

PLM & PDM TRANSFORMATION JOURNEY INTO THE DIGITAL FUTURE

PLM Road Map™ EMEA & PDT Europe 2022

*Digital Transformation and PLM – a call for PLM professionals to
re-define and re-position the benefits and value of PLM*

CIMdata

18 & 19 October

-eurostep-

Volvo Group

Digital & IT | PDT EMEA 2022 | October 2022

2022-10-18

Agenda

1 minute

Intro

35 Minutes

Presentation

4 Minutes

Q&A / Dialogue



Intro – Josef Schiöler



Josef Schiöler
Head of Core Platform Area
PLM/PDM



Volvo Group Digital & IT
Gothenburg, Sweden



Volvo Group since 1990
(with few years outside)



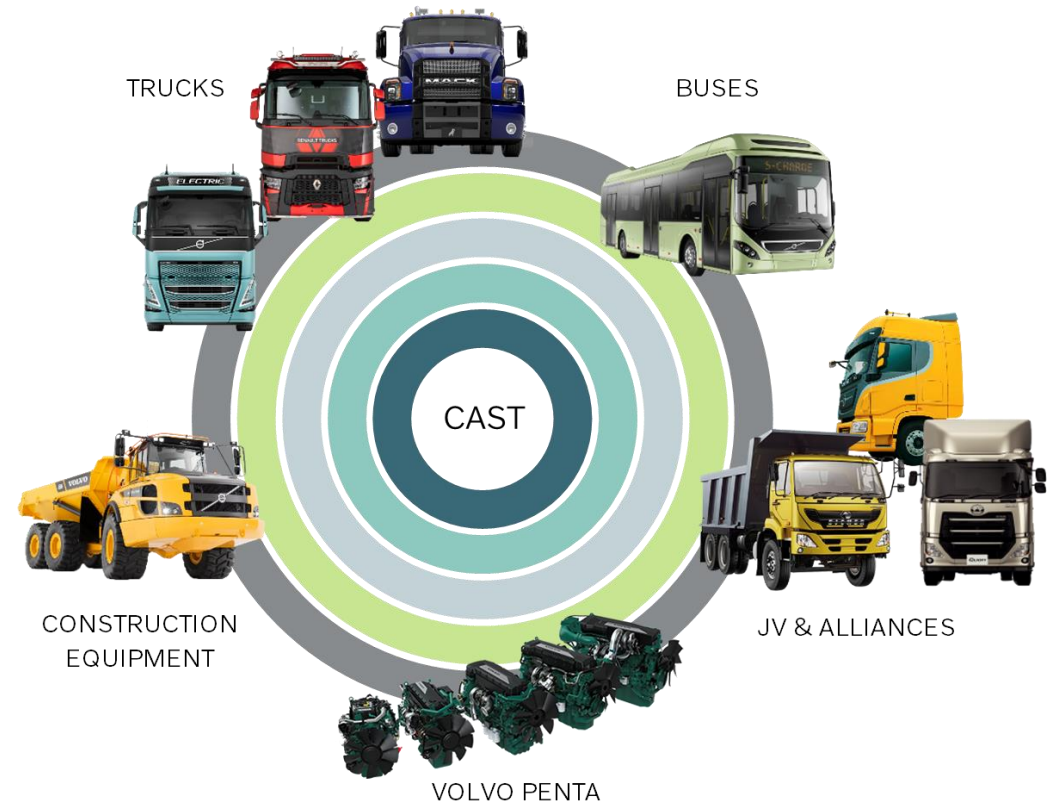
Let's start...

We drive prosperity through transport and infrastructure solutions and our vision is to be the most desired and successful transport and infrastructure solution provider in the world.



Volvo Group PDM logic – “the heart of the heart”

- Used throughout the Group, gives us a competitive advantage in the market
- Supports CAST – Common Architecture Shared Technology
- Underlying IT technology needs modernization
- Key for future success, expanded to address services & solutions sales
- New challenges around the corner



Without the type of products and services the Volvo Group provides, the societies in which many of us live would not function

On-road



In the city

Off-road



At sea

V O L V O

Brand Portfolio

V O L V O

V O L V O P E N T A

ROKBAK



PREVOST

NOVABUS

JVs and strategic alliances



cellcentric

Strategic Alliances & Partnerships – now a normal

Partnership Initiatives



Daimler Truck AG



Daimler Truck and the TRATON GROUP



Samsung SDI



SSAB



Ovako

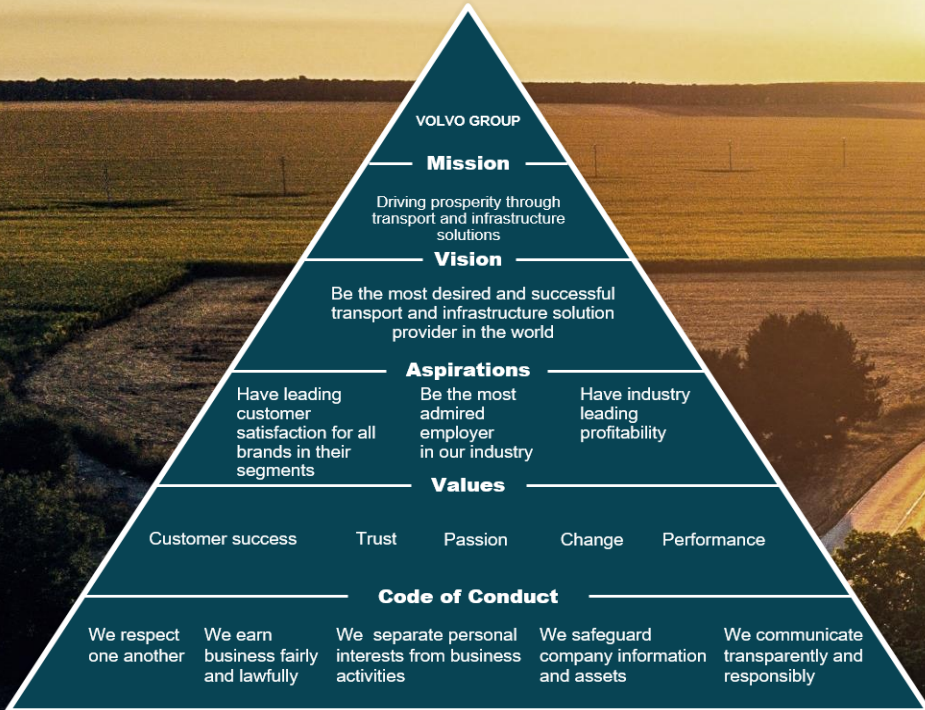


NVIDIA



ElectriCity

Our strategic framework serves us and our customers well!



- 1 **Transform the Volvo Group** to become a leading end-to-end integrator as well as offering easy to integrate products and services through strong brands.
- 2 **Grow the service business** and target selected industry verticals offering a portfolio of tailor-made solutions.
- 3 **Secure a desirable sustainable product and service portfolio** with the right quality, leveraging new and well-known technologies, CAST, partnerships and digital innovation - accelerating electromobility solutions.
- 4 **Grow in Asia and the US:** In Asia through JVs, alliances and by strengthening the Volvo Group footprint in China. In the US by significantly improving the Group's market position.
- 5 **Develop robust profitability** throughout the decentralized regional value chains by leveraging global scale, digitalization, a purpose-fit footprint and continuous improvement using Volvo Production System.
- 6 **Selectively capture, accelerate and scale-up new businesses** and develop competencies and capabilities needed.
- 7 **Reinforce value-based leadership and ways of working** where all colleagues are empowered to take action and are accountable for the results.

Mission, Vision & Aspirations

Strategic priorities

Long term ambition

100%

Safe

Fossil free

More productive

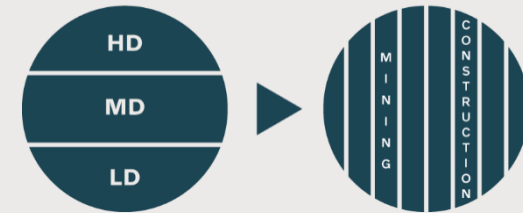
Volvo Group 2030 - Shaping the world we want to live in

FROM:

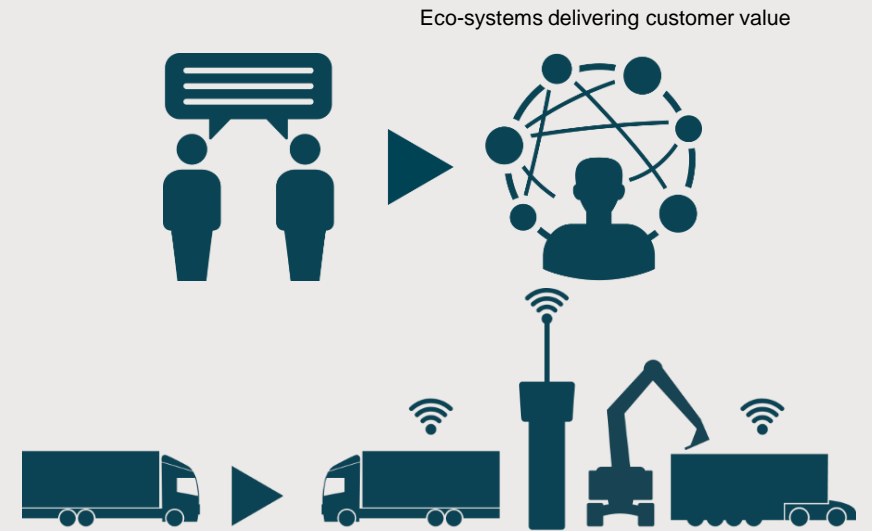
- Products
- Hardware
- Diesel engines
- Proof of concept
- Focus on applications
- Global processes
- Separate BAs
- Stand alone company
- Valuation as an asset builder

TO:

- Service and solutions
- Software
- Electric drivelines
- Proof of value
- Focus on industry verticals
- Regional value chains
- Key account management
- Orchestrator of networks
- Valuation as a service provider



Value creation through industry verticals



Eco-systems delivering customer value

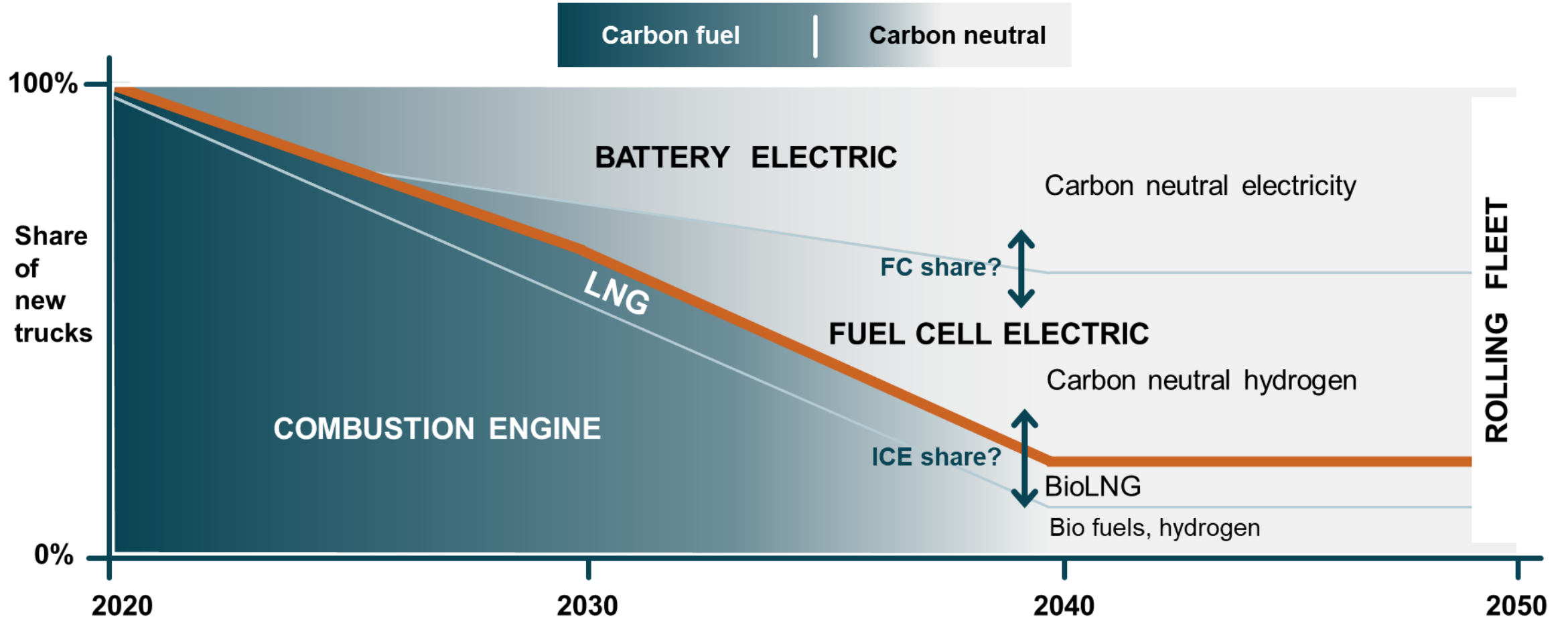
Tailor made end-to-end solutions

The world around us is changing – and so are we

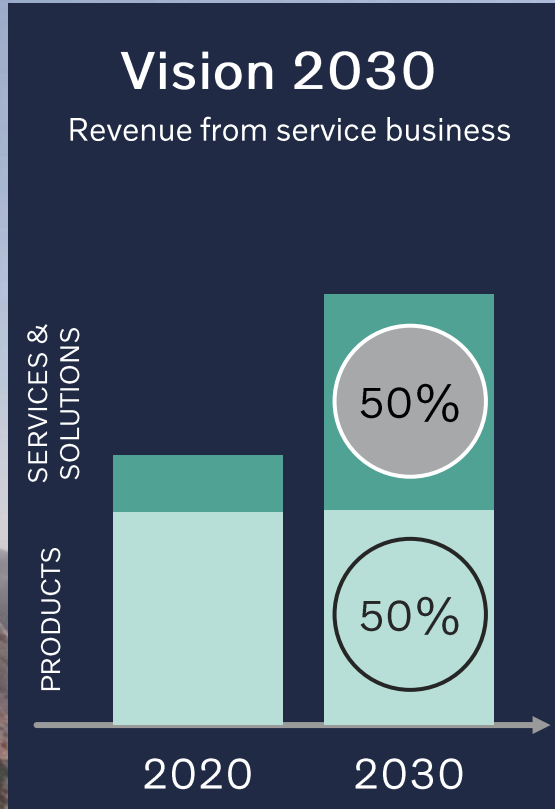
Global electric line up



100% fossil free Volvo Group vehicles from 2040



The services Volvo Group need to offer profitable, scalable and differentiated



Business requirements Digital & IT should support

Profitability:

Low-cost, high-quality development and provision of services

Scalability:

Scale-up of services to move from pilot to full offering

Ability to differentiate:

Development of new, innovative and differentiating services

Catalysts for the digital transformation are even clearer



Speed and flexibility to capture business opportunities

Leverage our strong product and connectivity platform to take new market positions

Modern technologies and WoW key to attract, develop and retain digital talents

Digital & IT CAST and common capabilities key to achieve Vision 2030

Reduce complexity to drive efficiency, quality and security

V O L V O

BRING “THE HEART OF THE HEART” INTO THE FUTURE

What and how?

Volvo Group

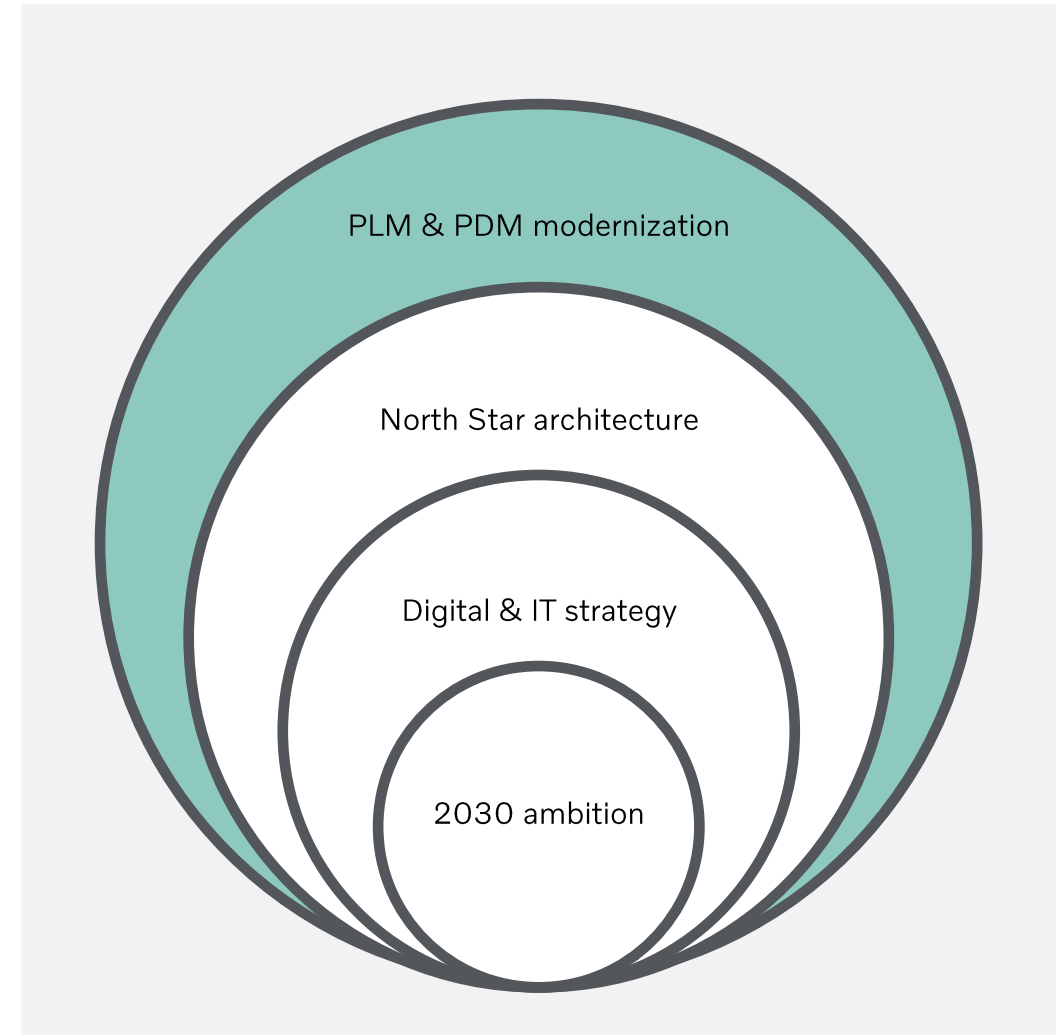
Bring “the heart of the heart” into the future - Context

Mission

Contribute to Volvo Group’s vision by establishing state-of-the-art PLM & PDM backbone and business solutions that can be adapted to future needs.

Vision

Have flexible and user-friendly PLM & PDM systems with easily accessible real time data for business needs. Enabling mass customization of products in an industrial set-up with limited engineering effort to facilitate tailoring of products to better fit customers needs while staying profitable.



Bring “the heart of the heart” into the future

PLM & PDM modernization strategy



STRATEGIC GOALS

1	Shorter time-to-market	5	Modern digital environment	9	Improved security & stability
2	Improved collaboration	6	Enable digital use cases	10	Lean IT-systems
3	Shorter feedback loops	7	Agile IT-environment		
4	Improved virtual trust	8	Become data driven		



ARCHITECTURAL PRINCIPLES

Layered architecture a la North Star	Capabilities exposed through APIs	Small independent and scalable services	Cloud ready
Liberate data	High share of COTS & SaaS solutions, where possible	Built once, deployed anywhere	Event driven



DESIGN & DELIVERY PRACTICES

- Design driven approach
- API-first design
- Domain driven design
- DevSecOps
- Tech-agnostic
- Fully automated
- Engage vendors for best practice
- Minimal customization of COTS/SaaS
- Leverage work packages

Next generation PLM/PDM will be built iteratively

Digital use cases enabler

Improved productivity

Foundational elements

Year 1

Year 2

Year 3

Year 4

Year 5

- Detailed roadmaps/milestone plans defined per stream & area
- Large focus on architectural enablers initially as well as products and services for improved productivity
- New digital use case building to be more accelerated when pre-requisites in place

How will we do it – the foundations

PEOPLE



It starts with people, competences & mindsets

Existing teams

Continuous learning & innovation

Recruitments and growth – **we are hiring** 😊

WAYS OF WORK



Agile ways of working & strategic roadmap
with/from partners

New collaboration models across
organizations

Design thinking & UX- user involvement

Collaboration, co-creation and innovation

TECHNOLOGY

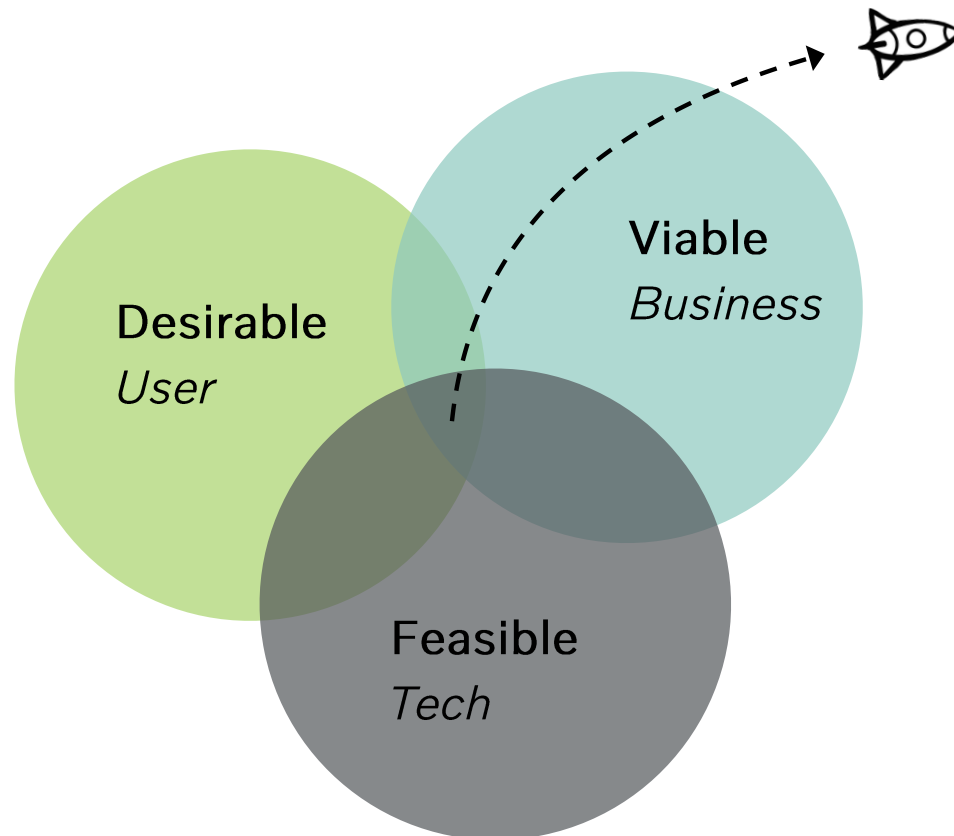


Modern technology stack, including cloud,
DevSecOps toolchains, etc.

APIs & (micro)services, integration
technologies, new data & analytics tools

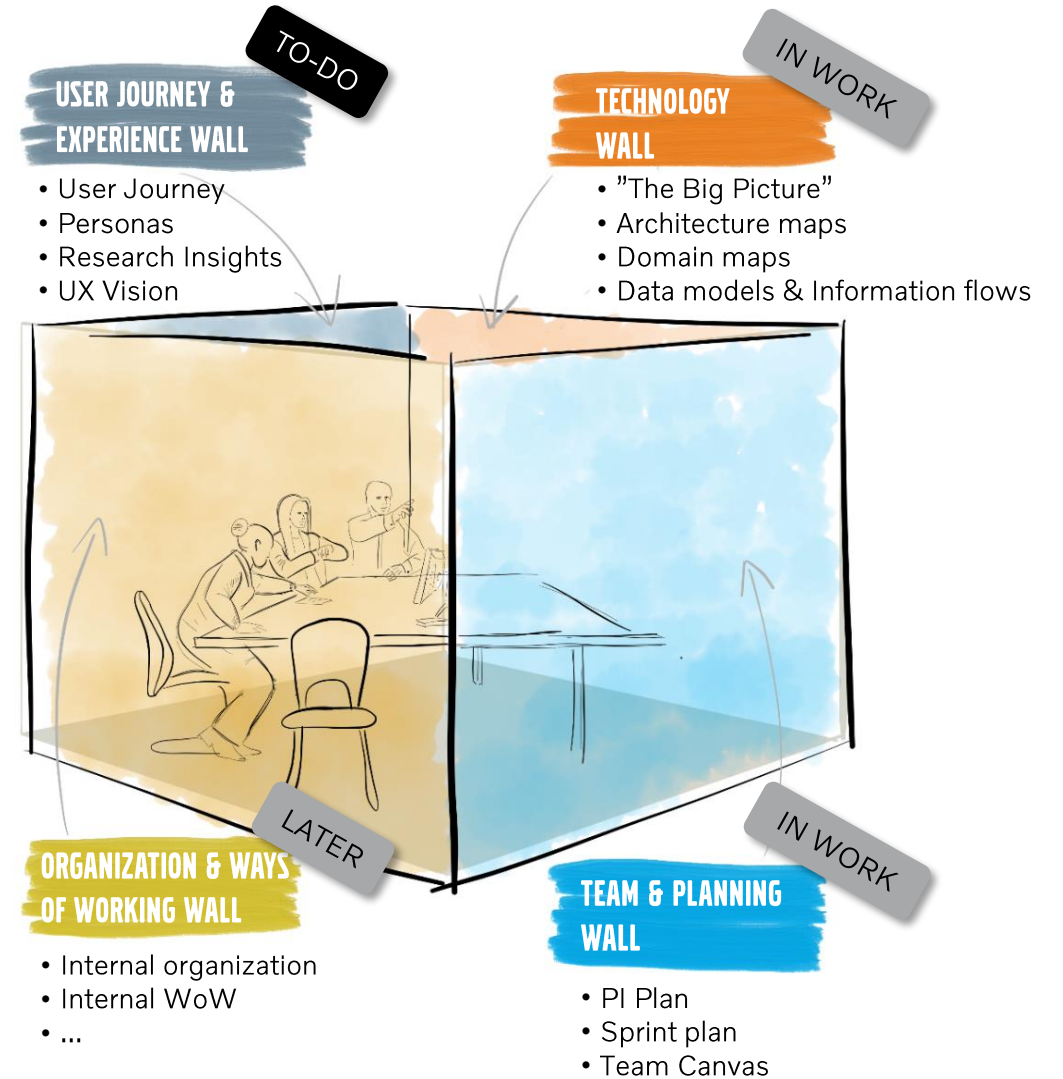
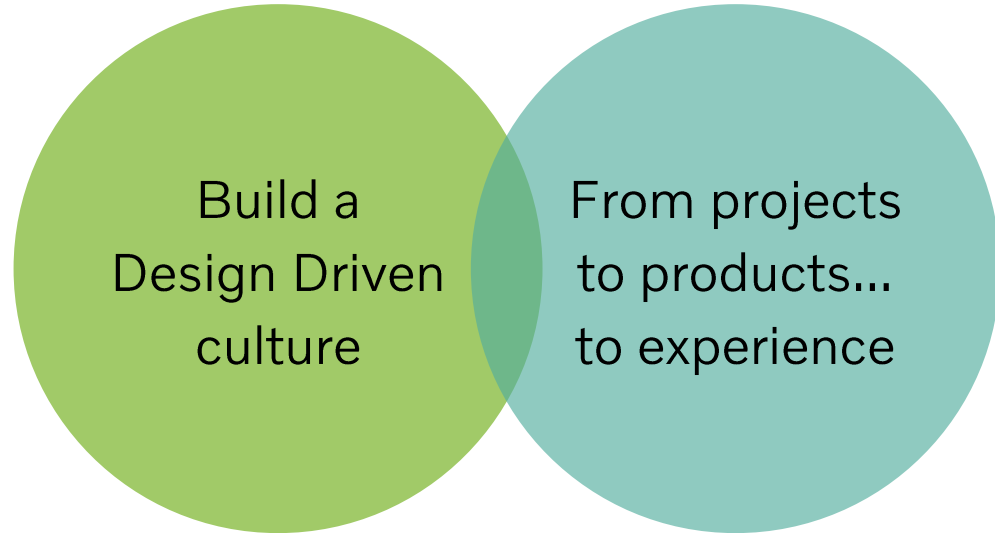
Best practice COTS & SAAS and engagement
with technology partners

LET'S CO-CREATE TOGETHER



We want to become more innovative and create products (i.e. apps) and services that **solve user's real problems and needs**.
Let's **co-create** together.

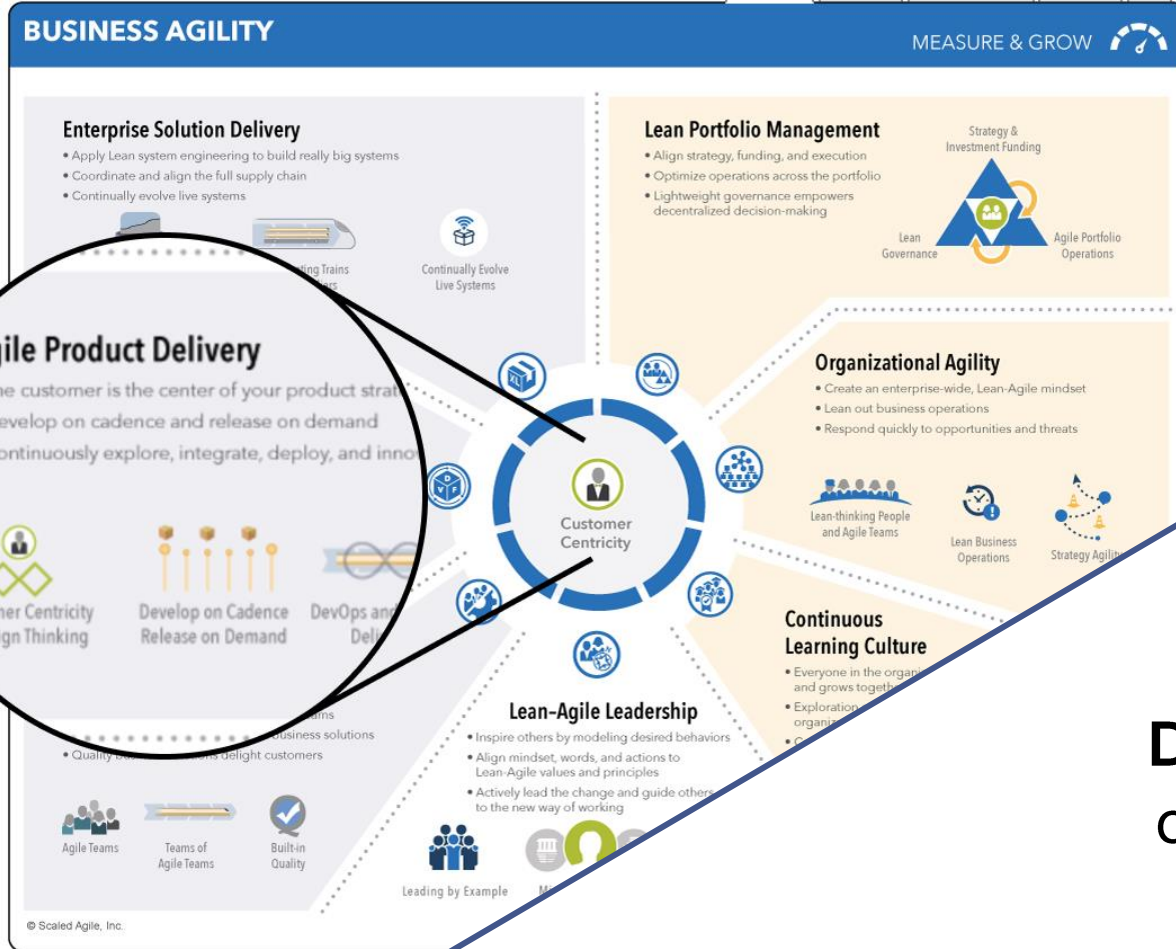
“RESHAPING THE USER EXPERIENCE”



SAFe 5 for Lean Enterprises

Select SAFe configuration

Overview Essential Large Solution Portfolio Full



Customer Centricity & Design Thinking is a part of Agile Product Delivery in SAFe

Volvo's expectations on Partner(s)



Maintain open architecture & technology leadership



Retaining “Volvo” knowledge through involvement in engagements over time



Have access to right competencies & R&D to advise, support and evolve selected products – and ensure knowledge how they can best integrate with our enterprise digital & IT landscape



Work transparently to resolve commercial topics along the journey when partner capabilities are adopted

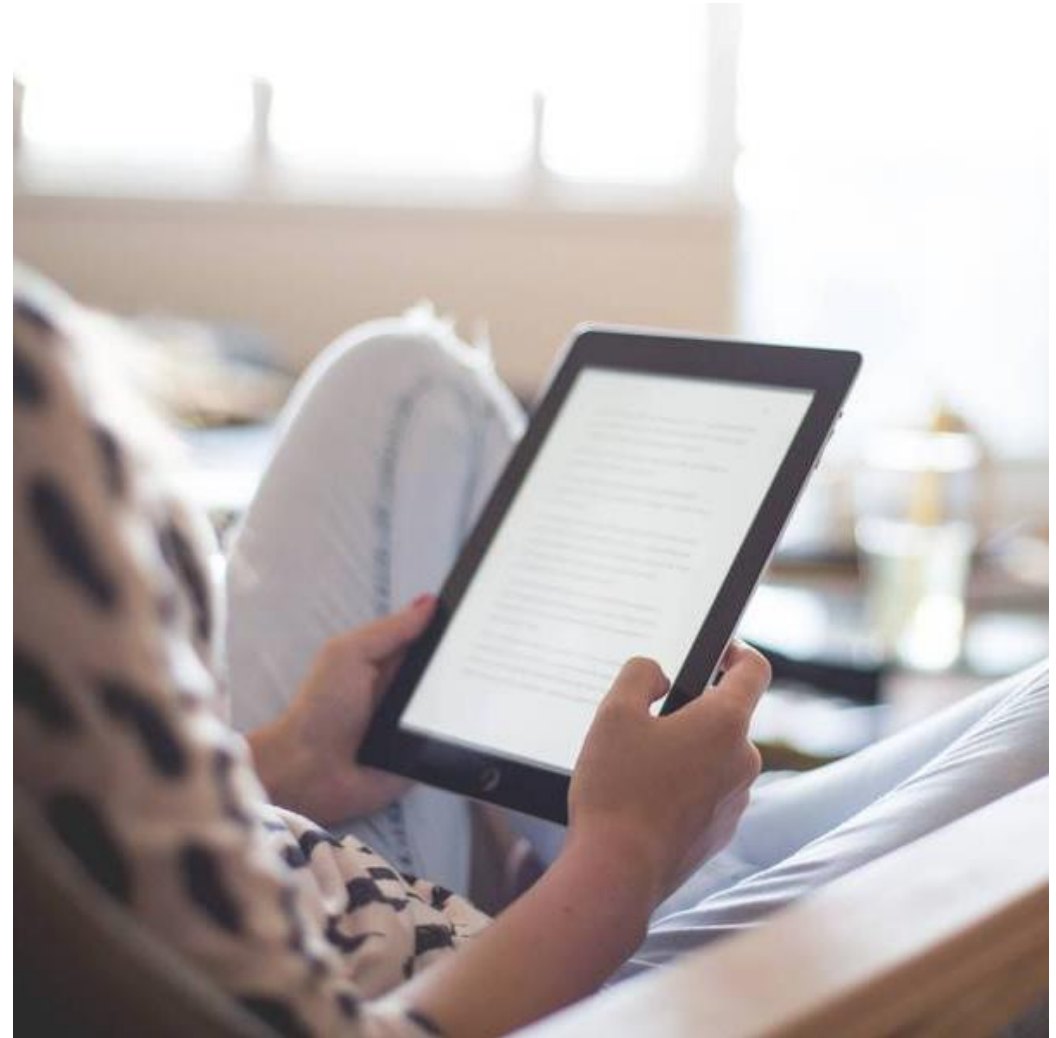


Identify and drive partner's contribution to Volvo's digital journeys

Partner(s) expectations on Volvo?

Questions we are asking/investigating

- How to manage complex documentation with existing and new technology and solutions co-existing?
- How to realize benefits and user adoption, with user experience principles in mind?
- How to avoid seeing a modernization as a pure IT initiative and secure that end user value creation is visible, while still keeping focus to finalize the technology transformation?
- How to introduce new digital capabilities, co-existing with existing solutions & integrations, when a big-bang introduction is not possible?
- How to efficiently partner with software vendors to ensure vendor solutions fits well in the overall PLM/PDM enterprise landscape without heavy customization?



Questions & Answers?



V O L V O

Together

WE SHAPE THE WORLD

we want to live in