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Business Analysis and Requirements Engineering In a Large Agile Organization

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Initial situation and corrective actions

Initial Situation

- Company changed development operating model towards agile based on SAFe (Scaled Agile Framework ©)
 - Templates, tools and intercompany standards (based on MS Office templates and Sharepoint repositories), as defined for business analysis and requirements engineering, had not been adopted
 - Agile methods use different artifacts, teams use different tools
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- ➔ Given standards are neglected
 - ➔ The missing adoption of BaRe standards resulted in chaos
 - ➔ Impact raised in form of misunderstandings, rework, unhappy users

Investigation of issues

Investigation of defects in the agile process raised the following issues

- Although SAFe recommends collaboration, in reality a mindset and time gap exists in the analysis and requirements activities between business and IT
 - Against the intention, SAFe had been implemented for the IT organization only
- The mandatory auditable BaRe repositories required additional work
 - Resulting in outdated documentation of the operative system
 - Existing knowledge got outdated or lost
- The complex dependencies between 11 ARTs and about 60 Scrum teams, each with its own “way of working”, resulted in a “we are lost in space” emergency call on team level

Corrective Actions

Within a so called “Epic Flow” workshop the following high priority measures have been elaborated

- Collaboration needs to be redefined from ideation to deployment
- Standards for methods and tools need to be adopted to the “agile way of working”
- Standards shall be lightweight, limited and context specific customizable
 - For example: SAP development ecosystem is fundamental different to the Java development ecosystem
- Abstraction levels must be agreed upon (again) as the agile process model (SAFe) uses specific artifact (Epic, Capability, Feature, Story)
- New types of repositories must be agreed upon for artifacts used in specification and documentation of operational system

Defining BaRe standards is a gauntlet running

- Support by top management required
 - Luckily, an audit report helped marking outdated documentation as a severe issue
 - Support required so that team members are allowed to engage to work **on** the system
 - Confirmation required that standards, elaborated bottom-up, are accepted and supported by management
- Foundation of a Community of Practice in BaRe
 - With support of top management, a core CoP team motivated team members from different parts of the organization to build the CoP
 - Engaged team members came from the following units: business architecture, business division, ASDO, portfolio management
 - Sub-teams in the CoP pulled identified measures and integrated the results towards a new standard in business analysis and requirements engineering

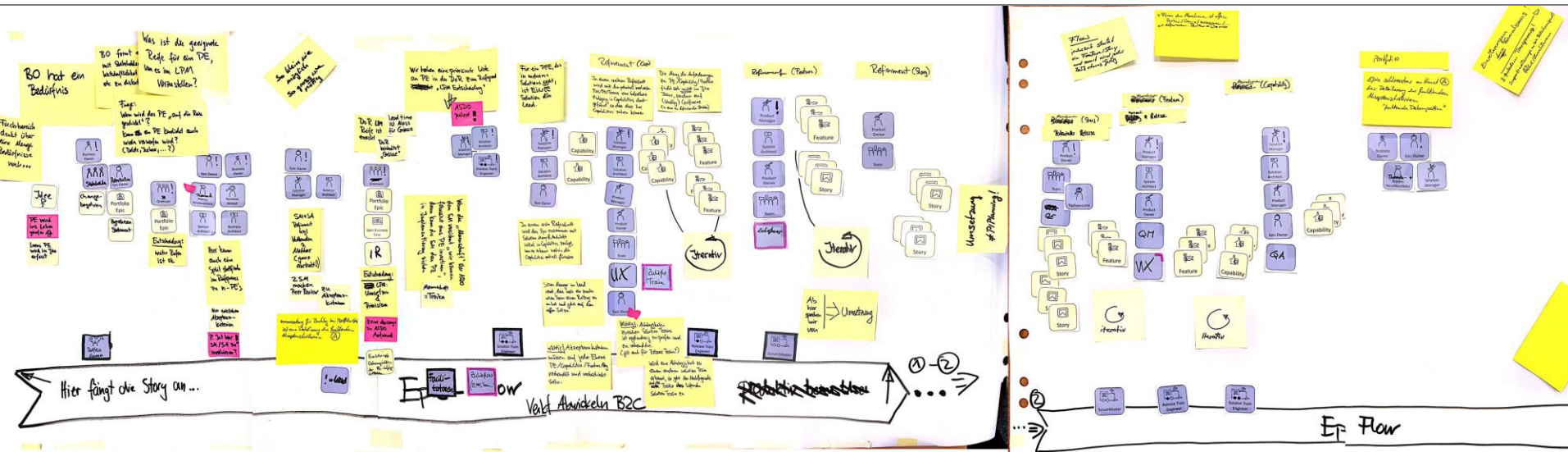


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Process standards

Negotiation about the way we want to collaborate within a new process model

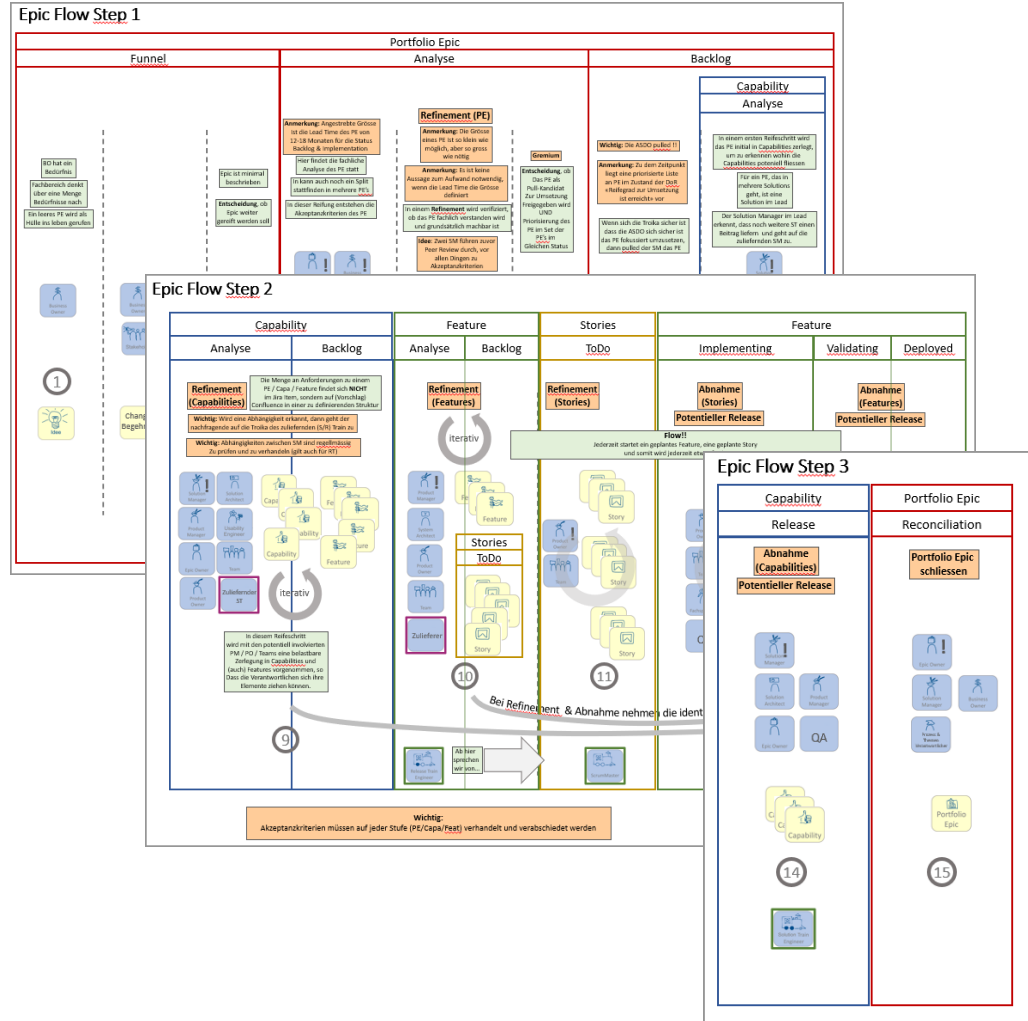
The new collaboration model



- In four workshop session, a mixed team identified the ideal collaboration
- We used a large creative working space in a vital atmosphere and worked around a large table moving with preprinted cards and post-its while discussion about the agile way of working
- The given core operation model as overall constraint is the SAFe framework

Documentation of the new collaboration model

- The collaboration model incorporates the abstraction levels and artifacts used in the business and implementation decomposition
- The collaboration model has been challenged by SAFe Solution & Release Train Engineers (four solutions, 11 release trains)
- Release train engineers communicate the collaboration model into the organization
- Current state: the so called “Epic Flow” is widely accepted as elaborated bottom-up by team members
- The Epic Flow exists in minor customizations as adoption to the specific development ecosystems





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Structural standards

What type of artifacts create value if documented, where to document, who documents what, what is of delete-after-use nature, what is of keep-after-use nature

Discussion about abstraction levels (again and again and again...)

Based on domain driven design an ordering scheme has been elaborated with the following abstraction levels for artifacts in business analysis

- Business Domain
- Business Capability (Geschäftsfähigkeit)
- (E2E) Business Process (Geschäftsprozess)
- Use case (different from User Story)
- Business rules
- Business objects (business object model per domain)

The domain driven ordering scheme is aligned to a decomposition approach of a problem space in business analysis. This decomposition approach is called

- **Business Decomposition (Fachliche Zerlegung)**

the business decomposition is used to analyze and specify so called “business themes”. Example for a business theme is “KI and data driven configuration of KMU contract proposals”

A repository is defined to hold the business analysis documentation of the operative processes.

The tool used to establish the repository is Atlassian Confluence.

- ▼ BizDomains
 - › BIZ: Innovation & Digitale Enabler
 - › BIZ: Interne Dienste
 - › BIZ: Investment / Asset
 - › BIZ: Kommunikation
 - ▼ BIZ: Kunden-Management, Beratung und Verkauf
 - GF: Kundenberatung
 - › GF: Lead Management
 - GF: Verkauf
 - ▼ GF: Verkauf [NL]
 - ▼ Prozesse: Verkauf [NL]
 - › GP: Versicherungsangebot erstellen [NL, Flex]
 - ▼ GP: Angebot bearbeiten [NL]
 - › UC: Angebot bearbeiten
 - › GP: Angebot ausgeben [NL]
 - › GP: Antrag erstellen [NL]
 - › GP: Antrag prüfen [NL]
 - › GF: Kundenbeziehung
 - › GF: Verkauf [L]
 - Kundenanliegen-Management
 - › BIZ: Marketing & Marktbearbeitung

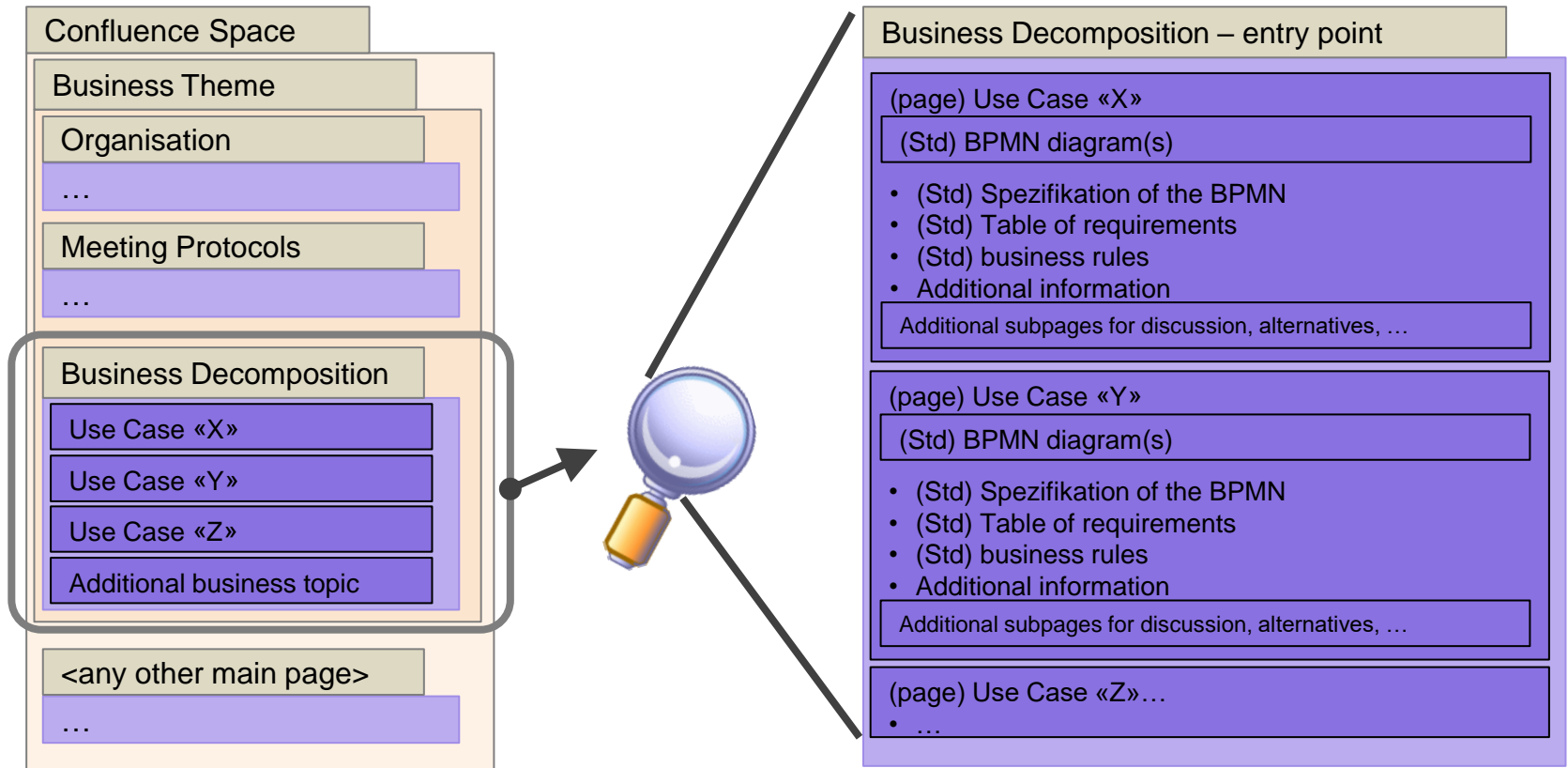
Collaboration in the evolution of the analysis metamodel

- Level business domain, business capability
 - Responsibility of the enterprise architecture group (business processes plus IT system design)
- Level business process
 - Collaboration between enterprise architecture, business and development
 - Concrete responsible roles: business architect, business owner, business analyst, epic owner, product manager
 - Documentation responsibility: business architect, one repository based on EA Tool BIZZdesign
- Level use case
 - Collaboration between business and development
 - Concrete responsible roles: business analyst, epic owner, product manager, team
 - Documentation responsibility: business analyst & team, a set of repositories based on the tools Confluence extended by the viadee BPMNL modeler PlugIn
- Collaboration is defined by the Epic Flow collaboration model

Use Case versus User Story – an endless discussion

- (somewhat) Agreed Definition of the term “Use Case”
 - an independent set of activities on user level that create a specific result or target to reach a defined state within an E2E business process
- (somewhat) Agreed definition of the term “User Story”
 - A user story is a “implementation package” for a user activity that delivers a user value
- Typically, a use case is decomposed using agile decomposition rules as following
 - Spike implementation as feasibility check
 - By use case scenarios
 - By persona (a user subset)
 - By variation of data
 - ...

Tooling: Confluence Use Case decomposition



Tooling: Confluence Use Case page template

Required artifacts are

- BPMN diagram(s) for happy case and most important scenarios
- Table of accepted and confirmed (DoR) requirements
- List of accepted and confirmed (DoR) business rules

Additional content is

- Discussion and alternatives for not accepted and confirmed scenarios, requirements, business rules
- Ux design
- Links to additional context information
- Link to business architecture
- Link to system architecture of existing implementations in this business domain

The screenshot shows a Confluence page titled "Template Spezifikation eines Use Case". The page is created by "zzz imobi Grau Rainer (extern)" and last modified "just a moment ago". The page content includes:

- Use Case Eigenschaften** (MUST)
- Warning: "⚠ mit * gekennzeichnete Felder müssen zwingend befüllt werden!"
- Text: "Die Felder sind mit Beispielwerten belegt."
- Table with the following fields:

Use Case Name*	
Kurzbeschreibung*	Dieser Use Case beschreibt den Ablauf für ...
Gültigkeit*	
Akteure*	
Auslöser*	
Vorbedingungen	
Nachbedingungen	
Endergebnis*	
- Table of Contents (TOC) on the right side:
 - Use Case Eigenschaften
 - BPMN Diagramm IST-Zustand
 - BPMN Diagramm
 - Spezifikation des BPMN Diagrammes
 - Ereignis: Start
 - Aktivität: Die erste Aktivität ausführen
 - Ereignis: Ende
 - Tabelle Anforderungen
 - Geschäftsregeln
 - Regel 01: Eine Geschäftsregel
 - Architekturdokumentation
 - UX Design
 - Dokumente & Links
 - Fragen & Antworten



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The agile way of working

Iterative and incremental working on all abstraction levels

- Business architecture works as a “Zielbild”
 - Visionary description of envisaged future (3-5 years+) business capabilities
- Business architecture and business departments work on business themes
 - A theme is related to a set of quantitative business outcomes with a horizon of < 2 years
- A business theme is realized by business processes and use cases
 - A business theme results in implementation of operative systems (IT + ecosystem)
 - Business processes are realized incrementally on use case basis
- SAFe alignment
 - Epics are derived from business outcomes by hypothesis statements
 - There is an n:m relationship between business outcomes and Epics
 - To fulfill the hypothesis of an Epic, a set of use cases needs to be realized

Use Cases as core element of iterative implementation

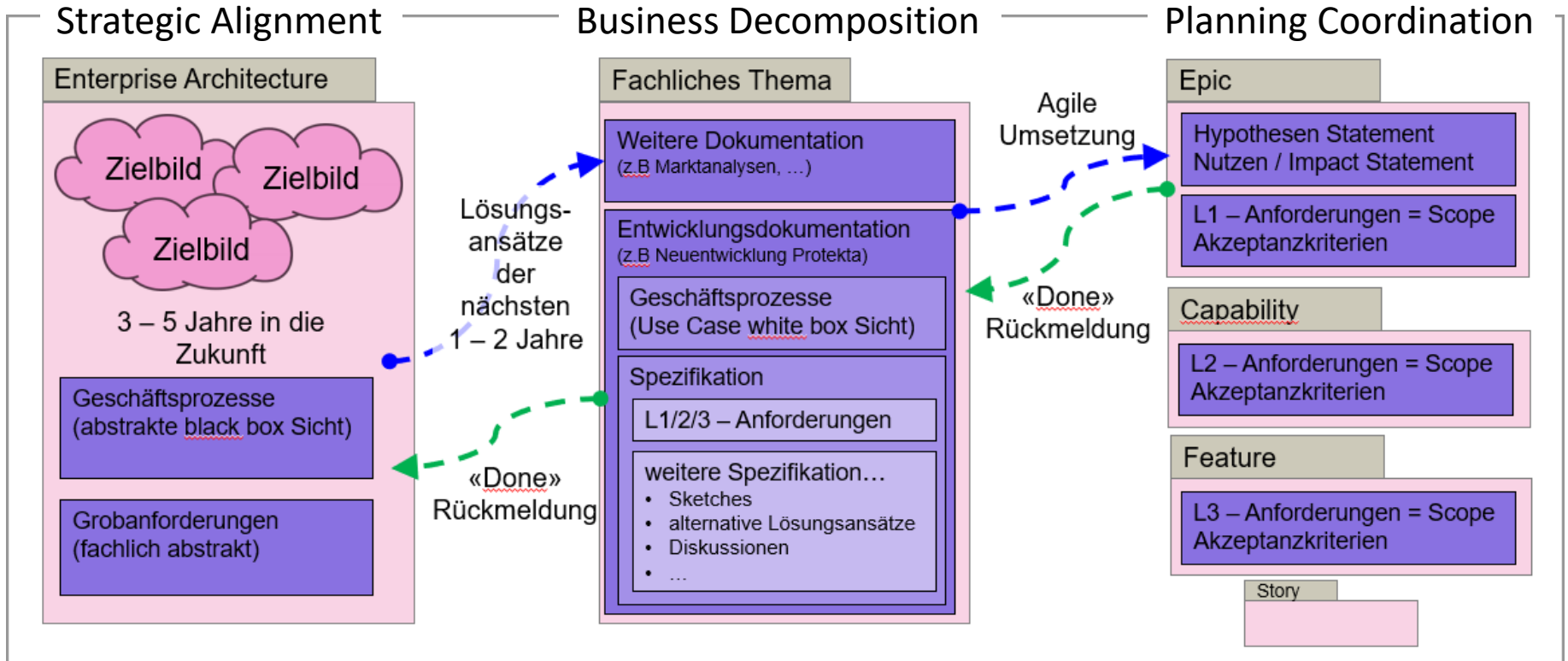
- Use Cases are decomposed as already mentioned
 - Scenarios documented in BPMN, (textual) requirements and business rules (defined minimal standard) complemented by Ux design and additional information
 - These elements are specified continuously in refinement sessions as defined by the Epic Flow
- The Confluence use case template page supports this way of working
 - As soon as a consistent set of elements that delivers a user or business value is identified, it is bundled as a SAFe capability or feature
 - The bundling of elements is call “Planerische Zerlegung” (implementation coordination)
- SAFe capabilities and features hold consistent sets of requirements
 - Capabilities and features are complemented by **acceptance criteria** on capability and feature level
 - **Acceptance criteria** are in fact requirement statements on a more fine-grained level that are the source used in validation of the implementation



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The big picture

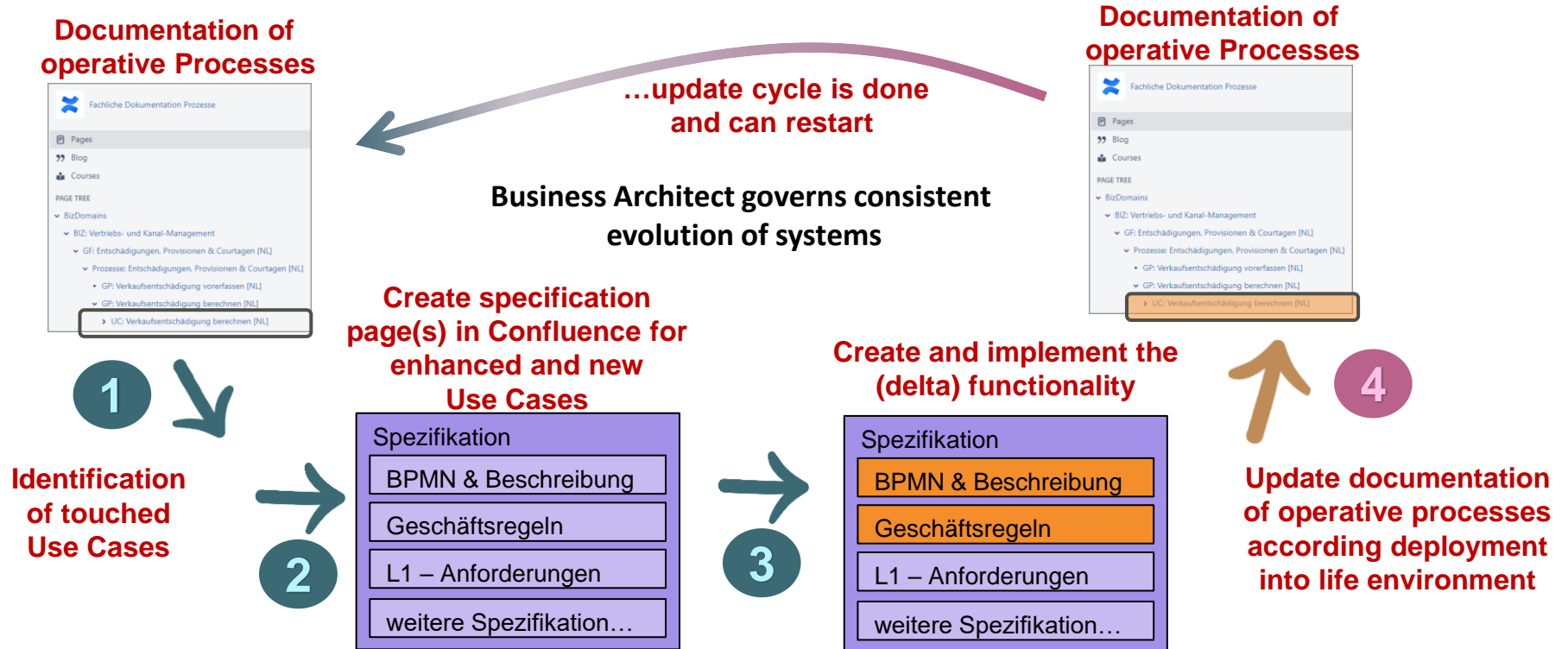
The big picture (innovation view)



The big picture (innovation view)

- Strategic alignment of long-term evolution is driven by business architecture in collaboration with stakeholders (executive mgmt, research, business & innovation departments)
- Business themes drive concrete realizations by defining quantitative outcomes that improve business capabilities
- Business themes are realized by enhancing existing, or developing new business processes
- Business processes are realized by a set of use cases
- SAFe Epics are hypothesis to improve a specific set of outcomes
- SAFe capabilities and features represent consistent “bundles of functionality” in the context of an Epic that create positive impact, disrespectful called “implementation package”
- A “bundle of functionality” is specified and documented as: the scenario, requirements and business rules (+ additional information) using the structures and templates as presented
- scenarios, requirements and business rules (+ additional information) are elaborated following the “Epic Flow”

The big picture (documentation view)



The big picture (documentation view)

- The business processes of the operative system are documented following a well-defined abstraction and ordering scheme (repository tools: Confluence, BPMN)
- In case of a change, represented as a business theme, an impact analysis identifies the touched business process artifacts within the repository
- Business analysis and requirements core activities take place on level Use Case
- The prioritization in agile development is identified using story mapping as method and agile decomposition rules as good practices
- With deployment of a functionality, the correlated specification results are propagated into the documentation of the operative systems



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Observations, consequences

Observations are scaring, consequences need to be discussed

Fast changes in the system destroy competence

- Introduction of a “new way of working (agile)” changed collaboration and tooling
- A new way of working attracts different type of actors (new-hires)
- Existing knowledge and repositories lose value in the eyes of the actors in the system
- Established collaboration structures and agreed ways of acting in negotiation, analysis, specification, documentation are neglected
- A shared and vibrant competence in business analysis and requirements engineering must be re-established
- ...and this is hard work starting nearly from zero

Consequences

We should discuss

- How can we preserve competences and good practices in existing systems?
- How can we make knowledge sustainable?

Thank you !!

