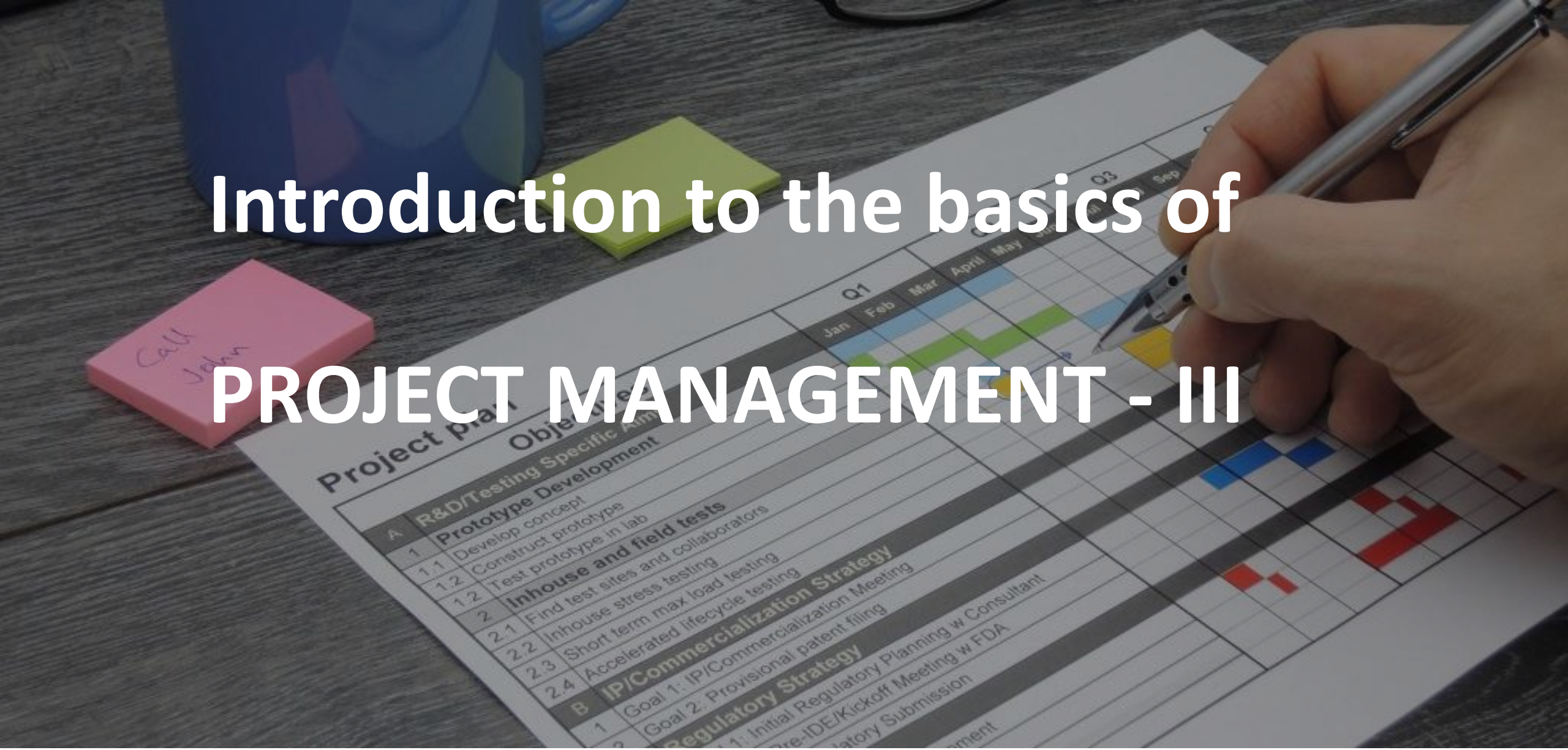

Introduction to the basics of
PROJECT MANAGEMENT - III

AGENDA

Knowledge Area
Risk Management

What is Risk Management?

Risk Management in Projects contains the processes required to execute Risk Management Planning, Risk Identification, Risk Analysis, Risk Response and Monitoring and Controlling of project risks.

Risk Management targets to **Eliminate Uncertainties**; respective activities are pivotal to daily project management work

It is preferred to **Avoid Issues** rather than **resolving** them once occurred.

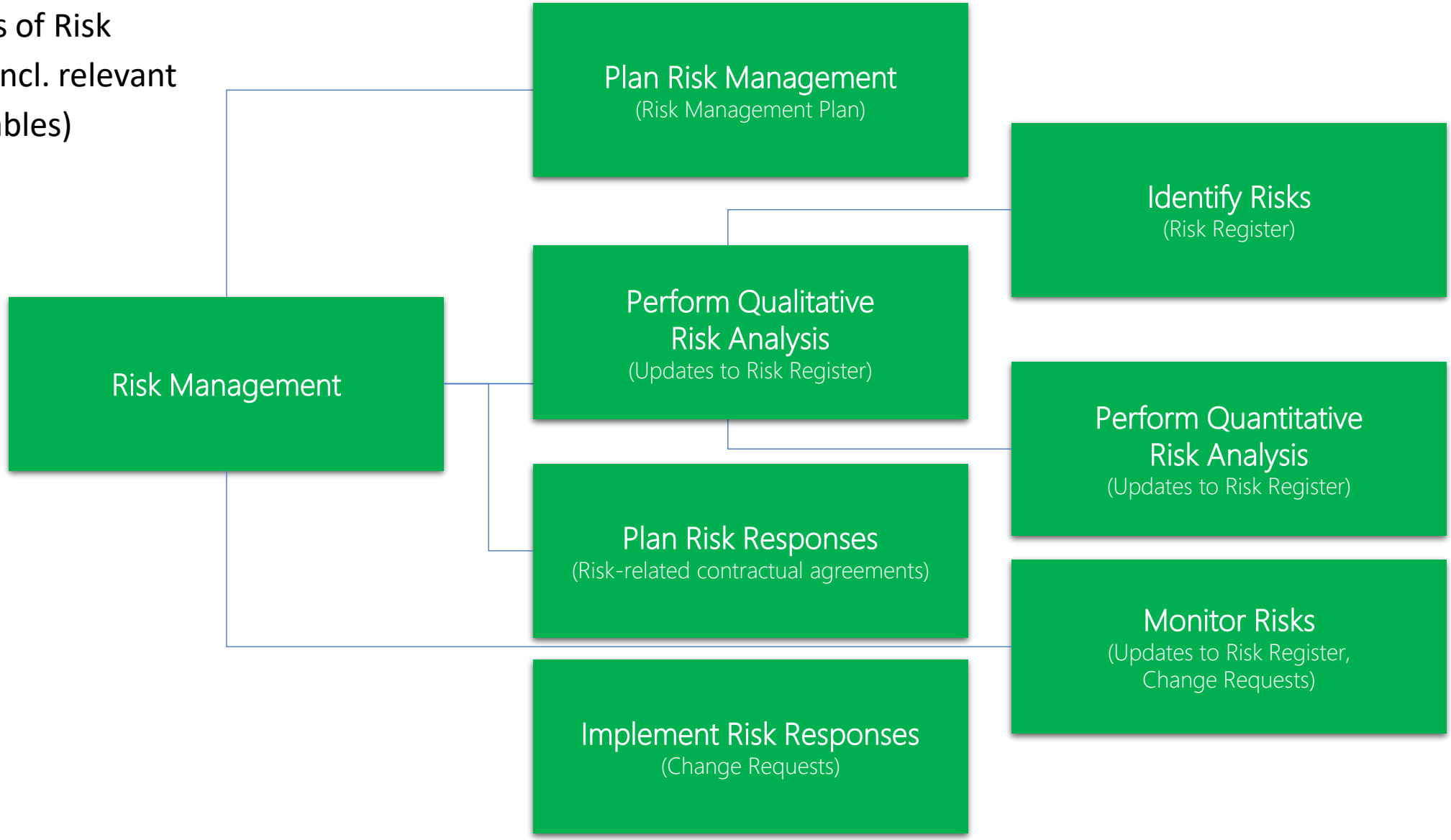
PMBOK®Guide 6.0 Processes, Process Groups and Knowledge Areas

	Wissensgebiete (49)	Projektmanagement Prozessgruppen				
		Initiierung 2	**Planung** 24	**Ausführung** 10	**Überwachung & Steuerung** 12	**Abschluss** 1
	**Integrations-management (7)**	Projektauftrag entwickeln	Projektmanagementplan entwickeln	Projektausführung lenken und managen Projektwissen managen	Projektarbeit überwachen und steuern Integrierte Änderungssteuerung durchführen	Projekt oder Phase abschließen
	**Inhalts- und Umfangs-management (6)**		Inhalts - und Umfangsmanagement planen Anforderungen sammeln Inhalt und Umfang definieren Projektstrukturplan (PSP) erstellen		Inhalt und Umfang validieren Inhalt und Umfang steuern	
	**Termin- management (6)**		Terminmanagement planen Vorgänge definieren Vorgangsfolge festlegen Vorgangsdauer schätzen Terminplan entwickeln		Terminplan steuern	
	**Kosten- management (4)**		Kostenmanagement planen Kosten schätzen Budget festlegen		Kosten steuern	
	**Qualitäts-management (3)**		Qualitätsmanagement planen	Qualität managen	Qualität durchführen	
	**Ressourcen-management (6)**		Ressourcenmanagement planen Ressourcen für Vorgänge schätzen	Ressourcen beschaffen Team entwickeln Team managen	Ressourcen steuern	
	**Kommunikations-management (3)**		Kommunikationsmanagement planen	Kommunikation managen	Kommunikation überwachen	
	**Risikomanagement (7)**		Risikomanagement planen Risiken identifizieren Qualitative Risikoanalyse durchführen Quantitative Risikoanalyse durchführen Risikobewältigungsmaßnahmen planen	Risikobewältigungs-maßnahmen umsetzen	Risiken überwachen	
	**Beschaffungs-management (3)**		Beschaffungsmanagement planen	Beschaffungen durchführen	Beschaffungen steuern	
	**Stakeholder-management (4)**	Stakeholder identifizieren	Engagement der Stakeholder planen	Engagement der Stakeholder managen	Engagement der Stakeholder überwachen	

Designed by Frank Tassone, PMP

Risk Management

- The 7 Processes of Risk Management (incl. relevant results/deliverables)



What is a Risk?

A Risk is an uncertain outcome, which at occurence can have a **positive or negative effect** on a project objective like e.g. Schedule, Cost, Scope or Quality.

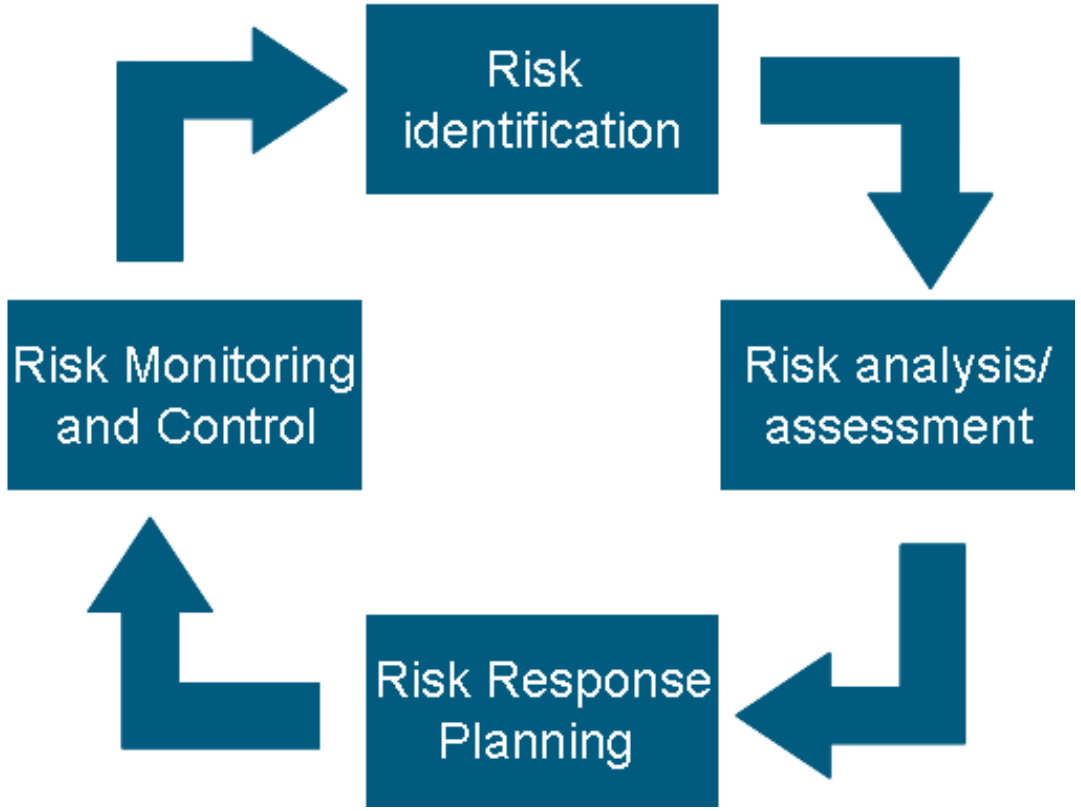
Project Risk is originating from the **Uncertainty** of Projects.

- Known Risks can be identified and analyzed. Dealing with Known Risks can be planned.

Unknown Risk cannot be dealt with proactively. A prudent reaction from the Project Team can be

- the assignment/building of reserves (aka contingency) to cater for incidents from such or other known risks where the development of pro-active measures would be inappropriate

A Risk can have more than one root causes and in case of occurence one or more consequences.



Risk Management Processes in Projects

Risk Management Planning –
Decisions on how the planning and execution of Risk Management Activities is being approached

Risk Identification – Determine which Risks could have an Impact on the Project and document their respective characteristics

Qualitative Risk Analysis –
Analyze the Impact of the identified Risks on the Project Objectives

Quantitative Risk Analysis –
Analyze the Impact of the identified Risks on the Project Objectives

Risk Response Planning– Development of measures to influence the Probability and Impact of Risks

Monitor Risks – Tracking of identified risks, Monitoring of residual risks, continuous identification of new risks, Execution of Risk Response Plans and assessment of their effectiveness throughout the whole project life cycle.

Risk Response Implementation – Pro-active Risk Management. The Risk Owner has to implement measures and regularly report on this.

Methods of Strategic Risk Management

Collection and Grouping of Risks

Risk Register/Breakdown Structure

Classification of Risks

- Probability of **Occurrence**
- Level of **Impact**

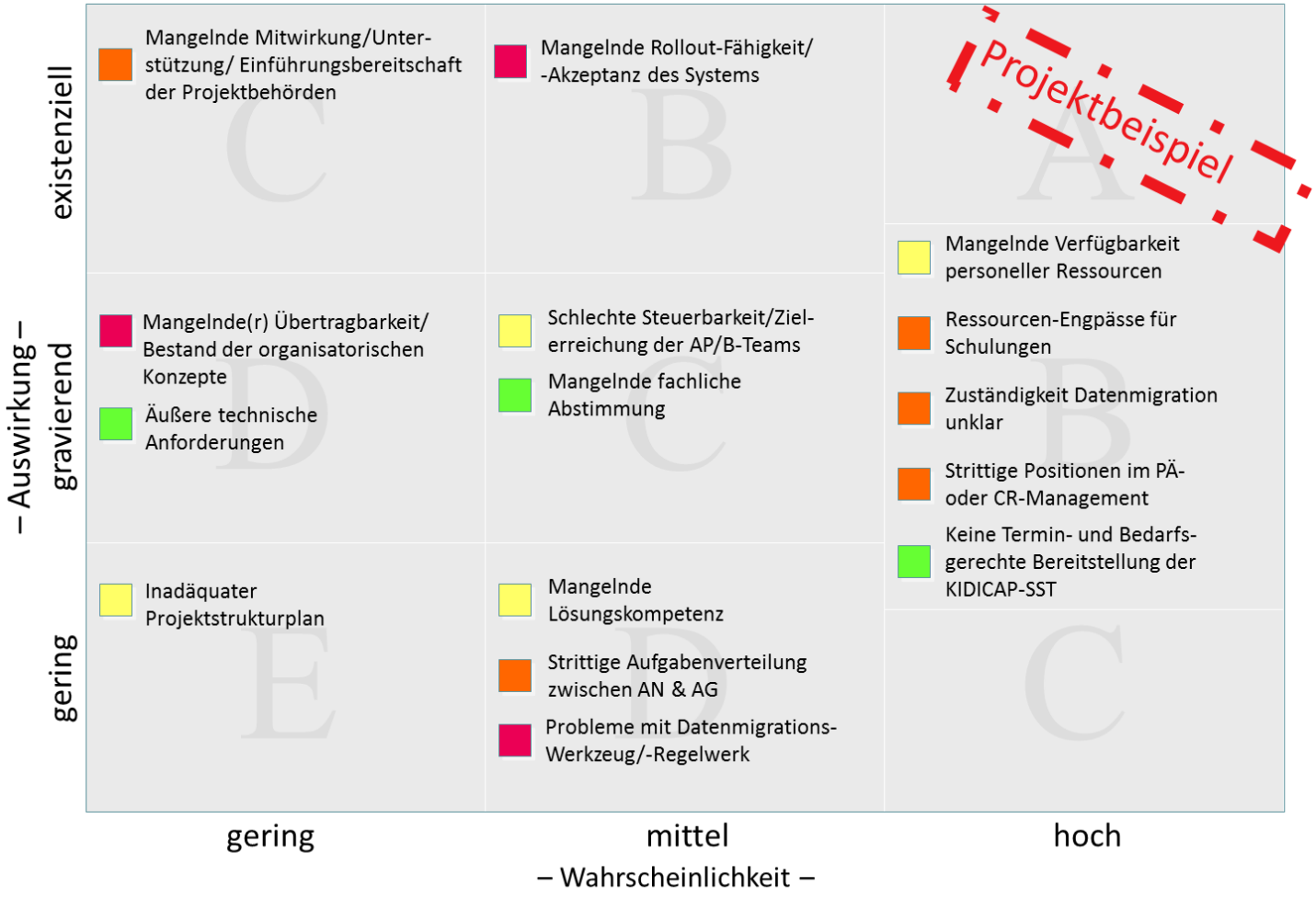
Management of Risk

- …triggers **What is the Root Cause of the risk occurrence?**
- …consequences **What are the negative consequences of the risk occurrence?**
- …indicators **How can it be detected that the risk has materialized?**
- …avoidance/mitigation **What measures can be taken to reduce the probability of occurrence?**

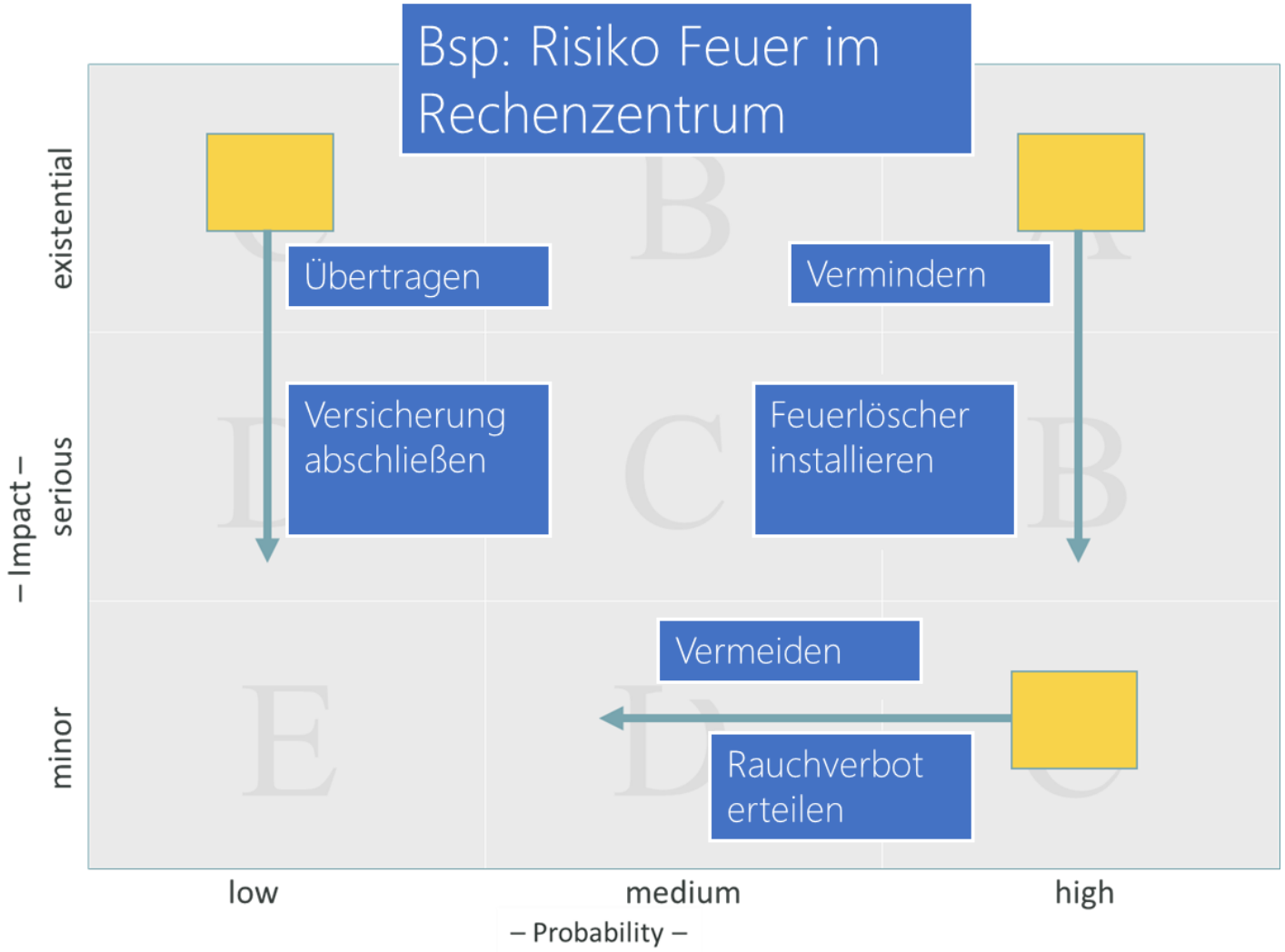
Risk Assessment Example

Risk:			
Probability:	**high – medium – low**	**Impact:**	**low – medium – high**
Trigger:	**(What is the Root Cause of the risk occurrence?)**		
Consequences:	**(What are the negative consequences of the risk occurrence?)**		
Indicators:	**(How can it be detected that the risk has materialized?)**		
Mitigation:	**(What measures can be taken to reduce the probability of occurrence?)**		

Project Risk Management – Risk Portfolio



Strategic Risk Management



Risk Strategies

Negative Risk/Threats

- **Mitigate (reduce):** reduce probability and/or impact
- **Avoid:** avoid risky work package
- **Transfer:** transfer risk to a 3rd party
- **Accept**
  - Active: contingency
  - Passive: lean back

Positive Risk/Opportunities

- **Exploit:** in case the organization wants to seize the opportunity
- **Share:** simliar to transfer of risk an opportunity can also be transferred to a 3rd party who can better exploit it
- **Increase:** increase probability and/or impact
- **Accept:** opportunity is identified, analyzed and accepted, yet no action is taken to exploit it

7 Processes Risk Management

	RISIKO
11.1	Risikomanagement planen
	EINGANGSWERTE
	1. Projektauftrag 2. Projektmanagementplan 3. Projektdokumente 4. Faktoren der Unternehmensumwelt 5. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Datenanalyse 3. Meetings
	AUSGANGSWERTE
	1. Risikomanagementplan

	RISIKO
11.2	Risiken identifizieren
	EINGANGSWERTE
	1. Projektmanagementplan 2. Projektdokumente 3. Vereinbarungen 4. Beschaffungsdokumente 5. Faktoren der Unternehmensumwelt 6. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Erfassung von Daten 3. Datenanalyse 4. Sozialkompetenz und teambezogene Fähigkeiten 5. Auslöserlisten 6. Meetings
	AUSGANGSWERTE
	1. Risikoregister 2. Risikobericht 3. Aktualisierungen der Projektdokumente

	RISIKO
11.3	Qualitative Risikoanalyse durchführen
	EINGANGSWERTE
	1. Projektmanagementplan 2. Projektdokumente 3. Faktoren der Unternehmensumwelt 4. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Erfassung von Daten 3. Datenanalyse 4. Sozialkompetenz und teambezogene Fähigkeiten 5. Risikokategorisierung 6. Datendarstellung 7. Meetings
	AUSGANGSWERTE
	1. Aktualisierungen der Projektdokumente

	RISIKO
11.4	Quantitative Risikoanalyse durchführen
	EINGANGSWERTE
	1. Projektmanagementplan 2. Projektdokumente 3. Faktoren der Unternehmensumwelt 4. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Erfassung von Daten 3. Sozialkompetenz und teambezogene Fähigkeiten 4. Darstellungsformen bei Unsicherheit 5. Datenanalyse
	AUSGANGSWERTE
	1. Aktualisierungen der Projektdokumente

7 Processes Risk Management

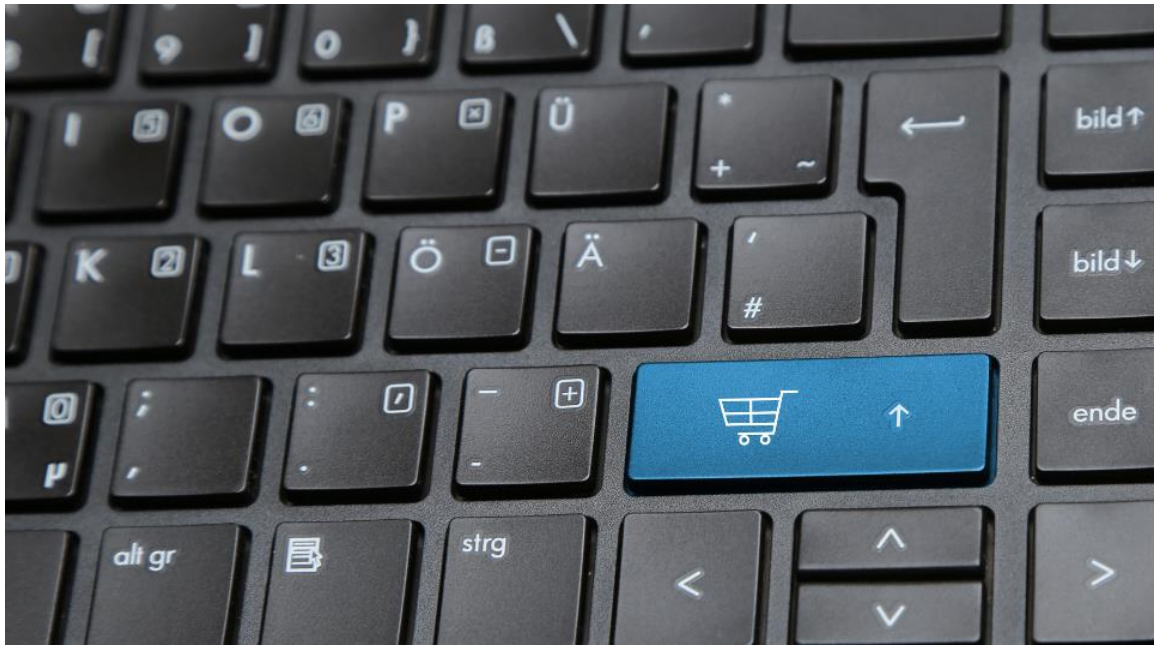
	RISIKO
11.5	**Risikobewältigungsmaßnahmen planen**
	EINGANGSWERT
	1. Projektmanagementplan 2. Projektdokumente 3. Faktoren der Unternehmensumwelt 4. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Erfassung von Daten 3. Sozialkompetenz und teambezogene Fähigkeiten 4. Strategien bei Bedrohungen 5. Strategien bei Chancen 6. Eventualfallstrategien 7. Strategien für das Gesamtprojektrisiko 8. Datenanalyse 9. Entscheidungsfindung
	AUSGANGSWERTE
	1. Änderungsanträge 2. Aktualisierungen des Projektmanagementplans 3. Aktualisierungen der Projektdokumente

	RISIKO
11.6	**Risikobewältigungsmaß-nahmen umsetzen**
	EINGANGSWERTE
	1. Projektmanagementplan 2. Projektdokumente 3. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Sozialkompetenz und teambezogene Fähigkeiten 3. Projektmanagement-informationssystem
	AUSGANGSWERTE
	1. Änderungsanträge 2. Aktualisierungen der Projektdokumente

	RISIKO
11.7	**Risiken überwachen**
	EINGANGSWERT
	1. Projektmanagementplan 2. Projektdokumente 3. Arbeitsleistungsdaten 4. Arbeitsleistungsberichte
	WERKZEUGE UND METHODEN
	1. Datenanalyse 2. Audits 3. Meetings
	AUSGANGSWERTE
	1. Arbeitsleistungs-informationen 2. Änderungsanträge 3. Aktualisierungen des Projektmanagementplans 4. Aktualisierungen der Projektdokumente 5. Aktualisierungen des Prozessvermögens der Organisation

Exercise

Knowledge Area
Procurement Management



What is Procurement Management ?

Procurement Management deals with the processes associated with the purchase/provisioning of products and services or results requires from outside the project team to achieve the project objectives.

The Procurement Process will be executed for EVERY purchase/provisioning.

PMBOK®Guide 6.0 Prozesse, Prozessgruppen und Wissensgebiete

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	**Kosten- management (4)**		Kostenmanagement planen Kosten schätzen Budget festlegen		Kosten steuern	
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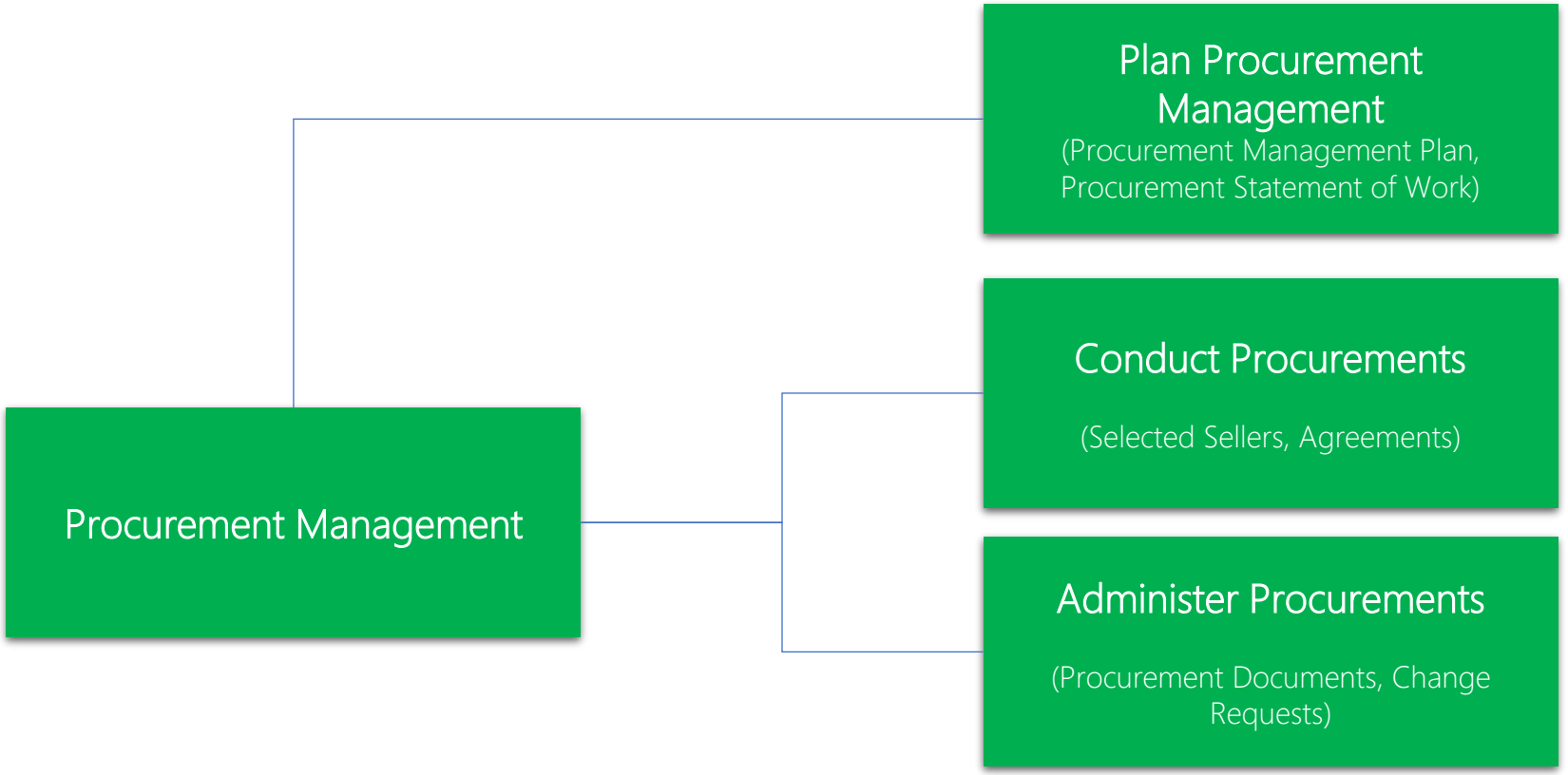
	**Risikomanagement (7)**		Risikomanagement planen Risiken identifizieren Qualitative Risikoanalyse durchführen Quantitative Risikoanalyse durchführen Risikobewältigungsmaßnahmen planen	Risikobewältigungs-maßnahmen umsetzen	Risiken überwachen	
	**Beschaffungs-management (3)**		Beschaffungsmanagement planen	Beschaffungen durchführen	Beschaffungen steuern	
	**Stakeholder-management (4)**	Stakeholder identifizieren	Engagement der Stakeholder planen	Engagement der Stakeholder managen	Engagement der Stakeholder überwachen	

Designed by Frank Tassone, PMP

Procurement Management

- The 3 Processes of Procurement Management (incl. relevant results/ deliverables)



Procurement Management

As part of Procurement Management the Project Manager

- ✓ must be able to write a contract, understand and administer it
- ✓ helps to create a Procurement Management Plan
- ✓ creates a description of the work to be delivered by the seller (Procurement **S**tatement **o**f **W**ork - SoW)
- ✓ should be part of contract negotiations

In order to manage the necessary Procurement Processes the Project Manager needs to …

- ✓ have a certain legal background
- ✓ have good negotiation skills
- ✓ have a basic understanding of procurement processes

Activities of Procurement Planning

1. Plan the Procurement Process: the first activity defines how further procurement activities should be dealt with. This can e.g. be conducted through or suppported by an internal procurement department.

2. **“Make or Buy analysis”**: determines which products or services have to be bought or leased externally. This decision is mainly driven from the **Scope Statement** and the **Work Breakdown Structure** and is closely related to the development of the **Project Schedule**.

3. Creation of the Statement of Work: comprehensive description of the Scope so that a provider can prepare an offer.

3 Processes Procurement Management

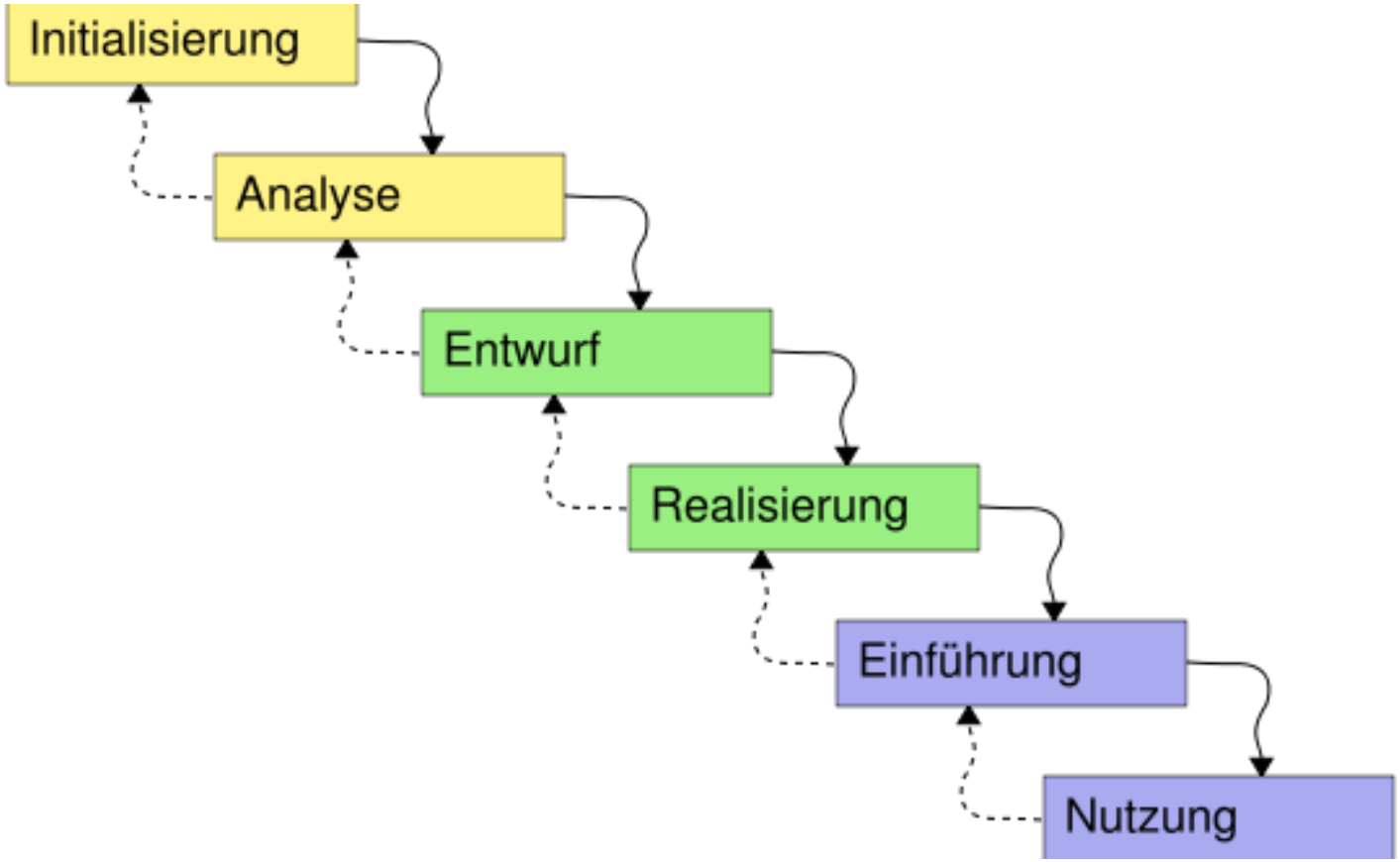
	BESCHAFFUNG
12.1	Beschaffungsmanagement planen
	EINGANGSWERTE
	1. Projektauftrag 2. Geschäftsdokumente 3. Projektmanagementplan 4. Projektdokumente 5. Faktoren der Unternehmensumwelt 6. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Erfassung von Daten 3. Datenanalyse 4. Kriterien zur Auswahl von Lieferanten 5. Meetings
	AUSGANGSWERTE
	1. Beschaffungsmanagementplan 2. Beschaffungsstrategie 3. Ausschreibungsunterlagen 4. Leistungsbeschreibung der Beschaffung/Lastenheft 5. Kriterien zur Auswahl von Verkäufern 6. Make-or-Buy-Entscheidungen 7. Unabhängige Kostenschätzungen 8. Änderungsanträge 9. Aktualisierungen der Projektdokumente 10. Aktualisierungen des Prozessvermögens der Organisation

	BESCHAFFUNG
12.2	Beschaffungen durchführen
	EINGANGSWERT
	1. Projektmanagementplan 2. Projektdokumente 3. Beschaffungsdokumente 4. Angebote von Lieferanten 5. Faktoren der Unternehmensumwelt 6. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Öffentliche Ausschreibungen 3. Bieterkonferenzen 4. Datenanalyse 5. Sozialkompetenz und teambezogene Fähigkeiten
	AUSGANGSWERTE
	1. Ausgewählte Lieferanten 2. Vereinbarungen 3. Änderungsanträge 4. Aktualisierungen des Projektmanagementplans 5. Aktualisierungen der Projektdokumente 6. Aktualisierungen des Prozessvermögens der Organisation

	BESCHAFFUNG
12.3	Beschaffungen steuern
	EINGANGSWERTE
	1. Projektmanagementplan 2. Projektdokumente 3. Vereinbarungen 4. Beschaffungsdokumente 5. Genehmigte Änderungsanträge 6. Arbeitsleistungsdaten 7. Faktoren der Unternehmensumwelt 8. Prozessvermögen der Organisation
	WERKZEUGE UND METHODEN
	1. Fachurteil 2. Abwicklung von Ansprüchen 3. Datenanalyse 4. Inspektion 5. Audits
	AUSGANGSWERTE
	1. Abgeschlossene Beschaffungen 2. Arbeitsleistungs-informationen 3. Aktualisierungen der Beschaffungsdokumente 4. Änderungsanträge 5. Aktualisierungen des Projektmanagementplans 6. Aktualisierungen der Projektdokumente 7. Aktualisierungen des Prozessvermögens der Organisation

Agile Project Management

Classical Approach

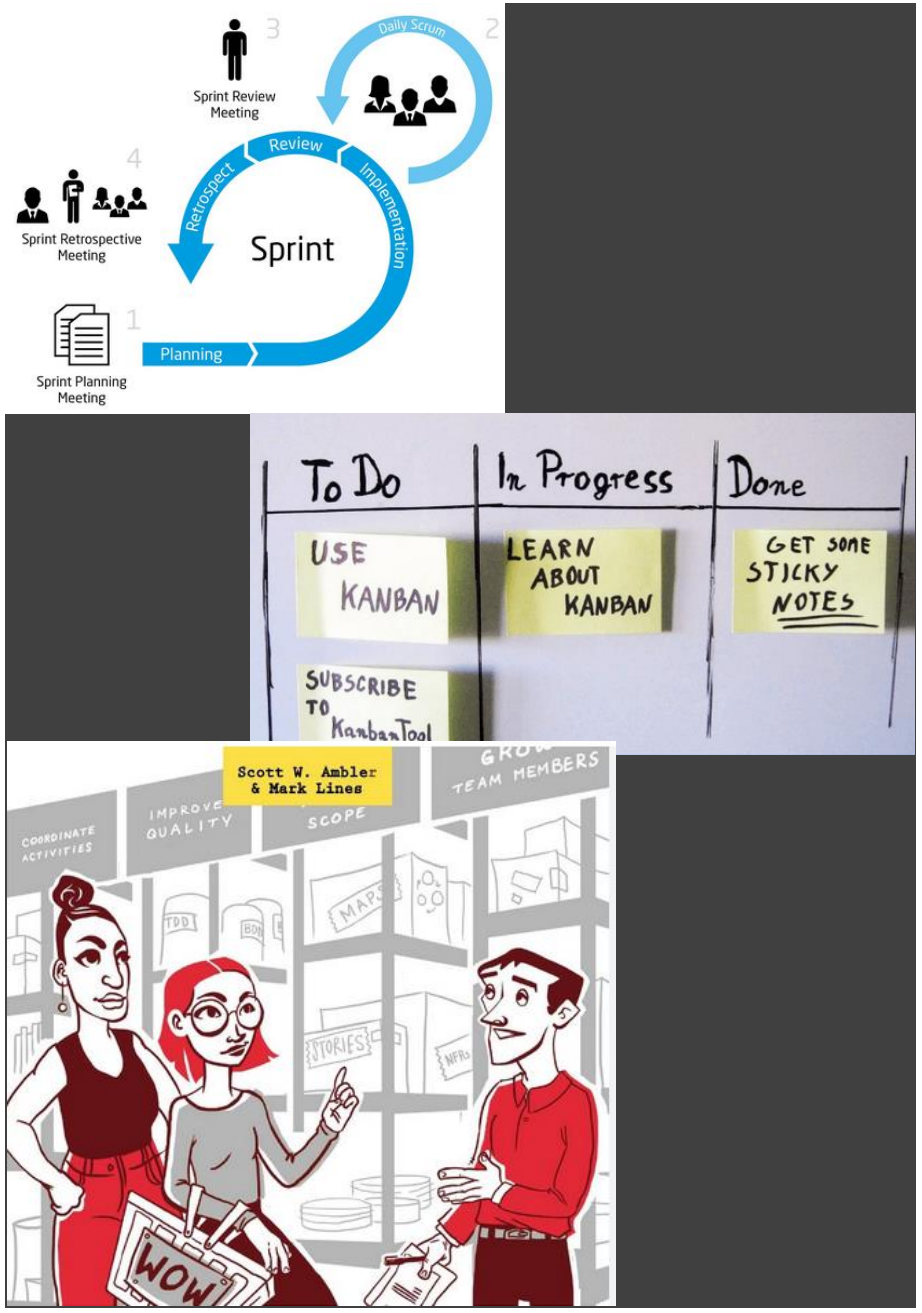


Waterfall Model*

* https://en.wikipedia.org/wiki/Waterfall_model

- The Waterfall Model is a linear (non-iterative) process model, in particular for Software Development, which is organized in Phases. Results from Phases in analogy to a Waterfall always have to be available BEFORE THE NEXT Phase can begin.
- However, even the Waterfall Model can have simple feedback loops.

Winston W. Royce



Agile Methods and Tools
Scrum & Kanban

The Agile Manifesto*

* https://www.agilealliance.org/agile101/the-agile-manifesto/

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	Working Software	Customer Collaboration	Responding to Change
over	over	over	over
Processes and Tools	Comprehensive Documentation	Contract Negotiation	Following a Plan

That is, while there is value in the lower items, **we value the upper items more.**

The Authors (Feb 2001)

Kent Beck
Mike Beedle
Arie van Bennekum
Alistair Cockburn
Ward Cunningham
Martin Fowler
Robert C. Martin
Steve Mellor
Dave Thomas
James Grenning
Jim Highsmith
Andrew Hunt
Ron Jeffries
Jon Kern
Brian Marick
Ken Schwaber
Jeff Sutherland

Agile Principles derived from the Agile Manifesto

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Agile Principles derived from the Agile Manifesto - cntd

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

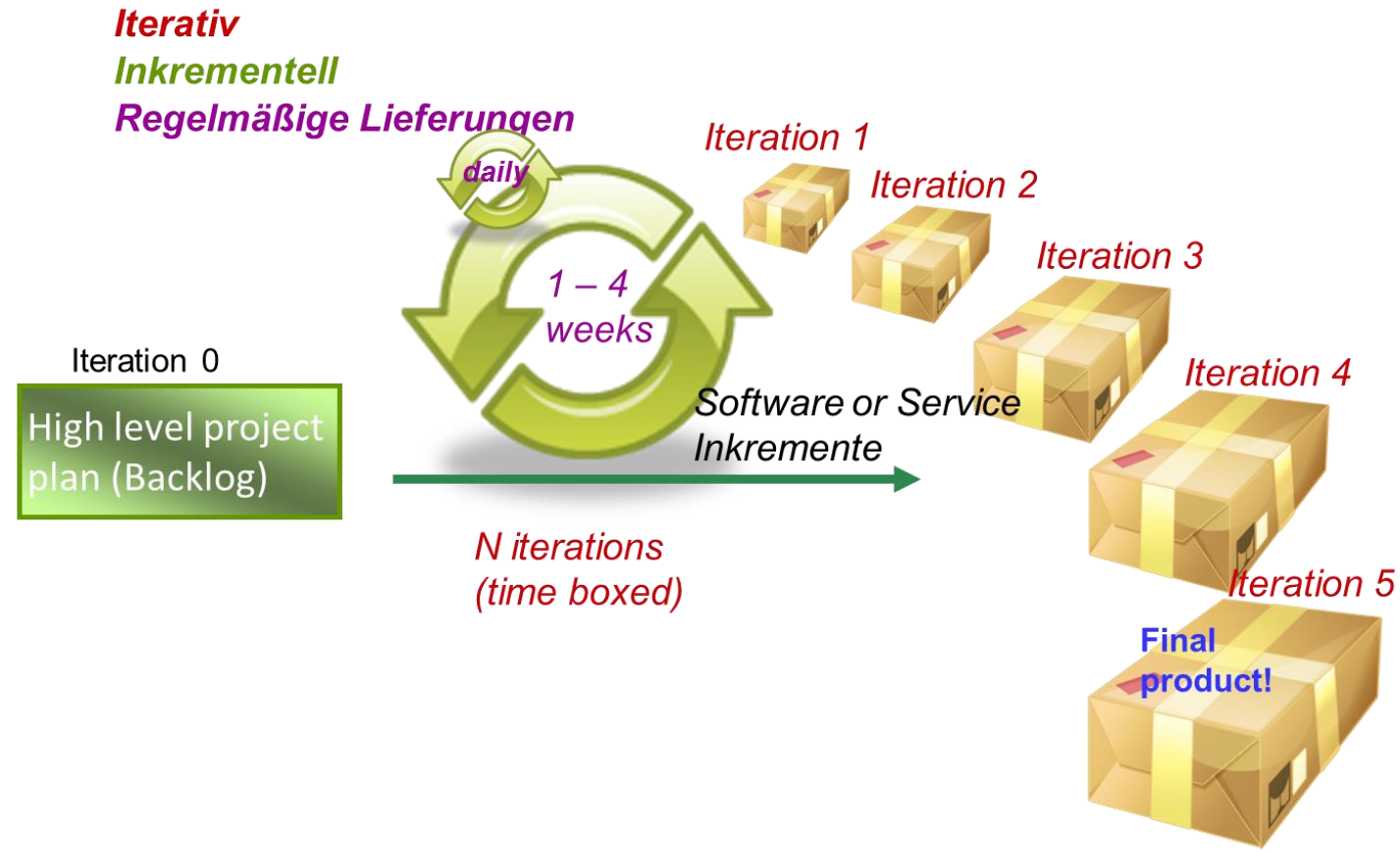
Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

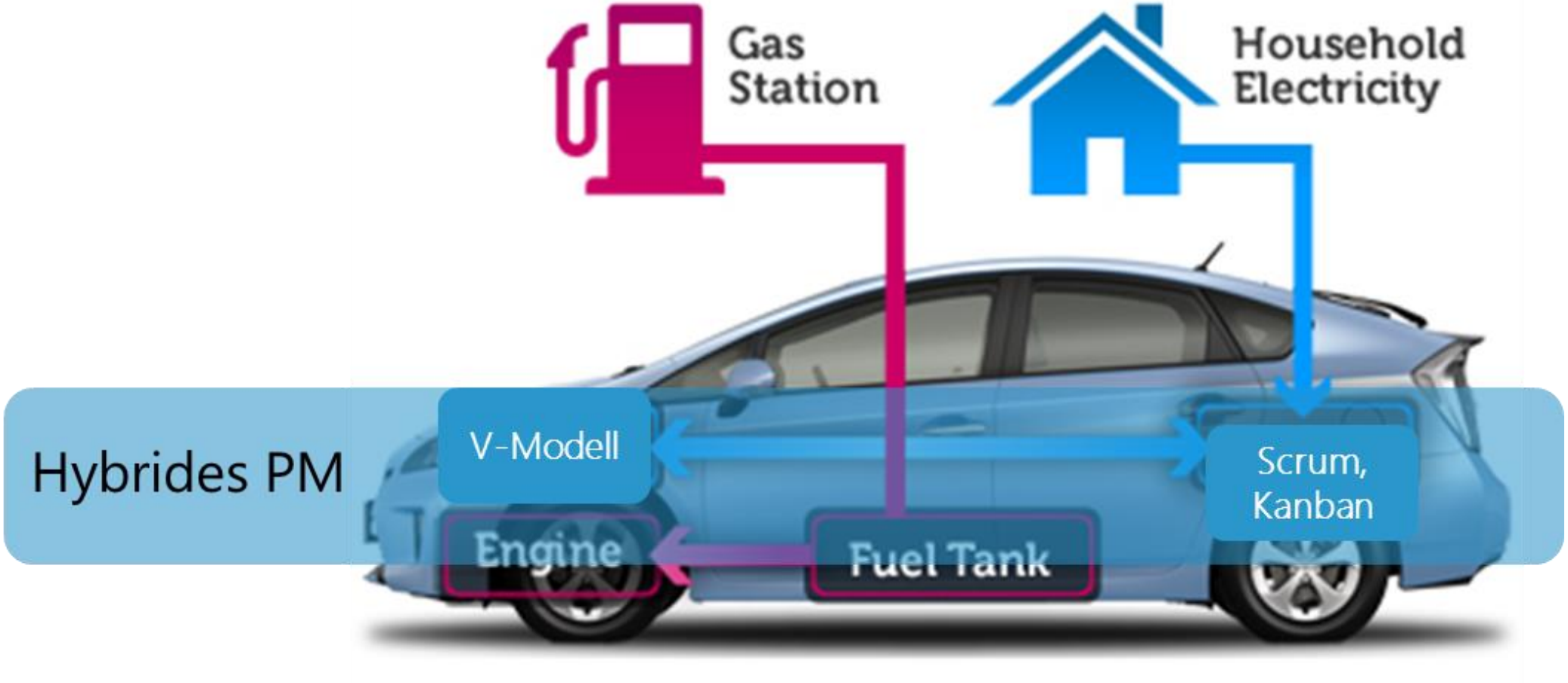
At regular intervals, the team reflects on how to become more effective*, then tunes and adjusts its behavior accordingly.

* for Retrospectives visit: https://retromat.org/en

Agile Method - Scrum

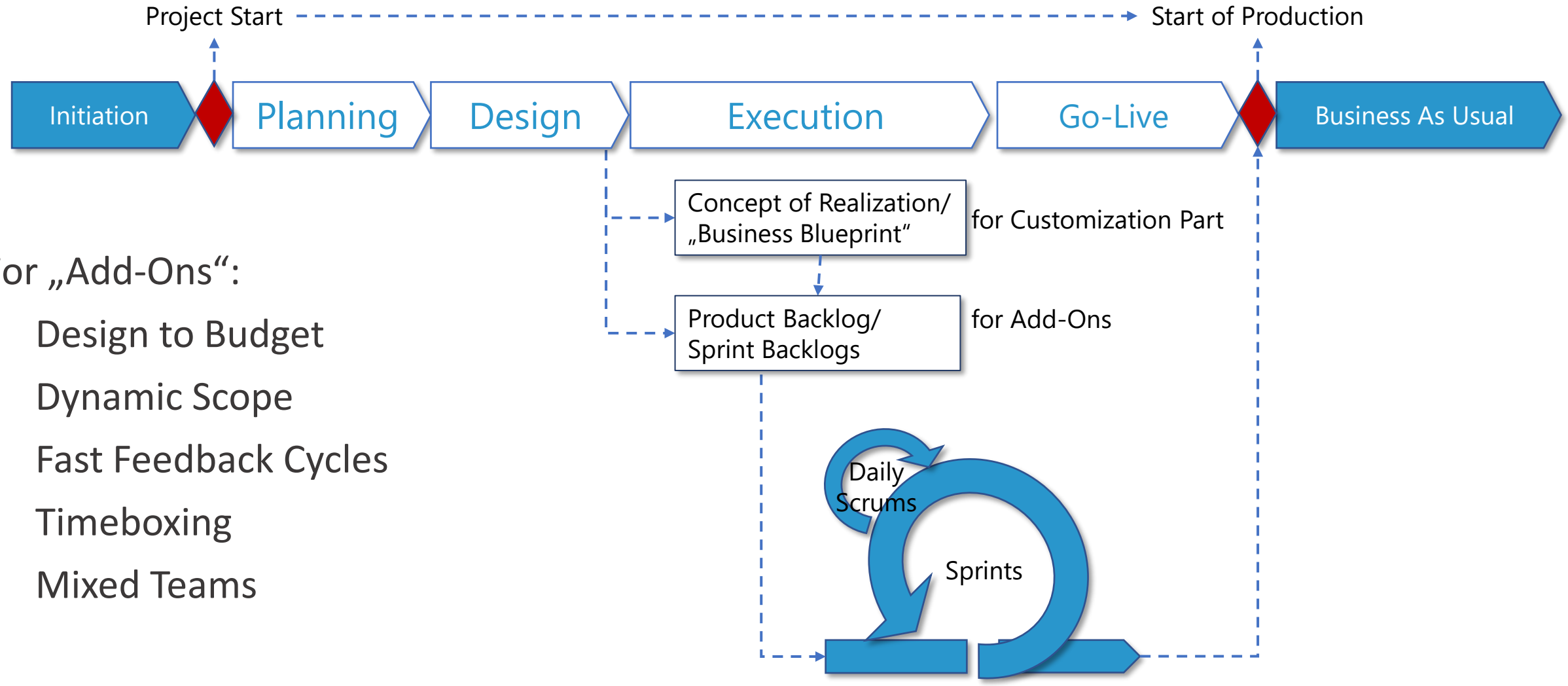


Hybrid Project Management
Introduction & Overview



Hybrid Model

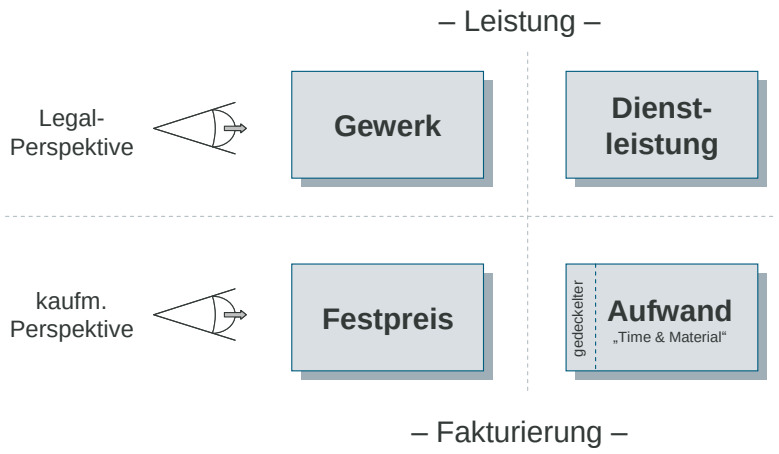
Waterfall Basis – Agile Add-Ons



For „Add-Ons“:

- Design to Budget
- Dynamic Scope
- Fast Feedback Cycles
- Timeboxing
- Mixed Teams

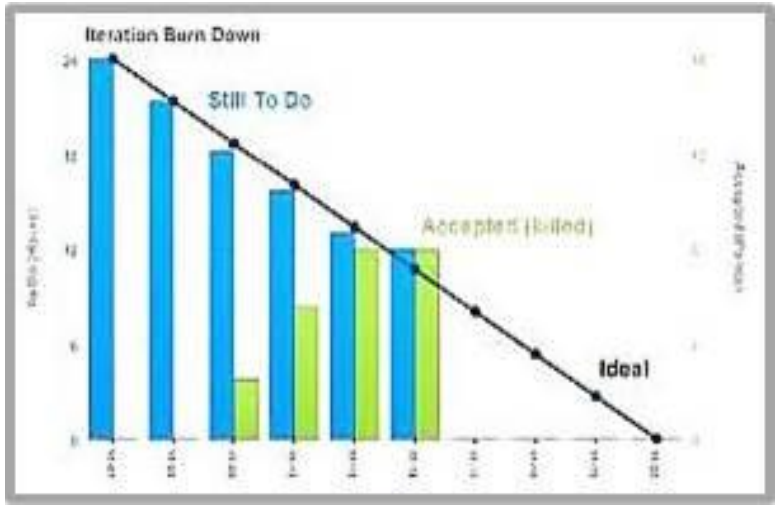
Hybrid Model



Design

- Agile Approach for parts of the projects or sub-projects, e.g. Reporting
- Early Start (without knowing much) in principle possible but dependency on Business Blueprint
- Synchronization required latest at Integration Test Phase, quite often earlier!
- Repeated assessment of Backlog (Scope) ensures “Sweet Spot” (maybe 80/20 Pareto-like solutions for all Stakeholders)
- Things to consider, e.g.
  - Changes after completion of Business Blueprint („Version 1.0“)
  - Agreement on Budget
  - Tailored Change Request execution

Usage of Agile Methods



Agile Testmanagement

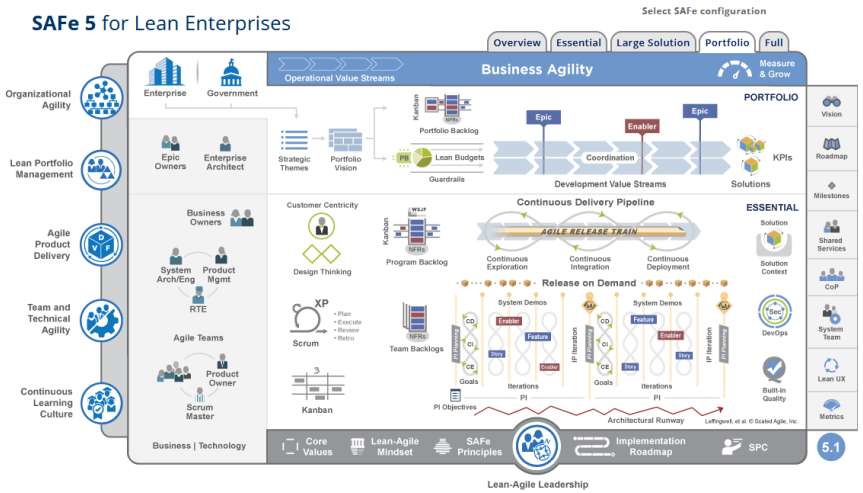
1 → 2 → 3 → 4 → 5 → 6

Sprint Backlog:	Daily Scrum-Meeting:	Team Room:	Burndown Chart:	Scrum Master:	Product Owner:
•Pick the most important test cases for the upcoming week	•Daily team meeting for transparency and clarification of open questions	•Co-location of testers and developers	•Daily statement of testing progress	•Test Manager	•Authorized representatives of end-users

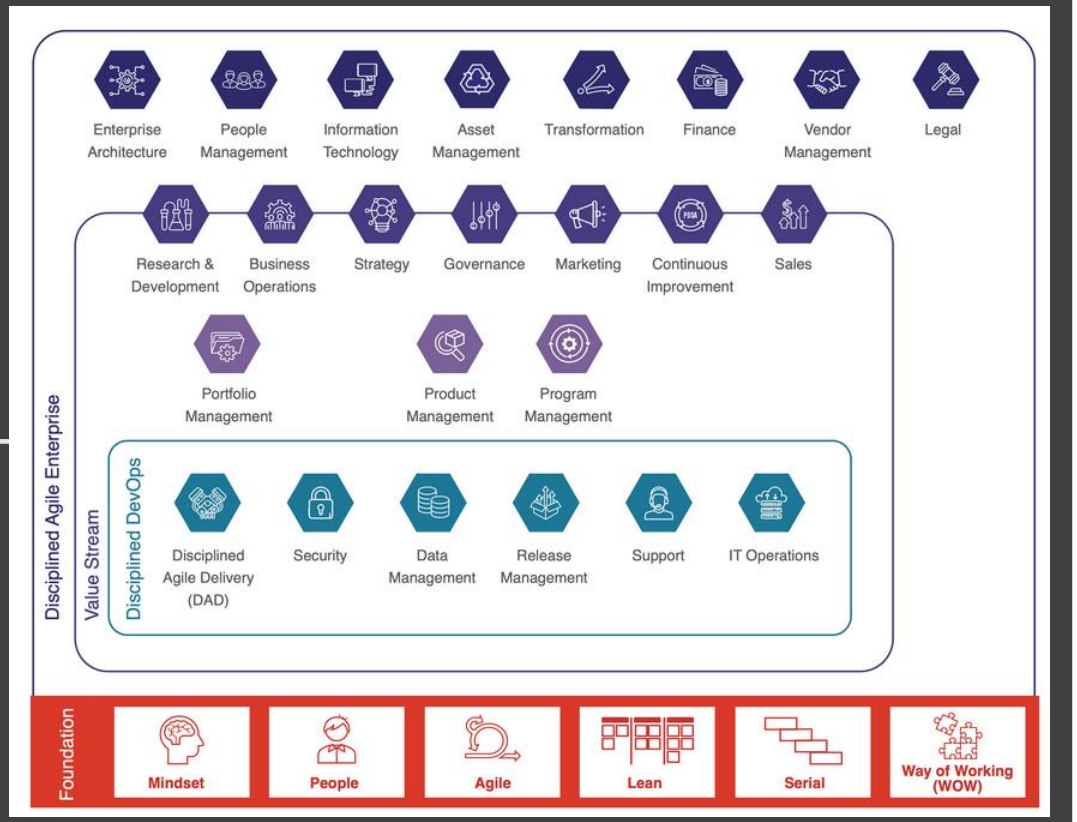
So, how does Scrum work in other industries than Software Development?

What if you are seeking for true Business Agility?

„Prescriptive“ Scaled Agile Framework - SAFe



Disciplined Agile*



The Disciplined Agile (DA™) tool kit supplies straightforward guidance to help you, your team, and your enterprise increase effectiveness. Apply and evolve your **way of working (WoW)** in a context-sensitive manner with this **people-first, learning-oriented hybrid agile** approach

https://dabrowser.pmi.org/

* Agile for Adults - https://www.pmi.org/disciplined-agile

Guided Continuous Improvement (GCI)

- A kaizen loop is an approach where a team experiments with a small change in their way of working (WoW), adopting the change if it works in their given context and abandoning it if it doesn't. The definition of kaizen is **change (kai) for the better (zen)**. The goal of kaizen is often to reduce or better yet **eliminate waste (muda)** or to **eliminate overly hard work (muri)**.

- Continuous improvement is the act of applying a series of kaizen loops to improve your WoW over time.

- Guided continuous improvement (GCI) extends the kaizen loop strategy to **use proven guidance to help** teams identify techniques that are likely to work in their context. This **increases the percentage of successful experiments** and thereby increases the overall rate of process improvement.

ShuHaRi – learning to Mastery

Shu - “protect”, “follow the rule”: in this phase the practitioner applies every method, approach or rule that the teacher provides. The pupil follows the rules to the letter. This is where it’s important to follow every detail, even if it seems unimportant, and not deviate from the teachings.

Ha - “cut”, “break the rule”: the pupil has now reached a level where all he / she knows all rules. At this stage, the pupil might break the rules when necessary. Now, the pupil can also teach other learners, discuss the topic and improve the discipline itself. This is when the pupil can question the rules to understand the reason of their existence.

Ri - “depart”, “be the rule”: the pupil now doesn’t just follow the rule, methods and approaches. Instead, the pupil is the rule & transcends it. The pupil has, by now, so well assimilated the concepts that are the rules are second nature. Now, the pupil can even completely abandon the rules, if the goal requires it. In short, the pupil now extends the discipline.

The End