Enterprise Architecture Management -   
**An Airport Case Study**

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1. Foreword

The present case study **revolves around a fictive airport**. By means of methods from the fields of Enterprise Architecture Management (EAM) the airport is analysed and potentials for improvement are discussed. The case study is intended to get to know some of the key instruments in the fields of EAM.

There are many different frameworks for EAM: Zachman, TOGAF, FEA, PEAF etc. All of them might contain elements helpful for the various assignments which you have to master in this case study. The Open Group Architecture Framework (TOGAF) is one of the most widespread and internationally recognised frameworks. For this reason, the given case study is structured according to TOGAF’s Architecture Development Method (ADM), which describes a method for developing and managing the lifecycle of an enterprise architecture (EA). However, **any other EA framework or an EA method of your own can be applied to develop and work on the given case study**.

The focus of the case study lies on the development of new business ideas by means of Enterprise Architecture Management. The paramount goal is to get to **know the fundamental principles and some of the essential techniques** required to create architecture documentations and t**o learn how to systematically develop new business cases for an organisation** – in the present case for an airport. Particular attention will be given to the **social technological aspects of EAM**. The main idea is, that groups of students simulate the EA team (and related stakeholders) of the fictive airport. All teams work on their own idea to improve the airport’s business. Together they work on the EA documentation of the airport. As a starting point the EA documentation of a sample airport already modelled in ADOIT is used. It comprises business capability maps, business process maps, application landscapes, a technology portfolio and many more. However, the prepared content is not meant to be a complete EA documentation of an airport. It is rather to be understood as a starting point for the development of a student’s own case. All pre-existing content should be scrutinised, discussed and improved by the teams.

The given airport case study is explicitly **not meant to teach the key features of the EAM suite ADO**IT. However, the various assignments contain information links to the ADOIT training centre, where students find “How-to-videos” in case ADOIT is used for resolving any of the set tasks. All assignments can be mastered using the EAM Academy Programme. For more information please refer to [www.boc-group.com/academy-programme](file:///D:\Dropbox\!Uni%20Lehre\Case%20Study%20Airport\BOC%20Academy%20-%20Assignments\www.boc-group.com\academy-programme).

**As an alternative to build on the given airport use case, students are encouraged to build their own case in any industry sector**. In this case the given case study can be used as an example to build-up an architecture description. An example of such an alternative is the case study “Socrates University” which is also available in the context of the EAM Academy Programme.

1. An Airport Case Study - Introduction

Airports are large businesses. Operating costs in the three-digit million-dollar area per year are not unusual for huge airports. Their structure but also their economic impact can be compared to the one of a small city. Any major airport has lots of customers, most of them passengers. For example, the Vienna Airport handles a volume of more than 25 million passengers a year, more than the tenth of Vienna’s population. Already in 2012 the Frankfurt Airport, one of the biggest airports in Germany, announced that it has hit or exceeded the mark of 200.000 passengers per single day.

To cope with this huge number of passengers, airports cooperate with many different organisations; all above airlines, which are competent to safely carry the passengers from and to their destination airports. It is clear that running an airport is a complex endeavour: it is a matter of organising an enormous amount of work steps between manifold organisations to guarantee convenient and all above safe trips for the passengers.

In many respects an airport operates like a city. Just the same as for cities the management takes care on strategic development of the airport and at the same time oversees the daily operations of the airport. A finance department is in charge of sustaining the financial situation. Authorities such as the Airports Fire Brigade, the Airports Rescue Team and the Airport Police ensure the safety of all passengers and employees at the airport. Both airports and cities have garbage disposal teams to keep the spaces clean. Some major airports even provide prayer rooms as a retreat for stressed passengers. Besides the handling of passenger steams, the core assignment of airports is to handle a fleet of commercial aircrafts. In this context, it is necessary to coordinate a large number of activities between the landing and take-off of aircrafts – the airport turnaround processes have to be coordinated. Passenger processes such as check-in, security and boarding; baggage processes such as baggage drop-off, security check, baggage loading; aircraft handling processes such as ramp operations, maintenance operations, take-off and landing; as well as freight processes such as freight registration, freight security check, freight loading and unloading have to be aligned to avoid negative impacts and inconsistencies.



Figure 1 - Ground Handling Processes

To coordinate all these activities a plethora of data is required. Tickets, bag tags, passenger guidance displays, availability of parking slots, gates and other resources need to be coordinated. All this information is handled and supported via IT services – technically represented by the airports application landscape and underlying technology portfolio.

From these insights it becomes immediately clear that the airport has to own and master a variety of business capabilities, which comprise processes, information and technologies. In order to successfully meet the coming challenges, these business capabilities have to be adapted and strengthened. However, the airport business is not solely about aeronautical services. To a great share an airport’s revenues come from non-aeronautical services, as can be seen in Figure 2.

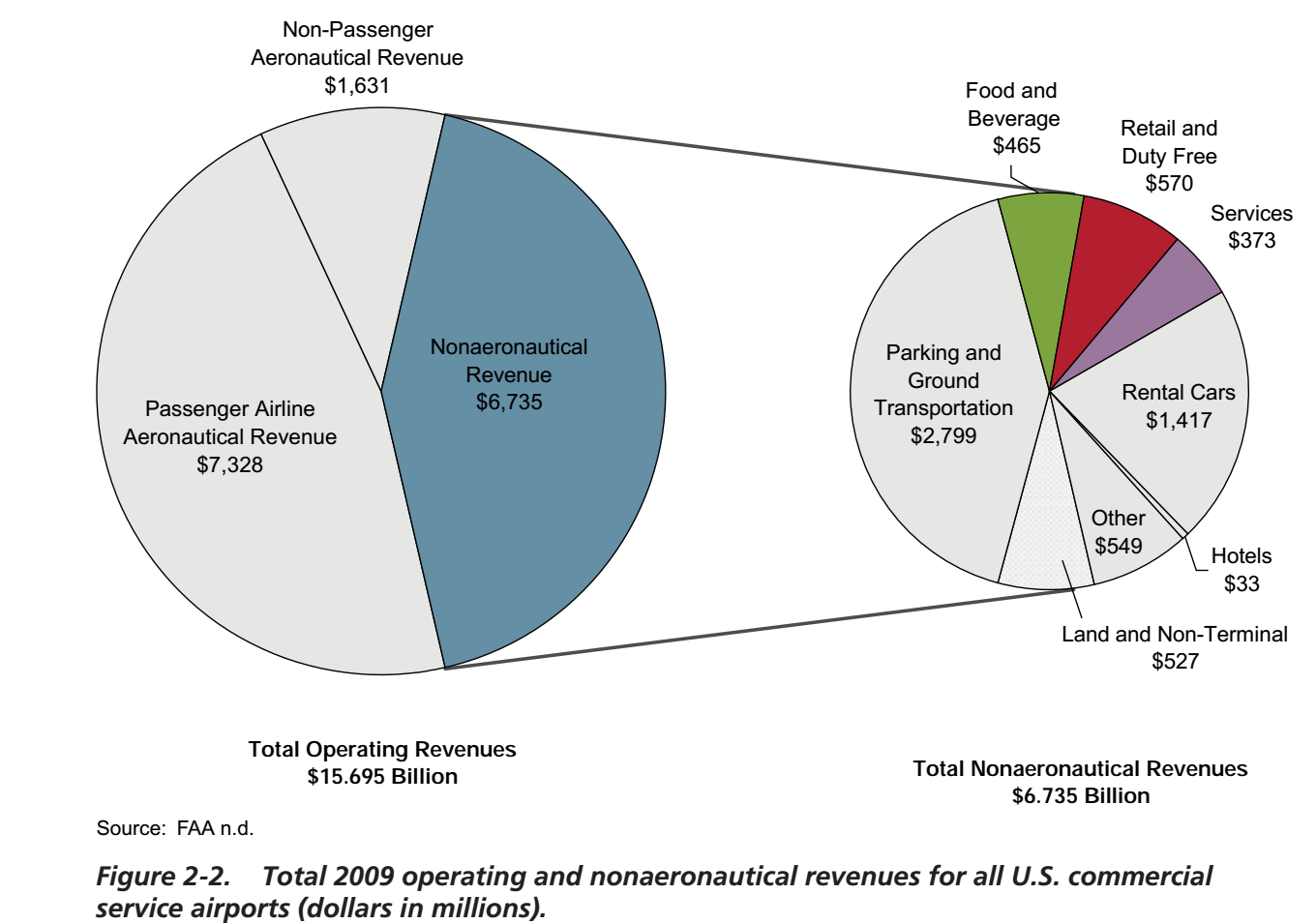


Figure 2 - Total operating and non-aeronautical revenues for all U.S. commercial service airports in 2009 (dollars in millions)

Like a city planning team, the EA team is in charge to identify the required capabilities and to support the various teams to implement innovative business ideas in context of the airport’s aeronautical or non-aeronautical services. An optimum project portfolio has to be identified. The various projects have to be aligned and executed following the airport’s vision.

With this being said, our architecture team is ready to face the challenge: Build up the Enterprise Architecture of an airport, design the finish line image of the airports innovative business ideas and guide the various stakeholders at the airport to get off the ground!

TOGAF’s ADM cycle provides your teams with the main steps that need to be accomplished…

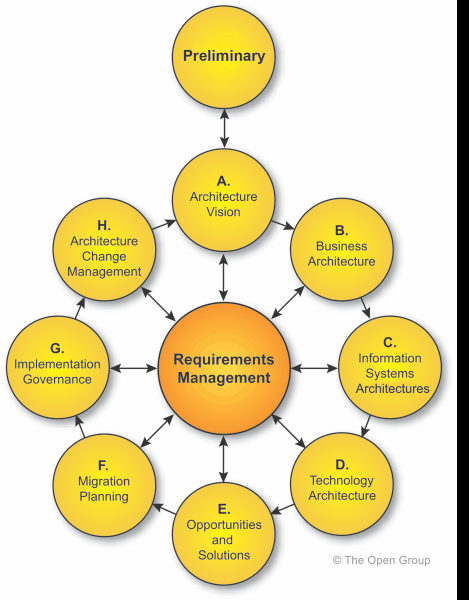


Figure 3 – TOGAF’s Architecture Development Method

1. Structure of Sample Repository in ADOIT

In order to not start from the scratch, an EA documentation of a fictive airport has already been modelled and prepared in ADOIT, the EA suite of the BOC Group. However, the prepared content is not meant to be a complete EA documentation of an airport. It is rather to be understood as a starting point. All pre-existing content should be scrutinised, discussed and improved by the teams.

The sample repository comprises of:

* 12 models, such as:
  + Business Capability Map – with comprehensive details on the capabilities of an airport
  + Process Landscape – detailing a list of business processes within an airport’s organisation
  + Organisational Chart – visualising the hierarchical structure of the organisation
  + Application Landscape – displaying applications and interfaces within the airport
  + Application Roadmap – displaying the lifecycles of the applications
  + Cluster Map – showing cross-layer architecture views
* more than 500 objects, including:
  + Strategic Drivers/Goals
  + Business Capabilities
  + Business Processes
  + Applications & Interfaces
  + Business Objects
  + Technologies (Client, Server Systems, Database Systems, Operating Systems, etc.)

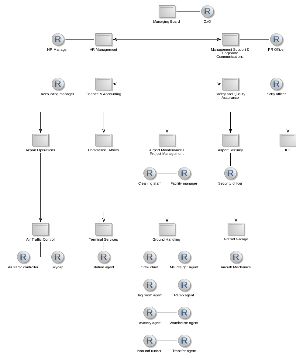
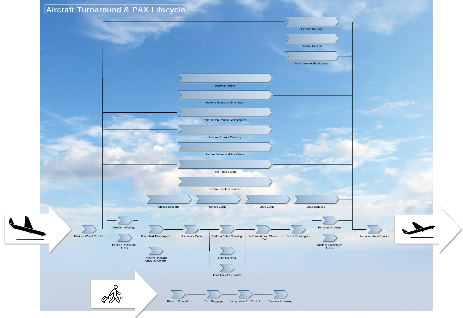
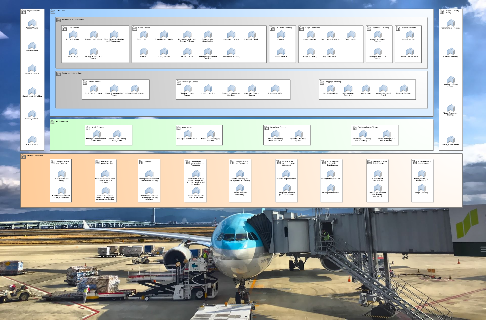
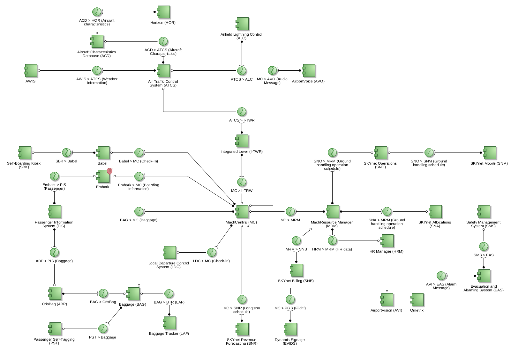
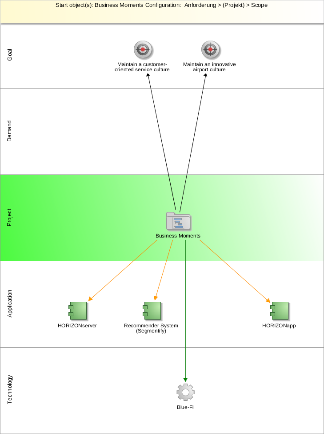


Figure 4 - Sample Repository in ADOIT

1. Preliminary - Getting started

The preliminary phase prepares the organisation for a successful EA endeavour. In the context of our case study we use the preliminary phase to define the architecture teams, to set-up ADOIT as the team’s EA repository and foremost to get more familiar with the airport business.

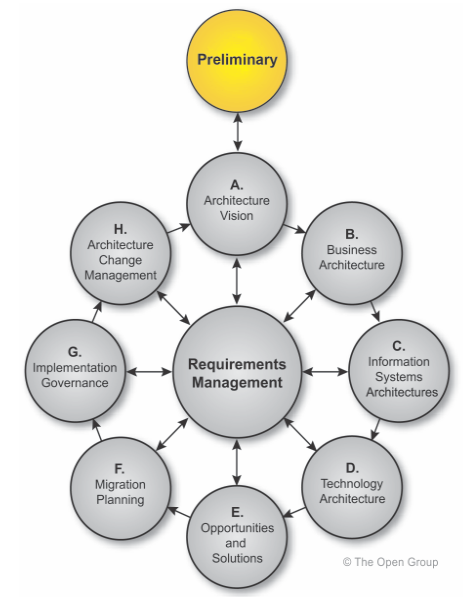


Figure 5 - Preliminary Phase[[1]](#footnote-1)

* 1. Assignment 1a – Warm-Up

Describe an airport in your own words. Find an appropriate structure to describe the airport.

* Who are the customers of the airport?
* How does the airport make money?
* What are the challenges of an airport?
* What kind of capabilities need to be in place?
* What else is important?

Create a slide deck (10-20 slides) and present it to the other architecture groups.

* 1. Assignment 1b - Create a Business Model Canvas for a fictive airport

Business Model Canvas (BMC) is a strategic management template for developing new or documenting existing business models.[[2]](#footnote-2)

It is a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances.[[3]](#footnote-3) It assists organisations in aligning their activities by illustrating potential trade-offs.

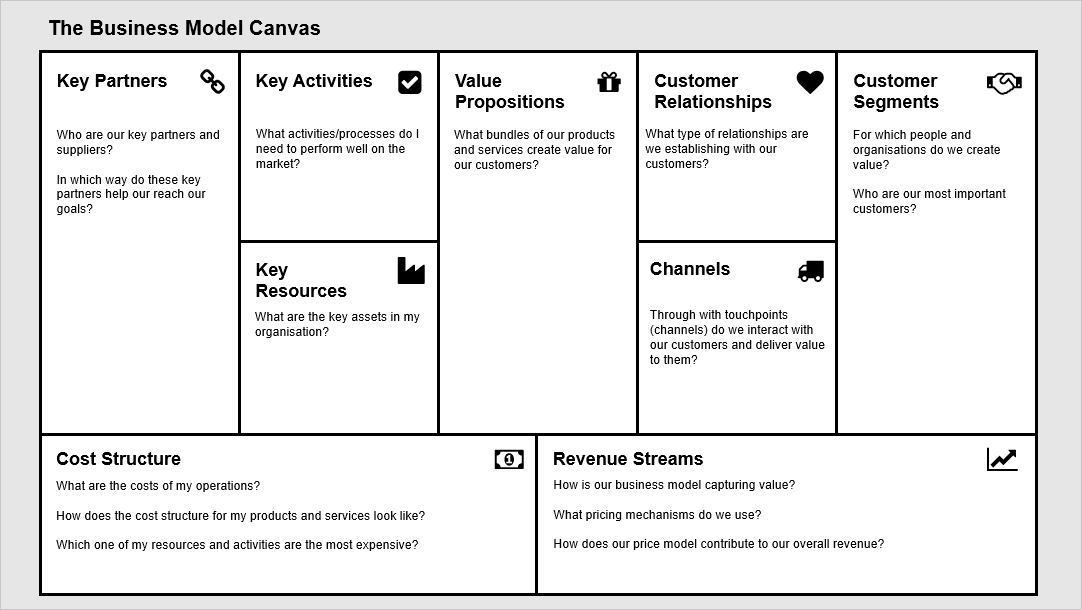


Figure 6 - Business Model Canvas[[4]](#footnote-4)

* + 1. Background Material
* **Business Model Canvas:** 2010. Business Model Generation, A. Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries, Wiley published.
* **Business Model Canvas - a 3-minute video introduction to the Business Model Canvas**: 6 February 2012, https://www.youtube.com/watch?v=2FumwkBMhLo
* **TOGAF – Phase “Preliminary Phase”**: http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html
* **Die Hard 2**: https://en.wikipedia.org/wiki/Die\_Hard\_2

1. Architecture Vision

Set the scope, constraints and expectations for the airport by creating its overall architecture vision. In this course your teams have to come up with business ideas to improve the airport’s business.

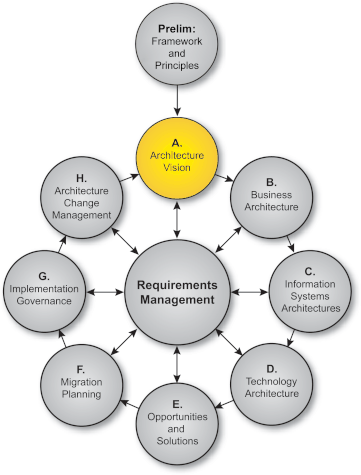


Figure 7 - Architecture Vision[[5]](#footnote-5)

Among the areas of focus are process improvement, automation, robotics, data analytics, Internet of Things and smart infrastructure management. Possible ideas may include increasing self-service options, investing in remote check-in solutions, optimising immigration and security processes and enhancing ground traffic management. Typically, but not necessarily, the smart application of technology is crucial to support those innovative business ideas.

Each team should come up with one or more ideas to improve the airport. To trigger the architecture teams’ imagination, some more or less innovative ideas are listed here:

* Automatic calculation of the time needed to go from check-in counter to the gates. This could help passengers to better plan their time (in duty-free shops or resting, eating etc.) and avoid unnecessary delays.
* Integrate city traffic information with check-in counters and airlines desks. This could help airlines to know about possible incidents that may affect passengers getting to the airport on time.
* Flight delays are automatically reported to the destination airport so that connecting airlines can plan their check-ins accordingly. When information is reported timely, the ground services in the destination airport can prepare for faster transfer of both connecting passengers and their luggage.
* Passenger tracking inside the airport through smart tags attached to the passengers’ boarding tickets. This could help airlines to find delayed passengers and avoid unnecessary flight delays.
* Real-time GPS tracking for luggage. The passenger would know exactly where their luggage is and have peace of mind no matter where they are in the world.
* In-flight real-time monitoring of transported living animals.
* Self-driving autonomous passenger transport vehicles for terminals.
* Use of biometric technology to facilitate a secure and seamless passenger journey through the airport.

Note: Each architecture team will work on its own business idea. In this regard, the teams have to align their initiatives. Each team runs through an instance of its ADM. The various projects might have interdependencies. Align with other EA teams where required!

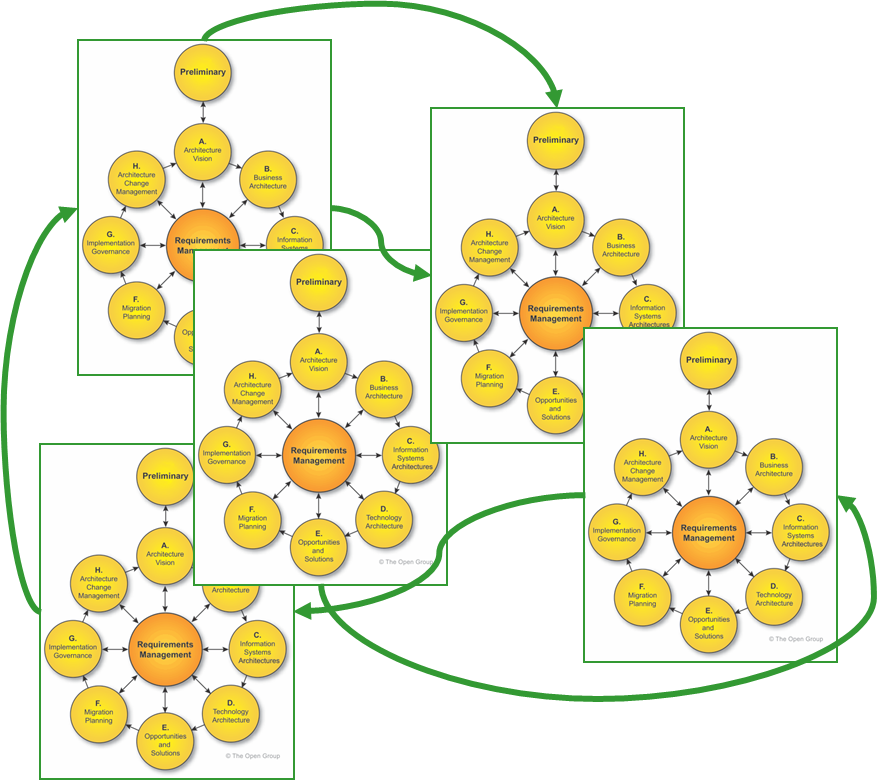


Figure 8 - Possible interdependencies of EA projects organised via ADM

* 1. Assignment 2a – Business Motivation Modelling

Find one or more innovative ideas to contribute to the airports improvement program.

Use Business Modelling Canvas (BMC) to describe and present your innovative business idea. Document the BMC in PowerPoint (or any other tool):

* Who are your stakeholders?
* What is the value proposition?
* What are the related key activities?
* What channels are involved (if any)?
* What are the main stakeholders to be involved?
* Who is the customer?
* What architecture elements represent the main cost drivers? What are the revenues?
  1. Assignment 2b – Statement of Architecture Work

*“The Statement of Architecture Work defines the scope and approach that will be used to complete an architecture development cycle. The Statement of Architecture Work is typically the document against which successful execution of the architecture project will be measured and may form the basis for a contractual agreement between the supplier and consumer of architecture services.”[[6]](#footnote-6)*

Describe your idea in the form of a **Statement of Architecture Work**. Use the modelling class “Project” in ADOIT for this purpose:

1. Create an object of the modelling class “Project”. (Link to HowToVideo.)
2. What are the strategic drivers of your project proposal? In chapter “Classification”, assign the relevant goals (relation attribute “Strategic Drivers”) directly to your project proposal. Extend the predefined list of goals if required. (Link to HowToVideo.)
3. Carry out an initial project assessment by filling-in all attributes in the same chapter.
4. Create an overview of all projects/measure, which have been defined so far. Assign related projects (relation attribute “Related Projects”) between the projects where dependencies are suspected.
5. Upload the Business Model Canvas (Assignment 2a) to the ADOIT repository. Attach the document to your project (via relation attribute “Referenced Documents” in chapter “Attachments”).
   1. Background Material

* **TOGAF, Phase “Architecture Vision”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html
* **Statement of Architecture Work:** https://de.slideshare.net/SandeepSharma65/togaf-9-template-statement-of-architecture-work

1. Business Architecture

A knowledge of the Business Architecture is a prerequisite for architecture work in any other domain (Data, Applications, Technology) and is therefore the first architecture activity that needs to be undertaken.

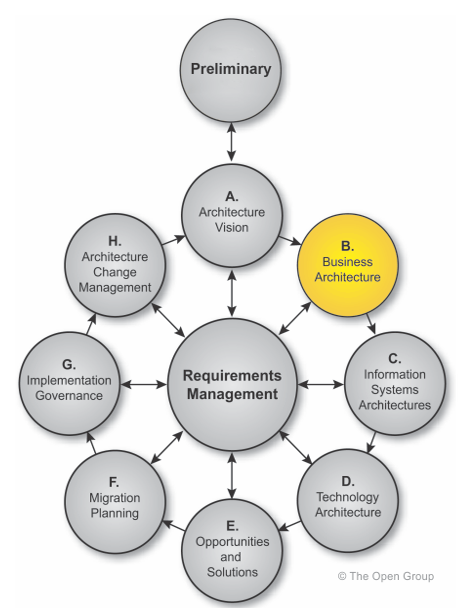


Figure 9 - Business Architecture[[7]](#footnote-7)

A good starting point for defining business architectures are so-called business capability maps. Business capability maps are a simple, powerful and proven starting point for nearly every business architecture planning activity. *“A business capability is readily recognised by anyone associated with the business: “Yes, that is an important part of what we do.” It is a simple concept, and the complete map can be used to frame discussions and planning in many domains . . .”[[8]](#footnote-8)*

*“Capabilities provide a high-level view of the current and desired abilities of an organisation, in relation to its strategy and its environment. They are realised by various elements (people, processes, systems, and so on) that can be described, designed, and implemented using Enterprise Architecture approaches.”[[9]](#footnote-9)*

Hence, business capabilities define what an organisation needs to be able to do in order to successfully achieve the anticipated outcomes of an organisation. Ideally, they are defined only once for the entire organisation, they are unique and stable.

Our airport’s capability map is organised into business domains on top level, i.e. the business capabilities are grouped into business domains. The five business domains (acting as high-level capabilities) are airport security, airport safety, aviation, non-aviation and shared capabilities. The business domain “Aviation” is structured into “Airline-related Capabilities” and “PAX related Capabilities”.

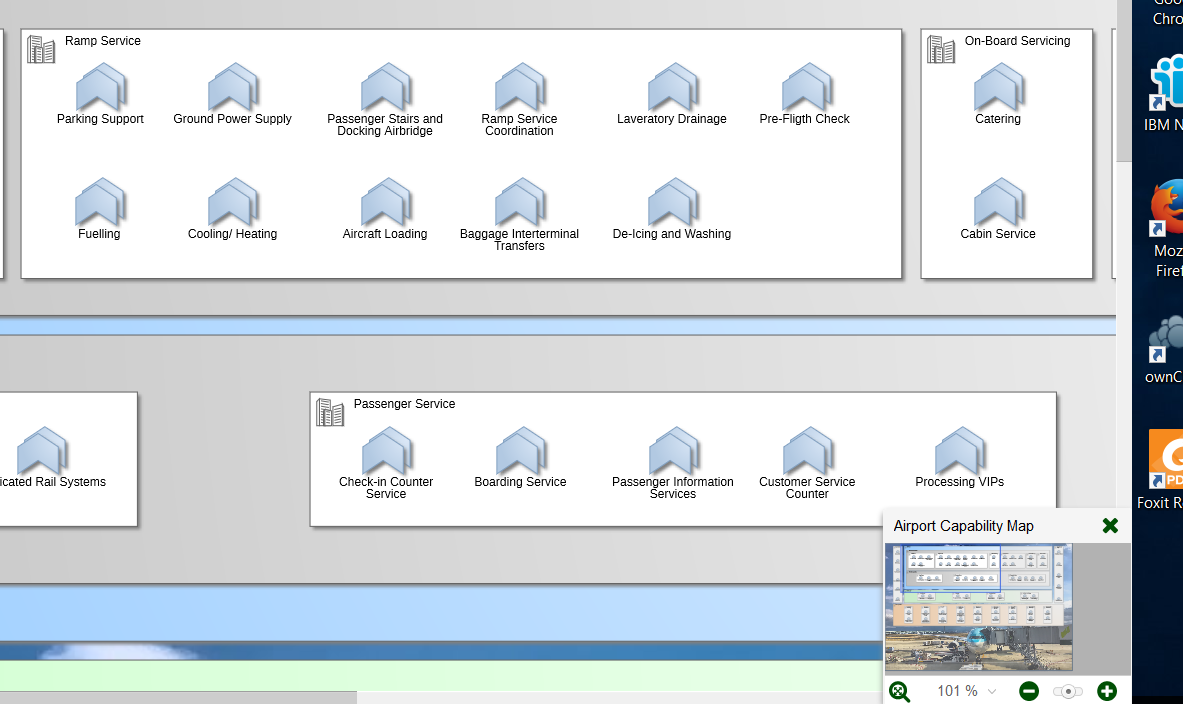


Figure 10 - Capability Map (login to ADOIT to see the entire model)

* 1. Assignment 3a – Check the airport’s capability map

Discuss the current version of the capability map. Is there anything missing? Which of the capabilities are affected by your business idea? Why?

* Assign the affected capabilities to “Demand” object you create for your project. Extend the capability map if required by adding the relevant capabilities to one of the business domains. Add a short description of the capability in that case.
* Check if there are any other demands related to the capabilities affected by your demand. Is there any other EA team working on expanding the same capability? Get in touch and clarify any project dependencies.
  1. Assignment 3b – Expand the existing business process list

As defined, business capabilities are composed of business processes, business objects (information items), people (roles, organisational units) and applications. With focus on the business architecture: What business processes are related to the business capabilities of your focus? What processes need to be in place to realise the capabilities?

1. Add the required “Business Processes” to the repository.
2. Create a process map showing all your case-relevant processes. Take the aircraft turnaround process as an example (see Figure 11).
3. Assign the identified processes to the capabilities relevant to your business idea.
4. Add organisational units in charge of your processes and the organisational units involved in performing the processes.

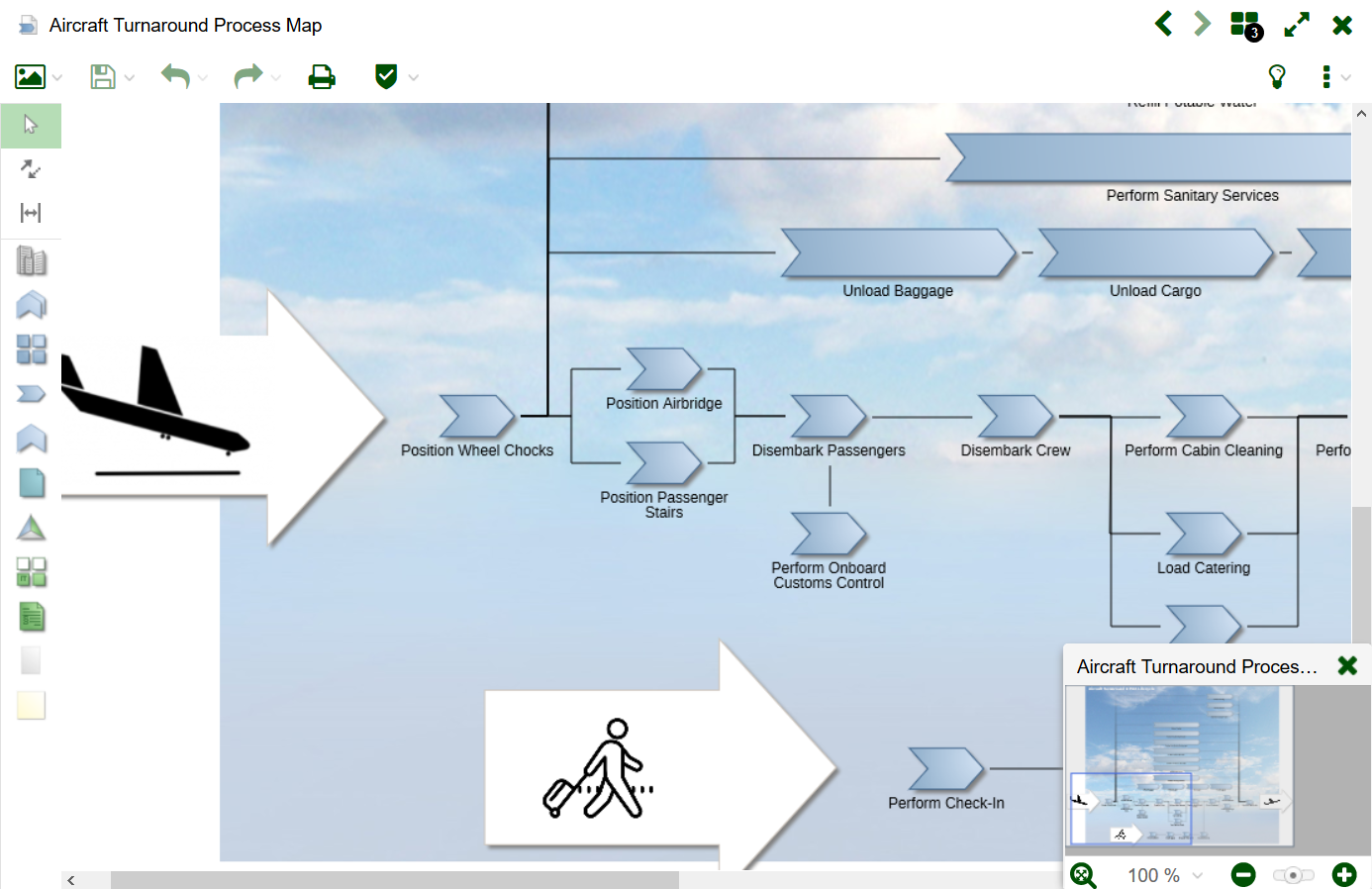


Figure 11 - Process map "Aircraft turnaround processes" (login to ADOIT to see the full model)

* 1. Background material
* **TOGAF, Phase “Business Architecture”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html
* **TOGAF Business Architecture: Business Capability Guide**: https://www.youtube.com/watch?v=epQ09u9hUCw
* **Prinzipien für die Gestaltung der Prozessarchitektur**: Prozessmanagement für Experten: Impulse für aktuelle und wiederkehrende Themen herausgegeben von Franz Bayer, Harald Kühn
* **Process Classification Frameworks for various industry sectors:** https://www.apqc.org/pcf

1. Information Systems Architectures

The phase Information Systems Architectures is split into the two sub-phases “Application Architecture” and “Data Architecture”. The first focuses on the application landscape of the organisation whereas the later provides insight into information assets of the organisation that are important from a business point of view.

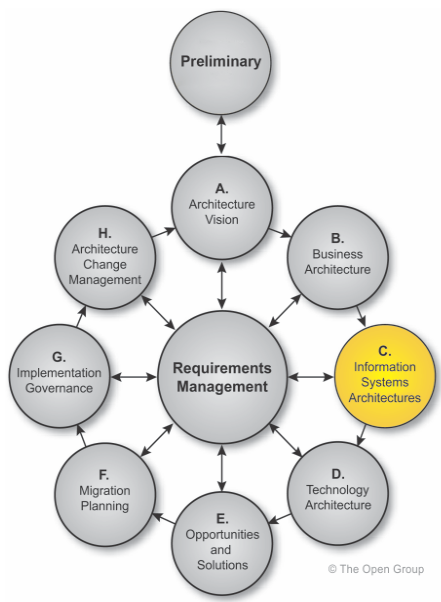


Figure 12 - Information Systems Architecture[[10]](#footnote-10)

Whereas standards such as ArchiMate provide a variety of concepts such as “business object”, “information object”, “data object” etc., let us keep things simple in a first step: For the case study we are only interested in the business objects (information items) required to implement your business idea. It is obvious that the business objects are required as an input for business processes and that business processes oftentimes create business objects as an output.

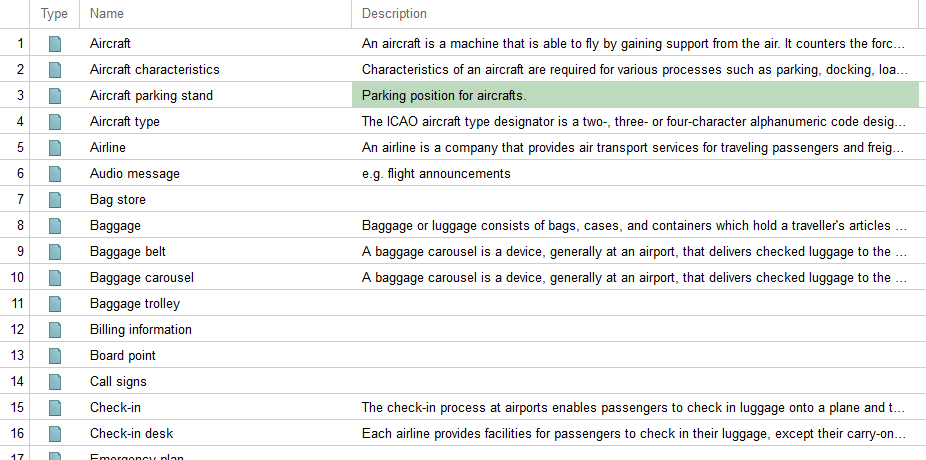


Figure 13 - List of airport business objects (extract, login to ADOIT to see the full list)

Even more self-evidently, applications (software) manipulate and store these business objects and transfer business objects via interfaces.

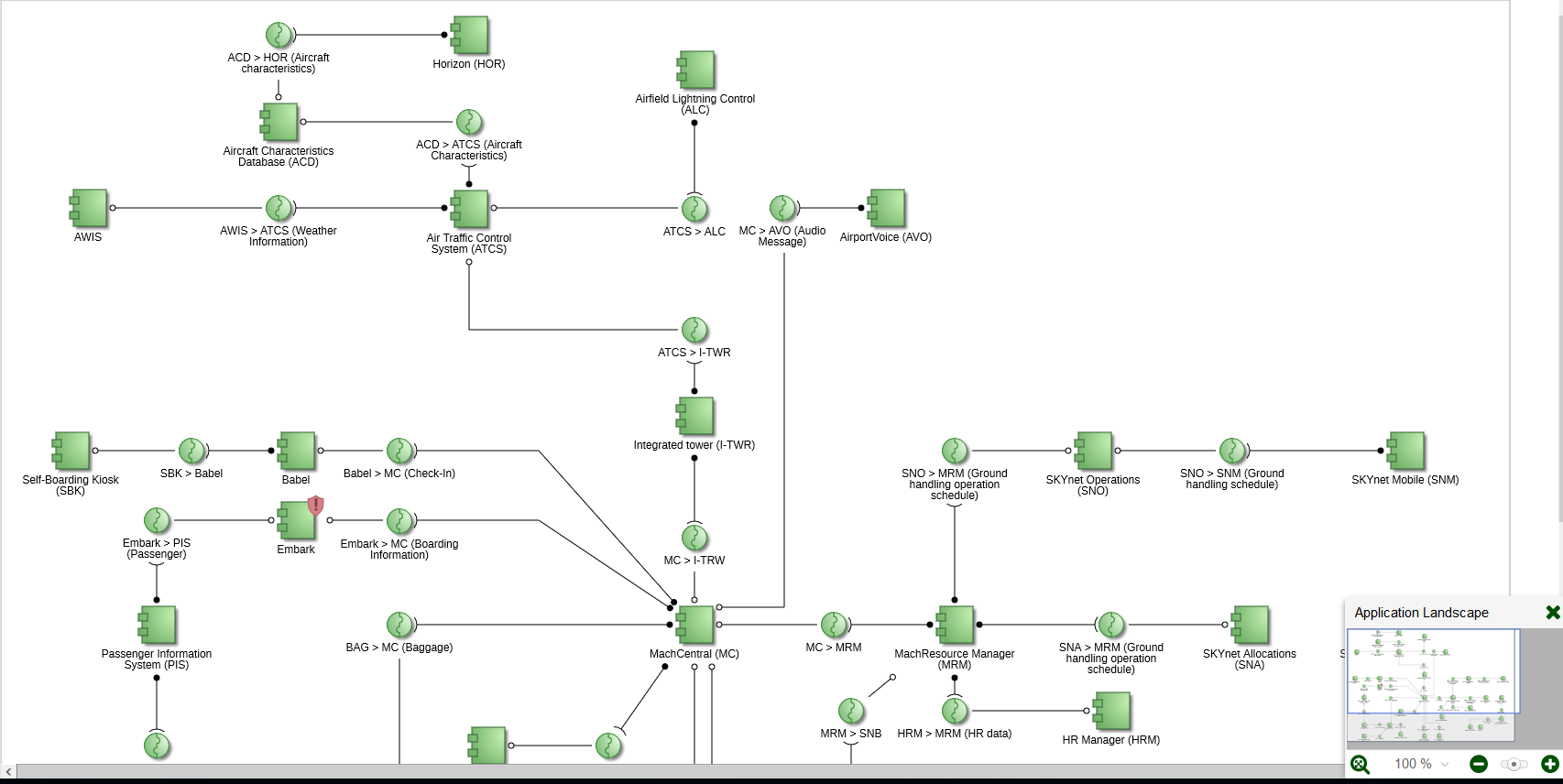


Figure 14 - Application Architecture (login to ADOIT to see the entire model)

* 1. Assignment 4a – List the Relevant Business Objects

1. Check the list of predefined “Business Objects” in the repository. Examples of already defined business objects within the airport EA repository are: “Passenger”, “Ticket”, “Baggage”, “Flight” etc. Add the business objects relevant to your business idea to the repository (if not already available).
2. Add these business objects to the business processes you defined in assignment 3b.
   1. Assignment 4b – Application Architecture Mapping
3. Which of the existing applications (software solutions) can be re-used? Are new applications required (if yes, add those to the repository)? What business functions must be provided by these applications?
4. What business objects have to be manipulated by the required applications? Create these manipulating activities to the repository. (Link to HowToVideo.)
5. What new interfaces are required? Create these new objects.  
   What business objects are transferred via these interfaces? Create this relation in the notebook.
6. What application is the master of a certain business object. Create a CRUD matrix to see if there are multiple master applications assigned to the given business objects. (Link to HowToVideo.)
7. Assign the list of introduced, changed and retired architecture elements to your architecture project (initially created in assignment 2b).
8. Assign production date and decommission date to the new/changed applications. Add the new applications to a business domain and create an “Application Roadmap” chart. (Link to HowToVideo.)
9. Check if there are any other projects planning to change the relevant applications.
   1. Background material

* **TOGAF, Phase “Information Systems Architectures”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap09.html

1. Technology Architecture

According to TOGAF, the Technology Architecture is a description of the structure and interaction of platform services and logical and physical technology components. It describes the hardware, software and network infrastructure needed to support the development and deployment of core, mission-critical applications.

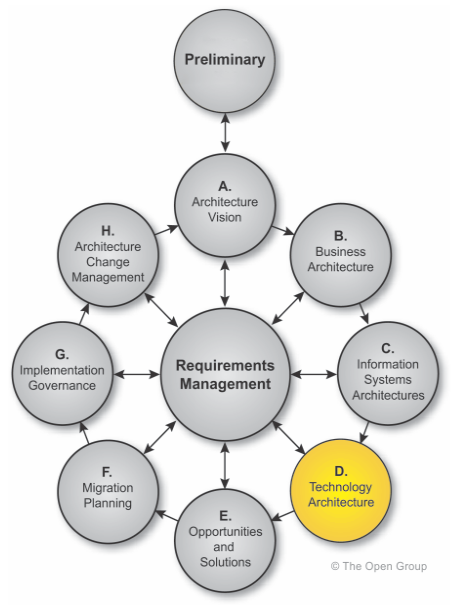


Figure 15 - Technology Architecture[[11]](#footnote-11)

The airport sample repository comes with a pre-filled technology portfolio.

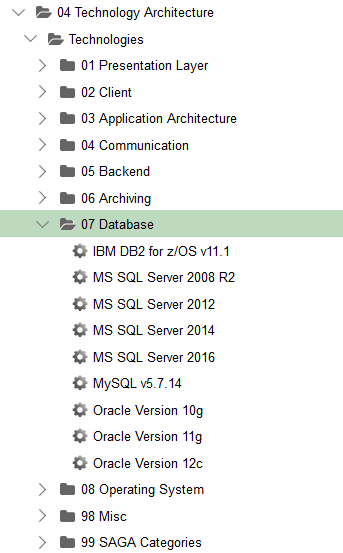


Figure 16 - Technology portfolio of the Airport Sample Repository (to see the entire list login to ADOIT)

* 1. Assignment 5a – Design the Technology Architecture

1. Check if all technologies required to run your introduced/changed applications are available.
2. Do you need any new technology standards to get your business idea implemented? For example, you might need new technologies such as BlueFI to track the position of passengers at the airport. Create these new “Technology” objects if necessary.
3. Assign all technologies required to run your applications to your applications (reference attribute “Used Technologies”). Make sure that none of the used technologies is near to its end-of-life and that all of the used applications are considered as standard.
   1. Assignment 5b – Technology Reporting
4. Create a business impact analysis from your chosen technologies to see what other applications use these technologies. (Link to HowToVideo.)
5. Create a cluster map showing the business capabilities involved in your business case, their assigned applications and the technologies used by these applications. (Link to HowToVideo.)
   1. Background material

* **TOGAF, Phase “Technology Architecture”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap12.html
* **TOGAF Technical Reference Model:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap43.html

1. Opportunities and Solutions / Migration   
   Planning

In the previous phases we so far put a strong focus on the target architecture – respectively on the planned architecture of your innovative business idea. Strictly speaking the architecture team has to come-up with baseline and target architectures, and identifying the gaps between the baseline and the target.

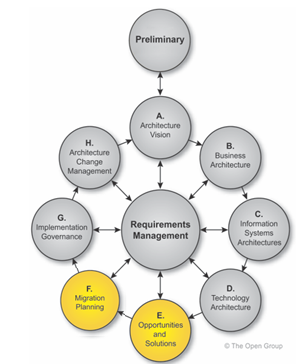


Figure 17 - Opportunities and Solutions / Migration Planning[[12]](#footnote-12)

The phase “Opportunities and Solutions” describes the process of identifying delivery vehicles (projects, programs or portfolios) that effectively deliver the Target Architecture identified in previous phases. This phase then involves consolidating those identified gaps into work packages. The gaps between the baseline (current) architecture and the target (future) architecture are the opportunities. Each of those gaps represents one or more requirements which are put into the roadmap to draft an implementation plan, which represents the solution part of this phase.

In phase “Migration Planning” the migration plans are refined and coordinated with the enterprise's approach to managing and implementing change in the enterprise's overall change portfolio.

* 1. Assignment 6a – Identify and Group Major Work Packages

Create an initial project plan containing the required work packages. Either use a project management tool such as MS project, a simple Excel template or the model type “Transformation” in ADOIT.

* 1. Assignment 6b – Identify Transition Architectures

Assign production and decommission dates to each of the architecture elements affected by your project. Create an application roadmap diagram to show what applications are decommissioned/set to production. Do not forget to adapt the lifecycles of the interface as well. Activate the model time filter to demo the changes in the application architecture over time. (Link to HowToVideo.)

* 1. Assignment 6c – Check against the airports overall change portfolio

Check and align your migration plan with the migration plan of the other EA teams. By means of impact analysis views and by using the Architecture Navigator you might find any dependencies that need to be resolved before you can actually confirm your migration plans. (Link to HowToVideo.)

* 1. Background material
* **TOGAF, Phase “Opportunities and Solutions”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap13.html
* **TOGAF, Phase “Migration Planning”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap14.html
* **Implementation & Migration Extension and the ArchiMate:** http://pubs.opengroup.org/architecture/archimate2-doc/chap11.html

1. Implementation Governance / Architecture Change Management

According to TOGAF the main objectives of phase “Implementation Governance” is to ensure conformance with the Target Architecture by implementation projects. Appropriate Architecture Governance functions have to be performed for the implementation-driven architecture Change Requests.

Phase “Architecture Change Management” is intended to ensure that the architecture lifecycle is maintained, to ensure that the Architecture Governance Framework is executed and to ensure that the enterprise Architecture Capability meets current requirements.

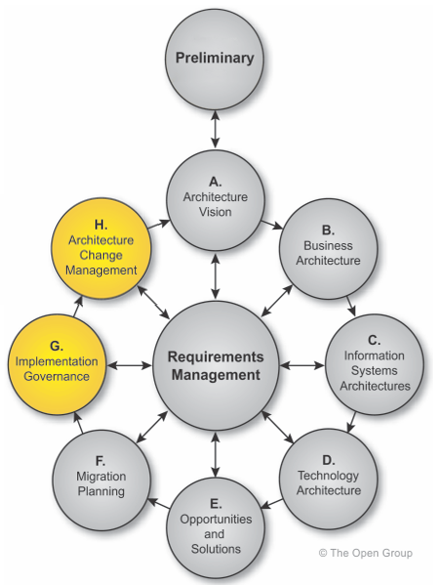


Figure 18 - Implementation Governance[[13]](#footnote-13)

* 1. Assignment 7a – Project Management and Transition Management

Discuss within your team which additional frameworks can support in the actual implementation project. ITIL’s transition management processes as well as newer approaches such as DevOps are candidates.

* 1. Assignment 7b – Architecture Change Management

Discuss if your fictive project has been successful. What would be appropriate key performance indicators your team might have defined as early as in phase “Architecture Vision” to be able to measure the success of the project. What would be acceptable thresholds for these KPIs?

Discuss under what circumstances to move to another ADM cycle (for major changes).

* 1. Background material
* **TOGAF, Phase “Implementation Governance”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap15.html
* **TOGAF, Phase “Architecture Change Management”:** http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap16.html
* **ITIL Transition Planning and Support:** https://wiki.en.it-processmaps.com/index.php/Project\_Management\_-\_Transition\_Planning\_and\_Support
* **DevOps:** https://en.wikipedia.org/wiki/DevOps
* **Balanced Scorecard:** http://www.balancedscorecard.org/BSC-Basics/About-the-Balanced-Scorecard

1. http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html [↑](#footnote-ref-1)
2. De Reuver, Mark, Harry Bouwman, and Timber Haaker. "Business model roadmapping: A practical approach to come from an existing to a desired business model." International Journal of Innovation Management 17.01 (2013). [↑](#footnote-ref-2)
3. Business Model Generation, A. Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries, self published, 2010. [↑](#footnote-ref-3)
4. Ching, Hong Y and Fauvel, Clemens. „Criticisms, variations and experiences with Business Model Canvas.“ European Journal of Agriculture and Forestry Research, Vol.1 No.2 (2013). [↑](#footnote-ref-4)
5. http://pubs.opengroup.org/architecture/togaf8-doc/arch/chap05.html [↑](#footnote-ref-5)
6. http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap36.html#tag\_36\_02\_20 [↑](#footnote-ref-6)
7. http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html [↑](#footnote-ref-7)
8. Gordon Barnett: Forrester’s Business Capability Map Development: Process Guide - How To Develop A Business Capability Map, 2013. [↑](#footnote-ref-8)
9. ArchiMate: http://pubs.opengroup.org/architecture/archimate3-doc/chap07.html [↑](#footnote-ref-9)
10. http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap09.html [↑](#footnote-ref-10)
11. http://pubs.opengroup.org/architecture/togaf9-doc/arch/index.html [↑](#footnote-ref-11)
12. http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap13.html#tag\_13\_04\_09 [↑](#footnote-ref-12)
13. http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap15.html [↑](#footnote-ref-13)