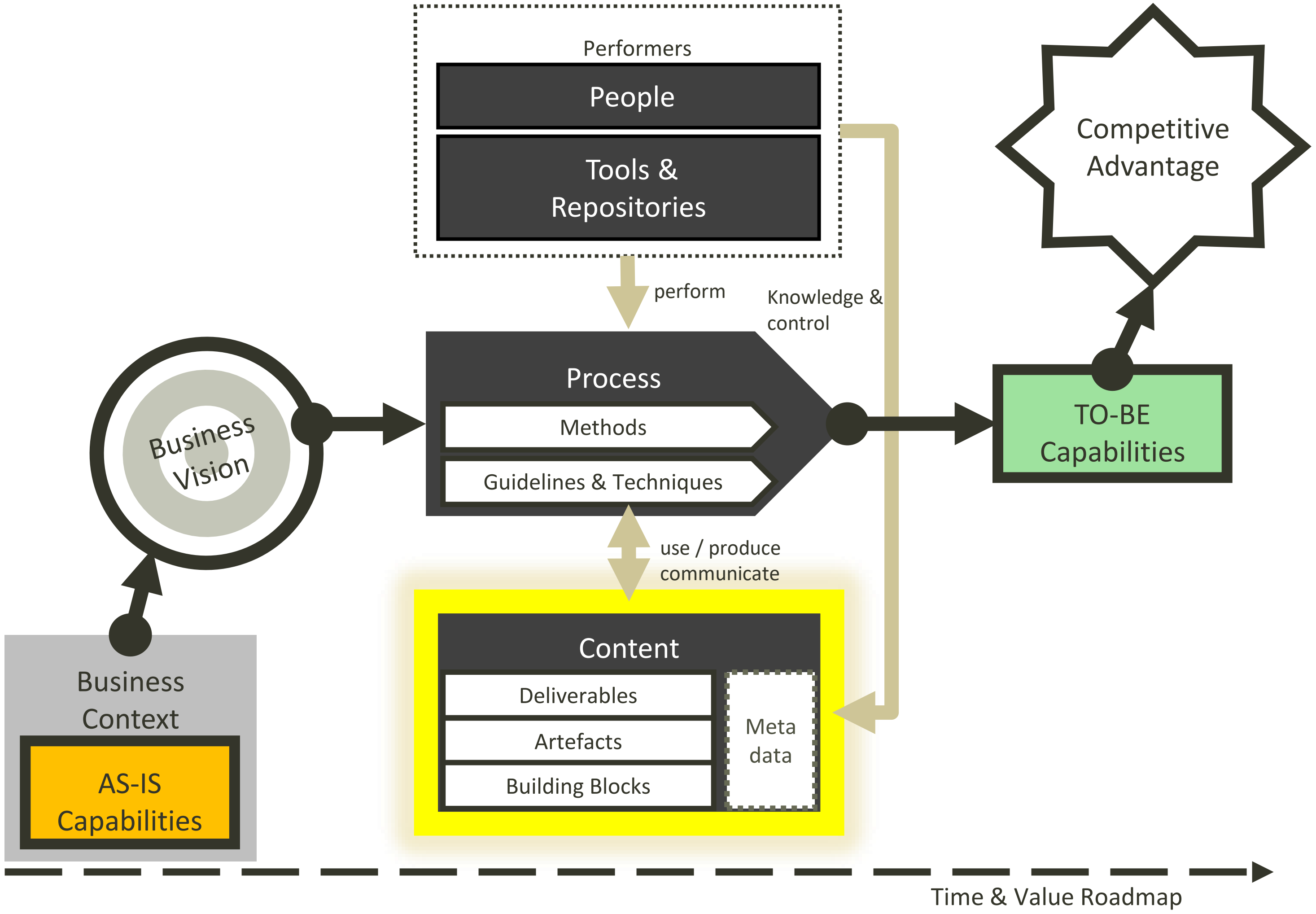
Unified Framework for Driving Transformations

Strategy & Architecture Content

Strategy & Architecture Content



Key **Visibility** Issues

Merger & Acquisition

Application & Technology Rationalization

- Where are IT and other redundancies?
- What is… not compliant with our standards, critical, not reliable enough, obsolete, expensive…?

Migrating to the cloud

- What can be migrated to the cloud? How easily? What are the dependencies?

Data Governance (GDPR)

- Which data is sensitive? Where is it used (where it shouldn't be)?

Where are our strengths, weaknesses, opportunities and threats?

Key **Transformation** Issues

Merger & Acquisition

Application & Technology Rationalization

Migrating to the cloud

Data Governance (GDPR)

IoT, AI…

- Why and how shall we optimize our business model?
- Which goals do we want to achieve?
- What is our target capabilities roadmap?
- Which projects shall implement this roadmap?
- What is our target solution architecture?
- How shall we govern architecture and implementation?

Key questions for driving changes

Where are we today?

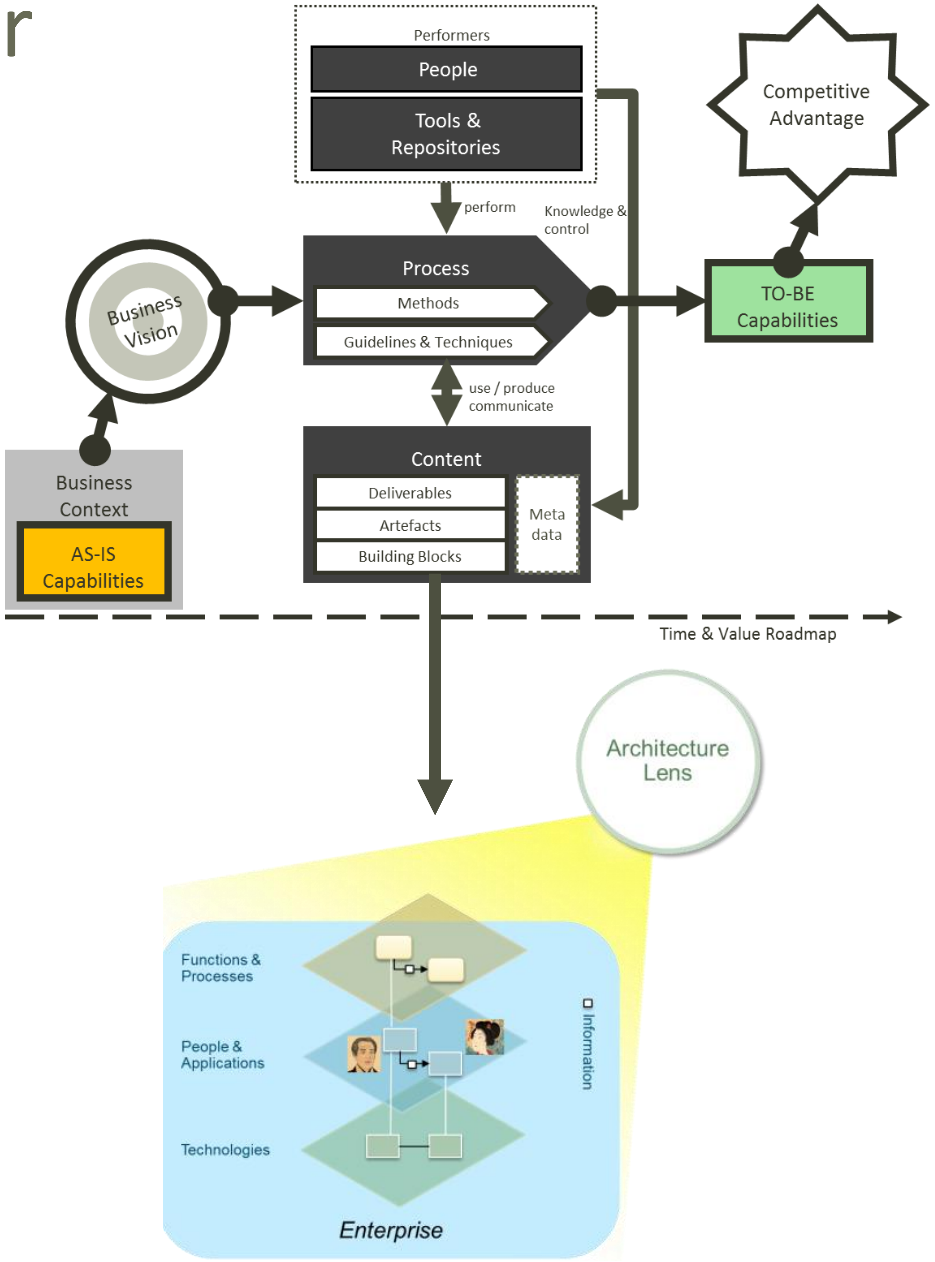
Where do we want to be in the future?

How shall we get there?

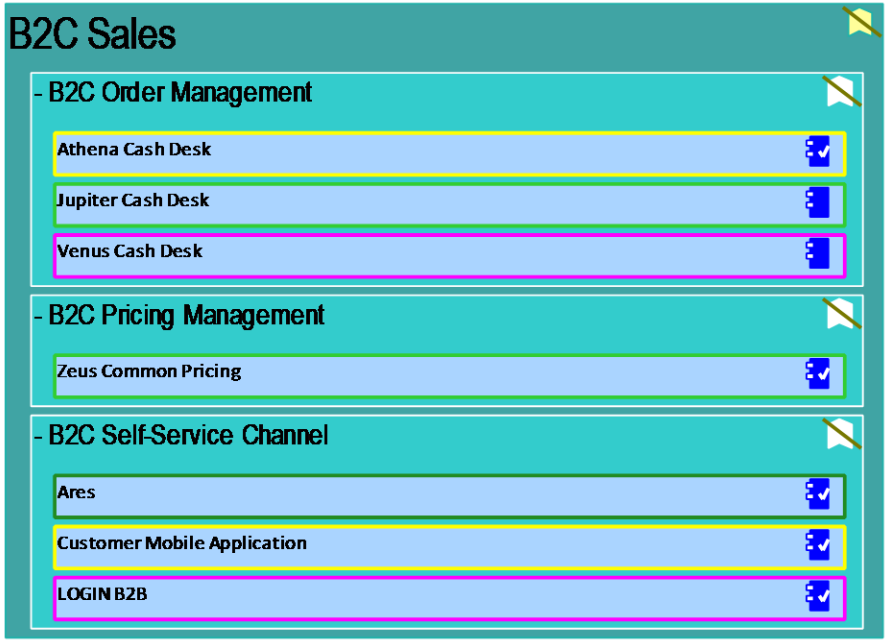
How shall we answer all these questions?

We need people, tools and a process for creating **the architecture views that we need**.

These **diagrams, charts and reports will provide the answers to our questions.**



Sample view answering some questions



This one is automatically generated

Legend for Business Functions

Differentiator = ?	╲ (dashed)
= Y	╲
= N	

Externalized = Y	◀ Entirely externalized
= P	◁ Partially externalized
= N	Not externalized (default)

Legend for Applications

TO-BE = Y (Standard Application)	✓
Deployment_Status = Terminated	●

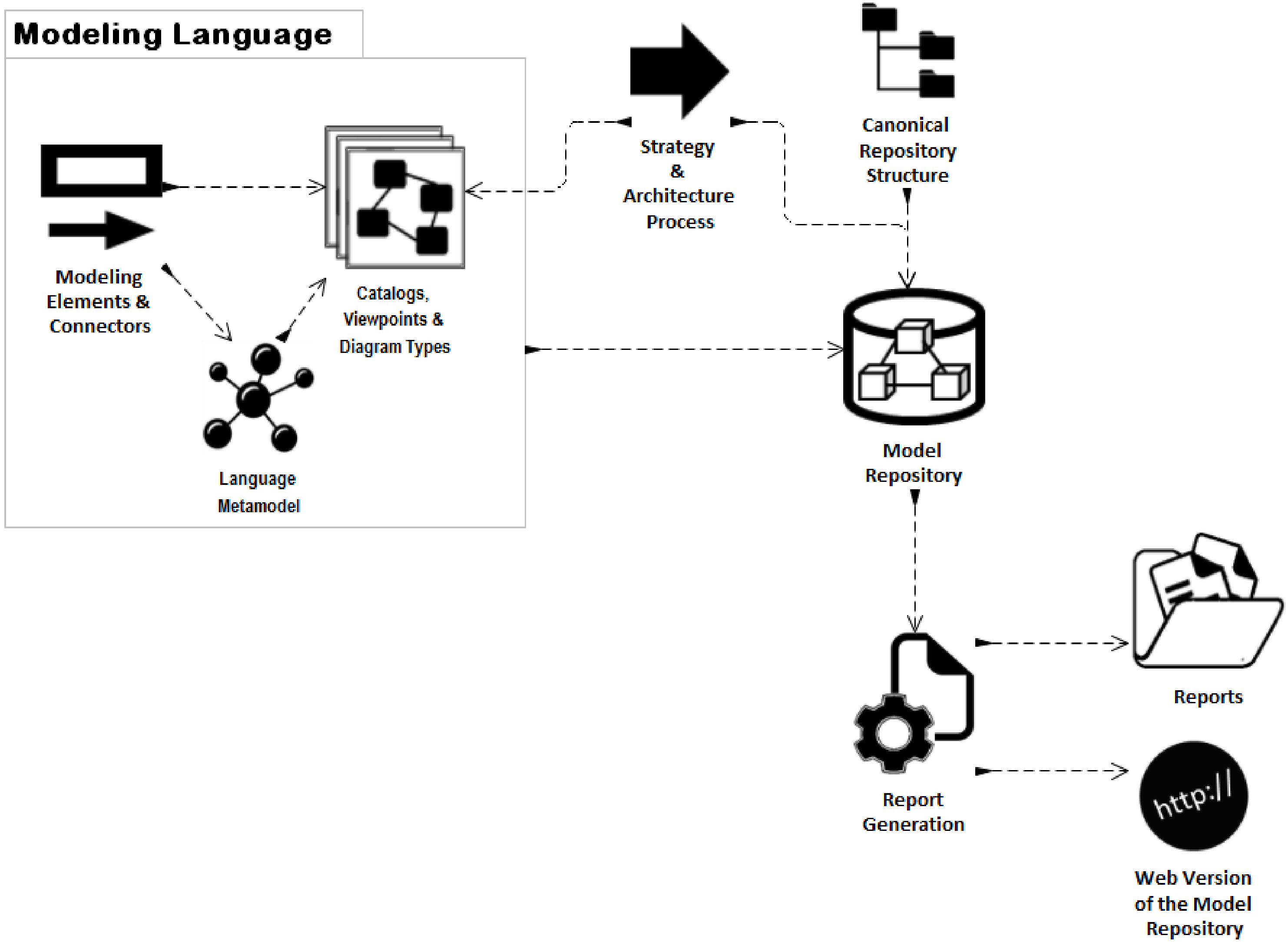
Application Lifecycle / Vision

🟨	New
🟩	Invest
🟩	Maintain
🟪	Phase Out
🟥	?

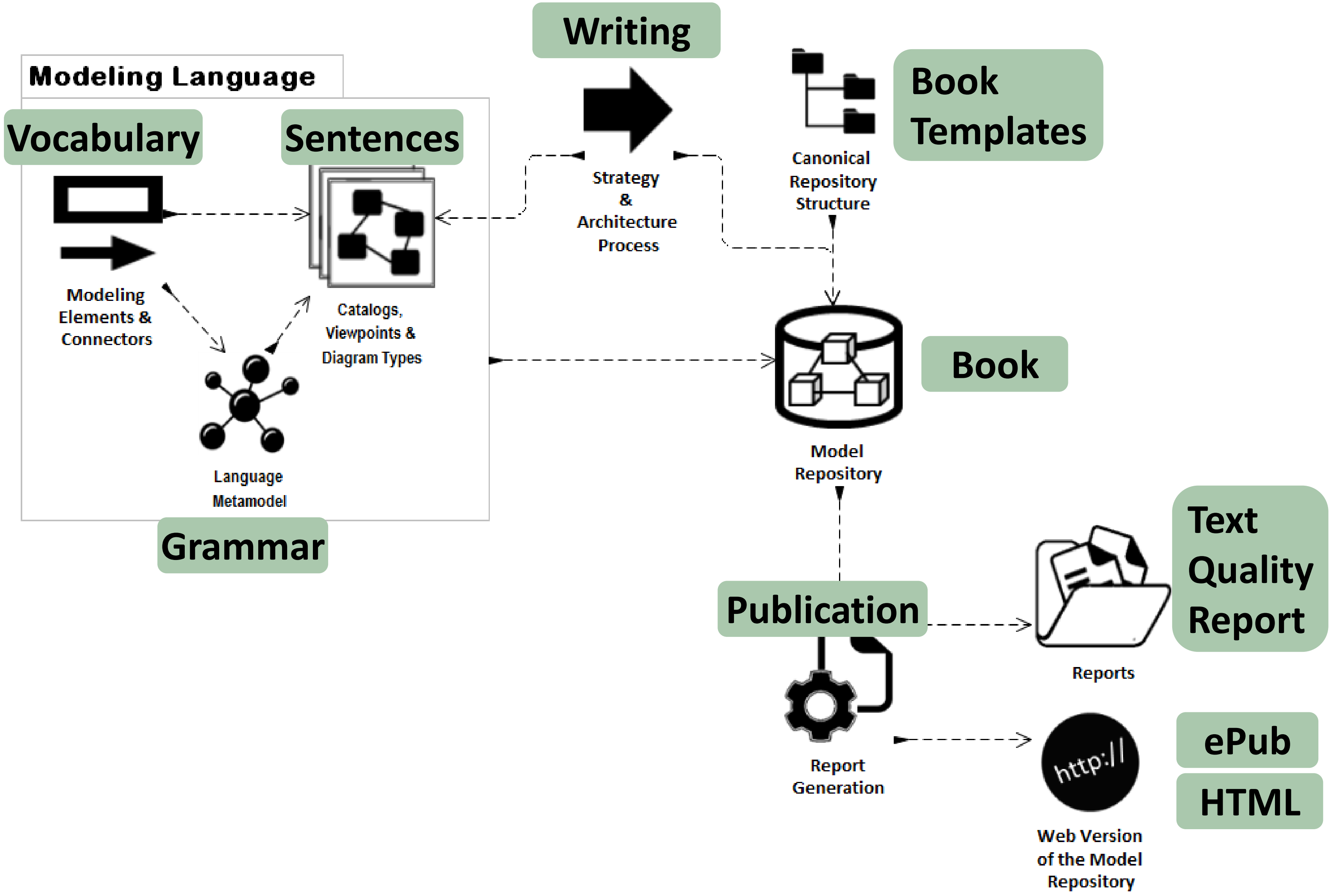
List of other Functional Area diagram(s) as hyperlink(s)

- FUN B2C Sales
- BOW Sales Information Owners
- FAL B2C Sales
- FIF B2C Sales

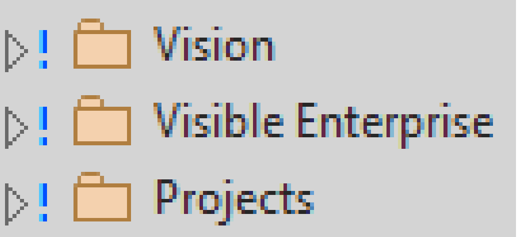
Creating strategy & architecture content…


Modeling Language
Modeling Elements & Connectors
Catalogs, Viewpoints & Diagram Types
Language Metamodel
Strategy & Architecture Process
Canonical Repository Structure
Model Repository
Report Generation
Reports
http://
Web Version of the Model Repository

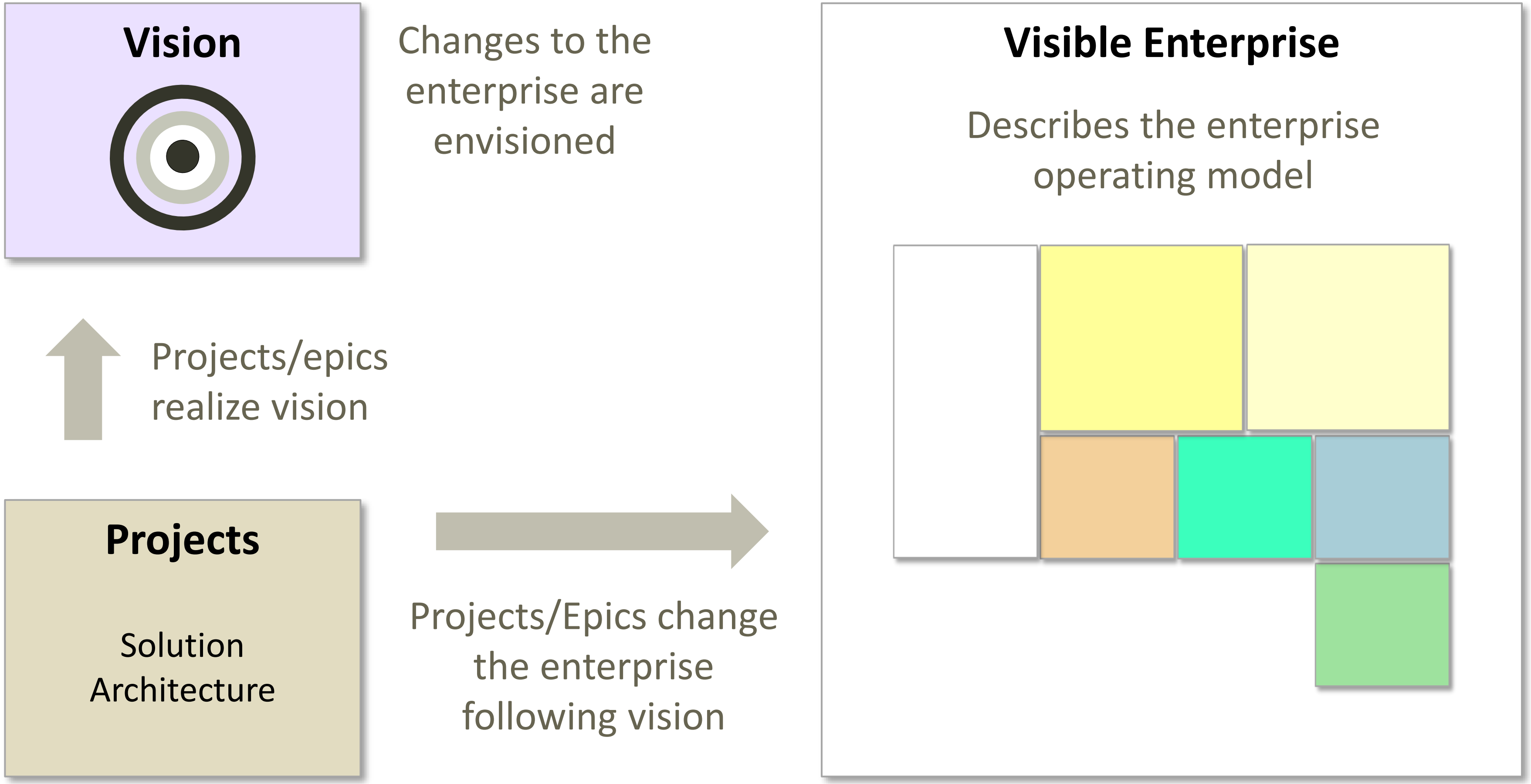
… is like writing a book



The model repository is organized into 3 main sections…



- Vision
- Visible Enterprise
- Projects



Vision

Changes to the enterprise are envisioned

Projects/epics realize vision

Projects

Solution Architecture

Projects/Epics change the enterprise following vision

Visible Enterprise

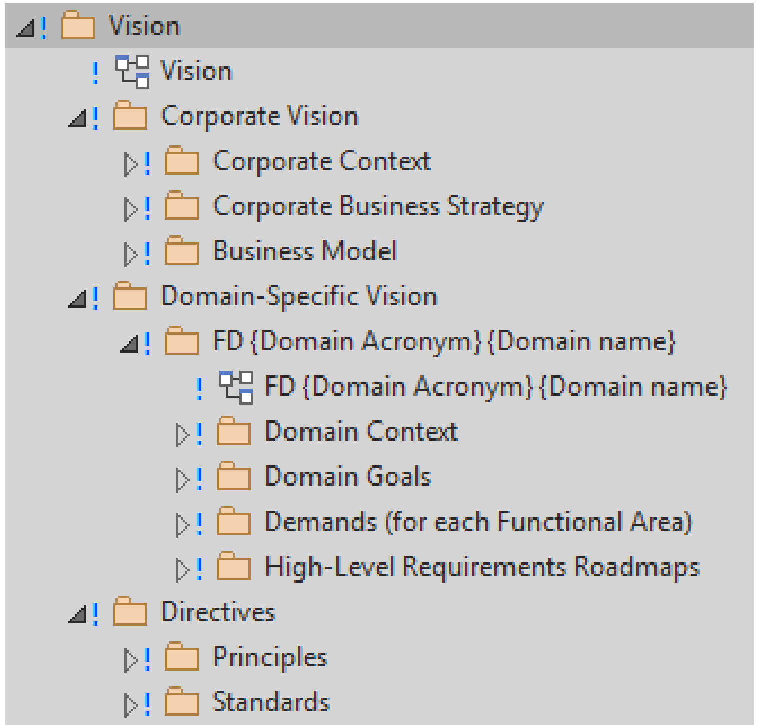
Describes the enterprise operating model

The **Vision** folder contains…

- The **Corporate Vision** describing the internal and external context, the corporate objectives and the business model

- The **Domain-Specific Vision** describing how the Corporate Vision cascades into functional domains in terms of goals, demands and target capabilities roadmaps

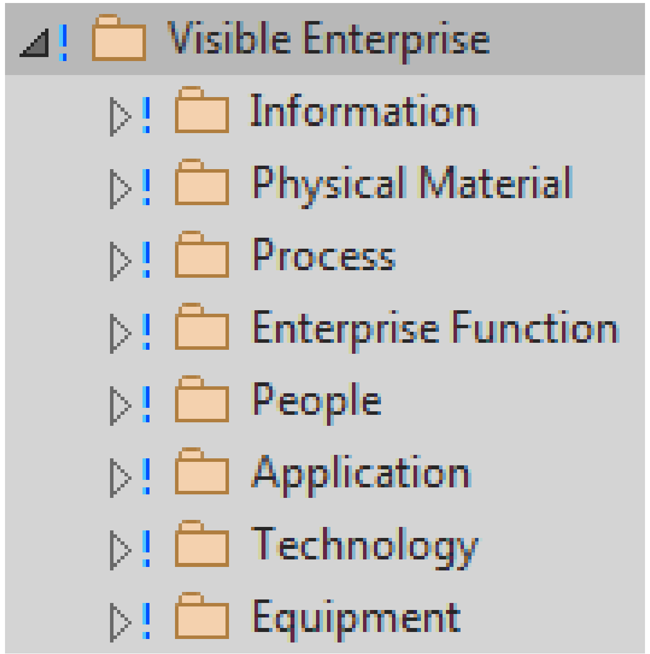
- **Directives** i.e. Principles and Standards



- Vision
  - Vision
  - Corporate Vision
    - Corporate Context
    - Corporate Business Strategy
    - Business Model
  - Domain-Specific Vision
    - FD {Domain Acronym} {Domain name}
      - FD {Domain Acronym} {Domain name}
      - Domain Context
      - Domain Goals
      - Demands (for each Functional Area)
      - High-Level Requirements Roadmaps
  - Directives
    - Principles
    - Standards

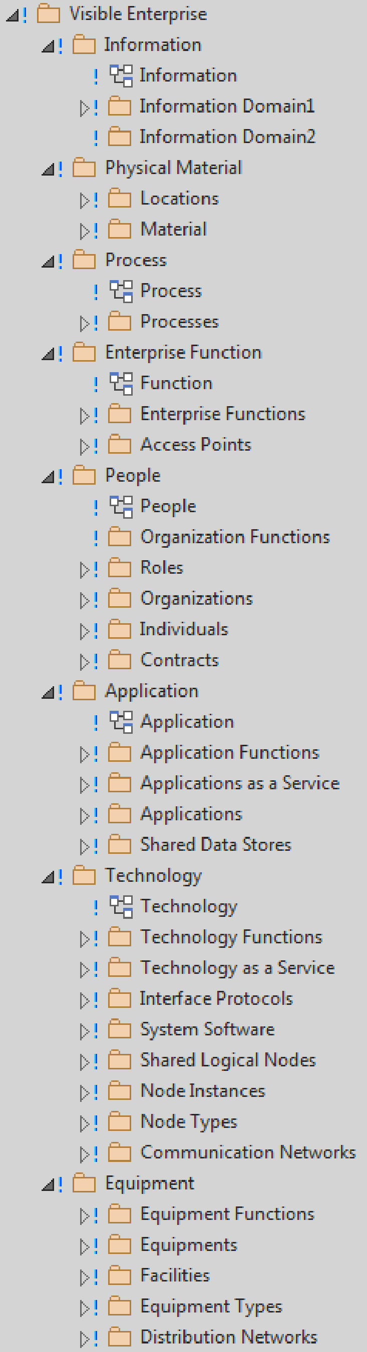
The **Visible Enterprise Description** folder contains…

- A set of architecture **portfolios**, each describing the enterprise following a specific perspective



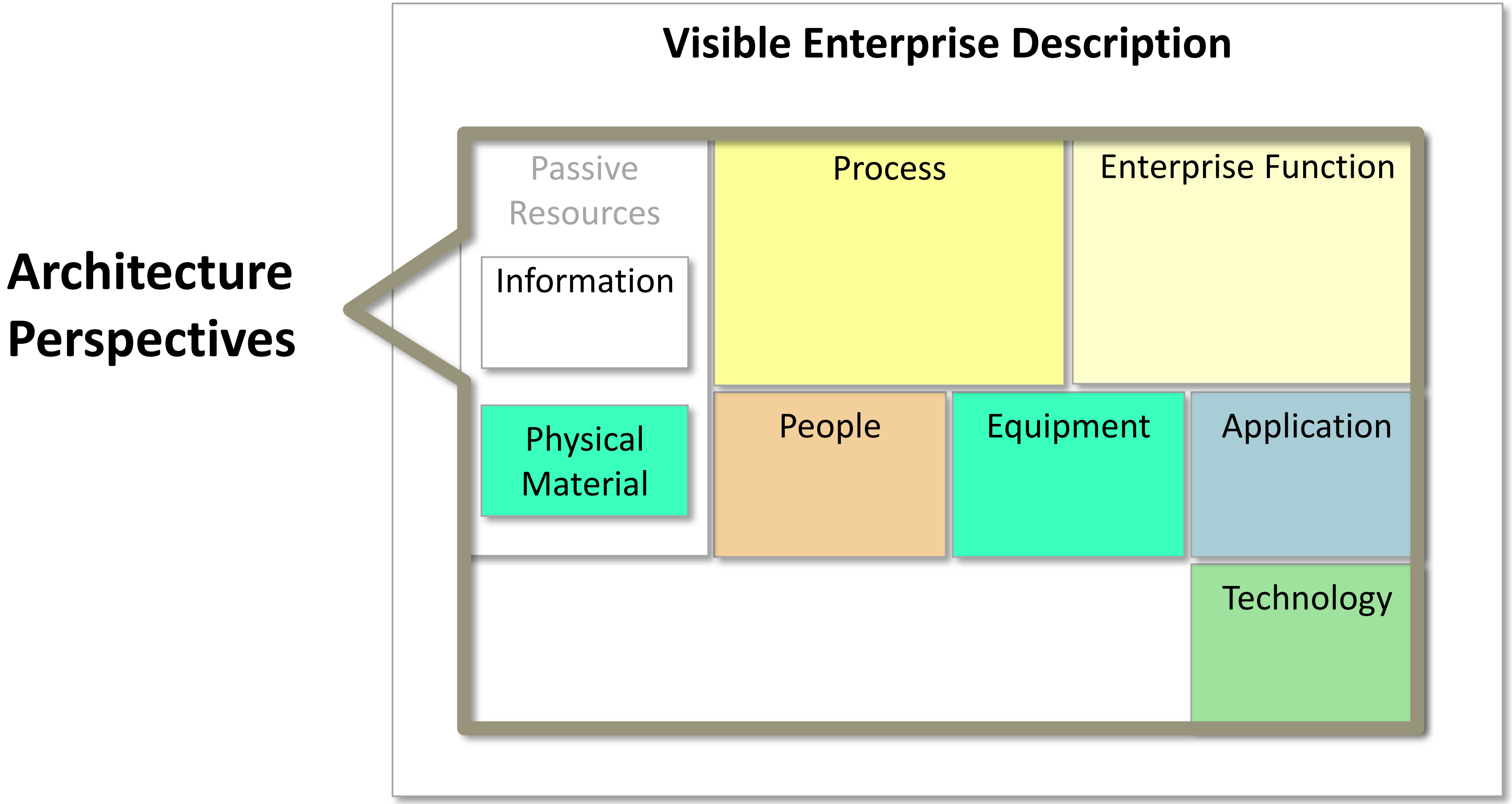
- Visible Enterprise
  - Information
  - Physical Material
  - Process
  - Enterprise Function
  - People
  - Application
  - Technology
  - Equipment

- Each portfolio in turn contains **catalogs** that contain elements and views **=>**



- Visible Enterprise
  - Information
    - Information
    - Information Domain1
    - Information Domain2
  - Physical Material
    - Locations
    - Material
  - Process
    - Process
    - Processes
  - Enterprise Function
    - Function
    - Enterprise Functions
    - Access Points
  - People
    - People
    - Organization Functions
    - Roles
    - Organizations
    - Individuals
    - Contracts
  - Application
    - Application
    - Application Functions
    - Applications as a Service
    - Applications
    - Shared Data Stores
  - Technology
    - Technology
    - Technology Functions
    - Technology as a Service
    - Interface Protocols
    - System Software
    - Shared Logical Nodes
    - Node Instances
    - Node Types
    - Communication Networks
  - Equipment
    - Equipment Functions
    - Equipments
    - Facilities
    - Equipment Types
    - Distribution Networks

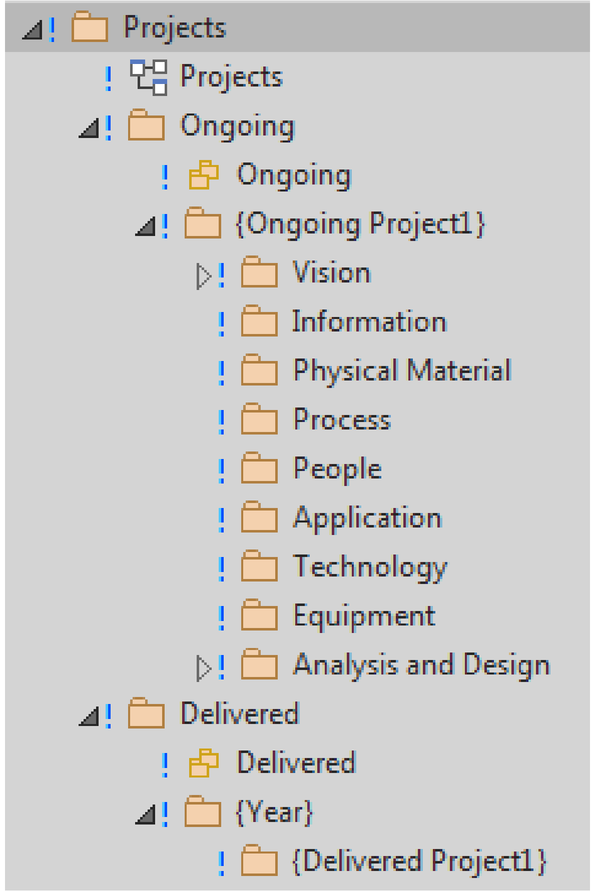
The **Visible Enterprise Portfolios** folders represent **architecture perspectives**



The **Projects** folder contains…

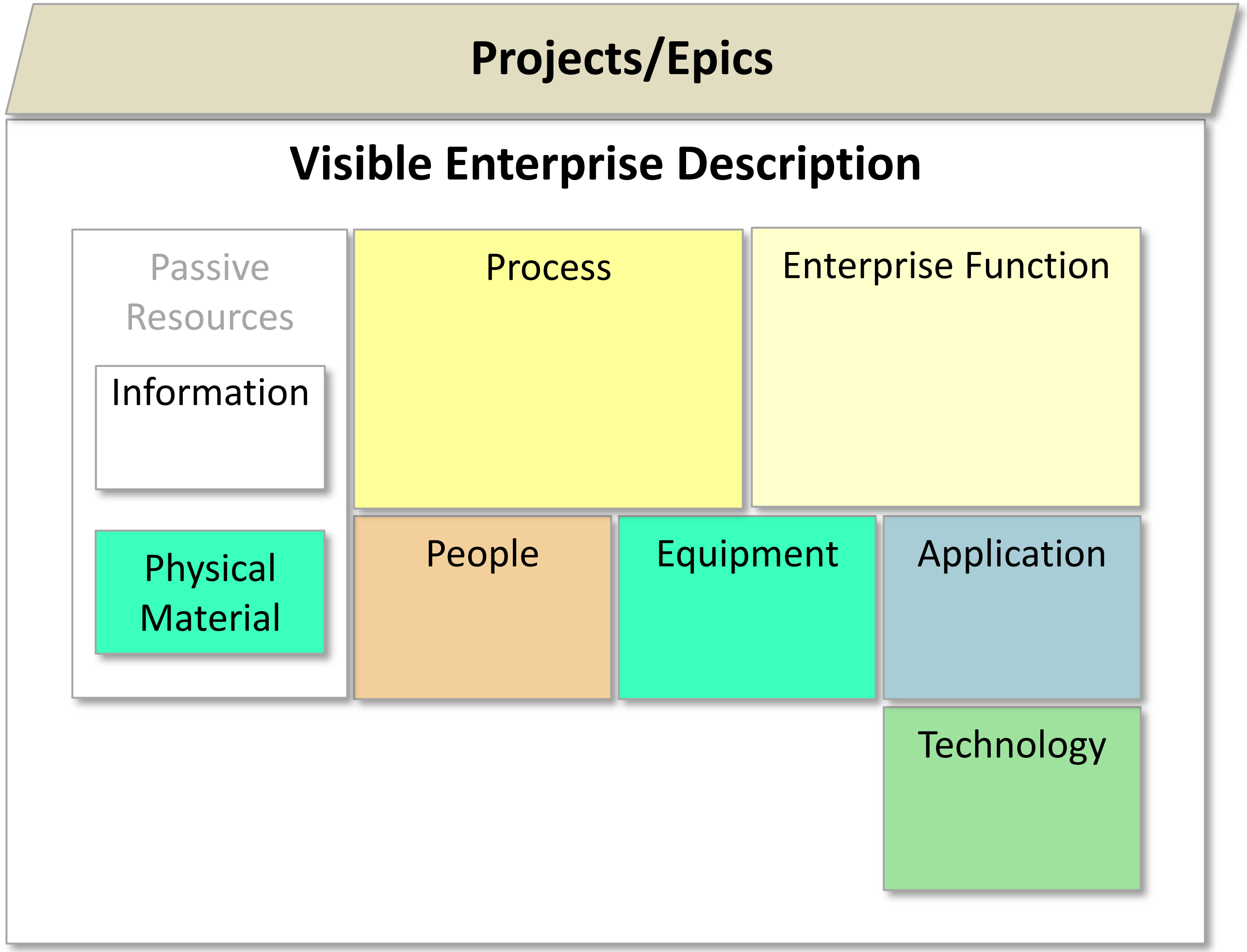
- Proposed and ongoing changes to the enterprise architecture models

The folder structure is similar to the structure of portfolios that are used to describe the enterprise as a whole

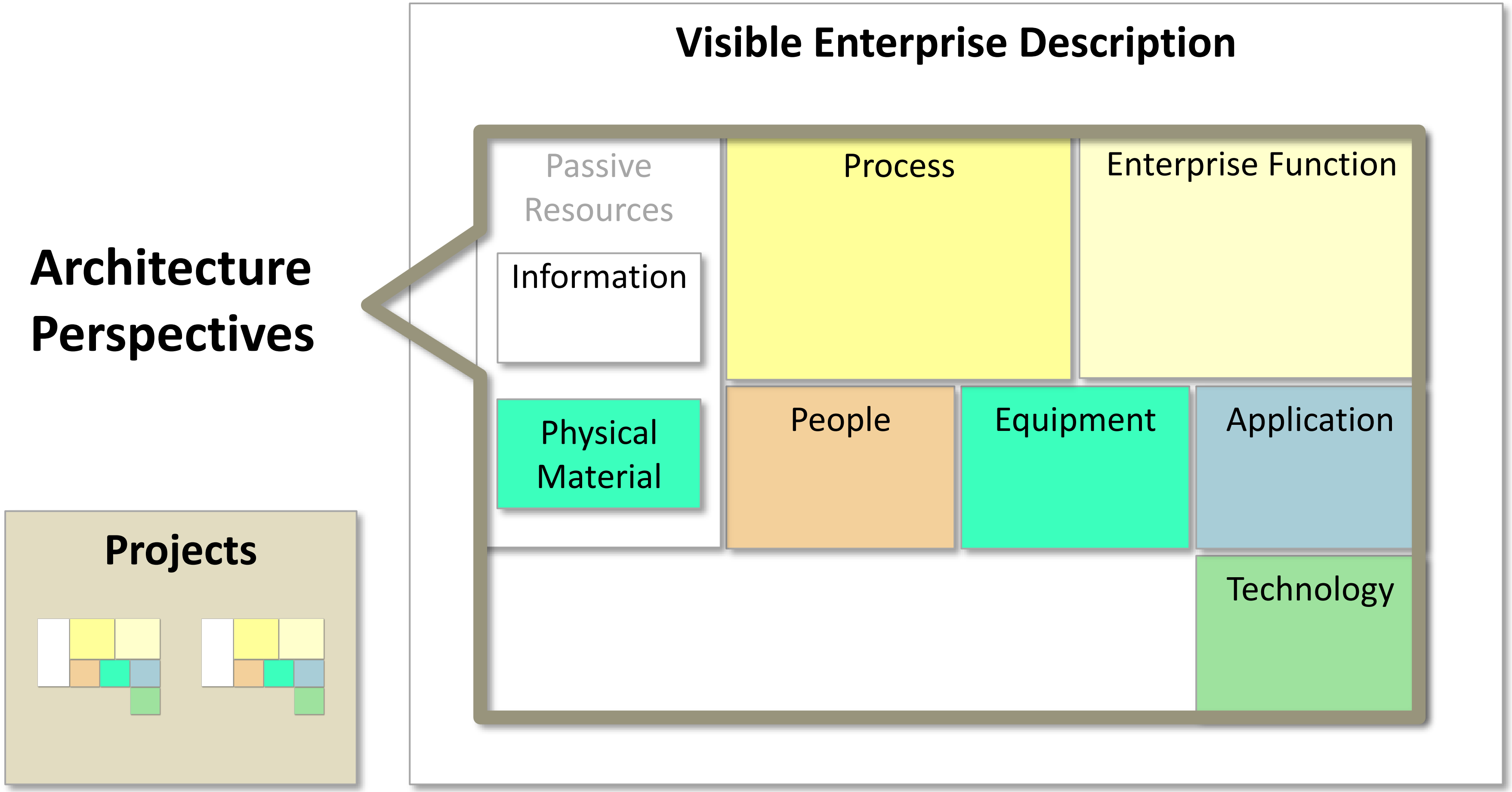


```
◢! Projects
    ! Projects
  ◢! Ongoing
      ! Ongoing
    ◢! {Ongoing Project1}
      ▷! Vision
        ! Information
        ! Physical Material
        ! Process
        ! People
        ! Application
        ! Technology
        ! Equipment
      ▷! Analysis and Design
  ◢! Delivered
      ! Delivered
    ◢! {Year}
        ! {Delivered Project1}
```

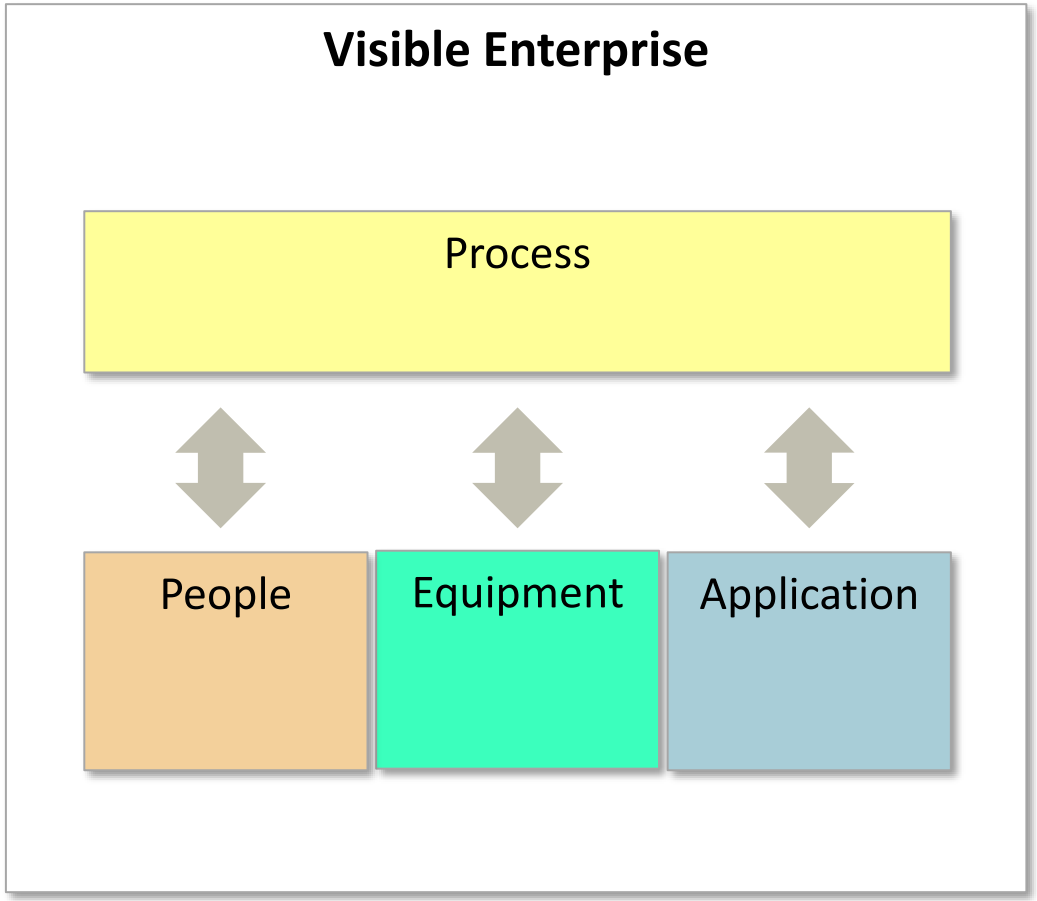
Project architecture work changes the content of the visible enterprise description



What do these architecture perspectives mean?



Processes are performed by people, applications and physical equipment in order to achieve some goals



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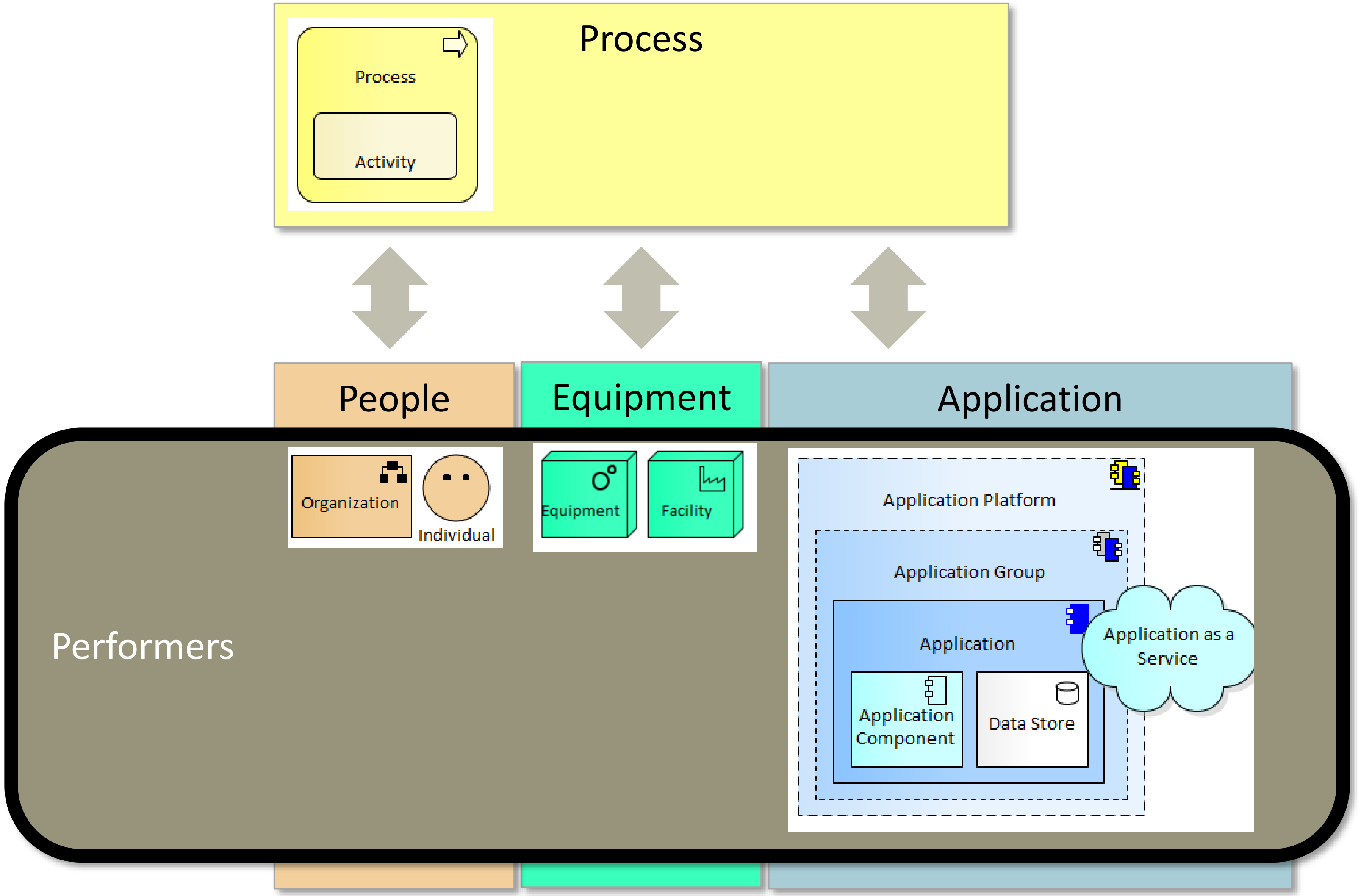
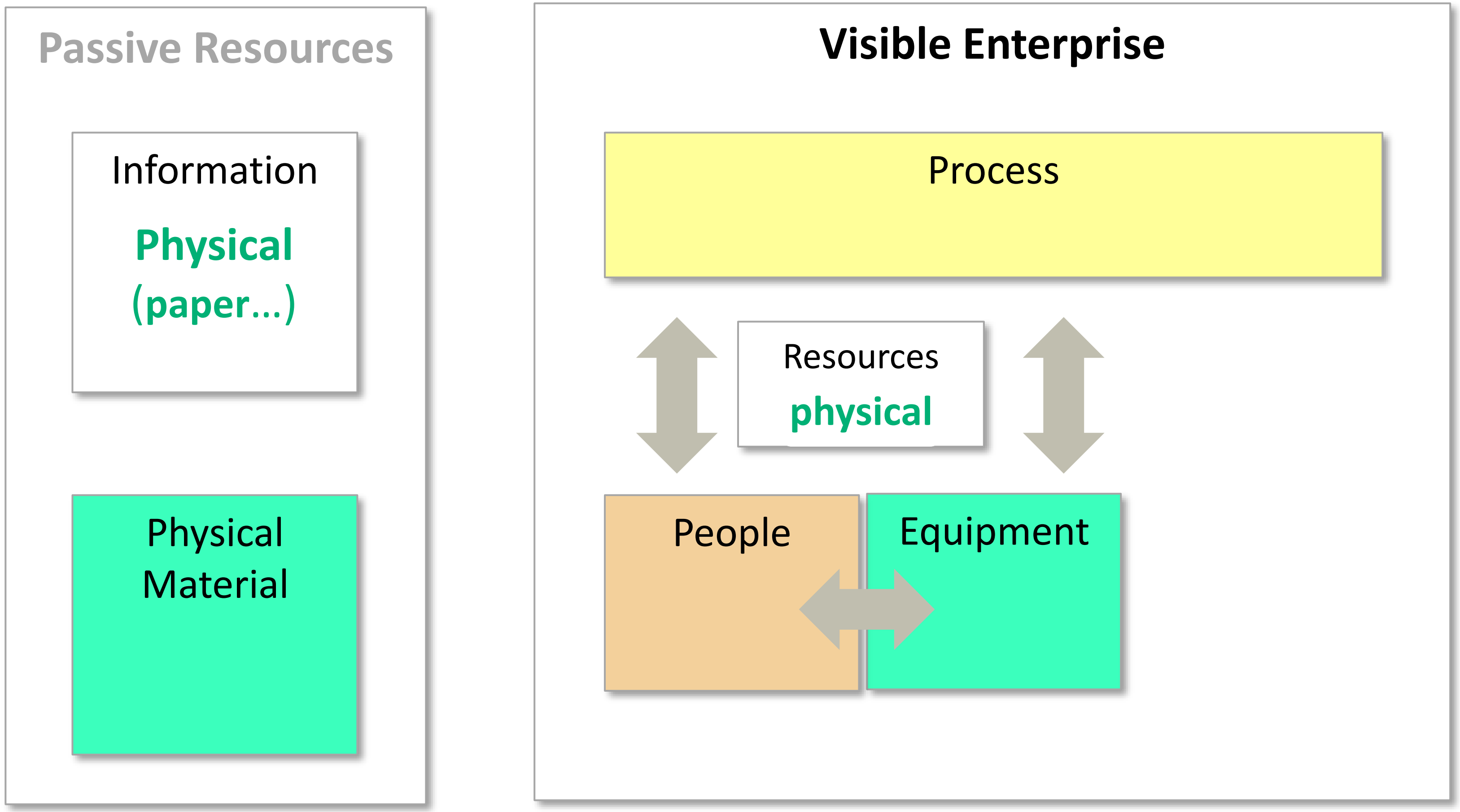
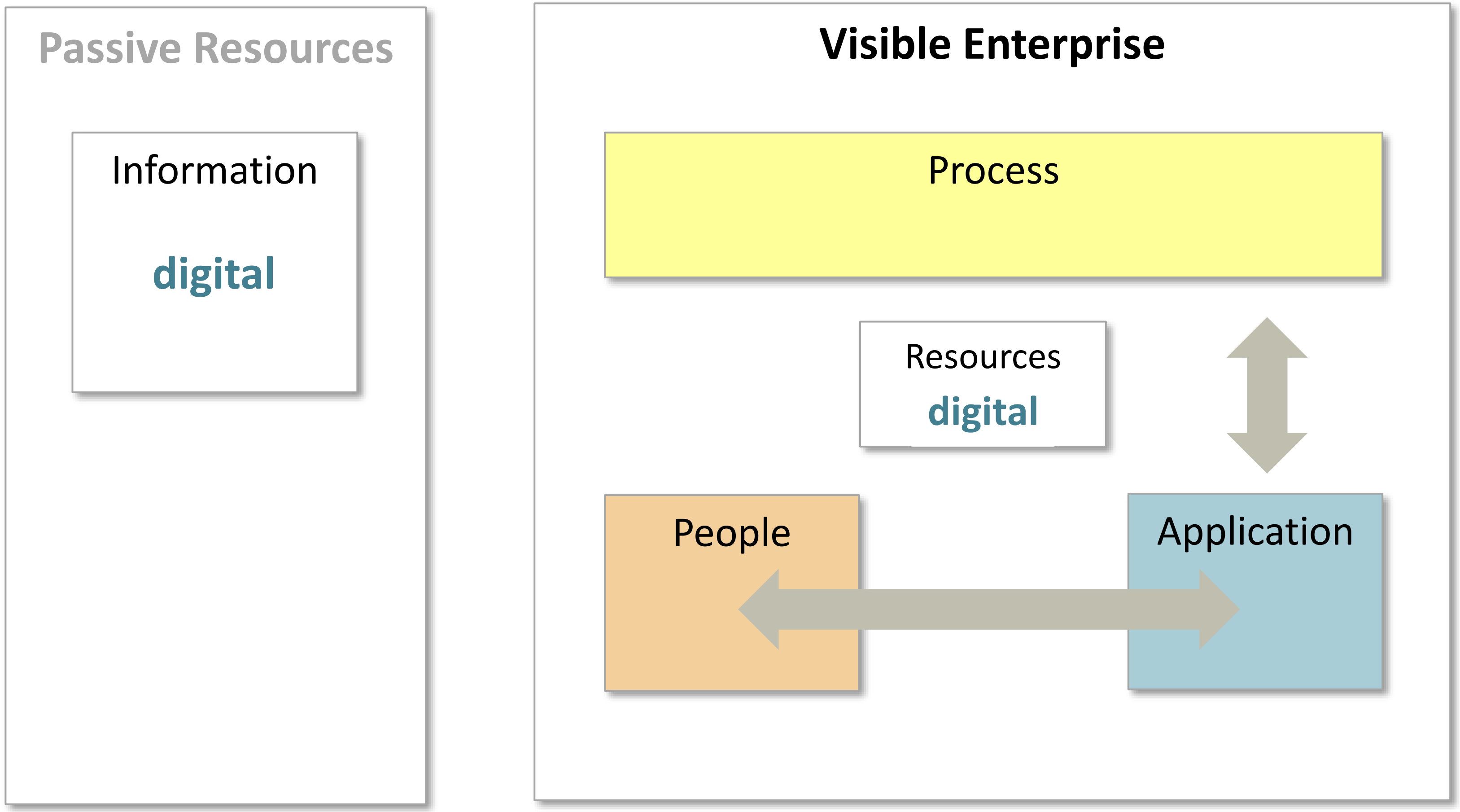


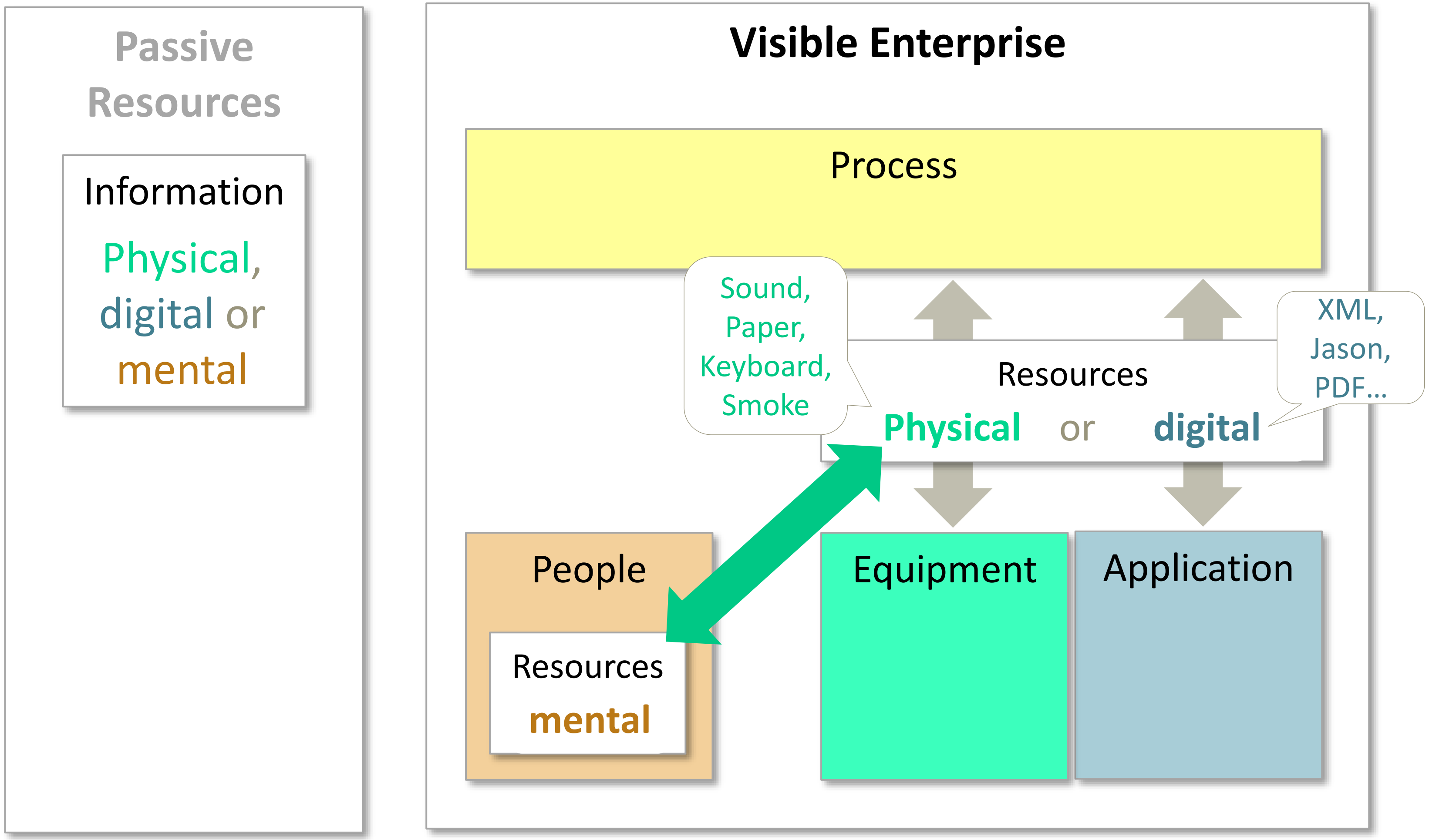
A process can use and produce **physical** resources



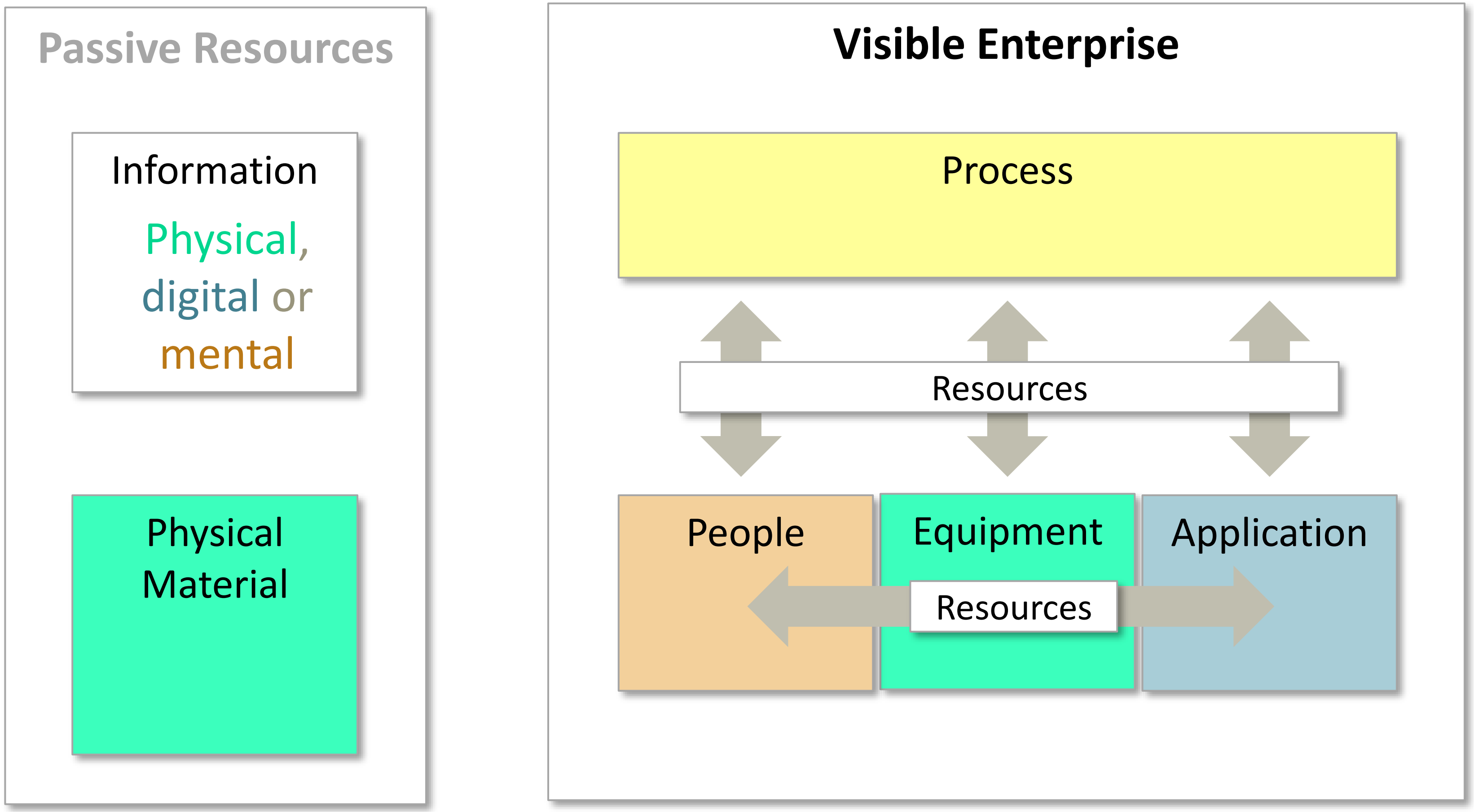
A process can use and produce **digital** resources



People exchange **mental** resources (**knowledge**) that they therefore need to make physical

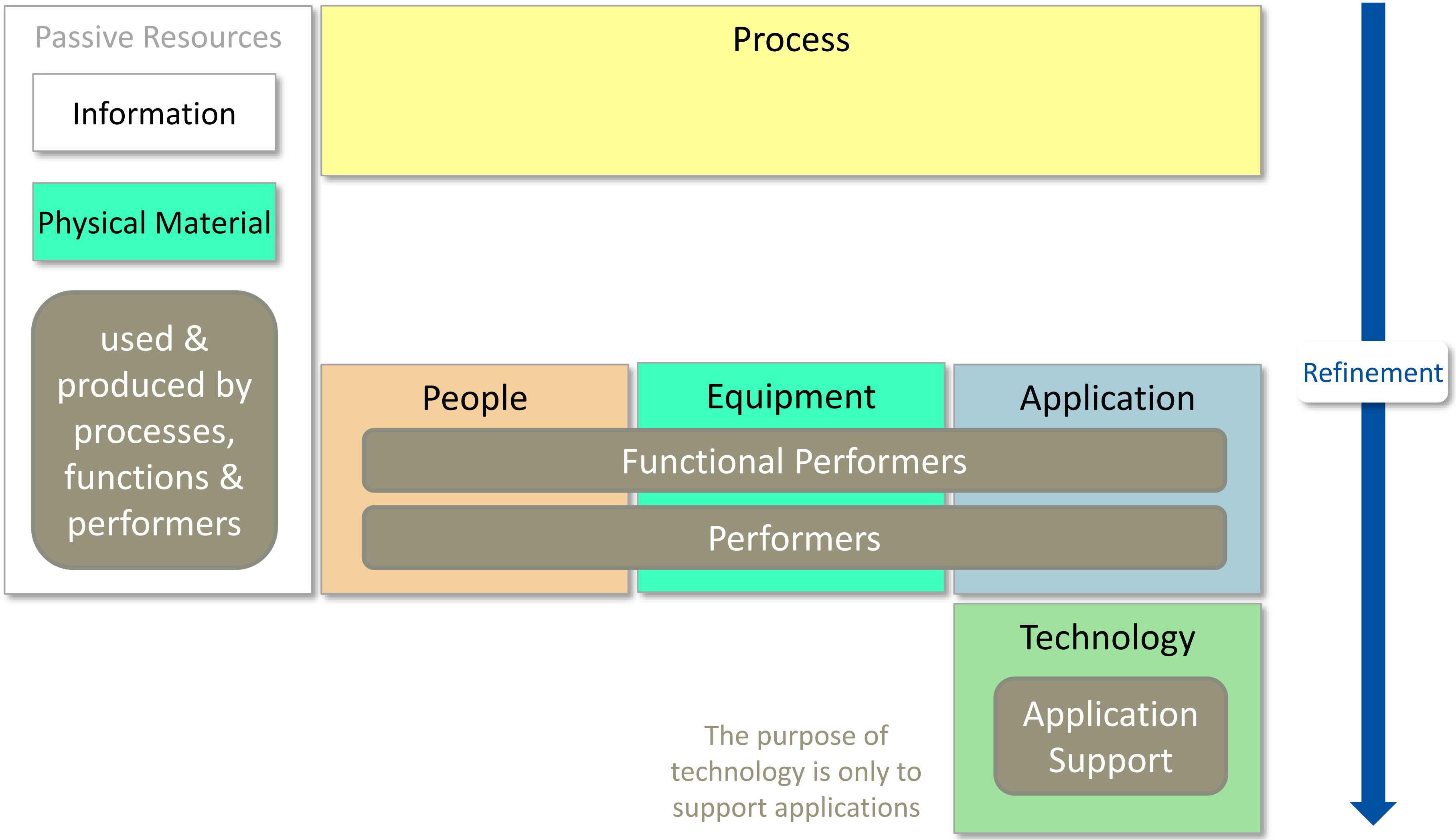


Processes orchestrate exchanges of digital, physical and mental resources



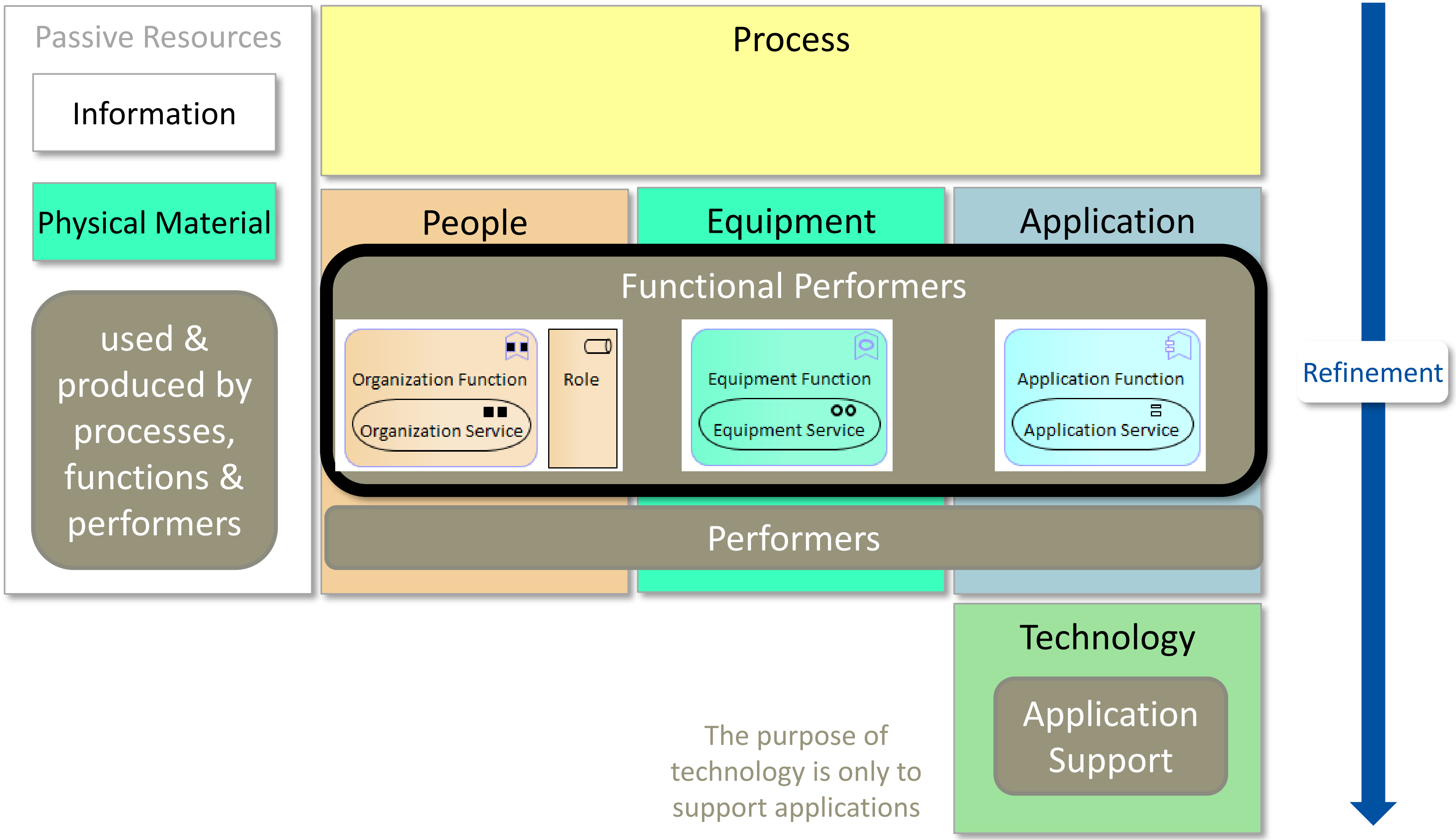
For a new solution…

before deciding which existing or new performers will be involved, it is better to first consider their functions



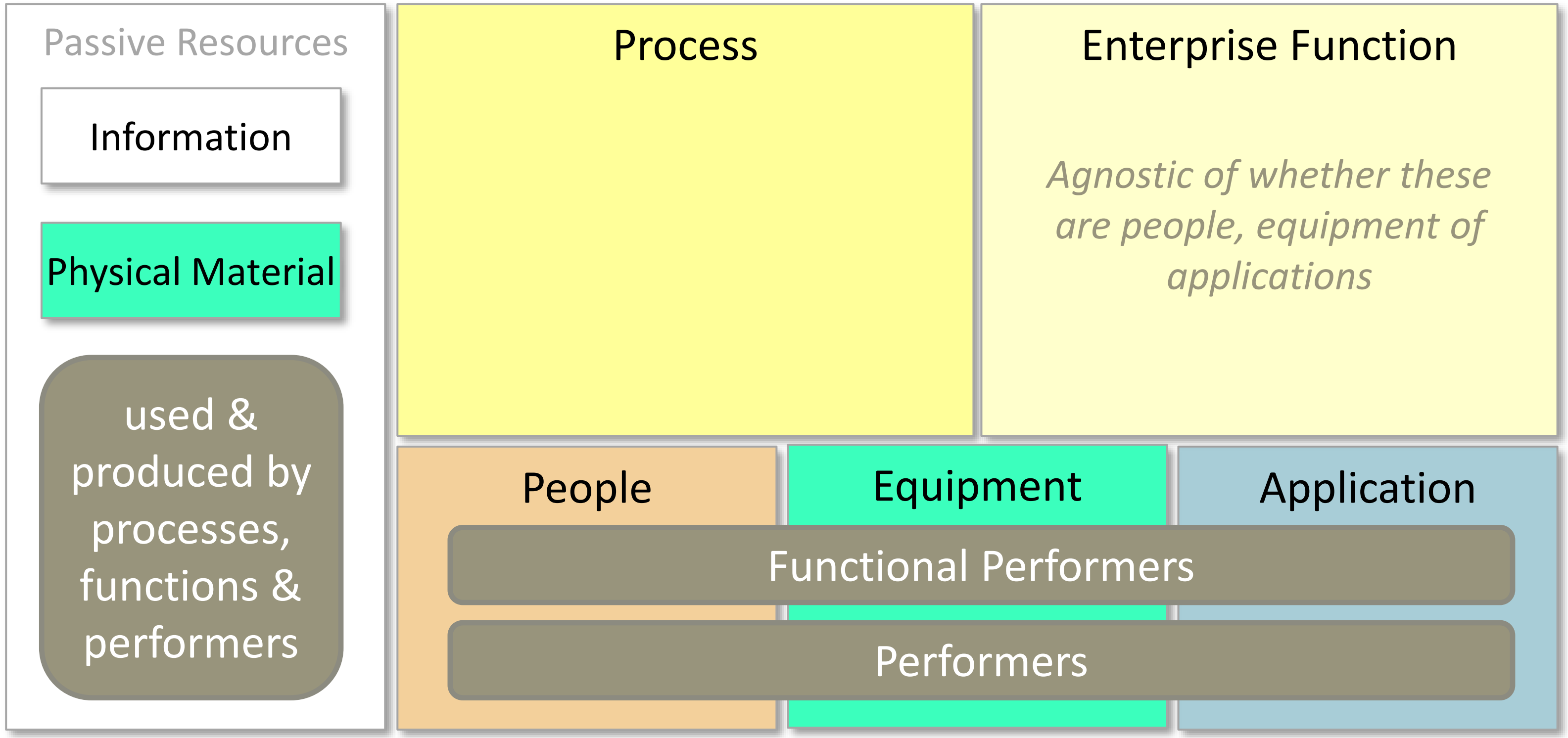
The purpose of technology is only to support applications

For a new solution…
before deciding which existing or new performers will be involved, it is better to first consider their functions



The purpose of technology is only to support applications

Enterprise functions are agnostic about whether they are human, physical or digital



Passive Resources

Information

Physical Material

used & produced by processes, functions & performers

Process

Enterprise Function

Agnostic of whether these are people, equipment of applications

People

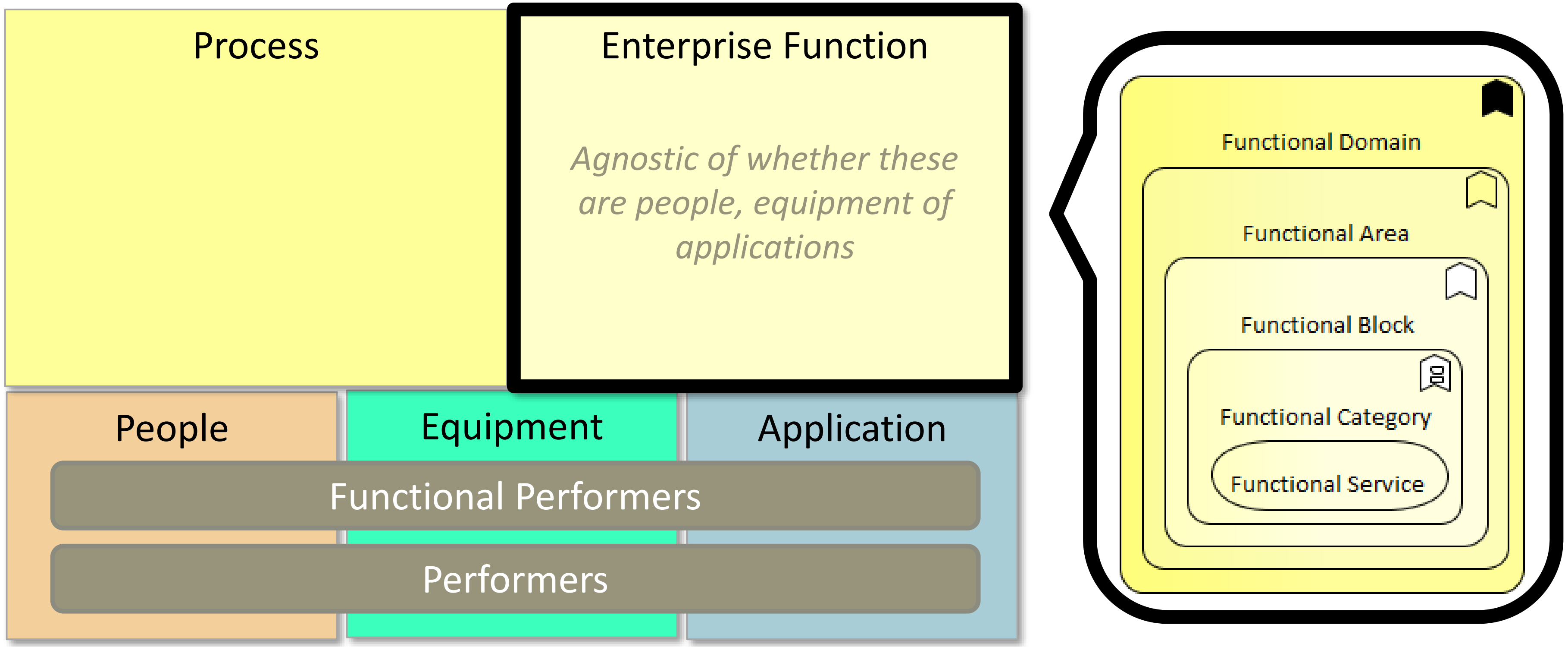
Equipment

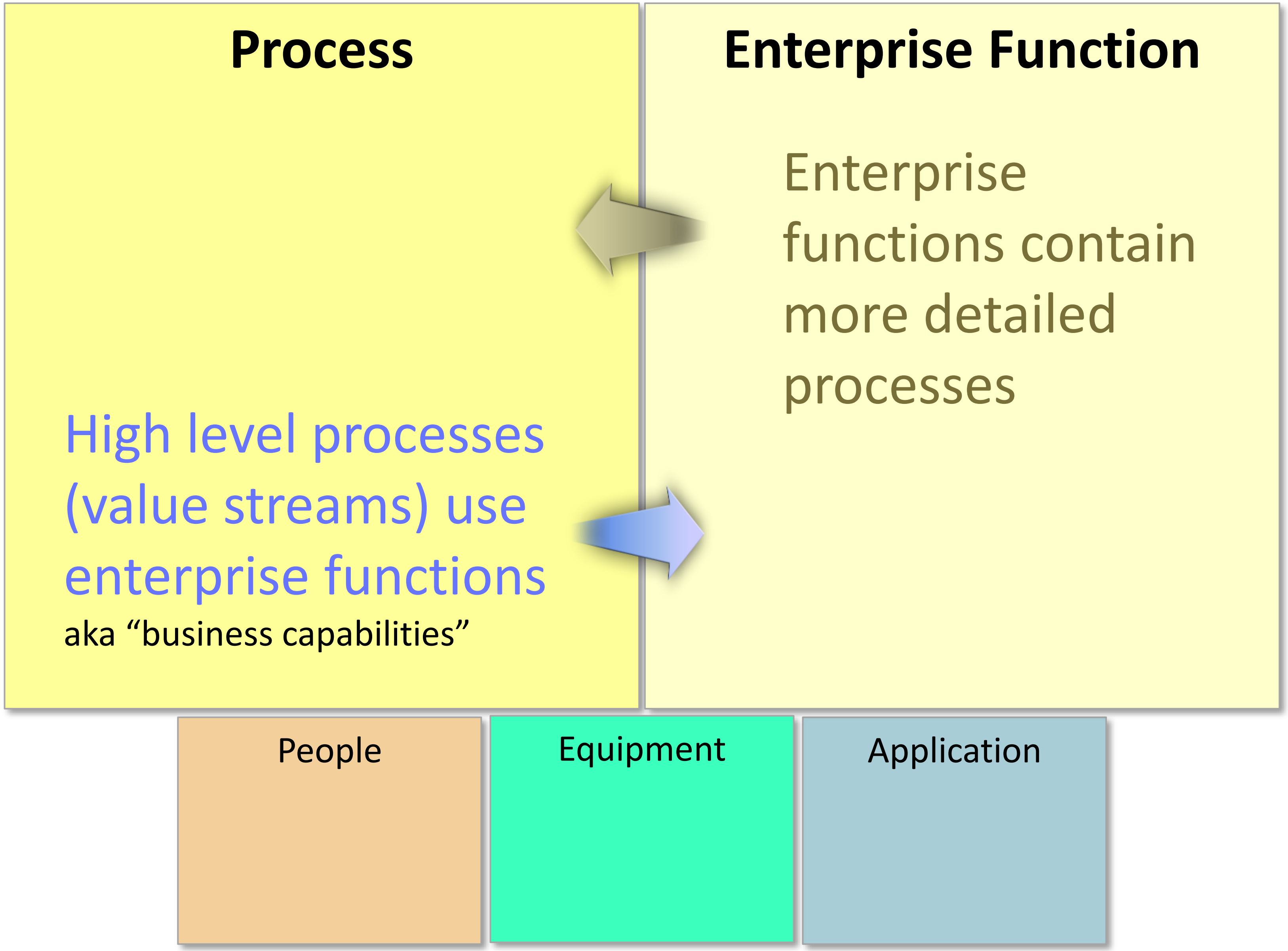
Application

Functional Performers

Performers

Enterprise functions are agnostic about whether they are human, physical or digital





Process

High level processes (value streams) use enterprise functions

aka “business capabilities”

Enterprise Function

Enterprise functions contain more detailed processes

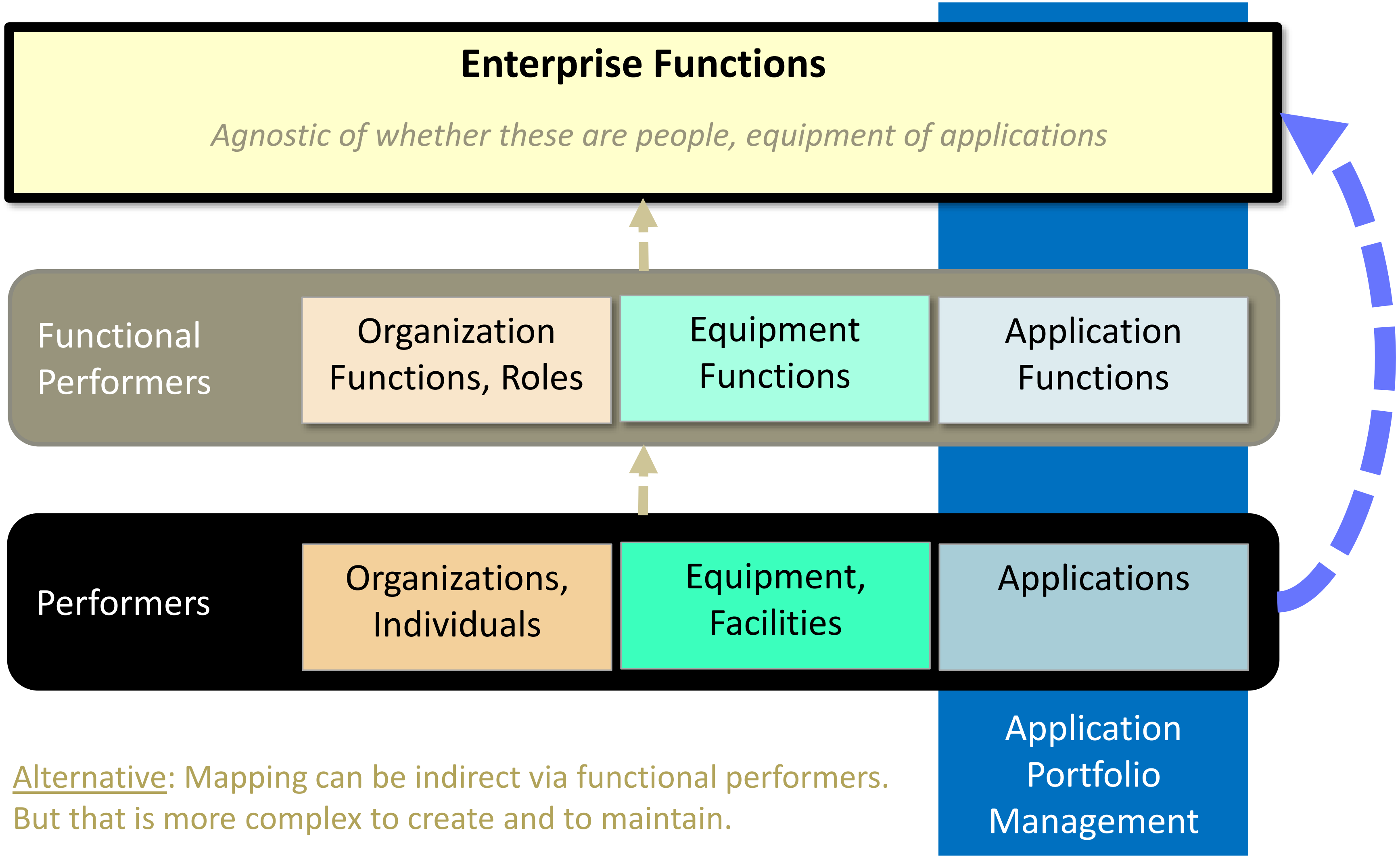
People

Equipment

Application

For managing the portfolios of performers (e.g. applications)…

performers are **mapped to** enterprise functions

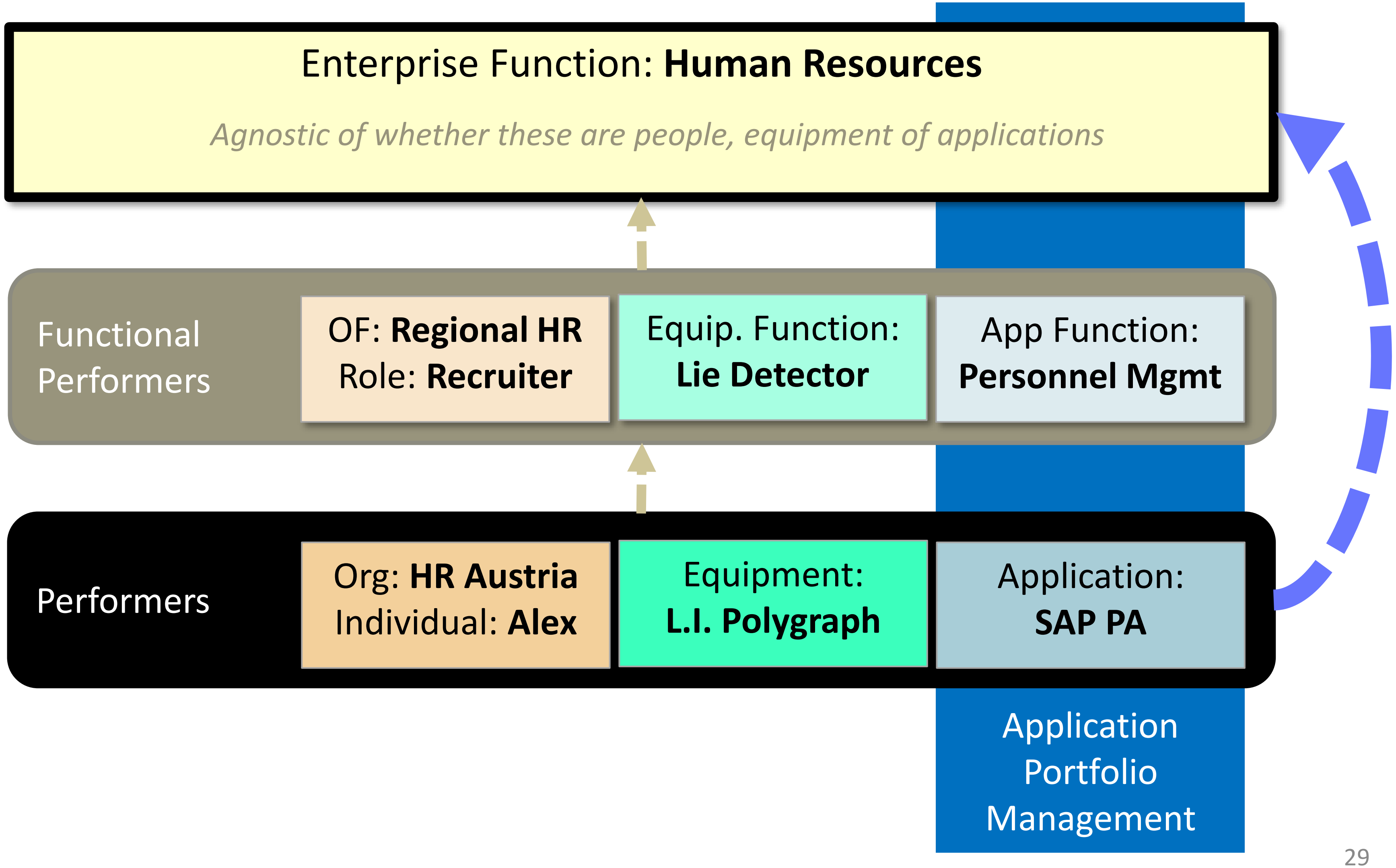


Enterprise Functions
Agnostic of whether these are people, equipment of applications
Functional Performers
Organization Functions, Roles
Equipment Functions
Application Functions
Performers
Organizations, Individuals
Equipment, Facilities
Applications
Application Portfolio Management

Alternative: Mapping can be indirect via functional performers. But that is more complex to create and to maintain.

Performers are **mapped to** enterprise functions

Example:



Enterprise Function: **Human Resources**

Agnostic of whether these are people, equipment of applications

Functional Performers

OF: **Regional HR**
Role: **Recruiter**

Equip. Function:
Lie Detector

App Function:
Personnel Mgmt

Performers

Org: **HR Austria**
Individual: **Alex**

Equipment:
L.I. Polygraph

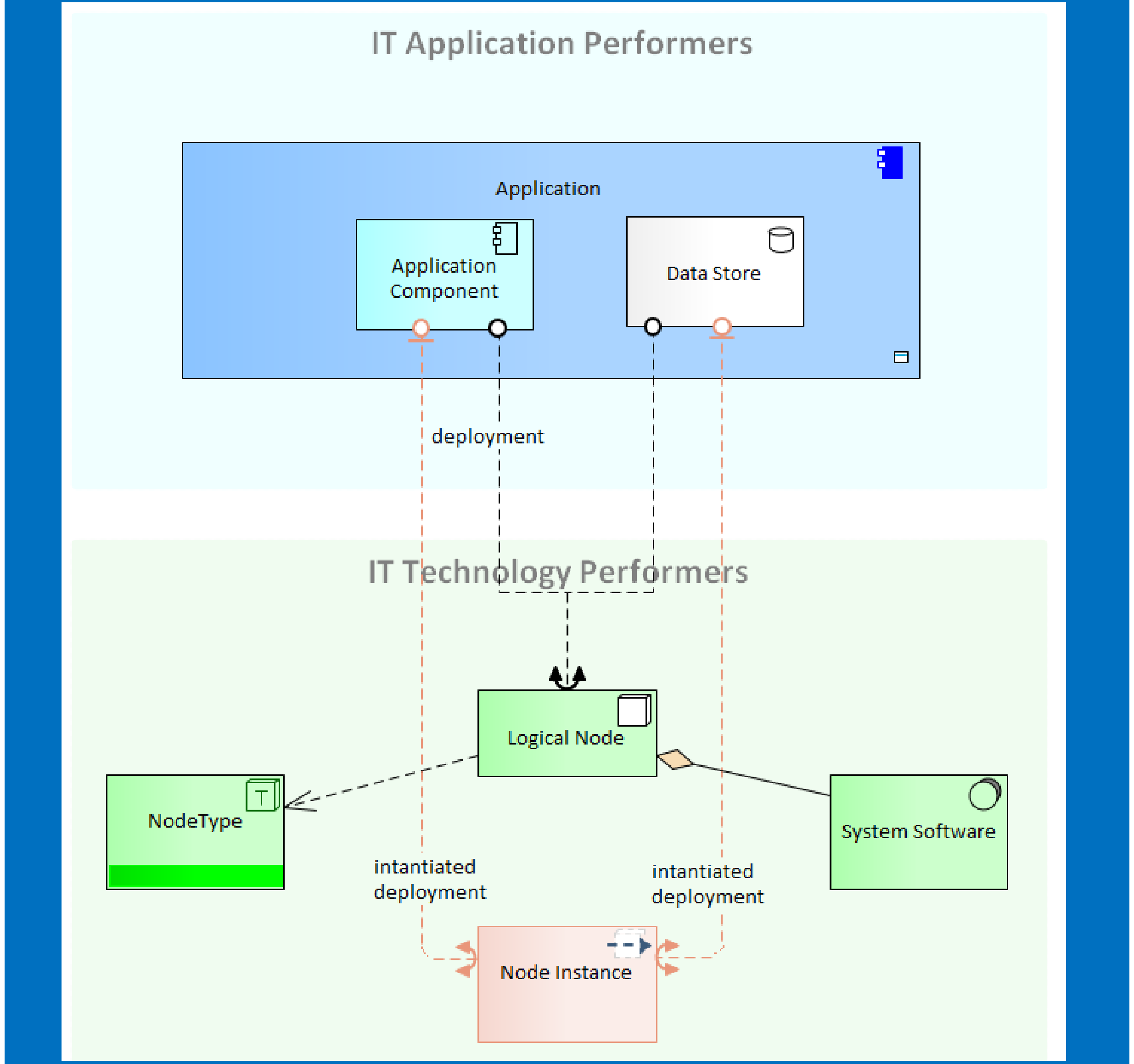
Application:
SAP PA

Application Portfolio Management

For application portfolio management and project architecture…

Application components and data stores are also mapped to **the servers on which they are deployed** at least during projects

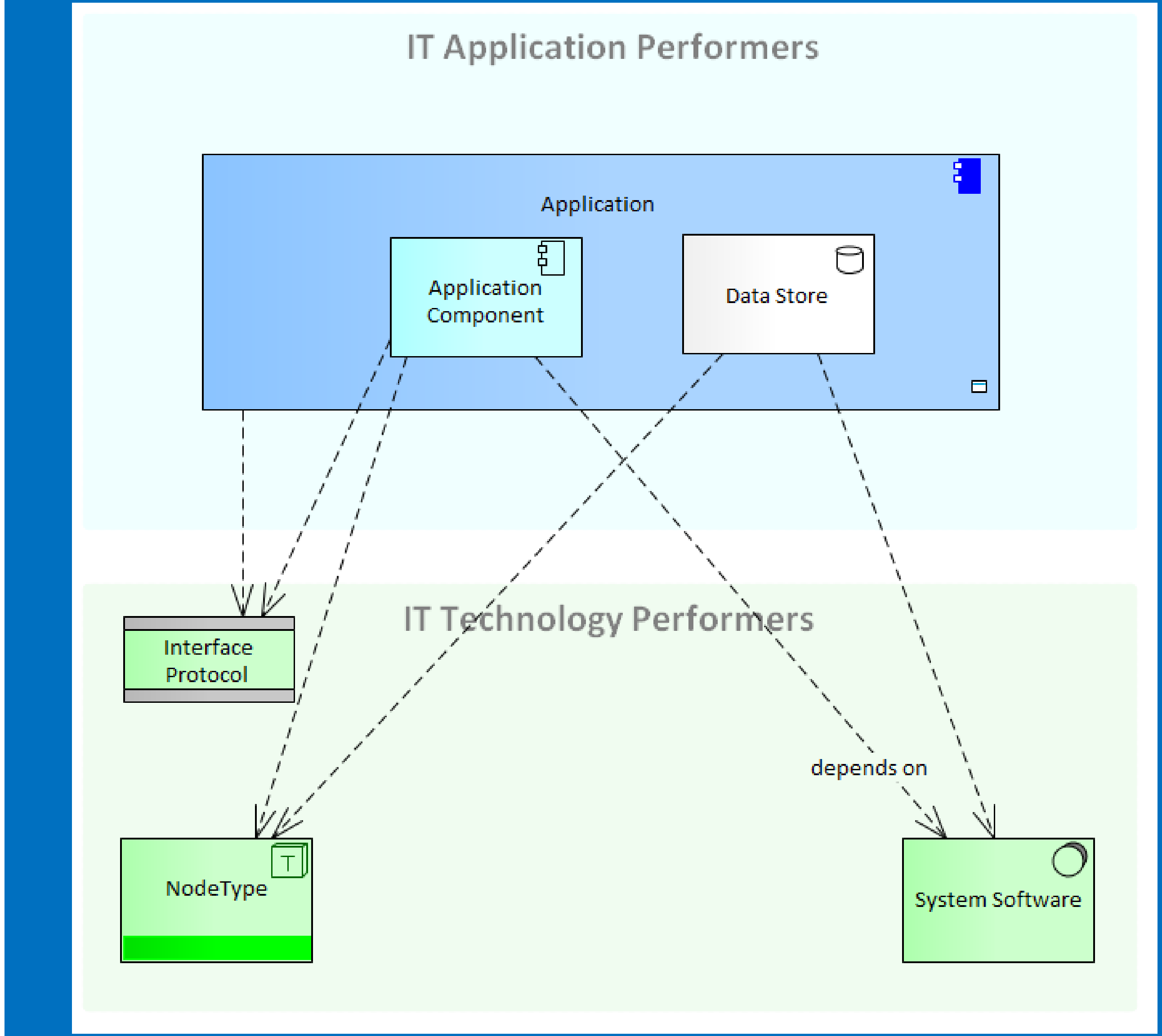
Application Portfolio Management (continued…)



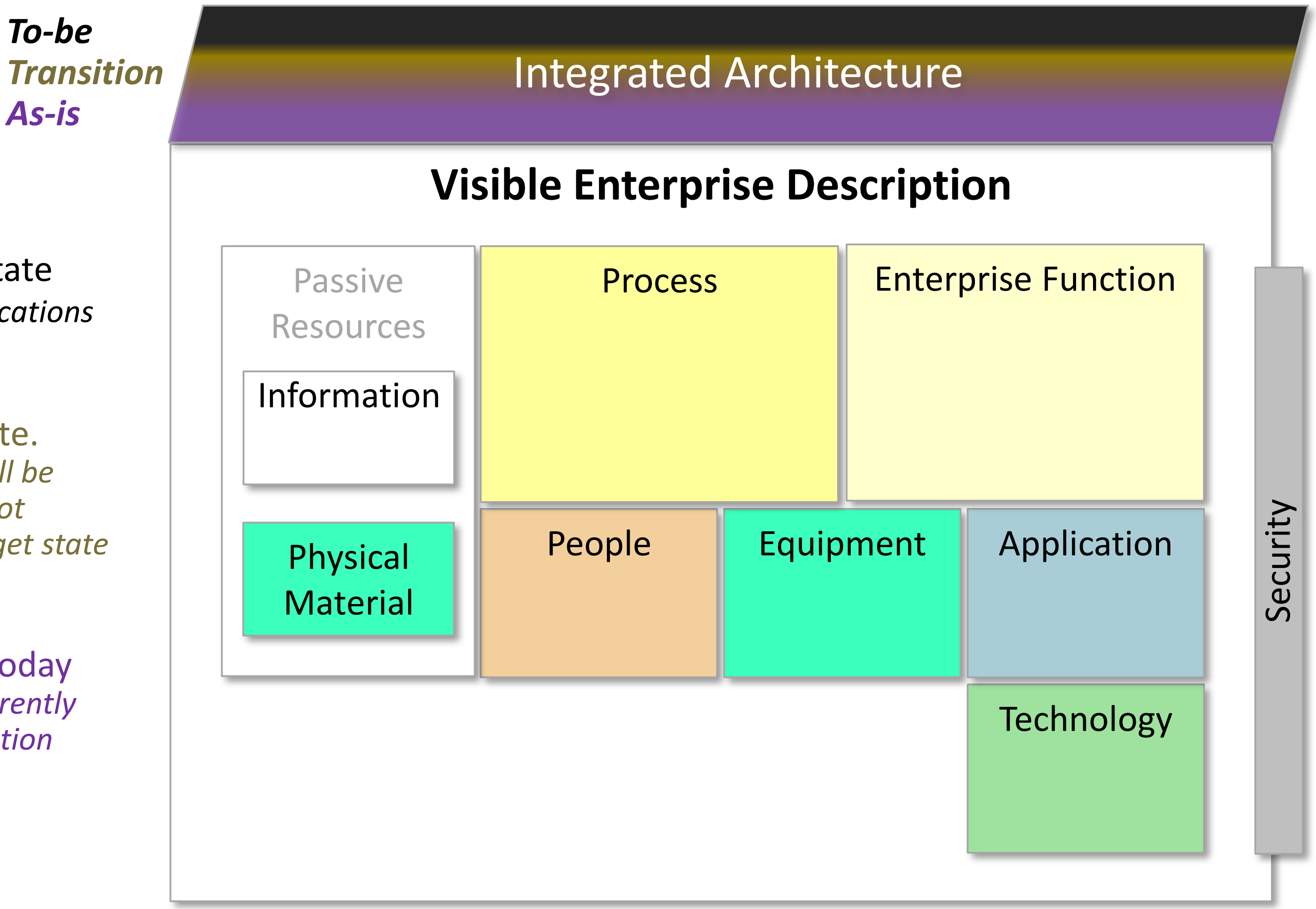
For application portfolio management, specifically…

Application components and data stores are mapped to **the technology they use** at least during projects

Application Portfolio Management (continued…)



Architecture plateaus describe the subsequent states of the enterprise

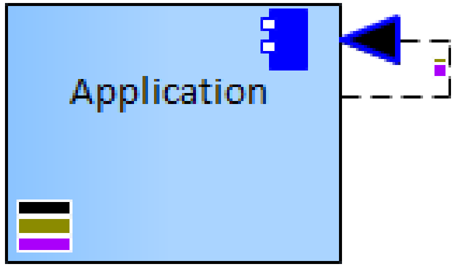


To-be
- Target/desired state
  e.g. standard applications

Transition
- Intermediate state.
  There is or there will be changes that are not necessarily the target state

As-is
- How things are today
  e.g. application currently deployed in production

Architecture plateaus describe subsequent states



An element or connector

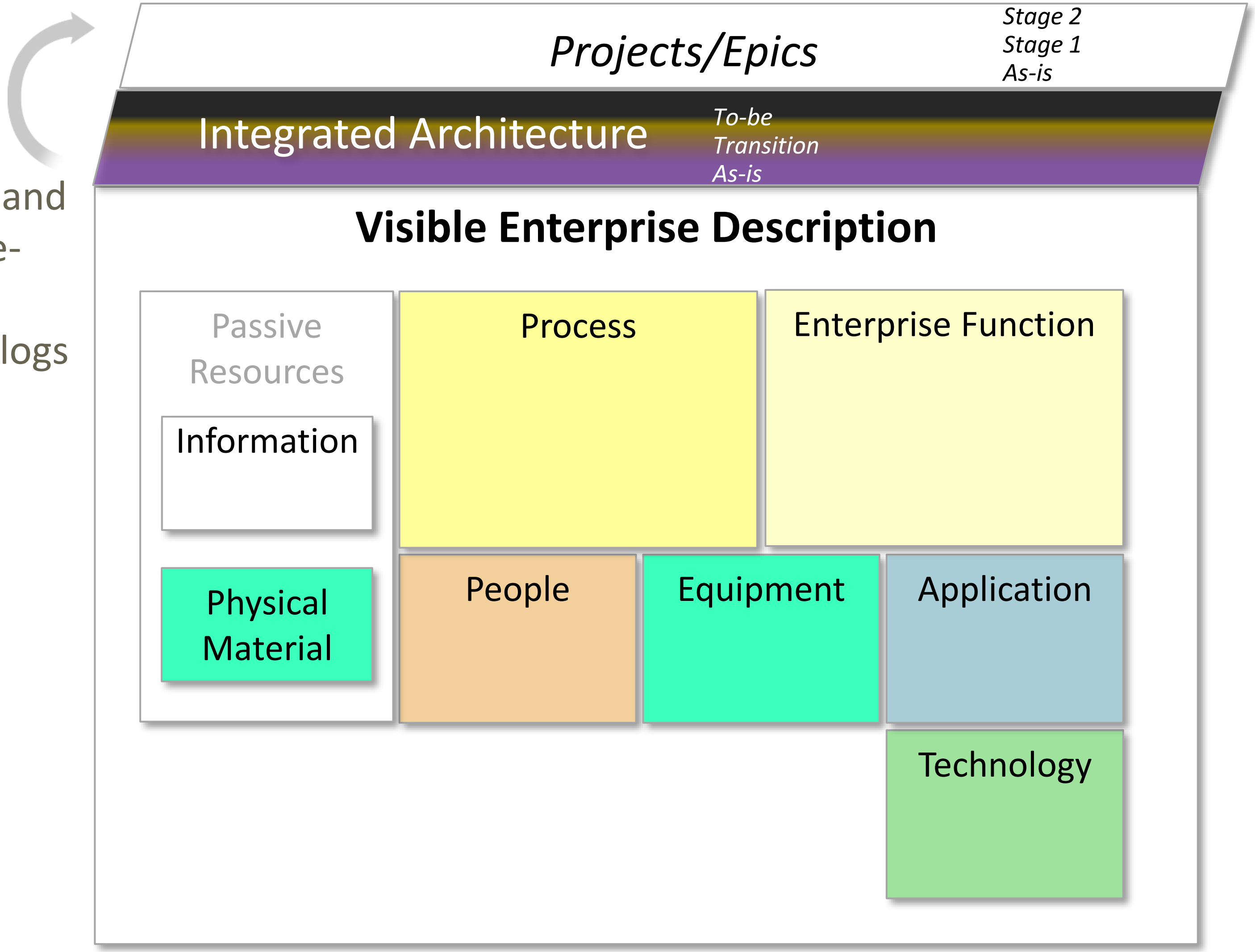
- might be the target standard (**TO-BE**)
- might exist in some transitional future (**TRANSITION**)
- might exist today (**AS-IS**)

A view/diagram can focus on a specific plateau (automatic)

Solution architecture (in projects) describes changes to the enterprise operating platform

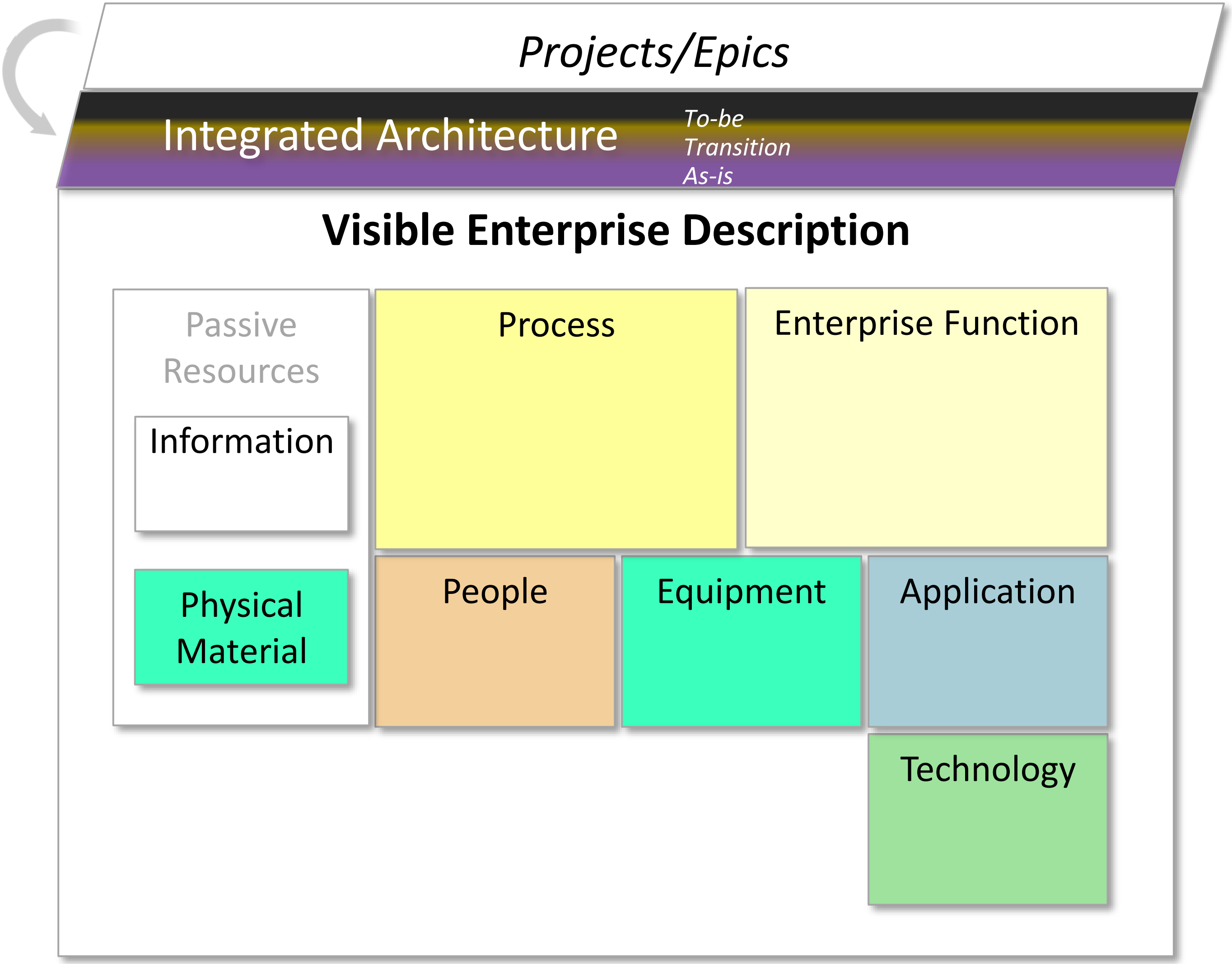
Re-use

Elements, connectors and views are re-used from shared catalogs



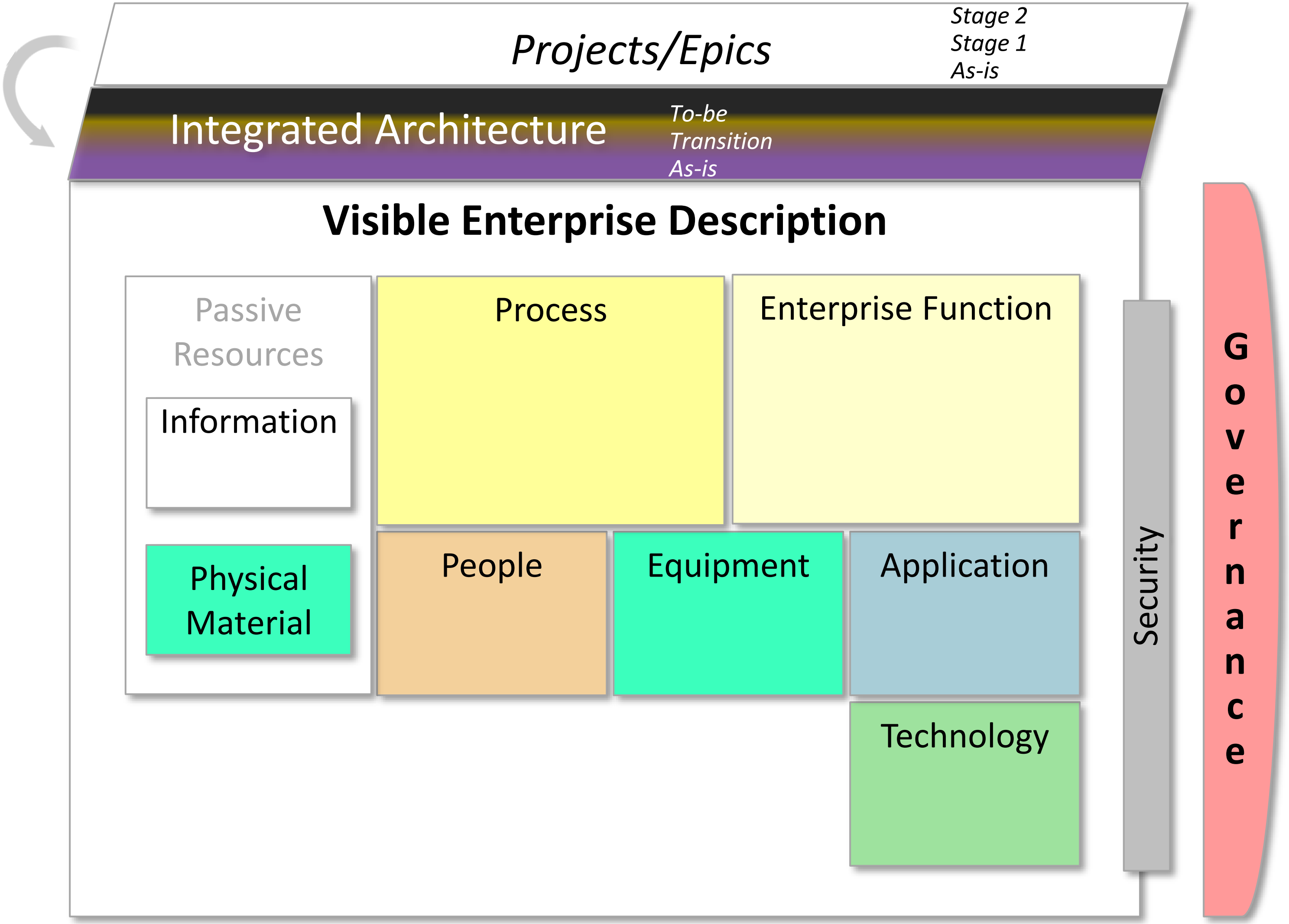
Transition and to-be architecture reflect approved solutions.
As-is architecture is updated when the solution has been deployed

Envision then integrate changes during projects/epics

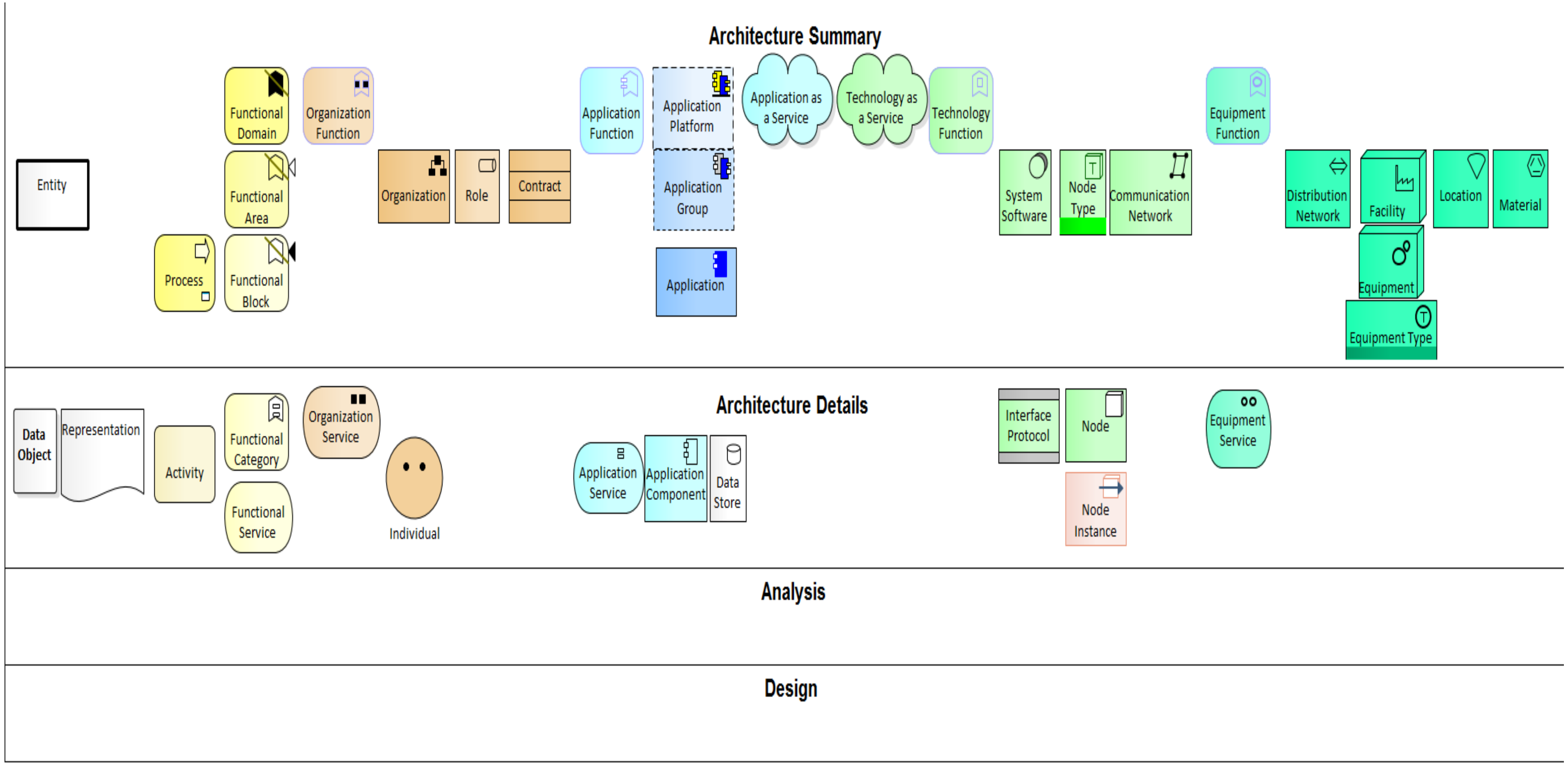


Architecture changes are controlled by governance structures

Envision then integrate changes during projects/epics

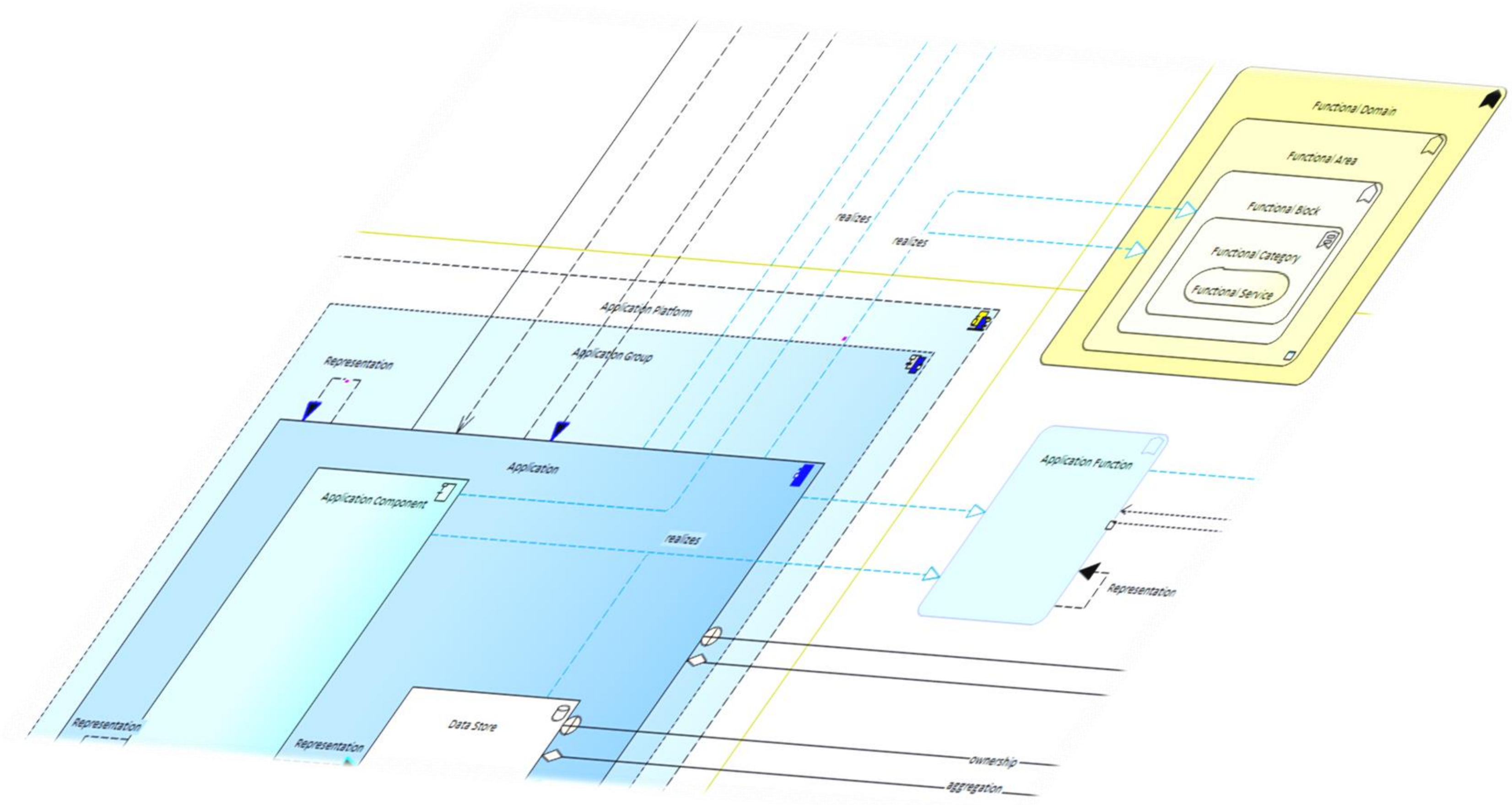


Within each architecture perspectives Elements and connectors belong to different **Levels of Details**



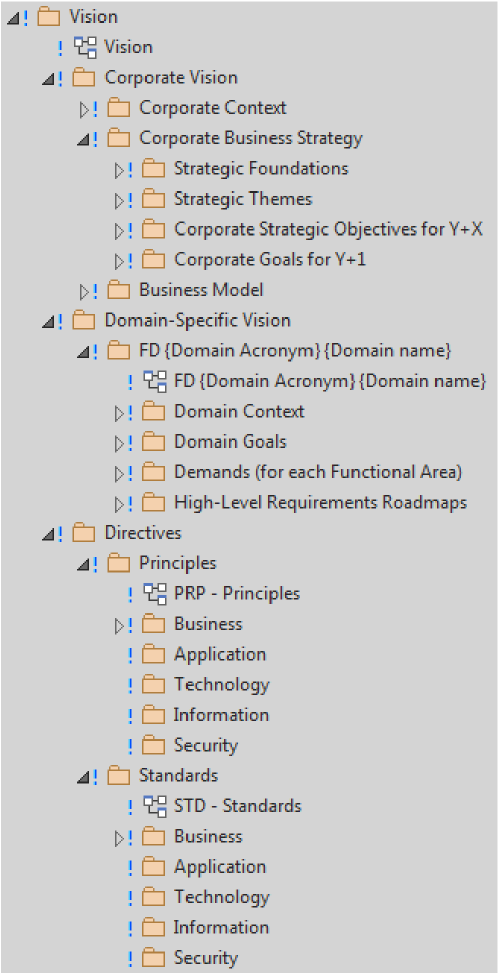
http://www.labnaf.one/guidance/index.html?guid=ECF05395-8B5B-4973-AA4B-27E521AA5D30

A **metamodel** defines the different types of model element and relationship

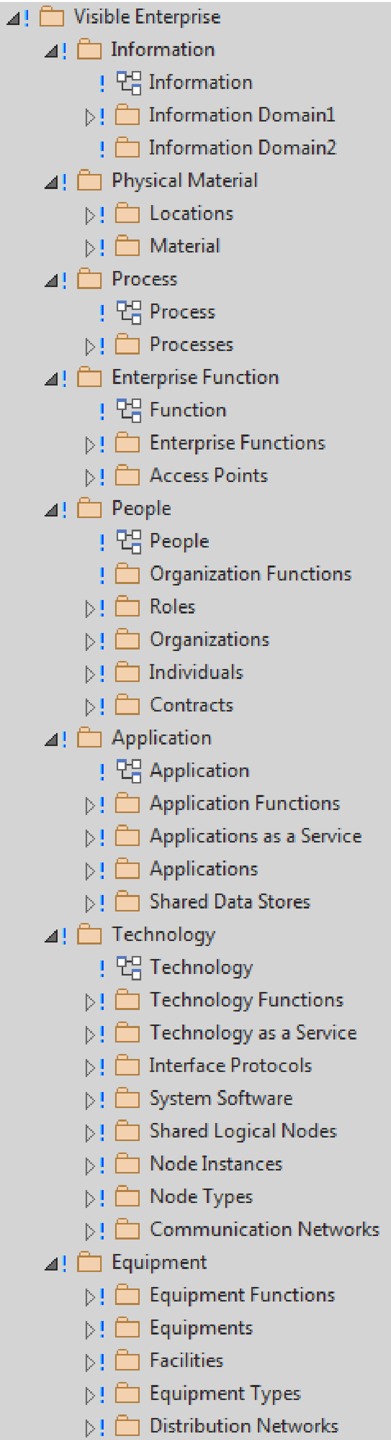


This same formal metamodel is used both for documentation and for model validation

Strategy & Architecture content is classified in a structure of folders



- Vision
  - Vision
  - Corporate Vision
    - Corporate Context
    - Corporate Business Strategy
      - Strategic Foundations
      - Strategic Themes
      - Corporate Strategic Objectives for Y+X
      - Corporate Goals for Y+1
    - Business Model
  - Domain-Specific Vision
    - FD {Domain Acronym} {Domain name}
      - FD {Domain Acronym} {Domain name}
      - Domain Context
      - Domain Goals
      - Demands (for each Functional Area)
      - High-Level Requirements Roadmaps
  - Directives
    - Principles
      - PRP - Principles
      - Business
      - Application
      - Technology
      - Information
      - Security
    - Standards
      - STD - Standards
      - Business
      - Application
      - Technology
      - Information
      - Security



- Visible Enterprise
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    - Enterprise Functions
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    - Roles
    - Organizations
    - Individuals
    - Contracts
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    - Applications as a Service
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    - Technology Functions
    - Technology as a Service
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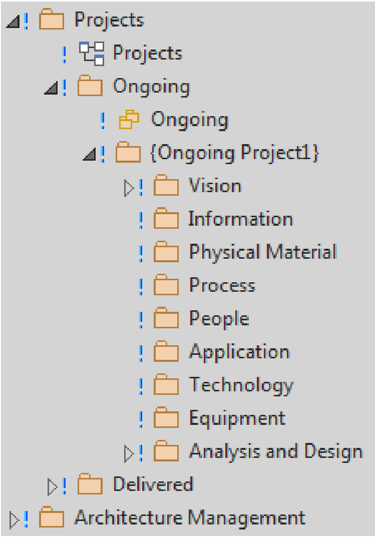
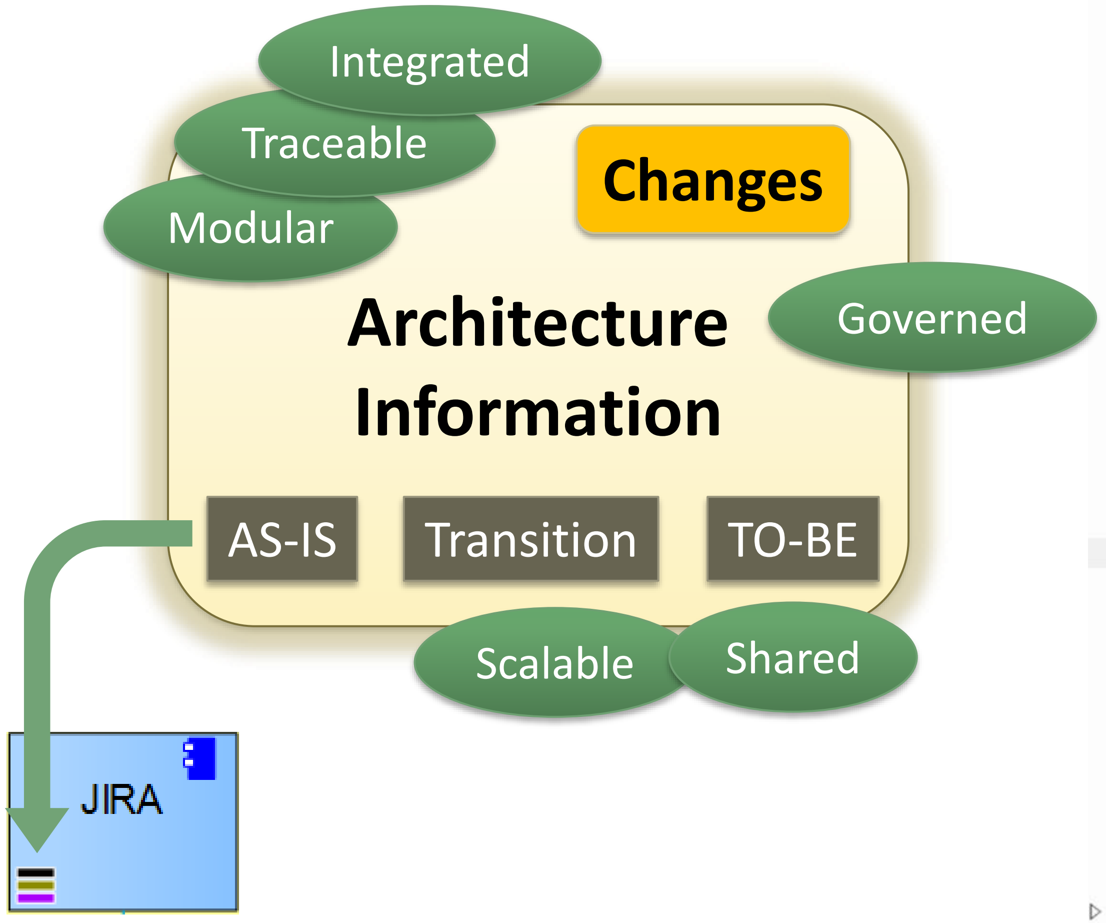
    - System Software
    - Shared Logical Nodes
    - Node Instances
    - Node Types
    - Communication Networks
  - Equipment
    - Equipment Functions
    - Equipments
    - Facilities
    - Equipment Types
    - Distribution Networks

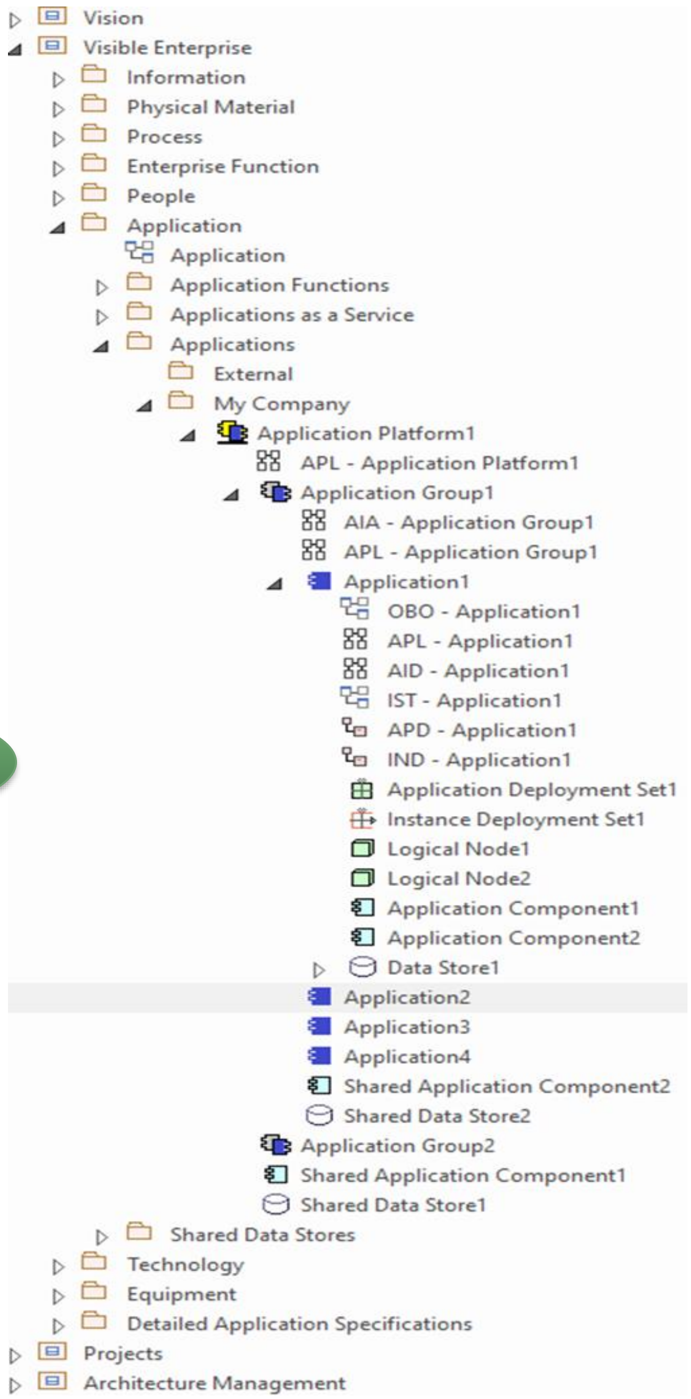


- Projects
  - Projects
  - Ongoing
    - Ongoing
    - {Ongoing Project1}
      - Vision
      - Information
      - Physical Material
      - Process
      - People
      - Application
      - Technology
      - Equipment
      - Analysis and Design
  - Delivered
- Architecture Management

Leaf folders are **catalogs** that contain elements and views

Elements and diagrams are altogether organized in the repository following a **prescribed tree structure**





- Vision
- Visible Enterprise
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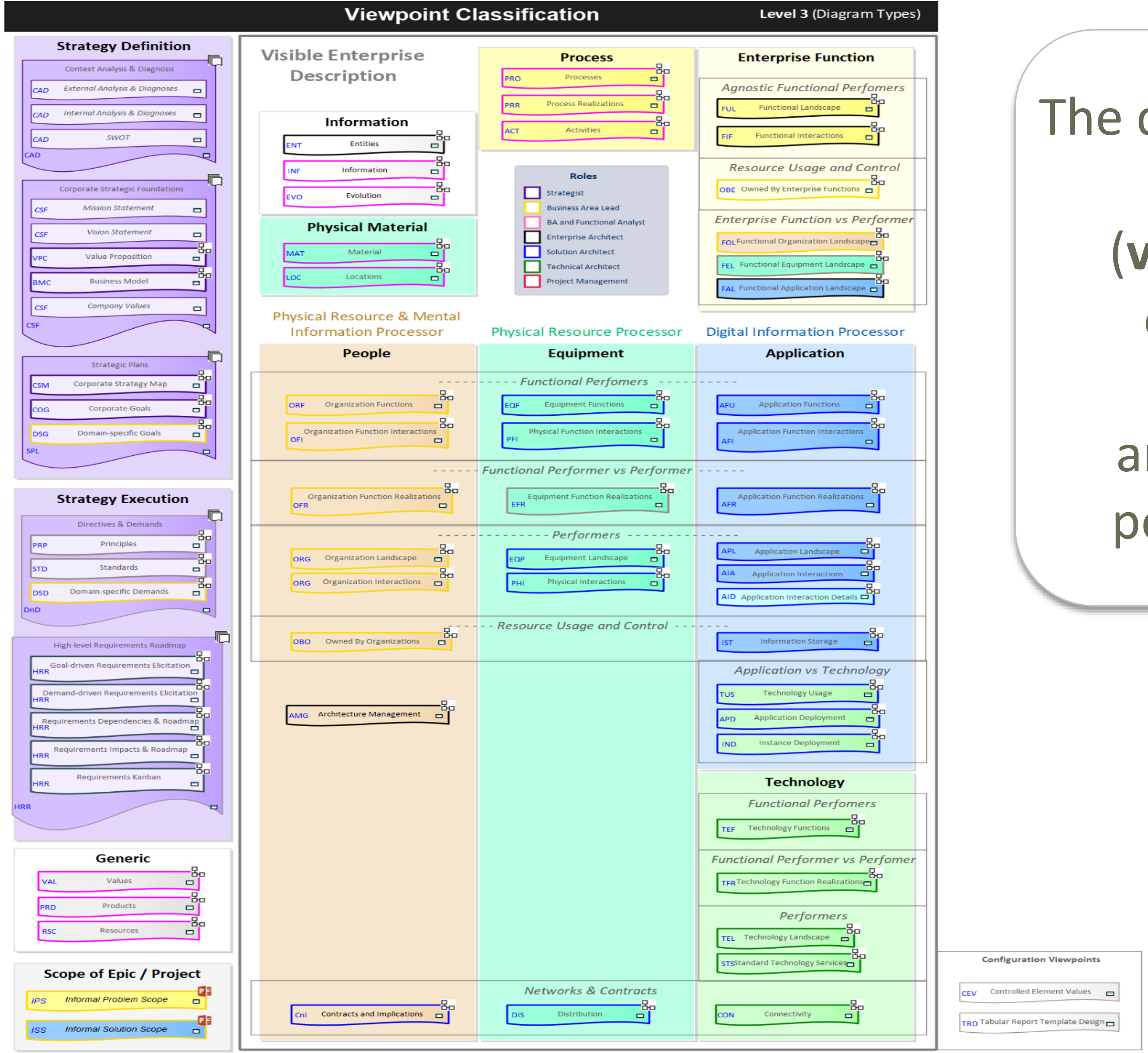
  - Enterprise Function
  - People
  - Application
    - Application
    - Application Functions
    - Applications as a Service
    - Applications
      - External
      - My Company
        - Application Platform1
          - APL - Application Platform1
          - Application Group1
            - AIA - Application Group1
            - APL - Application Group1
            - Application1
              - OBO - Application1
              - APL - Application1
              - AID - Application1
              - IST - Application1
              - APD - Application1
              - IND - Application1
              - Application Deployment Set1
              - Instance Deployment Set1
              - Logical Node1
              - Logical Node2
              - Application Component1
              - Application Component2
              - Data Store1
            - Application2
            - Application3
            - Application4
            - Shared Application Component2
            - Shared Data Store2
          - Application Group2
          - Shared Application Component1
          - Shared Data Store1
    - Shared Data Stores
  - Technology
  - Equipment
  - Detailed Application Specifications
- Projects
- Architecture Management



Viewpoint Classification

Level 3 (Diagram Types)

Strategy Definition

Context Analysis & Diagnosis
- CAD External Analysis & Diagnoses
- CAD Internal Analysis & Diagnoses
- CAD SWOT
- CAD

Corporate Strategic Foundations
- CSF Mission Statement
- CSF Vision Statement
- VPC Value Proposition
- BMC Business Model
- CSF Company Values
- CSF

Strategic Plans
- CSM Corporate Strategy Map
- COG Corporate Goals
- DSG Domain-specific Goals
- SPL

Strategy Execution

Directives & Demands
- PRP Principles
- STD Standards
- DSD Domain-specific Demands
- DnD

High-level Requirements Roadmap
- HRR Goal-driven Requirements Elicitation
- HRR Demand-driven Requirements Elicitation
- HRR Requirements Dependencies & Roadmap
- HRR Requirements Impacts & Roadmap
- HRR Requirements Kanban
- HRR

Generic
- VAL Values
- PRD Products
- RSC Resources

Scope of Epic / Project
- IPS Informal Problem Scope
- ISS Informal Solution Scope

Visible Enterprise Description

Information
- ENT Entities
- INF Information
- EVO Evolution

Physical Material
- MAT Material
- LOC Locations

Process
- PRO Processes
- PRR Process Realizations
- ACT Activities

Roles
- □ Strategist
- □ Business Area Lead
- □ BA and Functional Analyst
- □ Enterprise Architect
- □ Solution Architect
- □ Technical Architect
- □ Project Management

Enterprise Function

Agnostic Functional Perfomers
- FUL Functional Landscape
- FIF Functional Interactions

Resource Usage and Control
- OBE Owned By Enterprise Functions

Enterprise Function vs Performer
- FOL Functional Organization Landscape
- FEL Functional Equipment Landscape
- FAL Functional Application Landscape

Physical Resource & Mental Information Processor

Physical Resource Processor

Digital Information Processor

	People	Equipment	Application
Functional Perfomers	ORF Organization Functions OFI Organization Function Interactions	EQF Equipment Functions PFI Physical Function Interactions	AFU Application Functions AFI Application Function Interactions
Functional Performer vs Performer	OFR Organization Function Realizations	EFR Equipment Function Realizations	AFR Application Function Realizations
Performers	ORG Organization Landscape ORG Organization Interactions	EQP Equipment Landscape PHI Physical Interactions	APL Application Landscape AIA Application Interactions AID Application Interaction Details
Resource Usage and Control	OBO Owned By Organizations		IST Information Storage
	AMG Architecture Management		

Application vs Technology
- TUS Technology Usage
- APD Application Deployment
- IND Instance Deployment

Technology

Functional Perfomers
- TEF Technology Functions

Functional Performer vs Perfomer
- TFR Technology Function Realizations

Performers
- TEL Technology Landscape
- STS Standard Technology Services

Networks & Contracts
- CnI Contracts and Implications
- DIS Distribution
- CON Connectivity

Configuration Viewpoints
- CEV Controlled Element Values
- TRD Tabular Report Template Design

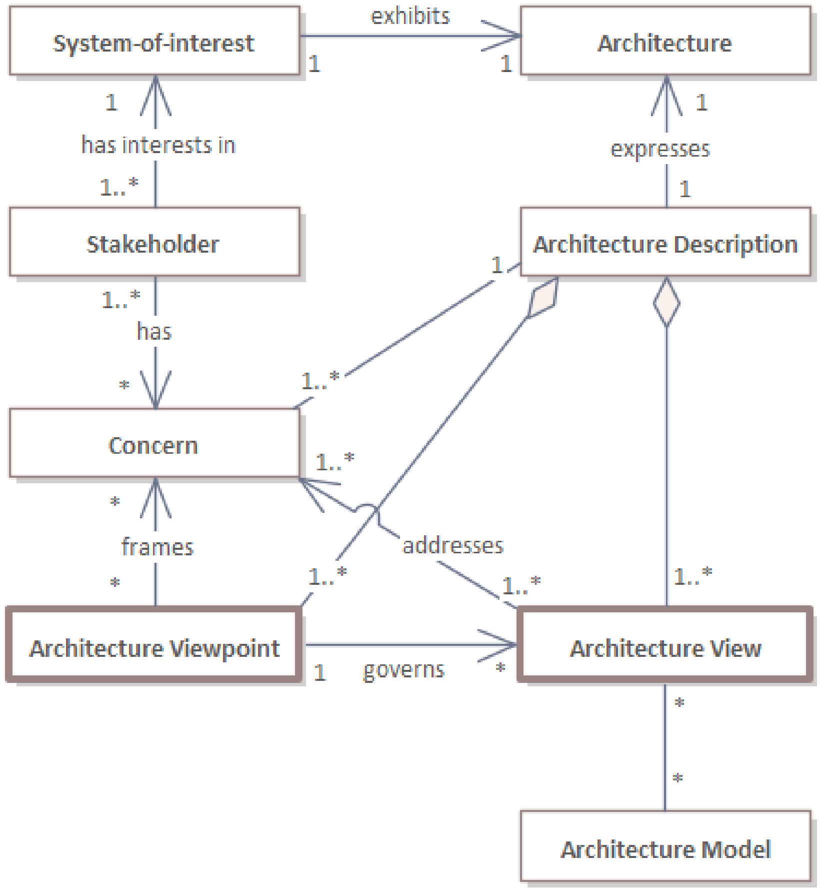
The different types of views (**viewpoints**) organized following architecture perspectives

Views and Viewpoints (ISO/IEC/IEEE 42010)

Purpose of Views and Viewpoints

1. Decompose complex architecture descriptions and make them manageable

2. Separate concerns. So that each concern can be addressed by specific domains of expertise



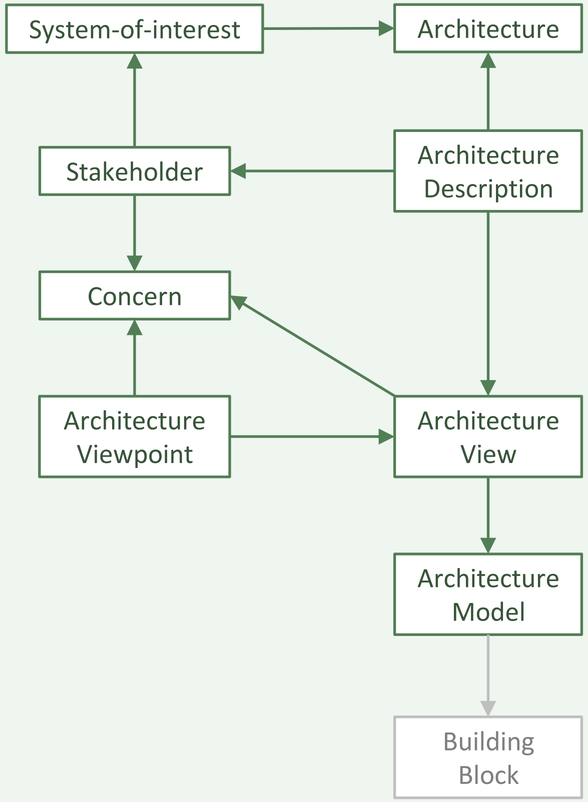
Viewpoints and Views – Textual definitions

Definitions based on Wikipedia

In the engineering of physically intensive systems, viewpoints often correspond to capabilities and responsibilities within the engineering organization.
Most complex system specifications are so extensive that no single individual can fully comprehend all aspects of the specifications. Furthermore, we all have different interests in a given system and different reasons for examining the system's specifications.

- A viewpoint is a systems engineering concept that **describes a partitioning of concerns in system restricted to a particular set of concerns.** Adoption of a viewpoint is usable so that issues in those aspects can be addressed separately. A good selection of viewpoints also partitions the design of the system into specific areas of Expertise. Viewpoints provide the conventions, rules, and languages for constructing, presenting and analysing views.

- A view of a system is **a representation of the system from the perspective of a viewpoint.** This viewpoint on a system involves a perspective focusing on specific concerns regarding the system, which suppresses details to provide a simplified model having only those elements related to the concerns of the viewpoint. It is the sum of all views together that describes a system sufficiently. The view uses the conventions, rules and language defined by the viewpoint to document the relevant aspect of the system.


System-of-interest
Architecture
Stakeholder
Architecture Description
Concern
Architecture Viewpoint
Architecture View
Architecture Model
Building Block