SAP Intelligent Enterprise Architecture (IEA10) - Training
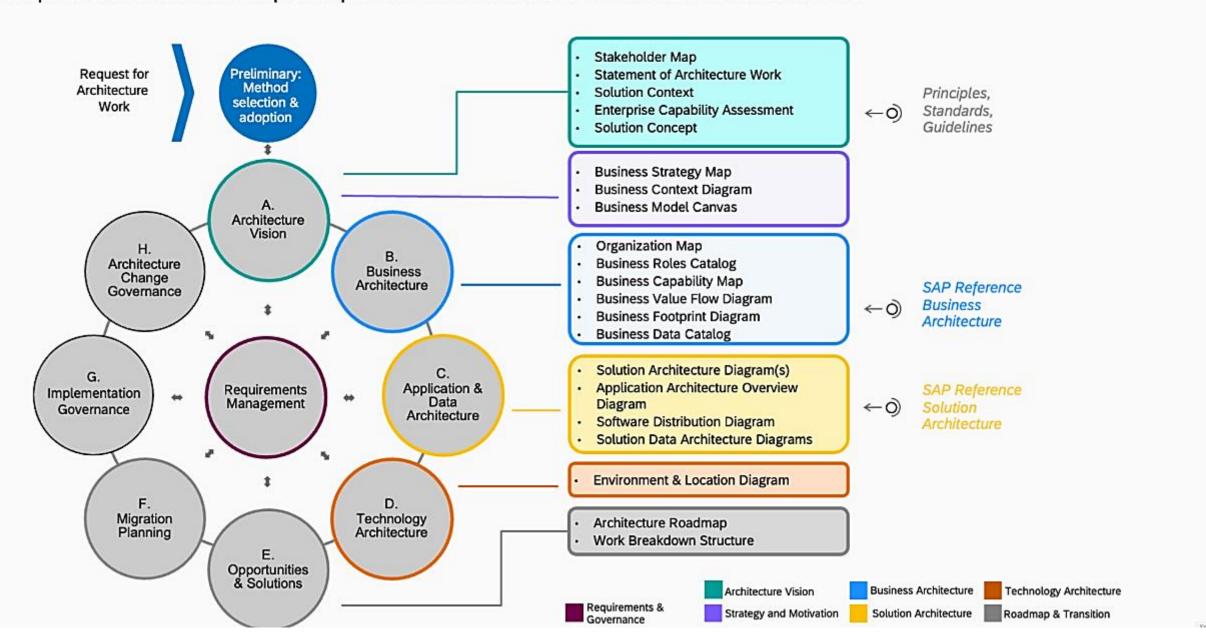
V2.0

Customer Case Study: N3C

SAP Enterprise Architecture Methodology

Enterprise architecture development process based on TOGAF® ADM with selected artifacts
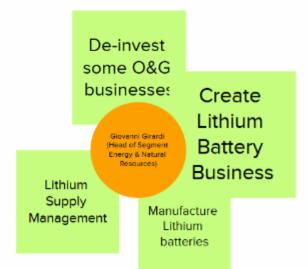
Requirements Analysis

Customer Case Study: N3C

Functional & Non-Functional

Major Stakeholder

Requirement or Business/ Solution Capability

De-invest some O&G businesses

Create Lithium Battery Business

Giovanni Girardi (Head of Segment Energy & Natural Resources)

Lithium Supply Management

Manufacture Lithium batteries

Ricardo Pereira (Head of division Crop Protection)

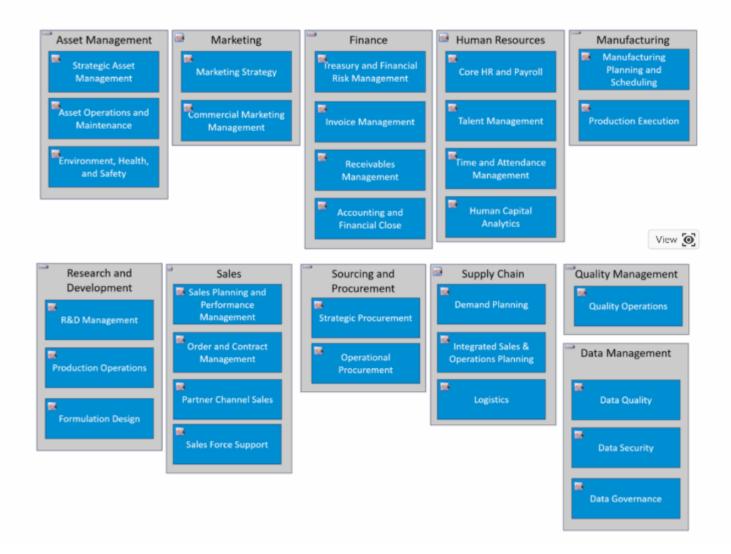Stefanie Rock (Lead of Cross Function Digital Customer Experience)

Roland Hoegele Lead of cross function Information Technology

Crop Protection

Energy & Natural Resources
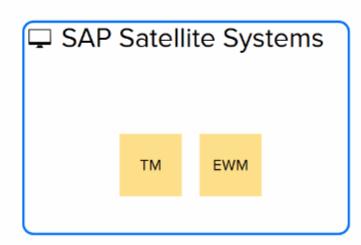
Cross

Baseline: Business Capabilities & Processes

B

Asset Management
- Strategic Asset Management
- Asset Operations and Maintenance
- Environment, Health, and Safety

Marketing
- Marketing Strategy
- Commercial Marketing Management

Finance
- Treasury and Financial Risk Management
- Invoice Management
- Receivables Management
- Accounting and Financial Close

Human Resources
- Core HR and Payroll
- Talent Management
- Time and Attendance Management
- Human Capital Analytics

Manufacturing
- Manufacturing Planning and Scheduling
- Production Execution

View

Research and Development
- R&D Management
- Production Operations
- Formulation Design

Sales
- Sales Planning and Performance Management
- Order and Contract Management
- Partner Channel Sales
- Sales Force Support

Sourcing and Procurement
- Strategic Procurement
- Operational Procurement

Supply Chain
- Demand Planning
- Integrated Sales & Operations Planning
- Logistics

Quality Management
- Quality Operations

Data Management
- Data Quality
- Data Security
- Data Governance

Baseline: Application Architecture

BW
MABAS Master Data

ERP (ECC) (Nukleon)

FI	PLM	SD-FT
CO	RM	LE-TRA
EC-PCA	EH&S	WM
SD		
MM		
PP		

Custom Code

In-App
Non Used customer code
Self-Contained

CRM

HCM

GTS

SRM

TM (SCMB)
EWM (SCMB)

APO (SCMB)

SNP	PP/DS
DP	GATP

SAP Components
non-SAP Components
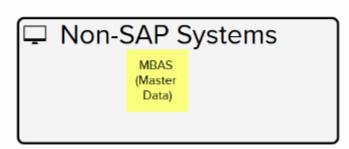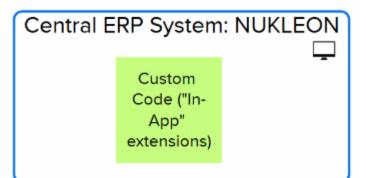
Actors and External Systems

Customers
- Industrial Companies

Partners

Internal users
- (Lithium) Manufacturing Worker

SAP Satellite Systems
- TM
- EWM

Non-SAP Systems
- MBAS (Master Data)

Central ERP System: NUKLEON
- Custom Code ("In-App" extensions)

Additional Requirements - Collection

Ricardo Pereira (Head of division Crop Protection)

Stefanie Rock (Lead of Cross Function Digital Customer Experience)

Roland Hoegele Lead of cross function Information Technology

Crop Protection

Energy & Natural Resources

Cross

✔ Covered by others
? Opportunity/Future
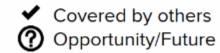
Stakeholder Engagement Map

Identify the Stakeholder and place them on this map
Use sticky notes to mark their level of engagement with this project (pro/con/neutral).
Optionally, add stickies that indicate which Arch Artefact is shared with the Stakeholder
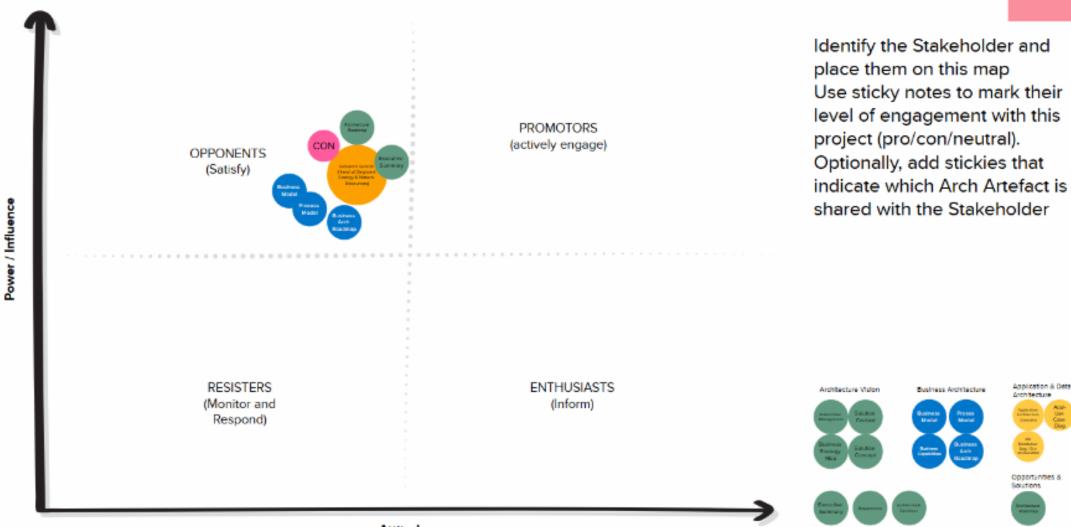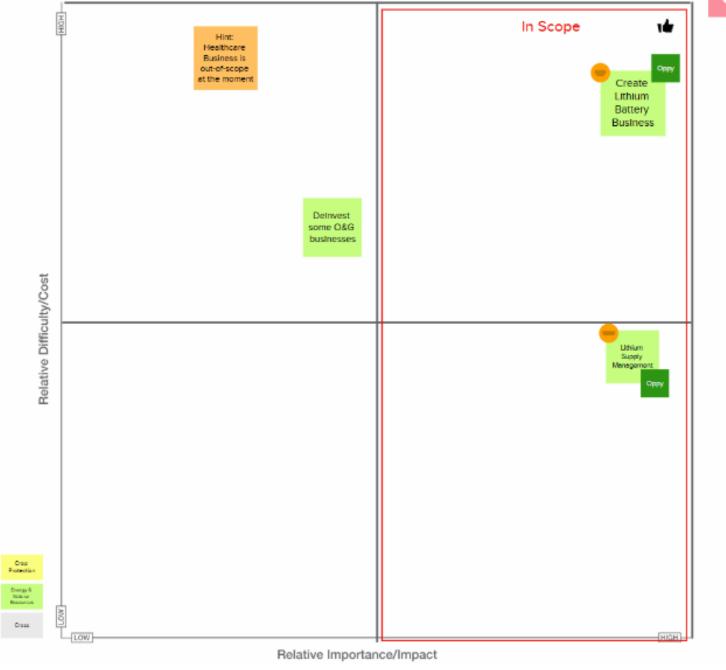
Risk assessment

Risk ID	Risk	Initial Risk		Mitigation	Residual Risk	
		Classification	Impact		Classification	Impact
BR1	Overload with IT projects; too many things at once.	Critical	No project will have the required attention for finishing it in time and budget.	Roadmap, Implementation and rollout plan that can be worked on.	Marginal	Higher cost for implementation and rollout services. Project may still experience delays and budget challenges.
BR2	Selected solution and products do not keep the promise.	Critical	Time, budget and resources will be wasted. Delay in digital transformation and innovation. Market share loss.	Build trusted partnership with solution provider. Use preferred and experienced partners. Carefully evaluate proposed solutions with effected end-users. Setup reviews cycles, PoCs and early prototypes for evaluation.	Critical	

H

Architecture decisions

Architecture Decision: Plat_1001

Name: Select Solution Architecture for Hybrid Environments

Major requirement that drives this decision is the support of GxP compliance systems and processes (see *"Compliance with law"* **in Architecture Principles**). For example, customer need to ensure that configuration and process changes are documented very detailed and are approved/signed off.

Rational: Currently, the S/4HANA Public Cloud offering cannot fully ensure GxP for all industries. Therefore, a customer specific instance is required (either provided within a dedicated Private Cloud environment or as on premises solution in customer's own data center).

Last Changed / Owner: 2024-03-21: Roland Hoegele (N3C) / Max Mustermann (SAP)

Architecture Decision: Plat_1010

Name: Dedicated cloud solution for Customer Experience

Decision was taken to leverage dedicated cloud solutions for better customer experience (for example Commerce Cloud instead of customers accessing S/4HANA backoffice system directly)

Rational: Better customer experience through faster innovation cycles and dedicated look & feel; separation of data access; separation of user access management (see *"Cloud-first Strategy"* **in Architecture Principles**).

Last Changed / Owner: 2024-03-21: Stefanie Rock (N3C) / Anna Musterfrau (SAP)

Architecture Decision: Plat_2010

Name: S/4HANA Private Cloud Edition in DC in North Virginia/U.S.

Rational: We need to apply to GxP regulations in general (see Plat_1001) but do also prefer cloud offering over own on premises operated systems (see **Architecture Principles** *"Cloud first strategy"*). Therefore, the Private Cloud Edition is the selected approach (own ERP system but operated by the IT partner SAP). The Architectural Principles define a multi Hyperscaler strategy. Therefore, an AWS data center in the U.S. was selected, also due to closest availability.

Last Changed / Owner: 2024-03-21: Roland Hoegele (N3C) / Max Mustermann (SAP)

Architecture Decision: Plat_2020

Name: Use the Digital Manufacturing solution (DM) in DC Amsterdam for the new Lithium Business.

Rational: The DM DC must follow the N3C Hyperscaler Strategy and should be located as close as possible to the Manufacturing site for Lithium production (in Germany). DM could also be used for existing production sites in the U.S. (DC Virginia, U.S. East). We need to select DM on an Azure data center in Europe due to N3C Azure based Hyperscaler Strategy for European (see Architecture Principles).

Last Changed / Owner: 2024-05-13: Giovani Girardi (N3C) / Anna Musterfrau (SAP)

Architecture Decision: Plat_2030

Name: Use the Logistics Procurement/Invoicing and Sourcing/Supplier Mgmt (Ariba) in DC in San Jose/CA, U.S.. Use the Logistics collaboration network LBN (Logistics Business Network) DC Quincy/WA, U.S.

The Logistics Procurement/Invoicing and Sourcing/Supplier Mgmt (Ariba) should be located as close as possible to the site where the major corporate functions for the supply chain management and where the master ERP system are located. The LBN functions are for WW collaboration in DC Quincy/WA, U.S.

Rational: The Logistics Procurement and Invoicing / Sourcing and Supplier Management (Ariba) should be located as close as possible to the location of the majority of the corporate functions (Greensboro/NC, U.S.)
The location of the WW supplier collaboration network functions is not as crucial due to the nature of WW network solutions (select Quincy/WA, U.S.)

Last Changed / Owner: 2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

Architecture Decision: Plat_2035

Name: Use the SAP Business Network Material Traceability in DC Frankfurt, DE.

The Logistics for the production material (Ariba) should be located as close as possible to the site where the major production and use of the materials takes place (basically close to the production site which uses the Lithium as supply --> Europe, e.g. Amsterdam/NL).
Rational: Currently the Material Traceability part of SAP BN for Logistics is only available in DC Frankfurt/DE. Therefore, this option is taken.
Note that this decision needs to be revalidated when BN for Logistics Material Traceability will be also available in Amsterdam/NL or in DC Quincy, WA (U.S.).
Last Changed / Owner: 2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

Architecture Decision: Plat_2040

Name: Use the SAC + DWC in DC Amsterdam and in DC N. Virginia, U.S. SAP Analytics Cloud for business data visualisation and business analytics for Business Users should be made available in DC in Amsterdam and in the DC N. Virginia, US. The same applies for the data management and preparation with the Datasphere.

Rational: SAC should be close to the data source(s) of the data that needs to be visualized. This is the Digital Manufacturing Cloud system for the European / Lithium business in Amsterdam and the PCE system for the existing manufacturing plants and corporate functions in Greensboro/NC, U.S. (see Plat_2010)Furthermore, SAC and Datasphere should be located close to each other (data preparation and visualisation) and close to the source system of the data that needs to be analysed. This is the DC in Amsterdam/NL is for the European business and the Lithium production in Germany. The DC in N. Virginia/U.S. is for the PCE for the existing corporate functions in Greensboro.

Last Changed / Owner: 2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

Architecture Decision: Plat_2050

Name: Use the IBP in DC Amsterdam and in a DC in N. Virginia, U.S. (e.g. Ashburn)

The Integrated Business Planning (IBP) solution should be used in DC in Amsterdam and in the DC N. Virginia, US, to ensure efficient usage of planning data.
Rational:
IBP should be close to the data source(s) of the data that is required for the planning process (from S/4HANA and DMC). Since the S/4HANA PCE systems are planned for the DC in Amsterdam (Lithium Batteries Business) and for the DC in N. Virginia (Corporate Functions, Crop Science), the same or a close DC should be used for IBP (see Plat_2010). This reduces the distance over which the planning data needs to be transferred (efficiency and cost).

Last Changed / Owner: 2024-05-25: Roland Hoegele (N3C) / Max Mustermann (SAP)

Executive Summary

Transformation Project in

Energy & Natural Resources	Crop Protection	Cross

Example (!):
Activities last 30 days (Focus: Business Architecture):
- Assessed Business Capabilities and Value Flows
- Derived first candidate Solution Building Blocks based on SAP provided Reference Content

Activities next 30 days (Focus: Solution Architecture):
- Finalize first version of Solution Building Blocks; identify White Spots and suggest mitigation
- Select applications for Solution Building Blocks; and used deployment environment (on Prem vs. Cloud)

Architecture Overview

Goals Drivers and Objectives

Contribute to the decarbonization of the global economy

Diversify the Energy & Natural Resources and be less dependant on fossil energy

Increase revenue and become a strategic player in the manufacturing of Lithium based accumulators in Europe

Business Architecture Roadmap

SAP Intelligent Enterprise Architecture (IEA10) -
Training

Architecture Vision

Customer Case Study: N3C

Objective: Build Business Strategy Map

Vision:
Contribute to the decarbonization of the global economy

Vision:

Strategic Priority

Strategic Priority (Driver):
Diversify the Energy & Natural Resources and be less dependant on fossil energy

Strategic Priority (Driver)

Goal

Goal:
Become a strategic player in the manufacturing of Lithium based accumulators/batteries in Europe

Goal:
Become leader in Lithium battery business

Goal:

Goal:

Value Driver (Objective)

Value Driver (Objective):
Build Lithium Battery Manufacturing plant in Europe by the end of next year
(see Interview answer 5)

Value Driver (Objective):

Value Driver (Objective):

Value Driver (Objective):

Initiative (Programs/Projects)

Initiative (Program) 1:
Establish Lithium battery business

Initiative (Program)

Initiative (Project) 11:
Establish Lithium battery production

Initiative (Project)

Initiative (Project)

Outcome (Initiative Milestone)

Outcome (Milestone) 111
Lithium battery production running in EU
(see Project 11)

Outcome (Milestone)

Outcome (Milestone)

Crop Protection

Energy & Natural Resources

Cross

SAP LeanIX

Enterprise Capability Assessment
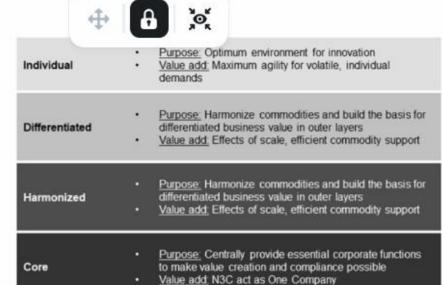
Corporate Capabilities

Resources and skills: mindset shift required from traditional product sales to service/ solution sales

Exploration capabilities for lithium need to be established (experiences for oil and gas exist)

Service Organization has to mature from product sales to service sales

Manufacturing of lithium batteries is a new business

Finance: revenue recognition will need to reflect service mile-stones and pay per use models

Business Processes: end-to-end process mindset across silos required

IT Infrastructure: shift to true digital and cloud will be required

Constraints

Tight schedule, many resources involved

Developing two new business models at the same time

Strong competition in lithium business

Architecture Principles

Layered IT Concept

Flexibility · Reliability · Control

Individual	• Purpose: Optimum environment for innovation • Value add: Maximum agility for volatile, individual demands
Differentiated	• Purpose: Harmonize commodities and build the basis for differentiated business value in outer layers • Value add: Effects of scale, efficient commodity support
Harmonized	• Purpose: Harmonize commodities and build the basis for differentiated business value in outer layers • Value add: Effects of scale, efficient commodity support
Core	• Purpose: Centrally provide essential corporate functions to make value creation and compliance possible • Value add: N3C act as One Company

By choosing the right governance approach per layer, N3C combine agile, quick solutions with a stable, reliable foundation for execution

Objective: Build Solution Context

Objective: Build Solution Concept

SAP Intelligent Enterprise Architecture (IEA10) -
Training

Business Architecture

Customer Case Study: N3C

Objective: Build Business Model Canvas

A

Lithium Battery - Business Model

Baseline Oil & Gas Business Model | Target Lithium Battery Business Model

Partners

- License partner for crude oilfields
- Partner in exploration for O&G fields
- Countries (gas, pipeline, oilfields)

Activities

- Exploration of lithium
- Production of batteries
- Providing battery services

Key resources

(Lithium) Manufacturing Worker

- Knowledge for exploration
- Service Platform

Value propositions

- Provide Lithium Batteries in a Pay-per-use model

Customer relationships

Channels

- Sales representatives / sales partner
- Digital channels

Customer segments

- Industrial
- Consumer Electronics
- Energy Storage
- Medical
- Automotive
- Other End-user Industries

Industrial Companies

Consumers

Cost structure

- License costs for lithium mines, costs for exploration
- Production of lithium batteries
- Salaries for high-end experts in exploration and production (Lithium)

Revenue streams

- Sales of batteries
- Service revenue (pay-per-use)

Eco-Social Costs

- O&G resources are non-renewable and limited and cause high CO2 emissions
- Need to ensure no forced and child labour in lithium production
- Lithium production entails high CO2 emissions.

Eco-Social Benefits

- Enable high quality of living through available and secure energy resources
- Contribute to the de-carbonization of the global economy

A

Objective: Build Organization Map

Example Artefact in LeanIX: Organization Map

← **IEA10: Organization Map**

⊗ | Type: **Organization** ✕ | AND | Quality Seal: **Broken** OR **Approved** ✕ | +

Add an Initiative + | 2021 | 2022 | 2023 | 2024

View | Owned Initiatives: Business Value ⌄ | Maximum ⌄

○ n/a | ⬤ Marginal benefit | ⬤ Little benefit | ⬤ Large benefit | ⬤ Significant benefit

O North Caroline Chemicals Corporation (N3C)

| Cross Function:... Customer Experience | Cross Function: Information Technology | | | |

Energy and Natural Resources (ENR)

| Div: Lithium Battery Business | Div: Natural Gas Transport | Div: Oil & Gas - Exploration & Production | Div: Petro Chemicals | |

Food and Nutrition

| Div: Crop Protection | Div: Nutrition | | | |

Health and Life

| Div: Care | Div: Pharma | | | |

⊙ Legal Entity

⊙ Business Unit

⊙ Business Unit

View ⚙

Business Role Diagram

N3C

Partners

- Service Technician (3rd Party)
- Crop Protection Service Advisors
- Agricultural Machinery Providers
- Field Data Colletion Service Providers (IoT)
- Suppliers (Drone Providers)

N3C

- (Lithium) Manufacturing Worker
- Service Technician (internal)
- Customer Service
- Business Users (internal)
- Business Analyst (internal)

Customers

- Farmers
- Industriel Companies
- Consumers

N3C IT Partner

- IT
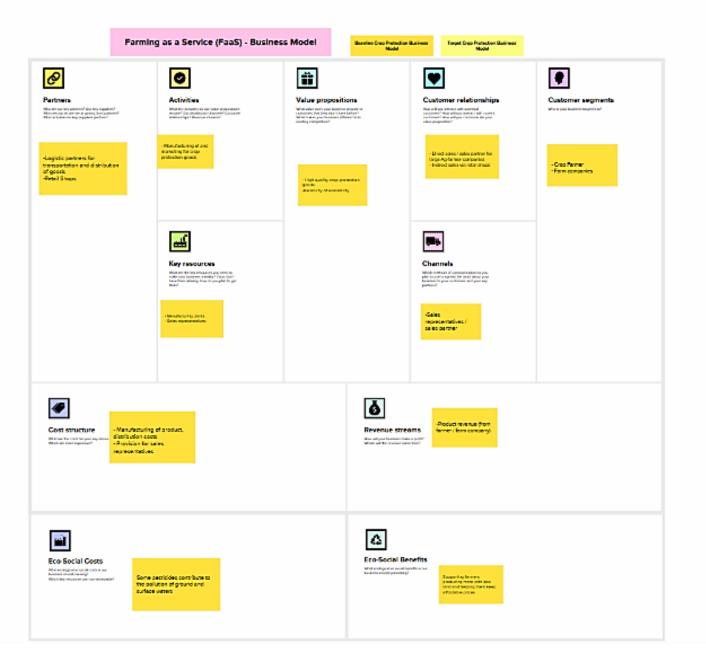
Legend:
- Crop Protection
- Energy & Natural Resources
- Cross

Example Artefact: Business Context Diagram

Service

Pay per use fee

Lithium battery

External Service Providers

Service Order

Service Fee

N3C

Order — Sales Partner

Order

Order — Sales Representative

Order — Industrial Campanies

Order — Consumers

Lithium battery

Pay per Use fee

Service

Flow of Demand

Flow of Goods & Services

Flow of Funds
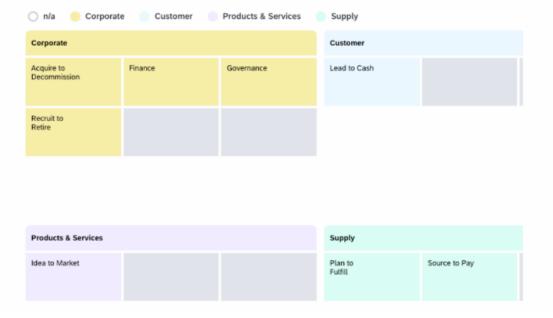
Objective: Create Target Business Capability Map and Value Flow

SAP LeanIX
Check Workspace

SAP LeanIX

Business Processes: End-to-end view of processes, for example Lead to Cash

Business Capabilities: Functional building blocks of an enterprise for example Sales, Marketing

Business Context 731

∨ SUBTYPE
☐ B Value Stream
☐ B Customer Journey
☐ B Process
☐ B Business Product

Business Capability

∨ HIERARCHY LEVEL
☐ Level 1
☐ Level 2
☐ Level 3
☐ Level 4

Business Process - Module - Segment - Activity (for Oil and Gas industry)
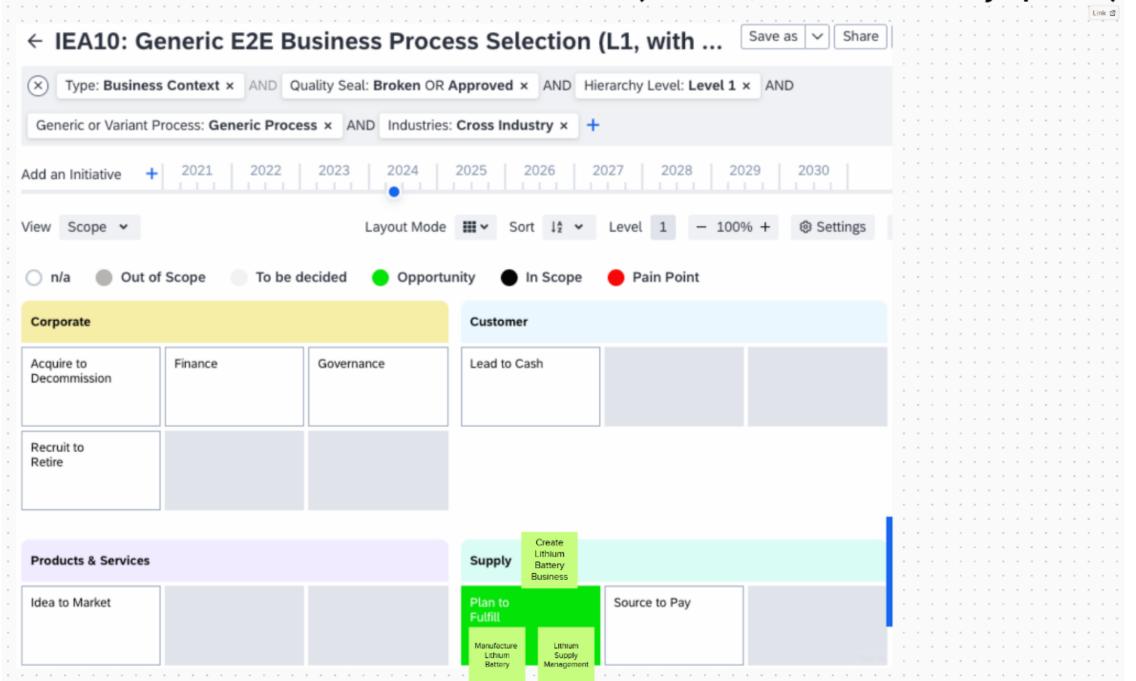
○ n/a ● Corporate ● Customer ● Products & Services ● Supply

Corporate		
Acquire to Decommission	Finance	Governance
Recruit to Retire		

Customer	
Lead to Cash	

Products & Services		
Idea to Market		

Supply	
Plan to Fulfill	Source to Pay

Business Domain - Area - Capability (incl. Industry-Content)

○ n/a ● Corporate ● Customer ● Products & Services ● Supply

Corporate		
Asset Management	Enterprise Strategy	Finance
Governance, Risk and Compliance	Human Resources	International Trade and Global Tax
Portfolio and Project Management	Sustainability Management	

Customer		
Customer Service	Marketing	Omnichannel Commerce
Sales		

Products & Services		
Product Management	R&D / Engineering	

Supply		
Manufacturing	Service Delivery	Sourcing and Procurement
Supply Chain Enablement	Supply Chain Execution	Supply Chain Planning

LeanIX

SAP Reference Content - Business Domains (L1 Business Capabilities)

← **IEA10: Business Domain Scoping (L1)**

Save as ▼ | ⬝⬝ Share

Link ⬈

⊗ | Type: **Business Capability** ✕ | AND | Quality Seal: **Broken** OR **Approved** ✕ | AND | Tag Group 'Business Capability Type': **L1: Business Domain** ✕

AND | Industries: **Cross Industry** ✕ | +

Add an Initiative + | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030

View [Scope ▼] | Layout Mode ⊞▼ | Sort ⬝▼ | Level 1 | − 100% + | ⚙ Settings

○ n/a | ⬤ Out of Scope | ⬤ To be decided | 🟢 Opportunity | ⚫ In Scope | 🔴 Pain Point

Corporate

Asset Management	Enterprise Strategy	Finance
Governance, Risk and Compliance	Human Resources	International Trade and Global Tax
Portfolio and Project Management	Sustainability Management	

Customer

Customer Service / Improve (digital) customer experience (e.g. CRM)	Marketing / Avoid Product Piracy	Omnichannel Commerce
Sales / Offer outcome-based services / Pay per use for crop protection / Offer Pay per use model for battery business		

Products & Services

Product Management / Algorithms for customer insights / Measure customer satisfaction / Create Lithium Battery Business	R&D / Engineering / Create Lithium Battery Business	

Supply

Lithium Exploration | Lithium Supply Management

Manufacturing / Manufacture Lithium Battery	Service Delivery	Sourcing and Procurement
Supply Chain Enablement / Improve Track & Trace	Supply Chain Execution	Supply Chain Planning

SAP Reference Content - Business Processes (Generic, Variants, Industry-specific)

← **IEA10: Generic E2E Business Process Selection (L1, with ...** | Save as ⌄ | Share

| ⊗ | Type: **Business Context** ✕ | AND | Quality Seal: **Broken** OR **Approved** ✕ | AND | Hierarchy Level: **Level 1** ✕ | AND |

Generic or Variant Process: **Generic Process** ✕ | AND | Industries: **Cross Industry** ✕ | +

Add an Initiative + | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030

View [Scope ⌄] | Layout Mode [⊞ ⌄] | Sort [↕ ⌄] | Level [1] | − 100% + | ⚙ Settings

○ n/a | ⚫ Out of Scope | ⚪ To be decided | 🟢 Opportunity | ⚫ In Scope | 🔴 Pain Point

Corporate

| Acquire to Decommission | Finance | Governance |

| Recruit to Retire | | |

Customer

| Lead to Cash | | |

Products & Services

| Idea to Market | | |

Supply

Create Lithium Battery Business

| Plan to Fulfill | Source to Pay | |

| Manufacture Lithium Battery | Lithium Supply Management | |

Link ⧉

Target Business Process Map and Business Capability Map

1. Decide which Business Domains to include or exclude (L1 Capability Scoping).

Manufacturing

Manufacture Lithium Battery

2. Decide which Business Areas to include or exclude (L2 Capability Scoping).

← **IEA10: Business Area Scoping (L2)**

B   Manufacturing
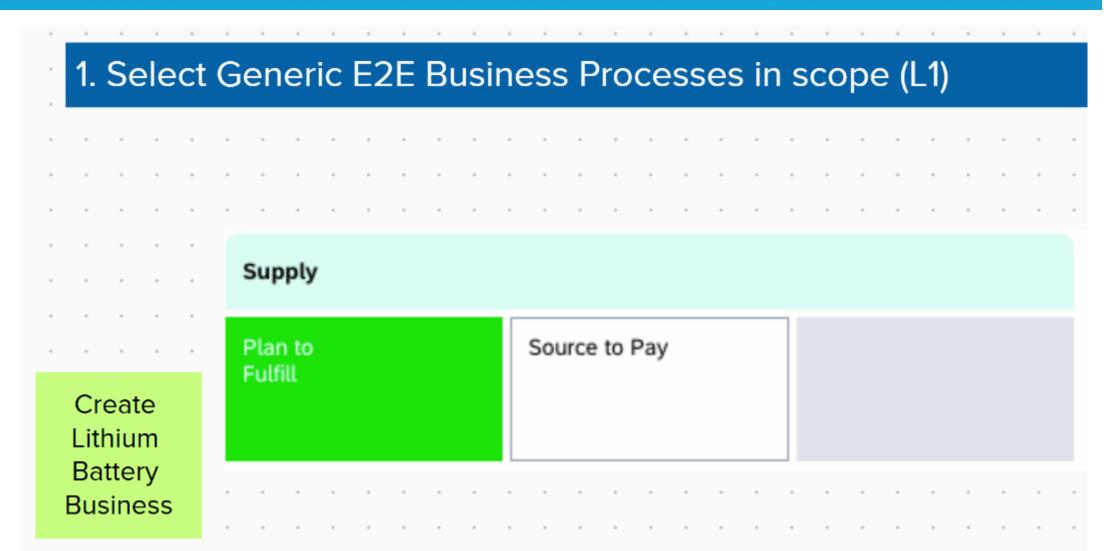
Manufacturing Engineering	Manufacturing Operations Management	Manufacturing Performance Management	Manufacturing Strategy Management
Production Operations of Intangible Products	Production Planning and Scheduling		

3. Decide which Business Capabilities to include or exclude (L3 Capability Scoping)

← **IEA10: Business Capability Scoping (L3, with Industry Filter)**

Industries: **Cross Industry** ×

B Manufacturing

Manufacturing Engineering

Manufacturing BOM Management	Manufacturing Definition	Manufacturing Equipment and Resource Management	Manufacturing Process Management

Manufacturing Operations Management

Cost Center-based Production	JIT/JIS Customer Supply Management	JIT/JIS Production Supply Management	Joint Production
Kanban Material Flow Control	Manufacturing Automation	Manufacturing Data Collection	Manufacturing Execution
Manufacturing Operations Scheduling and Dispatching	Process Order Management	Production Component Backflushing	Production Component Consumption
Production Order Management	Production Plan Management		

Target Business Process Map and Business Capability Map

b. Process-driven Assessment based on Reference Business Architecture

1. Select Generic E2E Business Processes in scope (L1)

Supply

| Plan to Fulfill | Source to Pay | |

Create Lithium Battery Business

2. Decide which Business Processes Variants are in scope (L1, with industry filter)

← IEA10: E2E Business Process Variant Selection (L1, with Industry Filter)

Industries: **Cross Industry** ×

B Plan to Fulfill

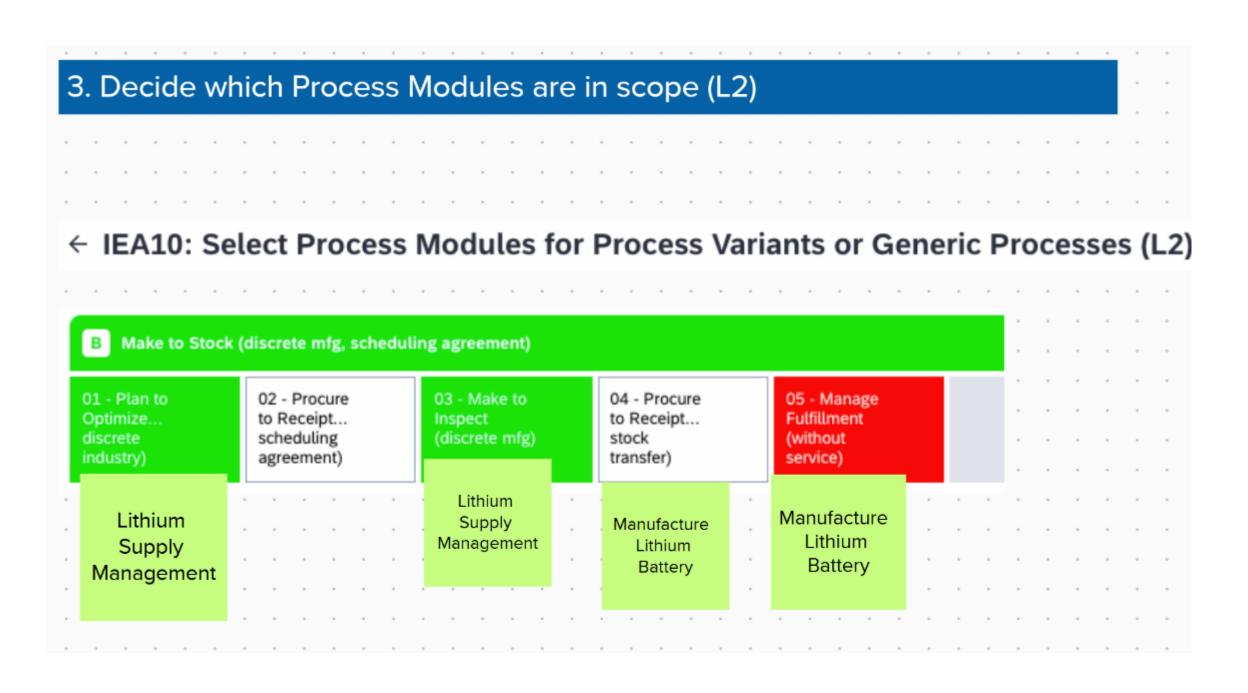|									
Collaborative Enterprise Planning	Disassemble to Stock	Make to Stock (continuous mfg, PO)	Make to Stock (continuous... scheduling agreement)	Make to Stock (discontinuous mfg, PO, ...contracting)	Make to Stock (discontinuous mfg, PO)	Make to Stock (discontinuo... agreement, ...contracting)	Make to Stock (discontinuou... scheduling agreement)	Make to Stock (discrete mfg, PO, ...contracting)
Make to Stock (discrete mfg, scheduling agreement)	Make to Stock (repetitive mfg, PO, ...contracting)	Make to Stock (repetitive mfg, PO)	Make to Stock (repetitive... agreement, ...contracting)	Make to Stock (repetitive... scheduling agreement)	Plan to Fulfill for digital assets	Plan to Fulfill for... (discrete industry)	Plan to Fulfill for... (discrete industry)	Plan to Fulfill for... (process industry)
Recycle Material to Stock	Utilities and Energy... (manufacturing industry)							

Make to Stock (discrete mfg, scheduling agreement)

Create Lithium Battery Business

B Business Context / Value Stream

Tags

Supply   Business Process   SAP Reference New

Description

covers planning, scheduling agreement based procurement, discrete production, and inventory management of goods. It's based on a business strategy where customer demand drives production and products are later sold from inventory.

Show less

3. Decide which Process Modules are in scope (L2)

← IEA10: Select Process Modules for Process Variants or Generic Processes (L2)

B Make to Stock (discrete mfg, scheduling agreement)

01 - Plan to Optimize... discrete industry)	02 - Procure to Receipt... scheduling agreement)	03 - Make to Inspect (discrete mfg)	04 - Procure to Receipt... stock transfer)	05 - Manage Fulfillment (without service)	

Lithium Supply Management

Lithium Supply Management

Manufacture Lithium Battery

Manufacture Lithium Battery

Private

← **IEA10: Select Process Segments for Process Modules (L3)**

B **Make to Stock (discrete mfg, scheduling agreement)**

Make to Inspect (discrete mfg)

01 - Perform production planning and scheduling	02 - Operate manufacturing (discrete)	03 - Monitor and optimize manufacturing performance	04 - Manage warehouse and... intra-company)		

Lithium Supply Management

Manufacture Lithium Battery

Manufacture Lithium Battery

Manage Fulfillment (without service)

01 - Manage manufacturing data	02 - Manage supply chain data and operations	03 - Manage material and substance compliance	04 - Identify and track material	05 - Plan and improve quality	06 - Manage sustainable o...

Manufacture Lithium Battery

Improve Track & Trace

Plan to Optimize Fulfillment (MTS, discrete industry)

01 - Develop supply chain strategy	02 - Develop manufacturing strategy	03 - Plan demand	04 - Plan inventory and supply (MTS	05 - Align demand,... financial plans	

Lithium Supply Management

View ⊙

5. Decide which Business Activities to include or exclude (L4)

← **IEA10: Decide which Business Activities are in scope for the selected processes (L4, Solution Value Flow)**

B   **Make to Stock (discrete mfg, scheduling agreement)**

Make to Inspect (discrete mfg)

Operate manufacturing (discrete)

01 - Start discrete production	02 - Stage production material	03 - Produce / assemble physical product	04 - Maintain production records	05 - Perform quality inspection	06 - Rework	07 - Confirm discrete production

Perform production planning and scheduling

01 - Plan and schedule production						

Manage Fulfillment (without service)

Identify and track material

01 - Manage material identification	02 - Manage product genealogy	03 - Track and trace				

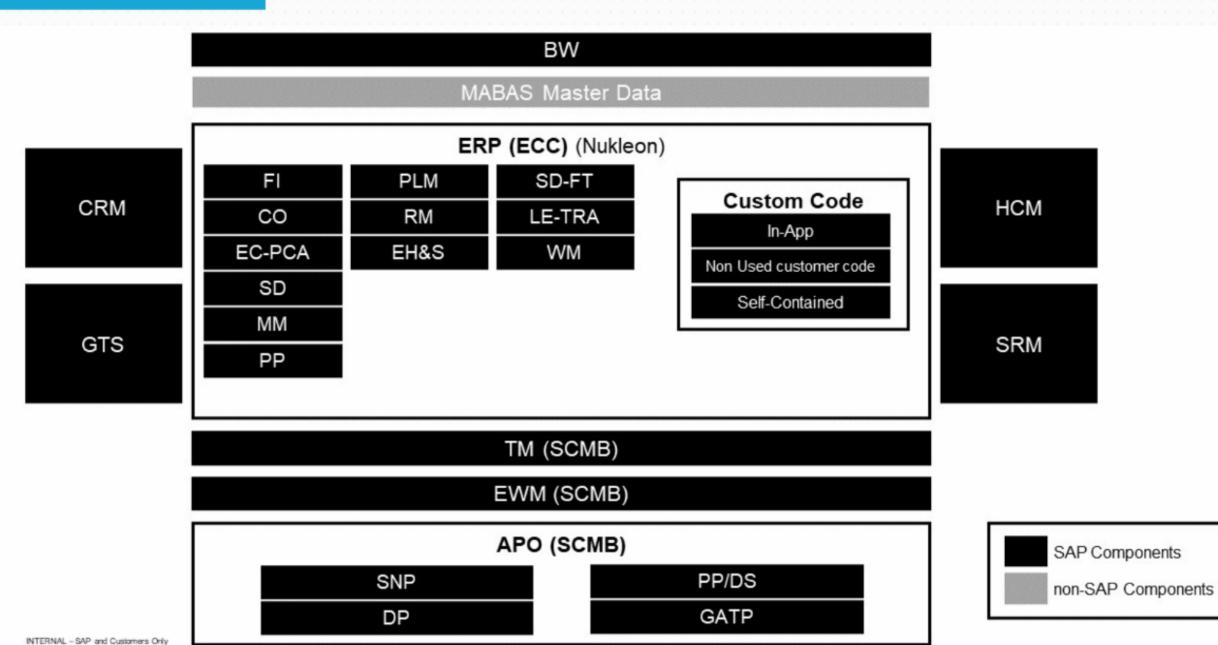# 6. Decide which **Business Capabilities** are required for which Business Activities

← IEA10: Select Business Capabilities for Business Activities (Process-Driven Scoping)

B Make to Stock (discrete mfg, scheduling agreement)

Make to Inspect (discrete mfg)

Operate manufacturing (discrete)

Confirm discrete production

Production Component Consumption	Production Order Management					

Produce / assemble physical product

Manufacturing Automation	Manufacturing Collaboration	Manufacturing Equipment and Resource Management	Manufacturing Execution	Manufacturing Operations Scheduling and Dispatching	Plant Operations Monitoring	Plant Performance Management

Start discrete production

Production Order Management						

Application and Data Architecture

Customer Case Study: N3C

Baseline Business Architecture

BW

MABAS Master Data

ERP (ECC) (Nukleon)

FI	PLM	SD-FT
CO	RM	LE-TRA
EC-PCA	EH&S	WM
SD		
MM		
PP		

Custom Code
- In-App
- Non Used customer code
- Self-Contained

CRM

HCM

GTS

SRM

TM (SCMB)

EWM (SCMB)

APO (SCMB)

| SNP | PP/DS |
| DP | GATP |

- SAP Components
- non-SAP Components

Functional & Non-Functional

Legend:
- Major Stakeholder (circle)
- Requirement or Business/ Solution Capability (square)

- Crop Protection (yellow)
- Energy & Natural Resources (green)
- Cross (grey)

Energy & Natural Resources:
- De-invest some O&G businesses
- Create Lithium Battery Business
- Lithium Supply Management
- Manufacture Lithium batteries
  - Giovanni Girardi (Head of Segment Energy & Natural Resources)

Crop Protection:
- Agricultural Machines Monitoring
- Field Crop Monitoring and Insights
- Offer outcome-based services / Pay per use for crop protection
  - Ricardo Pereira (Head of division Crop Protection)
  - Stefanie Rock (Lead of Cross Function Digital Customer Experience)

Cross:
- Algorithms for customer insights / Measure customer satisfaction
- Improve (digital) customer experience (e.g. CRM)
  - Stefanie Rock (Lead of Cross Function Digital Customer Experience)
  - Ricardo Pereira (Head of division Crop Protection)
  - Giovanni Girardi (Head of Segment Energy & Natural Resources)

- Apply to GxP regulations
- Avoid Product Piracy
- Improve Track & Trace
  - Roland Hoegele (Lead of cross function Information Technology)
  - Ricardo Pereira (Head of division Crop Protection)
  - Stefanie Rock (Lead of Cross Function Digital Customer Experience)

- Offer Pay per use model for battery business
  - Giovanni Girardi (Head of Segment Energy & Natural Resources)

Solution / Product Mapping (Working Sheet)

N3C

Most important Solution Building Blocks

External Business relevant Roles that interact with the system in scope

Industrial Companies

External Service Provider Roles

ERP (sales, manufacturing, supply chain etc.)

Supply Chain Management

S/4HANA (PCE / OP) ✓

SAP Event Management

Manufacturing Execution System

Manufacturing / Digital Manufacturing ✓

SAP Master Data Integration (MDI)

SAP Integration Suite (Cloud Integration)

SAP Analytics Cloud

SAP Datasphere

SAP Business Network (Ariba Central Procurement, Ariba Sourcing CE)

Tracking & Tracing

Marketing (Products)

Marketing (Services)

Service Management

Internal Roles that interact with the system in scope

Customer Service

Business Users (Internal)

Business Analyst (internal)

IT

N3C Backend Systems

ERP (Nukleon)

S/4HANA ERP

| HCM | SRM | CRM | GTS |
| BW | TM | EWM | APO |

(Lithium) Manufacturing Worker

3rd Party* Edge and IoT Ingestion Technology (e.g. MS Azure IoT)
Link 🔗

Agriculture Machinery (e.g. tractor combine harvester)

Telemetry Units for Machine Monitoring

Edge Gateway for Edge Processing

Remote Systems

Field Drones

Field Crop Efficiency Monitor

3rd Party* Drone Technology (e.g. Sentera Fieldagent)
Link 🔗

3rd Party*
Solution: Sentera Fieldagent + Climate Fieldview
Link 🔗

Field Crop Efficiency Monitoring and Insights

Crop Protection

Energy & Natural Resources

Cross

Roles

Architecture Building Blocks

Solution Building Blocks (SAP Products and Solutions)

Solution Building Blocks (SAP Products and Solutions added based on SAP Reference Content)

White Spot: area not covered by SAP Reference Content
***NOTE:** Shown **3rd Party** Solution Components are options and were **not validated!**)

✓ Validated using SAP EA Reference Content

Assemble to Order (Discrete Industries) for Hybrid Deployment (Design to Operate)

SAP Ariba

SAP Business Network for Procurement and Supply Chain ✔

SAP Ariba Sourcing, cloud edition ✔

SAP Integrated Business Planning for Supply Chain ✔

SAP Integrated Business Planning for sales and operations

SAP Integrated Business Planning for demand

SAP Business Technology Platform Manufacturing and Fulfillment

SAP Business Network for Logistics ✔

SAP Global Track and Trace ✔

SAP Business Network for Logistics
SAP Business Network Freight Collaboration

SAP Warehouse Insights
SAP Warehouse Robotics

SAP Quality Issue Resolution

SAP Digital Manufacturing ✔

SAP Business Technology Platform Asset Management

SAP Business Network for Asset Management
Asset Central

SAP Business Technology Platform

SAP Integration Suite, managed gateway

SAP Cloud Integration for data services

SAP Analytics Cloud ✔

SAP Integration Suite

SAP S/4HANA ✔

SAP S/4HANA (Operator)

production connector for SAP Digital Manufacturing

3rd Party Visibility Provider

Open ↗

Target Application Architecture Overview Diagram

R

Data Management and Analytics

SAP Analytics Cloud
SAP Datasphere

SAP Customer Experience

Private Cloud

S/4HANA (OP / PCE)

S/4HANA (Nukleon)

Manufacturing	Supply Chain	Asset Management
Finance		

SAP Business Networks

SAP Business Network for Logistics (SBNLog +

SAP Business Network (Ariba Network)

Remote Systems

3rd Party Example: Bosch Telemetry Unit	3rd Party Example: Sentera Drones with Fieldagent
3rd Party Example: MS Azure IoT Solution, IoT Edge + Services	

3rd Party Example:

Sentera Fieldagent + Climate Fieldview

SAP Digital Manufacturing

Business Technology Platform

SAP Master Data Integration	SAP Integration Suite

IBP

■	SAP Component	■	Optional
□	non-SAP Component (Only non-validated options are shown)		

Additional Discussion: Data Architecture

SAP Reference Solution Architecture - Data Flow Diagrams
(see https://api.sap.com/allprocess)
Example: Plan to Fulfill / Variant: Assemble to Order (Design to Operate) for Hybrid
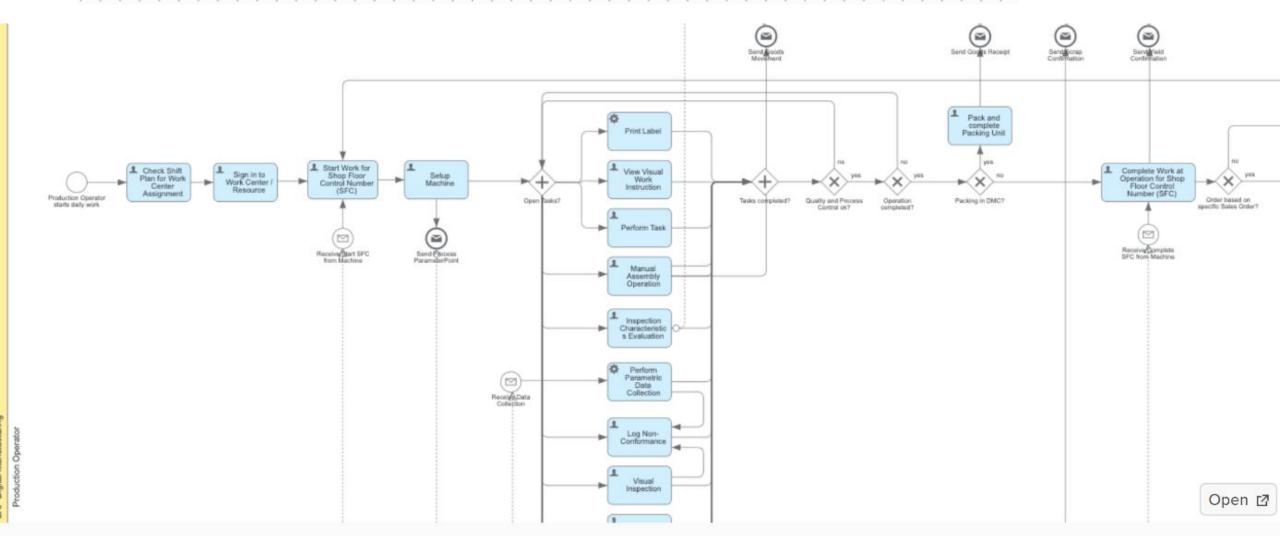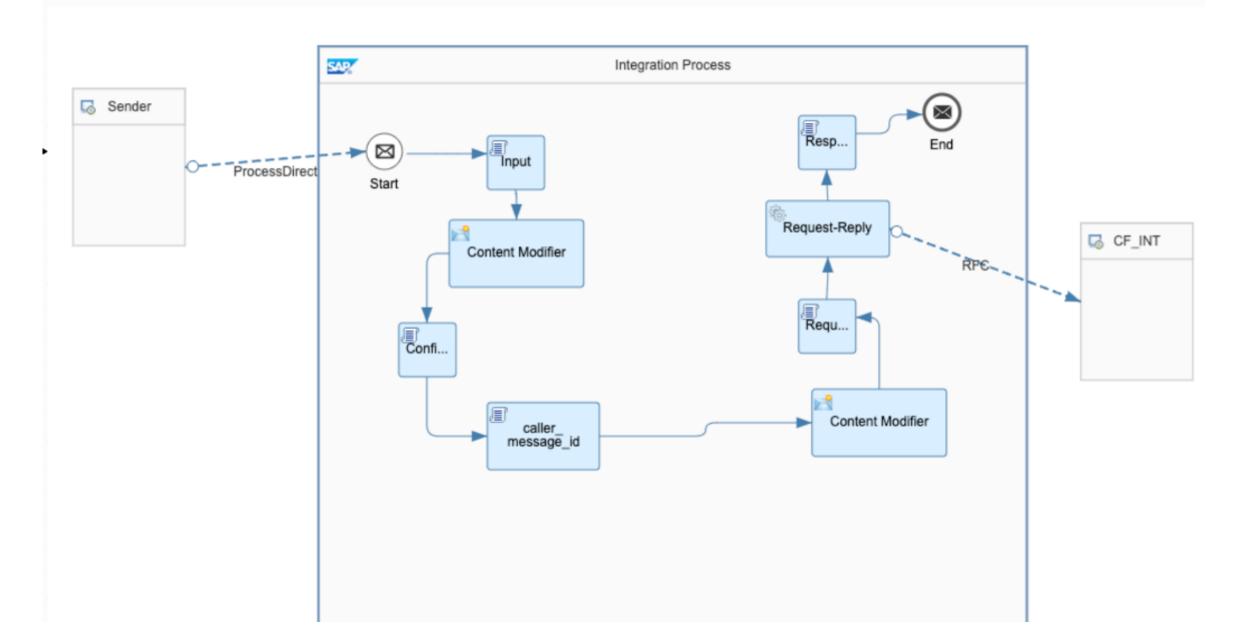
SAP Process Flow Diagram
https://api.sap.com/cd/PF1H1-SPFProductionExecutionOrchestrationinclMachineIntegration

SAP Cloud Integration - Integration Process Flow Artefact
https://api.sap.com/integrationflow/componentAdd_STD_SERVICE

Architecture Decision: **Plat_1010**

Name: **Dedicated cloud solution for Customer Experience**

Decision was taken to leverage dedicated cloud solutions for better customer experience (for example Commerce Cloud instead of customers accessing S/4HANA backoffice system directly)
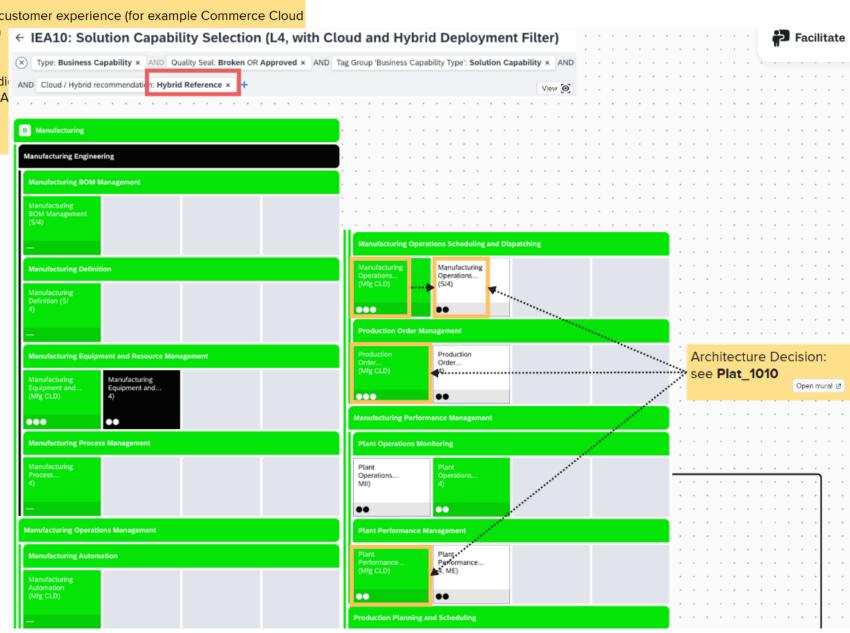
Rational:
Better customer experience through faster innovation cycles and dedi... separation of user access management (see "Cloud-first Strategy" in A...

Last Changed / Owner:
2024-03-21: Stefanie Rock (N3C) / Anna Musterfrau (SAP)

Open mural

← **IEA10: Solution Capability Selection (L4, with Cloud and Hybrid Deployment Filter)**

Facilitate

Type: **Business Capability** × AND Quality Seal: **Broken** OR **Approved** × AND Tag Group 'Business Capability Type': **Solution Capability** × AND

AND Cloud / Hybrid recommendation: **Hybrid Reference** × +

View

B Manufacturing

Manufacturing Engineering

Manufacturing BOM Management

Manufacturing BOM Management (S/4)

Manufacturing Definition

Manufacturing Definition (S/4)

Manufacturing Equipment and Resource Management

Manufacturing Equipment and... (Mfg CLD)

Manufacturing Equipment and... 4)

Manufacturing Process Management

Manufacturing Process... 4)

Manufacturing Operations Management

Manufacturing Automation

Manufacturing Automation (Mfg CLD)

Manufacturing Operations Scheduling and Dispatching

Manufacturing Operations... (Mfg CLD)

Manufacturing Operations... (S/4)

Production Order Management

Production Order... (Mfg CLD)

Production Order... 4)

Manufacturing Performance Management

Plant Operations Monitoring

Plant Operations... MII)

Plant Operations... 4)

Plant Performance Management

Plant Performance... (Mfg CLD)

Plant Performance... , ME)

Production Planning and Scheduling

Architecture Decision:
see **Plat_1010**

Open mural

IEA10: Select Applications for Solution Capabilities in scope (with Cloud and Hybrid Deployment filter)

Type: **Business Capability** ✕ | Scope: **Opportunity, In Scope, Pain Point** ✕ | Applications: **(Hybrid)** ✕ | Tag Group 'Business Capability Type': **Solution Capability** ✕ | +

Total 58 results

Display Name ↑	Full Name	Applications: Display Name	
		Reference: SAP S/4HANA	
Manufacturing / Manufacturing Engineering / Manufacturing BOM Management / Manufacturing BOM Management (S/4)	Manufacturing BOM Management (S/4)	Reference: SAP S/4HANA	
Manufacturing / Manufacturing Engineering / Manufacturing Definition / Manufacturing Definition (S/4)	Manufacturing Definition (S/4)	Reference: SAP Digital Manufacturing	
		Reference: SAP S/4HANA	
Manufacturing / Manufacturing Engineering / Manufacturing Equipment and Resource Management / Manufacturing Equipment and Resource ...	Manufacturing Equipment and Resource Management (Mfg ...	Reference: SAP Digital Manufacturing	
Manufacturing / Manufacturing Engineering / Manufacturing Equipment and Resource Management / Manufacturing Equipment and Resource ...	Manufacturing Equipment and Resource Management (S/4)	Reference: SAP S/4HANA	
Manufacturing / Manufacturing Engineering / Manufacturing Process Management / Manufacturing Process Management (S/4)	Manufacturing Process Management (S/4)	Reference: SAP S/4HANA	
Manufacturing / Manufacturing Operations Management / Manufacturing Automation / Manufacturing Automation (Mfg CLD)	Manufacturing Automation (Mfg CLD)	Reference: SAP Digital Manufacturing	
		Reference: SAP Manufacturing Integration an...	
		Reference: Software AG Trendminer	
Manufacturing / Manufacturing Operations Management / Manufacturing Execution / Manufacturing Execution (Mfg CLD)	Manufacturing Execution (Mfg CLD)	Reference: SAP Digital Manufacturing	
		Reference: Software AG Trendminer	
Manufacturing / Manufacturing Operations Management / Manufacturing Operations Scheduling and Dispatching / Manufacturing Operations S...	Manufacturing Operations Scheduling and Dispatching (Mfg ...	Reference: SAP Digital Manufacturing	
Manufacturing / Manufacturing Operations Management / Production Order Management / Production Order Management (Mfg CLD)	Production Order Management (Mfg CLD)	Reference: SAP Digital Manufacturing	
Manufacturing / Manufacturing Performance Management / Manufacturing Analytics / Manufacturing Analytics (S/4)	Manufacturing Analytics (S/4)	Reference: SAP Analytics Cloud	
		Reference: SAP BW/4HANA	
		Reference: SAP Datasphere	
		Reference: SAP S/4HANA	
Manufacturing / Manufacturing Performance Management / Plant Operations Monitoring / Plant Operations Monitoring (S/4)	Plant Operations Monitoring (S/4)	Reference: SAP S/4HANA	
Manufacturing / Manufacturing Performance Management / Plant Performance Management / Plant Performance Management (Mfg CLD)	Plant Performance Management (Mfg CLD)	Reference: SAP Digital Manufacturing	
		Reference: SAP Manufacturing Integration an...	
		Reference: Software AG Trendminer	
Manufacturing / Production Planning and Scheduling / Material Requirements Planning / Material Requirements Planning (IBP)	Material Requirements Planning (IBP)	Reference: SAP Integrated Business Planning...	

← **IEA10: Solution Capabilities Selection for Business Activities and Capabilities in scope (with Cloud and Hybrid Deployment Filter)**

Save as ⌄ ⌁

⊗ Type: **Business Capability** × AND Quality Seal: **Broken** OR **Approved** × AND Business Contexts:**Advanced Filter** × AND Hierarchy Level: **Level 4** × AND Parents:**Advanced Filter** × AND Cloud / Hybrid recommendation: **Hybrid Reference** ×

B Make to Stock (discrete mfg, scheduling agreement)

Make to Inspect (discrete mfg)

Operate manufacturing (discrete)

Confirm discrete production

Production Order... (Mfg CLD) ●●●	Production Order... 4) ●●

Produce / assemble physical product

Manufacturing Automation (Mfg CLD) —	Manufacturing Collaboration (EPD) —	Manufacturing Equipment and... (Mfg CLD) ●●●	Manufacturing Equipment and... 4) ●●	Manufacturing Execution (Mfg CLD) ●●●	Manufacturing Execution (S/ 4) ●●	Manufacturing Operations... (Mfg CLD) ●●●	Manufacturing Operations... (S/4) ●●	Plant Operations... MII) ●●	Plant Operations... 4) ●●	Plant Performance... (Mfg CLD) ●●	Plant Performance... 4, ME) ●●

Start discrete production

Production Order... (Mfg CLD) ●●●	Production Order... 4) ●●

Perform production planning and scheduling

> **NOTE**: Additional required BCs, SCs and Applications identified through Process-driven Approach

Plan and schedule production

Material Requirements Planning (IBP) ●●●	Material Requirements... 4) ●●	Resource Capacity Planning (IBP) —

Technology Architecture

Customer Case Study: N3C
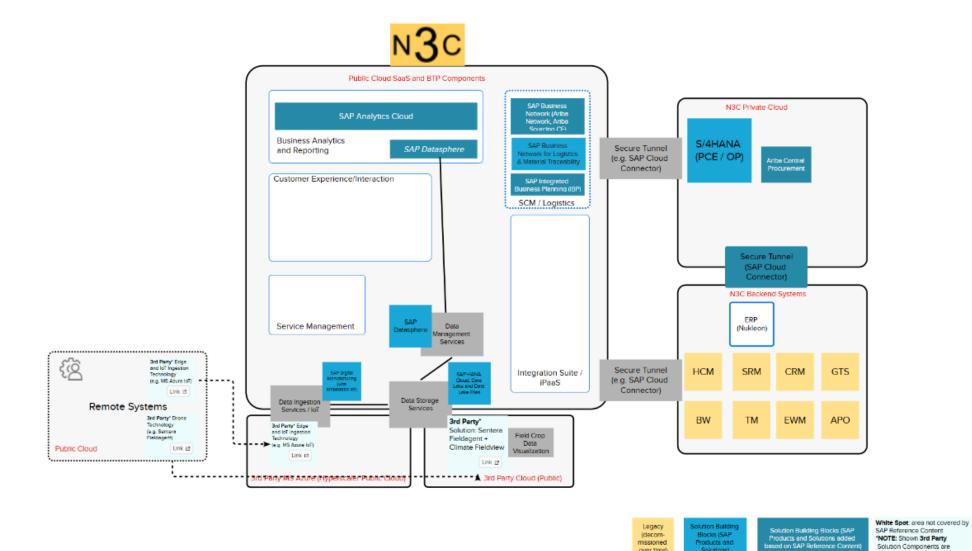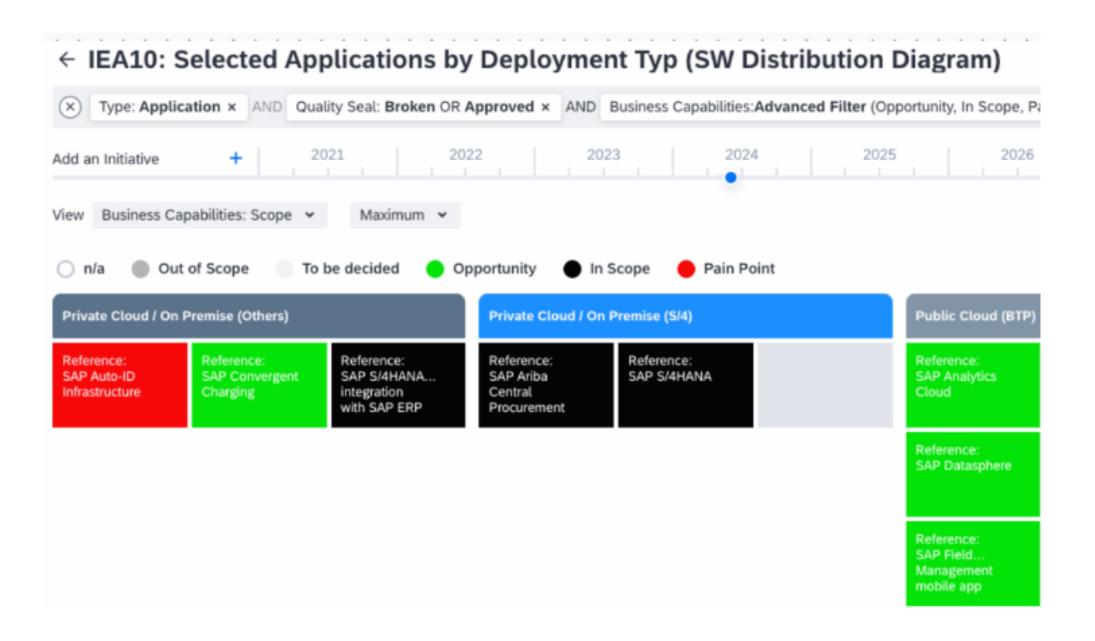
Objective: Build Software Distribution Diagram
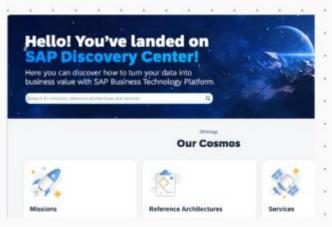
- The Software Distribution Diagram is part of the Application Architecture. It provides an abstract input for the Environments & Location Diagram

Ⓧ Type: **Application** ✕ | AND | Quality Seal: **Broken** OR **Approved** ✕ | AND | Business Capabilities:**Advanced Filter** (Opportunity, In Scope, P...

Add an Initiative ➕

| | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |

View [Business Capabilities: Scope ⌄] [Maximum ⌄]

○ n/a ⬤ Out of Scope ⚪ To be decided 🟢 Opportunity ⚫ In Scope 🔴 Pain Point

Private Cloud / On Premise (Others)			Private Cloud / On Premise (S/4)			Public Cloud (BTP)
Reference: SAP Auto-ID Infrastructure	Reference: SAP Convergent Charging	Reference: SAP S/4HANA... integration with SAP ERP	Reference: SAP Ariba Central Procurement	Reference: SAP S/4HANA		Reference: SAP Analytics Cloud
						Reference: SAP Datasphere
						Reference: SAP Field... Management mobile app

SAP Data Center Infos: use SAP Trust Center and Discovery Center

Architecture Decision: **Plat_2010**

Name: **S/4HANA Private Cloud Edition in DC in North Virginia/U.S.**
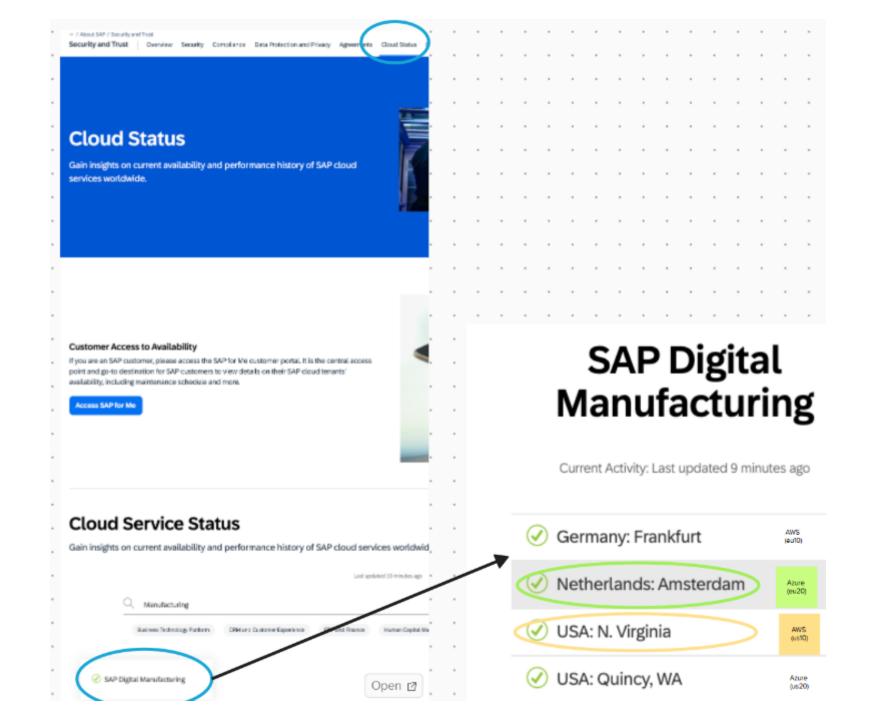
The SAP DC North Virginia/U.S. was chosen S/4HANA Private Cloud Edition

Rational:
We need to apply to GxP regulations in general (see Plat_1001) but do also prefer
cloud offering over own on premises operated systems (see Architecture Principles
"Cloud first strategy"). Therefore, the Private Cloud Edition is the selected approach
(own ERP system but operated by the IT partner SAP).
The Architectural Principles define a multi Hyperscaler strategy. Therefore, an AWS
data center in the U.S. was selected, also due to closest availability.

Last Changed / Owner: 2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

SAP Analytics Cloud

One simple cloud solution for all your analytics needs.

SAP Discovery Center

Open ↗

Info from Trust Center:

SAP Datasphere

Current Activity: Last updated 3 minutes ago

- ✓ Germany: Frankfurt
- ✓ Germany: Frankfurt (2)
- ✓ India: Mumbai
- ✓ Japan: Tokyo
- ✓ Netherlands: Amsterdam
- ✓ Singapore
- ✓ South Korea: Seoul
- ✓ Switzerland: Zürich
- ✓ USA: Council Bluffs, IA
- ✓ USA: N. Virginia
- ✓ USA: Quincy, WA

Azure (eu20)

AWS (us10)

SAP Datasphere

Use Trust Center or Discovery Center DC information for Apps and Services on BTP

SAP Analytics Cloud

Current Activity: Last updated 7 minutes ago

- ✓ Netherlands: Amsterdam
- ✓ Saudi Arabia: Riyadh
- ✓ Singapore

Azure (eu20)

SAP Analytics Cloud

SAP Integrated Business Planning for Supply Chain (IBP)

Lithium Supply Management

SAP Integrated Business Planning for Supply Chain

Current Activity: Last updated 10 minutes ago

- ✓ Netherlands: Amsterdam
- ✓ Saudi Arabia: Riyadh
- ✓ United Arab Emirates: Dubai
- ✓ USA: Ashburn, VA

Selected DCs for IBP:
- Amsterdam/NL
- Ashburn/VA

Architecture Decision: **Plat_2050**

Name: **Use the IBP in DC Amsterdam and in a DC in N. Virginia, U.S. (e.g. Ashburn). The Integrated Business Planning (IBP) solution should be used in DC in Amsterdam and in the DC N. Virginia, US, to ensure efficient usage of planning data.**

Rational:
IBP should be close to the data source(s) of the data that is required for the planning process (from S/4HANA and DM). Since the S/4HANA PCE systems are planned for the DC in Amsterdam (Lithium Batteries Business) and for the DC in N. Virginia (Corporate Functions, Crop Science), the same or a close DC should be used for IBP (see Plat_2010). This reduces the distance over which the planning data needs to be transferred (efficiency and cost).

Last Changed / Owner:
2024-05-25: Roland Hoegele (N3C) / Max Mustermann (SAP)

SAP Ariba Sourcing

SAP Ariba Procurement

Current Activity: Last updated 8 minutes ago

✓ Australia: Sydney

✓ China: Shanghai

✓ Germany: Frankfurt

✓ Japan: Tokyo

✓ Saudi Arabia: Riyadh

✓ United Arab Emirates: Dubai

✓ USA: Council Bluffs, IA   Open ↗

Architecture Decision: **Plat_2030**

Name: **Use the Logistics Procurement/Invoicing and Sourcing/Supplier Mgmt (Ariba) in DC in Council Bluffs, IA, U.S.. Use the major functions of the wordwide Logistics collaboration network LBN (SAP Business Network for Logistics / LBN, Global Track and Trace) in DC Quincy/WA, U.S.**

The Logistics Procurement/Invoicing and Sourcing/Supplier Mgmt (Ariba) should be located as close as possible to the site where the major corporate functions for the supply chain management and where the master ERP system are located. The LBN functions are for world-wide collaboration in DC Quincy/WA, U.S..
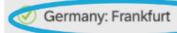
Rational:
The Logistics Procurement and Invoicing / Sourcing and Supplier Management (Ariba) should be located as close as possible to the location of the majority of the corporate functions (Greensboro/NC, U.S.).
The location of the world-wide supplier collaboration network functions is not as crucial due to the nature of WW network solutions (select Quincy/WA, U.S.). Still it should be as close as possible to the corporate logistics and procurement functions (U.S.).

Last Changed / Owner:
2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

SAP Business Network Global Track and Trace

Current Activity: Last updated 6 minutes ago

✓ Germany: Frankfurt

✓ USA: Quincy, WA

SAP Business Network Material Traceability - Owner

Current Activity: Last updated 10 minutes ago

✓ Germany: Frankfurt

Selected DCs for LBN:
- Quincy/WA, U.S.

Architecture Decision: **Plat_2035**

Name: **Use the SAP Business Network Material Traceability in DC Frankfurt, DE.**

The Logistics for the production material (Ariba) should be located as close as possible to the site where the major production and use of the materials takes place (basically close to the production site which uses the Lithium as supply --> Europe, e.g. Amsterdam/NL).

Rational:
Currently the Material Traceability part of SAP BN for Logistics is only available in DC Frankfurt/DE. Therefore, this option is taken.
Note that this decision needs to be revalidated when BN for Logistics Material Traceability will be also available in Amsterdam/NL or in DC Quincy, WA (U.S.).
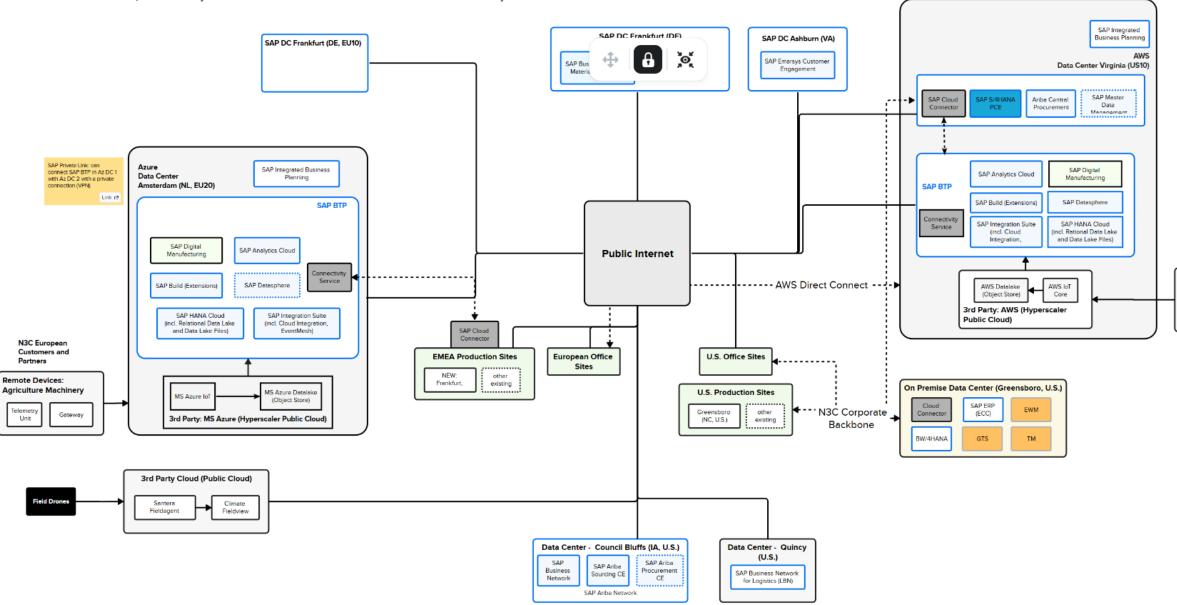
Last Changed / Owner:
2024-05-13: Roland Hoegele (N3C) / Max Mustermann (SAP)

Selected DCs for Network Material Traceability - Owner:
- Frankfurt/DE

Objective: Build Environment & Location Diagram

Note: This is a fictive snapshot and may not be correct at the time for the session! Check the availability in the SAP Trust-Center.

Opportunities and Solutions

Customer Case Study: N3C

Objective: Build Business Strategy Map

A

Vision:
Contribute to the decarbonization of the global economy

Vision:

Strategic Priority	**Strategic Priority (Driver):** Diversify the Energy & Natural Resources and be less dependant on fossil energy		**Strategic Priority (Driver)**	
Goal	**Goal:** Become a strategic player in the manufacturing of Lithium based accumulators/batteries in Europe	**Goal:** Become leader in Lithium battery business	**Goal:**	**Goal:**
Value Driver (Objective)	**Value Driver (Objective):** Build Lithium Battery Manufacturing plant in Europe by the end of next year (see Interview answer 5)	**Value Driver (Objective):**	**Value Driver (Objective):**	**Value Driver (Objective):**
Initiative (Programs/Projects)	**Initiative (Program) 1:** Establish Lithium battery business / **Initiative (Project) 11:** Establish Lithium battery production		**Initiative (Program)** / **Initiative (Project)**	**Initiative (Project)**
Outcome (Initiative Milestone)	**Outcome (Milestone) 111** Lithium battery production running in EU (see Project 11)		**Outcome (Milestone)**	**Outcome (Milestone)**

Crop Protection

Energy & Natural Resources

Cross

SAP LeanIX

Initiative Catalog

No	Initiative	Description
1	Monitor and manage capital expenditure	Capital expenditure must be measured for return of investment and allow for better modelling in case of major investments
2	Implement flexible pricing model	Product and service pricing must be flexible to facilitate better competition, fast reaction to changing market and support marketing campaigns
3	Improve time-to-market	Improve processes from the idea to release-to-market for our products and services to achieve readiness faster and cheaper
4	Engage customers	Improve customer engagement for various channels and customer types
5	...	...

Initiative Outcome Catalog

No	Initiative	Outcome
1	Monitor and manage capital expenditure	Real-time capital expenditure insights enabled
2	Implement flexible pricing model	Flexible portfolio and dynamic market pricing implemented
3	Improve time-to-market	Agile release-to-market in operation
4	Engage customers	Best in class customer churn rate achieved
5	...	...

Candidates | Ideal candidate

Business Value: Significant — Large — Little — Marginal

Project Risk: Severe — High — Moderate — Low

No candidate | Wait for benefits

Objective: Prioritize Initiative Outcome

Input from Business Strategy Map

Input from Business Capability Map

Input from Application Architecture

| No	Initiative	Description	Business outcome	Business Value	Risk	Business Capability	Solution	Dependency	Timeline
1	Name of the initiative	Description of the initiative	Business outcome(s)	Value	Risk	Business Capability(s)	Solution(s)	Dependency(s)	Timeline
2	Name of the initiative	Description of the initiative	Business outcome(s)	Value	Risk	Business Capability(s)	Solution(s)	Dependency(s)	Timeline
3	Name of the initiative	Description of the initiative	Business outcome(s)	Value	Risk	Business Capability(s)	Solution(s)	Dependency(s)	Timeline

Expected outcome from capability implementation
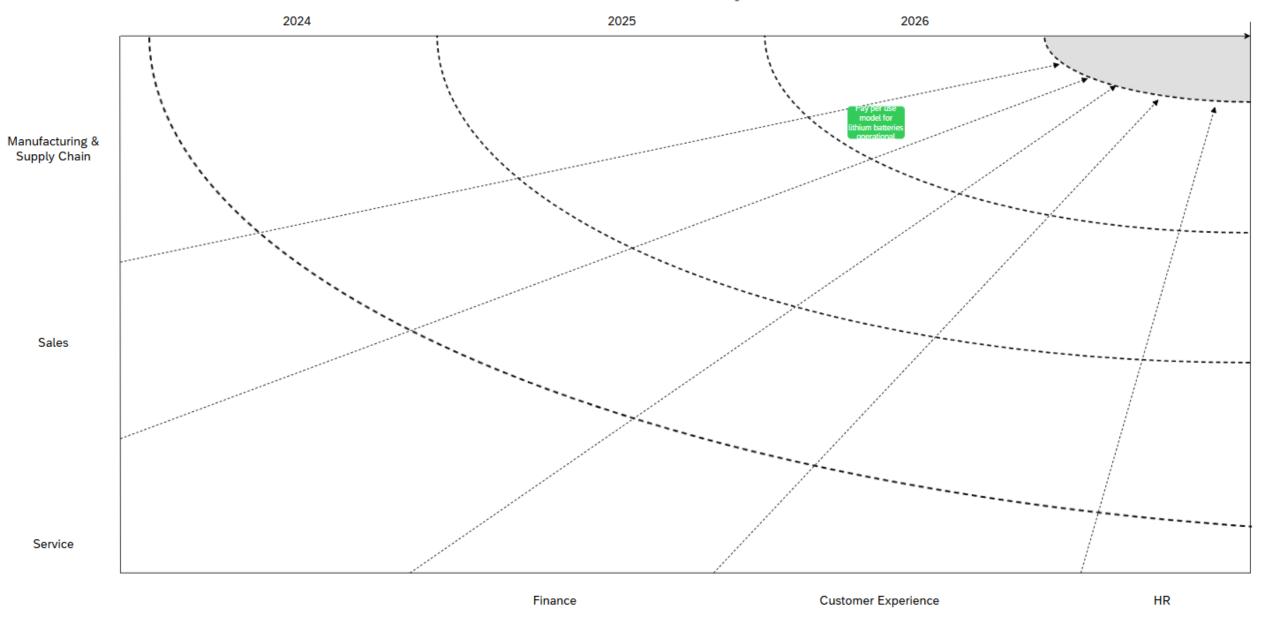
Identify dependencies between roadmap elements

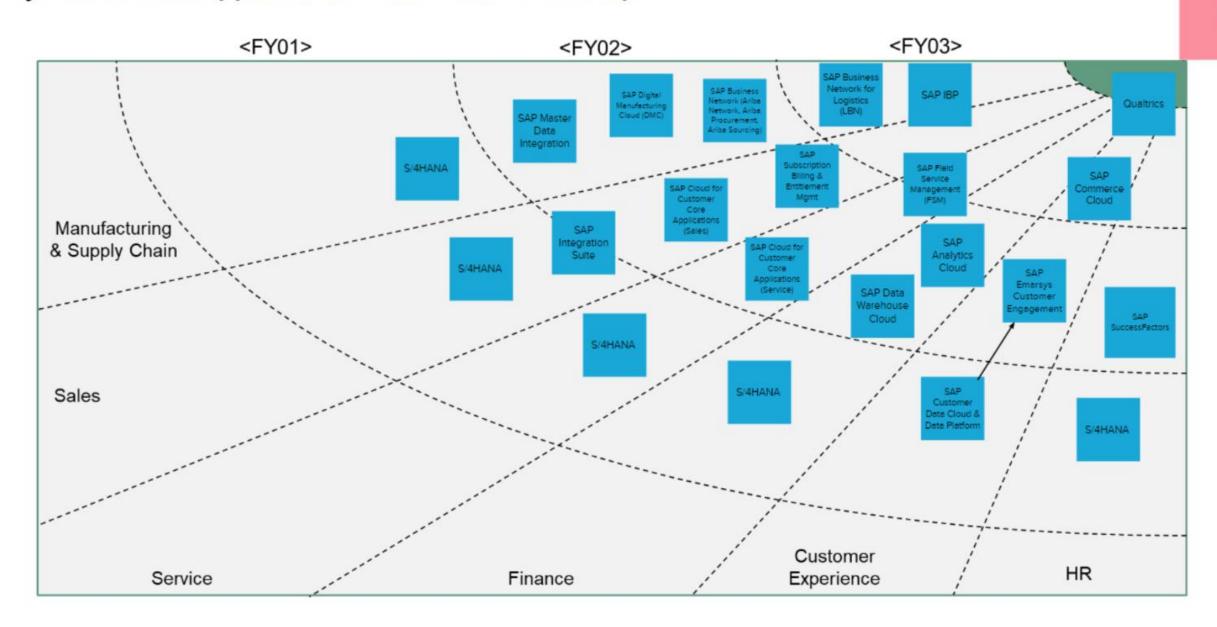Expected timeline – incl. quick-wins for value realization

Construction Table for Architecture Roadmap

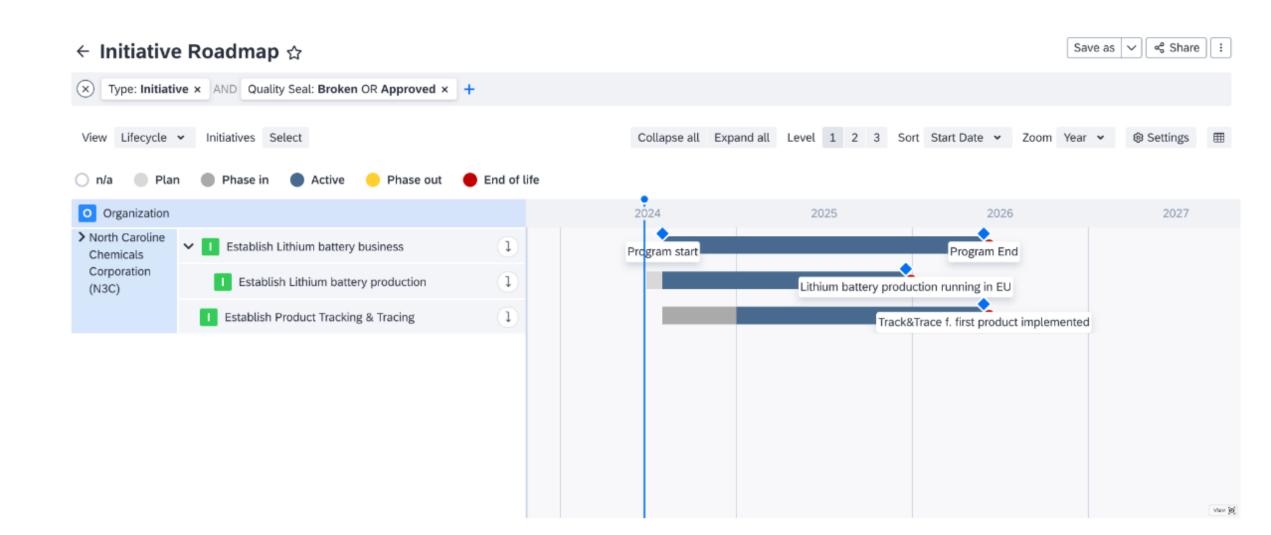| INITIATIVE(PROGRAM)	PROJECT	BUSINESS OUTCOME: MILESTONE	OBJECTIVE(VALUE DRIVER)	BUSINESS CAPABALITY	SOLUTION(APPLICATION)	DEPENDENCY	TIMELINE
Initiative (Program) 1:	Initiative (Project) :	Outcome (Milestone)	Value Driver:	Capabalities:	Solution : S/4HANA	Initiative Dependency:	Lifecycle:
Source: Initiative Catalog / Strategy Map		*Source: Strategy Map*	*Stakeholder Interview answer*	*Source: Capability Map*	Source: *Application Architecture Overview Diag*	*Lithium extraction must be finished before manufacturing can start*	*Source: Initiative Catalog*
Establish Lithium battery business	Establish Lithium battery production	Lithium battery production running in EU	Build Lithium Battery Manufacturing plant in Europe by the end of next year	Manufacturing, Production, Plant Operations,MRP	SAP Ariba Central Procurement, SAP Digital Manufacturing (DM), SAP Datasphere, SAP Analytics Cloud, SAP Business Network (Ariba Network, Ariba Sourcing CE), SAP Business Network for Material Traceability, SAP Integrated Business Planning (IBP)	SAP Integration Suite	Planned: 06-2024 Active: 08-2024 Done: 12-2025
	Establish Pay per Use model for battery business						

Architecture Roadmap

2024 2025 2026

Manufacturing & Supply Chain

Pay per use model for lithium batteries operational

Sales

Service

Finance Customer Experience HR

Objective: Build Application Architecture Roadmap

Objective: Build Business Architecture Roadmap (outcome based)

SAP LeanIX
Check Workspace

C

← **Initiative Roadmap** ☆

Save as ▼ | ⊷ Share | ⋮

ⓧ | Type: **Initiative** ✕ | AND | Quality Seal: **Broken** OR **Approved** ✕ | +

View | Lifecycle ▼ | Initiatives | Select
Collapse all | Expand all | Level | 1 | 2 | 3 | Sort | Start Date ▼ | Zoom | Year ▼ | ⚙ Settings | ▦

○ n/a ⬤ Plan ⬤ Phase in ⬤ Active ⬤ Phase out ⬤ End of life

O Organization		2024	2025	2026	2027

> North Caroline Chemicals Corporation (N3C)

∨ **I** Establish Lithium battery business

Program start · Program End

I Establish Lithium battery production

Lithium battery production running in EU

I Establish Product Tracking & Tracing

Track&Trace f. first product implemented

Objective: Build Application Architecture Roadmap

SAP LeanIX
Check Workspace

D

Work Breakdown Structure & Effort Estimation

Customer:	<customer>
Project:	Interest-Datenbank
Version:	v1.0 - 13.10.2020

Assumptions

This cost estimate is based on the following assumptions. Please also pay attention to the notes on individual activities in the comment field!

No	
1	The required application systems for the PoC are provided by SAP. They cannot be used beyond the duration of the PoC.
2	The matching conditions are derived from the entire backend system (ECC or S/4HANA).
3	Standard security models are used for all components involved; a <customer>-specific security model implementation is not covered.
4	...

Phase	Activity	Effort [PD]		Role	Level	Comments
		min	max			
Setup	Setup Access to PoC CPI Instance	1	1	TA	SE	
	Setup Access to PoC SAP Sales Cloud Instance - Check pre-requisites - Configure Environment: create users/assign privileges, -roles - Configure Activity Management - Configure Ticketing	4	6	TA/CD	SE	
	subtotal	5	7			
Analysis	**Data Discovery** - Validation of Entity Types, Data understanding	1	2	TA/CD	SE/SP	
	- Analysis of matching algorithm	2	3	TA/CD	SE/SP	
	subtotal	3	5			
	Entity Type: Prospect					
	- Definition	1	1,5	TA/CD	SE	
	Entity Type: Object (real estate)					
	- Definition	1	1,5	TA/CD	SE	
	Entity Type: Campaign (contact prospects for real estate object)					
	- Definition	1	1,5	TA/CD	SE	
	Relationships					
	E-Mail, schedule, phone call - Object	1	1,5	CD	SE	
	Ticket – Object 1:N	1	1,5	CD	SE	
	Campaign – Object 1:N	1	1,5	CD	SE	
	Campaign – E-Mail 1:N	1	1,5	CD	SE	
	Navigation across relations	3	4	CD	SE	
	User Interfaces					
	Object search profile	1	2	CD	SE	
	360-degree-view (add. Tab in customer view)	4	6	CD	SE	
	Object					
	- Search - List View (Object Worklist)	1	2	CD	SE	
	- Detail View	1	2	CD	SE	