

AI Initiative and Impact at TU Delft

AI for Healthcare



Geert-Jan Houben

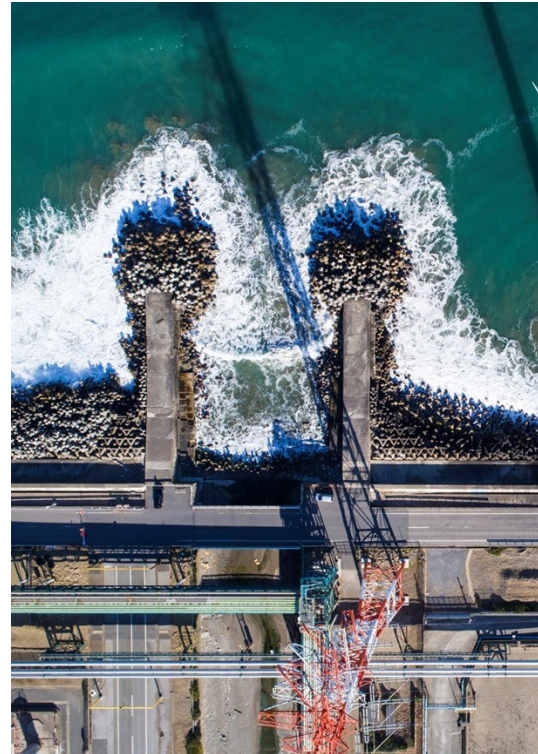
Pro-Vice Rector Magnificus AI, Data &
Digitalisation – TU Delft



Impact for a better society



Health



Climate
& Energy



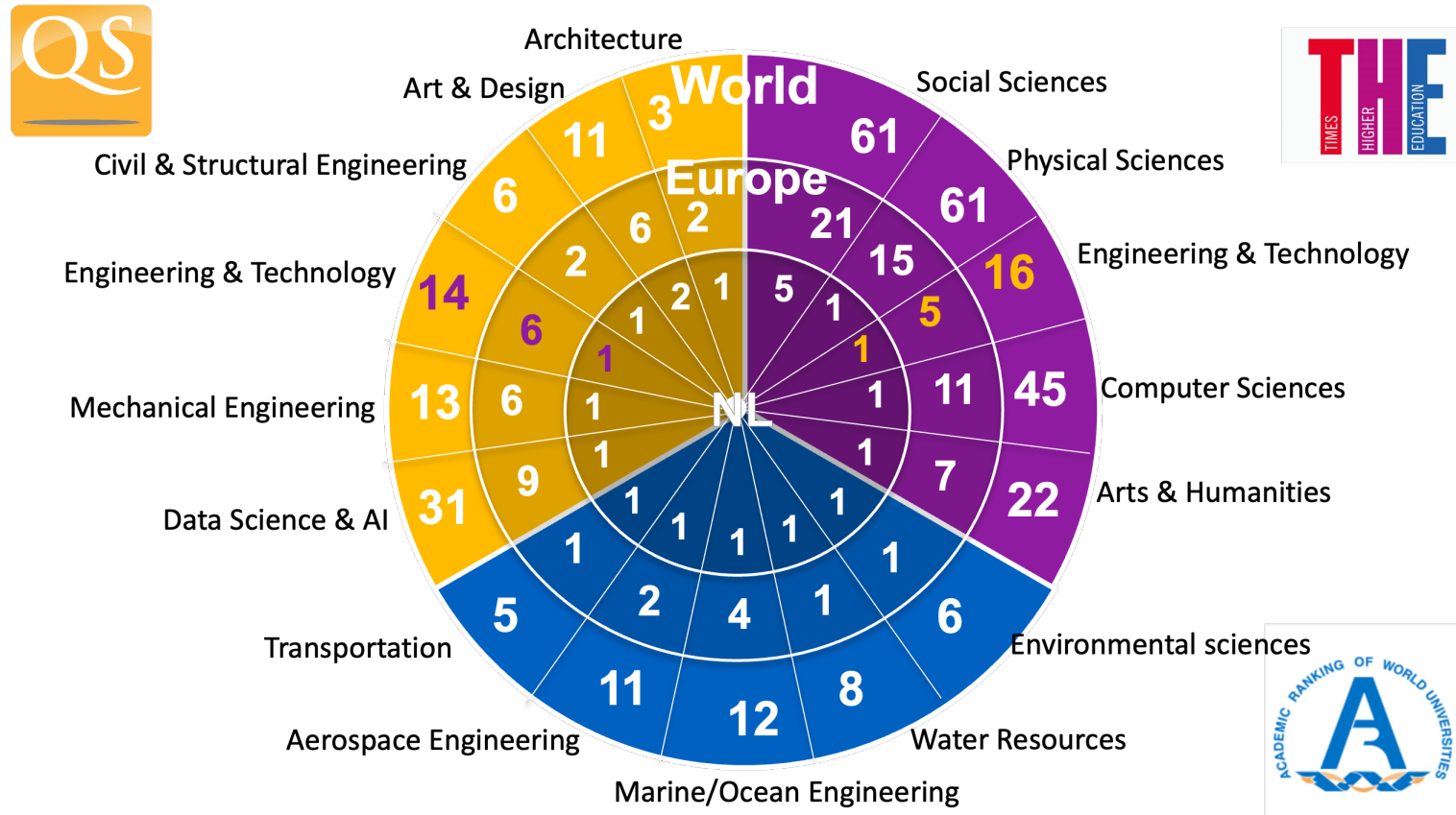
Digital
Society



Resilient Cities
& Mobility



Strong international position



TU Delft AI Initiative

Ambition: **retain & strengthen our position as a world-renowned University of Technology** by developing an integrated state-of-the-art programme for research, research-driven education and innovation **in and with AI, Data & Digitalisation**



Education

Continuing and accelerated introduction of AI, Data & Digitalisation elements into the educational offerings from the university



Research

Combination of advancing the **fundamental developments IN-AI science** with advancing areas in science, engineering and design by means of **domain-specific applications WITH-AI**



Innovation

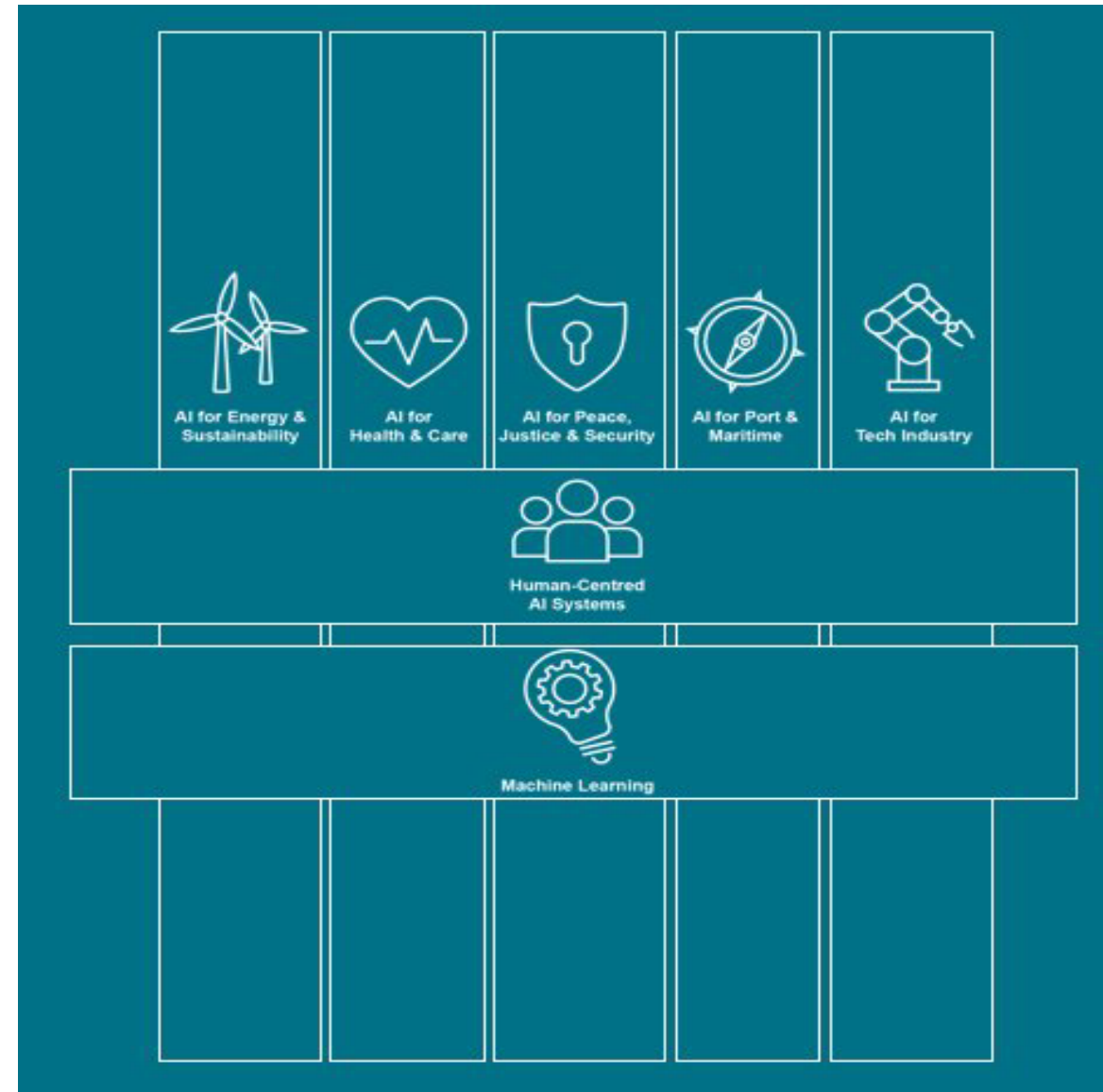
Fundamental and contextual collaboration with industry and substantial future funding opportunities



TU Delft AI, data & digitalisation

- Research & Innovation

- **Highly active in research and innovation** in the field of AI, Data & Digitisation
- Over **1.400 scientists**, distributed across **all faculties**
- Developing both the **fundamentals** around AI, Data & Digitisation (research **IN-AI**) and their **application** and **uptake** in contexts of science, engineering, design and society (research **WITH-AI**)
- **Bridging** between both **IN-AI** and **WITH-AI** research



Connecting disciplines and industry partners with TU Delft AI labs, ICAI labs and NWO consortia



3D urban understanding



AI & deliberative systems



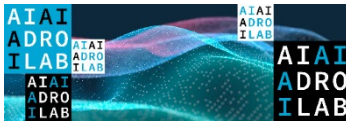
AI & rights & justice in remote work



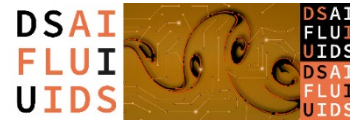
AI for building lasting & liveable environments



AI for a sustainable & resilient built environment



AI for sustainable water management



AI in fluid mechanics



Decision-making in human-AI teamwork



Biomedical intervention optimisation



Bio-inspired solutions for aerial robotics



Chemical engineering & medical imaging AI



Data & AI for more attractive & liveable cities



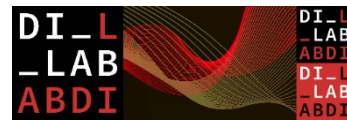
AI for sustainable energy systems



Human-AI collaboration in design for social good



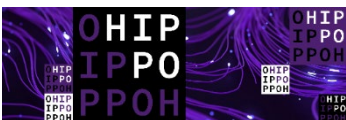
Tensor-based AI for biomedical signals



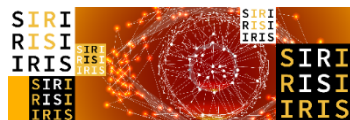
Humans & AI designing the future in dialogue



Human-aware robust AI for automated driving



AI for fair, efficient, interpretable policy analysis



AI for quantitative bioimaging



Machine intelligence advances for materials



Smart edge computing for healthcare



AI for sensor networks



Learning for smart materials modelling



Explainable AI twins for resilient cities

TU Delft in 10 ICAI labs



AI for retail



AI for fintech



AI for bioscience



AI for police & safety



Mercury machine learning lab

ML for recommendation service systems



AI for energy grid capability

GENIUS Lab

Generative Enhanced Next-Generation Intelligent Understanding Systems

RAIL Lab

AI for rail capacity

AI4SE

AI for Software Engineering



LTP

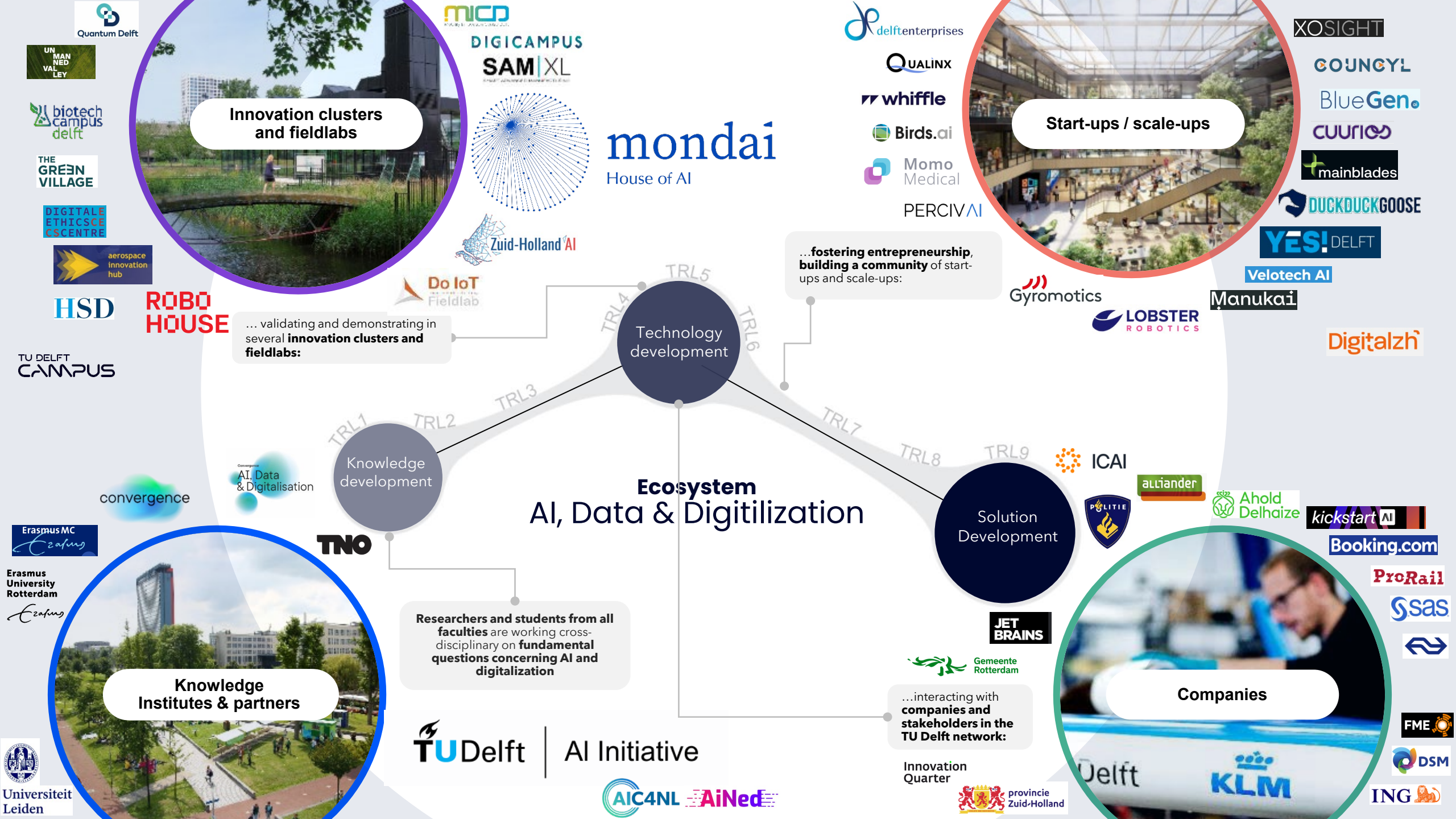


Plant-XR

Data science for extra resilient plants

ROBUST

Trustworthy AI



Mondai | House of AI

- Mondai | House of AI is the place in Delft where AI, Data, Digitalisation and Robotics come together.
- Brings together the scientific community, policymakers, corporates, start-ups and scale ups.
- Creative spaces | Meeting spaces | presentation spaces | working spaces | Event spaces
- South side of the campus, close to the Delft start-ups.
- Mondai shares the venue with: TU Delft Fieldlabs [RoboHouse](#) en [DoloT](#)
- Mondai houses the AI-hub Zuid-Holland en the EDIH for the region, Digitalzh.



AI Initiative

convergence

MKB
Data Studio



AI Initiative

Digitalzh



YES! DELFT



Our TU Delft AI approach and success formula

Research

- We combine advancing the **fundamental developments IN-AI science** with advancing areas in science, engineering and design by means of **domain-specific applications WITH-AI**
 - We benefit from the interdisciplinary connection between horizontals and verticals in AI

Innovation

- We invest in and benefit from **fundamental and contextual collaboration** with industry for scientific and societal impact
 - We actively take a leading role in the connections and ecosystems that fuel AI innovation

Future support

- Important elements in further impact are
 - **Talent**: for both **applying with** and **developing in** AI and for open strategic autonomy and resilience
 - **Ecosystems**: for maximising **impact** and **learning** in concrete domains and sectors
 - **Real-World Application**: for **effective** and **responsible** AI and concrete innovation and learning