

The EA⁶ Cube

Specification

Version 1.0
5 April 2026

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1. Introduction

“Enterprise Architecture serves as a meta-model and approach that encompasses all dimensions of an enterprise. Strategy drives business, which drives technology.” — John Gøtze, PhD, EA Fellows

This document presents the formal ontology and metamodel specification for the EA⁶ Cube framework, as developed by John Gøtze and taught in the Enterprise Architecture certification courses at Carnegie Mellon University’s Software and Societal Systems Department.

This extended edition adds a deep-dive analysis of each of the six cube faces, including the pivotal structural insight that four of the six faces share an identical five-layer internal structure that mirrors the core EA³ architecture layer stack. This isomorphism is the architectural signature of the EA⁶ framework and distinguishes it from other enterprise architecture approaches.

1.1 Document structure

Section 2 provides a framework overview and the transition from EA³ to EA⁶. Section 3 introduces the structural isomorphism of the six faces. Sections 4 through 10 provide individual deep dives on each face. Section 11 presents the complete class hierarchy, Section 12 the metamodel relations, Section 13 the cross-cutting threads, Section 14 the viewpoint patterns, Section 15 the dimensional axes, and Section 16 the formal ontological properties.

2. Framework Overview

2.1 The EA Cube concept

The EA Cube is a three-dimensional conceptual model used as a conversation starter and documentation framework when describing the structure and function of any large, complex organization. A physical cube has six faces. The classic EA³ Cube uses three of them. EA⁶ names and populates all six, adding three faces concerned with organizational viability and health to the three faces concerned with structure and function.

2.2 From EA³ to EA⁶

Dimension	EA ³	EA ⁶
Focus	Structure and function	Structure, function, health, and viability
Face count	3 (layers, LoB, threads)	6 (all of EA ³ + Org Structure + Risk + Value + People + Products)
Primary use	Conversation starter	Organizational design and multi-org comparison tool
Multi-org	Single organization view	Enables multi-organizational comparison and design

2.3 The unfolded cube

When the EA⁶ Cube is unfolded like a cardboard box into a flat net, the geometric relationships between the six faces become visible in a way that the three-dimensional view does not reveal. Face 1 (Organizational Structure) forms the top, Faces 2, 3, 4, and 5 form the four side faces sharing edges with it in the middle row, and Face 6 (Products & Services) forms the bottom. Face 0 (Architecture Layers) is the front face — the classic EA³ face showing the five-layer vertical stack.

The unfolded view reveals that every face shares an edge with every adjacent face, and that the BU columns from Face 1 run horizontally through all four side faces simultaneously. All four side faces are sliced by exactly the same organizational divisions.

3. The Structural Isomorphism of the Four Side Faces

The central design insight of EA⁶: Faces 2, 3, 4, and 5 each contain exactly five rows, and those rows correspond directly to the five architecture layers of Face 0. Each face is not an arbitrary list of categories — it is the same five-layer vertical axis viewed through a different analytical lens.

When the four side faces of the EA⁶ Cube are examined together — Functional Domains (Face 2), Risk Management (Face 3), Markets & Valuation (Face 4), and Human Capital (Face 5) — a profound structural regularity becomes apparent. All four share an identical five-row internal structure, and those five rows correspond precisely to the five architecture layers of Face 0.

This is not coincidence. It is the fundamental architectural decision that gives the EA⁶ framework its coherence and makes it a genuine metamodel rather than a loose collection of six views. Each face asks a different question about the enterprise, but it asks that question at exactly the same five levels of abstraction.

3.1 The four questions the framework asks at each layer

The five layers of Face 0 represent five levels of abstraction in any enterprise, from strategic intent at the top to physical infrastructure at the bottom. For each level, the four side faces ask:

- **What does this layer DO?:** Face 2 (Functional Domains)
- **What can go WRONG at this layer?:** Face 3 (Risk Management)
- **What is this layer WORTH?:** Face 4 (Markets & Valuation)
- **Who KNOWS HOW to work at this layer?:** Face 5 (People)

3.2 The cross-face layer alignment table

The following table is the key structural artefact of the EA⁶ framework. Each row is an architecture layer. Each column is a face. Reading across a row reveals how a single layer of abstraction manifests across four entirely different dimensions of enterprise analysis.

Architecture Layer (Face 0)	Functional Domain (Face 2)	Risk Category (Face 3)	Value Area (Face 4)	People Area (Face 5)
Strategic Goals	Strategy & Governance	Environment & Scenarios	Competitive Position	Leadership & Governance
Workflows	Business Activities	Process Quality & Controls	Financials & Talent	Business Management
Dataflows	Information Exchanges	Data Privacy & Protection	Intellectual Property	Knowledge Management
Systems	Technology Enablement	System Security	Systems & Capabilities	Project Management
Infrastructure	Supporting Infrastructure	Physical Security	Real Property	Engineering

3.3 What this means in practice

Consider the Strategic Goals layer. In functional terms it is about Strategy & Governance (mission, vision, policy). In risk terms the relevant concern is Environment & Scenarios (geopolitical conditions, macroeconomic disruptions, regulatory shifts). In value terms it maps to Competitive Position (where the organization stands in its market or mission area). And in people terms the relevant knowledge domain is Leadership & Governance (the executive competencies required to direct the enterprise).

These four things are all the same level of abstraction. They are four projections of the strategic layer onto different analytical planes. An architect working at the strategic level is simultaneously working in all four domains and the EA⁶ cube makes that explicit rather than leaving it implicit.

The same logic applies at every layer. At the Infrastructure level, the functional concern is Supporting Infrastructure; the risk concern is Physical Security; the asset value concern is Real Property; and the competency concern is Engineering. These are not four separate topics; they are four facets of the same level of enterprise reality.

This isomorphism is what allows EA⁶ to function as a genuine organizational design tool, not merely a documentation framework. Because all faces share the same layer structure, you can rotate the cube and still see the same organization at the same level of abstraction, just through a different lens.

3.4 The BU axis as the second common dimension

Beyond the five-layer row structure, all four side faces also share the same column structure: the Lines of Business (or Business Units) defined on Face 1. Every cell in every face sits at the intersection of a layer (row) and a BU (column). This means the complete analytical grid for the EA⁶ Cube is a five-layer by N-BU matrix, and each of the four side faces is a fully populated instance of that matrix expressing a different attribute.

This dual-axis regularity — same rows, same columns, different attributes — is the formal metamodel structure of EA⁶. It enables systematic completeness checks (has every BU at every layer been assessed for risk? for value? for required competencies?) that would not be possible if each face were independently structured.

4. Face 0: Architecture Layers (EA³ Core)

Face 0: Architecture Layers — The five-layer vertical stack — the founding axis of the cube

Face 0 is the classic front face of the EA³ Cube. It is the single face that predates the EA⁶ extension and the one from which all other faces derive their row structure. Every cell in the entire cube — on every face — belongs to one of the five layers defined here.

The five layers represent an ordered dependency chain from enterprise intent at the top to physical reality at the bottom. The defining axiom is directional: strategy drives business, which drives technology. This means the upper layers determine what the lower layers must provide, while the lower layers constrain what the upper layers can achieve.

4.1 The five layers

Sub-class / Element	Description
Strategic Goals	The 'why' of the enterprise. Strategic goals, objectives, performance measures, and investment portfolio items. Expressed through mission statements, strategic plans, and OKR frameworks. This layer defines direction and priorities.
Workflows	The 'what' the enterprise does operationally. Business processes, capabilities, service designs, customer journey maps. This layer defines how value is created and delivered through organized human activity.
Dataflows	The 'what' the enterprise knows and moves. Information exchanges, data analysis models, data repositories. This layer defines the information that flows between processes and enables decision-making.
Systems	The 'how' technology is used. Digital capabilities, applications, APM portfolio, data exchanges, data protection controls. This layer defines the technology that enables the dataflows that support the workflows.
Infrastructure	The 'how' technology is hosted. Networks, facilities, hardware assets, equipment, cloud platforms. This layer defines the physical and virtual substrate on which all systems run.

4.2 The layer stack as the shared row structure of the entire cube

As established in Section 3, the five rows of Face 0 are the same five rows used on Faces 2, 3, 4, and 5. Face 0 is therefore not just one face among six — it is the definitional axis that all other faces reference. It is the 'type dimension' of the framework, encoding what level of abstraction is in scope for any given analysis.

Face 0 also establishes the cross-cutting threads as a second axis perpendicular to the layers: Governance, Security & Privacy, Standards, and Skills pierce all five layers simultaneously. These threads are discussed in full in Section 14.

5. Face 1: Organizational Structure

Face 1: Organizational Structure — BUs, governance, and reporting lines

Face 1 is the top face of the cube. Its role is unique: rather than providing rows like the four side faces, it provides the columns — the Lines of Business (LoB) or Business Units (BU) — that run horizontally through every other face. When the cube is assembled, the BU columns defined here are exactly the columns that slice through all four side faces and through Face 0 itself.

This face depicts the major Business Units that make up the organization. Reporting relationships between governance bodies and the BUs are shown through organization charts and role/responsibility matrices.

5.1 Types of Business Unit

EA⁶ recognizes a broad taxonomy of BU types, reflecting the variety of real-world organizational structures:

- Subsidiary whole companies — legally distinct entities within a group
- Internal divisions and departments — the classic hierarchical breakdown
- Stand-alone and integrated lines of business — semi-autonomous product or service streams
- Program and staff offices — cross-functional management units
- Cross-functional teams — temporary or permanent teams cutting across the hierarchy
- Contractors and independent workers — non-employee contributors with persistent relationships
- External partners — suppliers, agencies, or alliance members with ongoing structural relationships

5.2 Governance models

The oversight of BUs is achieved through one of three governance models, which sit on a spectrum from fully unified to fully distributed:

Sub-class / Element	Description
Centralized	A single governance body holds authority over all BUs. Consistent policy enforcement, economies of scale, but limited agility and local responsiveness.
Decentralized	Each BU holds significant autonomy. High local responsiveness and agility, but risk of duplication, inconsistency, and loss of enterprise coherence.
Federated	A hybrid: a central authority sets standards and strategic direction, while BUs retain operational autonomy within those boundaries. The dominant model for large enterprises.

5.3 Organizational design patterns

Beyond the governance spectrum, Face 1 accommodates the full range of contemporary organizational design patterns. The classic hierarchical matrix (functional rows × product line columns) sits alongside the Spotify-model tribe/squad/chapter/guild structure, which componentizes the organization into small autonomous squads aligned to product areas, while chapters and guilds maintain horizontal consistency of craft and culture.

The choice of organizational design pattern is itself an architecture decision, and Face 1 is the place within the EA⁶ framework where that decision is made explicit and documented.

6. Face 2: Functional Domains

Face 2: Functional Domains — Performance capability areas mapped to the layer stack

Face 2 answers the question: what does this organization DO at each layer? It depicts the major performance capability areas, presented hierarchically in sub-architecture domains that align directly to the five layers of Face 0.

The relationship between the domains reflects the core axiom: strategic goals drive business activities and information exchanges, which are enabled by technology systems that are hosted on networks and facilities. There are industry best practices at each domain level, but they must be selected and applied with the whole organization in mind.

6.1 The five functional domains and their layer correspondence

Sub-class / Element	Description
Strategy & Governance [Layer: Strategic Goals]	Mission, vision, goals, policy frameworks, regulatory compliance, investment governance. The 'why' expressed as organizational intent and the structures that enforce it.
Business Activities [Layer: Workflows]	Operational processes, service delivery, workflows, programme execution. Everything the organization actively does to create and deliver value.
Information Exchanges [Layer: Dataflows]	Data flows between domains, APIs, integration points, enterprise information models. How knowledge is captured, moved, and made available for decision-making.
Technology Enablement [Layer: Systems]	Digital platforms, software capabilities, sourcing, application portfolio management. The systems that automate and augment the information exchanges and business activities.
Supporting Infrastructure [Layer: Infrastructure]	Networks, facilities, hardware, cloud hosting, data centres, operational technology. The physical and virtual substrate on which everything else runs.

6.2 Performance Capability as the unifying concept

The left axis of Face 2 carries the label 'Performance Capability' with an arrow running from the Technology level up towards the Strategy level. This indicates that the functional domains are not independent silos — they form a capability stack in which lower domains enable and constrain higher ones.

This upward-pointing arrow is the spatial representation of the core axiom. The arrow does not mean that technology is more important than strategy; it means that technology is the enabling foundation that makes strategy executable. A strategic objective that cannot be supported by the available technology and infrastructure is an aspiration, not a plan.

Face 2 is the functional decomposition of the enterprise. It answers 'what does the organization do?' at five levels of abstraction simultaneously, from governance intent to physical infrastructure.

6.3 Regulatory and resource constraints

Face 2 acknowledges that at every domain level there are government regulations and resource constraints that must be factored into plans and projects. These are not external to the framework — they are part of the domain content at each layer. Regulatory requirements at the Strategy & Governance level (legislation, compliance mandates) cascade downward into requirements at the Business Activities, Information Exchanges, and Technology Enablement levels.

7. Face 3: Risk Management

Face 3: Risk Management — Disruption, tolerance, and control at each layer

Face 3 answers the question: what can go WRONG at each layer? It depicts key areas of risk in each functional domain and in each Business Unit, organized as five risk areas that correspond directly to the five architecture layers.

Organizations want to eliminate or limit disruptions that affect mission success or profitability. Risk derives from uncertainty in predicting or dealing with disruption. Mitigation centres on avoidance or response actions. A holistic approach to managing risk begins at the enterprise level and completes with more detailed procedures at the BU and program levels.

7.1 The five risk areas and their layer correspondence

Sub-class / Element	Description
Environment & Scenarios [Layer: Strategic Goals]	External conditions that disrupt strategic intent: geopolitical events, macroeconomic shifts, regulatory changes, climate events, competitive disruption. These are the risks that threaten the enterprise's reason for existing.
Process Quality & Controls [Layer: Workflows]	Internal operational risks: control failures, audit findings, compliance breaches, quality defects, process breakdowns. These are the risks that arise when the enterprise's activities fail to meet their required standard.
Data Privacy & Protection [Layer: Dataflows]	Information-layer risks: GDPR violations, data breaches, inappropriate data sharing, classification failures. These are the risks specific to the movement, storage, and use of information.
System Security [Layer: Systems]	Technology-layer risks: cyber attacks, application vulnerabilities, access control failures. Addressed through NIST CSF, ISO 27001, OWASP Top 10, CIS Controls, and IEC 62443.
Physical Security [Layer: Infrastructure]	Infrastructure-layer risks: facility breaches, physical asset damage, continuity of operations failures, disaster recovery gaps. These are the risks to the physical substrate of the enterprise.

7.2 The risk mechanics: tolerance, triggers, and mitigation

The Risk Management face introduces three conceptual mechanisms that apply at every risk area:

Sub-class / Element	Description
Tolerance	The acceptable level of exposure to a specific type of disruption and the negative effects that would result. Tolerance is set by governance at the Strategic Goals level and cascades downward.
Trigger	Something that causes a disruption event. Triggers may be external (a cyberattack, a regulatory change) or internal (a process failure, a human error).
Mitigation	The avoidance or response actions taken to reduce the likelihood or impact of a disruption event. Mitigations are controls, procedures, redundancies, and recovery plans.

7.3 Standards and frameworks per layer

Face 3 is where EA⁶ connects to the landscape of risk and security standards. Because the risk areas map to layers, the appropriate standards framework for each risk area is clear:

- Environment & Scenarios: scenario planning, business continuity (ISO 22301), enterprise risk management (COSO ERM)
- Process Quality & Controls: ISO 9001, COBIT, SOX compliance, internal audit frameworks
- Data Privacy & Protection: GDPR, ISO 27701, CCPA, data governance frameworks
- System Security: NIST CSF, ISO 27001/27002, OWASP, CIS Controls, IEC 62443 (OT)
- Physical Security: facility standards, access control systems, business continuity, disaster recovery

Face 3 is structured to enable an Integrated Management System (IMS). Because its five risk areas correspond to the same five layers as the Functional Domains face, an organization can build a single governance structure that addresses operational performance and risk at every level simultaneously.

8. Face 4: Markets & Valuation

Face 4: Markets & Valuation — What the enterprise is worth at each layer

Face 4 answers the question: what is this organization WORTH at each layer? It depicts the public and private sector markets and mission areas that the organization is active in, expressed as five value areas corresponding to the five architecture layers.

For private sector organizations this face captures market valuation (stock price) versus the aggregate sale value if broken up, plus the anticipated value change from mergers, acquisitions, start-ups, and spin-offs. For public sector organizations it captures the liquidation value of all tangible and intangible assets.

8.1 The five value areas and their layer correspondence

Sub-class / Element	Description
Competitive Position [Layer: Strategic Goals]	The organization's standing in its market or mission area: market share, competitive differentiation, brand value, strategic positioning relative to peers. This is the value created at the strategic level.
Financials & Talent [Layer: Workflows]	Revenue streams, cost structures, EBITDA, and talent as a monetized balance-sheet asset. The value generated by the organization's operational activities and its workforce.
Intellectual Property [Layer: Dataflows]	Patents, trademarks, proprietary methods, data assets, trade secrets, and brand equity attributable to information and knowledge. The value of what the organization knows.
Systems & Capabilities [Layer: Systems]	The market or mission value attributable to the organization's technology portfolio and operational capabilities — what would need to be rebuilt if the systems were lost.
Real Property [Layer: Infrastructure]	Physical assets: facilities, land, equipment, hardware owned by the organization. The tangible asset base that forms the foundation of the balance sheet.

8.2 Three valuation methods

Face 4 supports three valuation approaches that can be applied at each value area:

Sub-class / Element	Description
Market Capitalisation	The current market value of the enterprise as a going concern, expressed as the stock price multiplied by shares outstanding. Applicable to publicly listed private-sector organizations.
Liquidation Value	The value that would be realized if all assets were sold individually. Primarily relevant for public-sector organizations where a going-concern market value is not applicable.
Break-up Value	The aggregate value of the individual business units if they were sold or spun off separately. Often higher than market capitalisation, creating M&A opportunity.

8.3 The outside-in perspective

Face 4 introduces the concept of 'outside-in' thinking to the cube. Where Faces 0, 1, 2, 3, and 5 all describe the enterprise from within — its structure, its functions, its risks, its people — Face 4 asks how the enterprise is perceived and valued from the outside: by investors, by markets, by competitors, by regulators.

The 'External Conditions' element visible on the face diagram captures environmental factors — industry dynamics, economic conditions, regulatory trends — that affect valuation but cannot be controlled by the enterprise. This connects Face 4 back to Face 3's Environment & Scenarios risk area at the strategic layer.

Face 4 is the face that makes EA⁶ useful for investment governance, portfolio management, and merger/acquisition analysis. Because its five value areas map to the same five layers as all other faces, a valuation analysis can be directly correlated with functional capability assessments, risk profiles, and talent inventories.

9. Face 5: Human Capital

Face 5: Human Capital — KSAs, culture, and the talent lifecycle at each layer

Face 5 answers the question: who KNOWS HOW to work at each layer? It depicts the Knowledge, Skills, and Abilities (KSAs) needed in each functional domain, organized as five KSA domains corresponding to the five architecture layers.

The KSAs are different for executives, managers, and staff in each area. People are often thought of as the most important and valuable resource of any organization, so full-lifecycle (hire-to-retain) talent management is very important.

9.1 The five KSA domains and their layer correspondence

Sub-class / Element	Description
Leadership & Governance [Layer: Strategic Goals]	Executive competencies, board effectiveness, strategic leadership, governance and decision-making skills. The knowledge required to set and enforce enterprise direction.
Business Management [Layer: Workflows]	Operational management, financial management, programme management, change management, and stakeholder management skills. The knowledge required to run the business activities.
Knowledge Management [Layer: Dataflows]	Institutional knowledge capture, documentation, learning management, information architecture. The skills required to manage the organization's information and intellectual assets.
Project Management [Layer: Systems]	PMO skills, agile delivery, portfolio management, benefit realisation, risk ownership. The skills required to deliver technology change and manage the systems portfolio.
Engineering [Layer: Infrastructure]	Technical architecture, software engineering, data engineering, network engineering, operational technology. The skills required to build and operate the infrastructure.

9.2 The Cultural Core

Face 5 contains a distinctive element that does not appear on the other faces: the Cultural Core. Represented as a dashed ellipse at the centre of the face, it is comprised of the values, norms, beliefs, facts, history, traditions, and methods that exist in each BU and program area.

The Cultural Core is not a layer — it cuts across all five KSA domains. Cultural norms create informal power centres, informal communication channels, and informal processes that run parallel to and sometimes contrary to the formal organizational structure depicted on Face 1. This is why effective organizational design requires understanding both the formal architecture (Face 1) and the cultural reality (Face 5's Cultural Core) simultaneously.

The Cultural Core is surrounded by the talent lifecycle activities that shape and transmit it: Recruitment, Retention & Rewards on the left, and Knowledge/Skills/Abilities acquisition on the right. This reflects that culture is both transmitted through the people who join and reinforced by the systems that develop and retain them.

9.3 The hire-to-retain talent lifecycle

Face 5 is the only face that introduces an explicit lifecycle: hire → develop → retain → retire. This lifecycle applies at every KSA domain level — from engineering talent at the infrastructure layer to

governance competencies at the strategic layer. The full lifecycle must be managed at each level, not just at the points of entry and exit.

Face 5 is the face that makes EA⁶ relevant for HR strategy, talent planning, and organizational capability development. Because its five KSA domains correspond to the same five layers as all other faces, a skills gap analysis on Face 5 can be directly correlated with functional capability requirements on Face 2 and delivery risk on Face 3.

10. Face 6: Products & Services

Face 6: Products & Services — Offerings, channels, and integration topology

Face 6 depicts the tangible or virtual products and services that the organization provides to internal and external customers. It is structurally distinct from the four side faces in that it does not use the five-layer row structure. Instead, it is organized around a two-axis integration topology — vertical integration (within a BU, up and down the value chain) and horizontal integration (across BUs, at the same value chain stage).

Mission success and profitability are maximized through a holistic approach to delivery with a focus on this vertical/horizontal process integration. Architecture methods can help identify gaps and overlaps, support process improvement and reengineering projects, manage change, and handle disruption.

10.1 The four quadrants of Face 6

Sub-class / Element	Description
Customer Relationships (upper-left)	Internal and external customer relationships, CRM, B2B and B2C engagement. The demand side of the value chain — who the organization serves and how.
Supply Chains (upper-right)	End-to-end supply chain management, sourcing, procurement, logistics, vendor management. The supply side of the value chain — what the organization draws on to deliver.
Product & Service Catalogs (lower-left)	Tangible products and virtual or professional services offered to internal or external markets, with full lifecycle management from conception to end-of-life.
Traditional & Online Storefronts (lower-right)	Physical points of presence and digital commerce channels. The delivery mechanisms through which products and services reach the customer.

10.2 The integration topology

The defining feature of Face 6 is its two integration axes:

- Vertical Integration runs from top to bottom on the face, connecting Customer Relationships through the integration layer down to the storefronts. It represents how the organization integrates value creation within a single BU, from the customer need at the top to the delivery mechanism at the bottom.
- Horizontal Integration runs from left to right across the face, connecting Customer Relationships and Supply Chains, and connecting Product Catalogs to Storefronts. It represents how the organization integrates across BUs at the same stage of the value chain, for example, a shared online storefront serving multiple BUs.

The BU columns from Face 1 (labeled BU-D, BU-C, BU-B, BU-A on the face diagram) run vertically through the integration topology, making it possible to see which BUs share which storefronts or supply chains and which operate independently.

10.3 The B2B range and the enterprise's value chain

The right edge of Face 6 carries a 'B2B range of relationships' label, and the bottom edge shows the 'range of enterprise's value chain.' These labels signal that Face 6 is not just an internal view — it explicitly extends to the boundary with the external world. The integration topology reaches

from internal supply chains on one side to external customer relationships and B2B partnerships on the other.

This external orientation connects Face 6 back to Face 4 (Markets & Valuation), specifically to Competitive Position and to the distinction between market capitalisation and break-up value: the more vertically integrated a BU's value chain, the higher its standalone break-up value; the more it shares horizontal infrastructure with other BUs, the more efficiency gains are available but the more complex the separation cost.

11. Full Class Hierarchy

The following class hierarchy presents the complete EA⁶ metamodel in formal tree notation. Classes are shown in hierarchical containment order. EACube is the root class. All face classes are direct children. Enumeration values are shown in braces {}.

```

EACube
  hasFace: ArchitectureLayerFace           // Face 0 – the 5-layer stack
    StrategicGoals
      StrategicGoal | PerformanceMeasure | InvestmentPortfolioItem
    Workflows
      BusinessProcess | Capability | ServiceDesign | CustomerJourneyMap
    Dataflows
      InformationExchange | DataAnalysisModel | DataRepository
    Systems
      DigitalCapability | Application | DataExchange | DataProtectionControl
    Infrastructure
      Network | Facility | HardwareAsset | CloudPlatform

  hasFace: OrganizationalStructureFace     // Face 1
    BusinessUnit
      Subsidiary | Division | Department | Team | Individual
      CrossFunctionalTeam | ExternalPartner
    GovernanceBody
    GovernanceModel {centralized|decentralized|federated}
    OrgChart | RoleMatrix

  hasFace: FunctionalDomainFace           // Face 2
    FunctionalDomain
      StrategyAndGovernance | BusinessActivities | InformationExchanges
      TechnologyEnablement | SupportingInfrastructure
    PerformanceCapability

  hasFace: RiskManagementFace             // Face 3
    RiskArea
      EnvironmentAndScenarios | ProcessQualityAndControls
      DataPrivacyAndProtection | SystemSecurity | PhysicalSecurity
    RiskEvent {trigger|disruption|mitigation}
    RiskTolerance | RiskControl

  hasFace: MarketsAndValuationFace        // Face 4
    MarketArea
      CompetitivePosition | FinancialsAndTalent | IntellectualProperty
      SystemsAndCapabilities | RealProperty
    ValuationType {marketCap|liquidationValue|breakupValue}

  hasFace: HumanCapitalFace                // Face 5
    KSADomain
      LeadershipAndGovernance | BusinessManagement | KnowledgeManagement
      ProjectManagement | Engineering
    CulturalCore
      Values | Norms | Beliefs | History | Traditions
    TalentLifecycle {hire->develop->retain->retire}

  hasFace: ProductsAndServicesFace        // Face 6
    Offering
      ProductCatalogItem | ServiceCatalogItem
    Channel
      TraditionalStorefront | OnlineStorefront
    ValueChain
      CustomerRelationship | SupplyChain
    IntegrationTopology
      HorizontalIntegration | VerticalIntegration

// Cross-cutting meta-classes
CubeCell (intersection: ArchLayer x LoB x Thread)

```

```
locatedAt: ArchitectureLayer  
locatedAt: LineOfBusiness  
constrainedBy: CrossCuttingThread [0..*]  
contains: ArchitectureArtifact [0..*]
```

CrossCuttingThread

Governance | SecurityAndPrivacy | Standards | Skills

LineOfBusiness (organization-specific; 1..N instances)

12. Metamodel Relations

The following table defines all relations in the EA⁶ metamodel. Each relation has a name, domain (source class), range (target class), and a precise semantic description.

Relation	Domain → Range	Semantics
supports	ArchLayer (lower) → ArchLayer (upper)	Infrastructure enables Systems; Systems enable Dataflows; Dataflows enable Workflows; Workflows fulfil Strategic Goals.
realizes	ArchArtifact → Capability	A concrete system or process enacts an organizational capability.
constrains	CrossCuttingThread → CubeCell	Governance / Security / Standards / Skills applies across all layers and all LoB columns.
alignsWith	CubeCell → StrategicGoal	An artifact traces back to a mission objective, establishing line-of-sight.
allocatedTo	FunctionalDomain → BusinessUnit	Responsibility for a capability domain is owned by a specific BU.
exposedTo	BusinessUnit → RiskArea	A BU faces specific categories of disruption requiring targeted controls.
mitigatedBy	RiskArea → RiskControl	A risk category is addressed by specific controls, standards, or processes.
valuedBy	BusinessUnit → ValuationType	A BU is assessed via market cap, liquidation, or break-up value.
staffedWith	FunctionalDomain → KSADomain	A functional domain requires specific KSAs at each organisational level.
deliveredThrough	Offering → Channel	A product or service reaches the customer via a specific delivery channel.
scaledTo	EACube → EACube	Nested cubes — enterprise → department → division → program.
comparesWith	EACube → EACube	Multi-org comparison using the shared EA ⁶ face structure as a common vocabulary.
drives	Strategy → Business	Strategic goals determine what business activities are run. Top-down causality.
enables	Technology → Business	Technology provides the enablement and resources business activities depend on.

13. Cross-Cutting Threads

Cross-cutting threads are architectural concerns that pierce all five architecture layers and all Lines of Business simultaneously. They are not confined to any single face — they constrain CubeCells across the entire framework.

Thread	Role	Key Standards
Governance	Policy mandates, legislative compliance, strategic direction, investment review, accountability frameworks.	COBIT, ISO 38500, Board charters
Security & Privacy	Risk posture, access control, data protection by design, cyber-resilience, classification frameworks.	NIST CSF, ISO 27001, ISO 27701, GDPR
Standards	Technical and interoperability standards, reference models, API contracts, data standards.	OpenAPI, ISO standards, TOGAF Principles, FEAF
Skills	Workforce competencies, training, capability development, knowledge transfer.	SFIA, TOGAF Certification, ITIL, Agile frameworks

14. Composite Viewpoints and Design Patterns

A physical cube has six faces, but only three faces are visible from any single viewpoint. This geometric constraint has a direct epistemic consequence for the EA⁶ Cube: every analytical exercise, design workshop, or governance review implicitly selects three faces as its primary frame. Choosing which three faces to examine is itself an architectural decision — it determines what kinds of questions can be asked and what kinds of answers can be obtained.

Only 3 of the 6 faces can be seen from any one viewpoint. This is not a limitation — it is a feature. It forces explicit choices about which dimensions of the enterprise are in scope for a given analysis, preventing scope creep and maintaining analytical focus.

In the following we will apply these terms:

Viewpoint (geometric) — used when referring to the literal corner of the cube from which exactly three faces are visible.

Composite viewpoint (formal term, ISO 42010-compatible) — used to describe any composite viewpoint as defined by its three-face selection.

CV-N — shorthand for cross-references within prose (e.g. "CV-6: Structure + Risk + People").

Design pattern — unchanged throughout: the named enterprise challenge that becomes tractable from a given composite viewpoint.

14.1 C(6,3): how many composite viewpoints are possible?

The notation C(6,3) means “6 choose 3” — the number of distinct ways to select 3 items from a set of 6 where order does not matter. The general formula is:

$$C(n, k) = n! / (k! \times (n-k)!)$$

Applied to the EA⁶ Cube with six named faces and three visible at a time:

$$C(6, 3) = 6! / (3! \times 3!) = (6 \times 5 \times 4) / (3 \times 2 \times 1) = 120 / 6 = 20$$

There are therefore exactly 20 distinct viewpoints possible on the EA⁶ Cube. This edition defines three design patterns for every one of the 20 combinations, making the full combinatorial space of the framework actionable.

14.2 Face shorthand labels

Face	Full name	Shorthand
Face 1	Organizational Structure	Structure
Face 2	Functional Domains	Function
Face 3	Risk Management	Risk
Face 4	Markets & Valuation	Value
Face 5	Human Capital	People
Face 6	Products & Services	Product

14.3 Overview: all 20 composite viewpoints

The following table lists all 20 composite viewpoints, each defined by the three faces it brings into scope. All 20 carry defined design patterns in section 14.5.

#	Composite viewpoint — face selection	Anchor question
1	Structure + Function + Risk	Who does what, and where are the risks in that assignment?
2	Structure + Function + Value	Who does what, and what is each unit worth?
3	Structure + Function + People	Who does what, with which talent?
4	Structure + Function + Product	Who does what to deliver which offerings?
5	Structure + Risk + Value	Who is exposed to which risks, affecting what value?
6	Structure + Risk + People	Who owns which risks, and who carries those responsibilities?
7	Structure + Risk + Product	Who is responsible for risks in which product lines?
8	Structure + Value + People	Who creates what value, through which people?
9	Structure + Value + Product	Who delivers which offerings, and at what value?
10	Structure + People + Product	Who delivers which products with which talent?
11	Function + Risk + Value	Which capabilities carry which risks to what value?
12	Function + Risk + People	Which capabilities require which skills, and where are competency-driven risks?
13	Function + Risk + Product	Which capabilities deliver which offerings, and what can go wrong?
14	Function + Value + People	Which capabilities create what value, delivered by which people?
15	Function + Value + Product	Which capabilities enable which offerings at what value?
16	Function + People + Product	Which capabilities, delivered by which talent, produce which offerings?
17	Risk + Value + People	What risks threaten what value, and who is accountable?
18	Risk + Value + Product	What risks affect which products and at what cost to value?
19	Risk + People + Product	What risks are inherent in offerings, and who knows how to manage them?
20	Value + People + Product	What does the enterprise offer, through whom, at what worth?

14.4 The eight corner composite viewpoints

The three opposite-face pairs

The six faces of the EA⁶ Cube are not arbitrarily arranged. Following the convention of a standard die — where opposite faces always sum to seven — the six faces form three complementary pairs. This is not incidental: the framework uses the dice metaphor explicitly throughout, and the mathematical property of the die ($1+6=7$, $2+5=7$, $3+4=7$) encodes a deep architectural logic.

Pair	Face	Opposite face	The complementary tension
A	Structure (1)	Product (6)	Internal form ↔ External offering
B	Function (2)	People (5)	What is done ↔ Who does it
C	Risk (3)	Value (4)	What can go wrong ↔ What it is worth

Each pair captures one fundamental dimension of any enterprise. Pair A is the organizational axis: how the enterprise is structured internally versus how it presents to the world. Pair B is the operational axis: the capabilities and processes versus the people who carry them. Pair C is the health axis: the downside exposure versus the upside position. These three dimensions are independent of each other. Knowing the Structure face tells you nothing about the Product face, because internal form and external offering can diverge dramatically; knowing the Risk face tells

you nothing about the Value face, because high-risk organizations can be highly valued and low-risk ones of negligible worth.

The geometric property of corner viewpoints

A physical cube has eight corners. From each corner, exactly three faces are simultaneously visible — and the three visible faces are always one from each opposite-face pair. This is a hard geometric constraint: you can never see both Structure and Product from the same corner, never both Function and People, never both Risk and Value, because opposite faces point away from each other.

The eight corner composite viewpoints of the EA⁶ Cube are exactly these eight combinations, each selecting one face from each of the three pairs. Crucially, the original eight canonical composite viewpoints identified in the framework are precisely these eight corner combinations and no others — their canonicity is not arbitrary but geometrically grounded.

CV	From Pair A	From Pair B	From Pair C	Label
CV-1	Structure	Function	Risk	Governance and control
CV-2	Structure	Function	Value	Portfolio and operating model
CV-6	Structure	People	Risk	Accountability and exposure
CV-8	Structure	People	Value	Human dimension of value
CV-13	Product	Function	Risk	Delivery and lifecycle
CV-15	Product	Function	Value	Investment and innovation
CV-19	Product	People	Risk	Design responsibility
CV-20	Product	People	Value	Market-facing strategy

Why corner composite viewpoints constitute clean architecture

The eight corner composite viewpoints have three structural properties that distinguish them from the twelve non-corner composite viewpoints and that make them the recommended starting point for any EA⁶ analysis.

Complete dimensional coverage. Each corner composite viewpoint includes exactly one face from each of the three fundamental pairs. No dimension of the enterprise is invisible. The analyst always has one organizational face (Structure or Product), one operational face (Function or People), and one health face (Risk or Value) simultaneously in scope. There are no blind spots in any of the three axes.

No dimensional redundancy. Conversely, no pair is represented twice. Structure and Product represent opposite orientations — internal form versus external offering — and including both in a single composite viewpoint creates an analytical tension that can obscure rather than illuminate. The corner composite viewpoints avoid this by selecting exactly one orientation per dimension. The analysis is not pulled in conflicting directions.

ISO 42010 orthogonality. ISO 42010:2022 requires that architecture viewpoints address distinct stakeholder concerns in a non-redundant way. The corner composite viewpoints satisfy this naturally: each pair's contribution is orthogonal to the others, no concern dimension is left unaddressed, and no dimension is counted twice. An architecture programme built around corner composite viewpoints is therefore well-formed in the ISO 42010 sense.

The twelve non-corner composite viewpoints

The twelve remaining composite viewpoints each include both faces from one pair and neither face from the opposite pair. In geometric terms they are edge composite viewpoints — positions along the edges of the cube rather than at its corners. Each has a characteristic analytical imbalance:

- One pair is fully represented — both faces visible, the full tension of that dimension in scope
- One pair is partially represented — one face visible, a single orientation of that dimension in scope
- One pair is entirely absent — neither face visible, that dimension of the enterprise completely blind

This imbalance is not a defect; it is a specialization. Edge composite viewpoints are useful precisely when one dimension is the central question and another is intentionally excluded. CV-5 (Structure + Risk + Value), for example, brings organizational form and the risk-value health axis into sharp focus while excluding the operational dimension entirely — appropriate for a board-level risk-to-value governance discussion where operational detail would distract. The twelve edge composite viewpoints are the right choice when that kind of deliberate narrowing is warranted.

In most enterprise architecture programmes, begin with corner composite viewpoints. They provide balanced, ISO 42010-compatible coverage of all three fundamental dimensions. Select edge composite viewpoints deliberately, with awareness that one dimension will be intensified and one will be invisible. Programmes that rely exclusively on edge composite viewpoints risk systematic blind spots.

14.5 All twenty composite viewpoints with design patterns

Each composite viewpoint is described with a framing paragraph explaining how the three selected faces interact conceptually, followed by three design patterns. Each pattern names a real enterprise challenge and explains how that specific face selection makes the challenge tractable in ways that a single-face or two-face analysis cannot.

CV-1 — Structure + Function + Risk

Who (Structure) does what (Function), and where are the risks in that assignment (Risk)? This is the governance and control composite viewpoint. It answers the three questions every assurance body asks: who is accountable, for what activity, and what can go wrong. Because the five rows of Face 2 and Face 3 are isomorphic — each functional domain has a corresponding risk area at the same layer — the composite viewpoint supports single-audit frameworks that address multiple compliance requirements simultaneously.

Design patterns

Integrated Management System

Combining ISO 9001 (quality), ISO 27001 (information security), ISO 45001 (occupational health & safety), and ISO 22301 (business continuity) into a single governance structure. The composite viewpoint maps BU accountability (Structure), the functional processes being controlled (Function), and the risk areas each standard addresses (Risk). The layer isomorphism of Faces 2 and 3 means each standard maps to the same layers and BUs, enabling a single audit cycle to address multiple compliance requirements without duplication.

Business continuity planning

Which BUs perform which critical functions, and what disruption risks threaten those functions? This pattern ensures BCPs are both functionally complete — covering all capability areas at every layer — and structurally anchored, with unambiguous BU ownership of each continuity obligation. The layer correspondence means that for each function at each layer, the corresponding disruption risk is already identified on Face 3, making gap analysis direct and systematic.

Regulatory compliance framework

Assigning accountability for regulatory compliance to specific BUs for specific functional domains with defined risk controls at each layer. Applied when a new regulation arrives — DORA, NIS2, EU AI Act, CSRD — and the organization must decide who owns what, where the risks lie, and which processes need changing. The composite viewpoint prevents compliance programmes that assign accountability without mapping it to specific functions, or that address risks without grounding them in BU ownership.

CV-2 — Structure + Function + Value

Which BUs (Structure) perform which capabilities (Function), and what does each unit contribute to enterprise value (Value)? This is the portfolio design composite viewpoint. It contains no Risk face and no People face, making it the right lens when the primary question is organizational efficiency and value allocation rather than compliance or talent. It surfaces imbalances between functional investment and value return across the enterprise portfolio.

Design patterns

Shared services design

Which functional capabilities are currently replicated across multiple BUs at what combined cost and value drag? The composite viewpoint identifies where consolidation creates economies of scale without unacceptable loss of local responsiveness. It prevents shared services decisions from being made on functional efficiency alone (Face 2) without considering BU accountability implications (Face 1) and the net value impact (Face 4). The layer structure ensures consolidation is evaluated at each level independently.

Target operating model design

Defining the destination state of a transformation: which BUs should own which functional domains, what value each BU should contribute, and where functional responsibilities must move to achieve the target. Used in post-merger integration, major restructuring, and operating model reviews. The composite viewpoint ensures the target model is evaluated on org design, functional efficiency, and value contribution simultaneously rather than optimizing any one dimension in isolation.

Design patterns**Portfolio rationalization**

Which BUs contribute value disproportionate to their functional cost? Which are functionally duplicated without commensurate return? This pattern supports build/buy/partner/divest decisions at portfolio level, surfacing the ‘hidden gem’ BU that delivers high value from a lean functional footprint and the ‘value trap’ BU that consumes significant functional investment without equivalent return. Applied in annual portfolio reviews and strategic planning cycles.

CV-3 — Structure + Function + People

Which BUs (Structure) perform which capabilities (Function), staffed with which knowledge and talent (People)? This is the organizational capability composite viewpoint. It asks not just what the organization does and who owns it, but whether the people doing it have what it takes. Contains no Risk face and no Value face, making it the right lens for workforce planning and learning architecture questions that need to be grounded in functional reality rather than abstract HR categories.

Design patterns**HR operating model design**

Aligning talent architecture to functional domains across BUs: which competency clusters belong where in the org structure, how roles should be designed to cover the required functional capabilities, and where dual reporting or matrix arrangements are needed to share specialist talent across BUs. The composite viewpoint prevents HR operating models from being designed around org charts alone, disconnected from the actual functional work the organization does and the skills required to do it.

Capability development planning

Identifying skill gaps by BU and functional domain, then building learning and development programmes that address those gaps at the right organizational level. The layer structure is powerful here: a skill gap at the Strategic Goals layer (leadership capabilities in Strategy & Governance) requires very different interventions than a gap at the Infrastructure layer (engineering skills in Supporting Infrastructure). The composite viewpoint ensures development investment is targeted and traceable to specific functional outcomes.

Organizational learning architecture

Designing the systems, communities of practice, and knowledge-sharing mechanisms that allow learning generated in one BU to flow to others performing similar functional capabilities. The three faces together define the routing logic: which BUs (Structure) performing which functions (Function) need access to which bodies of knowledge and skill (People). Applied when building centres of excellence, practice communities, or enterprise knowledge management platforms.

CV-4 — Structure + Function + Product

Which BUs (Structure) perform which capabilities (Function) to deliver which products and services (Product)? This is the service ownership composite viewpoint. It traces the connection from organizational accountability through functional capability to customer-facing offering, making explicit which capabilities are genuinely required to sustain each product and which BU is accountable for each. Contains no Risk, Value, or People face, making it the right lens for product operating model questions.

Design patterns**Service ownership model**

Assigning clear ownership of each product or service in the catalog to a specific BU, with defined functional accountability for each component of its delivery. The composite viewpoint prevents the common failure mode in which a product has a business owner but no clear functional accountability for the capabilities that sustain it — leading to capability gaps that only become

Design patterns

visible when the product fails. Used in IT service management, product management frameworks, and operating model design.

Outsourcing decision framework

Deciding which combinations of BU ownership, functional capability, and product delivery to retain in-house versus outsource or partner. The composite viewpoint structures the decision: is the BU the right owner (Structure)? Is the functional capability a differentiator or a commodity (Function)? Does the product's delivery quality depend on in-house execution of this capability (Product)? The intersection of all three is the decision space: outsource only capabilities that are non-differentiating and not critical to product quality.

Product portfolio architecture

Mapping which functional capabilities (and at which layers) are required to deliver each product line, and which BUs own those capabilities — producing a complete capability-to-product traceability matrix. Used in portfolio governance, product investment decisions, and when rationalizing a product catalog to eliminate offerings that require disproportionate functional investment relative to their product value.

CV-5 — Structure + Risk + Value

Which BUs (Structure) are exposed to which risks (Risk) that affect their value (Value)? This is the risk-adjusted value composite viewpoint. It connects organizational accountability for risk directly to the financial or mission consequence of that risk, enabling disciplined capital allocation and investment prioritization. Contains no Function or People face, making it the right lens for board-level portfolio governance and investment committee decisions.

Design patterns**Risk-adjusted valuation**

Calculating the value of each BU net of its risk exposure: a BU with high gross value but concentrated risk in Environment & Scenarios or System Security may have a materially lower risk-adjusted value than its balance sheet suggests. Used in investment decisions, M&A pricing, and internal capital allocation. The layer structure of Faces 3 and 4 ensures the risk adjustment is applied at the right level — strategic risk discounts competitive position; infrastructure risk discounts real property and systems value.

Capital allocation

Allocating investment and capital across BUs based on their risk-return profile: directing capital toward BUs with high value potential and manageable risk, and away from BUs where risk exposure is disproportionate to value contribution. The composite viewpoint operationalises portfolio theory at the enterprise architecture level, grounding financial allocation decisions in organizational structure and risk architecture rather than historical spend patterns.

Portfolio stress testing

Simulating how specific risk scenarios — a regulatory change, a cyber incident, a market disruption — affect the valuation of each BU in the enterprise portfolio. The composite viewpoint structures the stress test: which BUs (Structure) are exposed to the scenario risk (Risk), and how much value (Value) is at stake in each? Used in board risk reporting, ICAAP/ILAAP processes, and enterprise resilience planning.

CV-6 — Structure + Risk + People

Who is organizationally responsible (Structure), for which risks (Risk), and which people carry those responsibilities and vulnerabilities (People)? This is the accountability and exposure composite viewpoint. It explicitly links organizational structure, risk ownership, and the human dimension of risk — making it the natural lens for any governance question that involves both organizational accountability and the people who hold or create risk.

Design patterns

GDPR compliance

Mapping data controller and processor accountability: which BU owns which personal data processing activity (Structure), what are the privacy and security risks at each layer (Risk: Data Privacy & Protection, System Security), and which people must be designated as Data Protection Officers, trained, or subject to access controls (People). The composite viewpoint makes GDPR a structural question rather than a legal one, anchoring compliance in organizational accountability. The layer structure ensures obligations are addressed at each level from strategic data governance to physical data centre access.

Key person risk

Where are critical competencies or governance roles concentrated in a single individual or small team, and what risk does that concentration create? Unlike succession planning (CV-8, which focuses on value loss), this pattern focuses on risk: the BU is exposed not because value will decline but because a control, a compliance obligation, or a critical knowledge dependency will be broken. Used in operational risk assessments, key person insurance decisions, and knowledge retention programmes.

Insider threat programme

Which organizational units have access to sensitive systems or data (Structure), what are the technical and behavioural risk indicators associated with that access (Risk), and who — by competency, role, and cultural alignment — is the relevant population (People)? Used to design insider threat detection and response programmes that are legally defensible and proportionate, grounded in the architectural intersection of organizational access, risk typology, and human behaviour rather than blanket surveillance.

CV-7 — Structure + Risk + Product

Which BUs (Structure) are responsible for which risks (Risk) embedded in which products and services (Product)? This is the product safety governance composite viewpoint. It asks who is accountable when a product causes harm or fails to meet regulatory requirements, linking organizational ownership to risk exposure to specific offerings. Contains no Function, Value, or People face, making it the right lens for product governance, regulatory affairs, and recall management.

Design patterns

Product safety governance

Assigning product liability and safety accountability to specific BUs for specific product lines, with risk controls defined at each layer — from strategic regulatory compliance obligations down to physical product safety standards. The composite viewpoint structures the governance framework: which BU is the product safety owner (Structure), what are the risk categories that apply to this product (Risk at each layer), and which specific offerings are in scope (Product)? Applied in regulated industries: pharmaceuticals, medical devices, financial services, food, and increasingly AI systems.

Product recall and incident management

Knowing, before an incident occurs, exactly which BU owns accountability for which product when a recall or safety event happens. The composite viewpoint maps organizational responsibility (Structure) to risk scenarios (Risk) to specific offerings (Product), so that when a trigger event fires, the accountability chain is unambiguous and the scope of the incident can be rapidly determined. Organisations without this architecture tend to discover accountability gaps in the worst possible circumstances.

Regulated product portfolio management

Managing the compliance obligations associated with a portfolio of regulated products across multiple BUs: which BU holds which regulatory approvals, what risk exposure arises from regulatory change or non-compliance at each product layer, and which products are affected? Used in pharmaceutical portfolio management (marketing authorisations by BU), financial services

Design patterns

(product approval and regulatory capital by BU), and defence (export control by product line and responsible entity).

CV-8 — Structure + Value + People

Organizational units (Structure) are staffed with people whose knowledge and culture (People) create and capture value (Value). This is the human dimension of value creation composite viewpoint. It is the only canonical composite viewpoint that pairs valuation directly with the people face, making it the natural lens for any question about how talent drives enterprise worth and how organizational design shapes value capture.

Design patterns**Benefit realization**

Change programmes promise value, but whether that value is actually captured depends on whether the right BUs own it and whether those BUs have the people with the skills to deliver and sustain it. This pattern maps promised benefits (Value) to responsible BUs (Structure) and audits whether the required human capital is in place (People). It prevents the common failure mode where a programme delivers its outputs but the organization lacks the absorptive capacity to realize the intended benefits.

M&A due diligence

When assessing an acquisition target, this composite viewpoint frames three of the most critical questions simultaneously: what is the organizational structure being acquired (Structure)? What is it worth — as a going concern, in liquidation, and at break-up (Value)? And what talent is acquired or at risk of departing post-close (People)? The intersection prevents the classic M&A error of overpaying for an organizational structure whose value depends on key people who will not remain after the transaction closes.

Succession planning

Who in the organization carries the competencies that drive value at the strategic level? Where are key-person dependencies concentrated in specific BUs? This pattern surfaces single points of failure in leadership and governance that create valuation risk. The composite viewpoint ensures succession planning is not just an HR exercise (who replaces whom) but an architectural one: which BU-level competencies are critical to which value areas, and how resilient is each unit to the loss of key individuals?

CV-9 — Structure + Value + Product

Which BUs (Structure) deliver which products and services (Product) and what is the market or mission value of each offering (Value)? This is the market segmentation and divestiture composite viewpoint. It connects organizational structure to the customer-facing offering portfolio and to the value each combination creates, without entering the functional delivery mechanisms (no Function face) or the people dimension (no People face). The right lens for external market strategy.

Design patterns**Market segmentation architecture**

Aligning BU structure with the product/service portfolio and the market segments each serves, ensuring the organizational design reflects the real economic boundaries of the business rather than historical accident. Where a single BU serves multiple market segments with very different value propositions, the composite viewpoint reveals the misalignment: the value face will show divergent value types (e.g., market-cap logic vs. mission-liquidation logic) that the current BU structure conflates.

Pricing and margin management

Design patterns

Understanding which BUs contribute what margin through which products, enabling price differentiation by BU, customer segment, or offering tier. The composite viewpoint structures the analysis: which organizational unit (Structure) is responsible for which offering (Product), and what is the value — revenue, margin, market position — that offering generates (Value)? Used in pricing strategy reviews, contract renegotiations, and bundling/unbundling decisions.

Divestiture analysis

Identifying which BU-product combinations to exit based on value contribution, strategic fit, and structural separation feasibility. The composite viewpoint answers: can the BU be cleanly separated (Structure: is it organizationally self-contained)? Are the products it delivers transferable or dependent on shared infrastructure (Product: are the offerings portable)? And does the combination generate sufficient value to justify retention or attract a credible acquirer (Value)? Used in corporate portfolio reviews and private equity exit planning.

CV-10 — Structure + People + Product

Which BUs (Structure), staffed with which talent (People), deliver which products and services (Product)? This is the product team design composite viewpoint. It connects organizational ownership to the people delivering an offering, without reference to functional capability categories (no Function face) or risk (no Risk face) or value (no Value face). The right lens when designing the human side of a product operating model or allocating scarce specialist talent across the product portfolio.

Design patterns**Product team design**

Designing cross-functional product teams with the right mix of competencies (People) organized under a clear BU home (Structure) to deliver a specific product or service (Product). The composite viewpoint structures the design: what ownership model does the BU use — dedicated team, shared resource pool, embedded squad? What KSA domains are required in the team? And what is the specific offering the team is accountable for? Applied in agile transformation, digital product organization design, and the move from project to product operating models.

Talent deployment for product innovation

Allocating scarce specialist talent — data scientists, architects, security engineers, UX researchers — across the product portfolio in a way that is organizationally anchored (each person has a clear BU home) and product-demand driven (deployment follows the product roadmap). The composite viewpoint prevents the common failure of specialist talent that is neither owned (floating across BUs without accountability) nor deployed to where product value is highest.

Customer experience architecture

Matching the right talent capabilities (People) to the customer-facing touchpoints of specific products (Product) within defined BU accountability boundaries (Structure). Used when designing service operations, customer success functions, and omnichannel experience models. The composite viewpoint ensures that the human experience of the product — the competencies of the people the customer encounters — is designed as explicitly as the product itself.

CV-11 — Function + Risk + Value

Which capabilities (Function) carry which risks (Risk), and what is the value at stake in each (Value)? This is the capability risk-return composite viewpoint. It does not ask who owns the capability (no Structure) or who staffs it (no People) or what product it produces (no Product) — it asks only what the organization does, what can go wrong, and what it is worth. The right lens for investment prioritization and strategic capability protection decisions.

Design patterns

Capability risk-return analysis

Evaluating which functional capabilities create the most value while carrying the most risk, enabling disciplined decisions about where to invest in capability improvement, risk reduction, or redundancy. The layer isomorphism of Faces 2 and 3 is central here: each functional domain has a corresponding risk area at the same layer, so the analysis is conducted at five discrete levels from strategic governance to physical infrastructure. A capability that is simultaneously high-value and high-risk requires different treatment than one that is high-value and low-risk.

Critical capability protection

Identifying the functional capabilities that are both essential to value creation and acutely vulnerable to disruption, then designing protection measures proportionate to the value at stake. This pattern operationalises the concept of 'crown jewels' assessment at the architecture level: which capabilities (Function) are at risk (Risk), and what value (Value) would be lost if they were disrupted? Applied in business continuity strategy, competitive intelligence programmes, and enterprise resilience design.

Capability investment prioritization

Deciding where to invest in improving functional capabilities based on value uplift potential and risk reduction benefit. The composite viewpoint structures the investment case: what improvement in functional capability is proposed (Function), what risk does it mitigate or what risk does neglecting it create (Risk), and what value does the improvement enable or protect (Value)? Used in enterprise architecture investment governance, digital transformation prioritization, and annual planning cycles.

CV-12 — Function + Risk + People

Which functional capabilities (Function) carry which risks (Risk), and which people — by knowledge, skill, and culture — are required to manage those risks and deliver those capabilities (People)? This is the competency-driven risk composite viewpoint. It surfaces the human dimension of operational risk: not just where systems or processes can fail, but where missing or misaligned human capabilities create vulnerability. Contains no Structure or Product face.

Design patterns

Skills gap risk assessment

Where do missing or insufficient competencies create delivery risk (failure to perform a function) or compliance risk (failure to manage risk at a layer)? The layer isomorphism of Faces 2 and 3 makes the mapping direct: a skills gap in Knowledge Management (People, Dataflows layer) creates risk in Data Privacy & Protection (Risk, Dataflows layer), which threatens the Information Exchanges functional capability (Function, Dataflows layer). The composite viewpoint traces the causal chain from skill absence to functional failure to risk materialization.

Knowledge retention programme

Identifying critical know-how tied to specific functional capabilities that is at risk of being lost through retirement, turnover, or organizational change — and where that loss would create material operational or compliance risk. The composite viewpoint prioritizes retention efforts: the highest priority is know-how that is both functionally critical (Function) and tied to a high-impact risk area (Risk), and where no documented alternative exists (People: the knowledge is tacit and held by few individuals).

Safety-critical competency management

Ensuring that high-risk functional areas — operational technology in utilities, clinical processes in healthcare, air traffic control, financial risk management — are continuously staffed with verified, certified competencies. The composite viewpoint structures the assurance framework: which functional capabilities are safety-critical (Function), what are the risk consequences of competency failure at each level (Risk), and what certification, training, and verification regime is required for the people in those roles (People)? Applied in regulated safety-critical industries and high-risk government programmes.

CV-13 — Function + Risk + Product

Which functional capabilities (Function) are required to deliver which offerings (Product), and where are the risks in that delivery chain (Risk)? This is the delivery and lifecycle composite viewpoint. Contains no Structure face and no People face, making it the right lens when the primary question is the relationship between what the organization does, what it delivers, and what can fail in that chain — rather than who owns it or who staffs it.

Design patterns**Lifecycle risk management**

Products and services have a lifecycle — launch, growth, maturity, decline, end-of-life — and the risks are materially different at each stage. Launch carries execution and market risk; maturity carries competitive disruption and complacency risk; end-of-life carries security, support, and migration risk. This pattern maps the functional capabilities needed at each lifecycle stage against the risk profile at that stage, enabling proactive governance rather than reactive crisis management when products age.

Supply chain resilience

Which functional capabilities depend on which external suppliers or partners to deliver which products, and what are the disruption risks in that dependency chain? COVID-19, the SolarWinds breach, and the Suez Canal blockage demonstrated the architecture-level consequences of supply chain fragility. The layer isomorphism ensures the analysis covers every dependency level: from strategic sourcing arrangements (Strategic Goals / Environment & Scenarios) to physical logistics and infrastructure (Infrastructure / Physical Security).

Technical debt governance

Functional capabilities and products accumulate technical debt when underlying systems and infrastructure are not renewed at the rate required by the services they support. This pattern surfaces where debt in the Systems and Infrastructure layers creates delivery risk for specific products, enabling prioritized modernization investment. The layer correspondence is direct: debt at the Infrastructure layer creates Physical Security and Systems risk, which propagates upward to threaten delivery of specific service catalog items.

CV-14 — Function + Value + People

Which capabilities (Function) create what value (Value), delivered by which people (People)? This is the capability monetization composite viewpoint. It asks what the organization is capable of doing, what that capability is worth, and who embodies it — without reference to organizational structure (no Structure), risk (no Risk), or specific offerings (no Product). The right lens for identifying hidden value in human and functional capital and for designing knowledge-intensive service models.

Design patterns**Capability monetization**

Identifying which functional capabilities can be sold as services, licensed, or spun out as standalone offerings — knowing both what the capability is worth (Value) and who holds the knowledge required to deliver it externally (People). Many organizations discover through this composite viewpoint that they possess capabilities — in data analytics, supply chain optimization, engineering, compliance — that are more valuable to the market than they are to internal operations alone. Applied in professional services expansion, platform business design, and knowledge-as-a-service strategies.

Expert network design

Building communities of practice, guilds, and expert networks around high-value functional capabilities, ensuring that people with the relevant knowledge (People) are connected across the organization at the appropriate functional domain (Function) and that their contribution is

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recognized in value terms (Value). The composite viewpoint prevents expert knowledge from sitting in organizational silos, invisible to the parts of the enterprise that would benefit most from it.

Knowledge capital valuation

Valuing the intellectual and human capital embedded in specific functional capabilities: what would it cost to rebuild this capability if the people who carry it were to leave? What is the market value of this know-how if it were externalized? The composite viewpoint grounds intellectual capital valuation in operational reality — not as an abstract accounting exercise but as a functional analysis of which capabilities are knowhow-dependent, what that knowhow is worth, and who holds it.

CV-15 — Function + Value + Product

What functional capabilities (Function) are needed to deliver what products and services (Product) at what value (Value)? This is the investment and innovation composite viewpoint. Contains no Structure, Risk, or People face — it is the purest statement of the organization's value logic, asking only what capabilities are needed to create what offerings at what worth, unconstrained by current organizational structures, risk profiles, or talent configurations.

Design patterns**Architectural runway planning**

Building architectural capability ahead of demand so that the product roadmap is never blocked by missing infrastructure or system capabilities. The composite viewpoint frames the investment decision: which functional capabilities need to be built now (Function), to enable which future products (Product), to capture which anticipated value (Value). The layer structure ensures the runway is built at the right level: an infrastructure runway enables multiple system capabilities; a system capability runway enables multiple products. Prevents the common failure of a full product roadmap sitting behind an infrastructure bottleneck.

Digital transformation roadmap

Which current functional capabilities must change (Function), to deliver which new or transformed products and services (Product), to capture what new sources of market or mission value (Value)? The architecture-grounded version of a digital strategy, preventing the failure mode of a digital roadmap that identifies desired experiences and value targets without grounding them in the specific capability changes required at each of the five layers. Each layer generates a different type of transformation initiative with a different investment horizon.

Innovation portfolio management

Balancing investment across a portfolio of functional capability-building initiatives, each linked to a potential future product and each with an estimated value return. The composite viewpoint prevents innovation investment from becoming disconnected from delivery capability (investing in products that cannot be built) or from value capture (building capabilities that enable no product anyone will pay for). Applied in corporate venture, R&D portfolio governance, and product incubation frameworks.

CV-16 — Function + People + Product

Which capabilities (Function), delivered by which talent (People), produce which offerings (Product)? This is the product engineering model composite viewpoint. It connects the work being done (Function), the people doing it (People), and the output they produce (Product) — without reference to organizational ownership (no Structure), risk exposure (no Risk), or market value (no Value). The right lens for designing the operational engine of a product-led or platform-led organization.

Design patterns**DevOps and product engineering model**

Designing the team structures, working practices, and competency requirements for building and operating each product: which engineering and operational capabilities (Function) need to be co-located in a single product team (People), and what is the specific product or platform being built (Product)? The composite viewpoint gives the DevOps/DevSecOps model its architecture-level grounding, ensuring that team design decisions are driven by the functional capability requirements of the product rather than by organizational convention or technology preferences.

Platform engineering architecture

Which internal technical capabilities (Function), delivered by which platform engineering teams with which specialist competencies (People), enable which product platform capabilities that other teams build on (Product)? The composite viewpoint structures the internal platform-as-a-product model, making the relationship between platform functional capabilities, the engineers who build and operate them, and the product experiences they enable explicit and manageable. Applied in infrastructure-as-a-platform, data platform, and API platform design.

Skills-to-product traceability

Mapping competency requirements end-to-end from product feature to required functional capability to specific skill — enabling workforce planning at the product level rather than the HR category level. The composite viewpoint makes the connection explicit: this product feature (Product) requires this functional capability (Function), which requires these specific skills in these roles (People). Used to identify precise hiring needs, to justify training investments, and to prioritize automation that replaces commodity skills rather than differentiating ones.

CV-17 — Risk + Value + People

What risks (Risk) threaten what value (Value), and who — in terms of knowledge, accountability, and cultural orientation — is responsible for managing those risks (People)? This is the risk-weighted talent composite viewpoint. It connects the risk landscape to the human capital required to navigate it, mediated by the value at stake. Contains no Structure, Function, or Product face, making it the right lens for board-level risk governance and human-centred resilience design.

Design patterns**Risk-weighted talent investment**

Prioritizing training, certification, and competency development investment based on the value at risk if the competency is absent. The layer structure is essential: a skills gap at the Strategic Goals layer (Risk: Environment & Scenarios; Value: Competitive Position) threatens a different magnitude and type of loss than a gap at the Systems layer (Risk: System Security; Value: Systems & Capabilities). The composite viewpoint ensures that L&D investment is not allocated by headcount or seniority but by the risk-value consequence of the competency gap.

Whistleblower and ethics architecture

Designing the mechanisms, protections, and cultural conditions that enable people to surface risk information before it becomes value-destroying. The composite viewpoint frames the design: what categories of risk need early human intelligence to be managed (Risk), what value is protected by early detection (Value), and what cultural and competency conditions are required for people to feel safe speaking up and capable of recognizing what matters (People)? Applied in governance, financial services, healthcare, and any sector where misconduct risk is high and early detection is critical.

Key talent retention strategy

Identifying people whose departure would simultaneously create a competency gap (People), expose a risk (Risk), and destroy value (Value) — and designing retention strategies proportionate to that combined consequence. Unlike key person risk (CV-6, which focuses on structural accountability) this pattern focuses on the risk-value nexus of the loss itself: which people, if they left today, would leave a risk unmanaged and a value position degraded? Used in talent strategy reviews and executive compensation design.

CV-18 — Risk + Value + Product

What risks (Risk) affect which products and services (Product), and at what cost to enterprise value (Value)? This is the product portfolio risk composite viewpoint. It connects product risk to financial or mission consequence without reference to organizational ownership (no Structure), operational capabilities (no Function), or the people involved (no People). The right lens for product-level risk governance, insurance strategy, and the economics of product lifecycle decisions.

Design patterns**Product portfolio risk management**

Assessing the risk profile of each product and service in the catalog against its value contribution, and using this assessment to prioritize risk mitigation investment. The layer structure is critical: a product may face low risk at the strategic level (stable regulatory environment) but high risk at the systems level (aging technology), and the value at stake differs at each layer. The composite viewpoint surfaces products that are generating low value while carrying high risk — the candidates for sunset or transformation.

Product sunset governance

Deciding which products and services to retire based on the combination of growing risk exposure and declining value — before the risk materializes into an incident. End-of-life products accumulate risk at the Systems and Infrastructure layers (unsupported technology, unpatched vulnerabilities) while their Competitive Position and Financial value erodes. The composite viewpoint gives the sunset decision its full risk-value justification: it is not just a commercial decision but a risk management imperative.

Insurance and risk transfer architecture

Determining which risks in the product portfolio can be transferred to insurance, hedging, or contractual arrangements and at what cost relative to the value protected. The composite viewpoint structures the analysis: which product-level risks (Risk) have transferable characteristics (Risk: severity, frequency, insurability), what value would be protected by transfer (Value), and what is the cost-benefit of transfer versus self-insurance? Applied in enterprise risk financing, product liability insurance design, and derivative hedging strategy.

CV-19 — Risk + People + Product

What risks are inherent in the products and services being offered (Risk), and who — in terms of knowledge, skills, and culture — is responsible for managing those risks (People)? This is the design responsibility composite viewpoint. Contains no Structure face and no Function face, making it the right lens when the question is about the relationship between what the organization offers, what can go wrong, and who has the knowledge to prevent it — without requiring organizational or process-level analysis.

Design patterns**Privacy by Design**

Embedding privacy risk controls (Face 3: Data Privacy & Protection) into the product design itself (Face 6: Product & Service Catalogs) and ensuring the people who design and operate those products have the required privacy competencies (Face 5: Knowledge Management). Operationalises GDPR Article 25. The pattern distinguishes itself from the GDPR pattern in Composite viewpoint 6 by focusing on product design rather than organizational accountability: the question here is not who owns the risk, but whether the product is designed to be safe by construction.

Product liability management

For products carrying inherent risk of harm — physical products, financial instruments, pharmaceutical products, AI systems — this pattern maps the risk profile of the offering at each layer (Risk), defines the product design controls required at each layer (Product), and identifies

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the people accountable for those controls and competent to exercise them (People). The layer correspondence is powerful: regulatory prohibition risk at the Strategic Goals layer requires different product design responses and different competencies than algorithmic bias risk at the Systems layer.

Secure Development Lifecycle (SDL)

Embedding security risk requirements (Risk: System Security and Data Privacy & Protection) into the product engineering process (Product: catalog items, delivery channels) and delivered by engineers and project managers with DevSecOps competencies (People: Engineering, Project Management). The SDL pattern moves security from a gate at the end of development to a continuous design thread throughout. The layer correspondence of Face 3 and Face 5 ensures that security requirements at each layer — from infrastructure security to application security to data privacy — are matched to the specific engineering competencies required at that layer.

CV-20 — Value + People + Product

What the organization offers (Product), who delivers it (People), and what it is worth (Value)? This is the market-facing composite viewpoint — the only canonical composite viewpoint that contains neither Structure nor Function nor Risk. Its structural simplicity is its analytical power: it strips away organizational ownership and operational complexity to ask only the three questions that the customer and the market ultimately care about. The right lens for market strategy, go-to-market design, and business model innovation.

Design patterns**Value proposition design**

The business model canvas question expressed in EA⁶ terms: what do we offer (Product), to whom, with what talent (People), at what price point and value creation (Value)? This pattern grounds the Strategyzer value proposition canvas in architecture, ensuring the value proposition is tested against the actual human capital available to deliver it (People) and the real market value it generates (Value) — not just the customer problem it solves. Prevents value propositions that are commercially appealing but organizationally undeliverable.

Go-to-market strategy

Which talent and competencies (People) are required to take which products and services (Product) to which markets at what price and margin (Value)? Used when launching new offerings or entering new markets. The composite viewpoint prevents the common failure of a go-to-market plan that is commercially coherent (Value + Product) but requires competencies the organization does not yet possess (People): the sales capability, the technical pre-sales expertise, the implementation competency, the customer success skill.

Business model innovation

When an organization wants to change how it creates value — not just what it sells — this composite viewpoint frames the design space: what new products or services (Product), delivered by what reconfigured or newly acquired talent (People), creating what new value model (Value)? Applicable to digital business model transitions (from product to platform, from license to subscription, from transaction to outcome-based), where the offering changes, the talent required changes, and the value capture mechanism changes simultaneously.

14.6 Composability of composite viewpoints

Composite viewpoints are composable. A programme that addresses GDPR compliance (CV-6: Structure + Risk + People) may subsequently need to examine Privacy by Design (CV-19: Risk + People + Product). These two composite viewpoints share the Risk and People faces. The analyst moves to an adjacent viewpoint on the cube, exchanging the Structure face for the Product face while keeping Risk and People stable. This shift reveals how an organizational accountability question (CV-6) connects to a product design question (CV-19) through the shared faces.

The most analytically powerful transitions arise when two composite viewpoints share two faces and differ by only one — the 'rotating' face is the axis of inquiry that changes while two dimensions of context remain fixed. For example, an M&A programme might begin with Composite viewpoint 8 (Structure + Value + People: due diligence and benefit realization), move to Composite viewpoint 2 (Structure + Function + Value: shared services and target operating model), and then to Composite viewpoint 3 (Structure + Function + People: capability development and HR integration) — rotating through the analytical space face by face while keeping Structure as the stable anchor throughout.

Similarly, a digital transformation programme might traverse Composite viewpoint 15 (Function + Value + Product: architectural runway and roadmap), then Composite viewpoint 16 (Function + People + Product: DevOps and product engineering model), then Composite viewpoint 13 (Function + Risk + Product: technical debt and supply chain resilience) — keeping Function and Product stable while rotating through Value, People, and Risk as each phase of the transformation comes into focus.

15. Dimensional Axes

Two meta-dimensional axes overlay the entire EA⁶ Cube, applying orthogonally to all six faces.

15.1 Type Dimensions (what kind of architecture)

Type Level	Meaning	Example Artifacts
Strategic level	Direction, priorities, goals — the 'why' of the enterprise.	Mission statements, Strategic plans, OKRs, Investment strategies
Business level	Activities, targets, processes — the 'what' the enterprise does.	Process models, Capability maps, Service blueprints, Journey maps
Technology levels	Enablement, resources, infrastructure — the 'how'.	System architecture, App portfolios, Network diagrams, Data models

15.2 Scope Dimensions (how much of the enterprise)

Scope Level	Definition	Example
Enterprise	All segments — the whole enterprise in scope.	Federal government EA, University-wide EA, Global corporate EA
Segment	One or more structural or functional segments.	Department of Transportation EA, Retail banking segment EA
Component	Processes, systems, applications, or resources supporting one or more segments.	Vehicle Title System architecture, Online banking platform

16. Ontological Properties

16.1 Independence of structure from subject domain

The EA⁶ class hierarchy is defined independently from the subject domain to which it is applied. The six faces are universal: the same class names and relations apply whether the enterprise is a national government, a university, a private corporation, or a non-profit. What varies across organizations is the instantiation of the framework, not its structure.

16.2 Structural isomorphism as a formal property

The alignment of the five rows across Faces 2, 3, 4, and 5 is a formal structural property of the ontology. It is expressed as the constraint that each FunctionalDomain, RiskArea, MarketArea, and KSADomain is associated with exactly one ArchitectureLayer via the locatedAt relation inherited through the CubeCell. This ensures that any completeness check on one face can be mirrored onto all four faces simultaneously.

16.3 The CubeCell as intersection type

The CubeCell represents the specific context at the intersection of a given ArchitectureLayer, a given LineOfBusiness, and zero or more CrossCuttingThreads. Every architecture artifact lives in one or more CubeCells. The structural isomorphism of the four side faces means that for any CubeCell, there are four co-located cells on the other faces at the same layer and BU — each contributing a different analytical perspective on the same enterprise reality.

16.4 Line-of-sight

The alignsWith relation establishes vertical line-of-sight from any artifact at any layer to the strategic goals it ultimately serves. This operationalises the core axiom. Every Infrastructure artifact should be traceable upward through Systems, Dataflows, and Workflows to at least one StrategicGoal. The structural isomorphism of the side faces extends line-of-sight across all dimensions: an Engineering competency (Face 5, Infrastructure layer) should align with the Supporting Infrastructure capability (Face 2), the Physical Security risk posture (Face 3), and the Real Property asset value (Face 4) at the same layer.

17. References

- Bernard, S. A. (2020). An Introduction to Holistic Enterprise Architecture (4th ed.). AuthorHouse.
- Zachman, J. A. (2011). The Zachman Framework for Enterprise Architecture: The Enterprise Ontology™, Version 3.0. Zachman International®.
- The Open Group (2022). TOGAF® Standard, Version 9.2. The Open Group.
- U.S. Federal CIO Council (2012). Federal Enterprise Architecture Framework Version 2 (FEAF-II). U.S. Office of Management and Budget.
- NIST (1987). The NIST Framework for Enterprise Architecture. National Institute of Standards and Technology.
- National Digital Agency, Denmark (2023). Denmark's Public Digital Architecture Framework.
- Kniberg, H. & Ivarsson, A. (2012). Scaling Agile @ Spotify with Tribes, Squads, Chapters & Guilds.
- Laloux, F. (2014). Reinventing Organizations. Nelson Parker.
- SABSA Institute. SABSA Enterprise Security Architecture — Architecture Split Model. sabsa.org.
- ISO/IEC 27001:2022. Information Security Management Systems — Requirements.
- ISO/IEC 27701:2019. Privacy Information Management System.
- European Parliament (2016). General Data Protection Regulation (GDPR), Article 25 — Data Protection by Design.