Enterprise Architecture Modelling with ArchiMate 3 - Overview

Knut Hinkelmann

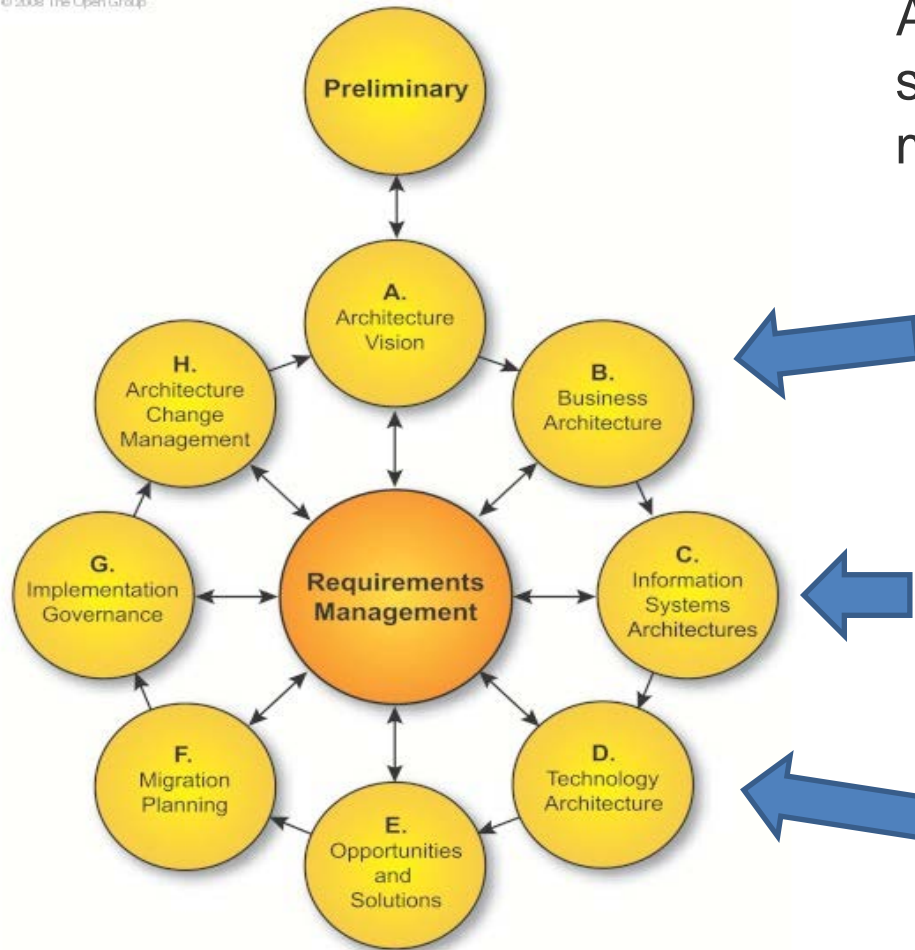# Reference

- The ArchiMate 3 specification is available at

  http://pubs.opengroup.org/architecture/archimate3-doc/

- It is referenced in this presentation as ArchiMate 3

TOGAF Architecture Views

ArchiMate is a modeling language that supports the TOGAF content metamodel and the TOGAF ADM
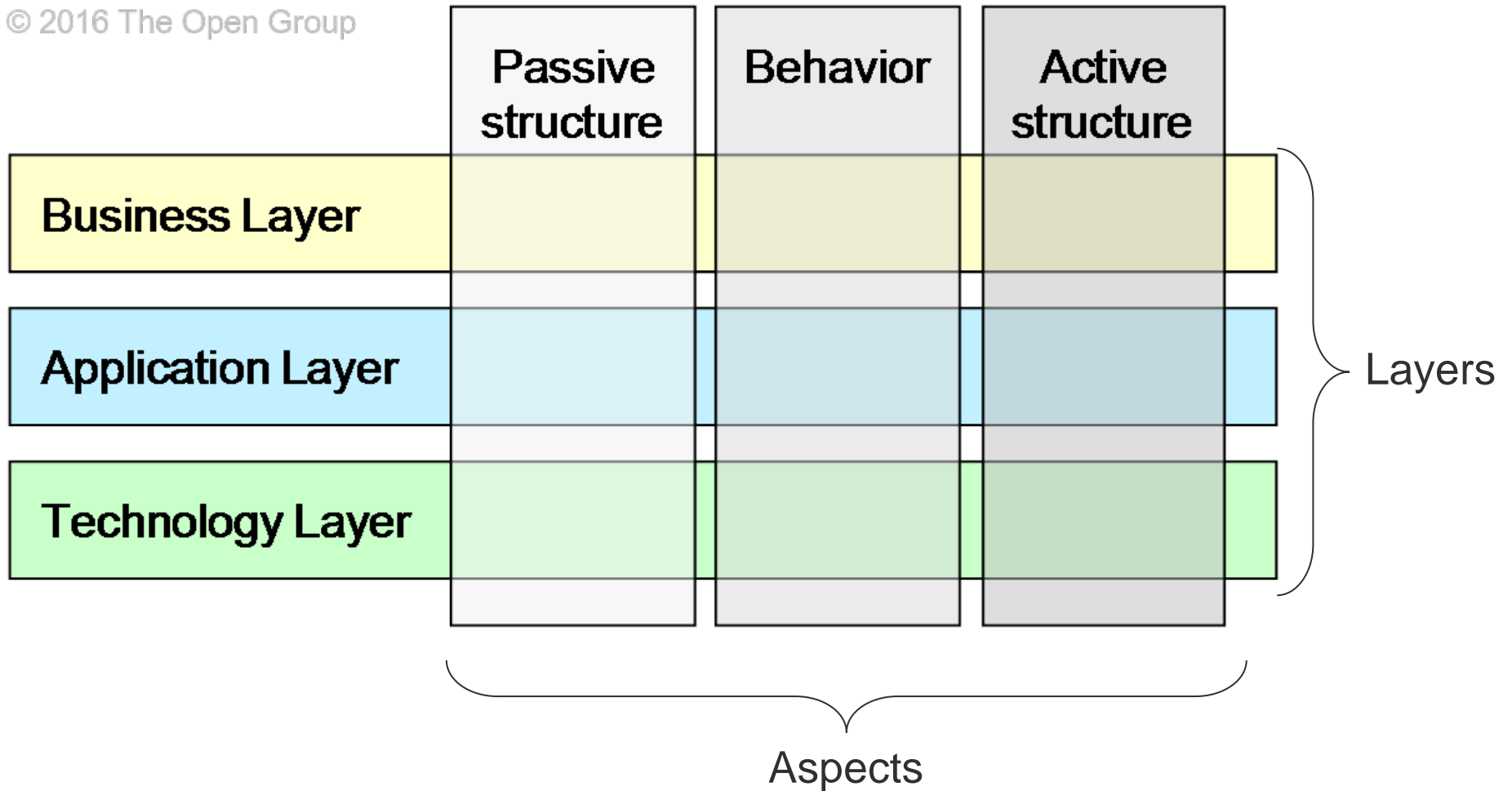
Business Architecture

Data Architecture | **Application Architecture**

Technology Architecture

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The ArchiMate Core Framework

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	Passive structure	Behavior	Active structure	
Business Layer				⎫
Application Layer				⎬ Layers
Technology Layer				⎭

Aspects

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Layers in ArchiMate

- ***Business Layer***
  - ♦ business services offered to customers, which are realized in the organization by business processes performed by business actors.

- ***Application Layer***
  - ♦ application services that support the business, and the applications that realize them.

- ***Technology Layer***
  - ♦ technology services such as processing, storage, and communication services needed to run the applications
  - ♦ computer and communication hardware and system software that realize those services.
  - ♦ Physical elements for modeling physical equipment, materials, and distribution networks (new in ArchiMate 3)

Aspects in ArchiMate

- ## *Active Structure*

    - ♦ represents the structural elements (the business actors, application components, and devices that display actual behavior).
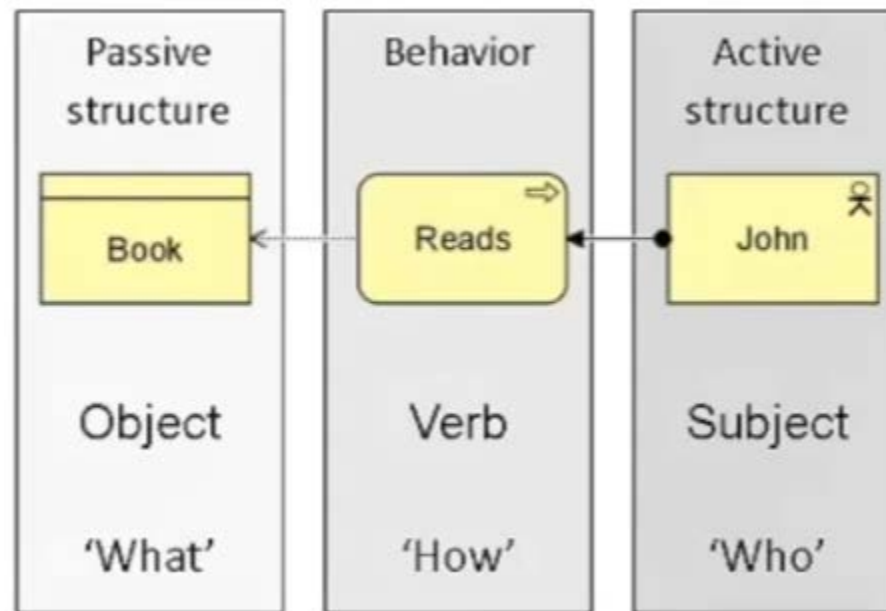
- ## *Behavior*

    - ♦ represents the behavior (processes, functions, events, and services) performed by the actors.

    - ♦ Structural elements are assigned to behavioral elements, to show who or what displays the behavior.
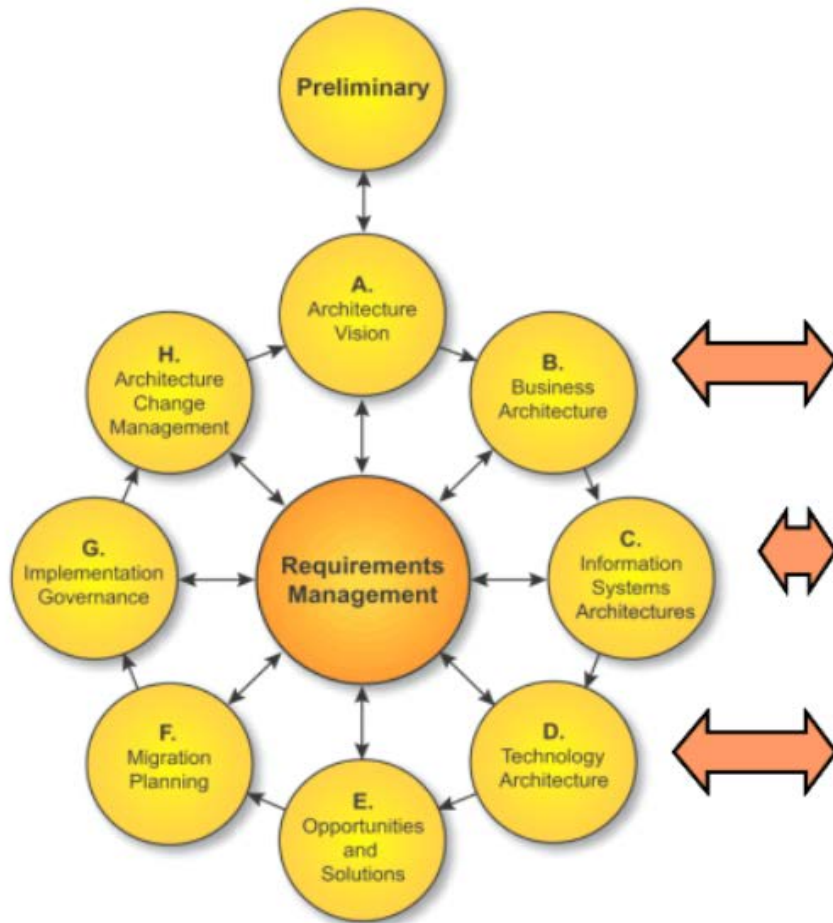
- ## *Passive Structure*

    - ♦ represents the objects on which behavior is performed. These are usually information objects in the Business Layer and data objects in the Application Layer, but physical objects.

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Core Aspects in ArchiMate

- Aspects correspond to a Subject-Verb-Object of sentences:

Passive structure	Behavior	Active structure
Book	Reads	John
Object	Verb	Subject
'What'	'How'	'Who'

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https://www.youtube.com/watch?v=ULl9lf0OZco&

TOGAF Architecture Views

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	Passive structure	Behavior	Active structure
Business			
Application			
Technology			

TOGAF ADM

ArchiMate

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ArchiMate and TOGAF

TOGAF ADM

Business

Application

Technology

Passive structure

Behavior

Active structure

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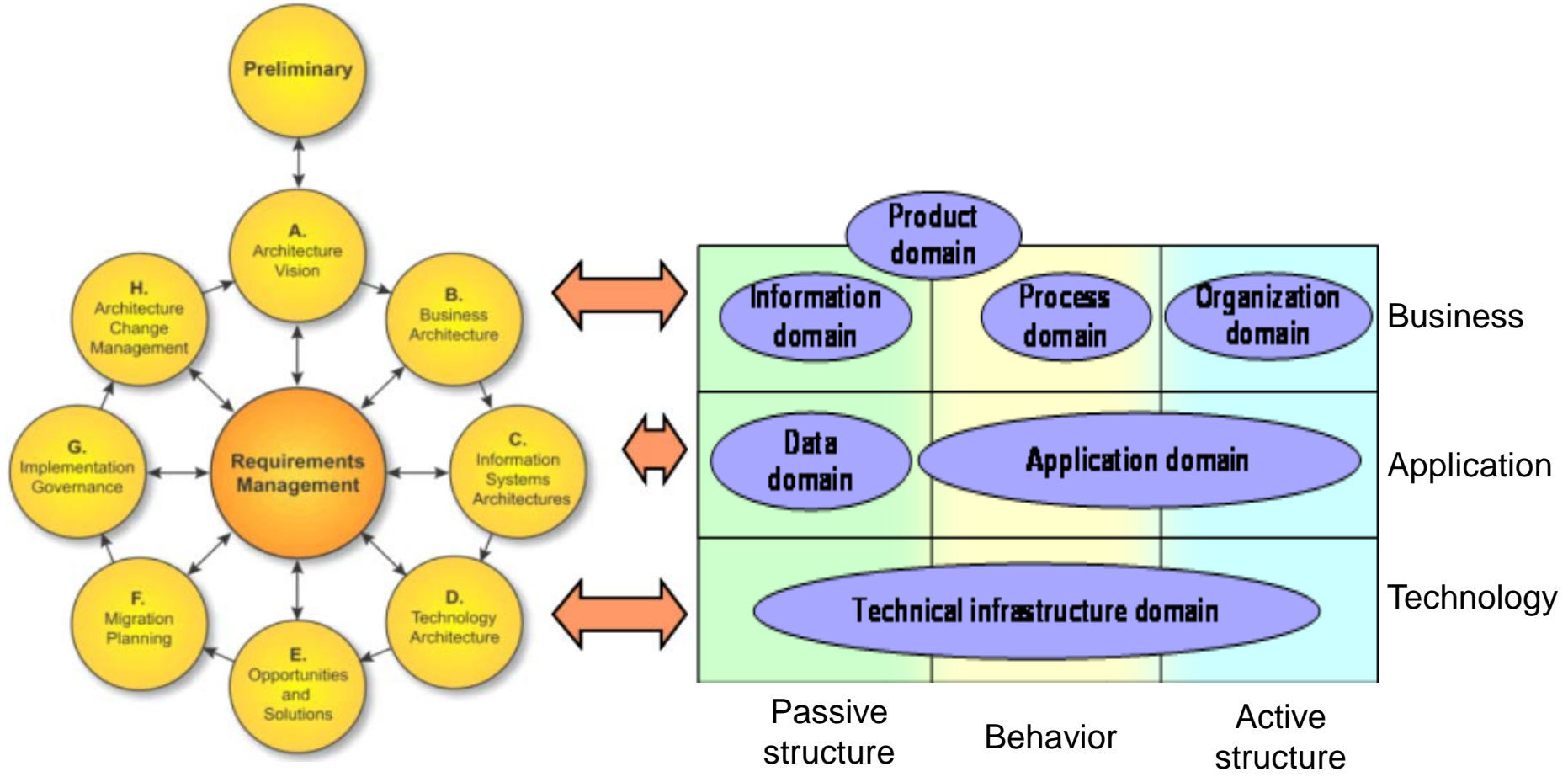
The ArchiMate Full Framework

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	Passive structure	Behavior	Active structure	Motivation
Strategy				
Business				
Application				
Technology				
Physical				
Implementation & Migration				

Layers

Aspects

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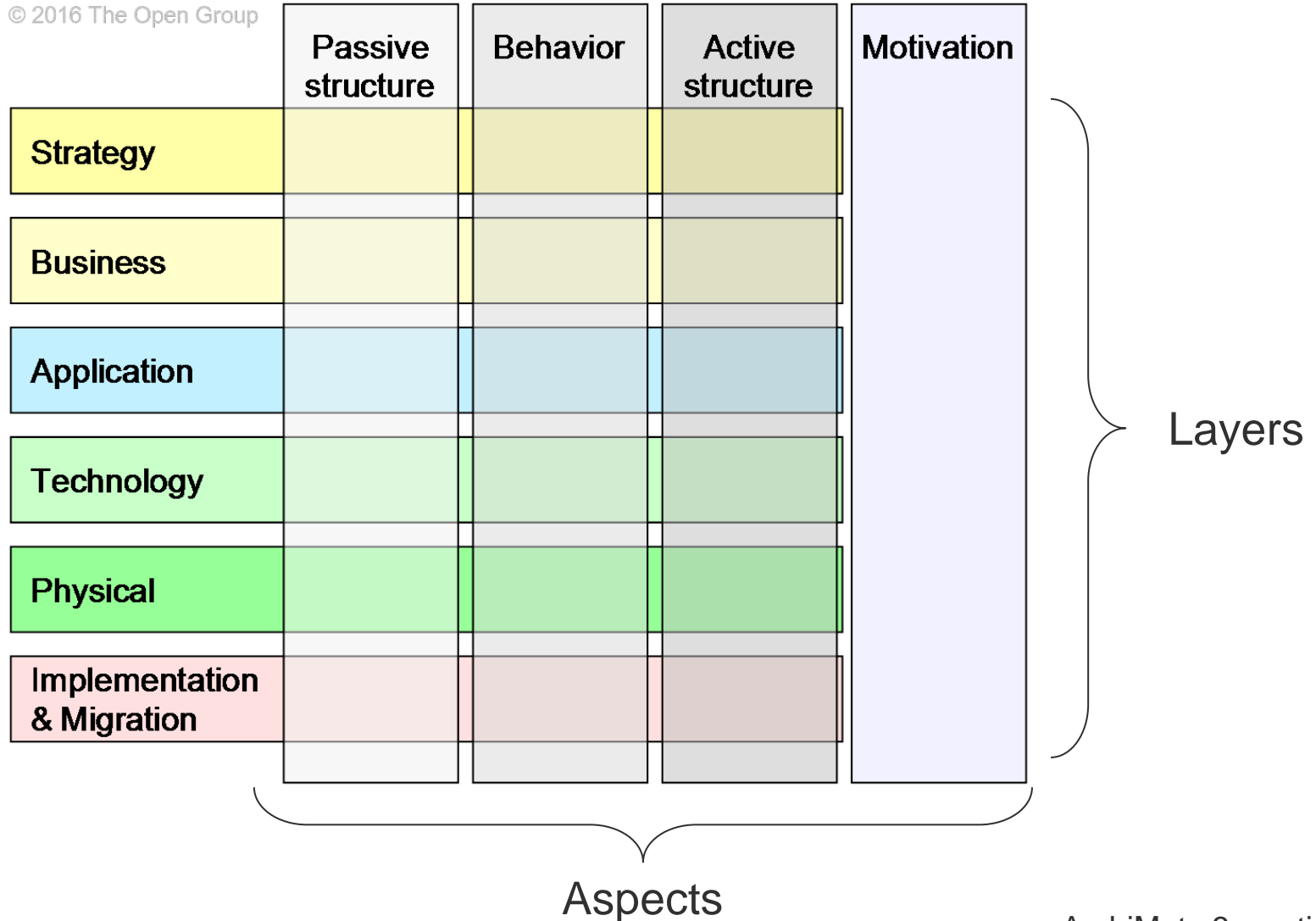
Abstractions in ArchiMate (1)

- **Separate Behavior from active structure**
  - ♦ **Behavior**: *what* the system must do and *how* the system does it
  - ♦ **Active structure**: the system constituents (people, applications, and infrastructure) that do it

- **External vs. internal behavior :**
  - ♦ **External view:** *what* the system has to do for its environment (e.g. a service)
  - ♦ **Internal view:** *how* it does this (e.g. the process or application realising the service)

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Abstractions in ArchiMate (2)

- Conceptual, logical, and physical abstraction levels

  - *conceptual elements* represent the information the business finds relevant;

  - *logical elements* provide logical structure to this information for manipulation by information systems;

  - *physical elements* describe the storage of this information; for example, in the form of files or database tables.

- In the ArchiMate language, this corresponds with business objects, data objects, and artifacts, and the realization relationships between them

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Hierarchy of Behavior and Structure Elements

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