



Introducing Roben Automotive – Poland

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- Roben Automotive Poland owner and founder: Matthias Weber
- The Roben's are separate entities that cooperate and share the name
- Roben is the German name of Polish town Równe: the founding place



- Roben PL has large System Architecture, Functional Safety and OBD experience
- Training, Processes, Methods, Development and Trouble shooting can be offered
- Experience in Roll Out of pragmatic Processes and necessary Training
- Influence of Autonomous Systems on Safety and Diagnostic
- Additionally: links to OBD and Cyber Security
- Together with Roben The Netherlands:
 - Complete field of OBD
 - Injury prevention Cyber Security
 - Additional experienced resource



Failures leading to injury
(Functional Safety)



Safe Implementation of Diagnostics
(Functional Safety)



Additional Diagnostic Concepts due to
Artificial Driver



Functional Safety Concepts and System
Architecture



Safety Analysis during Function
Development

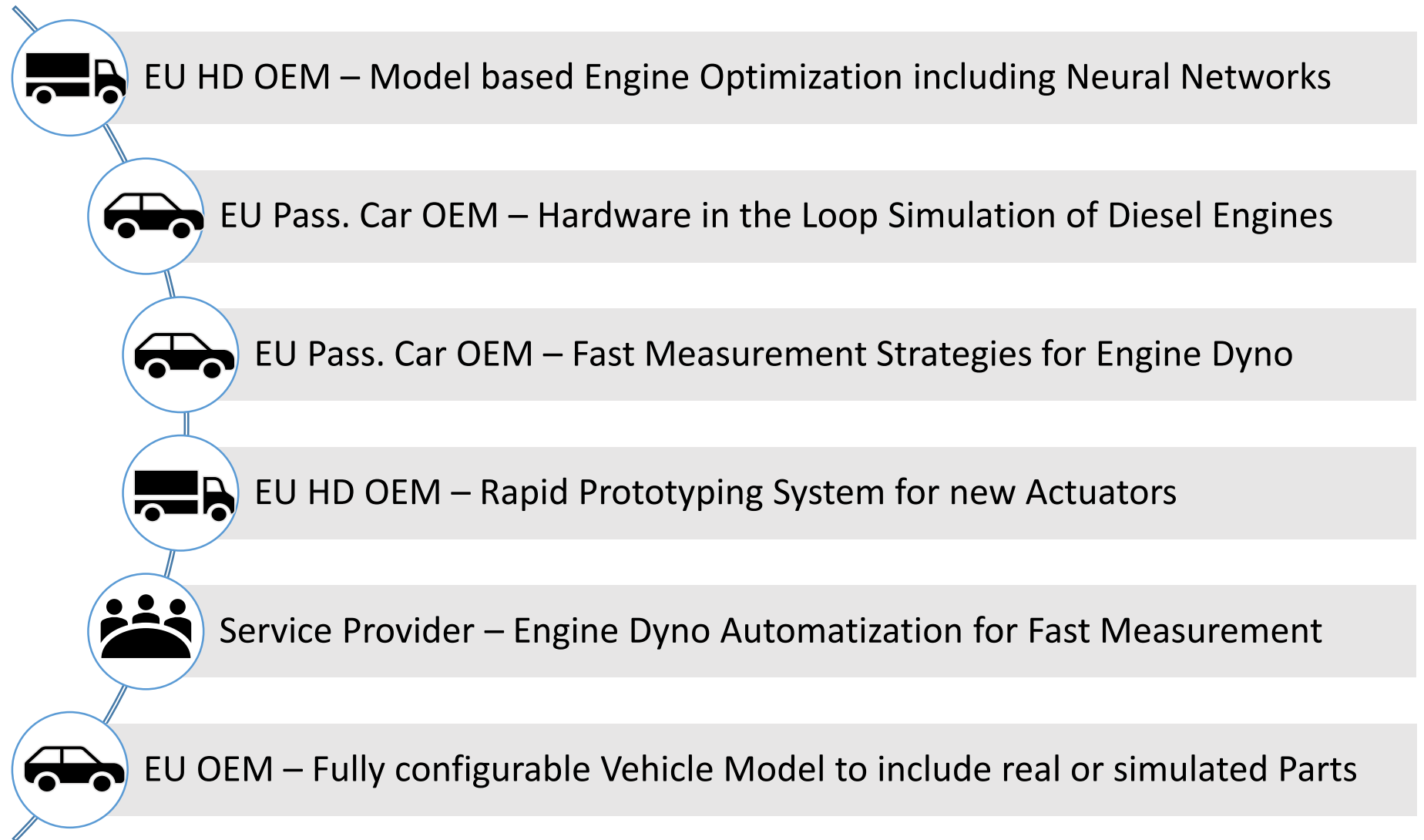
Founder & Owner – Biography

- Trained Communications Electronics Technician
- Experience as Electronics Technician in Industry
- Study at TU Darmstadt, Electrical and ICE Engines Control
- Dipl.-Ing. In General Electrical Engineering
- 5 Years Research Associate at TU Darmstadt
- ~17 years working in all aspects of Engine and Aftertreatment Control and Simulation
- Worked for OEM & Tier1 and Research organizations
- Additional experiences
 - System Architecture & Functional Safety & Cyber Security
 - Modell Based Programming and HIL Simulation
 - SW Development & Processes incl. Agile
 - Management / Project leading / International Teams & Customer
 - Trainer and Lecturer

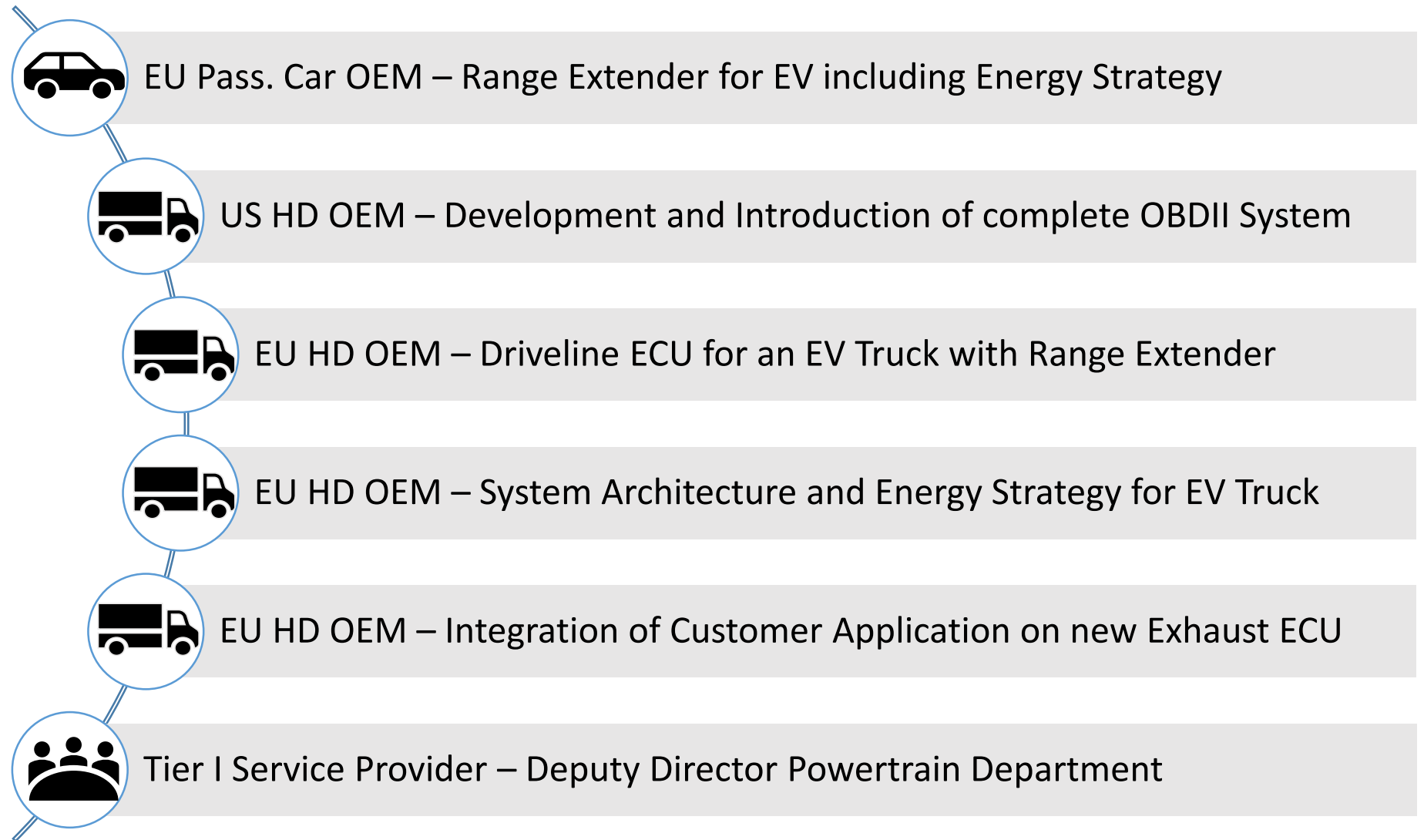


Roben Office in Poland

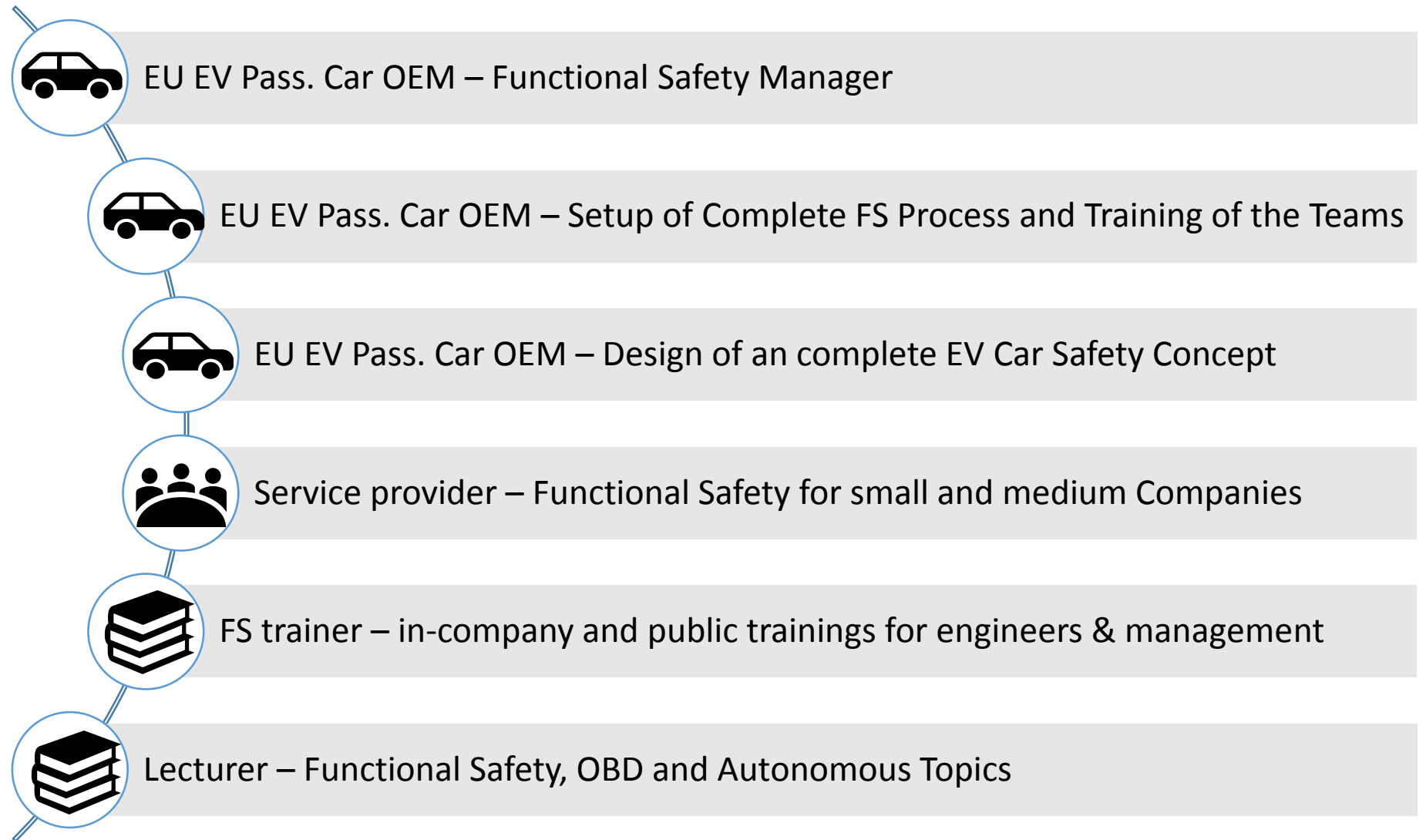
Founder & Owner – experience overview



Founder & Owner – experience overview



Founder & Owner – experience overview



“Safety is a
Philosophy
based on culture
and awareness”



Training

- Pragmatic ISO 26262
- ISO 26262 in Agile development
- Functional Safety beyond ISO 26262 / Full Vehicle
- How Autonomous Systems Impact Functional Safety

Consultancy

- FS Processes and Methods
- Integrate Agile and FS into existing Organization
- Autonomous Vehicles and Functional Safety
- Safety implications to (remote) diagnosis & service

Support

(On- & Off-site)

- FS Management
- FS Analysis, Safety Goals
- ASIL Argumentation
- FS Concepts for different Drivetrains
- FS Reviews

Training

- FS Philosophy and Culture for Engineers or Manager
- FS Methods
 - Hazard and Risk Analysis
 - FMEA

Consultancy

- Moderation of
 - Hazard and Risk Analysis
 - Function FMEA
- Functional Safety Concept
- FS Supplier Management and Assessment

Support

(On- & Off-site)

- Item Definition
- FS Requirements
- FS Architecture
- FS Concept
- Development Interface Agreement
- FS Reviews

In cooperation with Roben The Netherlands

Training

- OBD Philosophy
- OBD Methods
- OBD System and Diagnostic Concepts

Consultancy

- OBD Legislation interpretation
- OBD Processes
- OBD Methods
- OBD Homologation
- OBD Trouble shooting

Support

(On- & Off-site)

- OBD Requirements
- OBD Concepts
- OBD Architecture
- OBD Reviews
- OBD Testing plans
- OBD Homologation documents

In cooperation with Roben The Netherlands

Training

- OBD Legislation, safety & security framework
- Diagnostic System
- Prognostics methodology

Consultancy

- Service Information (e.g. Right-to-repair) laws interpretation
- Security implications to (remote) diagnosis & service
- Support in finding partners / technology to secure the system

Support

(On- & Off-site)

- Requirements to diagnosis & service systems
- Diagnostic concepts
- Updates-over-the-air concepts
- Reviews

In cooperation with Roben The Netherlands & extra partners where needed

Training

- Cyber Security systems level analysis and awareness
- Standards applicable to automotive

Consultancy

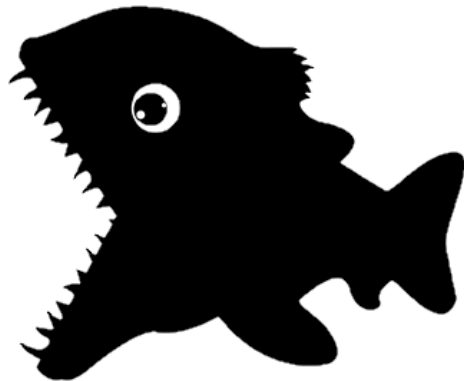
- System level risk identification
- 'Sabotage methods and incentives
- Support in finding partners / technology to secure the system

Support

(On- & Off-site)

- Risk & Impact assessment

A small company with flexible partners



- Roben PL together with the other Roben companies has a number of partner companies that each have their expertise, regional coverage and resources
- Where needed new partners can be found
- The Roben companies can help their customers even if a project is growing, needs additional knowledge, support from a different region or specific resources
- As such Roben can also help other companies in creating business in the automotive industry

Examples of contract types



Trainings: Fixed price + travel costs



Consultancy: “Help-desk” ticket system (reserve budget per year, pay per hour)



Consultancy: Fixed price workshops + travel costs (Also at our office in Poland)



Consultancy: Pay per hour + any applicable travel costs



Support (On- or Off-site): Pay per hour or day



Support (On- or Off-site): Fixed price defined work packages



Thank you for
your attention!

Questions?