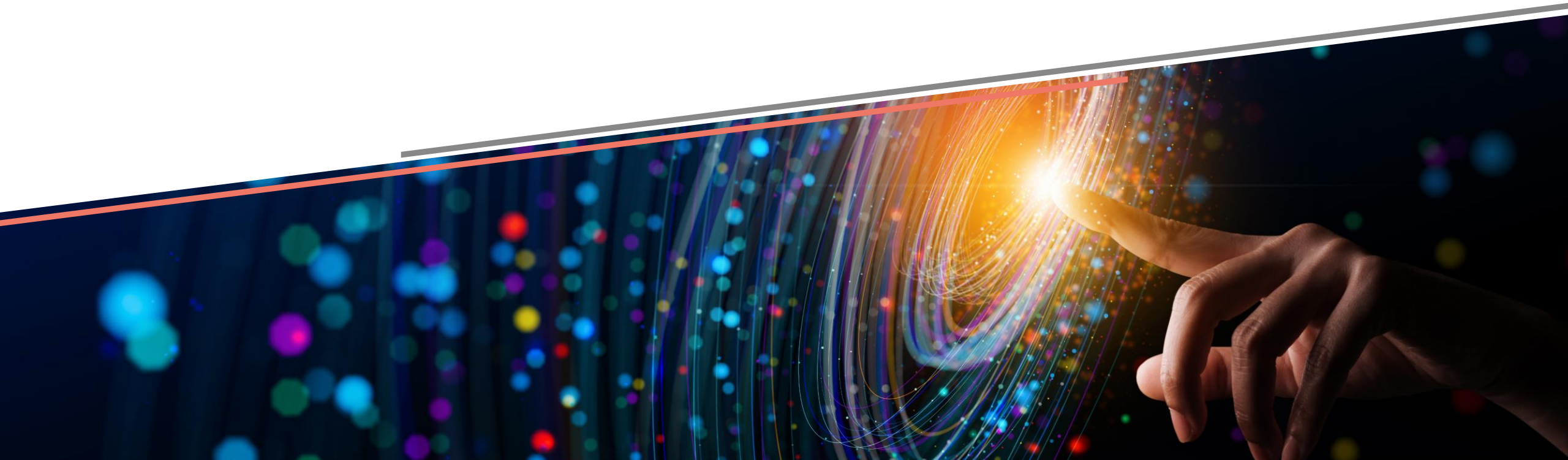# Fast & Agile | How Technip Energies & Inensia Replaced a Legacy Engineering System with Aras Innovator in Less than 6 Months

Timothée Lefebvre & Sébastien Grau

May 2nd, 2023

ACE23

REIMAGINE YOUR POSSIBILITIES

T.EN TECHNIP ENERGIES

inensia
Digital Industry Services

Agenda

01.
Who we are

02.
T.EN enterprise context

03.
The PLM application scope

04.
How we implemented it

- Agile methodology
- MVP approach and its benefits
- Organization & governance

05.
Lessons learnt & next steps

01 Who we are

Energy transition is our business

Applying our core capabilities to today and tomorrow's key energy challenges

LNG
Onshore and offshore liquefaction

Sustainable chemistry
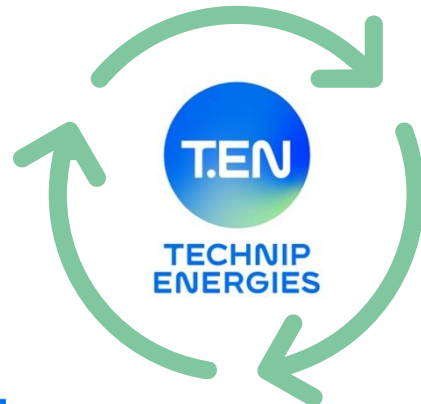Biofuels, biochemicals, circular economy

Carbon-free energy solutions
Green hydrogen, offshore wind, nuclear

Decarbonization
Energy efficiency, blue hydrogen, CCUS[1]

Strategic flexibility – 'architect mindset' meeting customer needs from energy source to end-use

- **Feedstock agnostic** – outstanding energy molecule transformation capabilities
- **Technology-driven** – integrate complex technologies, including proprietary, to meet project specificities and economic hurdles

Exceptional execution – proven operating model, highly applicable to sustainable energy solutions

Standardize and Digitalize Project Execution practice to drive efficiency and transform Client experience

[1]CCUS: Carbon Capture, Utilization and Storage.

Loading Systems at a glance

A Technip Energies Business Unit

60+
Years of expertise & presence

49
Filed Patents

15,000+
Loading Arms Delivered

300+
Employees worldwide

Headquarters Facilities

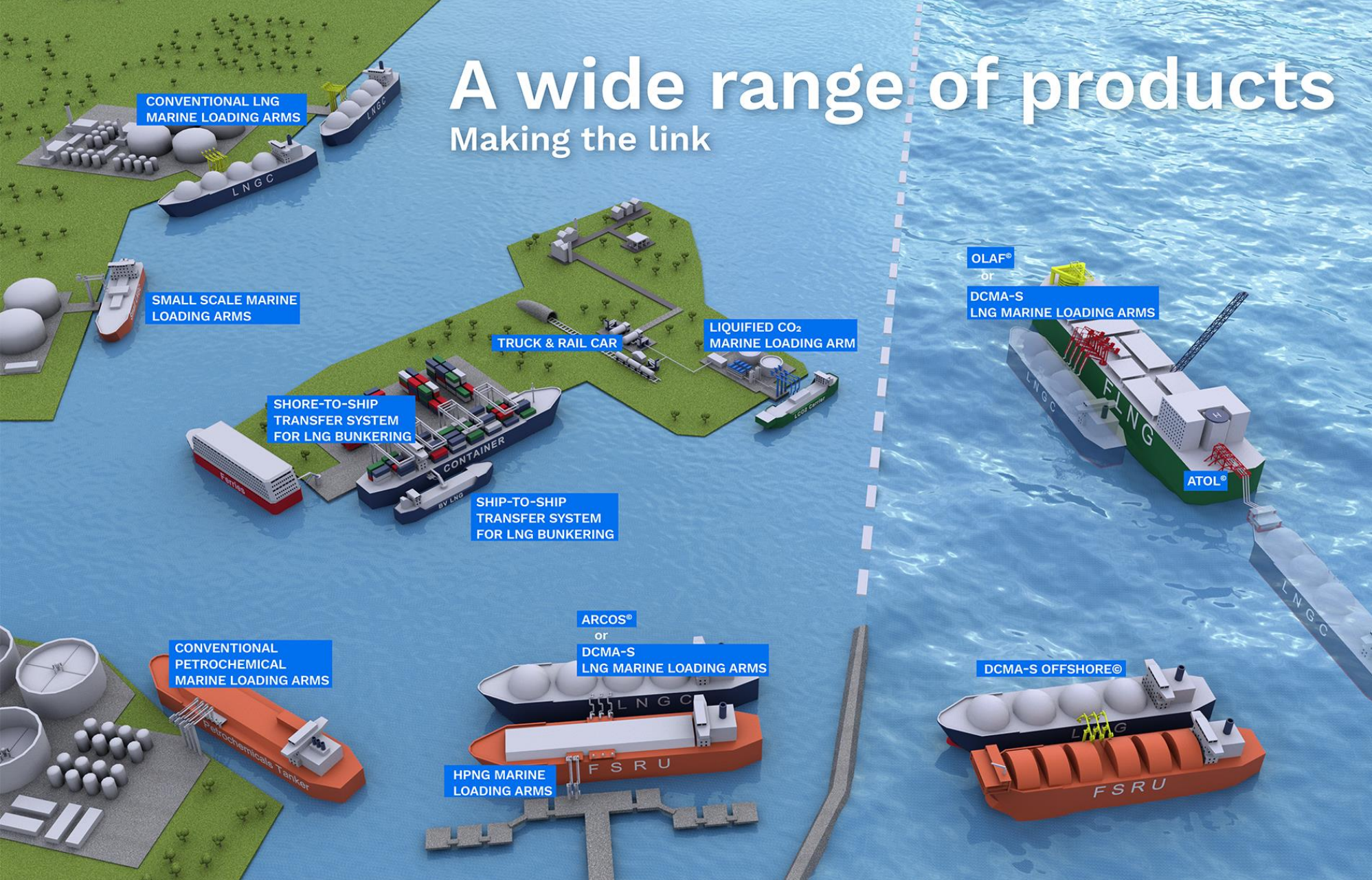
Certification

- ISO 9001:2015
  Quality Management Systems
- ISO 14001:2015
  Environmental Management
- ISO 45001:2018
  Occupational Health and Safety

Scope

Design and manufacture of loading systems for crude and refined products, chemicals, liquefied and cryogenic gases and other fluids.

A wide range of products
Making the link

CONVENTIONAL LNG MARINE LOADING ARMS

SMALL SCALE MARINE LOADING ARMS

TRUCK & RAIL CAR

LIQUIFIED CO_2 MARINE LOADING ARM

SHORE-TO-SHIP TRANSFER SYSTEM FOR LNG BUNKERING

SHIP-TO-SHIP TRANSFER SYSTEM FOR LNG BUNKERING

OLAF® or DCMA-S LNG MARINE LOADING ARMS

ATOL®

CONVENTIONAL PETROCHEMICAL MARINE LOADING ARMS

ARCOS® or DCMA-S LNG MARINE LOADING ARMS

DCMA-S OFFSHORE©

HPNG MARINE LOADING ARMS

LS Supply Chain

Video ▶

INENSIA | Consulting & System Integration

- Business drivers
- IT obsolescence
- Regulatory constraints
- Industry 4.0
- Technology trends

Digital Transformation Program

Business Transformation
- Program Management
- Business Process Management
- Change Management & Training

Users Support

System Integration
- Software & Interfaces Implementation
- Data Migration
- Technical Architecture

Application Maintenance

Product Information Management

Simulation Process & Data Management

Product Lifecycle Management

PHYSICAL

PRODUCT CREATION — PRODUCT OPERATION

VIRTUAL

Internet Of Things

Manufacturing Execution System

inensia
Digital Industry Services

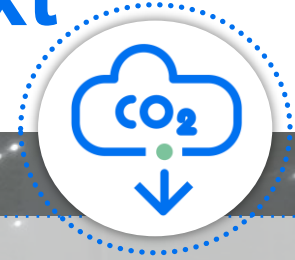**100+ digital enthusiasts between Europe & America**

02 T.EN enterprise context

T.EN x Loading Systems enterprise context

A broad transformation with challenges

01
Legacy PDM

Continue to access to legacy data, parts, geometries and specifications

02
ERP migration

Ensure the business continuity by feeding procurement team and workshop assembly seamlessly

03
Embrace change

Drive cultural changes, accept failures, encourage and test opportunities

Digital is at the heart of our ambition to build a more sustainable tomorrow

With our Digital solutions we can :

- Empower clients to make carbon-conscious choices
- Support a holistic approach to decarbonization
- Minimize emissions during asset operations
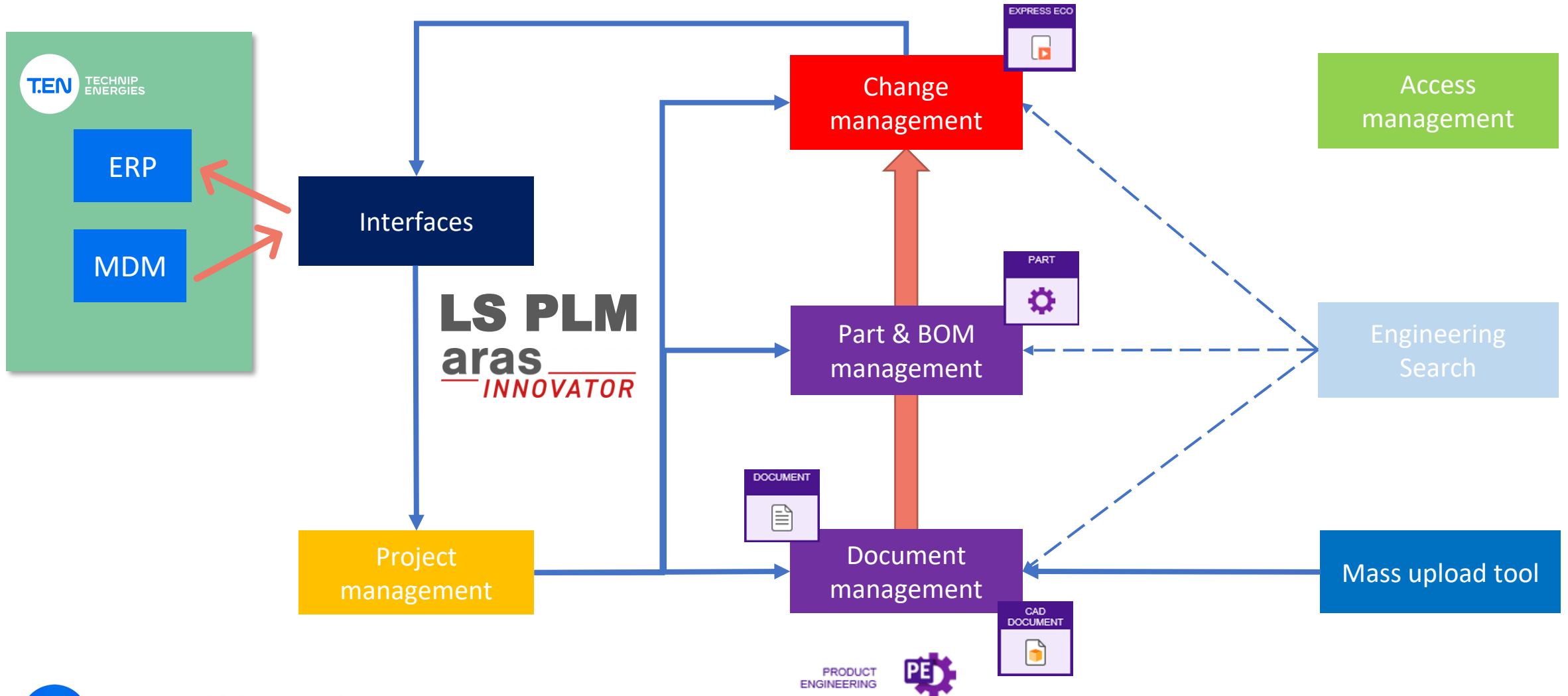- Use data to measure and improve our ESG KPIs

03 The PLM application scope

T.EN LS PLM Roadmap

August 2021

January 2022

December 2022

Today

- Team building
- Business needs to User Stories
- Global ARAS architecture

- Essential PLM features
- Merge of Engineering search in PLM
- Migration of legacy data to ARAS
- ERP connector

- Specific customizations to match additional requirements
- ERP connector enhancement
- MDM connector

- UI enhancements
- Additional business process integration into ARAS
- System engineering

Scoping > **MVP**
(Minimum Viable Product) > **Release 1** > **Backlog**

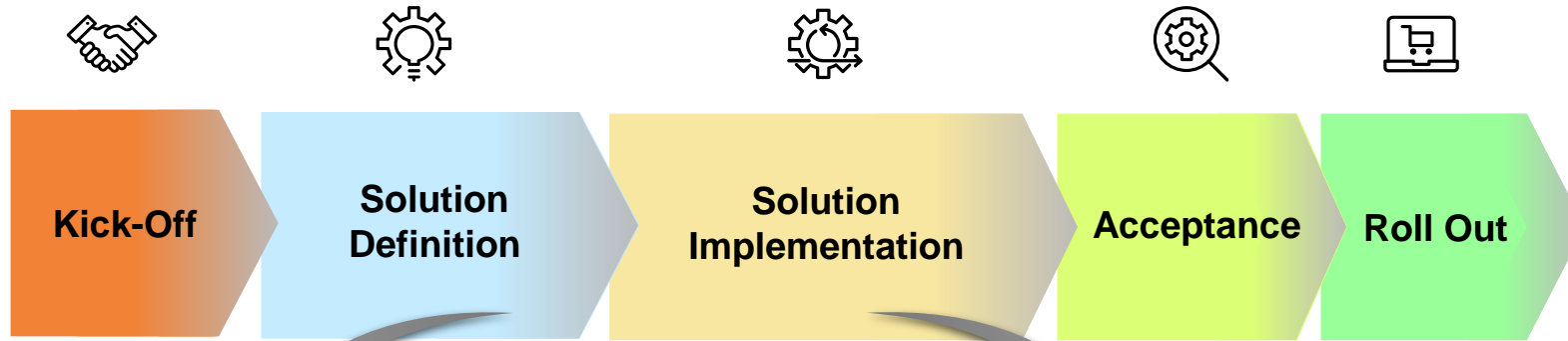# High level implemented scope

04 How we implemented it

- **Agile methodology**
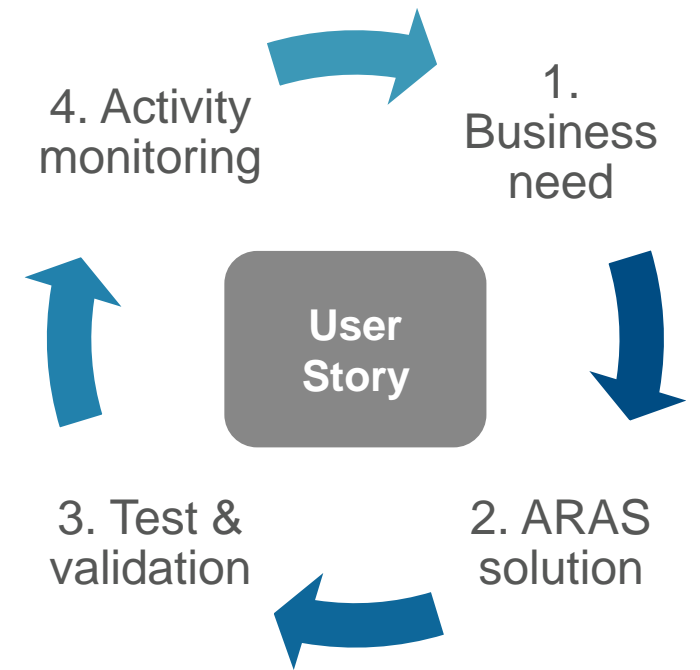- **MVP approach and its benefits**
- **Organization & governance**

Agile methodology…

…adapted to large enterprise collaboration projects

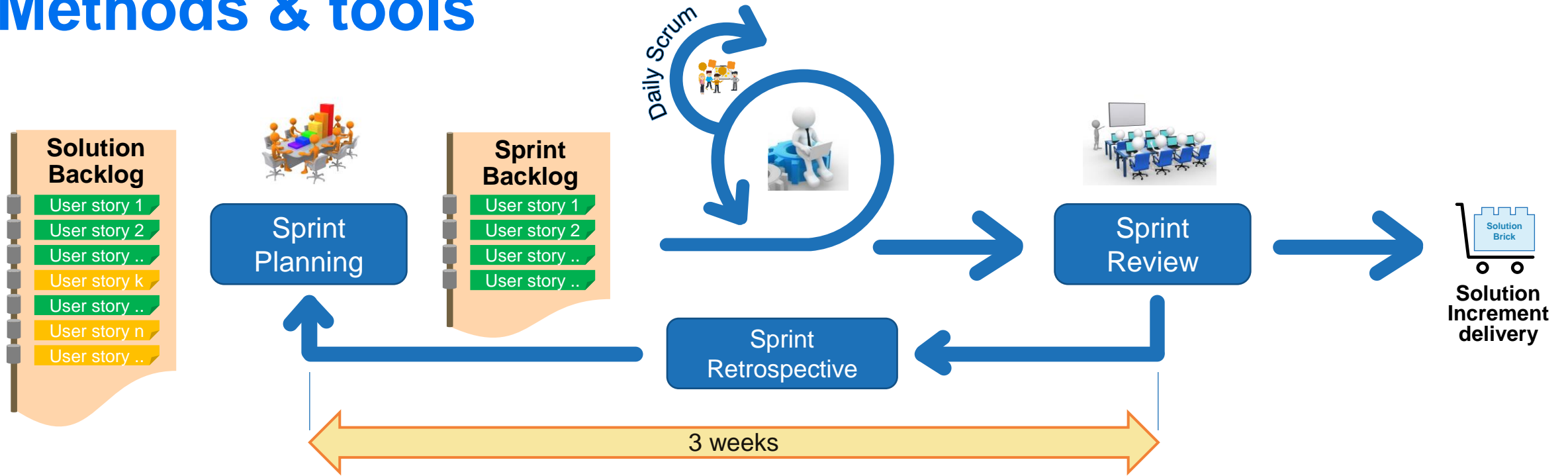**Kick-Off** → **Solution Definition** → **Solution Implementation** → **Acceptance** → **Roll Out**

- Business needs definition
  → Solution Backlog (User Stories)
- ARAS Solution architecture
  → Demonstration-based

- Consecutive 3 weeks-sprints train
- Sprint output: Demonstrated User Stories
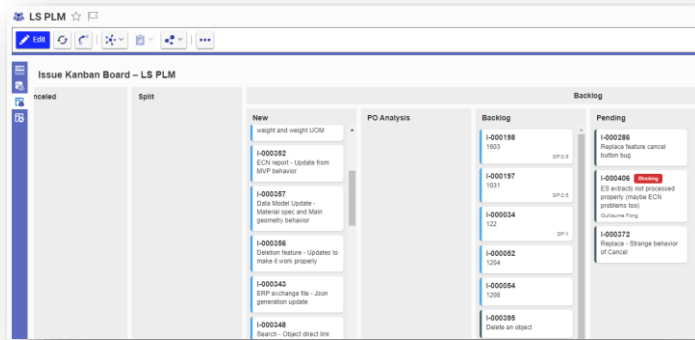- Continuous integration & delivery

4. Activity monitoring

1. Business need

User Story

3. Test & validation

2. ARAS solution

- Working product first
- Transparency | Empathy | Team implication
- Rhythm | Planning driven

Methods & tools

Solution Backlog
- User story 1
- User story 2
- User story ..
- User story k
- User story ..
- User story n
- User story ..

Sprint Planning

Sprint Backlog
- User story 1
- User story 2
- User story ..
- User story ..

Daily Scrum

Sprint Review

Sprint Retrospective

Solution Brick

Solution Increment delivery

3 weeks

ARAS SAFe Portal for User stories

INENSIA DevOps / Git for Integration
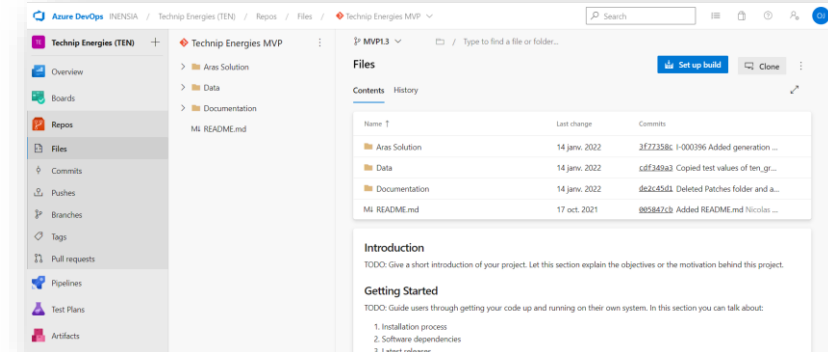
MVP approach and its benefits

	MVP Release						Release 1						
	Aug 21	Sept 21	Oct 21	Nov 21	Dec 21		June 22	July 22	Aug 22	Sept 22	Oct 22	Nov 22	Dec 22
Design Phase	Scoping (MVP confirmation)						Scoping						
Core Applicative implementation		Sprint 1	Sprint 2	Sprint 3	Sprint 4			Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	
Acceptance phase					UAT	GO LIVE						UAT	GO LIVE
Migration Stream			Scope Freeze / Input Files	Dry Run 1	Dry Run 2	✓							
Infrastructure Stream	T-EN Env Up and Running						T-EN Env Up and Running						

MVP Release Stakes
- Highly schedule driven
- Minimum Viable Product to ensure "ability to work"
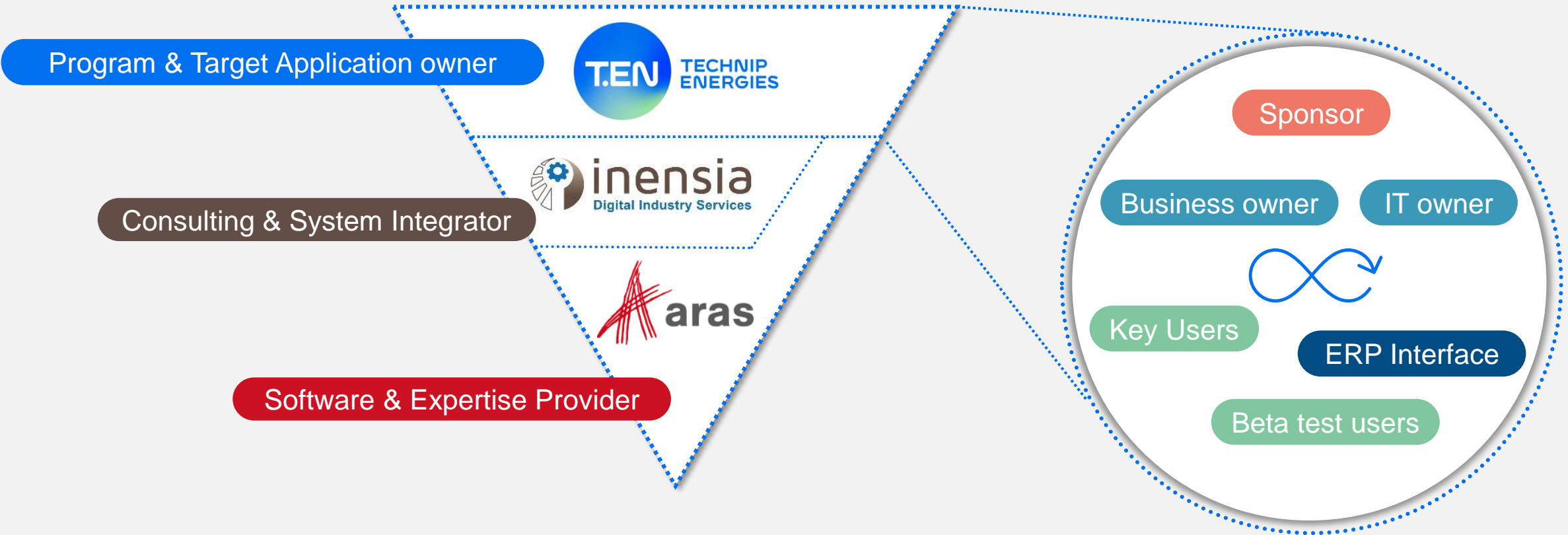- PLM Essentials with migrated data and ERP Interface

Release 1 Stakes
- Support cultural change & adoption
- Increase business efficiency
- Add new features and interfaces

Our governance

A Product delivery oriented organization

Program & Target Application owner — T.EN TECHNIP ENERGIES

Consulting & System Integrator — inensia Digital Industry Services

Software & Expertise Provider — aras

- Sponsor
- Business owner
- IT owner
- Key Users
- ERP Interface
- Beta test users

05 Lessons learned & next steps

Our next steps

System Engineering architecture to establish a **datamodel** addressing product lifecycle

Embed workflows, foster collaboration features to transform our delivery model towards a **datacentric** engineering

Digitalize the management of **requirements**

Digital **thread** from products and parts to quality records, field inspections and operational data

Q&A

THANK YOU!