

YOUR GLOBAL **MOBILITY** AND
INDUSTRY ENGINEERING EXPERTS



EDAG GROUP

ZERO

PROTOTYPE LAB



5/19/2025



ZERO PROTOTYPE LAB VALUE PROPOSITION



EDAG invests in
sustainable vehicle
development



Development Time
Saving

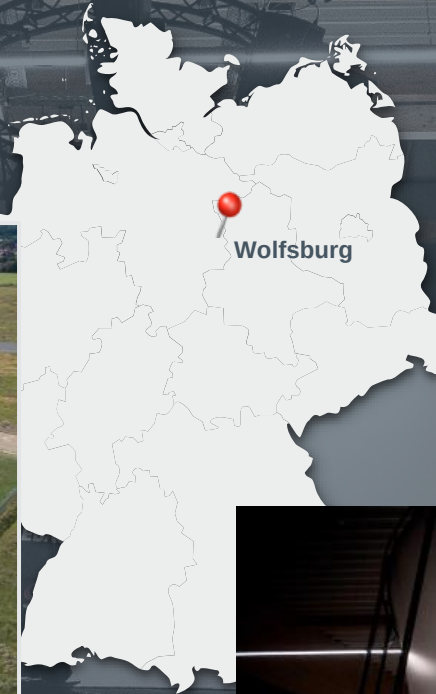


Up to Prototype Free
Economy



Safe Tuning and Testing

ZERO PROTOTYPE LAB LOCATION



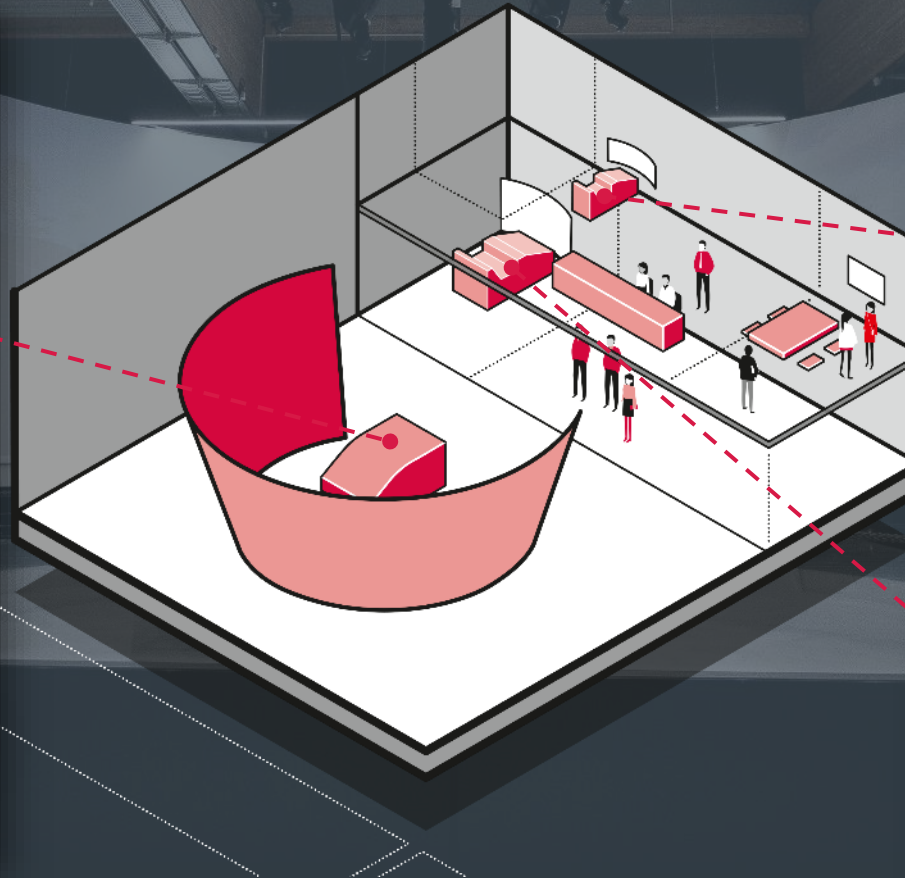
ZERO PROTOTYPE LAB SIMULATOR OVERVIEW

Facility and Simulator Infrastructure

**HIGH DYNAMIC DiM500
FULL SPECTRUM SIMULATOR**
Handling + Ride&Comfort + NVH



Moving / Motion:
Longitudinal: **1:1 Cueing**
Lateral: **5m and 1,5g**
Vertical: **5m and 1,5g**
 298mm and 2,5g



Desktop Simulator

Model function testing



Compact Full Spektrum Simulator

Ride&Comfort + NVH

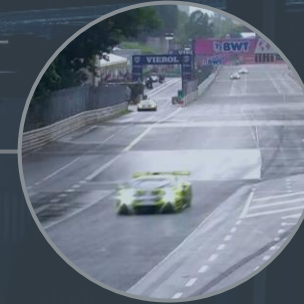


ZERO PROTOTYPE LAB SIMULATION CONFIGURATION



Scenario

- Road Surface
- Road Lanes / Environment / Objects
- Traffic / Moving Objects



Vehicle Model

- Realtime compatible vehicle model



HIL Benches

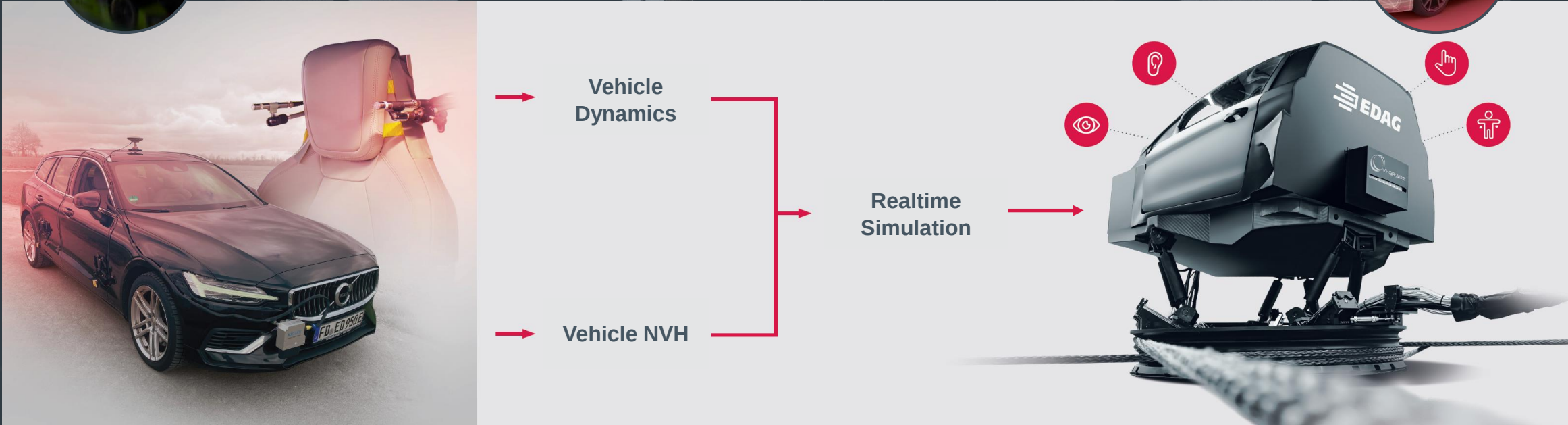
- Mechanic
- Hardware
- Software



VEHICLE MODEL GOING VIRTUAL



Digital Twin

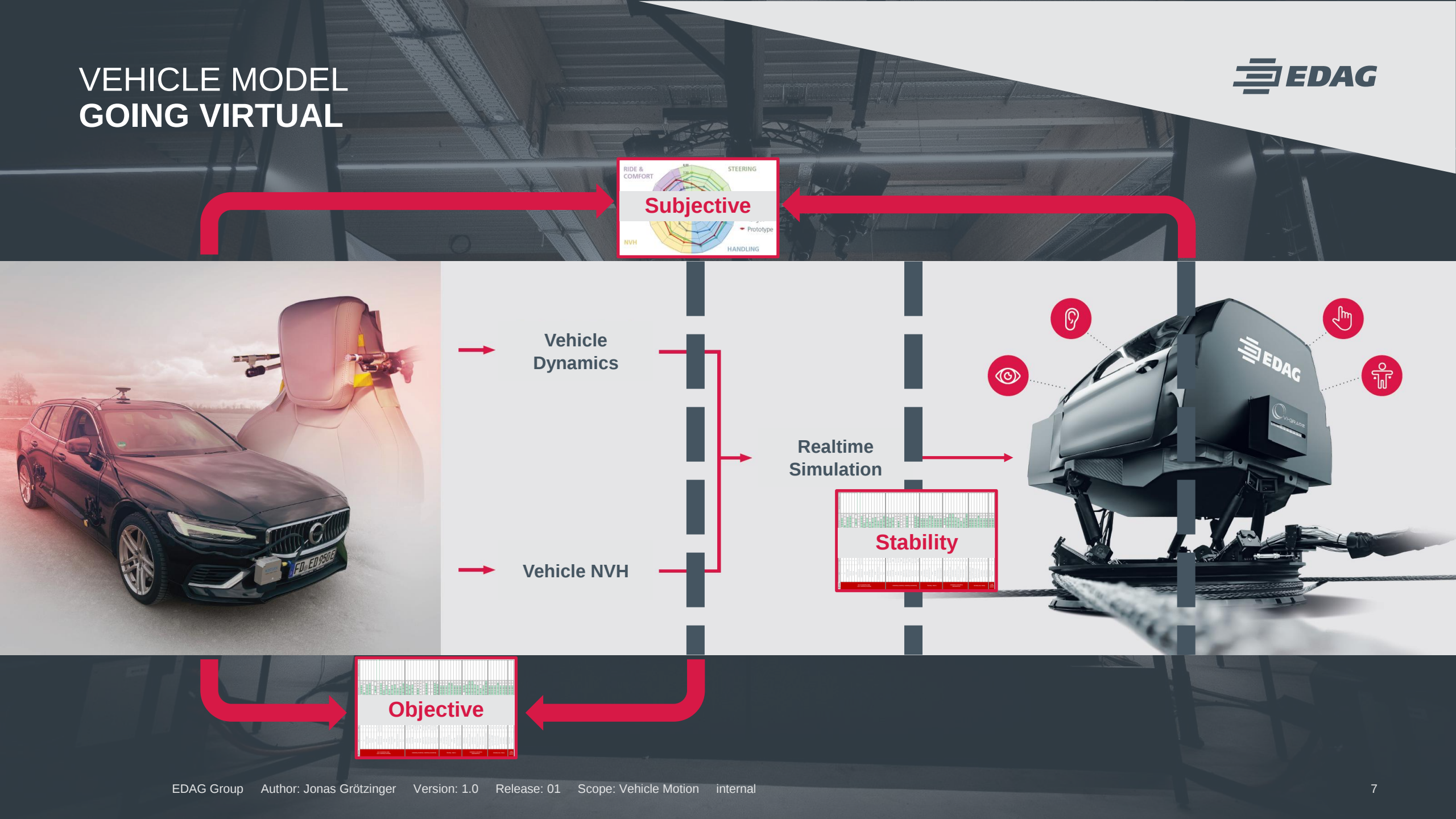


Testing

Modelling

Validation

VEHICLE MODEL GOING VIRTUAL



ZERO PROTOTYPE LAB VEHICLE MODEL



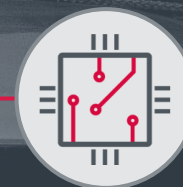
Vehicle
Dynamics



Vehicle
NVH



Tire



Controls



Lighting

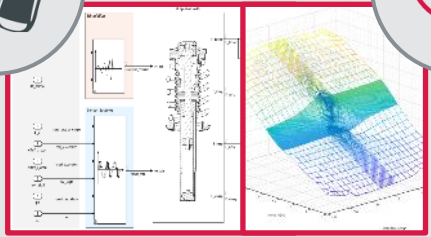
PROCESS VEHICLE MODEL



Digital Twin



Suspension



Vehicle Dynamics Garage



Vehicle NVH Garage



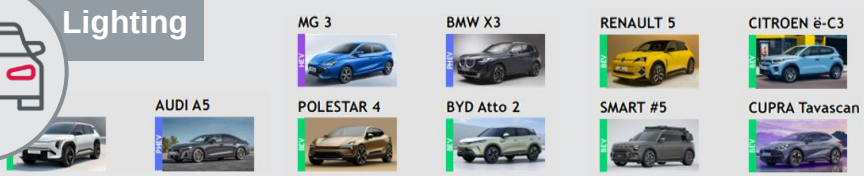
Controls



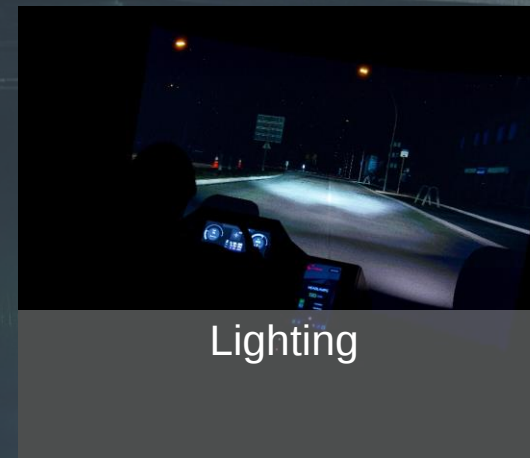
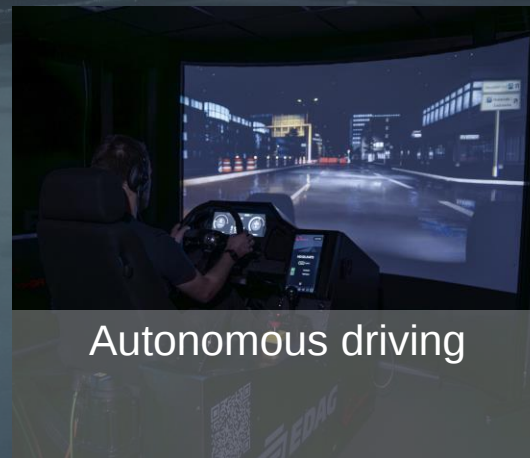
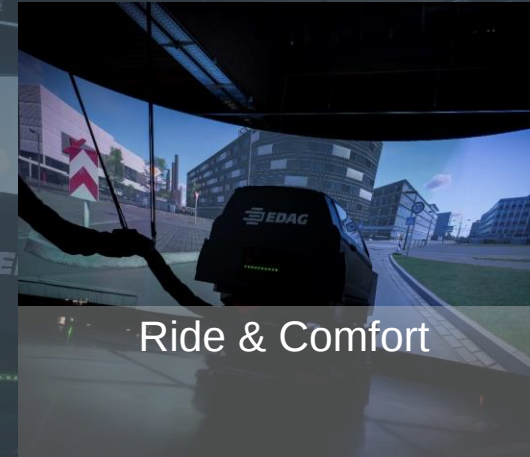
Tire



Lighting



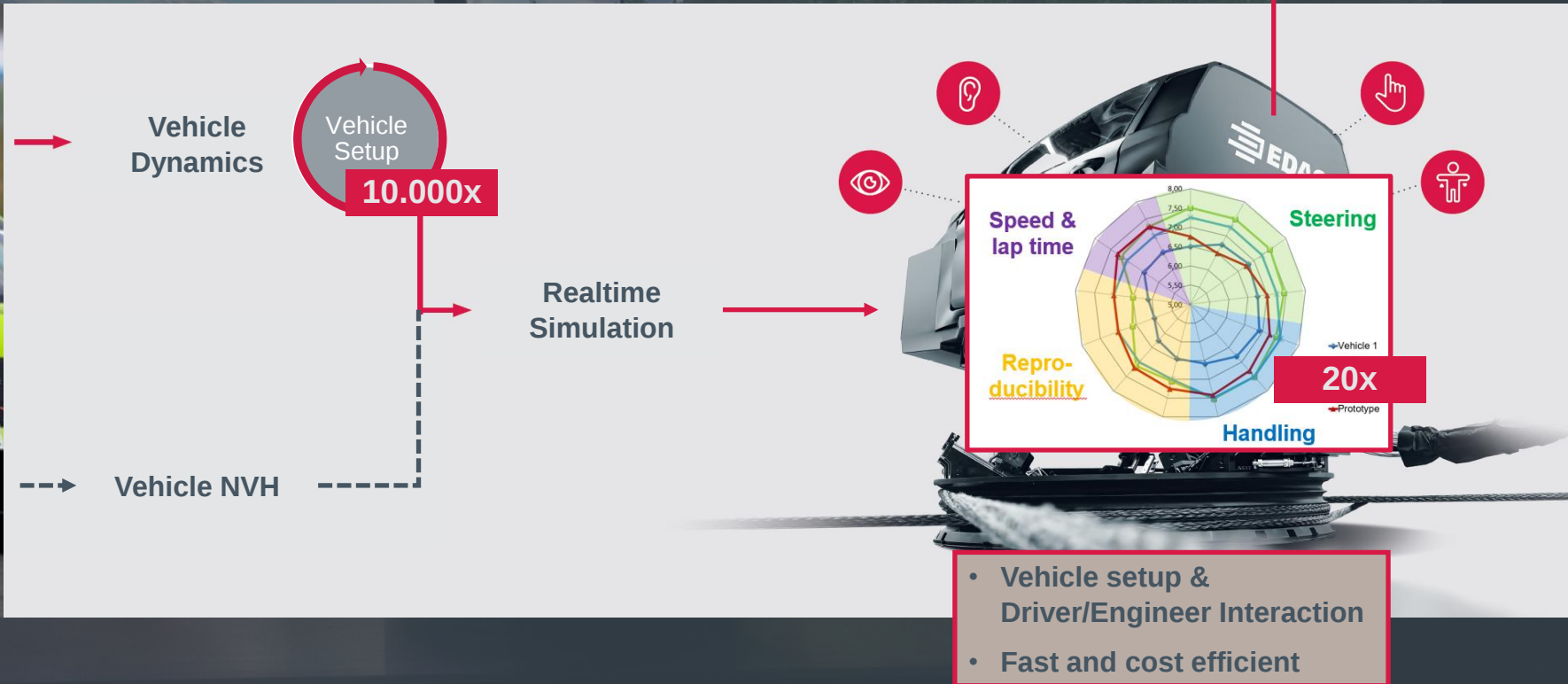
ZERO PROTOTYPE LAB DEVELOPMENT USECASE



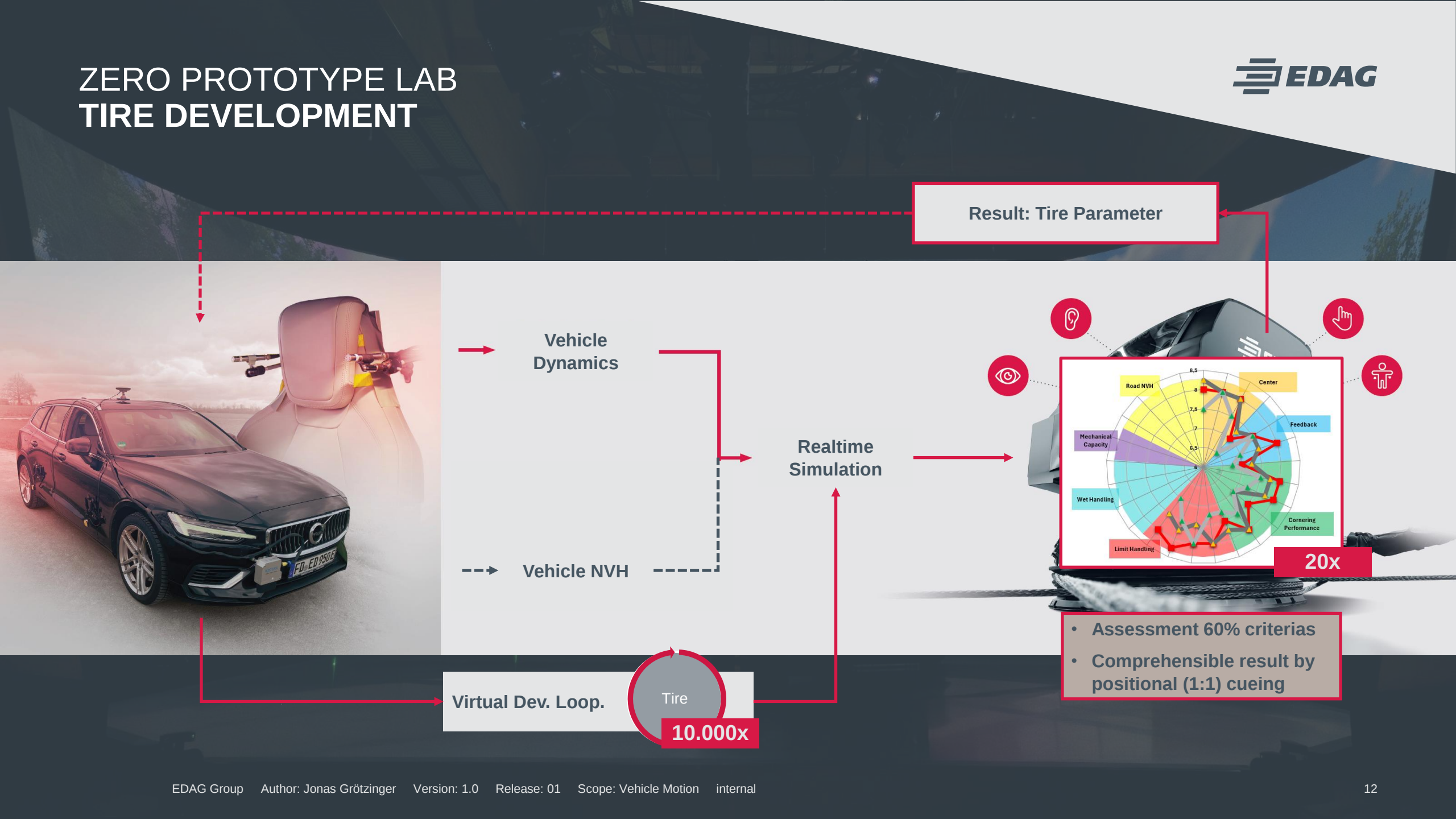
ZERO PROTOTYPE LAB SETUP DEVELOPMENT



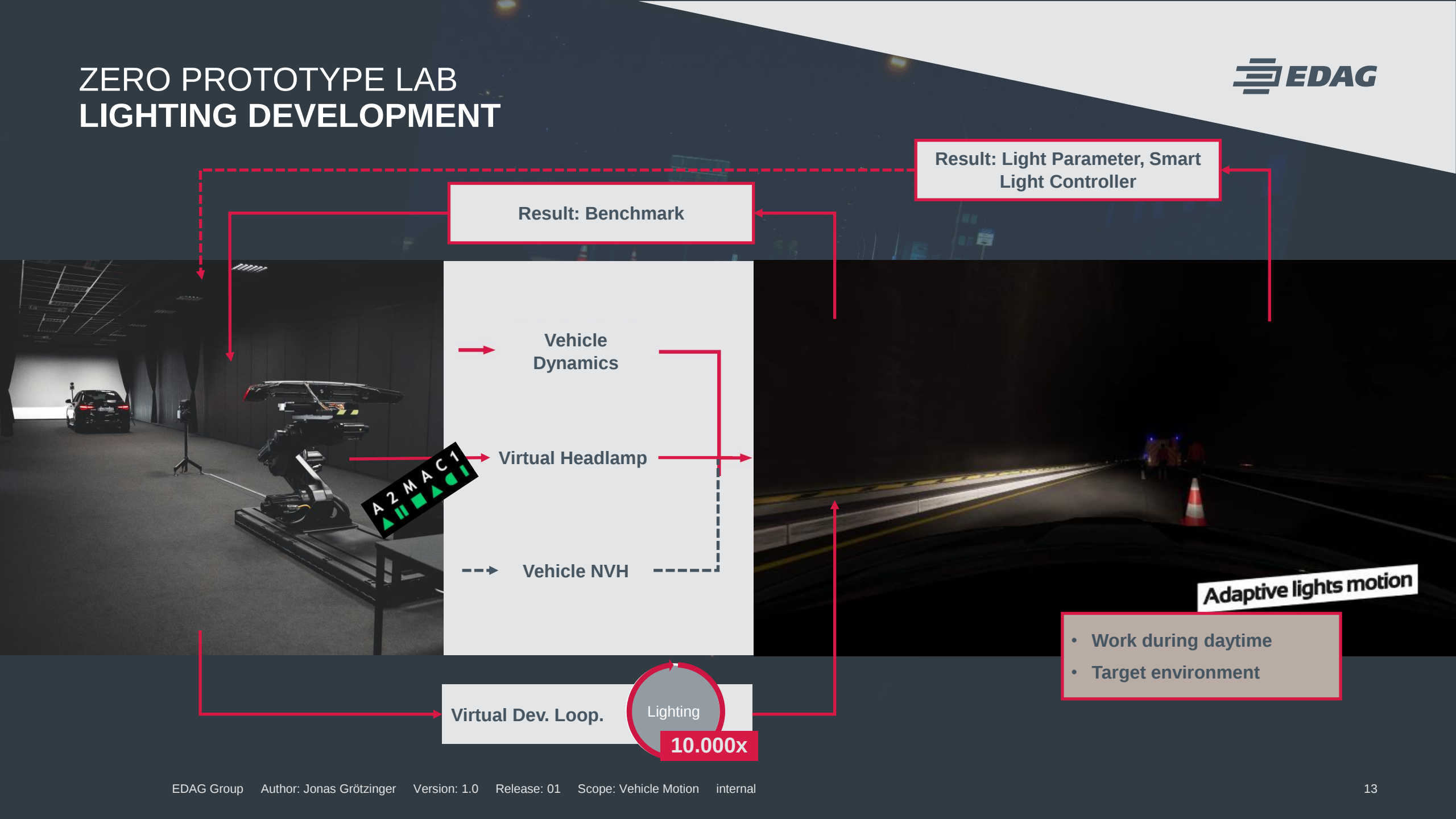
Result: Axle, Suspension & Aerodynamics



ZERO PROTOTYPE LAB TIRE DEVELOPMENT



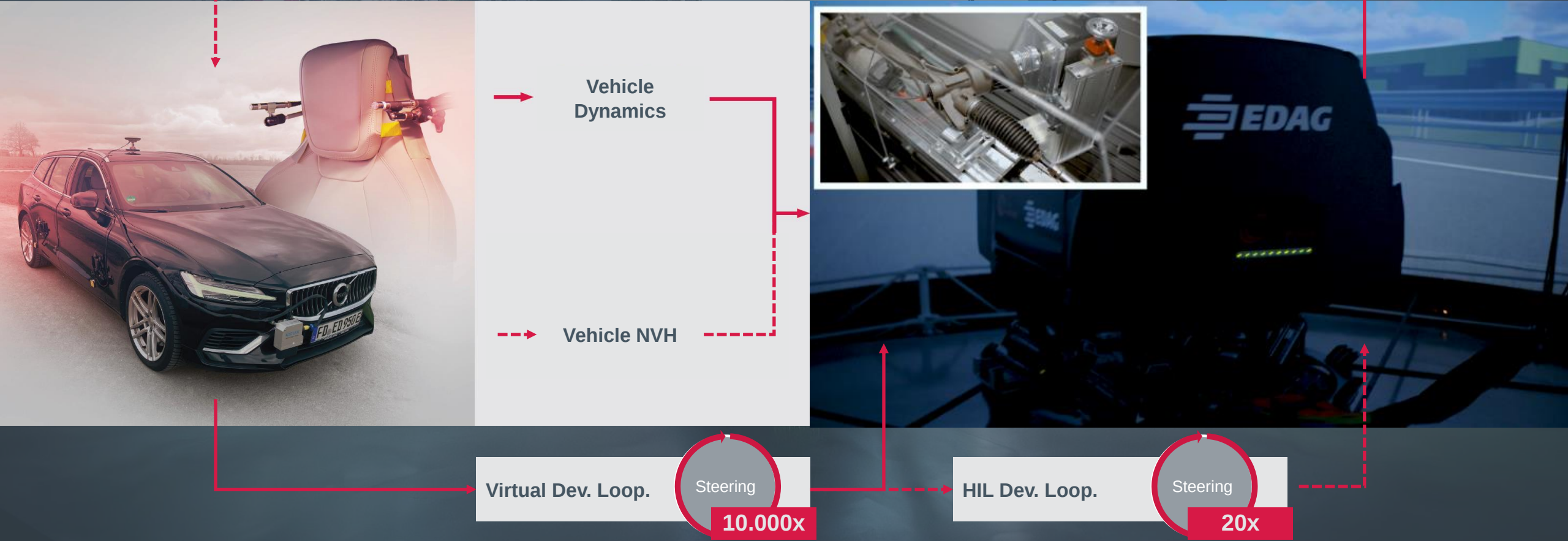
ZERO PROTOTYPE LAB LIGHTING DEVELOPMENT



ZERO PROTOTYPE LAB STEERING DEVELOPMENT



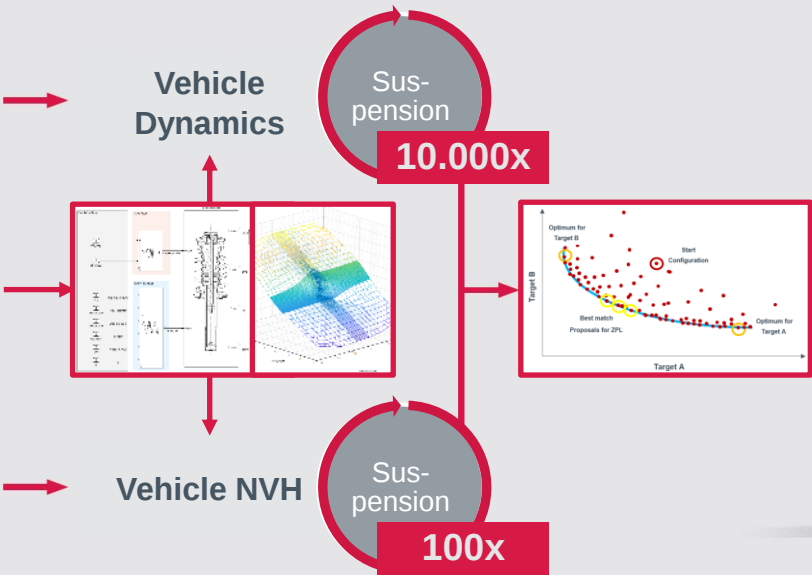
Result: Steering Feel
Optimisation & Controller Tuning



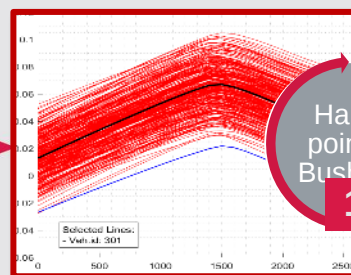
ZERO PROTOTYPE LAB VERTICAL DYNAMIC DEVELOPMENT



Result: Suspension Parameter & Controller Configuration

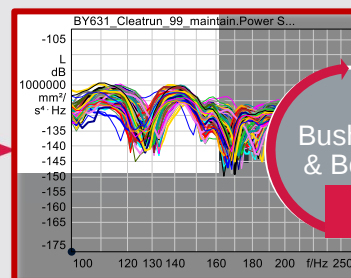
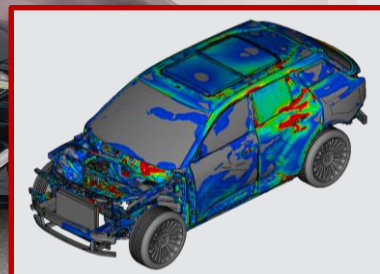


- Reproduceable environment conditions
- Interactive optimisation



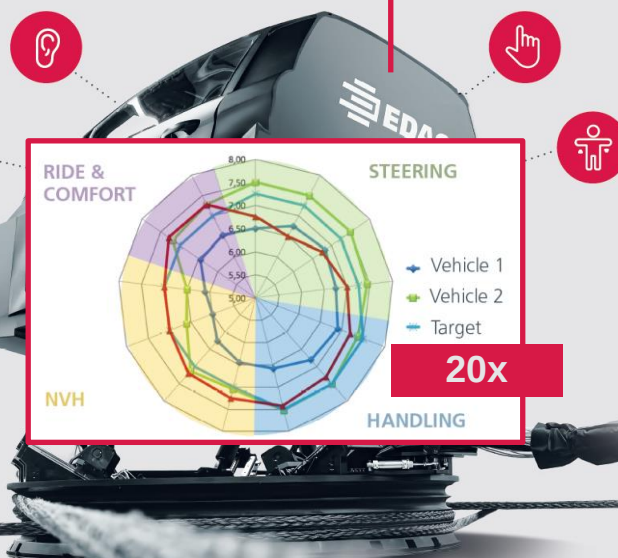
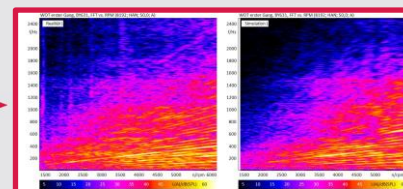
Hard-points, Bushing

10.000x



Bushing & Body

100x



20x

Joint development and optimisation on ZPL between NVH and Vehicle Dynamics

ZERO PROTOTYPE LAB DEVELOPMENT APPROACH

Multi Attribute Development with DiM500 + Hyperdock and Compact FSS



ZERO PROTOTYPE LAB EDAG TEAM



**Jonas
Grötzinger**

(Vehicle Motion &
Performance
Vehicle)



Jan Kasten

(Head of Chassis)



**Tobias
Krebs**

(Team Lead
Acoustics / NVH)



**David
Münzing**

(Portfolio Manager
ADAS & VM)



**Patrick
Poelz**

(VP Chassis &
Vehicle Dynamics)



**Felix
Mergner**

(Expert Simulation)



**Lucas
Spiegel**

(Expert Tire)



**Giovanni
Olocco**

(Sales)



**Philipp
Heitzig**

(VP Chassis
Competence)



**Ulf
Kossenjans**

(ZPL Test
Coordinator)



**Jannes
Buthmann**

(Expert
Light&Vision)



Homepage
Zero Prototype Lab