



Sustainable solutions from a multidisciplinary approach

Infrastructures & Mobility

Delft Research Initiatives

Energy, Health, Infrastructures & Mobility, and Environment

A healthy old age, affordable green energy, a clean and safe living environment and commuting and transportation with no tailbacks. Health, energy, environment, infrastructures and mobility are today's major social issues. Finding the right solutions is vital to our prosperity and welfare, and also affords promising economic opportunities. Delft University of Technology (TU Delft) acts as an expert partner for companies and government agencies working on these issues.

TU Delft supplies independent knowledge and driven engineers. Advanced scientific research and education, together with academic inquisitiveness, provide new insights and innovations. This makes the university an expert and above all, an inspiring partner in consulting or project-based alliances. The Delft Research Initiatives (DRIs) for Energy, Health, Infrastructures & Mobility and Environment bring the knowledge, the engineers and the facilities of TU Delft within your reach.



Scientists from different disciplines work together within the 'Infrastructures & Mobility' Delft Research Initiative on solutions for infrastructure, physical planning, coastal preservation, mobility, logistics and transport.



Towns of the future

While the Randstad urban metropolis in the western Netherlands becomes more crowded all the time, everyone wants to live in green, attractive and future proof living environments. The integration of urban planning with innovative transport and infrastructure concepts leads to creative solutions for the towns of the future. Metropolitan parks, for instance, combine comfortable living and leisure time with protection of cultural history and ecology, leaving scope for sustainable mobility and economic vitality.

Efficient traffic flows

Every day, large flows of people and goods move from, to and within urban areas. Sudden jams can cause serious obstructions to traffic flows. That leads to uncertainty about travelling times, higher costs and environmental pollution. In the future, everyone can have access to seamless, multi-modal transport systems with up-to-date information on which transport method is the most efficient and reliable, safest, fastest and cleanest at that time.



Sustainable transport

Hubs such as Schiphol Airport and Port of Rotterdam are essential to the Dutch economy. In the future, these hubs will be efficient, safe, sustainable and flexible. Old and new raw materials and goods such as biomass and LNG can be processed without difficulty. There is also a need for sustainable transport. Electrical transportation and green aircraft offer good alternatives for this purpose.

Living in a Delta

Deltas have provided fertile and strategic settlement locations for centuries, and are often densely populated. Living in a delta calls for reliable protection from the water without concessions in terms of living quality, economic vitality, landscape quality and environment. Delft engineers and designers unite these different interests in fine technical solutions.

“The demanding and fast-changing environment calls for multidisciplinary innovation in the field of infrastructures and mobility.”



Prof. J.K. Vrijling

Chairman of the Delft Research Initiative 'Infrastructures & Mobility'

Han Vrijling, both an engineer and an economist, heads the Delft Research Initiative 'Infrastructures & Mobility' as its primus inter pares. Vrijling lectures in Constructional Hydraulic Engineering & Probabalistic Design in the Hydraulic Engineering Department of the Civil Engineering and Geosciences Faculty since 1995. 'Probabalistic design' is a design method that takes account of risks and uncertainties, such as the extent to which flooding or accident risks are seen as acceptable for dikes. He also focuses on the design of hydraulic constructions such as storm surge barriers. Before his appointment at TU Delft, Vrijling worked in coastal protection practice for employers including the Dutch Department of Public Works, and is still affiliated to this institution as a consultant.

Infrastructures and mobility: essential for the functioning of our society

Infrastructures and mobility form the backbone of modern society and the basis of our welfare. While they must be reliable, affordable and accessible, infrastructures are marked by high complexity. Increasingly, different systems are being integrated. Mobility and transport depend not only on access by road, air and water, but also to a large extent on ICT. 'Hard' infrastructures, such as roads, railways and cable connections are built for the long term, yet must also be flexible enough to meet changing needs and requirements. This demanding environment calls for multi-disciplinary solutions and a perfect match with the needs of the society.

Efficient, safe and sustainable

TU Delft's knowledge of infrastructures, mobility, transport and logistics is at the service of society. Many government agencies and companies have already found a partner in TU Delft. One example is the Innovation Mainport Alliance programme, a partnership with Schiphol Airport and KLM. Together with Rotterdam Port Authority, researchers are developing more efficient transport systems, a container terminal of the future and safer handling of shipping in the port.

TU Delft: a portal for companies and government agencies

TU Delft takes its social responsibility seriously, with a clear vision of efficient, safe and sustainable infrastructures and mobility. This makes the Delft Research Initiative Infrastructures & Mobility both a portal and a partner for companies and government agencies wishing to find solutions together with us.

Services of the 'Infrastructures & Mobility' Delft Research Initiative

Knowledge

- Access to independent knowledge (library, publications)
- Use of patents and licences for discoveries
- Contract research
- Coalition partner for subsidy applications
- Discussion partner and consultant

Talent

- Access to students (training placements, graduation assignments, potential employees)
- Doctoral projects of TU Delft staff
- Post-graduate education and master classes
- Meetings with professionals

Facilities

- Laboratory for fluid mechanics
- SIMONA flight simulator
- Towing tank
- Wind tunnels
- Driving simulator
- Gaming & Simulation Lab

The 'Infrastructures & Mobility' Delft Research Initiative is the meeting place for scientists, government agencies, businesses and the public. This is where the ideas and integrated concepts of tomorrow are developed.

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