

A photograph of a modern, multi-story building with a glass and metal facade, illuminated at night. The building is reflected in a body of water in the foreground. The sky is a deep blue. The building has a distinctive stepped design with a glass upper section and a more solid lower section. The text is overlaid on the right side of the building.

The engaged university: How to partner with industry?

March 12, 2024
Robert-Jan Smits, President TU/e

I. The TU/e case study

TU/e & Brainport Industry: A long standing partnership



It all began in 1956



And this is where we stand today: Facts & Figures



13.528
STUDENTS

TOP-RANKED DUTCH UNIVERSITY

Eindhoven University of Technology (TU/e) is a first-rate research university specializing in engineering science & technology in the Netherlands.

AT THE HEART OF THE BRAINPORT REGION

TU/e is situated in the heart of one of the most innovative communities in the world: Brainport, renowned for technology and design.

STRONG TECHNOLOGY HERITAGE EINDHOVEN

With companies such as Philips, ASML, DAF, NXP, Thermo Fisher, Vanderlande and VDL, the Eindhoven region has a strong heritage in technology.



The Netherlands

Brainport

Eindhoven

TOP-RANKING DUTCH UNIVERSITY



#1 in Public-private collaborations and co-publications with industry and academia



#1 in Student retention rate

108

STUDY
PROGRAMS

9

RESEARCH
AREAS

15 bachelor's programs
24 master's programs with 60 master's tracks
9 Engineering Doctorate programs
PhD programs in all research fields

CHALLENGE-BASED LEARNING: AWARD WINNING TYPE OF EDUCATION

Focus on societal challenges:



ENERGY



HEALTH



SMART
MOBILITY

TU/e CAMPUS

The TU/e campus is a 'technological hot spot' in parkland surroundings, in the city center of Eindhoven, in which university, technology institutes and companies drive innovation together.

The TU/e campus covers an area of **75** hectares

Eindhoven – Tech Powerhouse

STUDIO40
Nieuws Sport Televisie Radio Studio40

Eindhoven Geldrop-Mierlo Nuenen Veldhoven



Redactie 02 december 2022 - 13:36 uur 02 december 2022 - 13:41 uur

Eindhoven bij zeven 'meest veelbelovende' science-hubs wereldwijd

Eindhoven behoort volgens databureau Dealroom.co tot de zeven meest veelbelovende kennisregio's wereldwijd. Binnen de EU staat de regio zelfs op plek 1.

De ranglijst is gemaakt op basis van de positie van de regio in deep tech, universitair talent en patenten. Binnen Europa staan alleen het Engels Oxford en Cambridge hoger aangeschreven als kennisregio. Daardoor is Eindhoven de meest vooraanstaande science hub binnen de EU, op de voet gevolgd door München.

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NEWS BUSINESS EDUCATION TECHNOLOGY

Brainport region 'most promising' science hub in EU

By Martijn van den Bouwhuisen - 5 December 2022



Hightech Campus Eindhoven Picture Credit: Philips/ Studio40

According to data agency Dealroom.co, Eindhoven is one of the seven most promising tech ecosystems worldwide. Within the European Union, the regio even ranks 1st. For the report, 201 cities in 65 countries were analysed.

FINANCIAL TIMES

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Netherlands + Add to myFT

Made in Eindhoven: the small Dutch city that became a tech powerhouse

The home of semiconductor group ASML has transformed itself since suffering industrial decline in the 1990s



Eindhoven's tech sector has attracted EU commissioners, who routinely visit in an effort to understand how a place hit by industrial decline in the early 1990s transformed into a regional tiger economy, expanding by 8 per cent annually. Its companies and academics file almost 500 patents per 100,000 inhabitants annually, one of the highest rates in the world. And a quarter of Dutch private sector research and development, €3bn a year, is spent here.

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**II. How does the TU/e
collaborate with industry?**

How do we do it.

Education



- Hybrid teachers
- Challenge based learning
- Student Teams

Research



- Joint projects
- Co-publications
- Shared facilities

Valorization



- Start ups and spin-offs
- Investments

III. The benefits of collaboration with industry

The Benefits of Collaboration with Industry



Solutions to societal challenges



Higher quality of education



Innovation in business

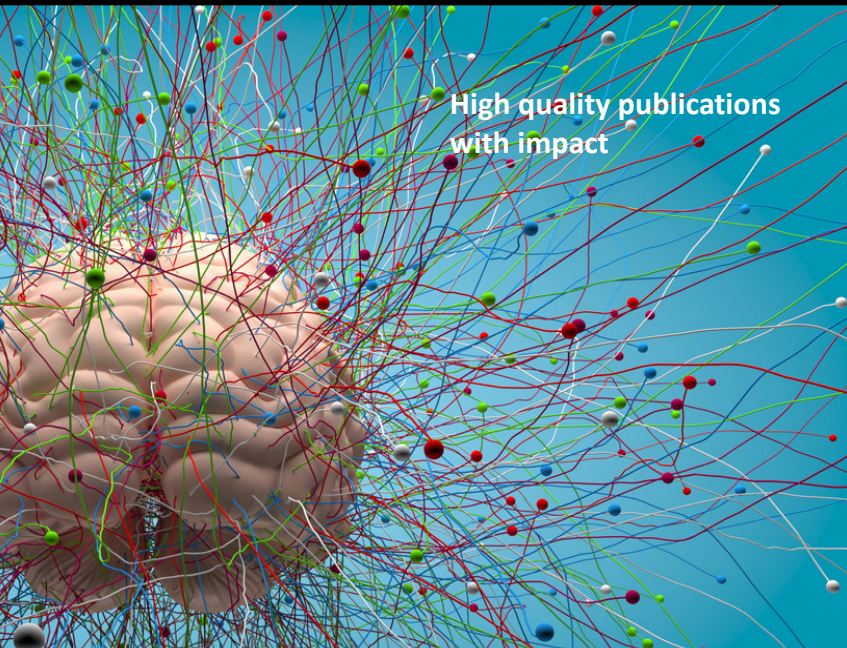


Access to unique expertise and resources



Responding to current, relevant issues

The Benefits of Collaboration with Industry



Higher quality of education: Challenge Based Learning: Dutch Higher Education Award & Triple E Award 2022



TU/e innovation Space wins the Netherlands' first Higher Education Award

MARCH 1, 2021

Innovation Space is unique for the Netherlands, and even for Europe, says the jury.



Access to unique expertise and resources

Providing state-of-the-art research facilities: Thermo Fisher



Responding to current, relevant issues

Smart Photonics



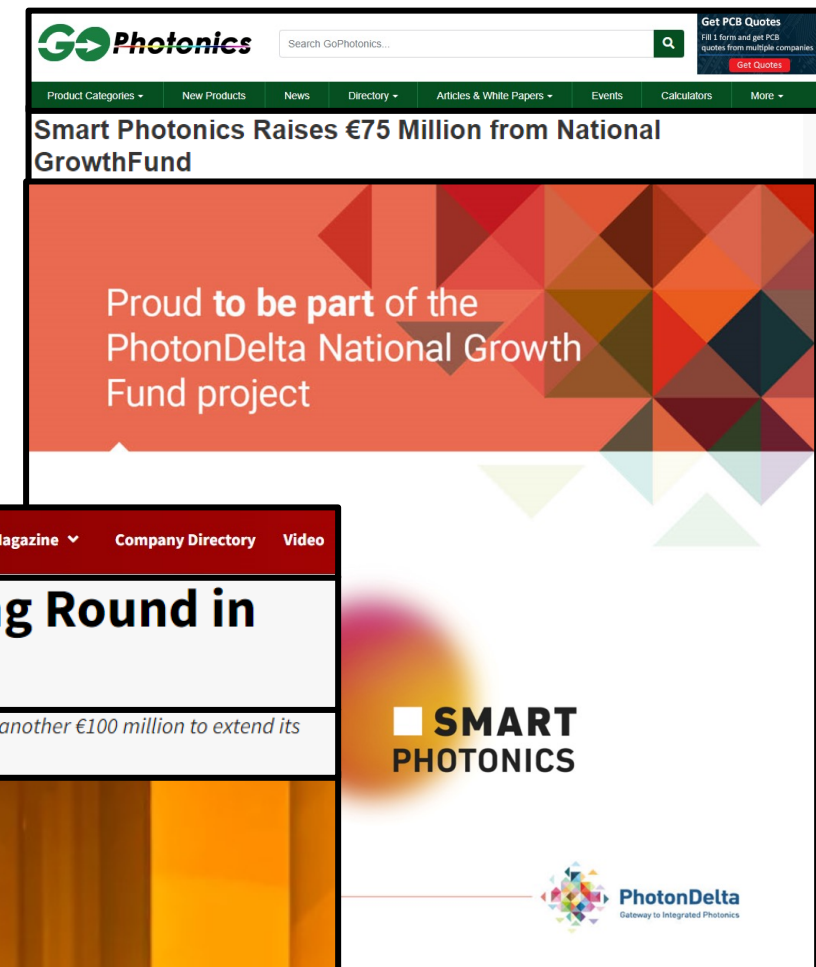
io DIGITAL HEALTH MOBILITY SUSTAINABILITY OPINION START-UPS

Government and tech giants invest €100 million in SMART Photonics

DIGITAL - SMART Photonics has successfully raised an additional €100 million.

NEWS 12 JULY 2023

The image shows a cleanroom environment with a person in a white protective suit and mask working at a workstation. In the background, there are large industrial machines and bright overhead lights.



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Smart Photonics Raises €75 Million from National GrowthFund

Proud to be part of the PhotonDelta National Growth Fund project

SMART PHOTONICS

PhotonDelta
Gateway to Integrated Photonics



EE Times EUROPE News Analysis Focus Opinion Education Magazine Company Directory Video

ASML, NXP Join €100M Funding Round in Smart Photonics

Just one year after receiving €75 million in funding, the Dutch foundry secured another €100 million to extend its manufacturing capabilities.

The image shows a person in a white protective suit and mask working in a cleanroom environment, with industrial equipment visible in the background.

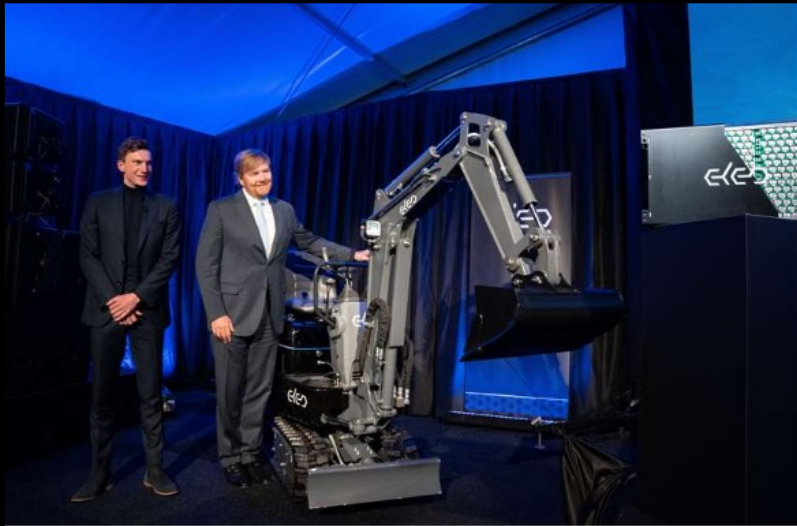
Contributing to new earning capability with great societal relevance

ELEO

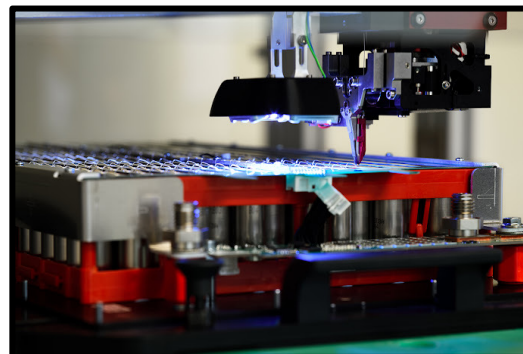
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ELEO opens new advanced battery facility

By Mike Brezonick | 26 January 2023
2 min read



King Willem-Alexander of the Netherlands (center) presided over the opening of ELEO's new advanced battery manufacturing facility in Helmond, the Netherlands, using an electric excavator to unveil the first battery



AD NIEUWS REGIO SPORT SHOW PLAY PODCAST PUZZEL



Net geopend door de koning en nu al te klein: Helmondse batterijenfabriek Eleo gaat uitbreiden

HELMOND - De nieuwe batterijenfabriek van Eleo is nog niet door de koning geopend of het volgende bouwplan ligt al klaar. De vraag naar batterijen voor elektrische bouwmachines en tractoren groeit explosief.

Peter Scholtes 26-01-23, 17:38 Bron: ED



/ ELEO

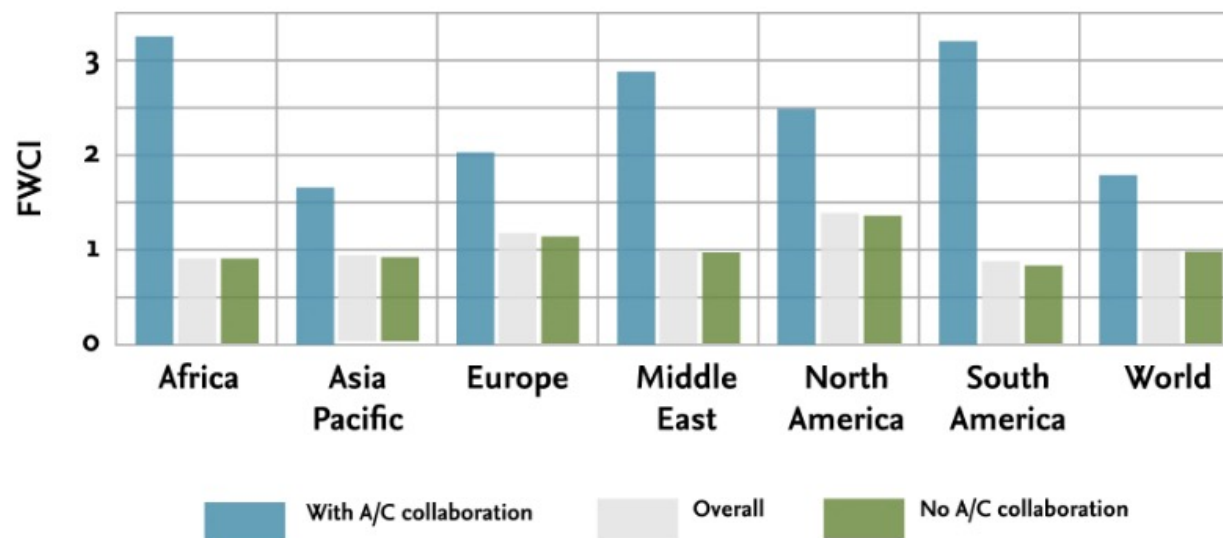
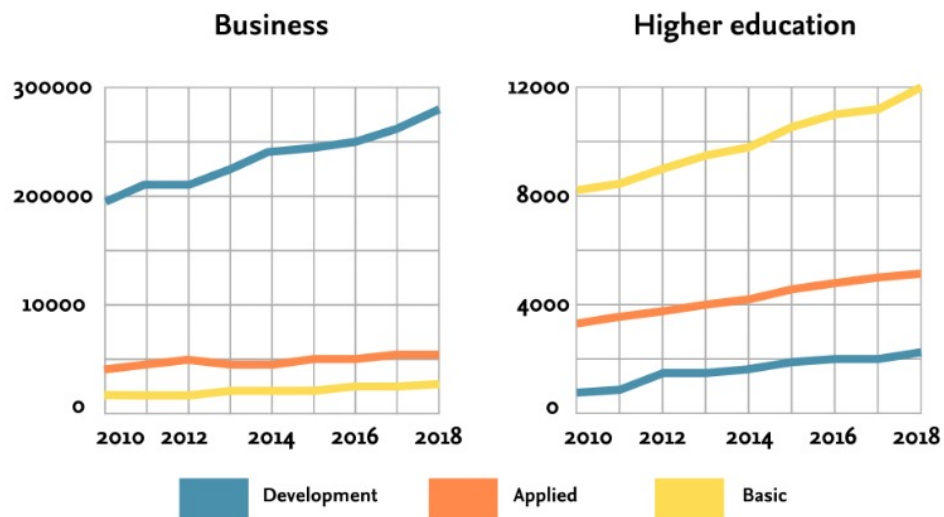
HIGH PERFORMANCE BATTERY SYSTEMS

EV835
09/2022

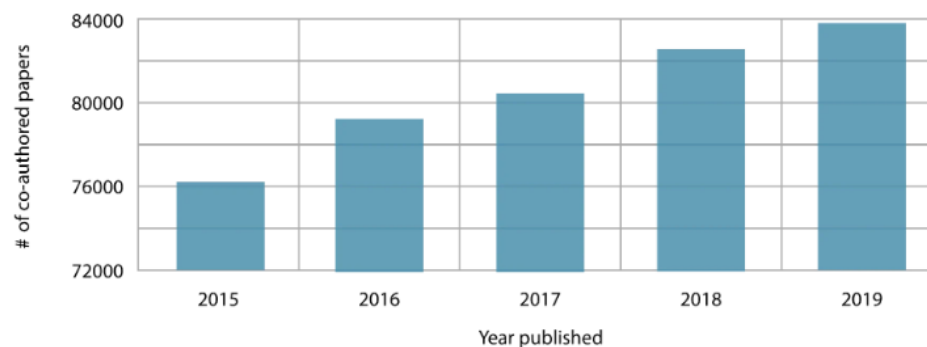
Any configuration.
Any orientation.
Any application.



Co-publications university/industry have the greatest impact

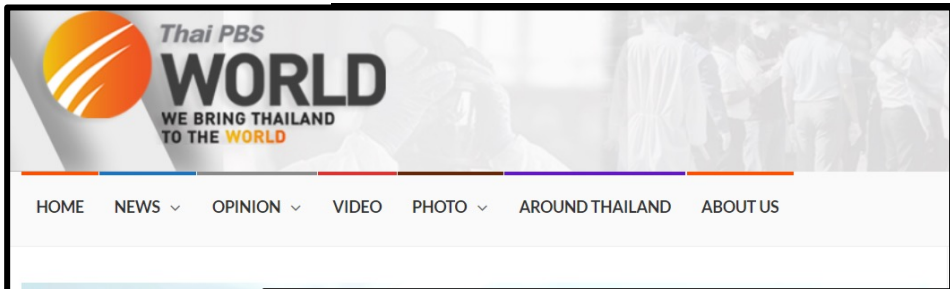


Source: NSF, National Patterns of R&D Resources: 2017-2018 Data Update. Expenditure in millions constant 2012\$.



Enormous Benefits for Students

Sponsoring Student Teams: Solar



Stella Vita, a prototype solar-powered house on wheels inspiring Mobilize

Is using solar energy to power electric cars just a pipe dream, or will it soon be a reality? For Solar Team, a student collective at the Eindhoven University of Technology, that reality is already here – or almost, at least. Proof comes in the form of Stella Vita, a prototype vehicle with photovoltaic panels on its roof that power not only the engine, but also the entire vehicle, turning it into a living space.



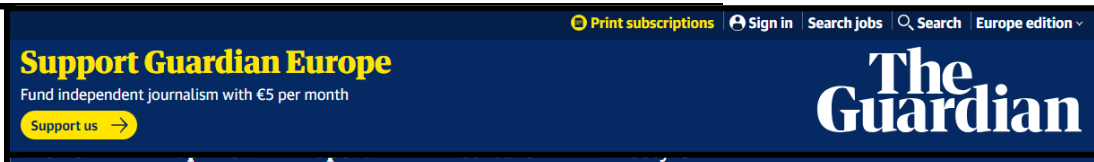
Stella Vita, una casa móvil que funciona con energía solar

Mobility City arropa a estudiantes holandeses en una apuesta por la movilidad sostenible.

NOTICIA ACTUALIZADA 6/10/2021 A LAS 05:00
LUIS H. MENÉNDEZ

'World's first off-road solar SUV' just drove across Morocco powered only by the sun

By Rebecca Cairns and Mark Tutton, CNN
4 minute read · Updated 5:38 AM EDT, Mon October 16, 2023



Solar-powered off-road car finishes 620-mile test drive across north Africa

The Stella Terra was designed by students at Eindhoven University of Technology and completed trip without recharging



The Stella Terra is believed to be the world's first off-road solar-powered car and has a range of well over 400 miles - if it's sunny. Photograph: Bart van Overbeeke Fotografeer/TU/e

From The Netherlands to Tarifa in an 'autonomous solar house on wheels'



IV. Robust ground rules

The Right Ground Rules



Transparency Industry Revenues



Code of conduct for scientific Integrity



Intellectual Property Arrangements



Position of hybrid professors from industry

Transparency about ancillary activities of university staff



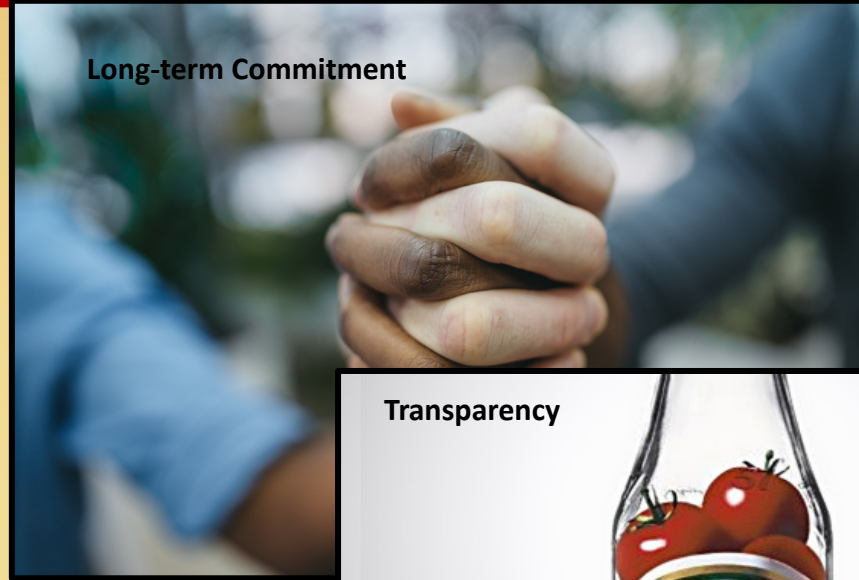
V. Conclusion: what it takes

What it takes



Robust Ground Rules

Long-term Commitment



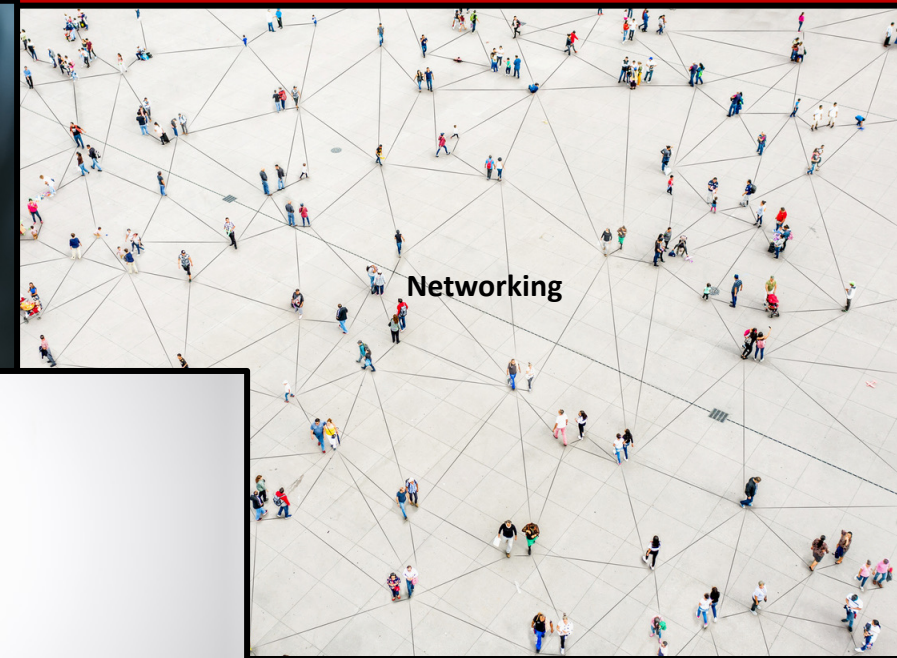
Transparency



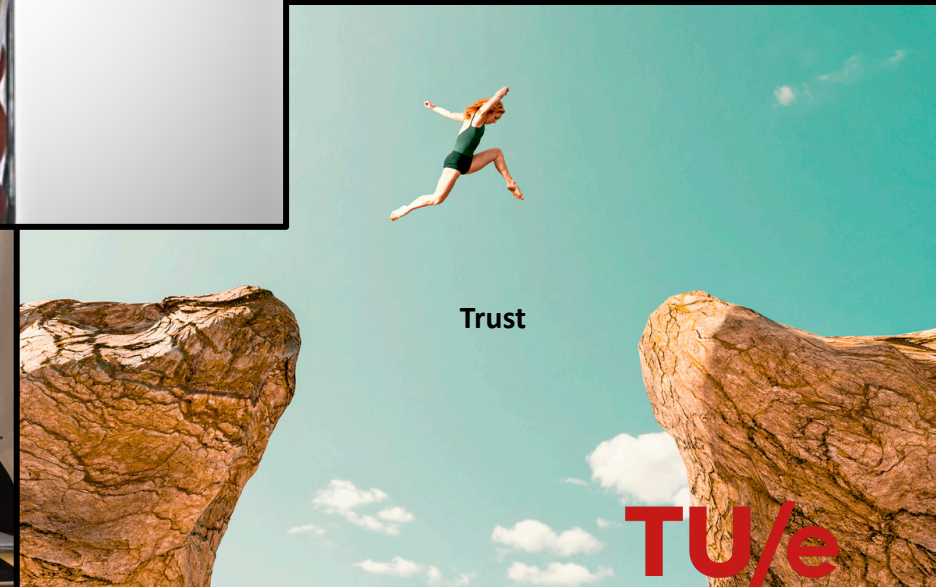
Teamwork



Networking



Trust



A photograph of a modern, multi-story building with a glass facade, illuminated at night. The building is reflected in a body of water in the foreground. The sky is a deep blue. A semi-transparent red banner is overlaid across the middle of the image, containing the text "Thank you for your attention. And now....".

Thank you for your attention. And now....

Robert-Jan Smits, President TU/e

Nice meeting you