Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Institut für Verkehrssystemtechnik

SuMoCoS

Sustainability and Mobility
in the Context of Smart Cities

DLR Institute of Transportation Systems & Partners

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German Aerospace Center (DLR)

Research Institution – Space Agency – Project Management Agency

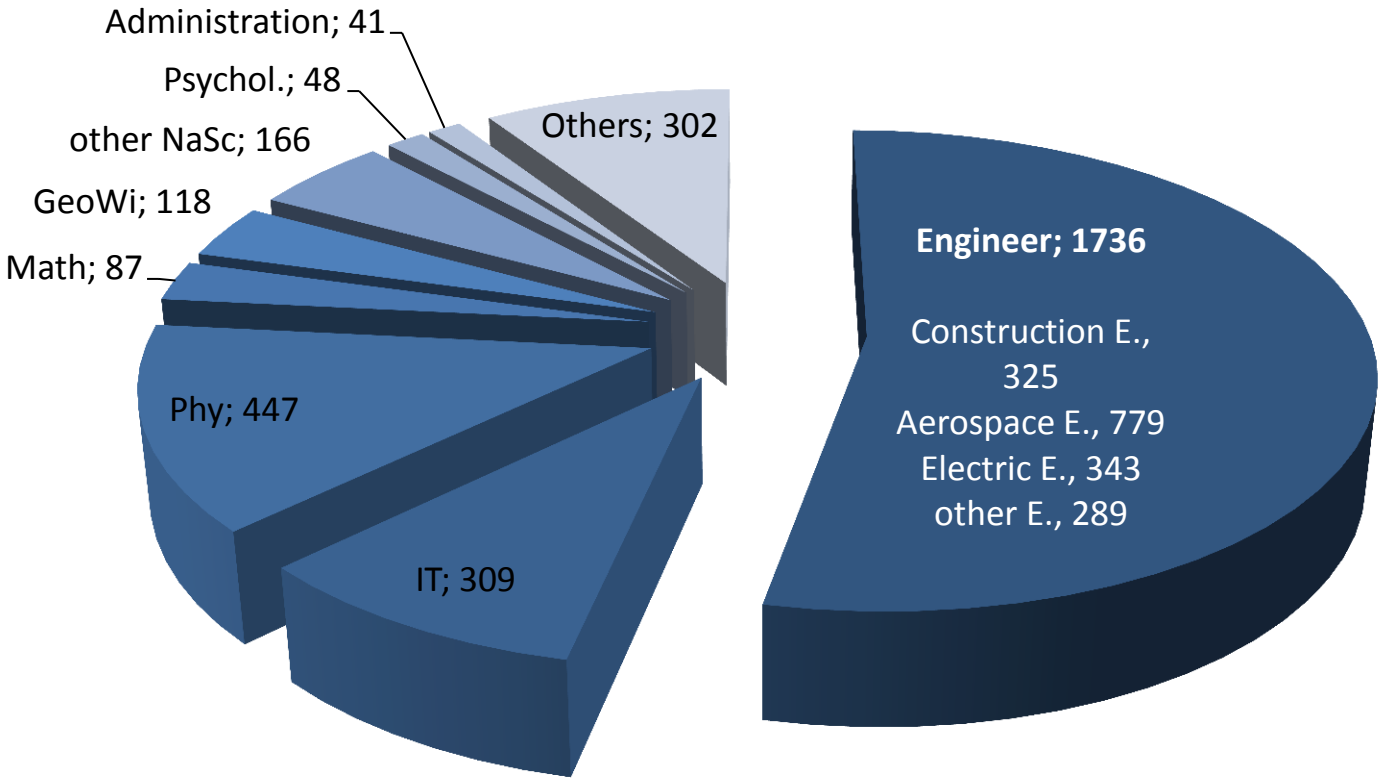
Our Mission:

- Exploration of the Earth and the Solar System
- Research for the preservation of the environment
- Development of environmentally friendly technologies to increase mobility, communication and security

DLR at a glance

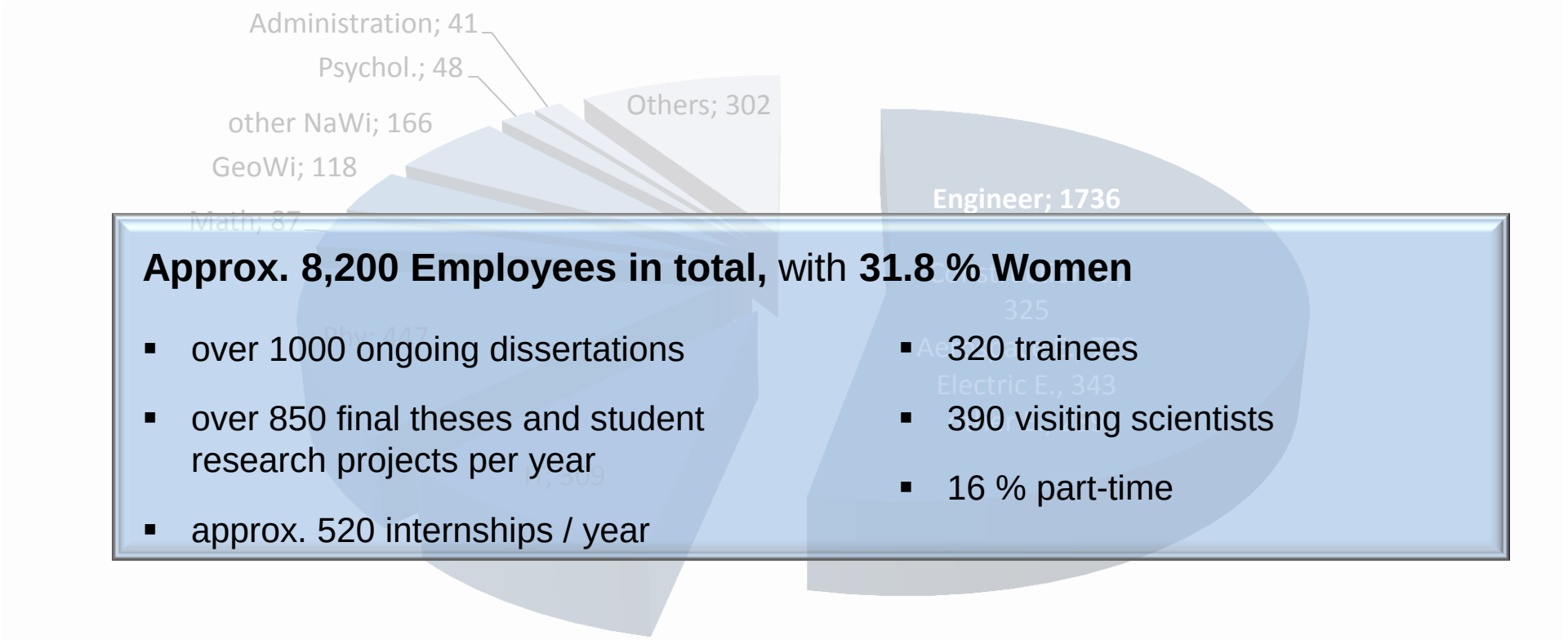
- 40 Institutes
- 20 Sites
- 6 Research Domains
  - Aviation
  - Astronautics
  - Energy
  - Transport
  - Safety / Security
  - Digitalisation
- Offices in
  - Paris
  - Brussels
  - Washington
  - Tokyo

Interdisciplinary Research Teams



DLR employees at the Institutes (research)
State: December 31, 2017

Interdisciplinary Research Teams



Approx. 8,200 Employees in total, with **31.8 % Women**

- over 1000 ongoing dissertations
- over 850 final theses and student research projects per year
- approx. 520 internships / year
- 320 trainees
- 390 visiting scientists
- 16 % part-time

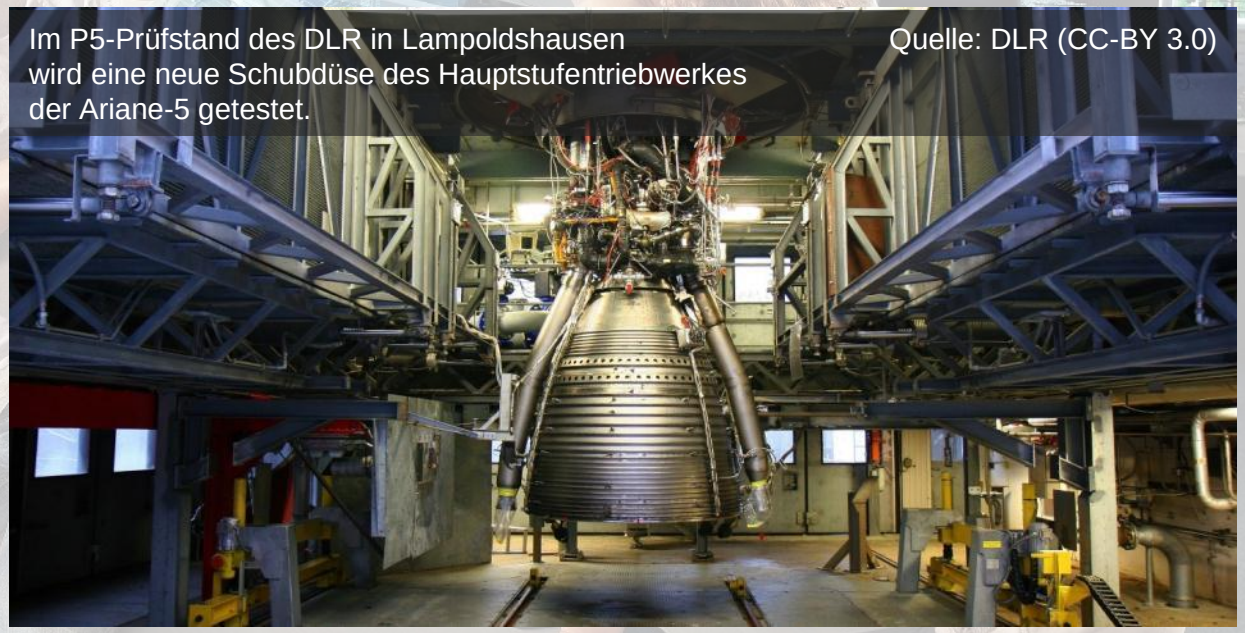
DLR employees at the Institutes (research)
State: December 31, 2017

Astraunotics

Crossing boundaries in Space for Earth

Astraunotics

- space exploration
- Observation of the Earth and its ecosystems
- Research under space conditions
- satellite communication and navigation
- Further development of space transport and space systems



Im P5-Prüfstand des DLR in Lampoldshausen wird eine neue Schubdüse des Hauptstufentriebwerkes der Ariane-5 getestet.

Quelle: DLR (CC-BY 3.0)

Aviation

Giving wings to the future

DLR

Aviation

- Research for safe, environmentally friendly flying
- Focal points: Vehicle development, air traffic management, air traffic control and atmospheric research
- Operation of the largest civil fleet of research aircraft and helicopters in Europe

Im neuen Validierungszentrum Luftverkehr in Braunschweig testen DLR-Forscher*innen* neue Konzepte auf ihre Praxistauglichkeit

Quelle: DLR (CC-BY 3.0)

Energy

Use of the sun as a source of energy

Energy

- Clean, sustainable and affordable energy for people and the economy
- Further development of gas turbine technology and solar thermal power plants
- Optimization of combustion technology, alternative fuels and storage media

Einer von zahlreichen Testständen in Stuttgart: Hier werden Hochtemperaturbrennstoffzellen bei erhöhtem Druck untersucht.

Quelle: DLR

Transport

Visions for Mobility of Tomorrow

DLR's Transport Research Program

- **Objectives**

Shaping **sustainable mobility**
balancing interests from economy,
society and environment

by

- Reducing energy consumption of road and railway vehicles
- Avoidance of harmful emissions, in particular CO_2, NO_x, soot and noise
- Increased safety, reliability and comfort
- More efficient use of existing infrastructures
- Improvement of multimodal transport chains

DLR Transport Research

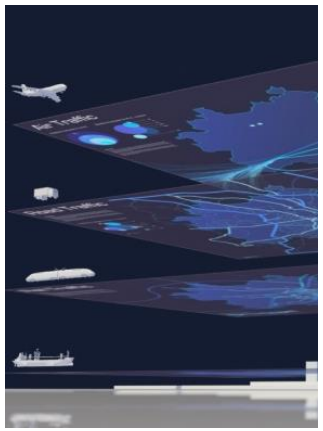
- **Portfolio**

66 M€ pa Budget

25 Institutes

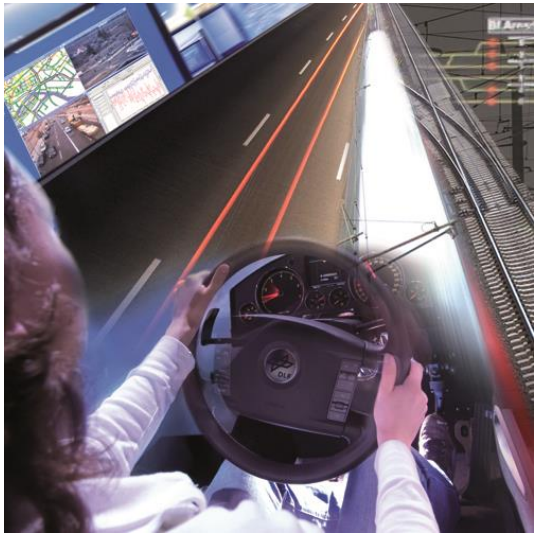
660 employees

Vehicles	Traffic Management	Transport System
Develop systemic vehicle concepts	**Realising seamless transport chains**	**Understanding and forecasting traffic and its effects**

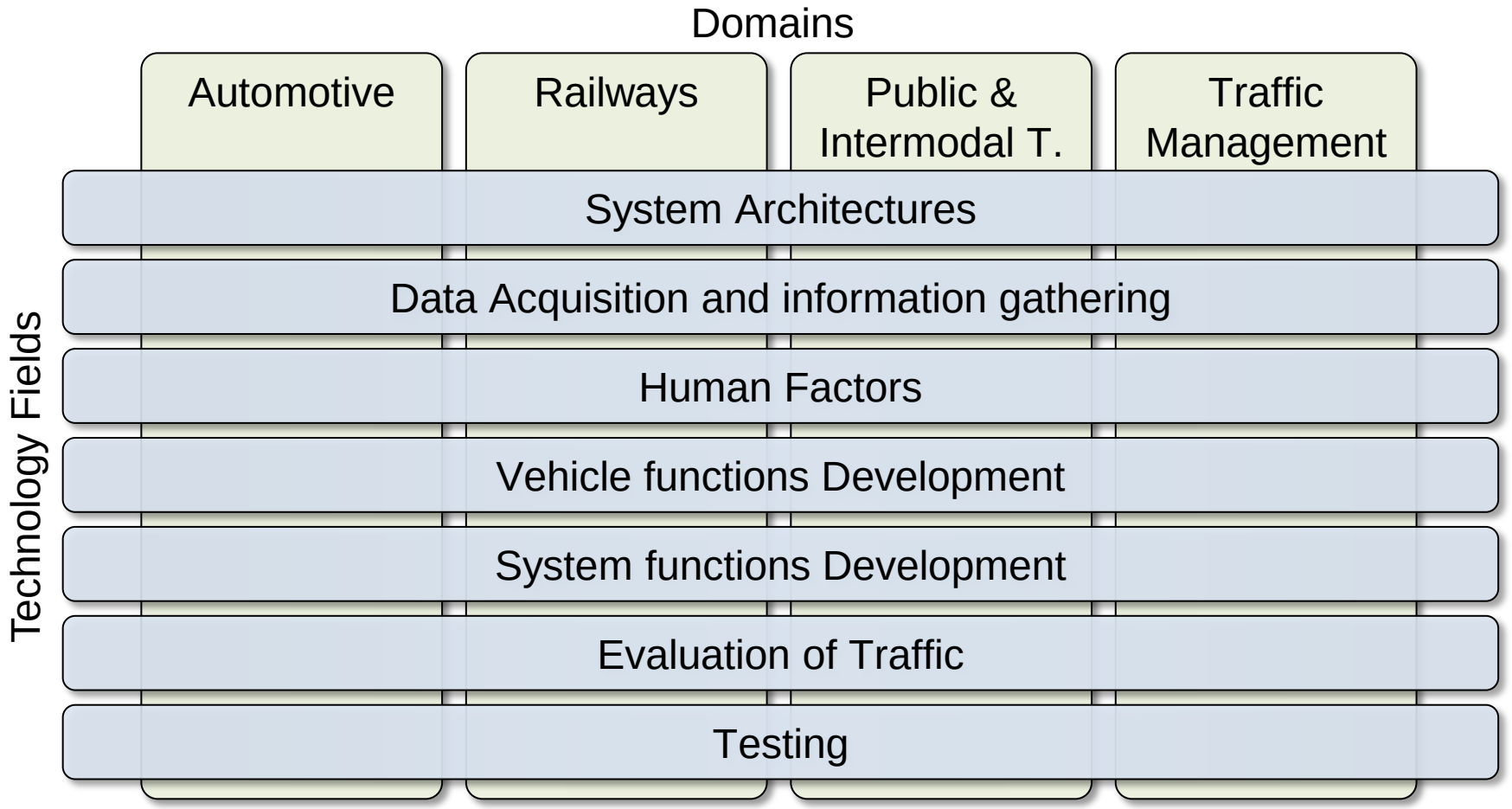


Institute of Transportation Systems

Location:	Braunschweig, Berlin
Head of institute:	Prof. Dr. Katharina Seifert
Employees:	approx. 180 employees from various scientific fields
Research fields:	**Automotive** **Railways** **Traffic Management** **Intermodel & Public Transport**
Range of tasks:	Fundamental research Concepts and strategies Prototype developments
Quality:	certified according to DIN EN ISO 9001 and VDA 6.2 as well as RailSiTe® according to ISO 17025



Technology Fields



Research Facilities

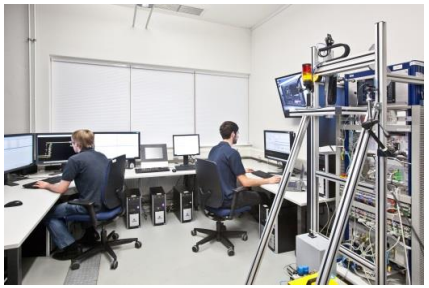
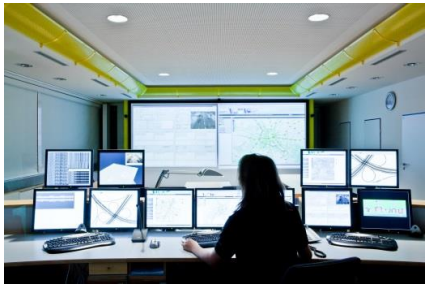
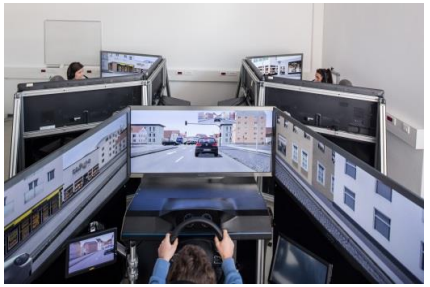
- Application Test Bed Intelligent Mobility (AIM), Simulations, Test Vehicles, Measurement/Test Facilities









Partners

- **OECON Products and Services GmbH**
  - Mr. Dr. Fatih Özel

We are one of the **world's leading providers** of **cutting-edge testing** and **location-based smart mobility solutions** for manufacturers in the **automotive industry** and **associated industries.**

eCall & TPSP

eCall test systems for the automotive industry and eCall decoders for emergency response centers and TPSP

Connected & automated driving

Test- and Simulation systems for V2X cars

Location-based smart mobility solutions

UAV Management

DaaS - "Drone as a Service"

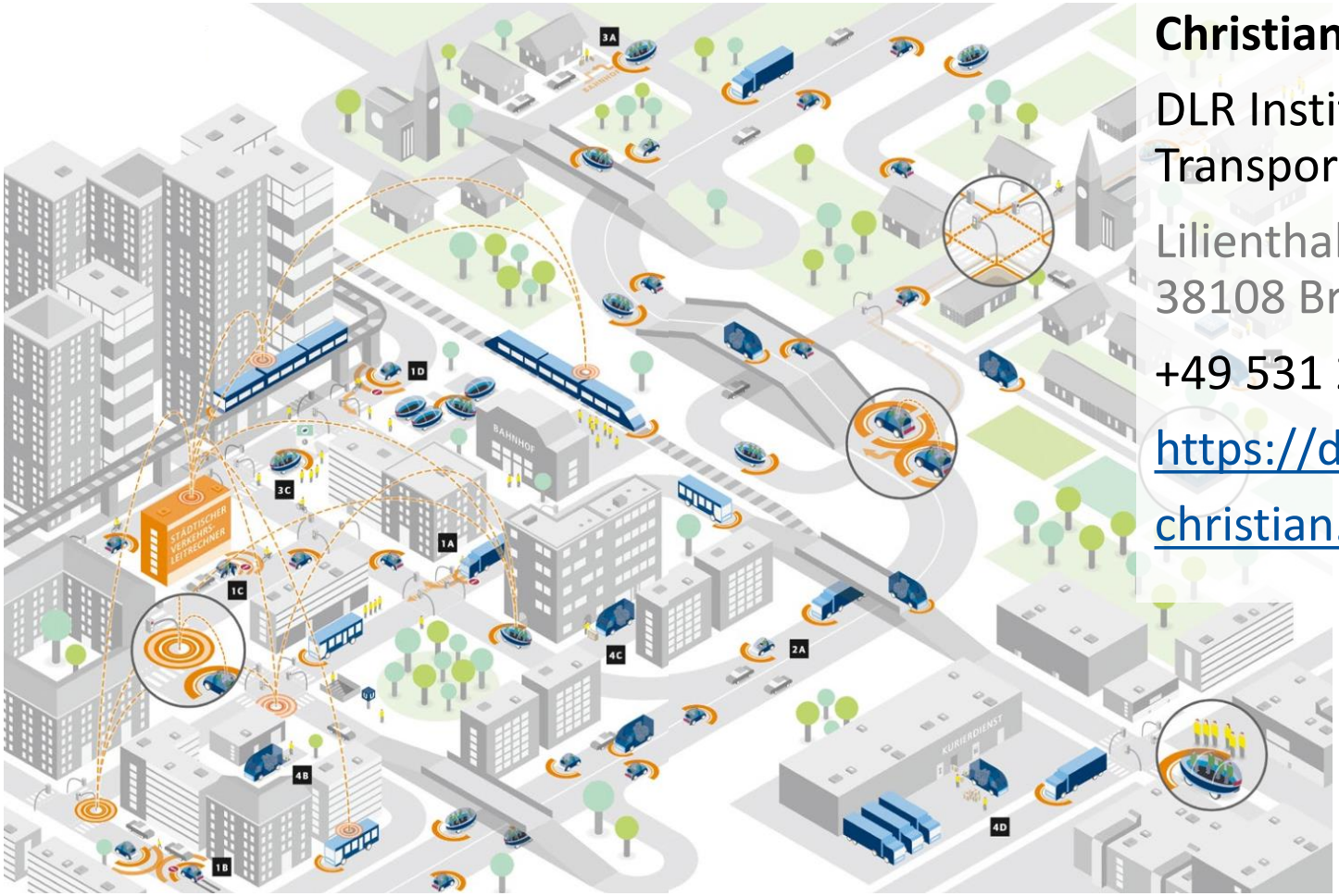
Management software Platform for Drone flights beyond Line of sight (BVLOS)

OECON is the world market leader in this environment

Partners

- **Bahnkonzept GmbH Deutschland**
  - Ms. Dr. Chunsriimyatav Ganbaatar

Thank you for your attention!



(Quelle: acatech, 2016)

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