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Enterprise Architecture: A Pivotal Role in ESG Strategy

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SUSTAINABLE DEVELOPMENT GOALS (SDG-17 GOALS)



THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOAL (SDG) 17-GOALS & ENVIRONMENT SOCIAL GOVERNANCE (ESG) KPIs

Sustainable Development Goals

17 interlinked global goals



The **Sustainable Development Goals (SDGs)** is a shared blueprint with **17 interlinked global goals** designed **for peace and prosperity for people and the planet**, now and into the future.

The SDGs were set up in 2015 by the [United Nations General Assembly](#) (UN-GA) and are intended to be achieved by 2030 and what is colloquially known as **Agenda 2030**.




























Environmental, social, and corporate governance



Environmental, Social, and corporate Governance (ESG) is a framework designed to be integrated into an **organization's strategy to unlock enterprise value**. **Value creation** occurs when the scope of the **organizational objective to create shareholder value** is expanded to include the **identification, assessment and management of sustainability-related risks and opportunities in respect to all organizational stakeholders** (including customers and employees) and the **environment**.



Country's Performance

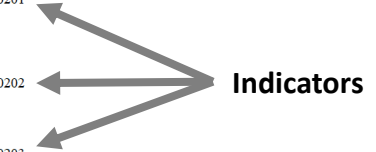
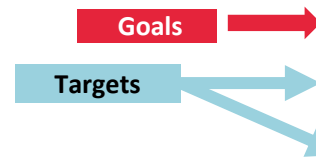
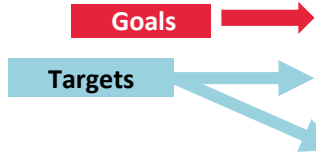
Rank	Country	Score	Performance by SDG
1	 Finland	86.76	
2	 Sweden	85.98	
3	 Denmark	85.68	
4	 Germany	83.36	
43	 Thailand	74.74	
55	 Vietnam	73.32	
61	 Bhutan	72.34	
63	 China	72.01	
64	 Singapore	71.78	
68	 Maldives	71.27	
75	 Indonesia	70.16	
78	 Malaysia	69.85	
83	 Sri Lanka	69.40	
98	 Philippines	67.14	

Data.... Data... Data...

Robust data management is fundamental for achieving the Sustainable Development Goals. Without data it's impossible to identify where we stand, and where we aspire to be. It provides us with the knowledge to tackle global challenges in a targeted and efficient way. Each of the 17 goals is further assigned targets that are quantified and decomposed into multiple indicators.

Sustainable Development Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics.¹

Goals and targets (from the 2030 Agenda for Sustainable Development)	Indicators	UNSD Indicator Codes ¹
Goal 1. End poverty in all its forms everywhere		
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1 Proportion of the population living below the international poverty line by sex, age, employment status and geographic location (urban/rural)	C010101
1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Proportion of population living below the national poverty line, by sex and age	C010201
	1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	C010202
1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable	C010301
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture		
2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1 Prevalence of undernourishment	C020101
	2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	C020102
2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1 Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age	C020201
	2.2.2 Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	C020202
	2.2.3 Prevalence of anaemia in women aged 15 to 49 years, by pregnancy status (percentage)	C020203



THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS (SDG-17 GOALS) WITH ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) KPIS



THE REALIZATION OF SDG GOALS & ESG KPIs NEED TO BE SUPPORTED BY THE TECHNOLOGY STACKS

What Technology stacks come in mind to realize SDG Goals & ESG KPIs?

1. We need to know on family and income status

2. We need to know on foods demand & supply

3. We need to know on healthcare and lifestyle

4. We need to know on education level & result

5. We need to know on gender & employment

6. We need to know on clean water supply level

7. We need to know on energy usage & consumption volume

8. We need to know on GDP, Employment and Income level

9. We need to know on industry & transportation

10. We need to know on jobs and income level

11. We need to know on landscape and population

12. We need to know on wastage and energy usage

13. We need to know on satellite weather climate

14. We need to know on marine live and fishery

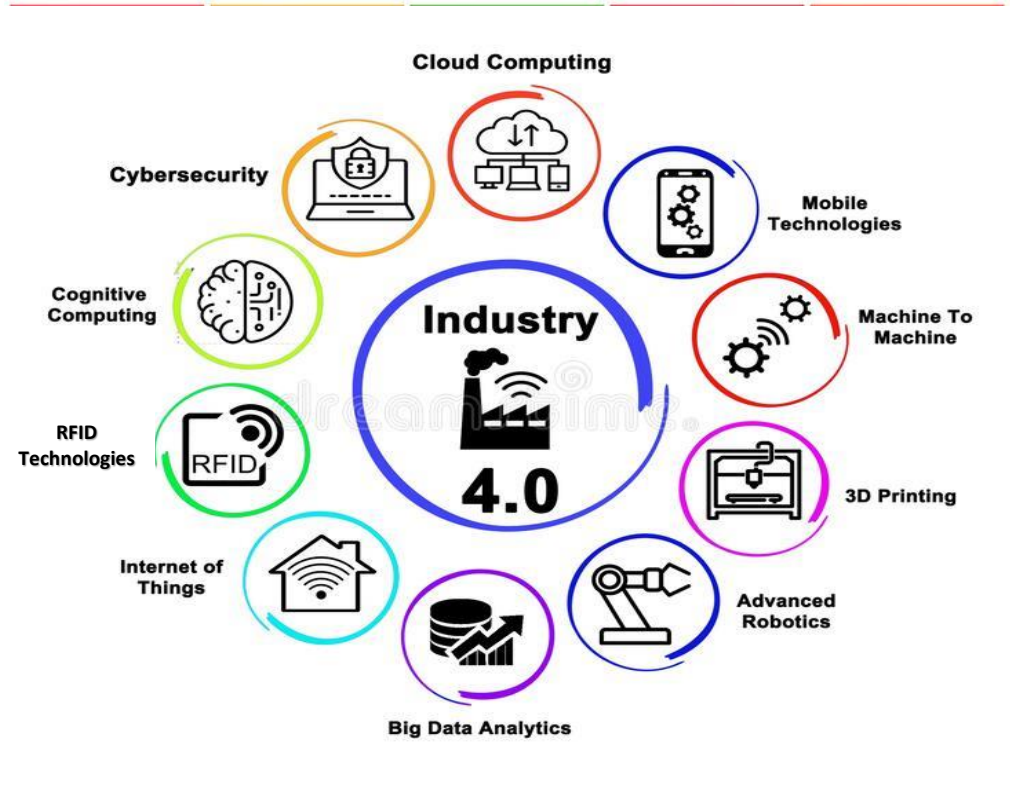
15. We need to know on flora and fauna statistics

16. We need to know on criminal and justice cases

17. We need to know on social activities and events

THE TECHNOLOGY REQUIRED TO REALIZE SDG GOALS & ESG KPIs – ADOPTION OF IR4.0 TECHNOLOGIES STACKS

- 1. We need to know on family and income status
- 2. We need to know on foods demand & supply
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THE EIGHT (8) OBSERVATIONS (PITFALLS) OF ESG REALIZATION TODAY

1.) Contact ESG Vendors for Solution

2.) Lack of Business & IT Strategy Integration

3.) Lack of Frameworks & Methods for sustaining ESG KPIs

8.) No Digital Enterprise Architecture (EA)

Environmental, social, and corporate governance



4.) Business as Usual - IT Projects lack of Integration

7.) Lack of Integrated Roadmap Plan

6.) Compliance Oriented Approach & Activities

5.) Not part of the Digital Transformation Journey



THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS (SDG-17 GOALS) – GLOBAL AGENDA 2030



THE ARCHITECTURE OUTCOMES OF EIGHT (8) OBSERVATIONS – HAIRBALLS ARCHITECTURE

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2. We need to know on foods demand & supply

3. We need to know on healthcare and lifestyle

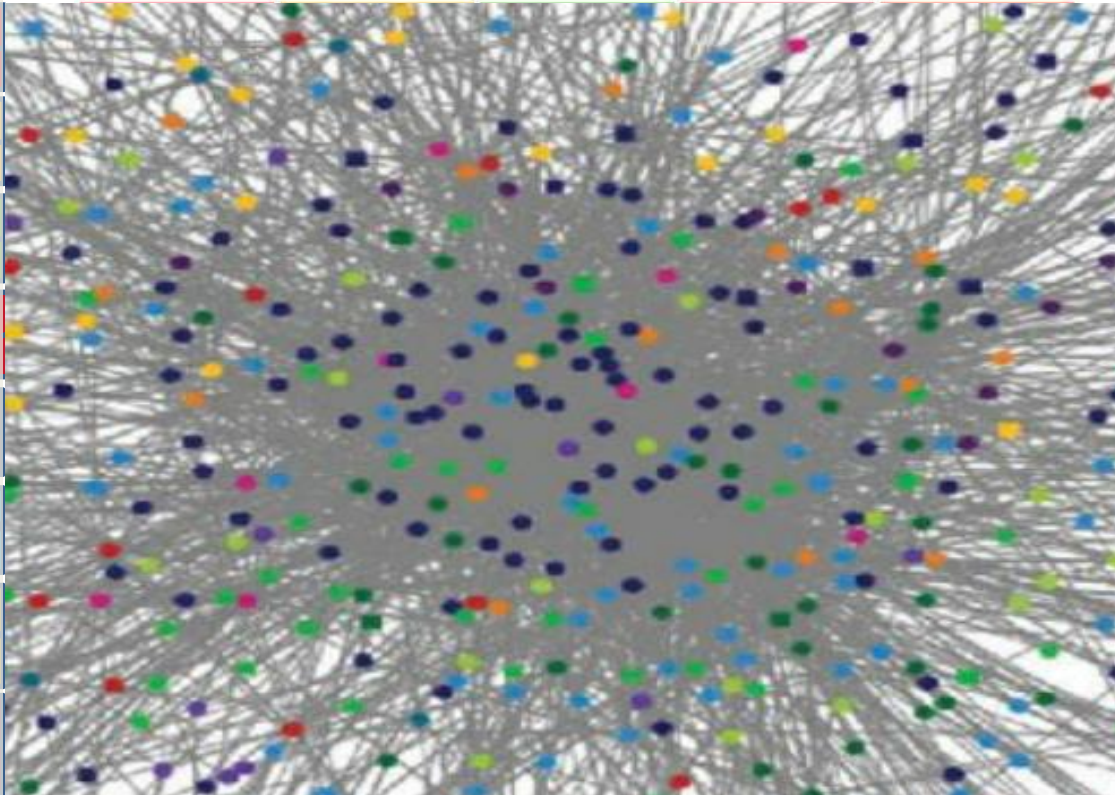
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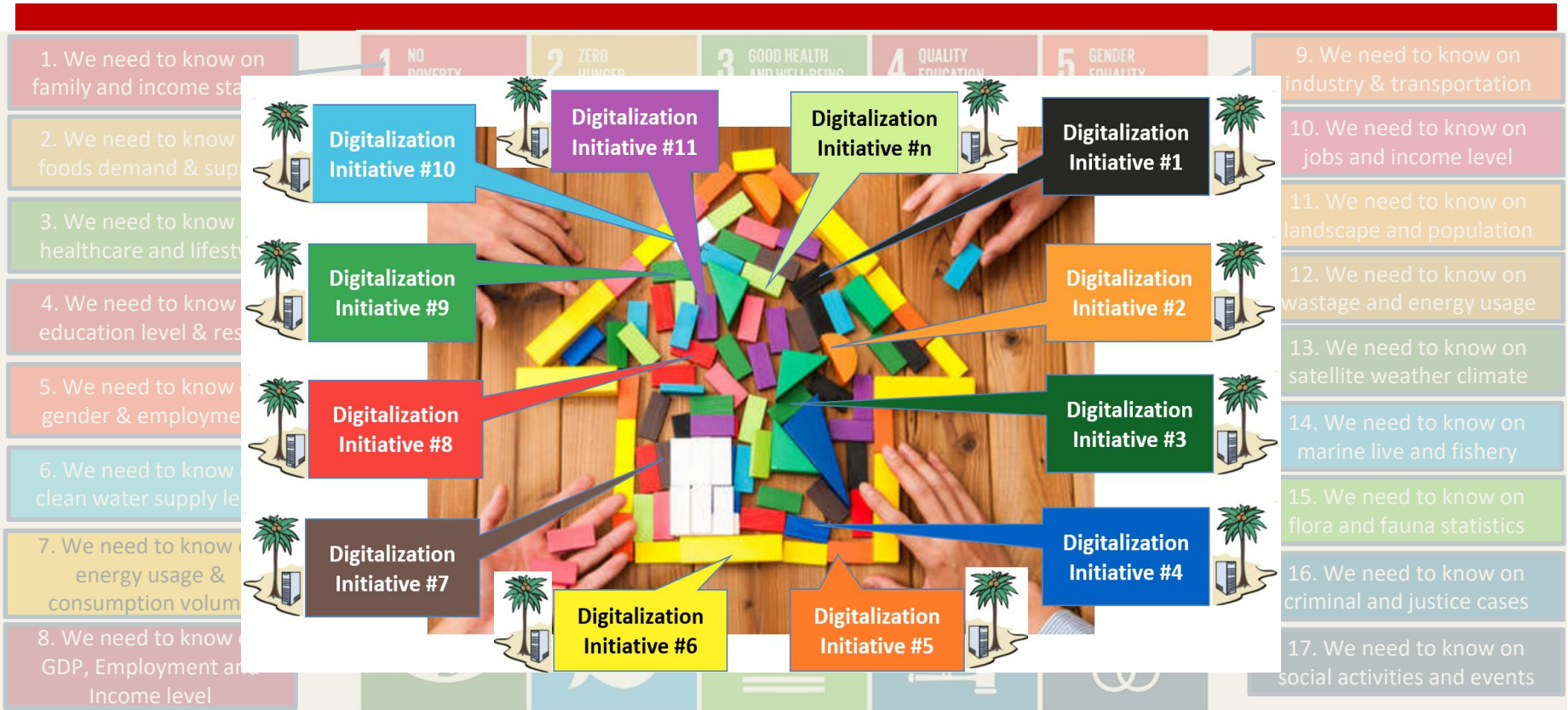
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THE ARCHITECTURE OUTCOMES OF EIGHT (8) OBSERVATIONS – DUPLICATION OF DIGITAL INITIATIVES -> DIGITAL ISLANDS



THE ARCHITECTURE OUTCOMES OF EIGHT (8) OBSERVATIONS – PARTIALLY FIT OF BUSINESS & IT OUTCOMES

1 NO POVERTY **2** ZERO HUNGER **3** GOOD HEALTH AND WELL-BEING **4** QUALITY EDUCATION **5** GENDER EQUALITY

6 CLEAN WATER AND SANITATION **7** AFFORDABLE AND CLEAN ENERGY **8** DECENT WORK AND ECONOMIC GROWTH **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE **10** REDUCED INEQUALITIES **11** SUSTAINABLE CITIES AND COMMUNITIES **12** RESPONSIBLE CONSUMPTION AND PRODUCTION **13** CLIMATE ACTION **14** LIFE BELOW WATER **15** LIFE ON LAND **16** PEACE, JUSTICE AND STRONG INSTITUTIONS **17** PARTNERSHIPS FOR GOAL ACHIEVEMENT

Highest Technology Priority: Better Fit of IT to Business

Key Business Stakeholders

CIO & IT TEAMS

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POTENTIAL ESG CONSEQUENCES

New Reputation damage: Non-compliance with ESG standards can lead to negative publicity and damage the organization's reputation. This can result in decreased customer trust, loss of market share, and difficulty in attracting and retaining talent.

Increased regulatory scrutiny: Governments and regulatory bodies may impose fines, penalties, or other legal actions on companies that fail to meet ESG requirements. Non-compliance can lead to legal disputes and significant financial burdens.

Investor backlash: Investors, particularly those with a focus on sustainable and ethical investments, may avoid or divest from companies that do not meet ESG standards.

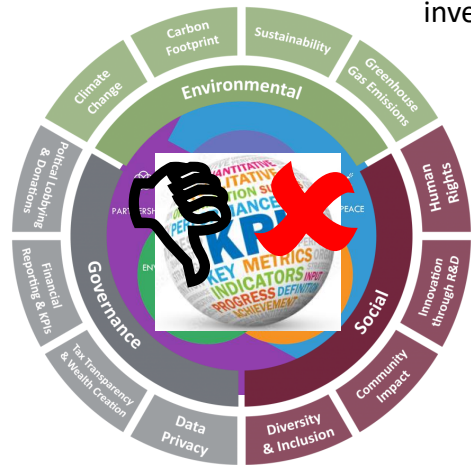
Limited access to capital: As ESG considerations become more mainstream, financial institutions and lenders may incorporate ESG factors into their lending decisions. Non-compliance may result in higher interest rates or difficulty in securing loans.

Loss of business partnerships: Partnerships with other companies or organizations may be jeopardized if they have strong ESG commitments and choose not to associate with non-compliant entities.

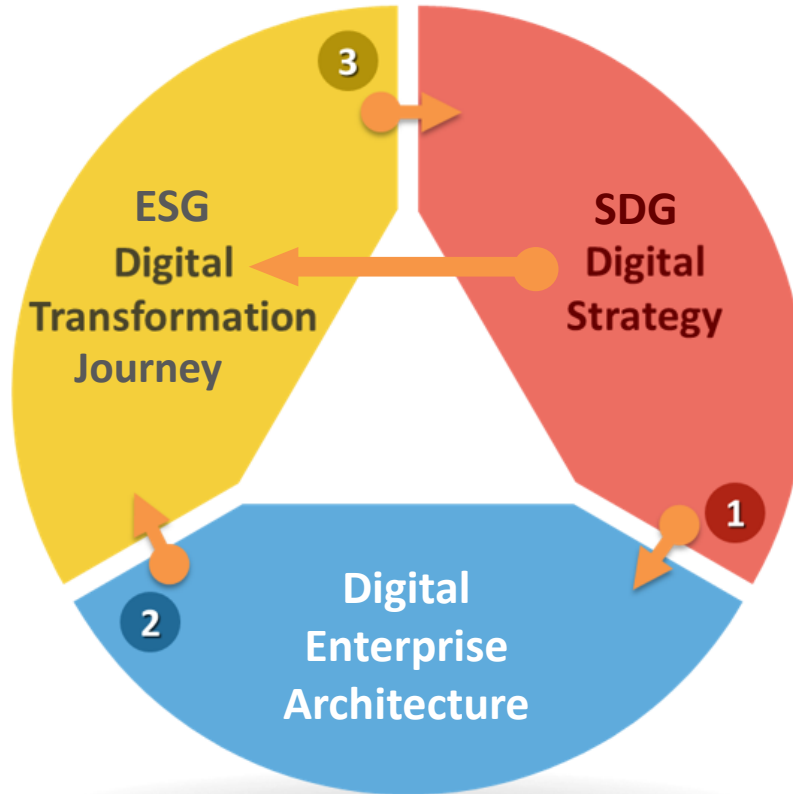
Supply chain disruptions: Companies that don't adhere to ESG principles may face disruptions in their supply chain, as suppliers and vendors may implement stricter ESG criteria or choose more responsible partners.

Higher operational costs: Failure to adopt sustainable practices may result in higher resource consumption, waste management costs, and potential liabilities related to environmental damages.

Litigation and liability risks: Non-compliance with environmental regulations can lead to lawsuits and liabilities related to environmental damage or harm to communities.



DIGITAL EA IN REALIZING SDG STRATEGIES & DRIVING SUCCESSFUL DIGITAL TRANSFORMATION IN REALIZING ESG KPIs

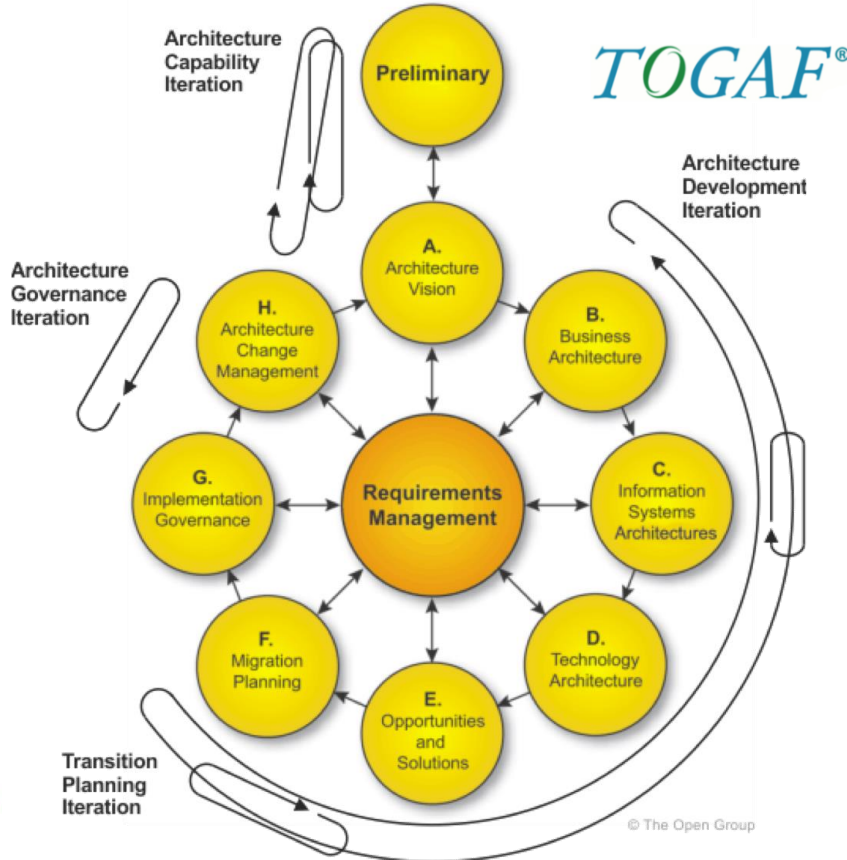
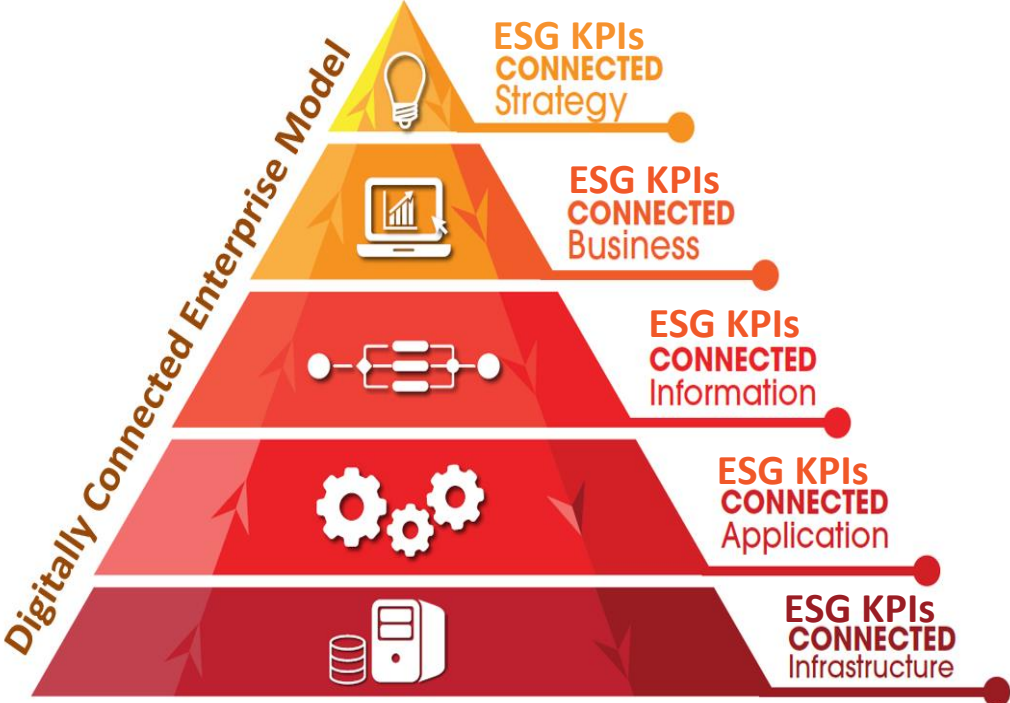


1 The **Outcome Statement** about organization's Digital Positioning in terms of **Goals, Capability** and **Drivers** in the context of the technology adoption

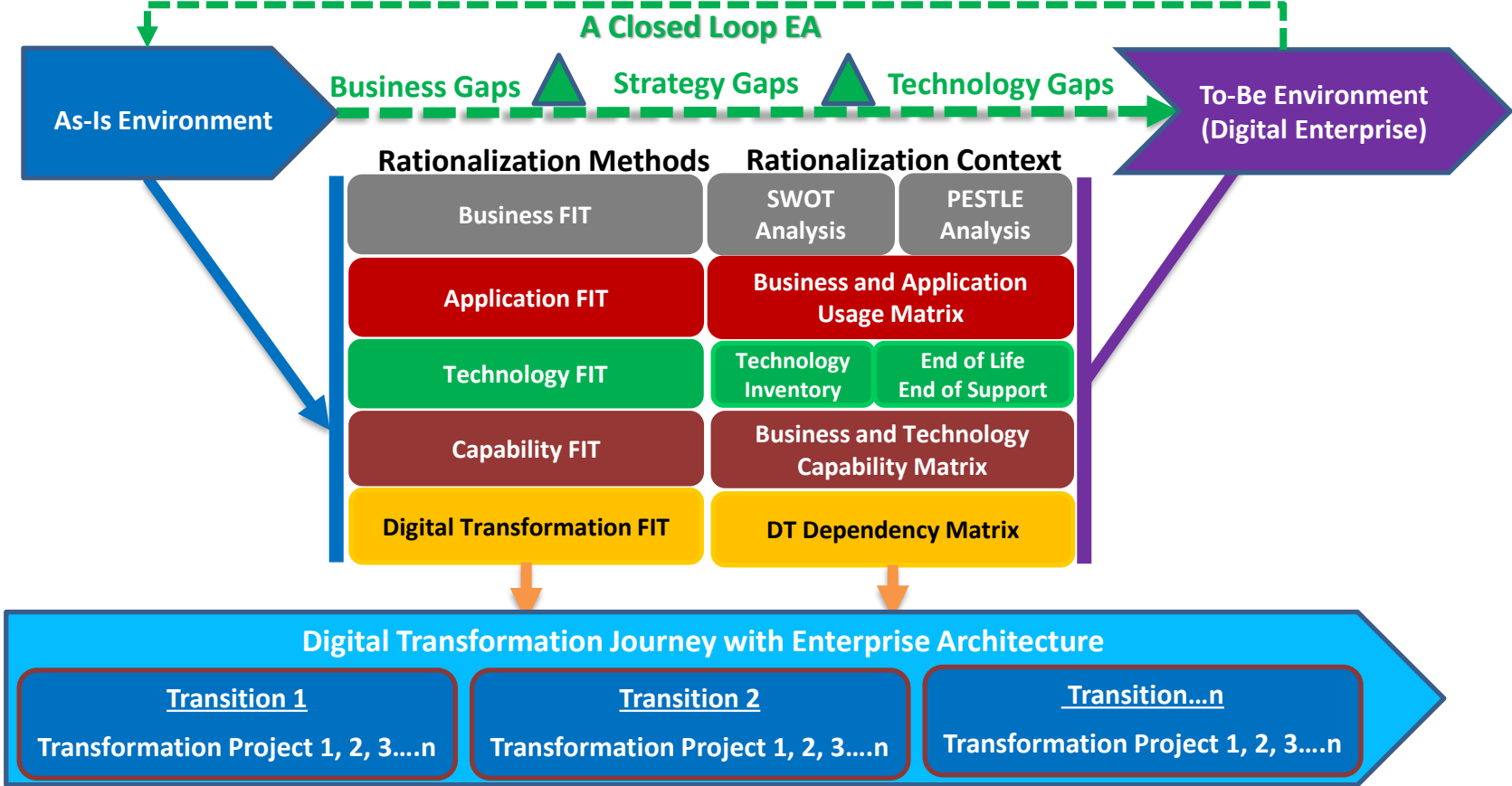
2 The **Digital Enterprise Map** of connected **Business, Data, Application** and **Technology** domain to support **Digital Transformation**

3 The **continuous transformation** of the **existing business** through **technology innovations** and **exploitations**

DIGITAL EA VISION – DIGITALLY CONNECTED ENTERPRISE MODEL



DIGITAL TRANSFORMATION JOURNEY & EA REALIZATION ROADMAP



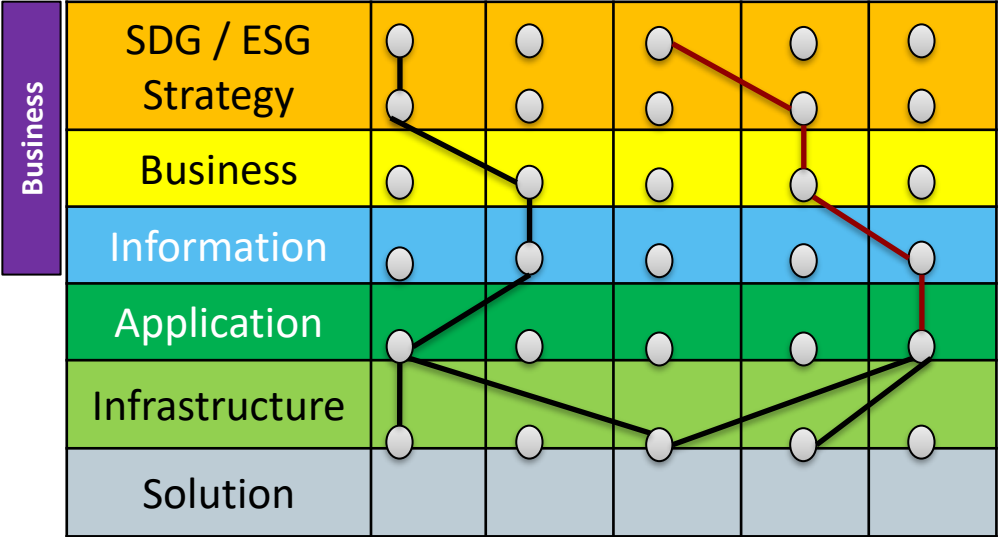
BUSINESS & IT STRATEGY INTEGRATION WITH DIGITAL EA & 3Cs

Digital EA Addresses 3Cs of Business & IT/Digital Strategy Integration
Collating the Dots | Connecting the Dots | Correcting the Dots

Digitally Connected Enterprise Model with Digital EA

SDG/ESG Strategy

- Strategic aspirations
- Business model
- Business architecture
- Execution model
- Business process
- Risk analysis
- Business initiative
- Corporate governance



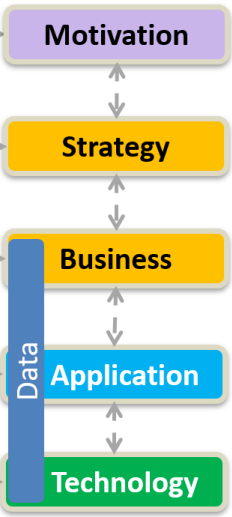
Information Technology

IT /Digital Strategy

- Application Architecture
- Data Architecture
- Technology Architecture
- IT Plan
- IT Security
- IT Solutions
- IT Portfolios
- IT Governance
- Cybersecurity



Cross Layers Metamodel Relationships



Motivation – Why?

Strategy – How?

Why must we do Digital Transformation:

- Stakeholders?
- Drivers?
- Goals?
- Values?
- Outcomes?
- Assessments?
- Principles?
- Requirements?

How do we fulfill our Requirements:

- Course of Actions?
- Capabilities?
- Resources?

Implementation – When by What?

Behavior & Structure – With What?

What do we transform in Business Layer:

- Business Processes?
- Business Functions?
- Business Roles?
- Business Services?

Business Layer

What do we transform in Application Layer:

- Application Processes?
- Application Functions?
- Application Components?
- Data Objects?

Application Layer

What do we transform in Technology Layer:

- Technology Processes?
- Technology Functions?
- Technology Interfaces?
- Nodes and System Software?

Technology Layer

When and What is our Transformation Project:

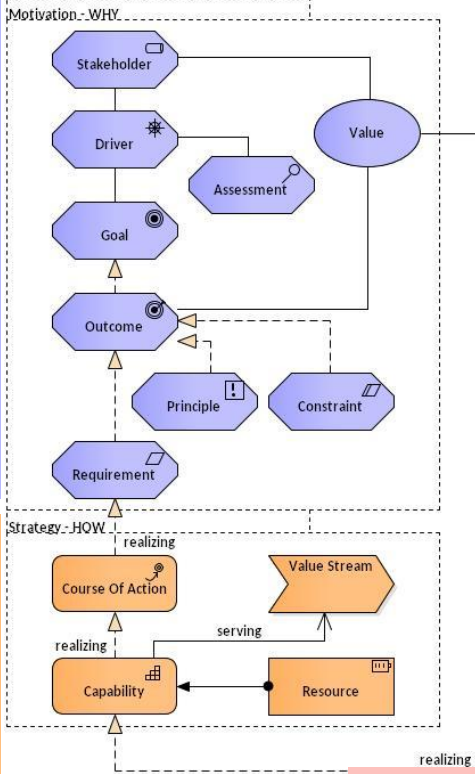
- Work Packages of the Project?
- Project Deliverables?

The Connected Enterprise Model - Why, How, With What & When by What?

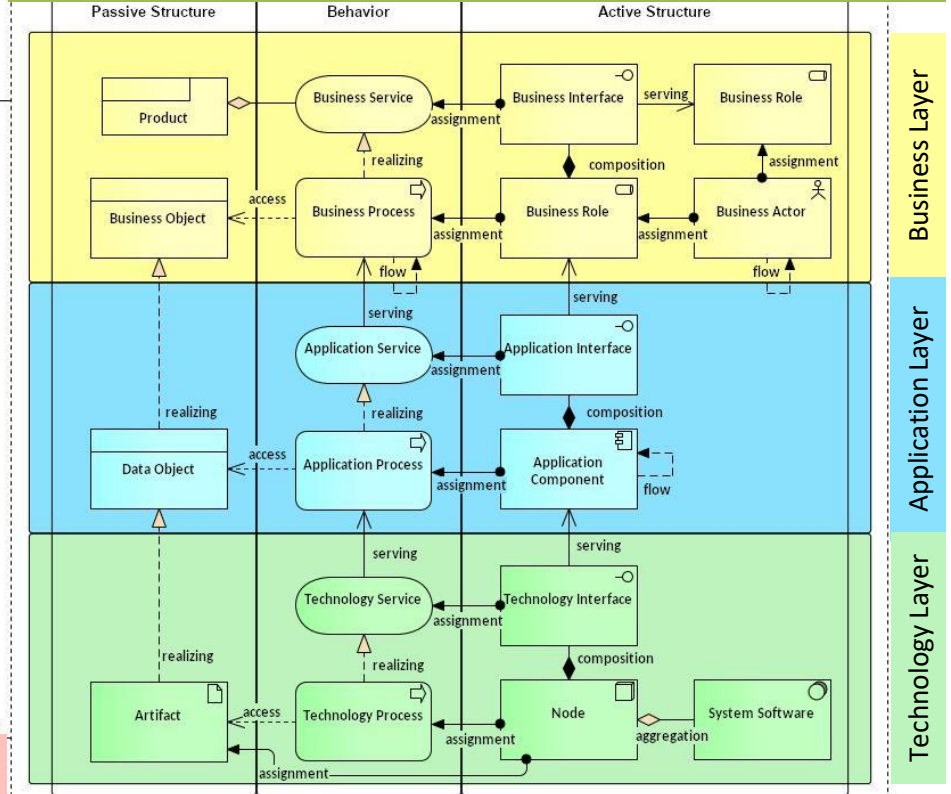


Motivation – Why?

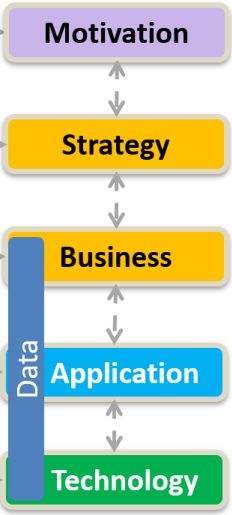
Strategy – How?



Behavior & Structure – With What?

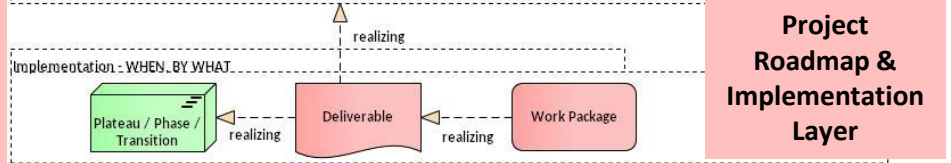


Cross Layers Metamodel Relationships



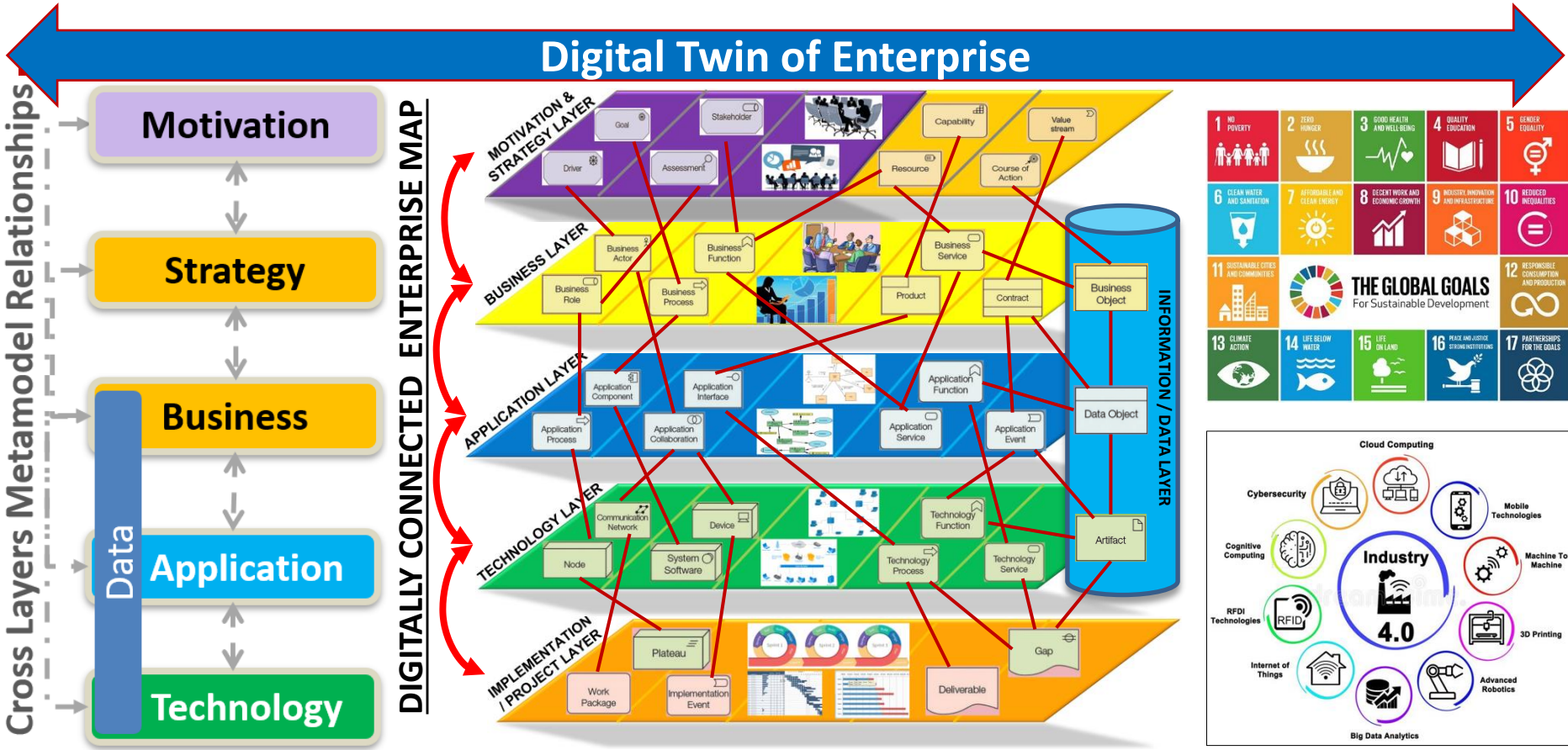
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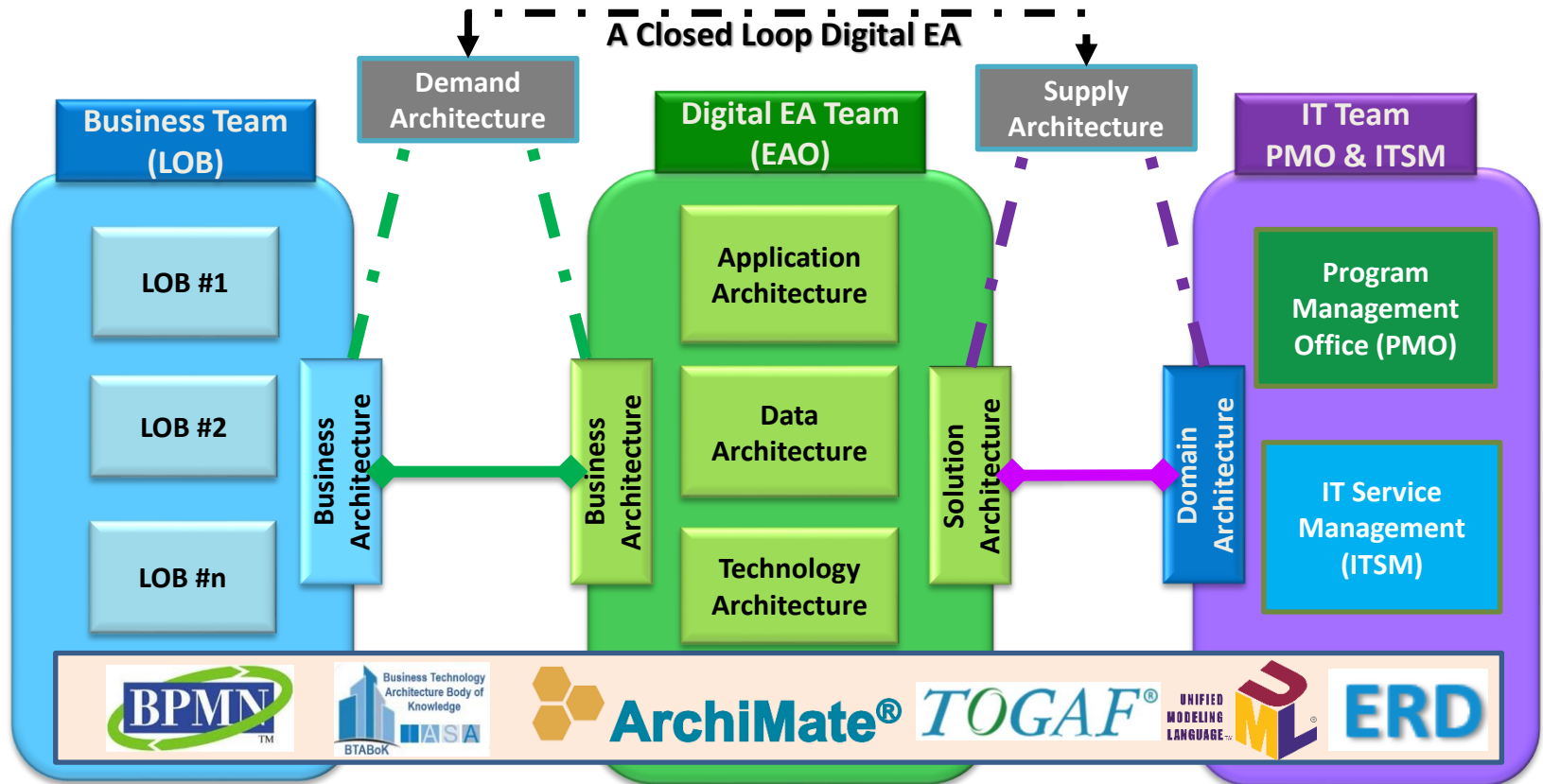


Project Roadmap & Implementation Layer

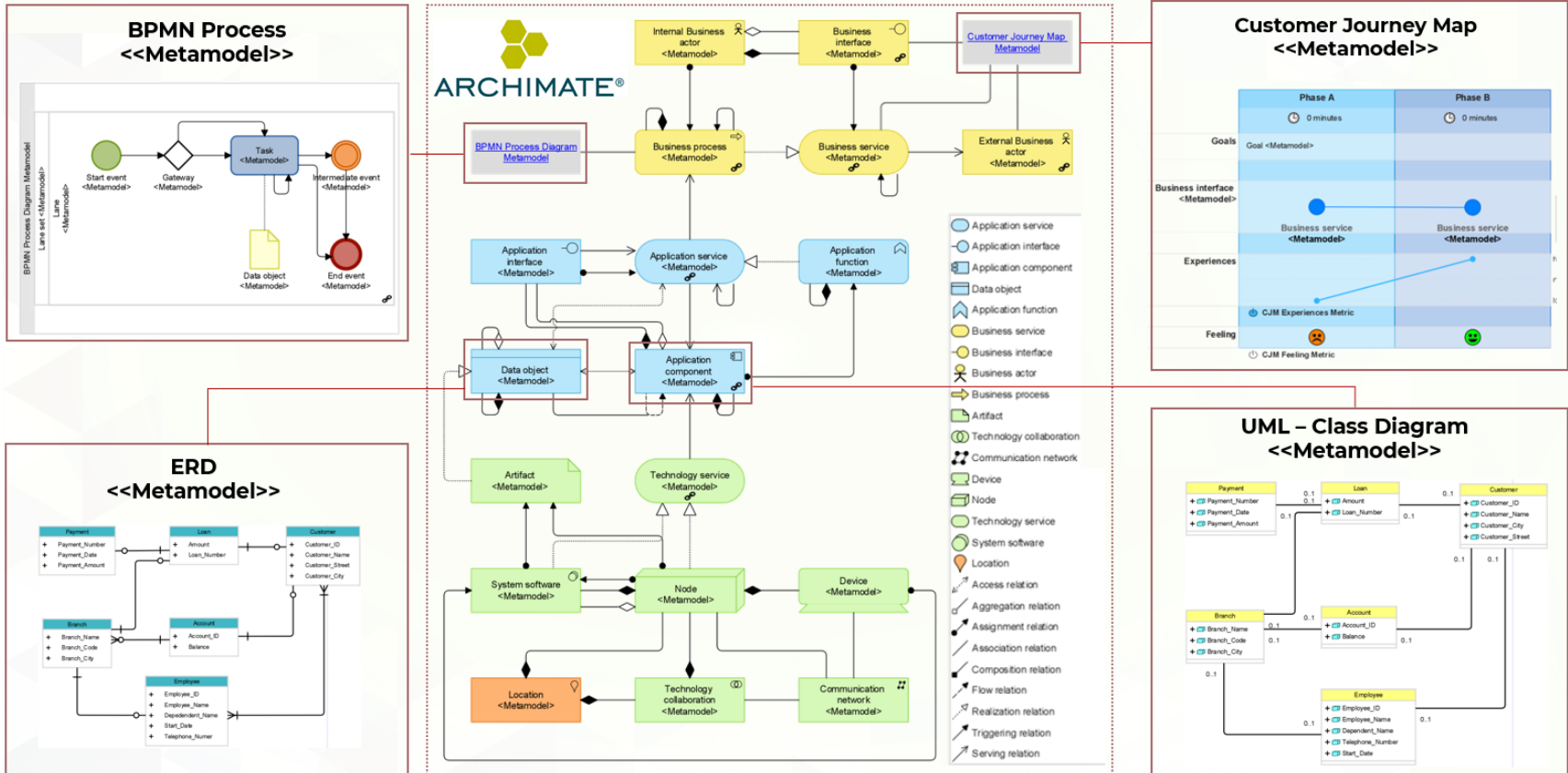
EXAMPLE – DIGITAL EA MODEL FOR REALIZATION OF SDG & ESG



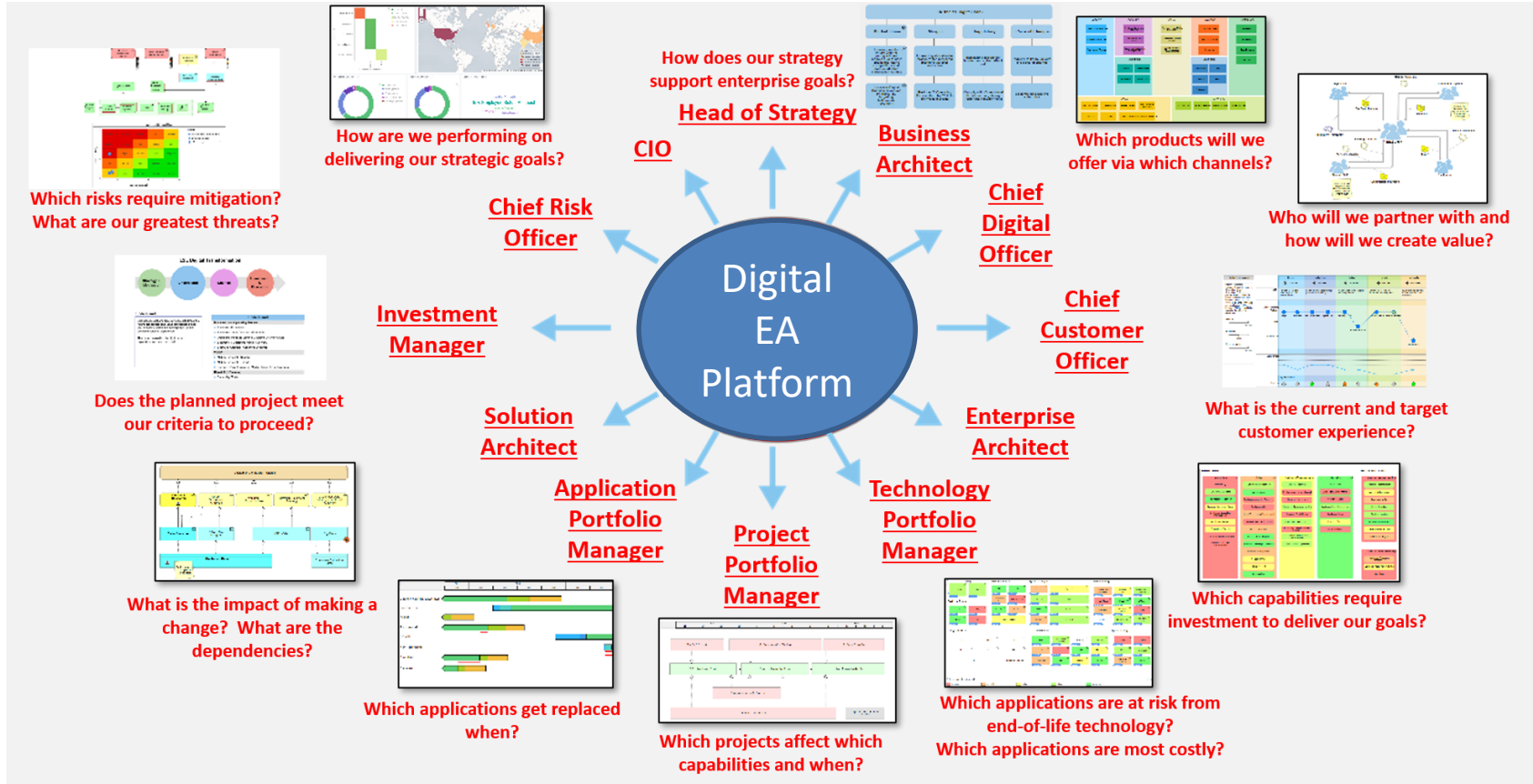
THE MODEL OF CONNECTED ENTERPRISE DIVISIONS ACROSS TEAMS & LINE OF BUSINESSES (LOB) – A CLOSED LOOP DIGITAL EA



EXAMPLE OF THE CONNECTED ENTERPRISE METAMODEL USING ArchiMate®, BPMN, ERD, CJM & UML for FULL IMPACT ANALYSIS



DIGITAL EA TO ADDRESS VARIOUS STAKEHOLDERS' CONCERNS



HARNESSING THE POWER OF DATA FOR SUSTAINABLE DEVELOPMENT



New approaches to capacity development for better data

The goal now is to mainstream **data innovations** into official statistical production processes and focus more sharply **on users' needs**

Innovations and synergies across data ecosystems

Public-private partnerships are enabling the use of **open data, big data** and other non-traditional data sources in policymaking by mainstreaming their use in official statistics

Leave no one behind

Public-private partnerships are enabling the use of big data and other non-traditional data sources in policymaking by mainstreaming their use in official statistics

Understanding the world through data

Data visualization and storytelling can connect users with data on sustainable development, enabling them to discover, understand, and facilitates data exploration and processing for **evidence-based decision-making** and advocacy.

Data principles and governance

Data architecture, standards and best practices need to evolve in parallel with available technology and users' needs through ongoing engagement and recognizing the policy context for the **esg/SDG data ecosystem**.



Sustainability Development Programme

Sustainability is a societal goal that broadly relates to the ability of people to safely co-exist on Earth over a long time. In September 2015 the 193 United Nations member states unanimously adopted the Sustainable Development Goals (SDGs): 17 goals that the world aspires to achieve by 2030.



The 17 Goals: Sustainable Development Goal (source: United Nations <https://sdgs.un.org/goals>)



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ATD Sustainability Development Programme

Sustainability and Enterprise Architecture are two concepts that are increasingly intersecting.

Enterprise architecture (EA) is a strategic approach to managing the complexity of organizational structures and systems. It also helps organisations to create a more sustainable, efficient, and resilient environment, which is essential for achieving the Sustainable Development Goals (SDGs)/ESG.

This is a programme that can help you develop an **actionable plan** which aligns with the **ESG / SDG 2030**.

Module 1: Sustainability Discovery	Module 2: Sustainability Development	Module 3: Sustainability Realisation
<p>The outcome: Learn how to use Enterprise Architecture (EA) approach for ESG/SDG implementation.</p> <p>Pre-requisite: Identified which ESG/SDG to pursue.</p>	<p>The outcome: Learn how to design the business & technology ecosystem model.</p> <p>Pre-requisite: Attended Module 1.</p>	<p>The outcome: Learn how to develop a localised-actionable plan and roadmap.</p> <p>Pre-requisite: Attended Module 2.</p>

END OF PRESENTATION

**Driving ESG Strategy Through
Enterprise Architecture**



Mr. Tech

Mr. Biz

“Leave NO ONE behind”



“Leave NO DATA behind”