



DSC 2023 EUROPE VR

Driving Simulation & Virtual Reality Conference & Exhibition



Member of the **spectris** group

Towards Zero Prototypes

*Right Simulators
and Right Models
at the Right Time*

Dr. Michael Hoffmann

Zero Prototypes Evangelist

Antibes

September 6th – 8th 2023



OUR FOCUS:

DRIVING EXPERIENCE



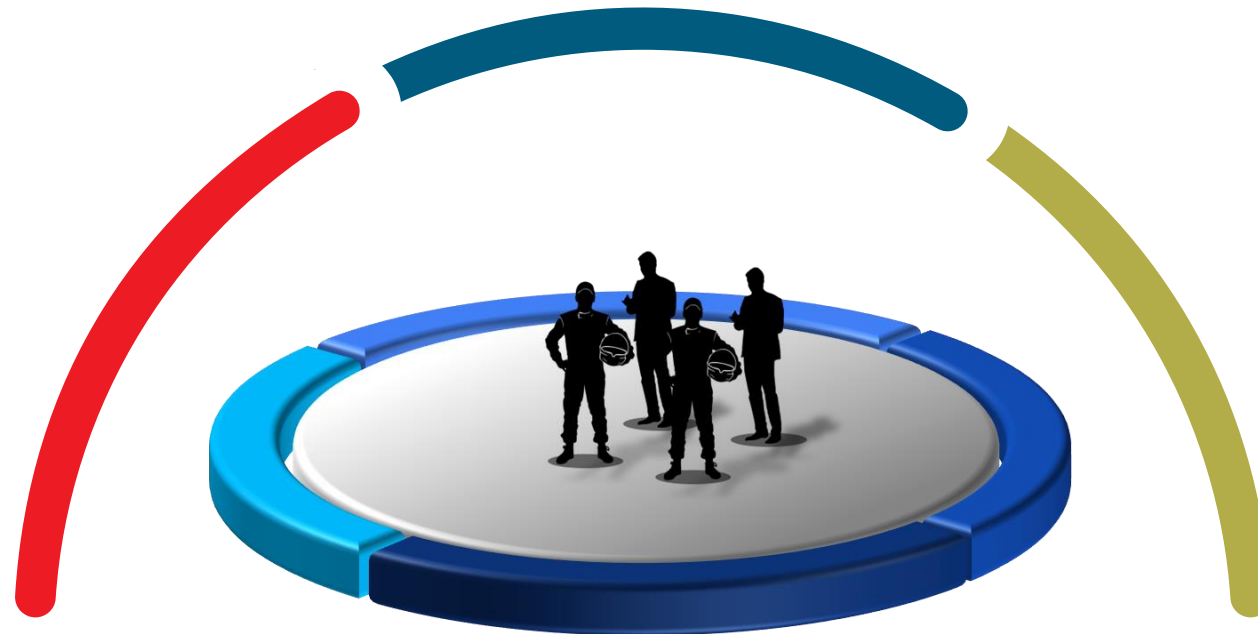
Driver & Assistant
ADAS & AV



Driver & Vehicle
Ride & Handling
NVH



Driver & Controls
HMI

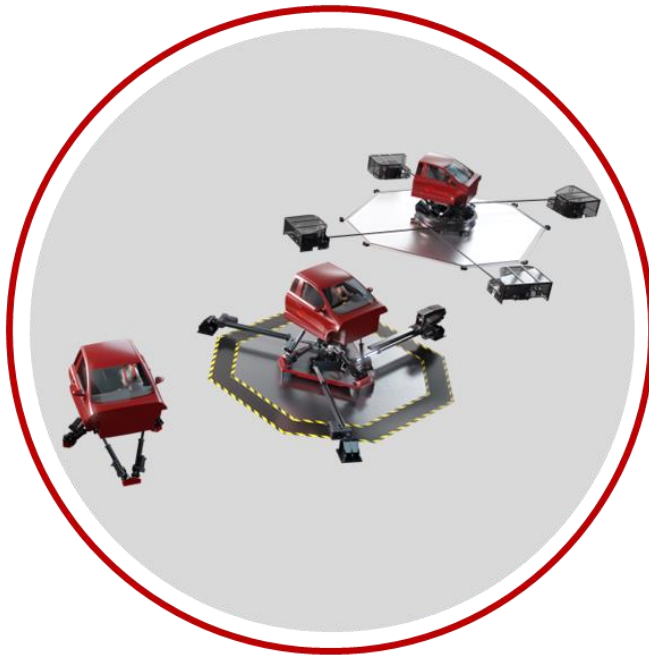




PRODUCT LINES



SIMULATION SOFTWARE
The enabler



SIMULATORS
The Collaboration Platform



HARDWARE-IN-THE-LOOP
The link to the real world



CRITICAL SUCCESS FACTORS

Right simulators, right models at the right time



RIGHT SIMULATORS



Wide performance range
Entire frequency spectrum covered



Multi-attributes
Ride&Handling, NVH, ADAS, HMI, ...

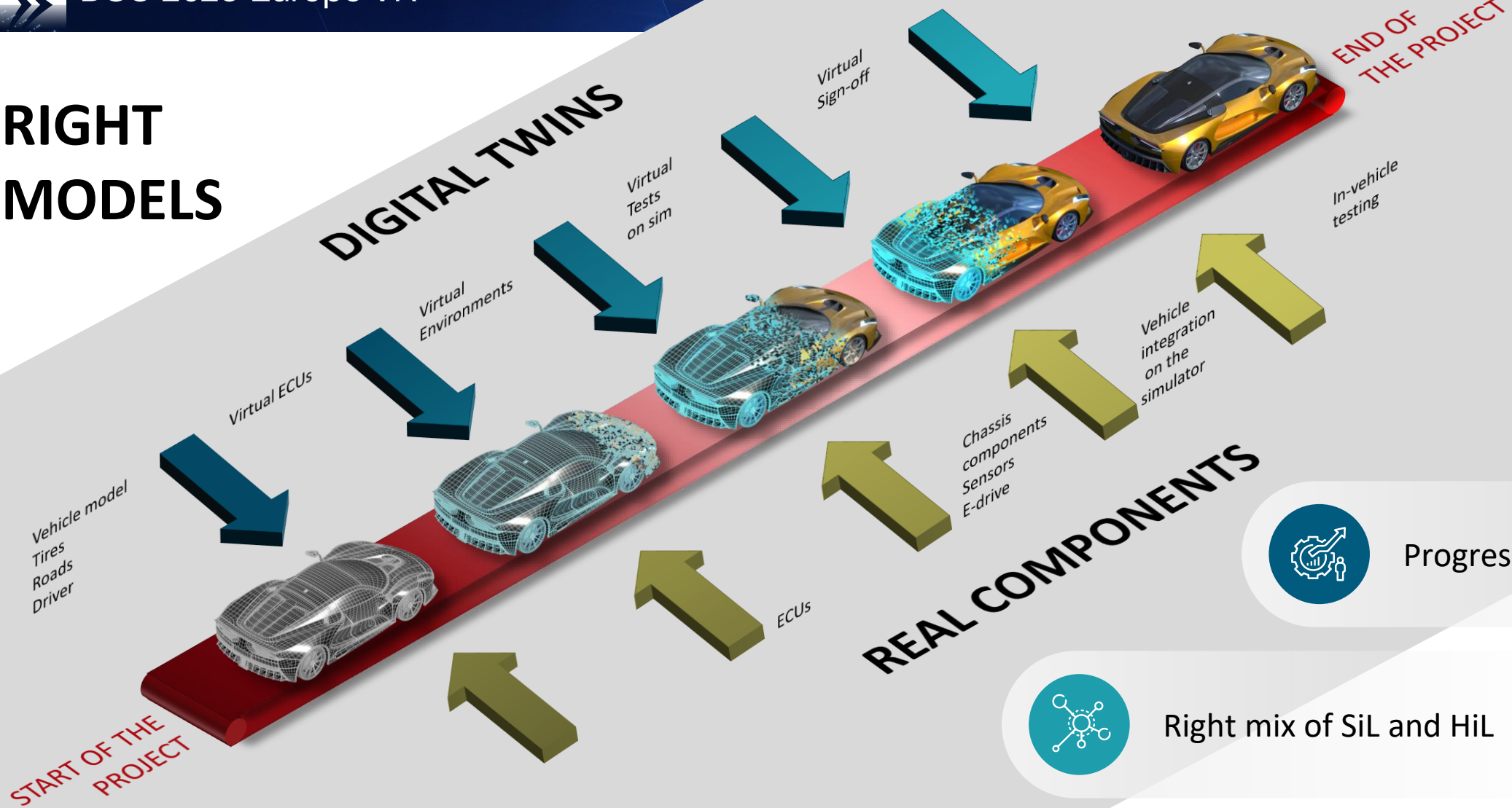


Scalable simulators
From DESKTOP to large-scale DYNAMIC



RIGHT MODELS

DIGITAL TWINS



REAL COMPONENTS

ECUs

Chassis components
Sensors
E-drive

Vehicle integration on the simulator

In-vehicle testing



Right level of detail



Right mix of SiL and HiL





Progressive improvement




RIGHT TIME

DIGITAL DEVELOPMENT PLAN

 Templates

 Parameters

 Events & Metrics

TASKS

- DEVELOPMENT MILESTONES
- DEVELOPMENT GATES
- ...



Different models need to be built for different phases and tasks during the development

EXECUTABLE MODEL




DRIVING EXPERIENCE

EXECUTABLE MODEL



DESIGN

EXECUTABLE MODEL



CONTINUOUS TESTING



HUMAN FEEDBACK EARLIER MEANS...



Higher innovation



Shorter Development



Less Prototypes



Mercedes-AMG



Volvo



NIO

New record

On Nürburgring

2x

faster development

40%

prototype reduction



Driving is believing

Experience our FSS
Full Spectrum Simulator
at our booth!