

Porsche Smart Factory

How to Successfully Master the Transformation of Production & Logistics

Florian Voet & Robert Heiler



Porsche Consulting
Strategic Vision. Smart Implementation.



“NEW AUTO”

Volkswagen Group reinvents itself



“Our industry is undergoing the greatest transformation in its history. In the next five years, there will be more change than in the past 50 years. This transformation is generating high momentum. At the same time, transformation also requires stability. We need to find the right rhythm here. A clear strategy, implementing it consistently and reviewing the course at appropriate times..”

**Oliver Blume | Chairman of the Board of Management of
Volkswagen AG and Porsche AG**

August 2022

Aspiration requires change of rules & mindset

Effort ÷2	Speed x2
Requirements	
<small>ENVIRONMENTAL</small> Impact = 0	Team =1

» Change of
RULES & MINDSET

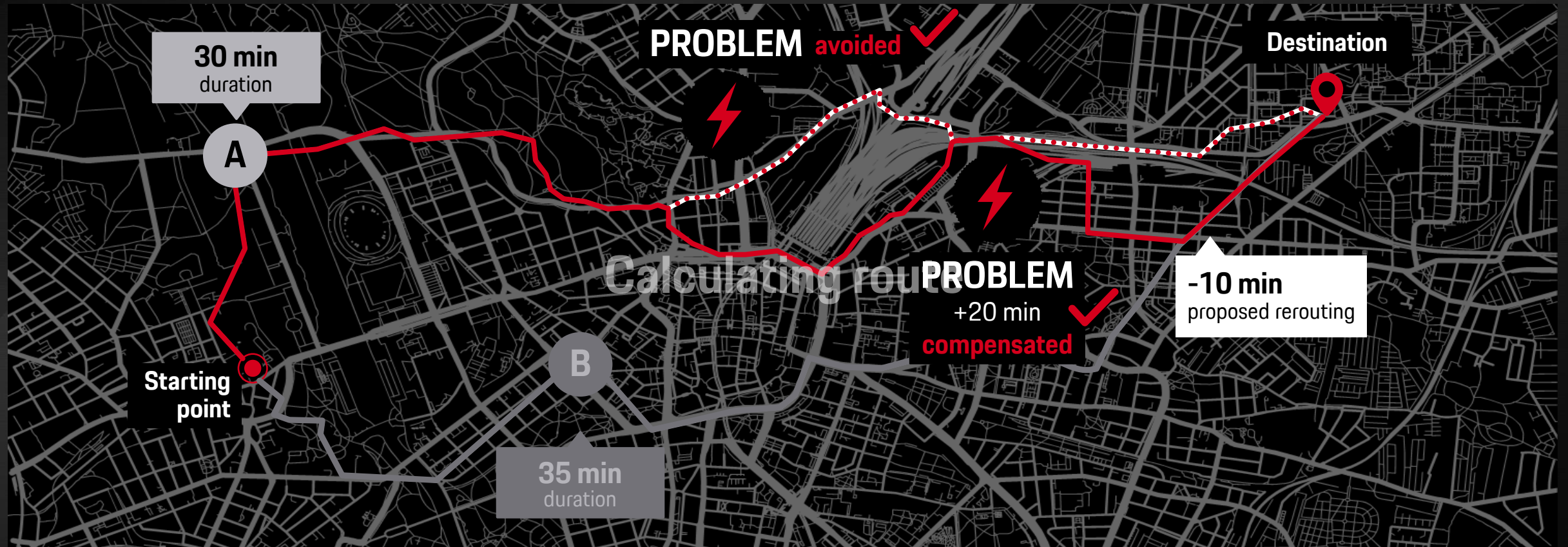


NEW AUTO needs NEW PRODUCTION

Paradigm shift of product & mobility requires a radical change in production!

What if...

...you could navigate through production like using google maps



Porsche Production – We make dreams come true



SMART.

We need to
think further
than just digitization & automation

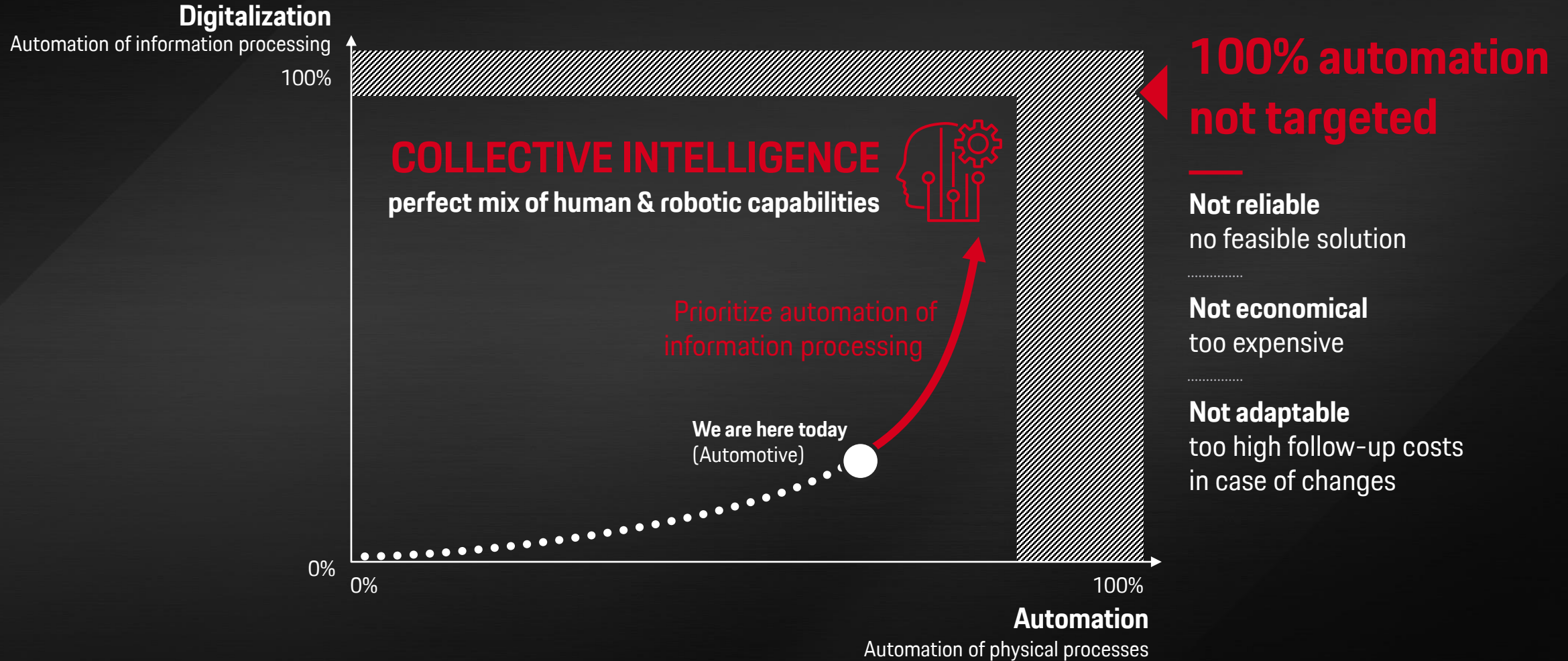
LEAN.

Thinking lean is
our driver
for digital transformation

GREEN.

Our vision of the
Zero Impact Factory
is being implemented

We focus on digitization to maximize collective process efficiency



Key strategic pitfalls and hurdles keeping companies from succeeding

01

Technology-driven approach without a clear target picture



02

Limited scaling within production network & supply chain



03

Missing commitment & consistent tracking of financial benefits



COMMON PITFALL 01

Technology-driven approach without a clear target picture



Our Smart Factory transformation is driven by a clear vision



We defined 10 design guidelines to achieve the vision

01 | Decisions

Data-driven decisions



02 | Processes & structures

Versatile processes and structures



03 | Factory control

Situationally adaptable factory control



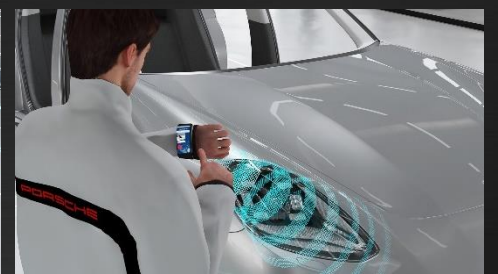
04 | Staff assignment

Self-reliant and flexible staff assignment



05 | Workstations

Assisted and ergonomic workstations



06 | Means of production

Connected, communicating means of production



07 | Resources

Resource-saving processes and technologies



08 | Problem solving

Problem solving with new technologies



09 | Qualification

Proactive qualification and active regeneration



10 | Customer integration

Transparent and tangible production for customers



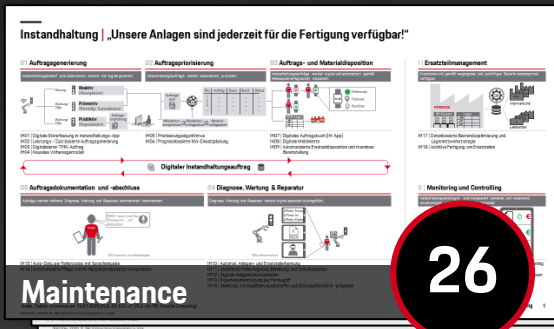
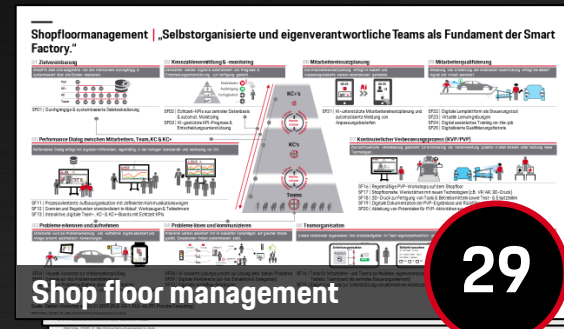
Consistently available, secure and ready-to-use data

Lean, end-to-end planned production

Target pictures with >200 use cases are our north star

>200
USE CASES

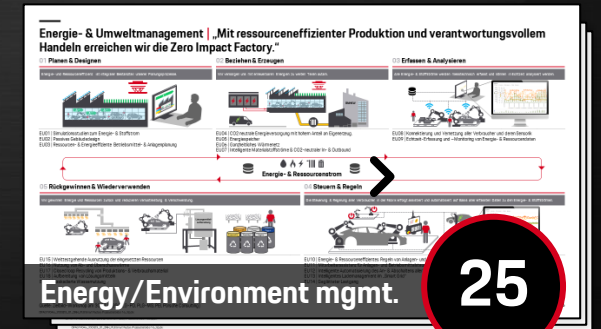
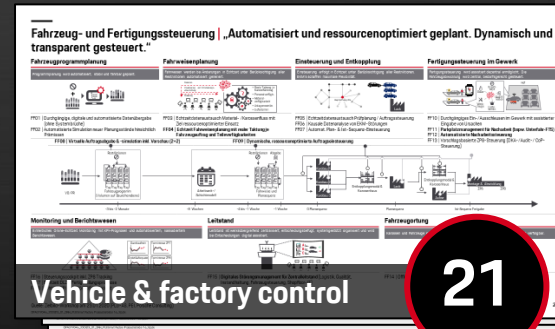
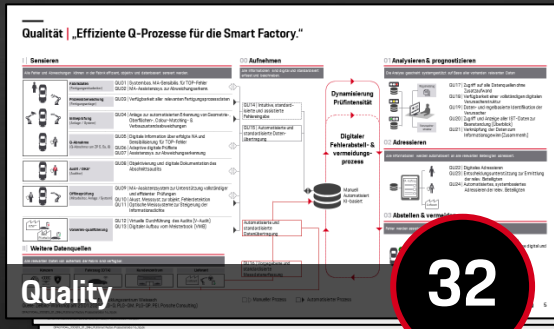
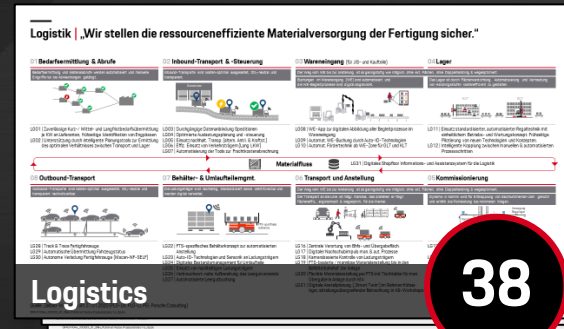
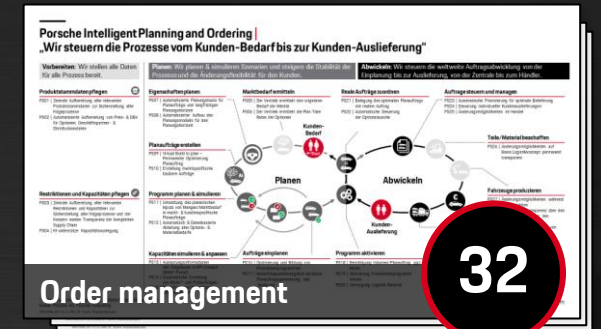
A Core factory processes



B Extended factory processes



C Overarching & Supply Chain



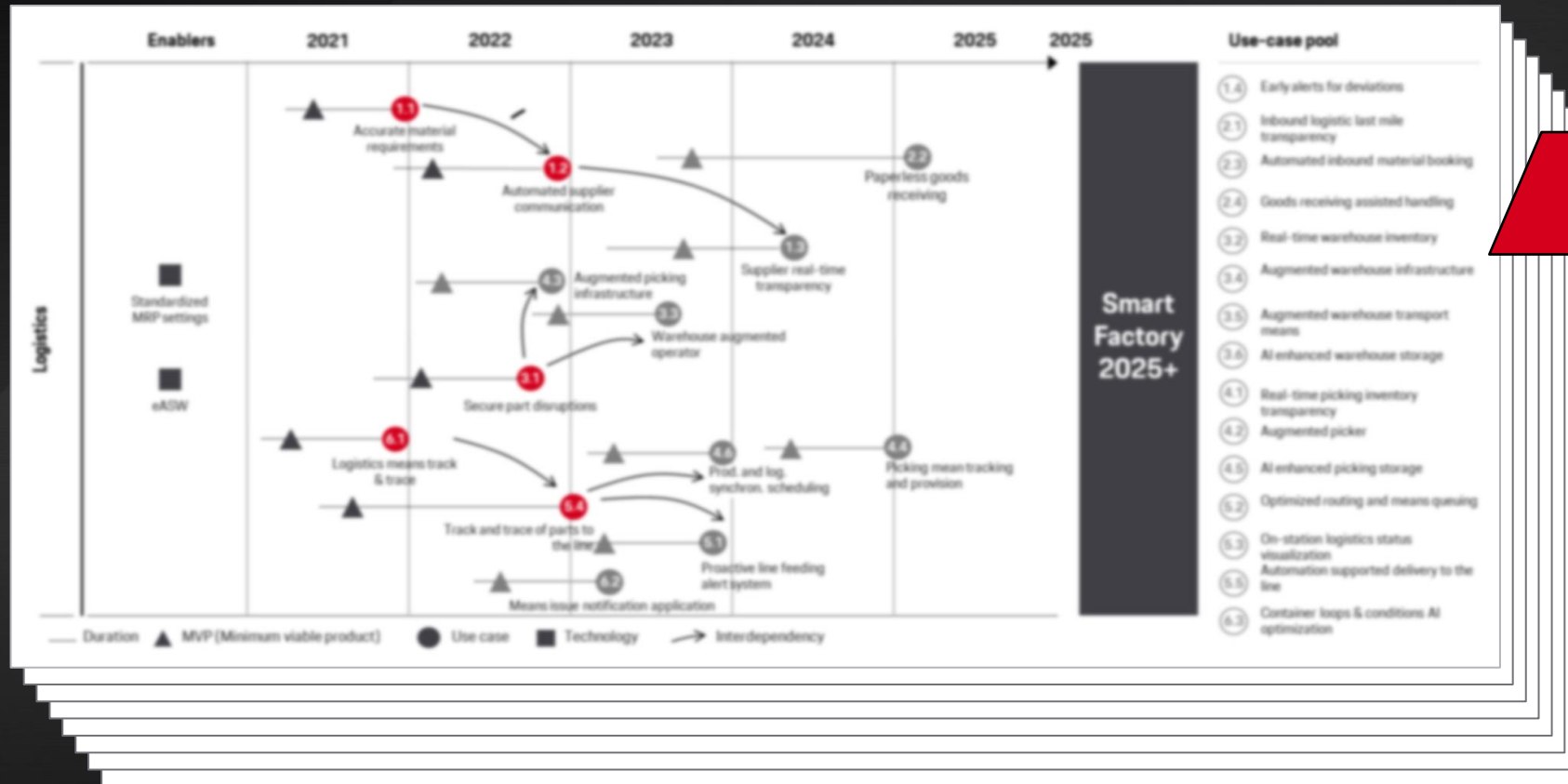
✓ Ensure link to business needs by tackling current pain points

✓ Create a single source of truth for digitization efforts

✓ Build the basis for use case prioritization

✓ Generate acceptance in the plants and central divisions

Our roadmap sets priorities and shows dependencies



Implementation roadmap

8 Roadmaps incl.

> 200 Uses cases

Sequencing & interdependencies

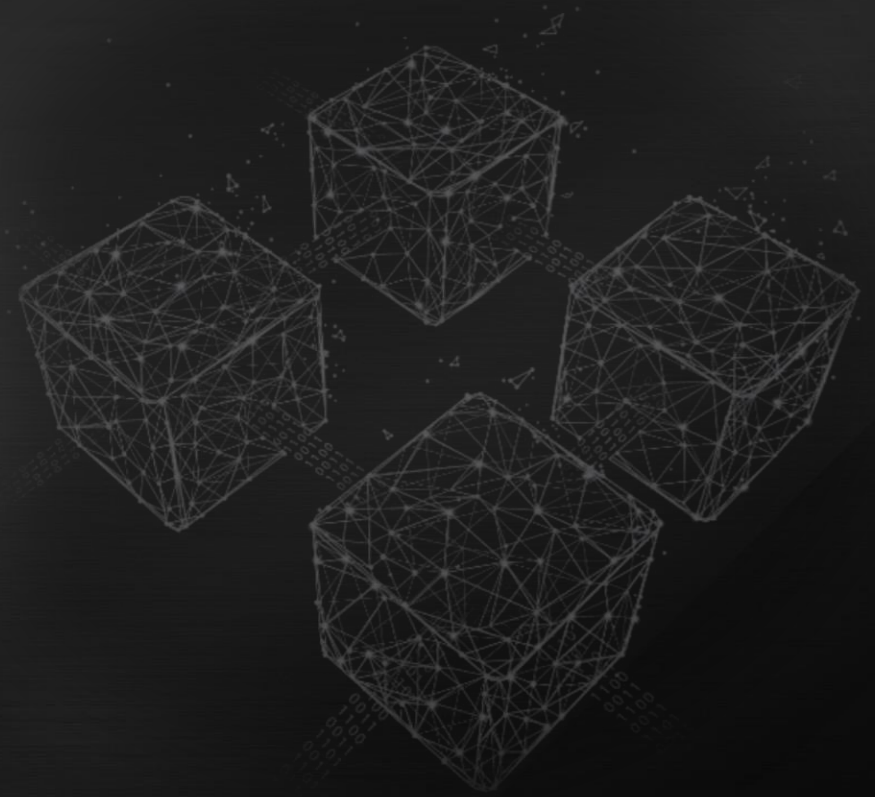
Prioritization

Business Cases

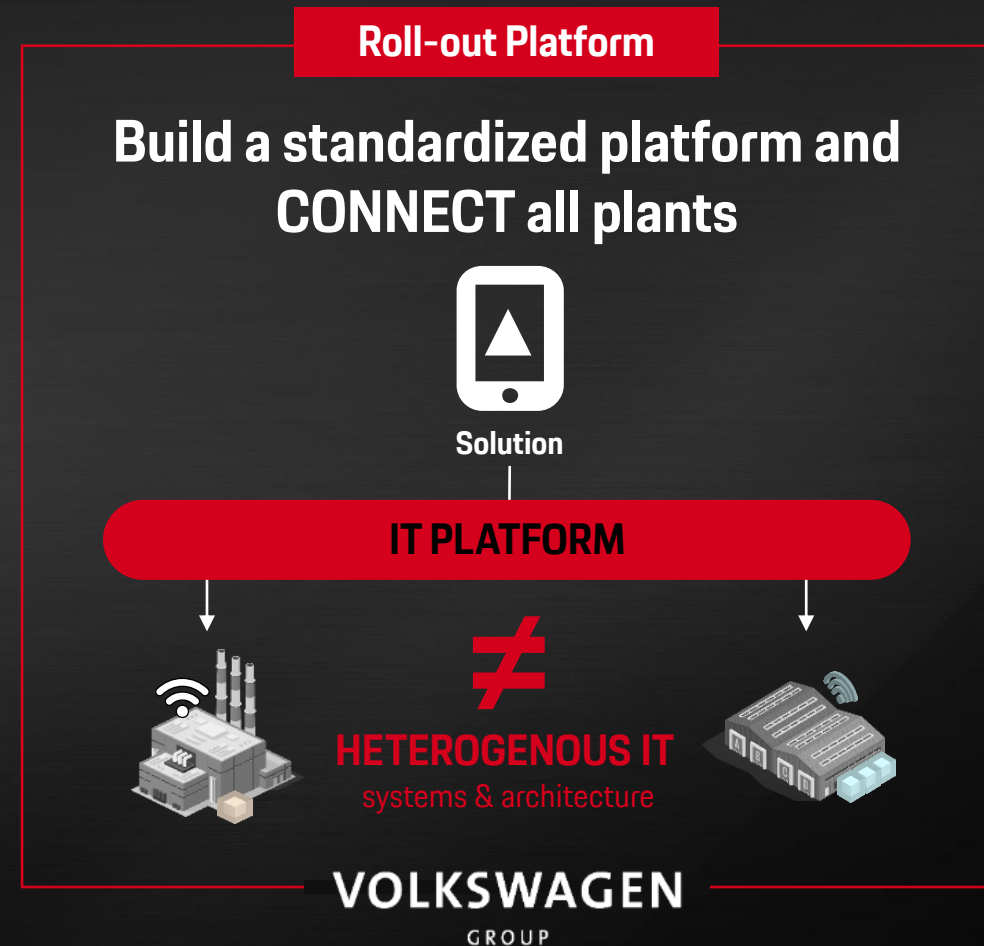
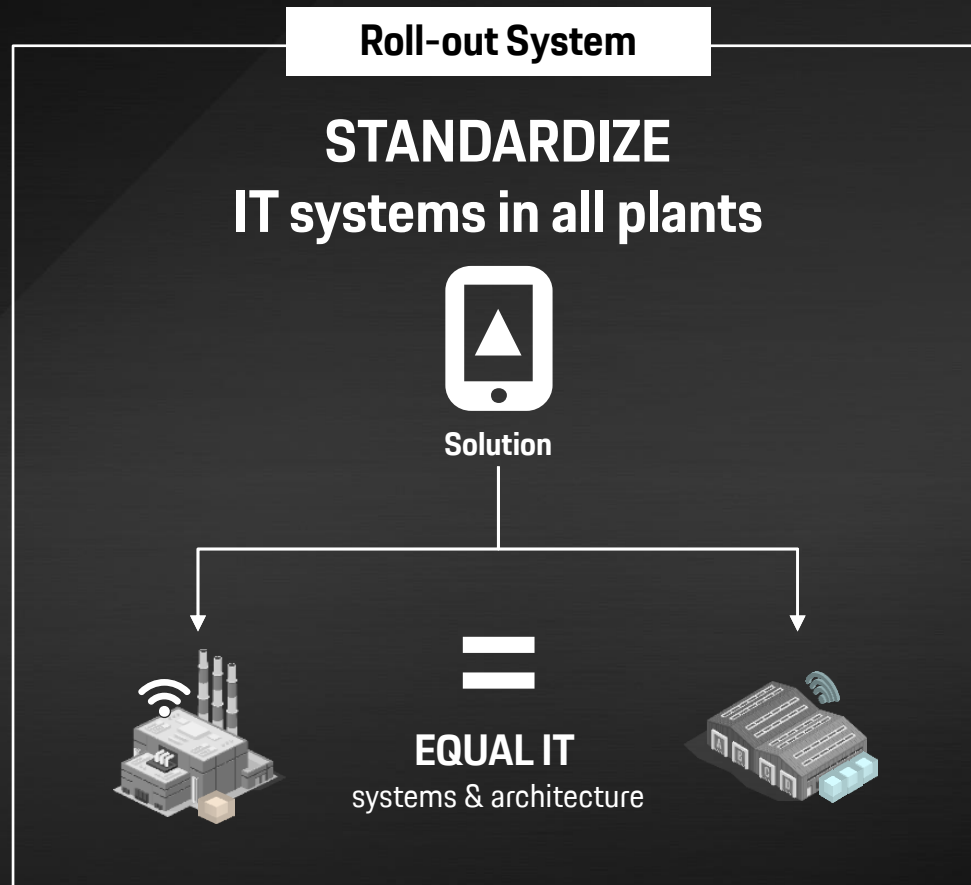
5-year scope

COMMON PITFALL 02

Limited scaling within production network & supply chain



You can choose two strategies to scale your solutions



Volkswagen teamed up to build a cloud-based ecosystem

The Volkswagen Industrial Cloud

in collaboration with



Scalability

Sustainable technology standards

Implementation speed

Flexibility

Culture



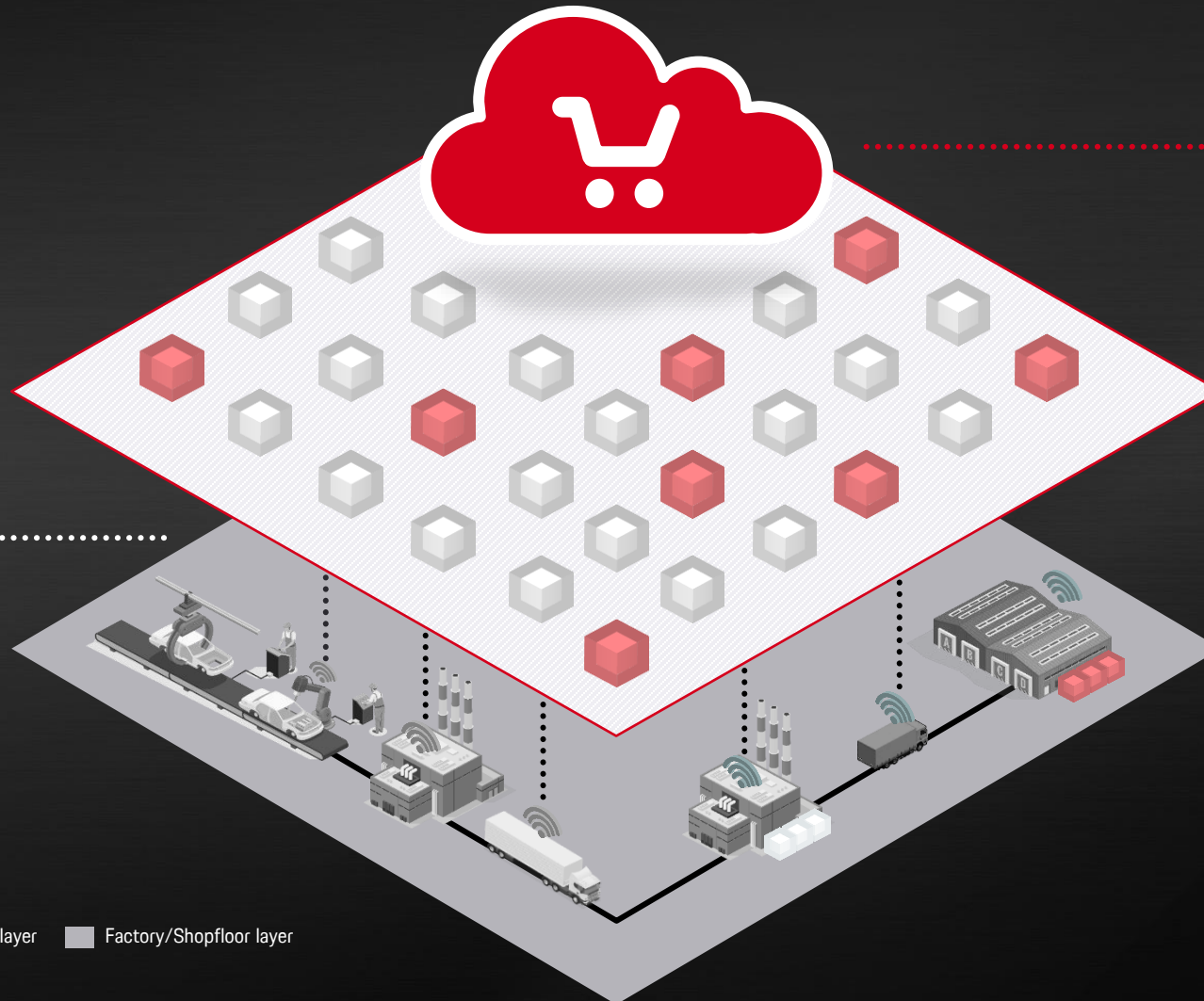
"Today we launch a huge IIoT project to connect with >120 sites worldwide"

(Martin Hofmann, CIO 2019)

A platform accelerates scaling within your industrial ecosystem

SMART FACTORIES

Digitalization and
automation of processes
within a factory



INDUSTRIAL CLOUD

Platform with scalable
use cases & services

Seamless connectivity
of production
equipment

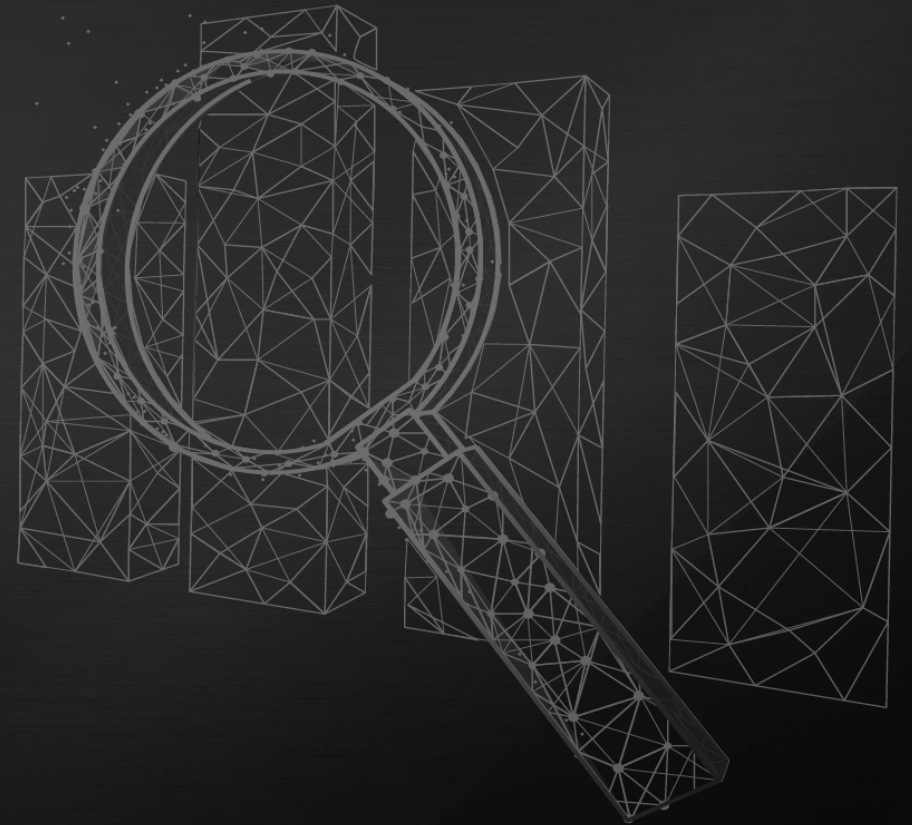
Standards for data
exchange

■ Implemented solution ■ Offered solution ■ Platform layer ■ Factory/Shopfloor layer

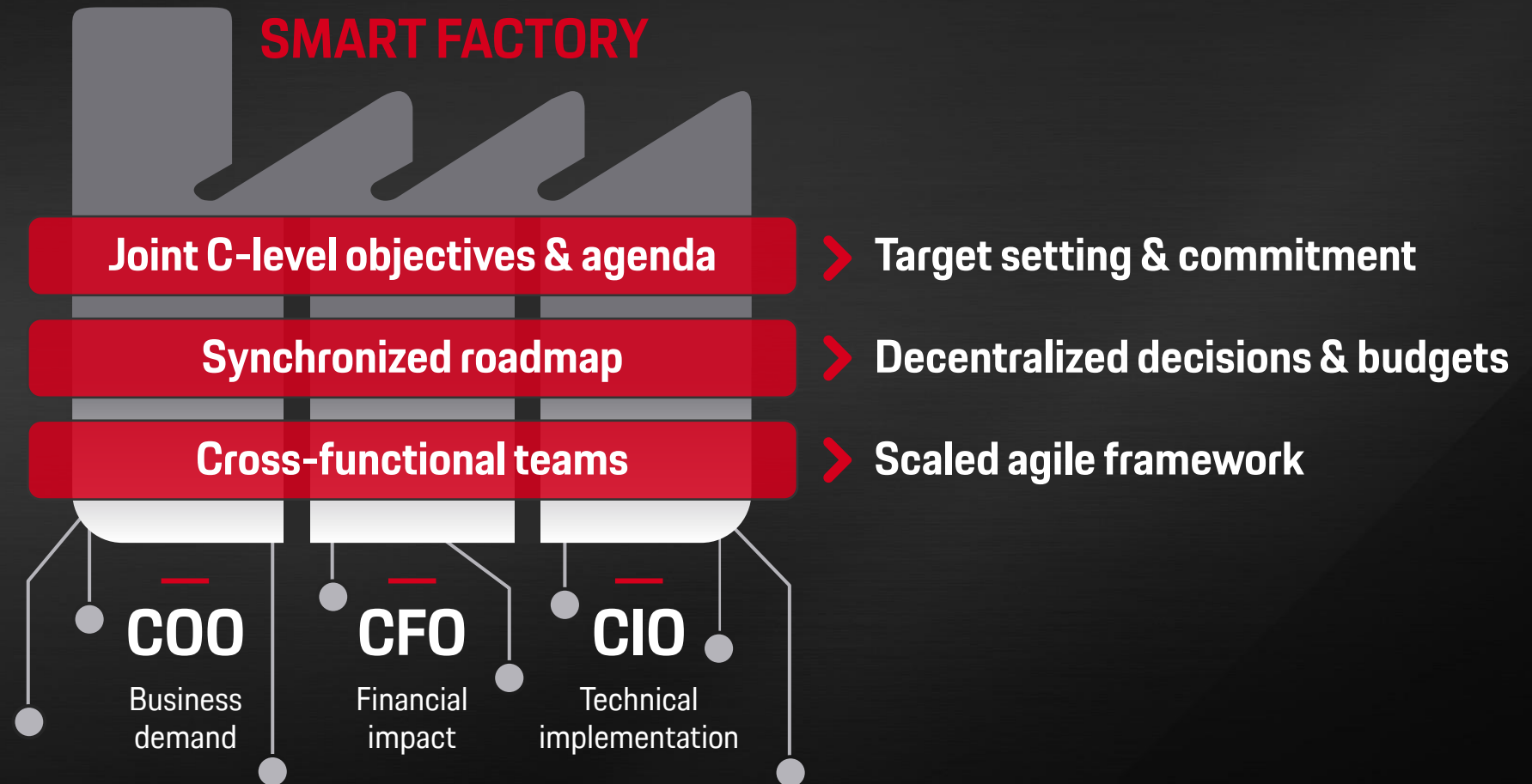
Source: Porsche Consulting

COMMON PITFALL 03

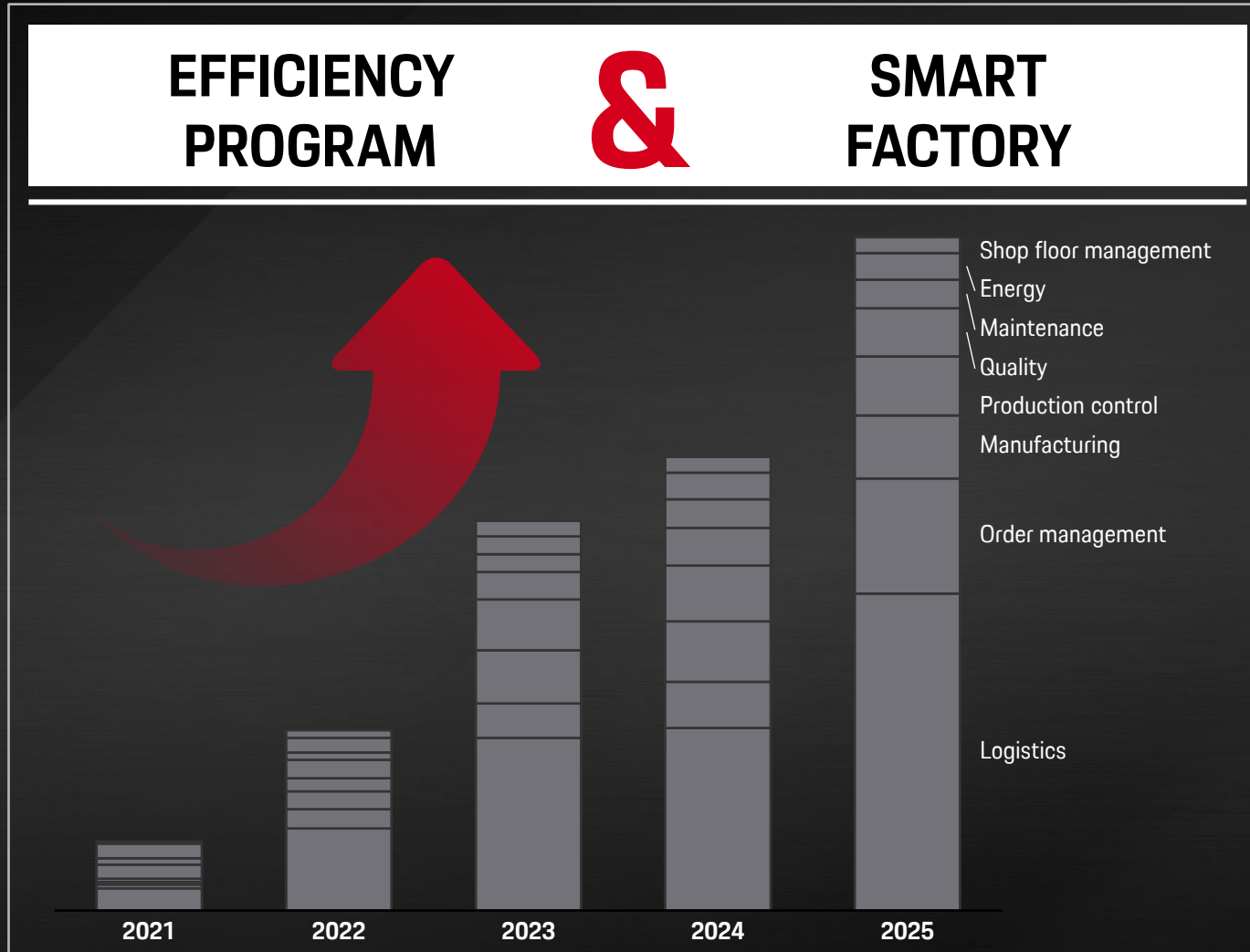
Missing commitment & consistent tracking of financial benefits



Our board members see the transformation as a joint approach



Focus on the expected effects, not the solutions



SAVINGS

1

Targeted benefits are confirmed by controlling



2

Results are bindingly tracked against budget

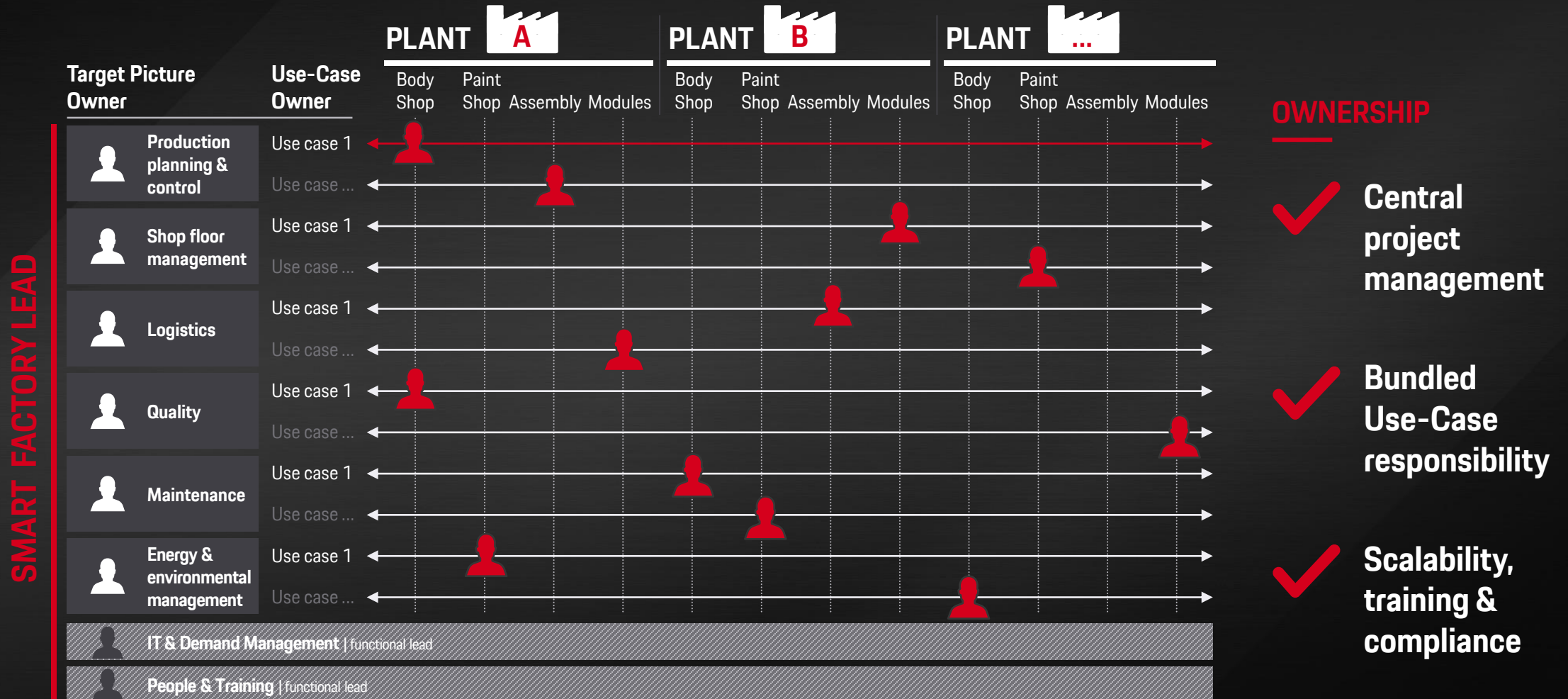


3

Benefits are realized
e.g. through reduced budgets



With clear owners who can manage and convince internal clients





SMART FACTORY TRANSFORMATION

Where to start...

Four great steps to start or review your existing strategy

01

Vision & Design Guidelines

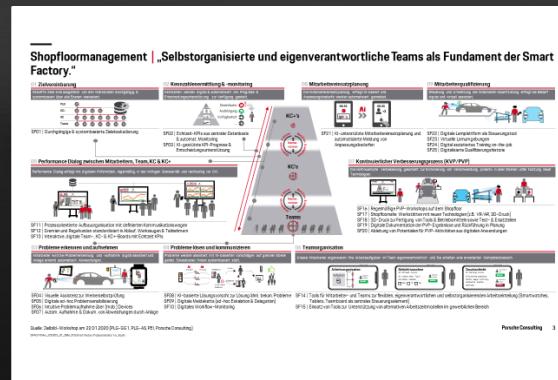
Clear vision with descriptive design guidelines for internal and external communication



02

Process Target Pictures

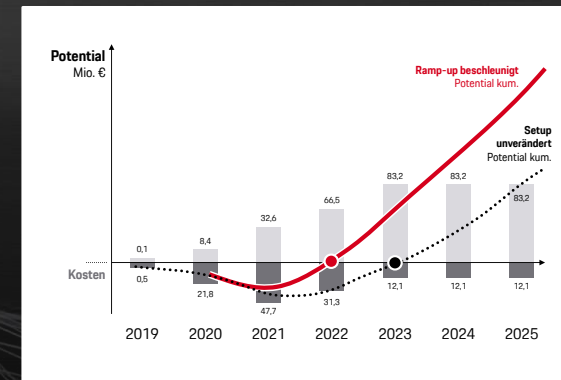
Clearly defined process target pictures for future process including their use cases



03

Potentials & Business Case

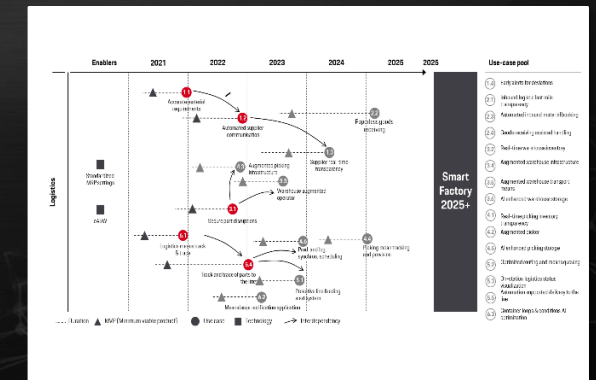
Estimated potentials e.g. on savings for factory costs or supply chain



04

Implementation Roadmap

Prioritized use cases including dependencies allocated in an implementation roadmap



We are happy to answer your questions and to stay in contact



Florian Voet

Project Manager Porsche AG
Production 4.0 | Smart Factory



Robert Heiler

Senior Manager Porsche Consulting
Smart Factory and Industry 4.0

robert.heiler@porsche-consulting.com // +49 (0)170 911 4508