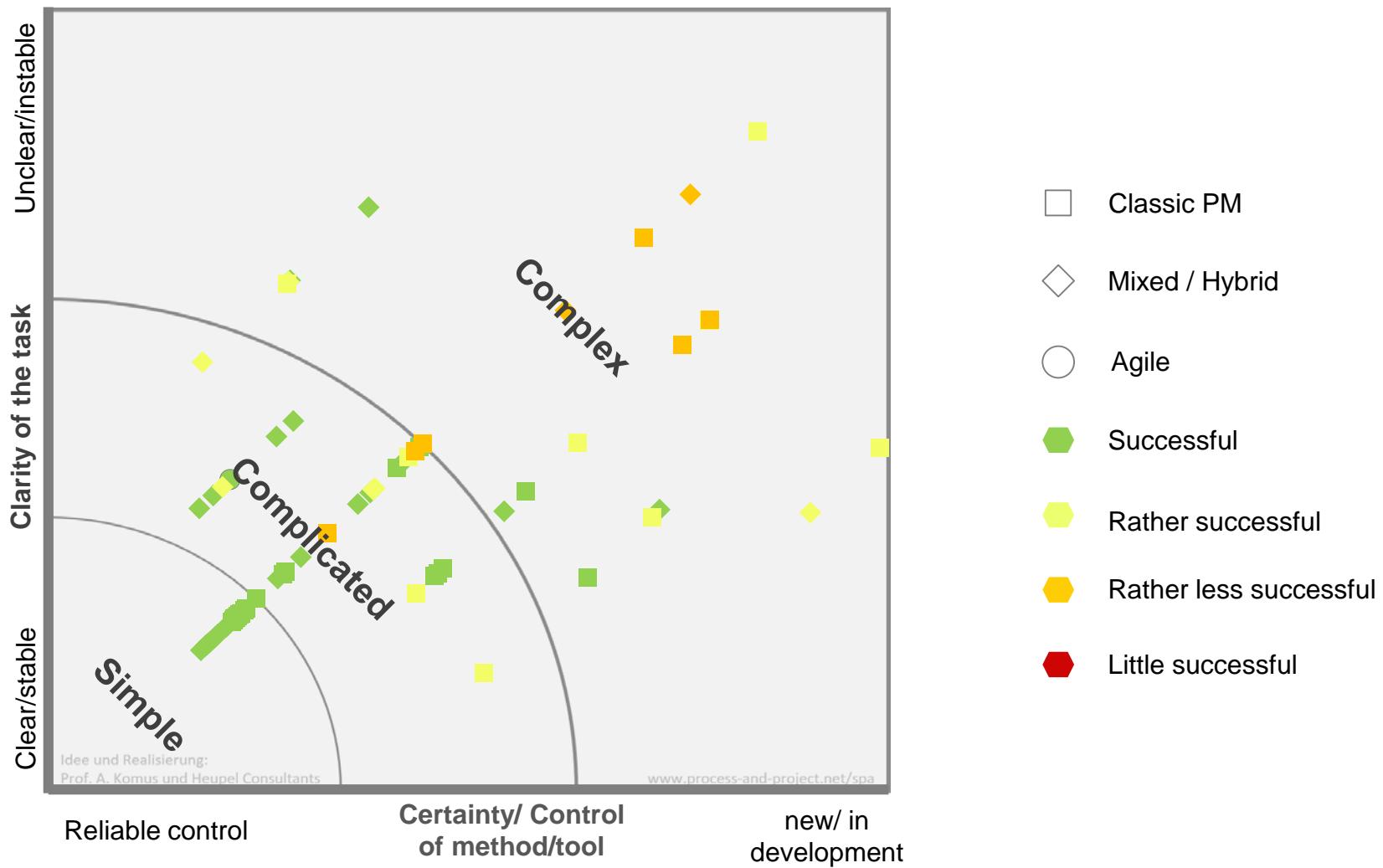


According to: Ralph D. Stacey: Strategic Management And Organisational Dynamic: The Challenge of Complexity

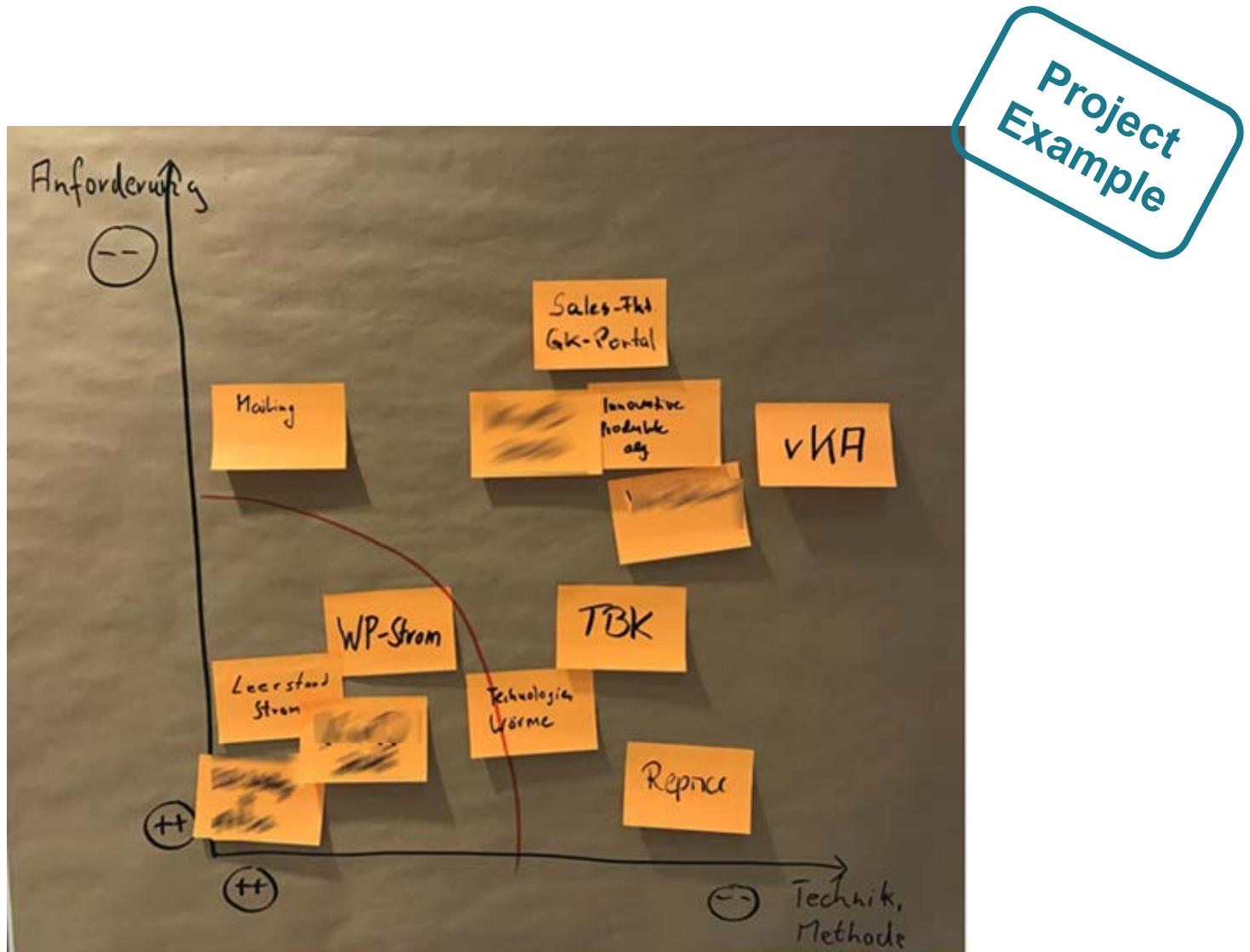
# Best-Fit Methods Depending on Complexity



# Stacey Portfolio Analysis – Empirical Data



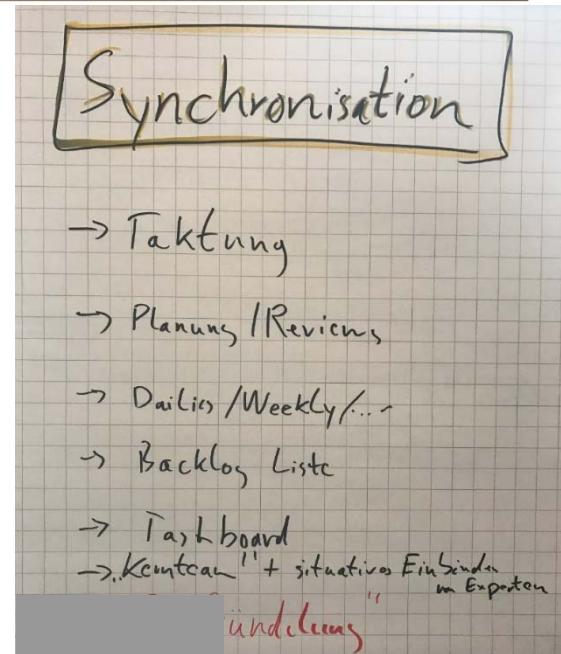
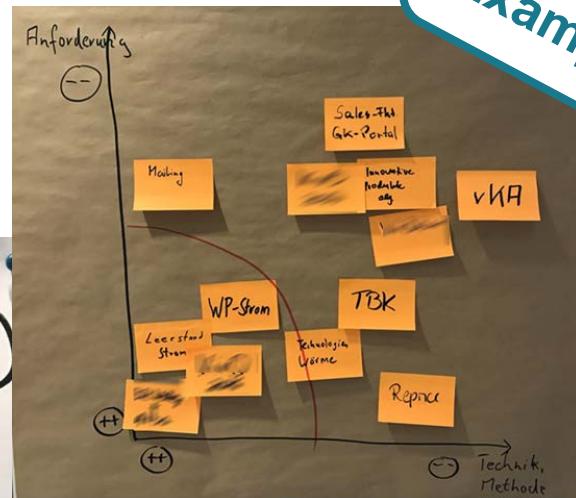
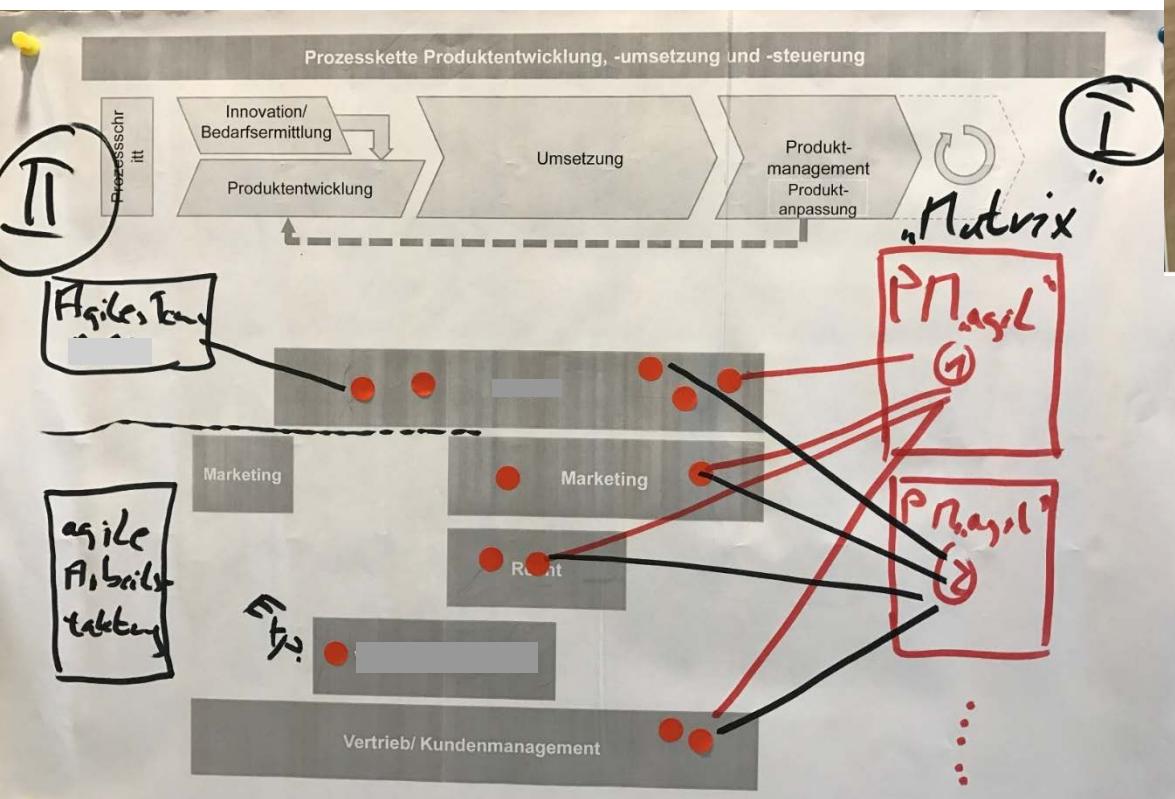
# Using The Stacey Matrix To Decide On Methodology



Source: Heupel Consultants

# Connection Agile ↔ Classic – Practical Examples

Project Example



Source: Heupel Consultants

*How To Start / Implement Agile Methods?*

# Agile Methods Can Be The Choice For Different Situations And Challenges...



CC-BY-Bernd Nymann via Wikimedia

Speedboat



© currahee\_shutterstock via fotolia.com

Burning Platform



(c) Stanislav Komodarov via Fotolia

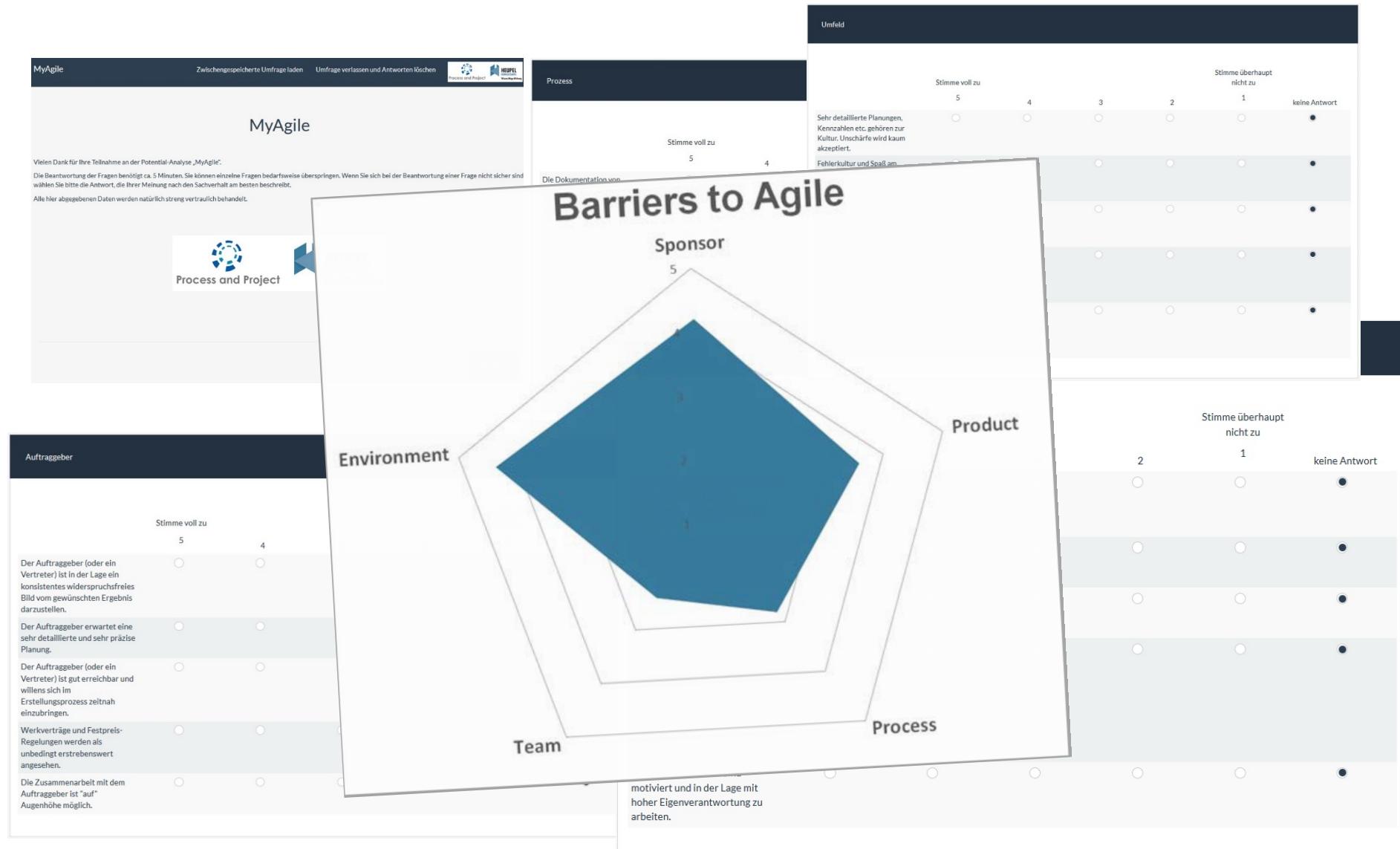
Supertanker



By Kenokew via Wikimedia

Lighthouse

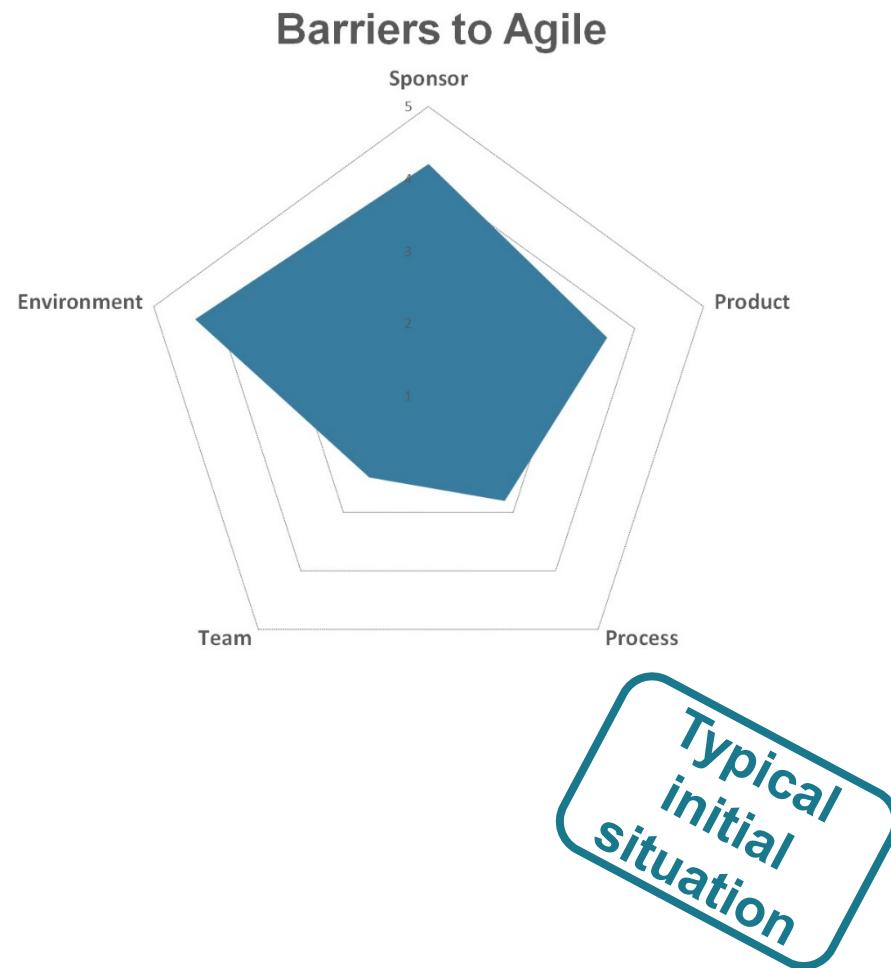
# myAgile: A Systematical Analysis Of The Five Dimensions Identifies Company Specific Challenges



# Basic Model Of Analysis

**Fields of action in an agile project approach can be structured by five dimensions:**

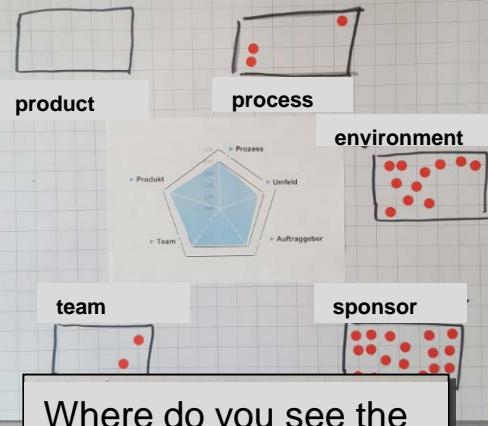
- ▶ **Product:**  
Design of tasks and deliverables
- ▶ **Process:**  
Design of work organization
- ▶ **Team:**  
Composition and work skills of team
- ▶ **Sponsor:**  
Cooperation between project and sponsor/ (internal) customer
- ▶ **Environment:**  
Further framework conditions of the project



# Barriers In Practice – Findings From Workshops And Events

Workshops  
agile PMO\*

Where do you see the greatest challenges?  
(3 points)



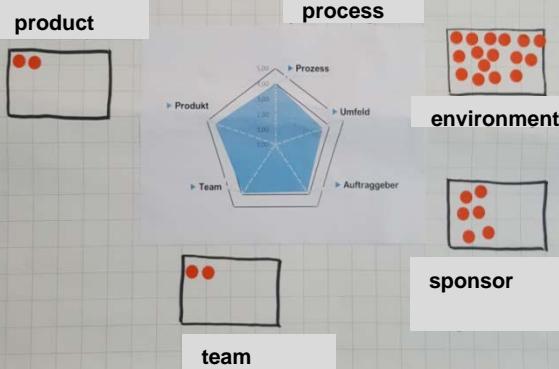
Where do you see the greatest challenges?  
(3 points)



Scrum Day  
June 8th, '16

Where do you see the greatest challenges?  
(3 points)

Einführung / Nutzung Scrum



Project examples

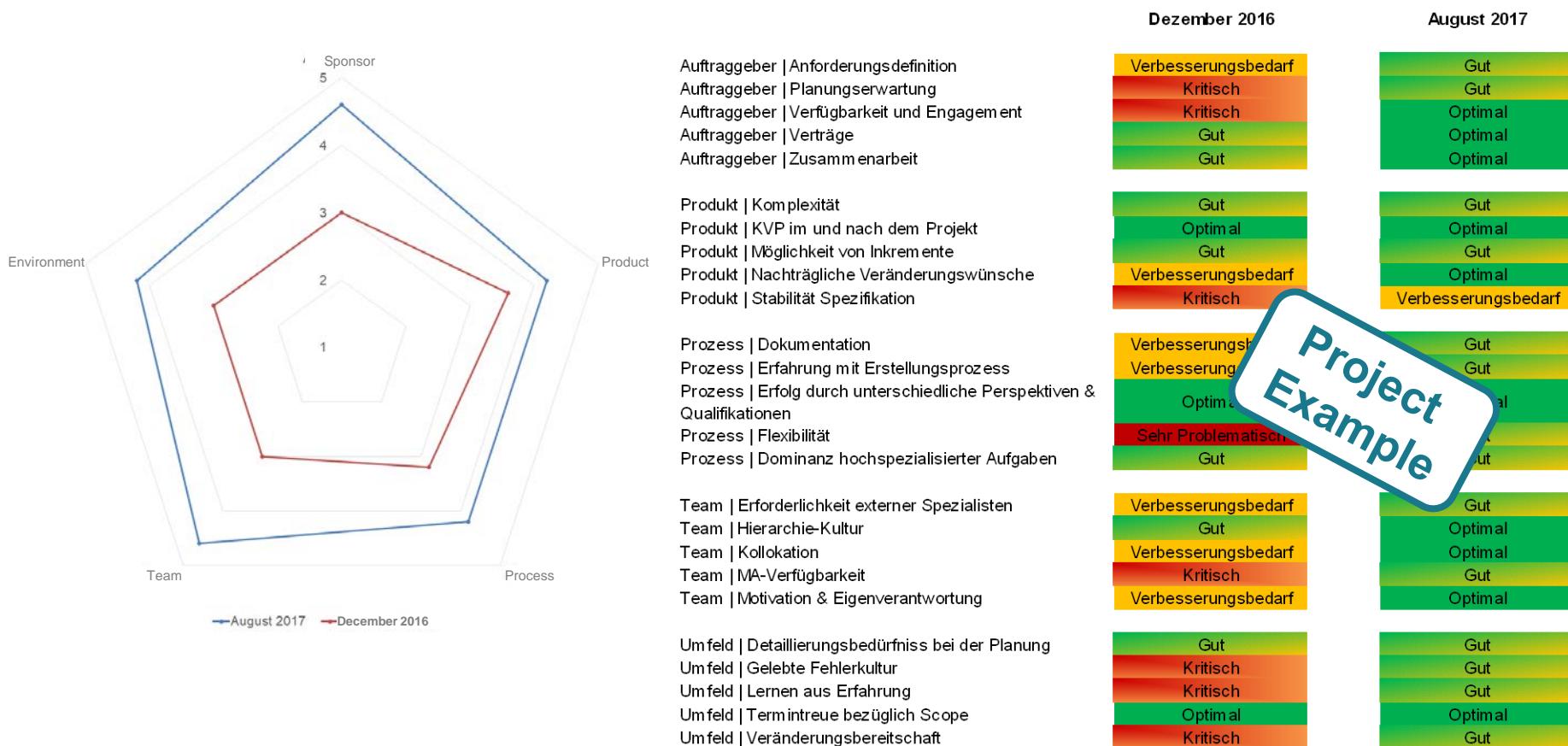
Barriers to Agile

HEUPEL  
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Wissen.Wege.Wirkung

Barriers to Agile

# myAgile – Development Of The Framework Conditions

Within six months, the evaluation of the given framework conditions has improved significantly.

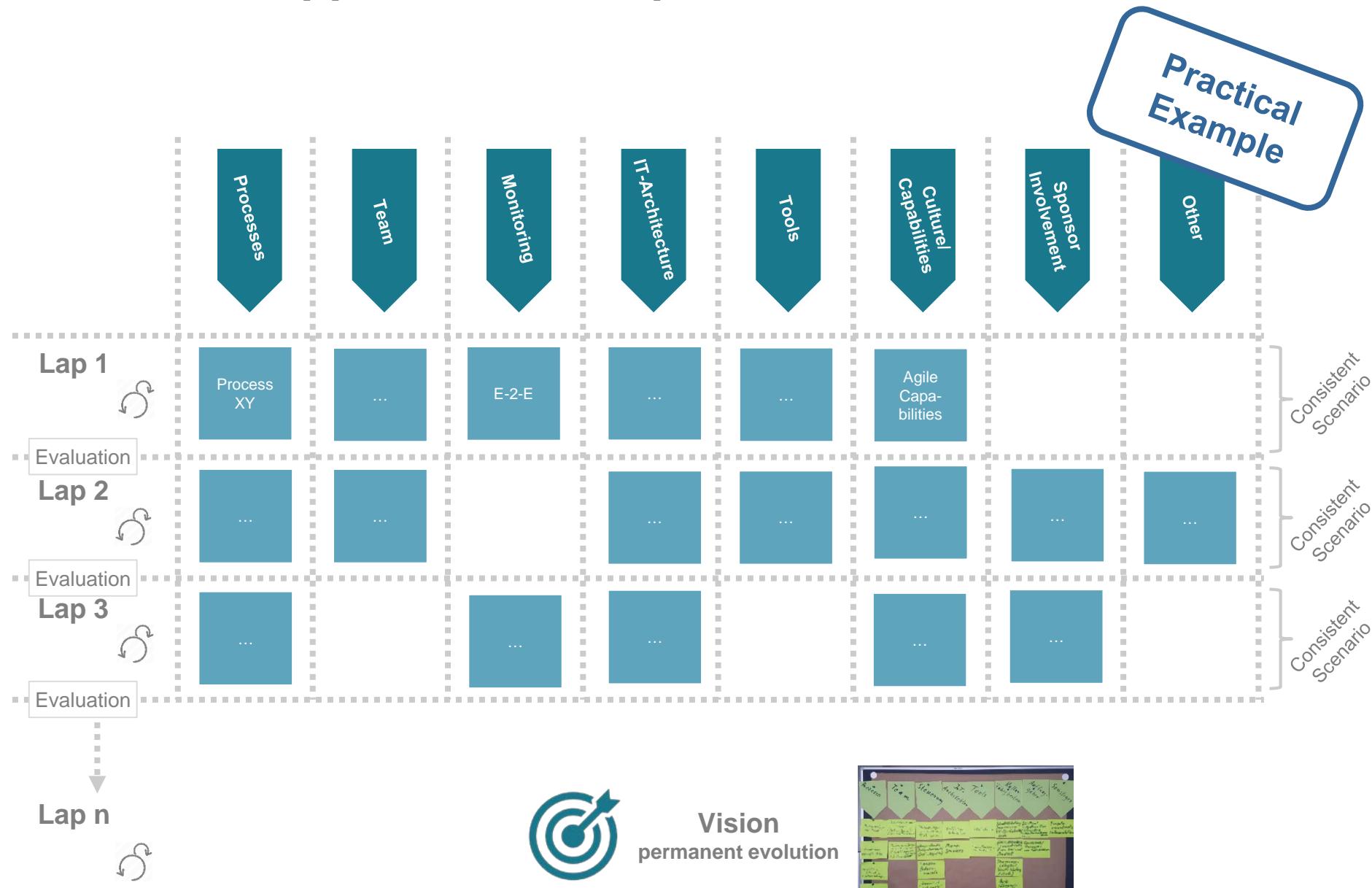


# Implementation And Backing Of An Agile Project

Project Example

Module	Objective	Scheduling
1. Analysis	<ul style="list-style-type: none"><li>▶ Baseline study</li><li>▶ "Readiness" - check</li></ul>	1 week
2. Configuration	<ul style="list-style-type: none"><li>▶ Development of agile approach</li><li>▶ Selection of pilot project</li><li>▶ Planning, instruction and coaching</li></ul>	1 week
3. Ramp-Up	<ul style="list-style-type: none"><li>▶ Development of initial Backlog</li><li>▶ Training and provisioning of good practice</li><li>▶ Intensive backing at the beginning</li></ul>	2 months
4. Project	<ul style="list-style-type: none"><li>▶ Ensuring of agile approach by context specific advice (Shadow PO / Shadow Scrum Master)</li><li>▶ Inspect and adapt methodology</li></ul>	10 months

# Procedural Approach - Example



Source: Komus/Heupel Consultants

# Interesting?

Study Reports, Events  
(mostly German)

[www.process-and-project.net](http://www.process-and-project.net)



Wissen.Wege.Wirkung

[www.komus.de](http://www.komus.de)

[www.heupel-consultants.com](http://www.heupel-consultants.com)



Process and Project

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