

PRESS CONFERENCE

Shaping Automated Driving
for Human Mobility Needs:
**Fluid Human Systems
Interaction**

May 9, 2023
MP09, Graz / Austria

PRESS CONFERENCE - PROGRAM:

- 09:30** Welcome Dr. Jost Bernasch, Managing Director VIRTUAL VEHICLE:
“Shaping Automated Driving for Human Mobility Needs“
- 09:45** Univ.-Prof. Horst Bischof, Vice Rector for Research, Graz University of Technology:
“Best Practice: Building the Bridge between Industry and Research“
- 09:55** Erich Ramschak, Global Business Development ADAS & Automated Driving, AVL:
“ADAS/AD Push and Pull Factors with Driver Aspects in Focus“
- 10:05** Patrick Wunderl, Service Manager C-ITS, ASFINAG:
“Automated Driving. An Infrastructure Provider’s Perspective“
- 10:15** Peter Mörtl, Key Researcher Human Systems Integration, VIRTUAL VEHICLE:
Summary HADRIAN Project, Preview ‘ fluid-HSI‘-Symposium, Q&A
- 10:25** Closing remarks, Dr. Jost Bernasch
- 10:30** End of Press Conference, Exhibition & Demonstrators, Networking & Buffet

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Shaping Automated Driving for Human Mobility Needs

Dr. Jost Bernasch
Managing Director

2002-2007 Foundation

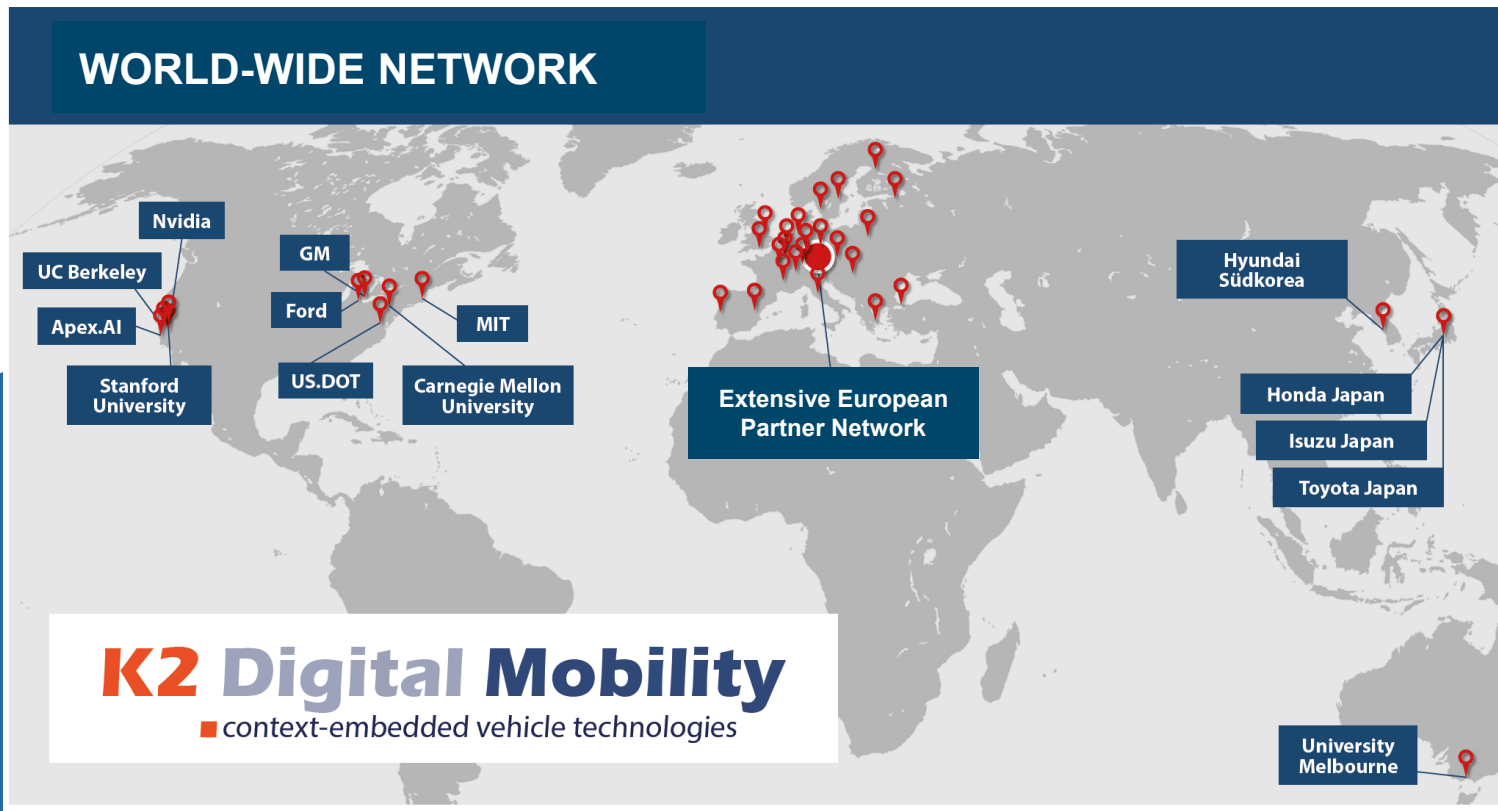
Initiation of a research center for **virtual vehicle development**

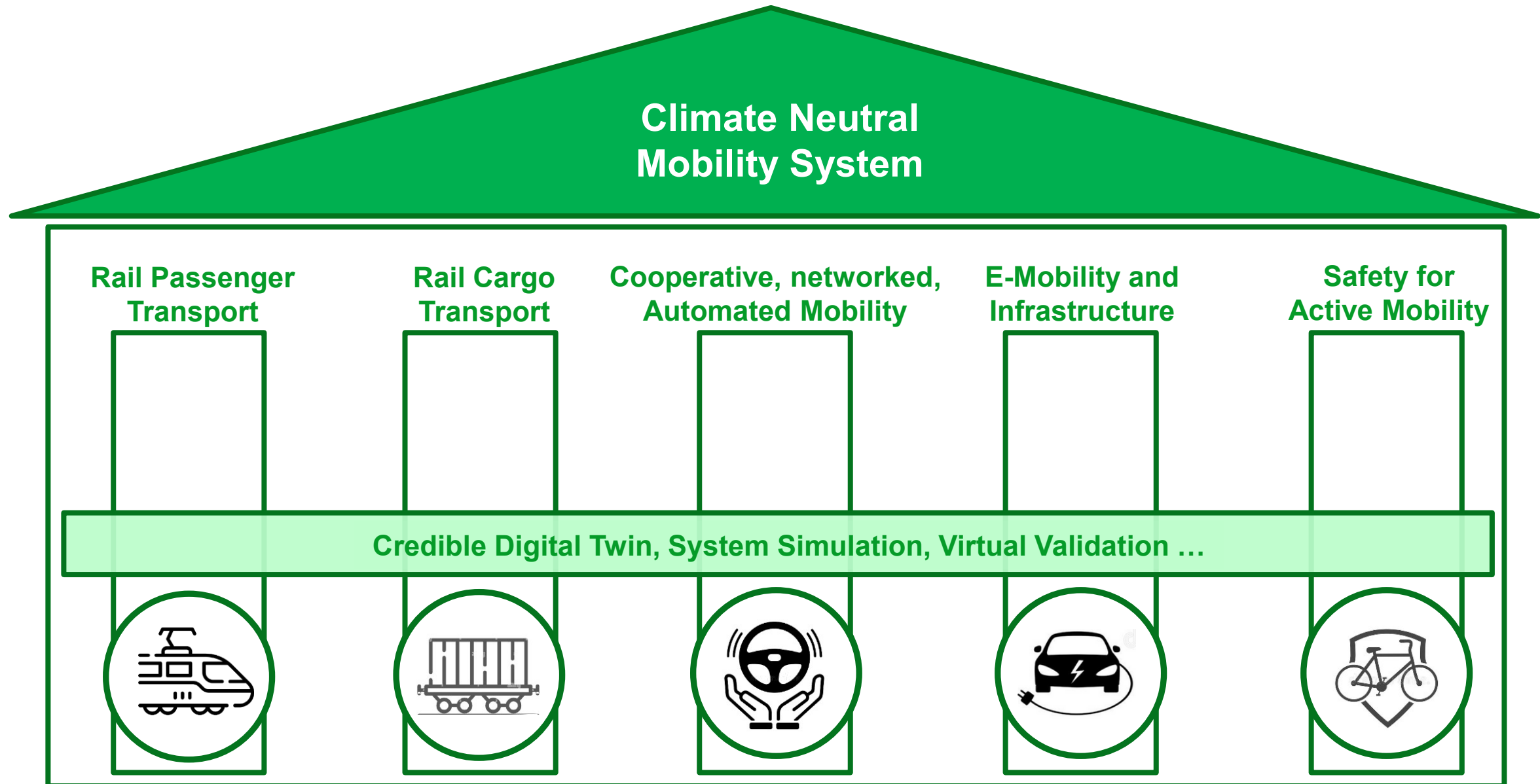
2008-2017 Structure & Growth

- R&D center for **sustainable mobility**
- pillars EU projects and contract research established

2018-2026 Long-term establishment & stability

- Recognized international player,
- Strategic Partners Road & Rail,
- Putting innovations into practice





Cooperative, networked, Automated Mobility

Intensity



Autonomous mobility
Acceptance
Operating Strategy



TORUS AM
Electric Bus



3x Public
Transport Demo



Roborace



ALP.Lab



RoboTaxi ZF
CES 2018



First autonomous
vehicle in AT



2010

2015

2022

2035

Motivation for automated driving

Working



Shopping



Main benefit, focus and key to success:
The "Human Factor"



Reading



Living Room / Relax





HADRIAN

Holistic Approach for Driver Role Integration and Automation Allocation for European Mobility Needs

Challenges & Goals:

- **Human centered development** (instead of only technology-driven development)
- **Increase acceptance** of in automated driving
- **Enable trust** concerning automated driving functions

The HADRIAN Approach

The HADRIAN fluid HMI:

- Providing a **comfortable and safe experience** of automated driving at all times.
- Enhancing the **multisensory information** available to the driver
- Increasing **situational awareness**
- **Minimizing distraction**
- **Preserving cognitive spare capacity**

Human Factors & DriveLAB

virtual  vehicle

Apply user-centered psychological principles to:

- engineering and design of products
- processes
- systems





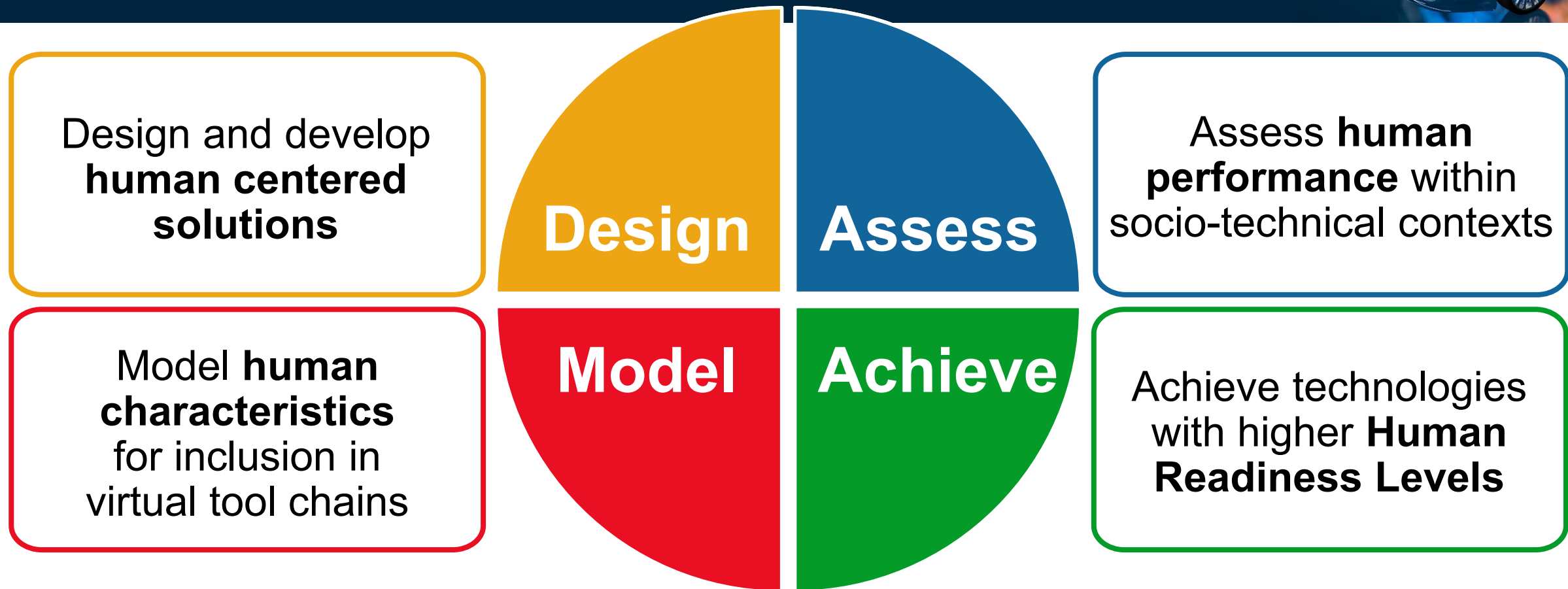
Driver Monitoring System

- eye-trackers
- physiological sensors
- motion sensors, cameras

Driving Simulators and Mockups

- realistic cabin, immersive visuals
- sound, vibrations
- connectivity

We merge user-centric **psychological principles** and **technologies** by using four building blocks:



Unique in Europe: VIRTUAL VEHICLE combines all elementary research topics under one roof

Numerous successful projects in the field of Human Factors are the Basis for HADRIAN:



- **Facts4Workers:** EU project coordinated by VIRTUAL VEHICLE, support of factory workers by human-centered approaches
- **CACTUS:** Development of tutoring concepts
- **VERDI** in cooperation with KF-Uni:
Investigation of *acceptance* of automated driving functions
- **GENDrive:** Largest study ever conducted in Austria:
Gender aspects, *user acceptance* and *trust* in automated driving functions were investigated in real road traffic.



HADRIAN at virtual vehicle

The HADRIAN project is based on two pillars:

From a holistic approach...
(human-centered technology)



...to the fluid concept:
user-environment-vehicle systems form an integrated system





Fluid Concept:

An integrated system of driver, environment & vehicle

- Not separated elements
- States are connected
- Synchronized via interface
- Driver is provided with essential information in a suitable form depending on these states

ENVIRONMENT

DRIVER

VEHICLE

May 9-10, 2023

1. Fluid HSI Symposium

HADRIAN

Holistic Approach for Driver Role Integration and
Automation Allocation for European Mobility Needs

- Experts' Presentations
- Project Results
- Demonstrators & Experience
- Kick-off event for an annual symposium:
"fluid Human-Systems-Interaction"

Save the date:

June 4-5, 2024

2. Fluid HSI Symposium

MP09
Liebenauer Tangente 4/6,
Graz, Austria

Holistic and adaptive
Interface Design for human-
technology Interactions

FIND OUT MORE



www.heidi-project.eu

- Extension of fluid/holistic concept
- External road users, pedestrians,...
- Contributing to holistic road safety
- HEIDI EU project serves as platform:
2. Fluid HIS Symposium

Thank you!

virtual  vehicle

