Approximately 80% of our groups focuses on data driven research. Key involved staff:

**Prof. Theo Arentze** (head Real Estate Management)
Real estate and behavior research

**Prof. Harry Timmermans** (head Urban Planning)
Urban planning and transportation

**Dr. Rianne Appel**
Smart working environments

**Dr. Pauline van den Berg**
Livable and healthy cities

**Dr. Tao Feng**
Big data & smart mobility

**Dr. Ioulia Ossokina**
Economics of cities and real estate

**Dr. Soora Rasouli**
Complex systems

Furthermore some 30 PhDs are working on various data-related projects.

**Research interests (DSC/e related)**
Urban Planning and Real Estate Management are two research groups within the unit Urban Systems and Real Estate. We use big data and real world data to understand where people want to live, work and spend their free time. We turn these insights into **solutions for smart cities and buildings**.

Our team is multidisciplinary and includes: engineers, urbanists, transportation experts, psychologists and economists. We work with applied models and statistical techniques.

Our research areas include:
- Housing research and modelling
- Urban and real estate management
- Smart mobility
- Livable and healthy cities
- Smart working environments

**Success stories**
Transportation model Albatross was developed for the Ministry of Transportation. Using micro-simulation, the model predicts the trips people make in the context of their daily activities. It can be used for transport policy analysis.

A model of the land market in shopping centers predicts location of vacancy and most favorable spots for transformation. It is used by the Ministry of Economics to stimulate transformations of vacant retail properties into other use.

An app offers information on cultural objects in one’s surroundings and advises smart cultural routes to tourists. The route planner accounts for the individual interests, the available time and transport modes.

**Project examples**
- **Happy senior living** In cooperation with architects from Delft and financed by 4TU. We use big data to study housing preferences of senior citizens and design two or three best 65+ living concepts.
- **Smart working environments** In cooperation with (and partly financed by) a consortium of real estate companies. We study what building concepts optimally stimulate knowledge exchange between individuals at work.
- **Scripts** In cooperation with a consortium of several companies, we develop models for Mobility as a Service solutions, using big data.
- **Transportation** Several projects are based on multi-million trip records using smart cards, taxi GPS data and phone data.
Data science is an interdisciplinary field that uses a variety of techniques to create value based on extracting knowledge and insights from available data. Data science is applied everywhere: in business, health, industry, finance, government, education, and also in scientific research.

The Data Science Center Eindhoven (DSC/e) is TU/e’s response to these challenges and possibilities. By bringing top scientists and students from over thirty research groups from different TU/e departments together on specific topics, we can tackle the most challenging scientific and societal challenges. All involved groups made a one-page description of their main research interests and the involved staff with their key expertise, like the one you’re holding now.

**Mathematics and Computer Science**
- Algorithms
- Applied Geometric Algorithms
- Architecture of Information Systems
- Data Mining
- Mathematical Image Analysis
- Probability
- Security of Embedded Systems
- Software Engineering & Technology
- Statistics
- Stochastic Operations Research
- System Architecture & Networking
- Visualization
- Web Engineering

**Electrical Engineering**
- Cognitive Internet of Things
- Control Systems
- Electrical Energy Systems
- Signal Processing Systems

**Built Environment**
- Building Lighting
- Information Systems in the Built Environment
- Real Estate Management & Urban Planning
- Urbanism and Urban Architecture

**Industrial Engineering & Innovation Sciences**
- Human Technology Interaction
- Information Systems
- Innovation, Technology Entrepreneurship & Marketing
- OPAC: Freight Transport & Logistics
- OPAC: Maintenance & Manufacturing
- OPAC: Supply chain management
- Philosophy & Ethics

**Biomedical Engineering**
- Cardiovascular Biomechanics
- Computational Biology
- Medical Image Analysis