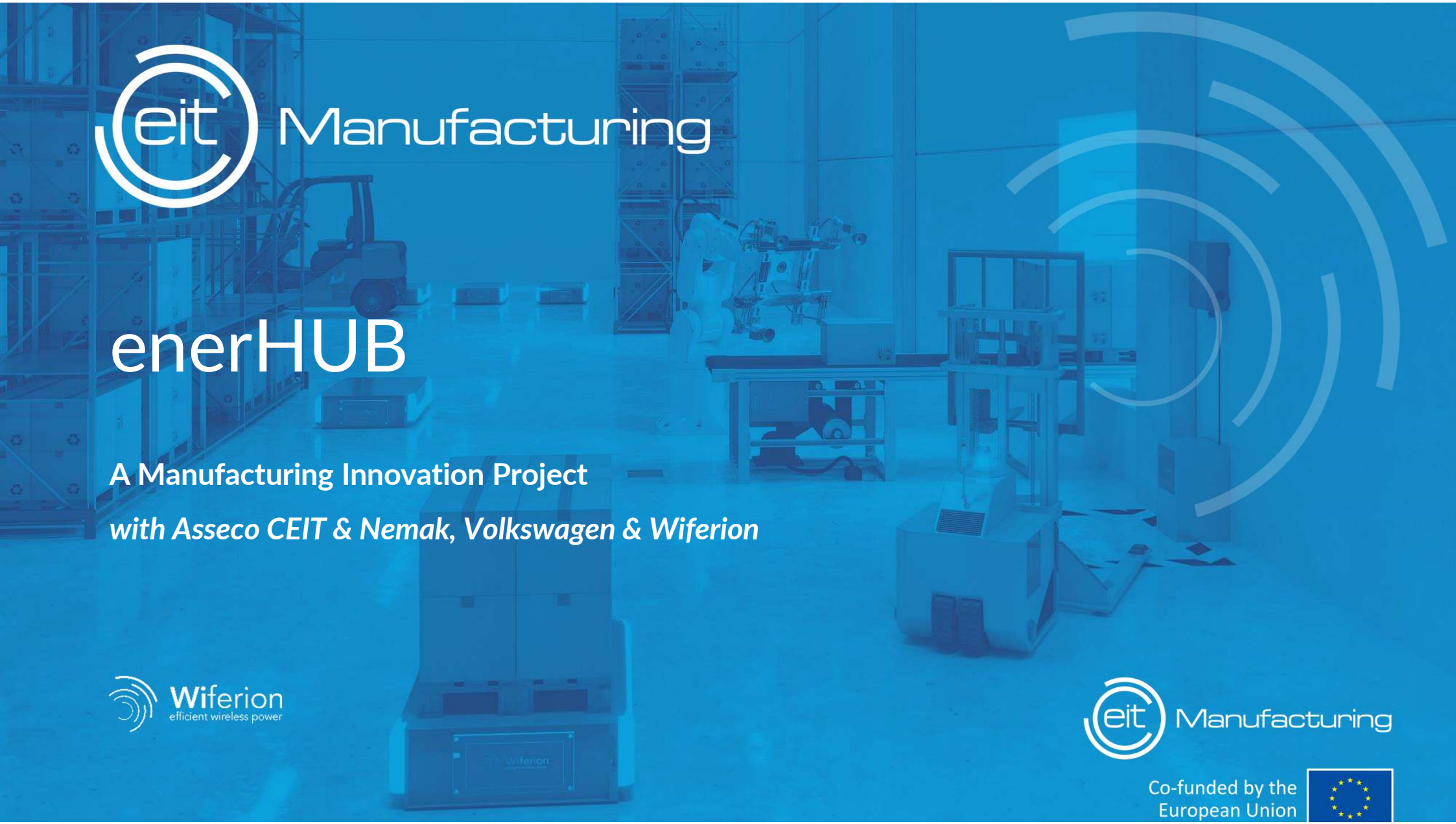

eit Manufacturing
enerHUB
A Manufacturing Innovation Project
with Asseco CEIT & Nemak, Volkswagen & Wiferion
Wiferion
efficient wireless power
eit Manufacturing
Co-funded by the
European Union

Is this the smartest way to transmit electrical energy?

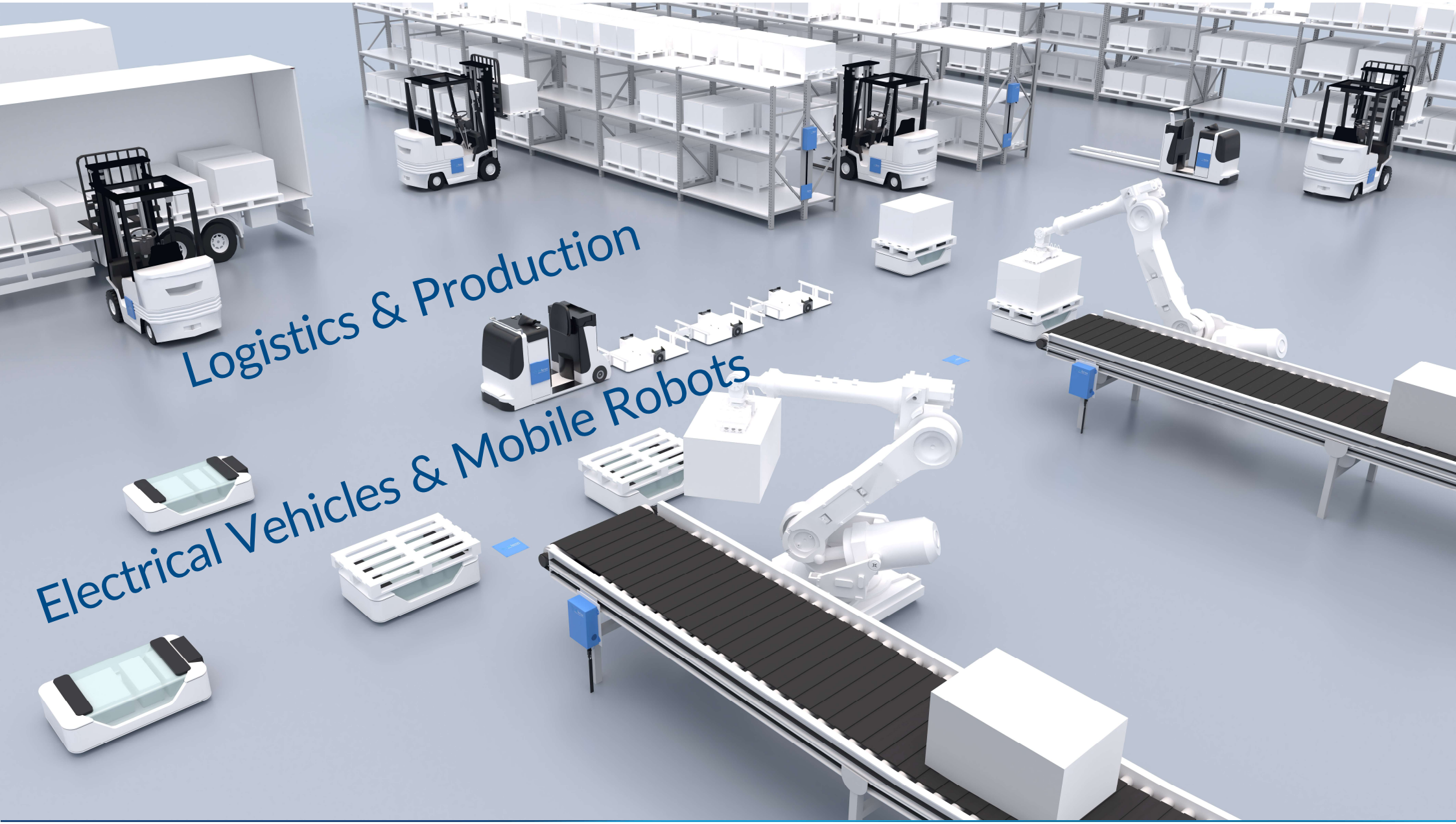
Intelligent Wireless Charging enables the Future of Mobility and Intralogistics

The future of public mobility & transportation is…

- Electric (using renewable energy)
- Autonomous (enabling new mobility concepts)

… and is a reality today in intralogistics

- 100% electric
- fully autonomous

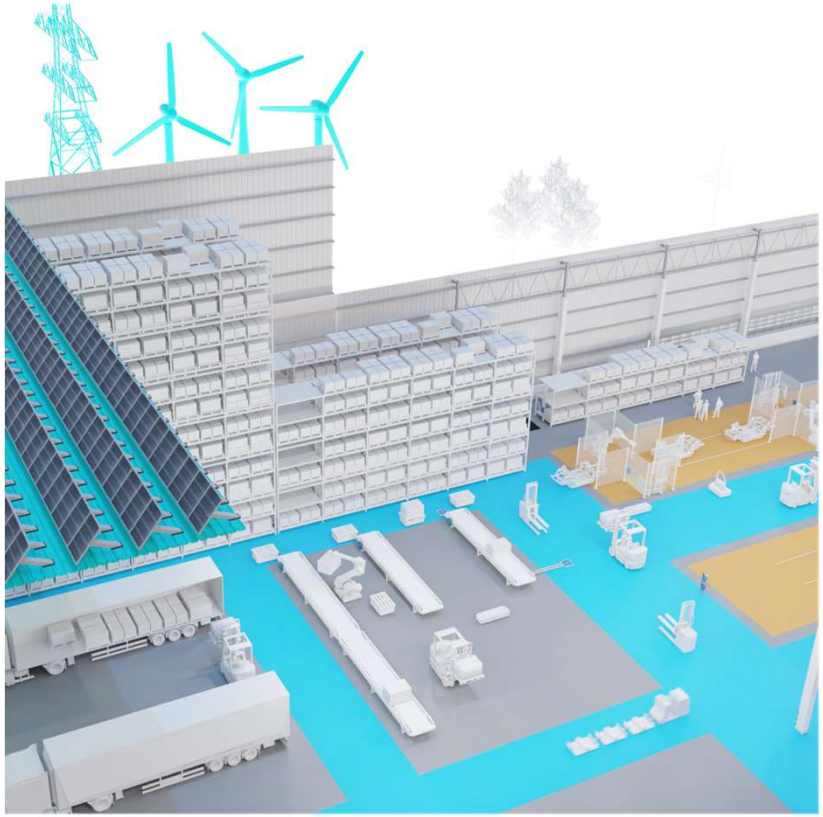

Logistics & Production
Electrical Vehicles & Mobile Robots

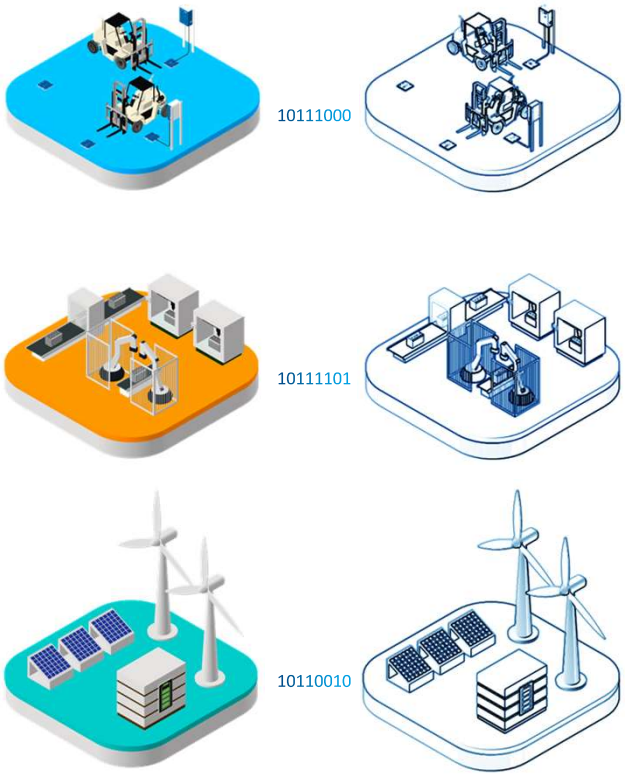
The Problem: Poor Energy & Charging Management of Industrial EV-fleets

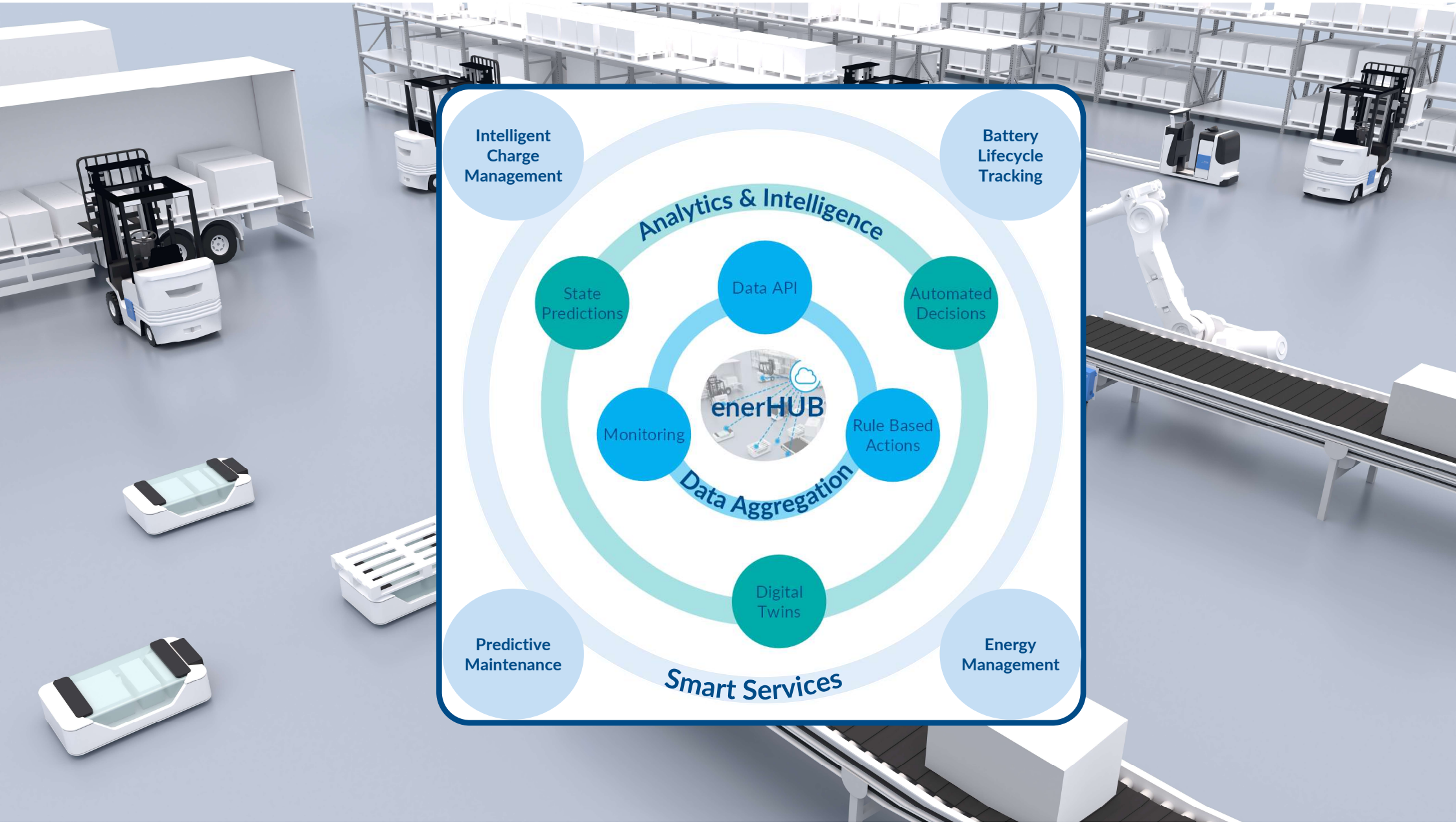
- Lack of Intelligence in Management of Battery Charging
- No concepts for battery maintenance and replacement
- Lack of interconnection with Fleet Management, EMS, MES
- Valuable process time lost due to vehicle charging
- Avoidable cost of up to 1M€ for a fleet of 50 autonomous forklifts in 3 years
- Valuable space consumed for the charging process

➢ **Not only a problem, but a missed opportunity**

Digital Energy Twins – Scalable & Efficient






Intelligent Charge Management
Battery Lifecycle Tracking
Analytics & Intelligence
State Predictions
Data API
Automated Decisions
enerHUB
Monitoring
Rule Based Actions
Data Aggregation
Digital Twins
Predictive Maintenance
Energy Management
Smart Services

The Solution: enerHUB End2End Charging Management Platform

- Intelligent Charge Management
- Fleet Management Integration
- Battery Lifecycle Management / Second Life
- Predictive Maintenance
- Site / Factory & Process Energy Planning

Functional delivery

Monitor	Monitoring of distributed autonomous e-vehicle fleets and associated charging infrastructure
Manage	Charging management for autonomous e-vehicle fleets in the industrial and production segment
Maintain	Predictive maintenance of vehicle energy system and charging infrastructure
Digital Twin	A complete mapping of the energy systems of robotic fleets by digital twins, adaptively adjusting based on physical measured values including aging factors of batteries.
Battery passport	Lifecycle tracking of batteries as a basis for the realization of second-life applications

Customer Benefits

*Reference Case: 50 forklifts with 30kWh lithium batteries

Service	Benefit	Savings
Managed in-process charging	↑ fleet efficiency **or** ↓ fleet size by 30%	300k€ 50k€
Battery lifecycle management	↑ & battery lifetime **and** second life use-case	100k€ - 200k€
Smart load dispatcher	↓ electricity cost **and** ↓ CO_2 footprint	200k€ 190k€

Saving potential of >1M€ over 3 years*

Core Project Partners

Nemak
Innovative Lightweighting

End Users

Business Owner

Wiferion

Wireless Charging Manufacturer
Battery Solutions
Digital Energy & Charging Solutions

CEIT by asseco

AGV Manufacturer

Technology Providers

Wiferion in Brief

We are the market-leading energy supplier for industrial wireless charging

Systems sold
6.000+

Revenue 2023
10 M€
2021 5.4 M€

Patents
11 granted
13 pending

Field proven
3+ years 24/7

Countries deployed
20

Employees
70+

Project Charter

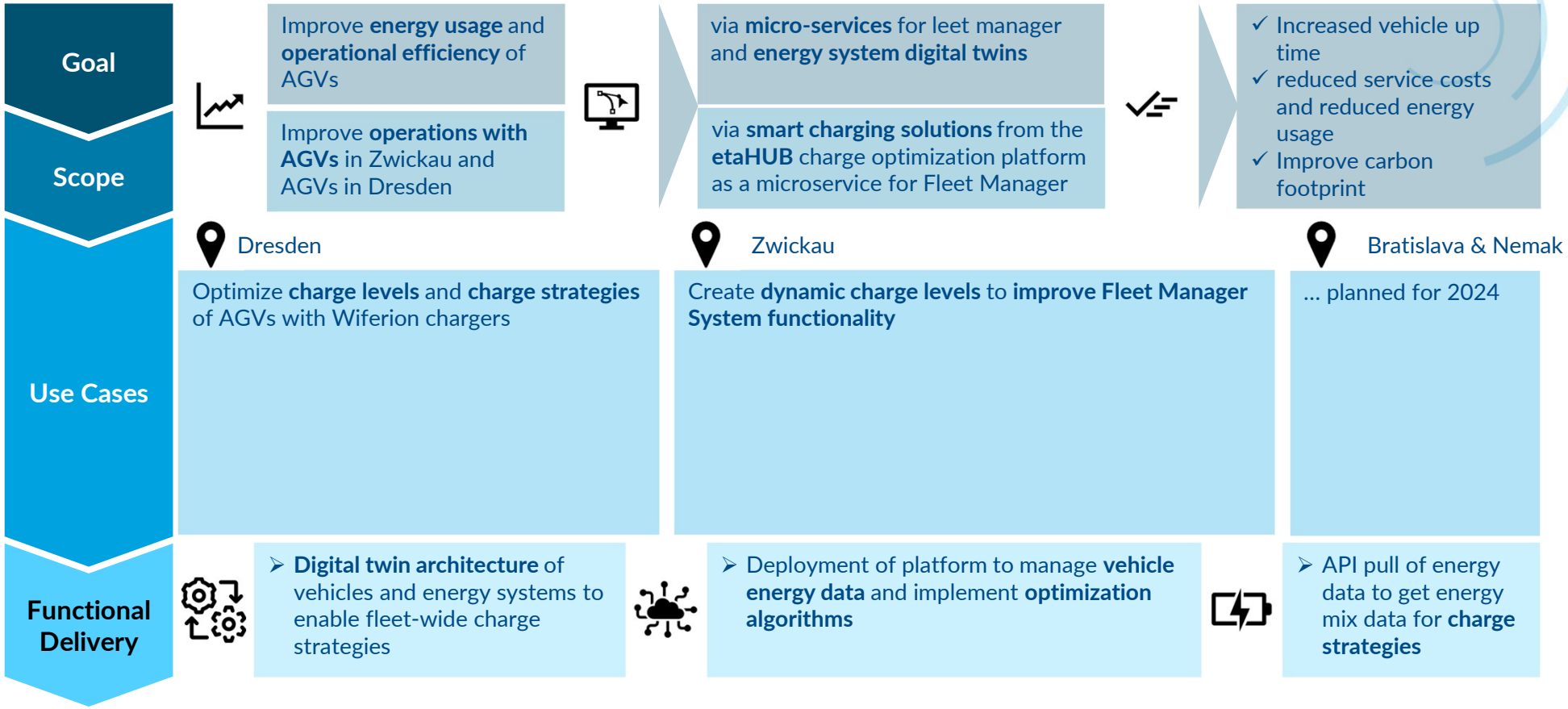
Project Scope and Project Team

Project Scope		
Project Name	**enerHUB**	
Business Need	Value **optimization** for all energy-related aspects of the **electric driverless** transport systems' **fleet operation** and the associated **charging infrastructure**	
Solution	**Cloud-based** software platform for data-driven **value optimization** using **digital twins** and **artificial intelligence**	
Funding	~ 1,9 Mio. €	
Time Frame	2 years, Jan 2023 – Dec 2024	

Project Core Team	
Wiferion	Technology Lead
Wiferion	Product Owner
Wiferion	Business Developer
Wiferion	Project Manager
	Industrial End User
	Industrial End User
CEIT by asseco	Technology Supplier (AGVs)
CEIT by asseco	Technology Supplier (AGVs)
Nemak Innovative Lightweighting	Industrial End User
eit Manufacturing Co-funded by the European Union	Call Manager

Technical Scope

Use Cases at VW plants in Dresden, Zwickau and Bratislava & at Nemak



Target: Product Launch to Market E/2024

Fast ROI & Field Proven

Flexible Business Models

Various Versions & Modules

Project on EIT-Manufacturing

What brought us to apply at eit-M

Real European Platform

Great Team - Outstanding Support

Collaborative Spirit

Highly Innovative Partners and Calls

Business & Technology Driven

eit Manufacturing

Wiferion
efficient wireless power

Let's Unplug & Play

Thank You!

eit Manufacturing

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