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Renovate the Core – Ein architekturgetriebener Transformationsansatz bei der Hannover Rück

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Hannover Rück



hannover **re**[®]

*somewhat
different*



Hannover Rück: „Renovate the Core“

Ein architekturgetriebener Transformationsansatz

BOC Global Business Impact Summit 2021
Joachim Beyer, Chief IT Architect
Hannover Rückversicherung SE

hannover **re**[®]

Agenda

1	Hannover Re Group	2
2	Initial situation and drivers of a transformation of the core landscape	6
3	Renovate the Core - An architecture-driven transformation approach	10
4	The changing role of architecture management	19
5	Appendix	25

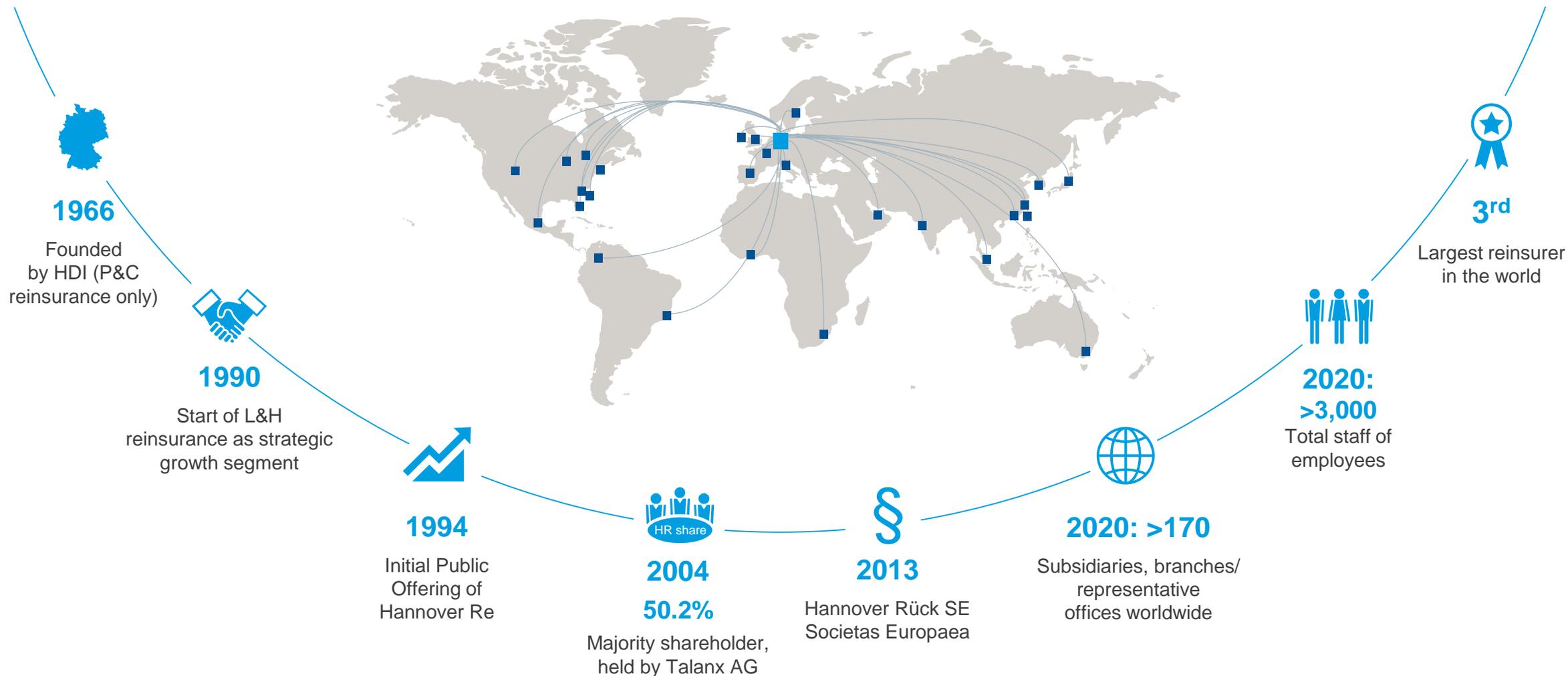
Reinsurance – definition*

- **Reinsurance** (also called reinsurance or cession) is the transfer of risks from an insurance company to a reinsurance company
- It enables the primary insurer to **reduce its underwriting risk**. In simplified terms, this is referred to as the insurance of an insurance company
- Reinsurance **protects** the primary insurance balance sheet, serves as a capital substitute and mitigates the impact of major loss events on the result and solvency of insurance companies
- The opposite of this is primary insurance. If reinsurance companies buy reinsurance for their part, this is referred to as retrocession

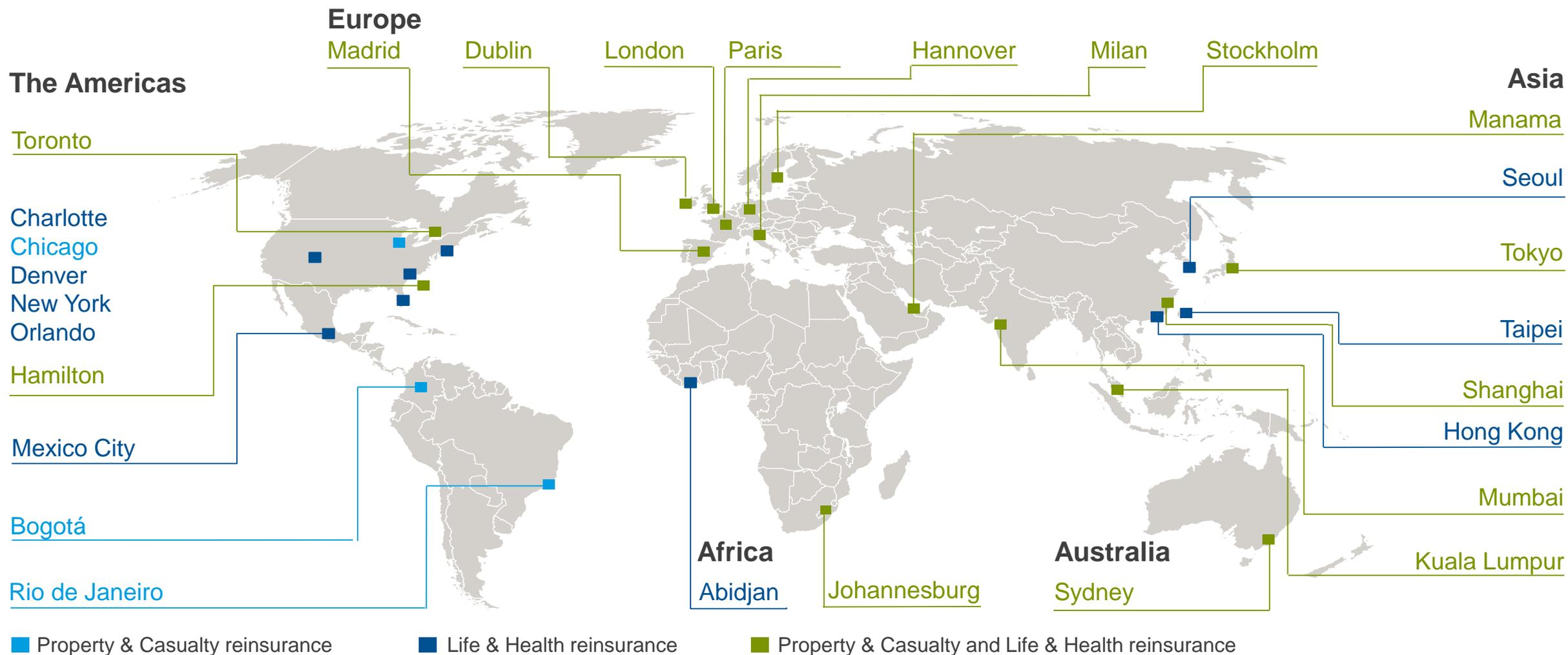


*Source Wikipedia, <https://de.wikipedia.org/wiki/R%C3%BCckversicherung>

Key facts about Hannover Re



Present on all continents



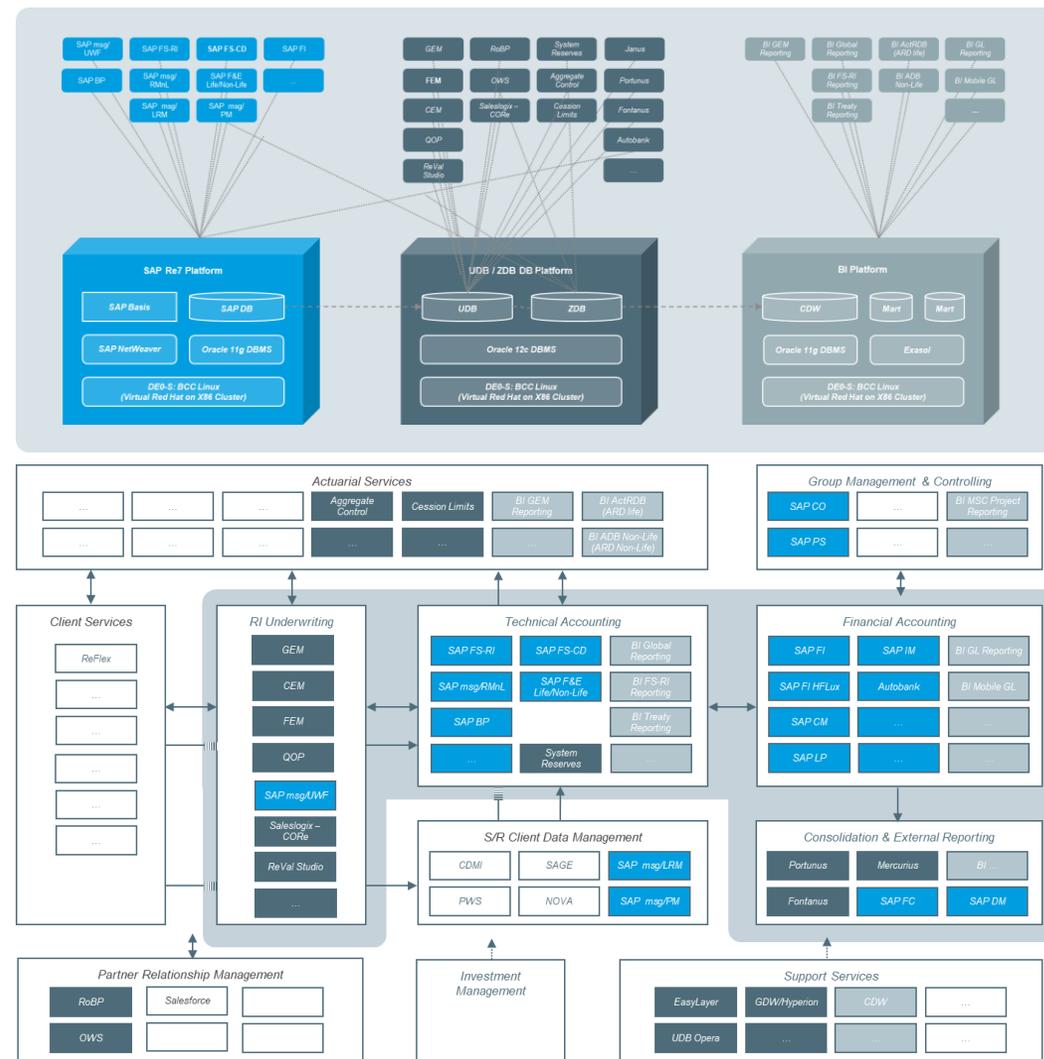
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„Renovate the Core“

As-is situation and drivers for the renovation of the core landscape

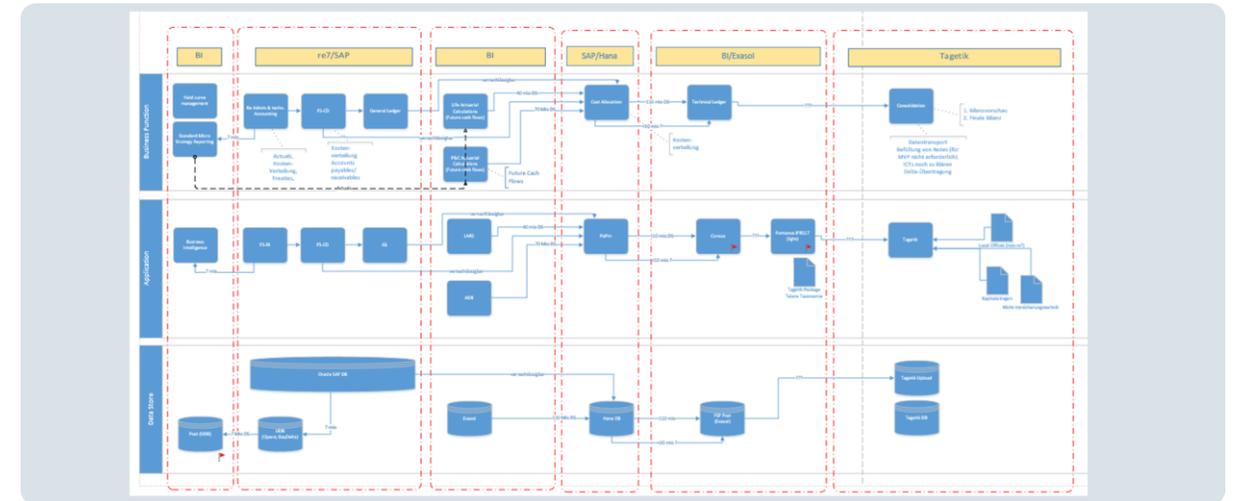
- The **core landscape** shown on the right to support the reinsurance core processes (simplified) is rolled out worldwide, with the exception of the US - last “Gallic village”
- **Characterisation** of the current architecture: monolithic, alongside legacy development with PLSQL, hosted in own data centre, complexity due to non-transparent data use, recognisable performance bottlenecks, batch-oriented processes
- Under the title "Renovate the Core", we started to work on a new **target architecture** 3 years ago
- **Drivers:** End of maintenance of SAP ERP (2027), increasing functional complexity, especially of the closing processes, US requirement for multi-GAAP solution, digitalisation and automation, data analytics (L&H*), cloud capability, elimination of performance bottlenecks and near-realtime processing, VAIT**



**VAIT = Versicherungsaufsichtliche Anforderungen an die IT, *L&H = Life & Health

„IFRS17“ – Architectural shortcomings become visible

- Architecture management was assigned to define the **IFRS17 target architecture** in May 2020, after first indications of performance bottlenecks due to the increased data volume became apparent
- Four to five workshops were held to create **architecture scenarios**, assess them and finally evaluate them through L&P tests
- **Finding:** only a few (in IT) were aware of the end-to-end process and the corresponding IT solutions
- To create the necessary **transparency**, the scenarios were described in three layers: Process/business layer, application layer and technical/data layer
- **Rationale:** For comprehensive transparency and understanding, business and application architecture must be considered/modelled, and if necessary also the data view; a pure IT application architecture as we have usually modelled it is not sufficient, especially in connection with larger transformations



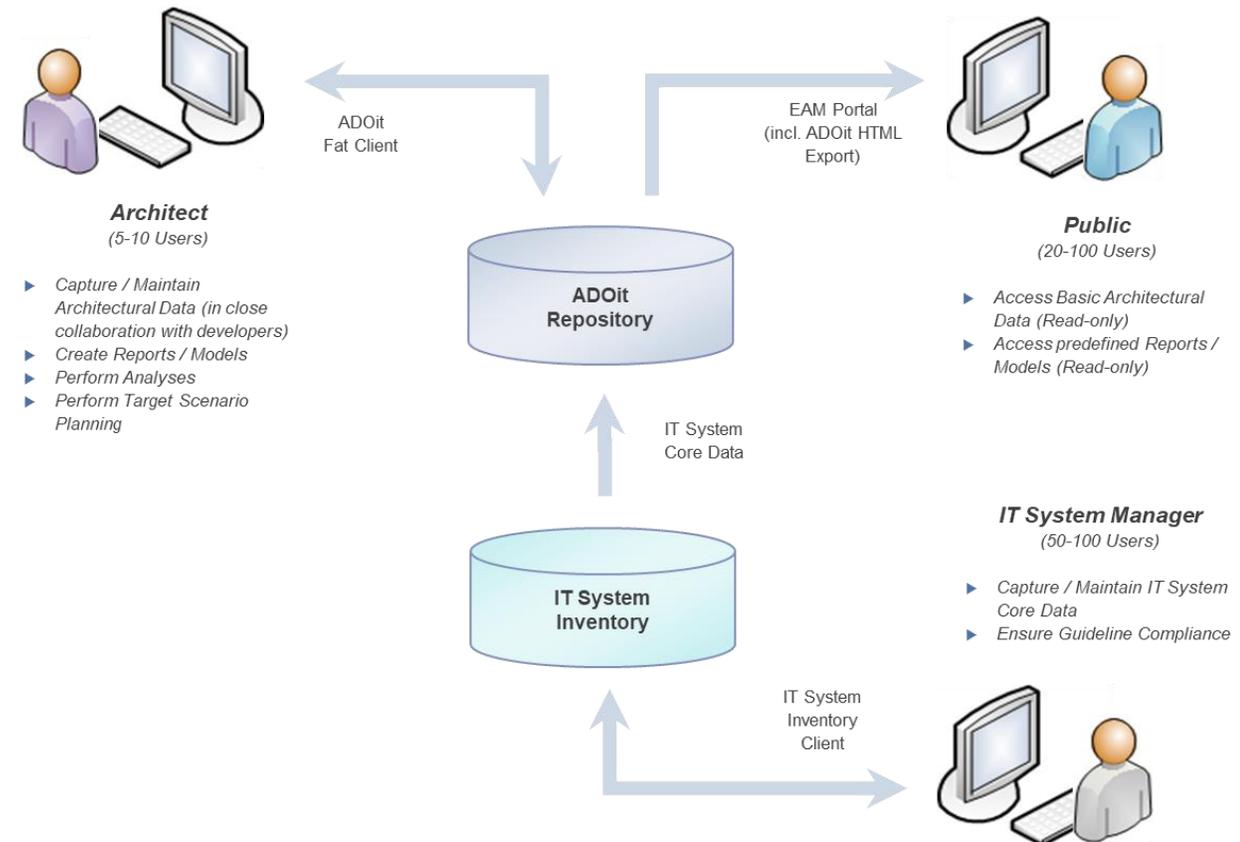
Architekturelement	System	Anzahl Datensätze	Szenario 1 Kritikalität	Szenario 2 Kritikalität	Szenario 3 Kritikalität
FS-RI->UDB Versorgung Actuals, Treaty	SAP, IDS,UDB	7 Mio	gelb	gelb	gelb
Blank Entry Code Batch (FS-RI)	SAP		grün	grün	grün
Actuals Batch (???)	SAP		grün	grün	grün
Zinskurven	BI	40 Mio	gelb	gelb	gelb
Lars	BI	70 Mio	gelb	gelb	gelb
ADB	BI	40 Mio	grün	grün	grün
Interface LARS - PaPM	PaPM		grün	grün	grün
Interface GL - PaPM accounts payables	PaPM		grün	grün	grün
Interface CD - PaPM	PaPM		grün	grün	grün
PaPM Aktuarsch	PaPM	110 Mio	gelb	gelb	gelb
PaPM Kosten	PaPM	110 Mio	grün	grün	grün
Interface PaPM - FSP Post UDB	PaPM	40 Mio	grün	nicht benötigt	nicht benötigt
Interface PaPM - FSP Post CDW	BI	40 Mio	nicht benötigt	gelb	gelb
Interface ADB - UDB	UDB	70 Mio	grün	nicht benötigt	nicht benötigt
Data Enrichment	UDB	110 Mio	grün	nicht benötigt	nicht benötigt
Interface UDB/Oracle Package - Consus/CDW	BI	110 Mio	grün	nicht benötigt	nicht benötigt
Consus (Exsol) bzw Consus+	BI	110 Mio	gelb	gelb	rot
Fortunus	Infomatica		grün	grün	grün
Tagetik	Tagetik		grün	grün	grün
Tagetik LO Abschlüsse, Kapitalanlagen, nicht-vers. Technik	Tagetik Import		grün	grün	grün
Portunus	Infomatica		grün	grün	grün
SAP FC	SAP FC		grün	grün	grün
SAP DM	SAP DM		grün	grün	grün
Interface UDB->FS-RI	Upload Mgr.	110 Mio	grün	nicht benötigt	nicht benötigt
Interface CDW -> FS-RI	Infomatica/Boomi		nicht benötigt	gelb	nicht benötigt
FS-RI	SAP	110 Mio	gelb	gelb	nicht benötigt
FS-CD	SAP	110 Mio	gelb	gelb	nicht benötigt
GL	SAP		rot	rot	rot
Interface FS-RI->UDB/IDS	IDS	110 Mio	rot	nicht benötigt	nicht benötigt
DayDelta (-> BI, Easy Layer, Opera Versorgung)	UDB/DayDelta	n x 100Mio	rot	nicht benötigt	nicht benötigt
Post in Exsol	BI	110 Mio	gelb	nicht benötigt	nicht benötigt
Interface GL - BI	Infomatica		grün	grün	grün

rot fehlt
gelb unvollständig
grün technisch verfügbar

Our IT Architecture Framework

ADOit system architecture

- The basis for modelling with ADOit is an existing **"IT system inventory"** in ServiceNow (technical systems and applications)
- Based on a BaFin requirement to regulate the **"handling" of IT systems** (guideline) and today forms the basis of the service processes
- Some **adjustments / customising** (additional fields, relations, objects)
- Manual **data exchange** between IT system inventory and ADOit (export/import); currently developing an automated interface
- **Publication** on the intranet via HTTP export and in the future via the Reader Portal
- With the next version switch to **Archimate** as the modelling language, as this is associated with significant enhancements in the area of business architecture modelling, which is becoming increasingly important

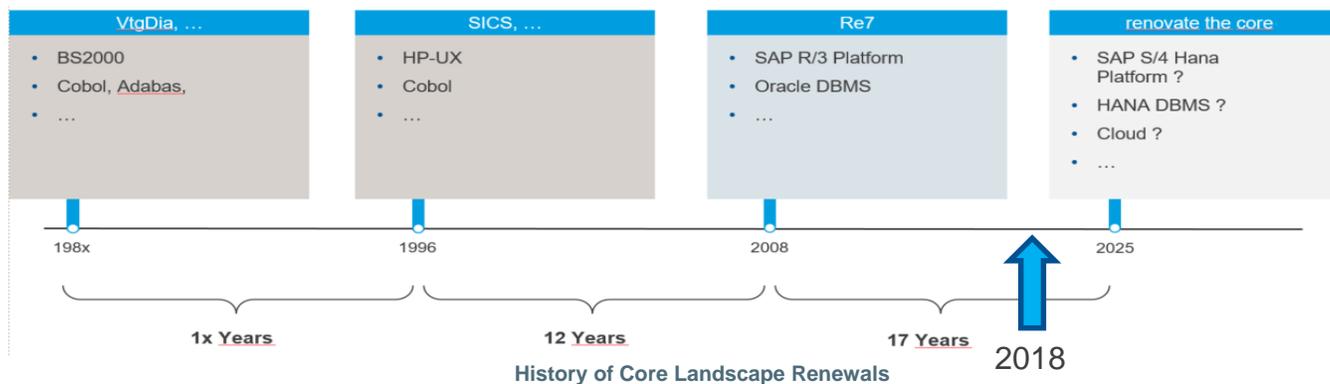


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It is time to think about the next big step

Core renovation is part of the IT Strategic Plan



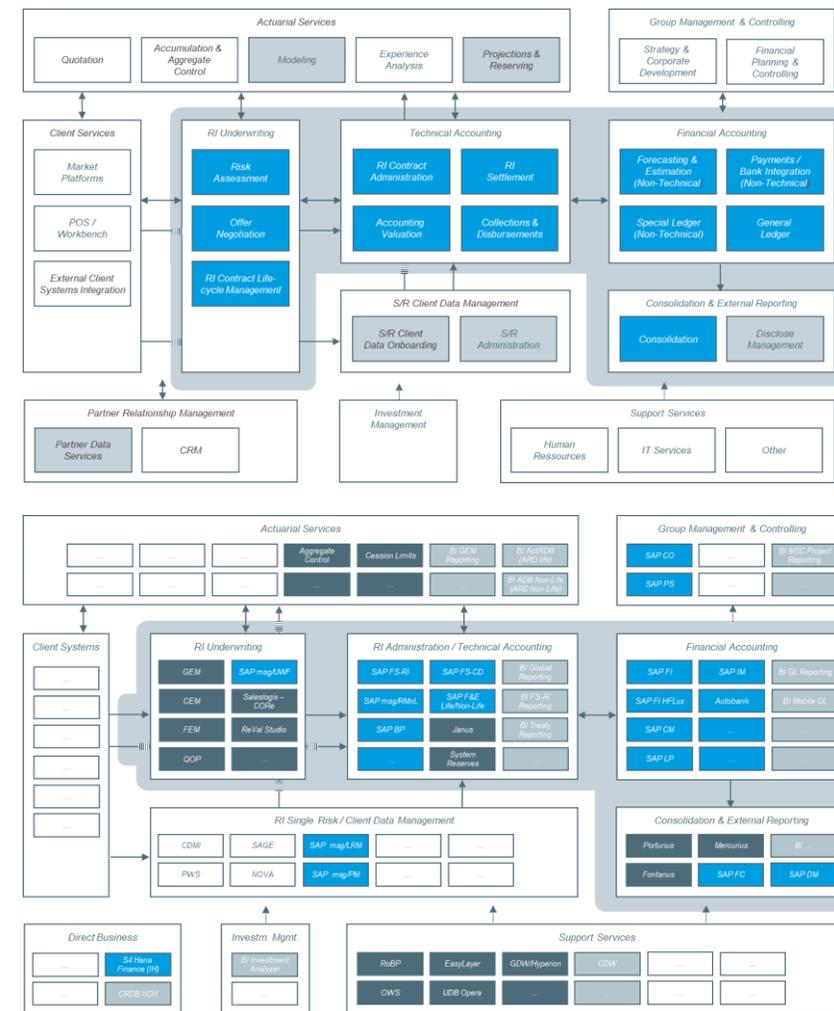
IT Strategy

IT Strategic Plan

Step 1: Scope based on Functional Building Blocks

Core and affected building blocks and applications

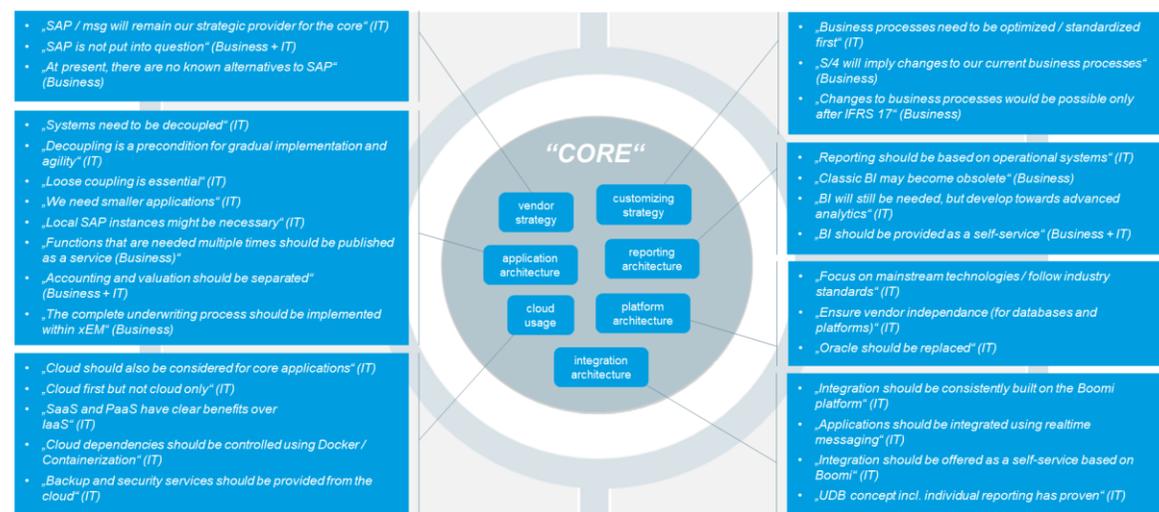
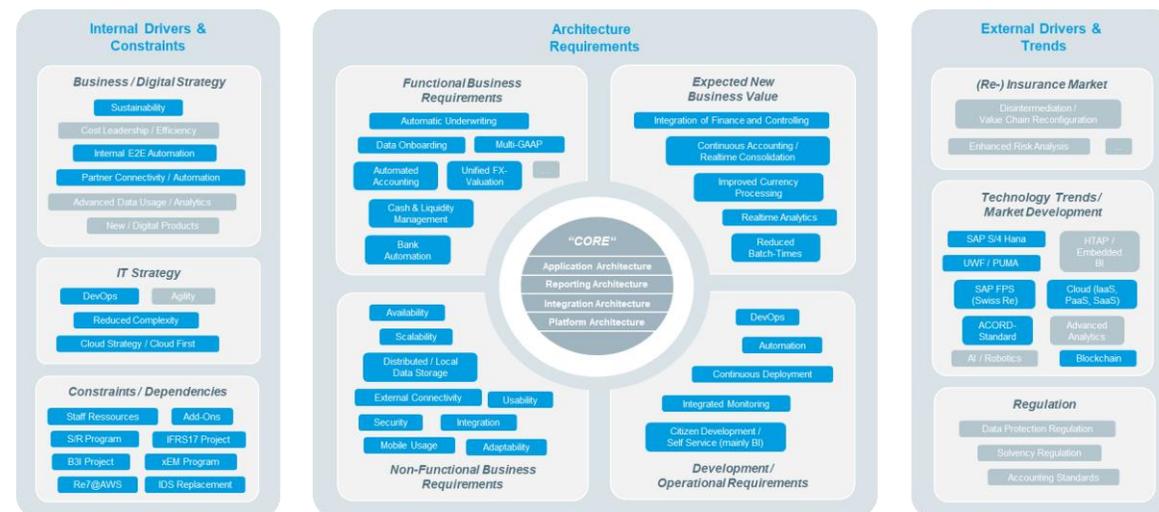
- Elements and views of architecture management serve to define the **scope** and the overarching communication with stakeholders in a language or visualisation that is understandable for all participants
- They offer a holistic view of the affected business functions as well as IT applications and are therefore fundamentally suitable for **communication with stakeholders** from the business departments and the area of information technology



Step 2: Stakeholder Interviews

A broad range of stakeholders was Involved right from the start

- To identify the main drivers, stakeholder concerns as well as existing ideas on the future core architecture, a series of stakeholder interviews was conducted. The interviews were led by the IT Architecture Team together with demand managers (for business stakeholders).
- Interviews were structured, documented and analyzed along the following topics: strategic drivers, technology trends, business value, requirements, dependencies and constraints.
- Various topics have been identified and classified (e.g. functional or non-functional, internal or external drivers...).
- Comments on Future Directions regarding the core were collected (e.g. application, platforms, cloud usage...).
- This was a perfect and important input for the next step.



Step 3: Guardrails

Architecture principles as a foundation for the future target landscape

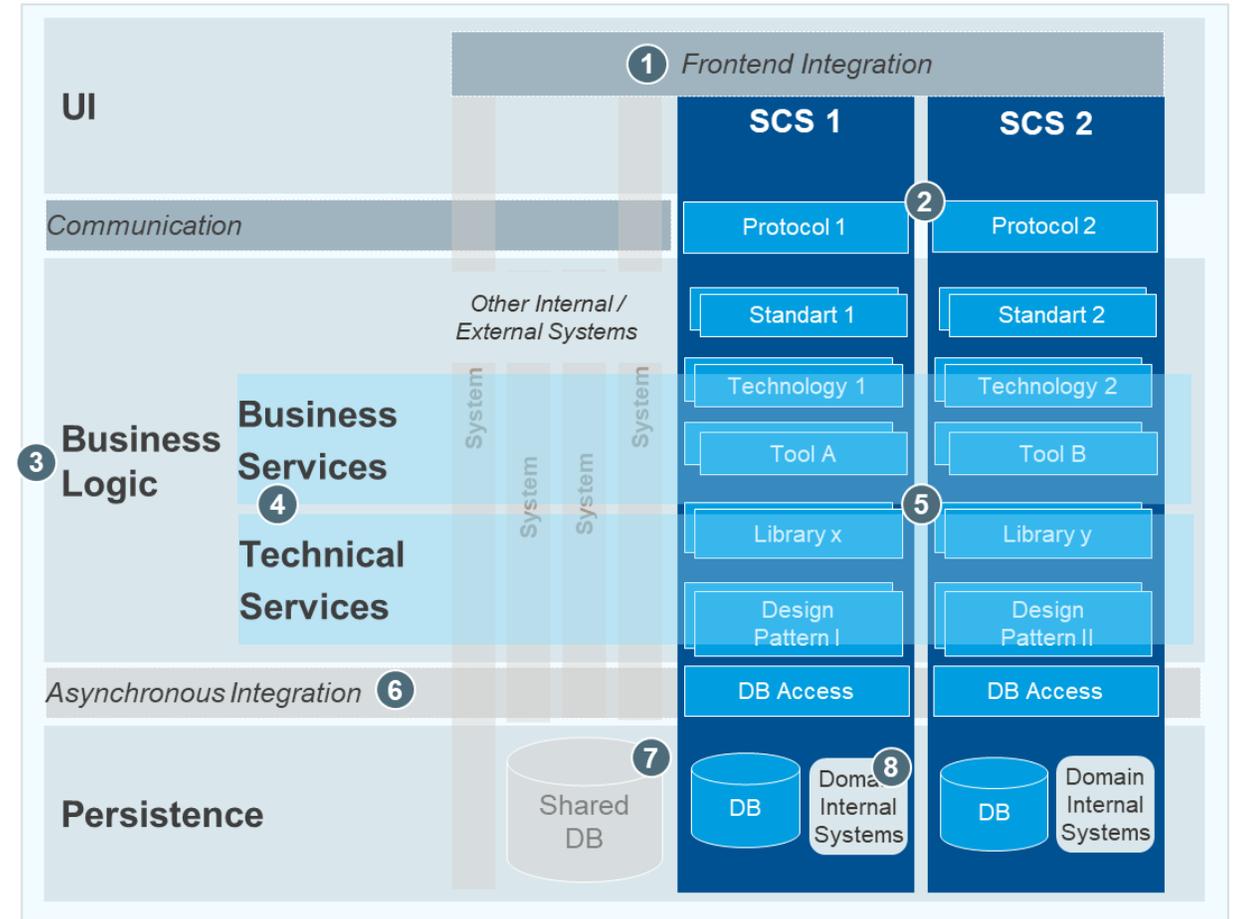
- **architectural guardrails** have been developed based on key decisions taken by **IT management**
- the guardrails shall be used as a **guiding framework** for the **development of the new core architecture** and related implementation tasks
- the guardrails are **preliminary** in the sense that their feasibility (esp. in terms of migration costs and risks) needs to be further evaluated
- the guardrails will be **updated** accordingly as part of the agile process to architecture development, but should represent a basic consensus at any point in time
- within scenario development, the guardrails need to be **operationalized** to more specific solutions proposals that can be visualized and further evaluated
- **conflicts** between guardrails and with respect to other **constraints** (e.g., time, budget, risks) are natural and need to be resolved during architecture development and implementation



Step 4: Self Contained System Architecture

Establishing an architecture for in-house developments

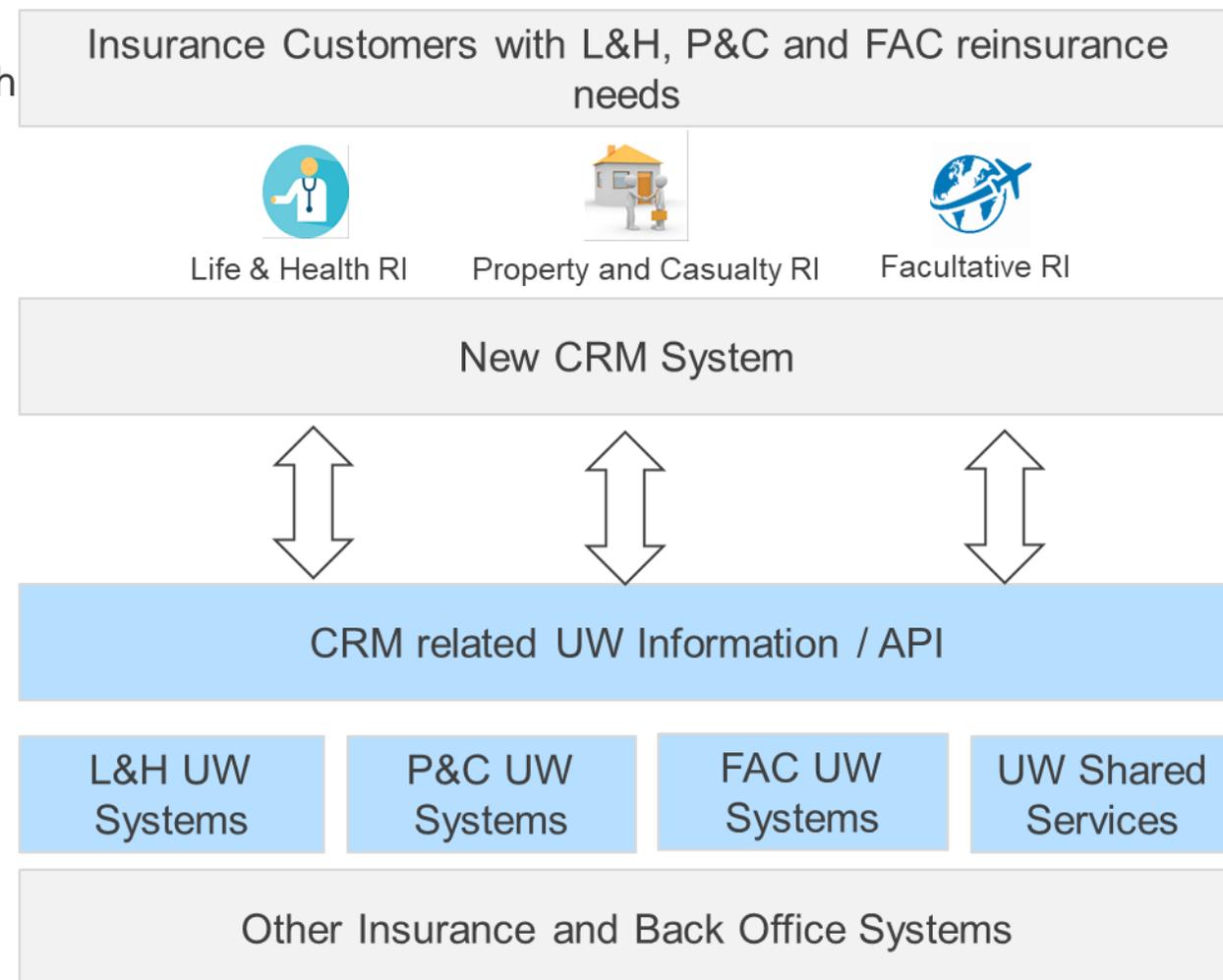
- Self **contained systems (SCS)** allow a business centered development of independent domain applications
- Domain wise **independence** allows a speed up und decoupled planning and development of functionality
- SCS **modularized** along business domains which can be directly mapped to the business
- Full flexibility regarding technology decisions within a domain
- Some characteristics for SCS
 - A SCS **encapsulates** the functionality and business objects bound to a business domain (3) and business logic is split in business and technical services (4)
 - Shared databases are not facilitated for sharing state or communication (7)
 - Communication with other SCSs or third party systems should be **asynchronous**



Step 5: Review of Underwriting Systems and Architecture

Integration with new customer relationship application

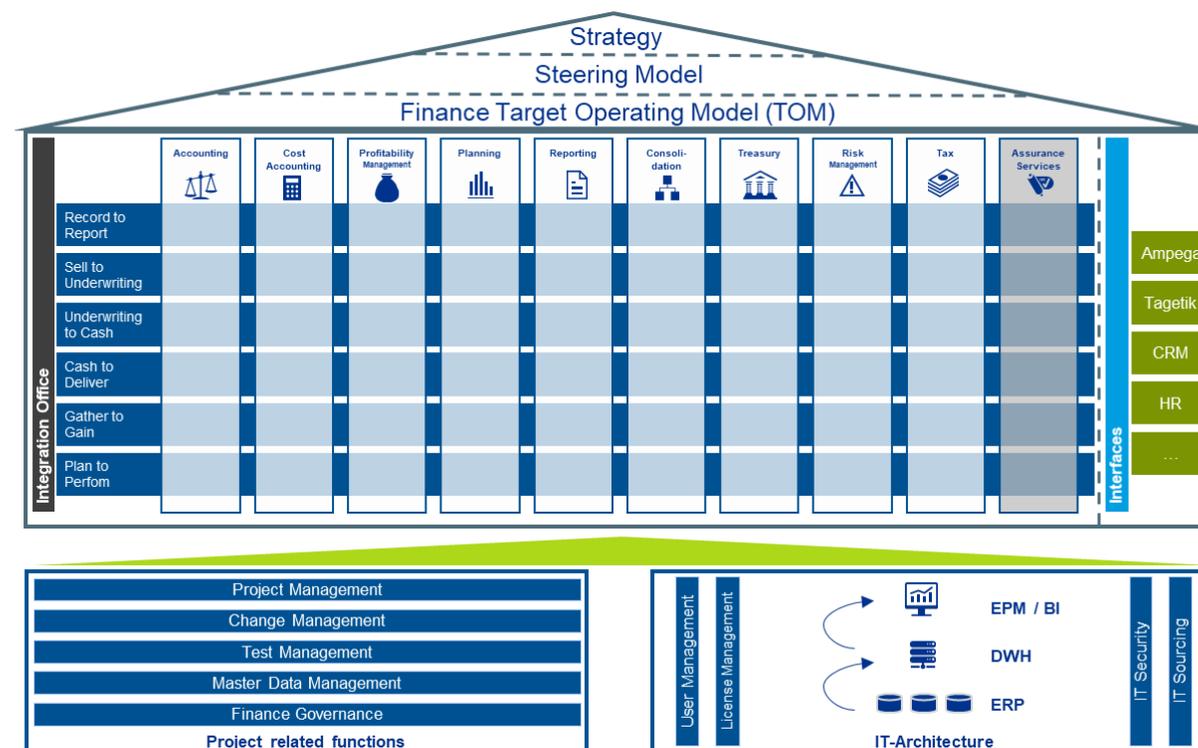
- Which **measures** need to be done for an optimal and modern target architecture for the whole U/W Domain which also supports the Customer Relationship initiative?
- Detail Business Architecture
- Detail U/W Application Architecture
- Detail CRM **interactions** with U/W Architecture
- Clarification regarding **Business Objects** involved in UW
- Identification of **touchpoints** between Building Blocks



Step 6: Finance & Accounting Vision Workshop

IT vision (Renovate The Core) mapped with Financial Accounting roadmap

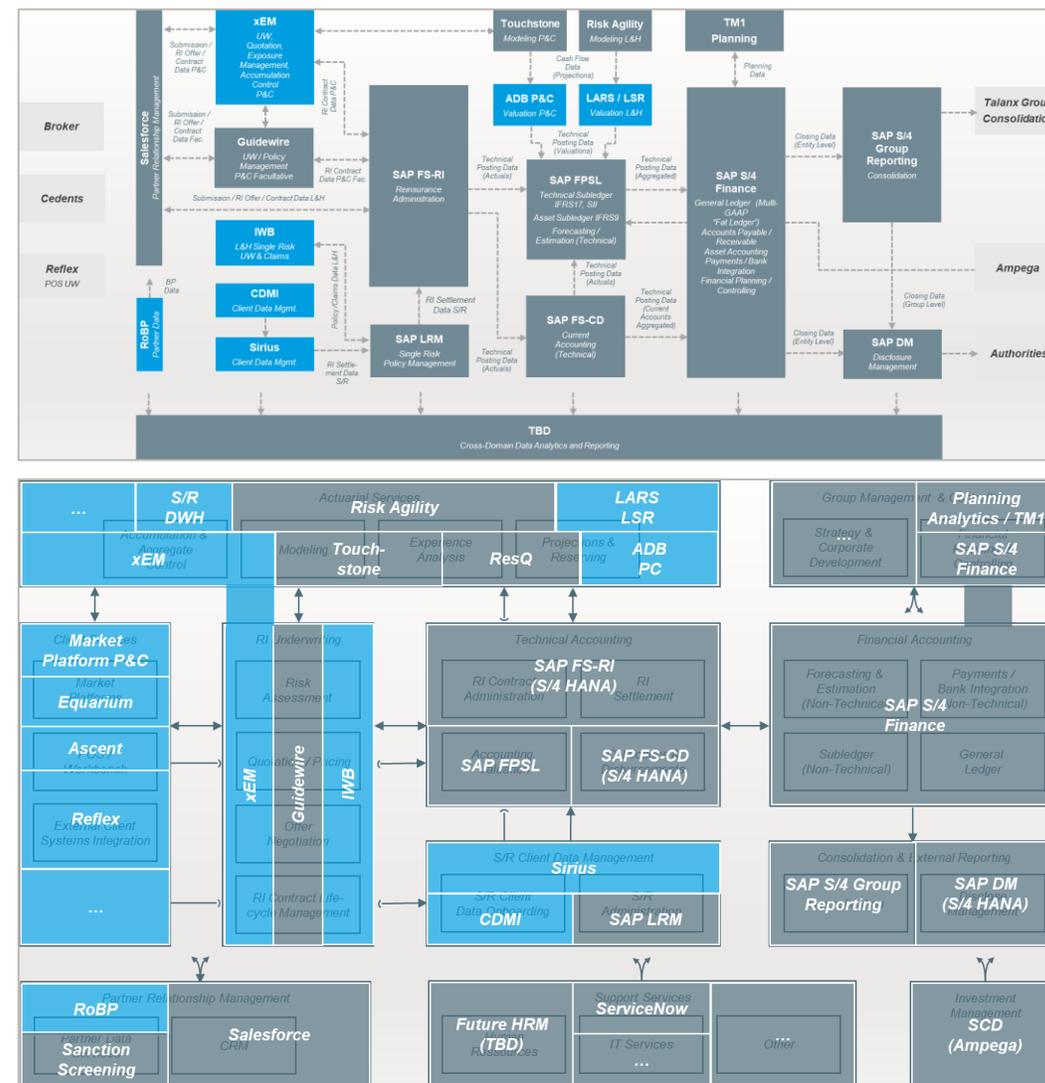
- Definition of the **high-level Target Operating Model (TOM)** aligned with the business strategy
- Create hypotheses for the F&A core process “**Record to Report**”
 - The functional processes and reporting requirements
 - Potential optimization through **automation**
 - Necessary **skills** and competencies
 - Harmonization of controlling, accounting and valuation
 - Return core applications to **standard** where possible
 - Follow the **principle of one global process owner** instead of many local process owners has to be challenged
 - For a successful **merging of consolidation and planning** processes (accounting & controlling) consistent data ownership concept must be set up



The Party goes on ...

Ongoing or planned initiatives

- A first target vision and long-term scenario was developed and gradually refined after discussions with various stakeholders. Also, the main transformation steps required to move towards the target scenario were identified. Following the overall agile approach, first fields of action were identified and projects initiated to prepare and actually start the transformation
- Next major step will be a **prestudy regarding S/4 Hana** to filling the gaps and validate the Target Landscape for the period of 2027 onwards (just started)
- Revision of the **Information Architecture**
- Concept for **End User Computing (EUC)** Integration
- Revision of the **Integration Architecture**
- New application developments based on SCS architecture
- And many more ...



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Architecture Management @ Hannover Re

Lessons learned and first measures

- Ultimately, we as an architecture team were inadequately positioned for this task:
 - Lack of governance
 - Limited resources
 - Insufficient focus and prioritisation,
 - Lack of support from IT and business
 - Repository not up to date (ADOit)
 - Missing business architecture practice
 - ...
- Due to the urgency (originally the end of SAP support was planned for 2025) and intensive discussions with the various management bodies, we have succeeded in raising awareness of the need for change in recent years
- The VAIT requirement to anchor a target architecture in the IT strategy has led to a change in thinking, especially in IT



Architecture Management @ Hannover Re

What does „architecture driven“ approach mean for us - procedure

- Due to the high degree of uncertainty regarding future requirements, drivers and constraints an **agile approach** to architecture development was pursued. Starting from certain hypotheses, this involved the development of "vague" and "unfinished" architecture deliverables which could be **discussed with stakeholders early on** and validated and refined gradually
- This means **thinking in large time frames** but **delivering (partial) results early on**, because EAM is a discipline that should be broad and long-term, which means that addressing the necessary transformation often takes a back seat to operational issues



Architecture Management @ Hannover Re

What does „architecture driven“ approach mean for us - transparency

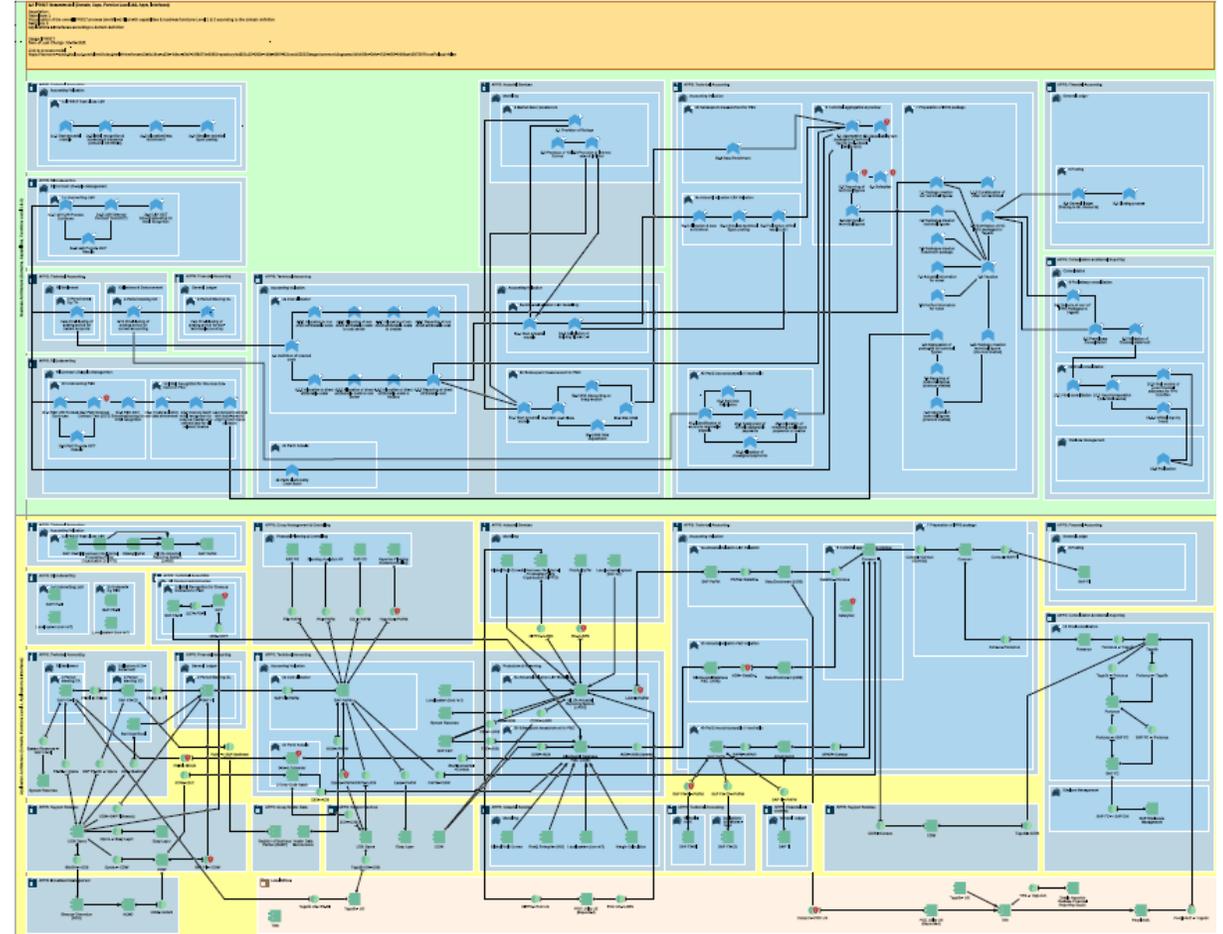
- A **holistic view** is especially important at the beginning with corresponding visualisations that show the scope of the target architecture but also delimit it. The basis for this is a typical representation based on domain or building block models.
- Create **transparency**, comprehensibility and objectivity through the (re-)use of objects, terms and models with a clearly defined understanding for all stakeholders (domain, capability, ...).
- **Visualise and reuse** standard architecture models and architecture objects in which the context is embedded based on architecture information.
- Clarify and communicate **drivers of change** and agree framework conditions resp. **guardrails or principles** at an early stage, which on the one hand limit the solution space and on the other hand form a solid basis for decision making



Architecture Management @ Hannover Re

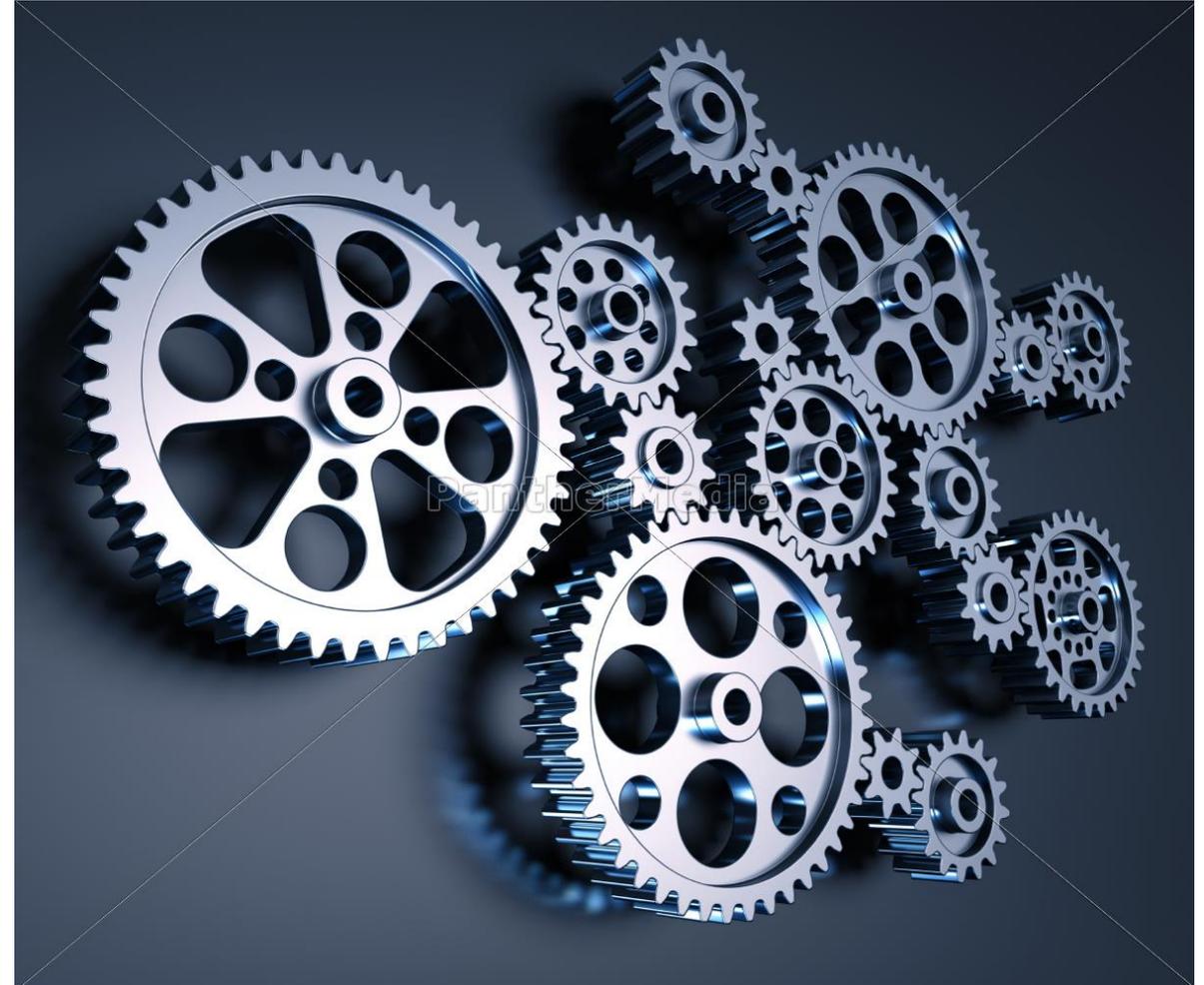
What does „architecture driven“ approach mean for us - modelling

- Basically, landscape planning takes place on several layers and thus **different views** are ultimately required for understanding and transparency (business, application, technology, information)
- In my opinion, this is only possible with **suitable modelling tools**, e.g. ADOit, as a single source of truth; Visio or PPT are not sufficient here, but can be used for communication
- In addition to the classic models of system architecture and functional architecture, modelling in so-called swim lane or layer has proven useful for complex and overarching topics such as large transformations or the core functional processes, as they combine the functional view with the IT view, in addition to the relations contained in the repository
- This makes it possible to visualise the connection between business and IT architectures, especially for all those involved, and helps to achieve a comprehensive understanding



Architecture Management @ Hannover Re Summary

- The importance of architecture management increases with the **growing complexity** of IT landscapes
- Regulatory requirements (VAIT, auditors) increasingly demand an "**end-to-end**" view of the **business and technical architecture**
- In my opinion, a clear prioritisation and an increasing of **governance** under the control of the CIO is essential due to its importance (e.g. as part of a CIO office).
- An **agile architecture-driven approach** helps to involve stakeholders early on, to initiate partial implementations and to reduce the overall complexity of the project, especially in the case of extensive and comprehensive architectural changes
- The complexity of today's landscape requires tool-supported modelling as a baseline but also to represent the target landscape. This makes it possible to create partial views that meet the requirements and the repository becomes a "single source of truth".



Anhang

Titel:

Renovate the Core - Ein architekturgetriebener Transformationsansatz bei der Hannover Rück

Key Takeways

- Blueprint eines architektonischen Transformationsansatzes
- Warum die Bedeutung des Architekturmanagements im Rahmen von Transformationen zunimmt
- Warum IT-Architekturmanagement nicht hinreichend ist
- Warum Werkzeugunterstützung sinnvoll ist

Abstract

- Joachim Beyer, Chief IT Architect bei hannover re, gibt Einblicke in einen architekturgetriebenen agilen Ansatz zur Transformation der Rückversicherungs-Kernlandschaft unter dem Titel „Renovate the Core“.
- Der Vortrag beschreibt die unterschiedlichen Treiber für die Transformation, den architektonischen Ansatz und behandelt die sich verändernde Rolle und Bedeutung des Architekturmanagements.



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