



Challenge-Based Learning in TU/e innovation Space

EIT DIGITAL: EDUCATE TO THE FUTURE, 10 DECEMBER 2019

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Eindhoven University of Technology

- Central in Europe
- Top-ranking Dutch University
- Heart of the Brainport region
- World-leading in collaboration with innovative industry



Educating the engineers of the future

- T or Π shaped
- Interdisciplinary
- Entrepreneurial
- System thinking



TU/e innovation Space

Education Strategy 2030:

Challenge-Based Learning



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“Challenge-Based Learning”



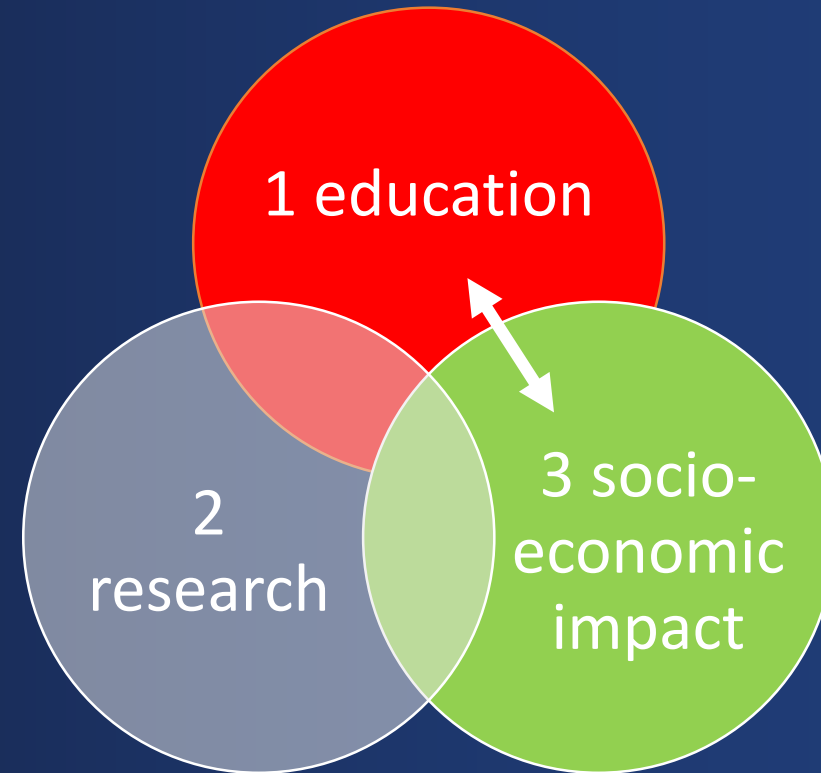


SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



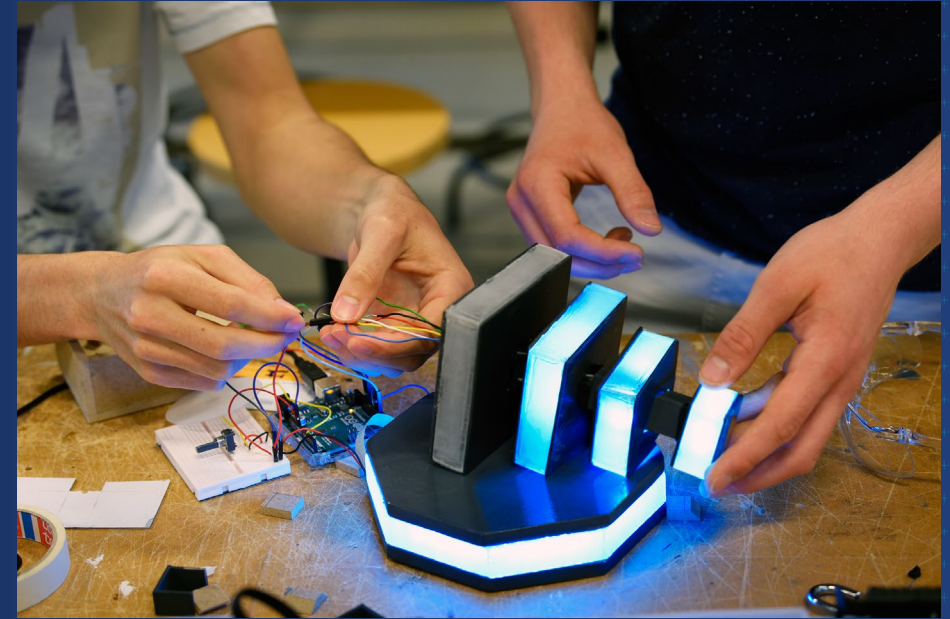
Three missions of a university



Innovating education by connecting education to practice, for contributing to socio-economic impact, via challenge-based, hands-on, interdisciplinary projects, thereby developing engineers of the future

TU/e innovation Space offers:

- Courses
- Student projects
 - teams
 - start-ups
- Physical space
- Community



Education

- Interdisciplinary teams
- Learning by doing
- Real world and open-ended challenges
- Entrepreneurship and engineering design
- Coaching by industry and university partners
- Personal & team development



interdisciplinary BEP

Topic	Evolving sensor swarms for exploration of underwater systems
Challenge	Use software and hardware technology from a research project to carry out validation experiments in a pool and water distribution companies
Owner	Antea
Disciplines	Built Environment Computer Science Mechanical Engineering Electrical Engineering Industrial Design



Open-Ended Challenge

Theme

Space

Challenge

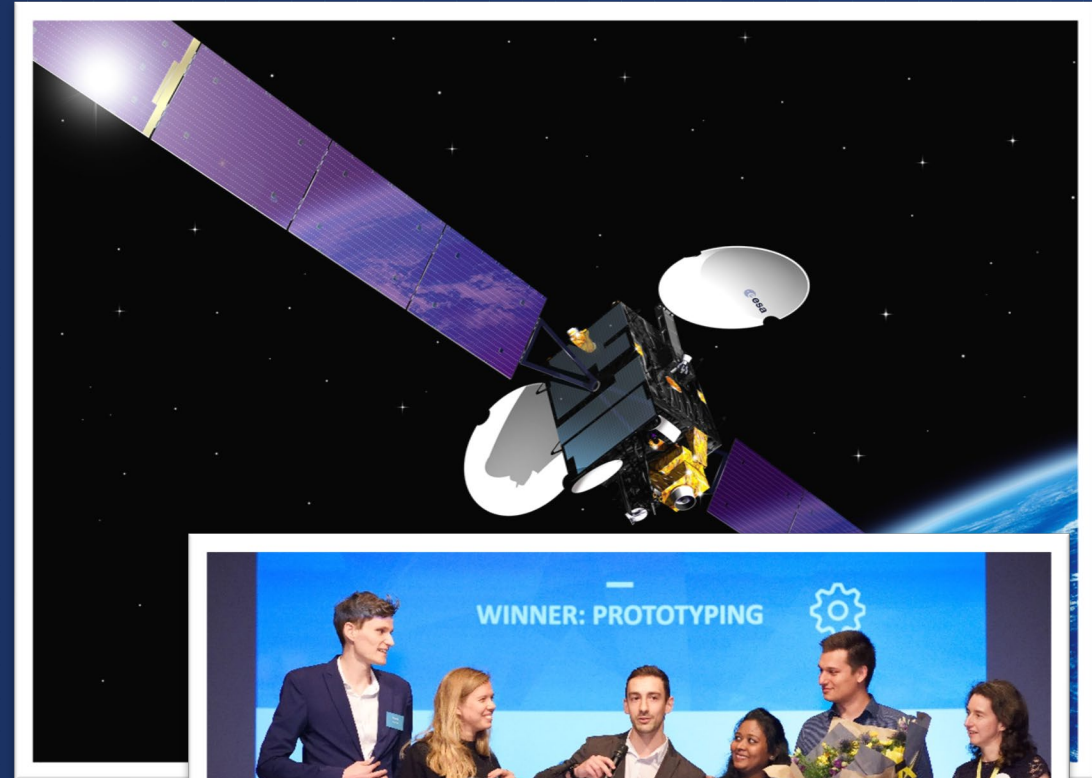
Develop an application combining satellite data with possible other big data inputs, addressing a specific social or business problem.

Applicants

European Space Agency
Netherlands Space Office

Disciplines preferred

Computer Science
Sustainable innovation
Psychology & Technology
Industrial Engineering
Industrial Design



STATS 2018-2019

1628 students in TU/e innovation Space
8365 ects in TU/e innovation Space

22



Total
Courses

8



Courses with
Challenges Needed

59



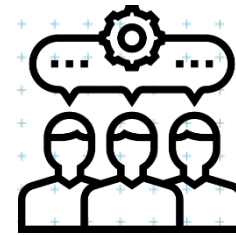
Challenges
Sourced

43



Challenges
Finished

8



Challenge
Themes

323



Students
Participated

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innoApproach

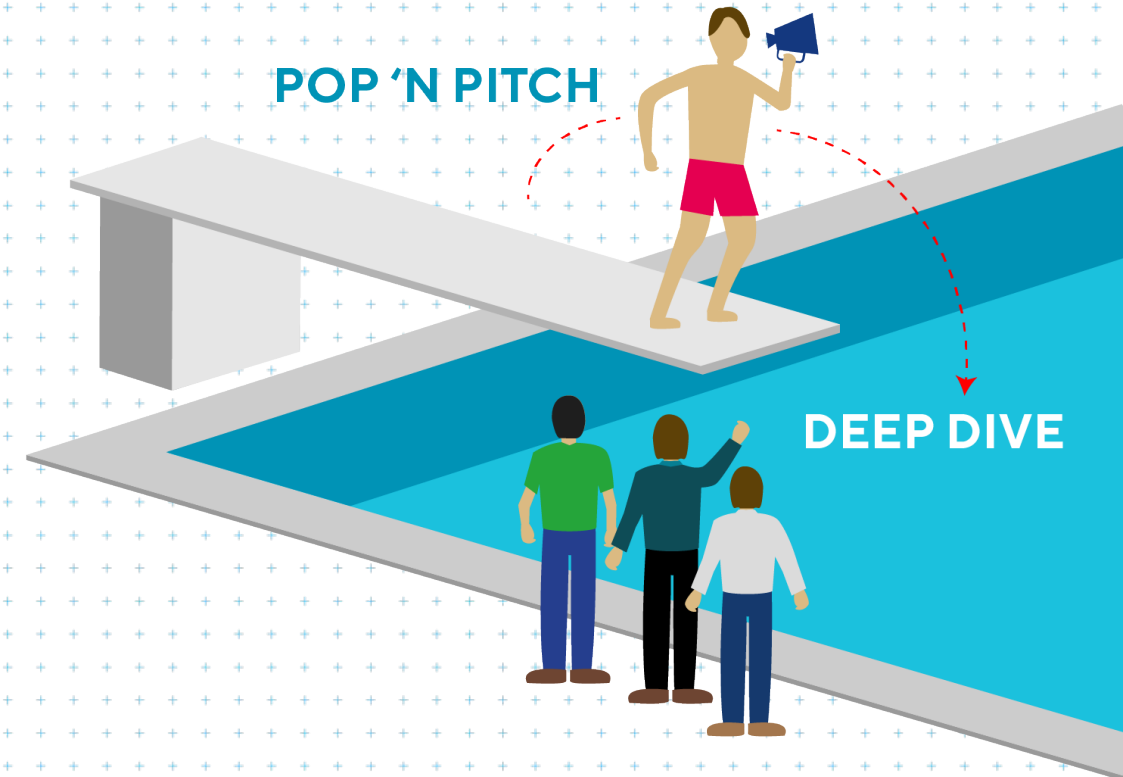
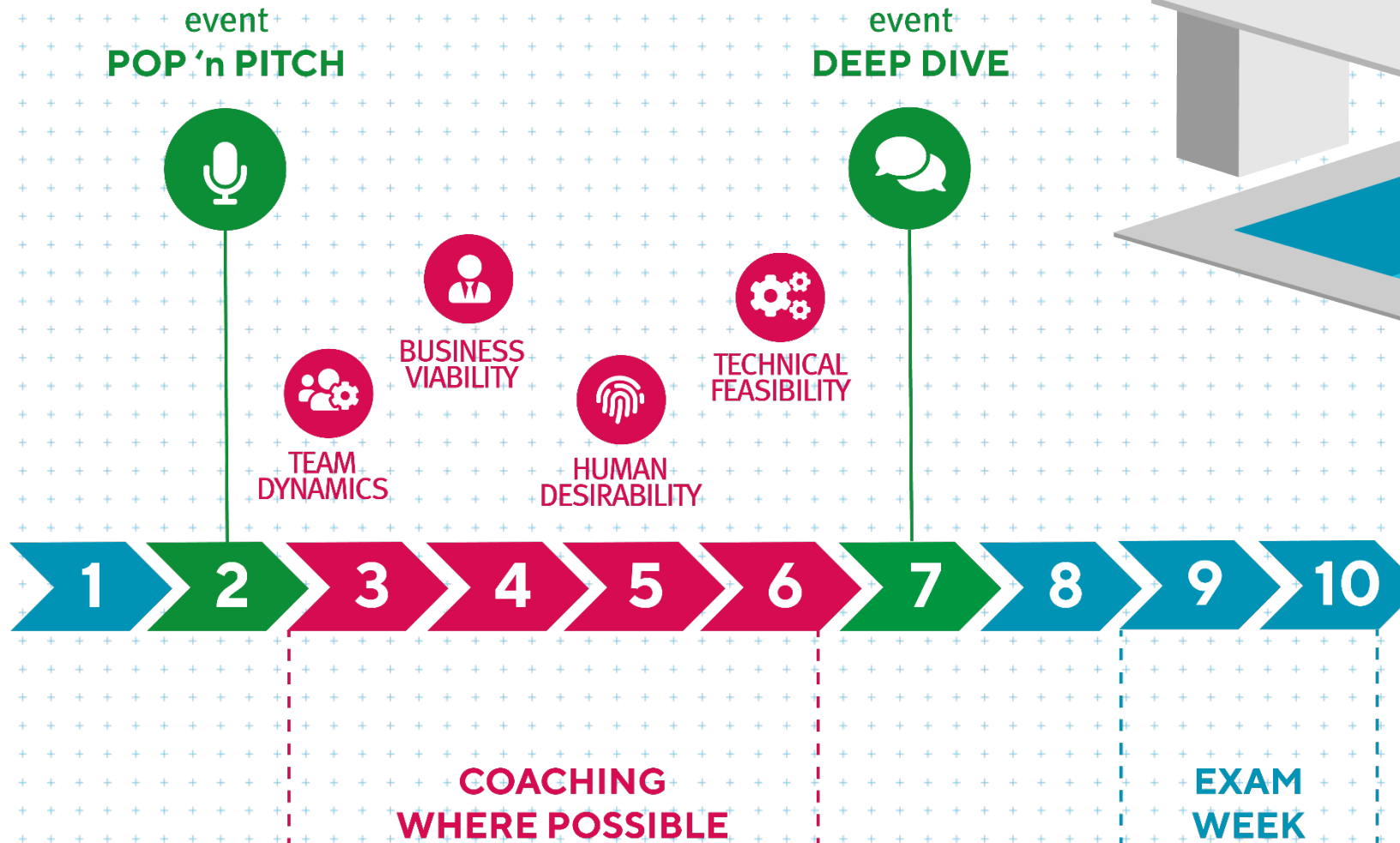
Tailored workshops to develop your personal as well as professional skills!

→ 9th and 10th hour (17:30 – 19:00)



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Springplank



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Student projects



S P I K E



RATIO | computer-aided systems engineering



SensUs

:: Hable

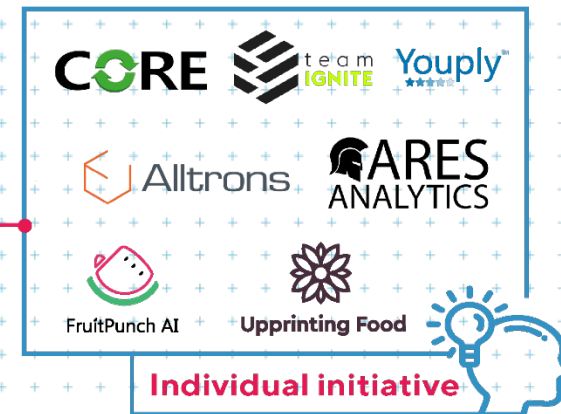
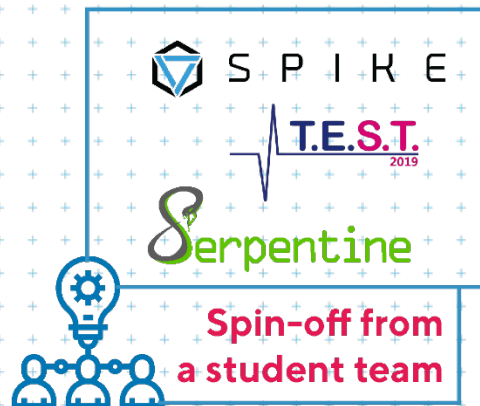
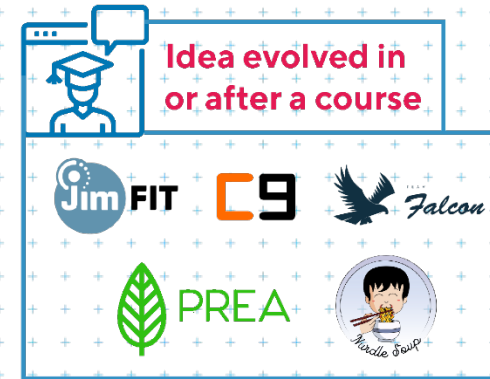


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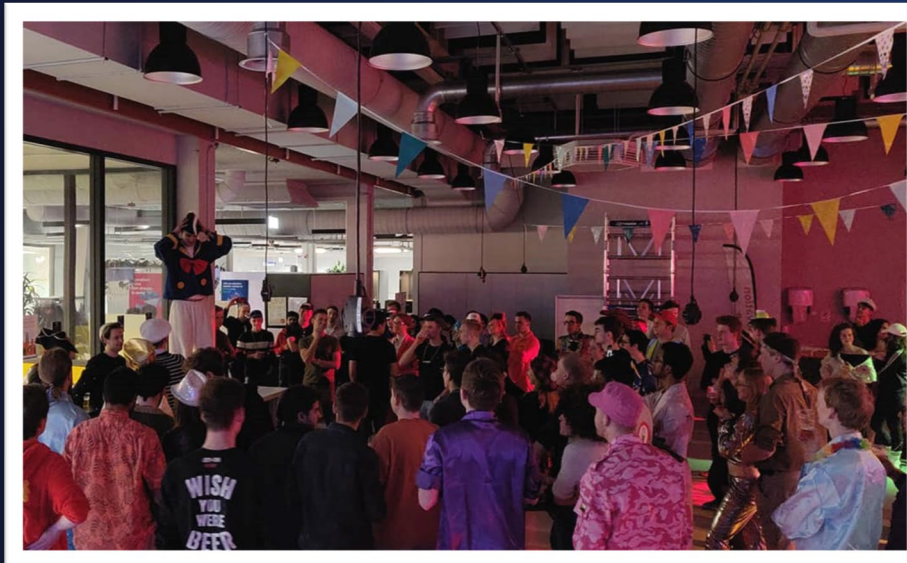
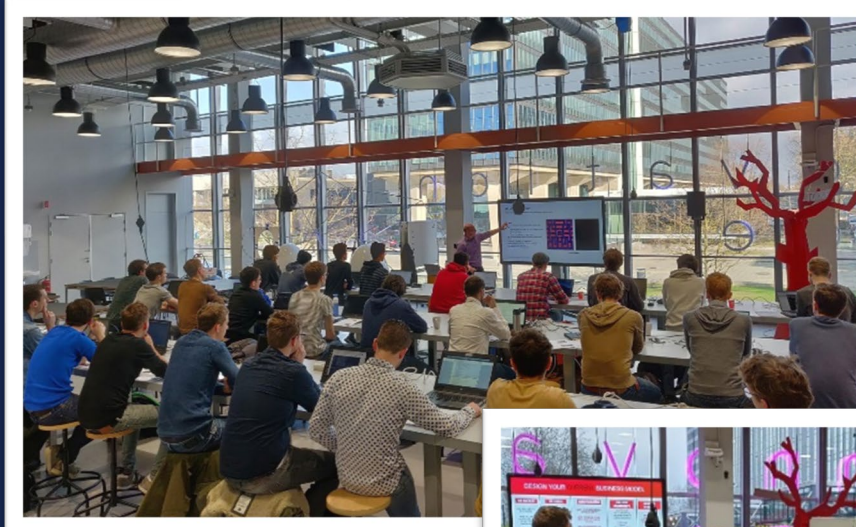
The journey



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Community

- Broad network
- Trainings
- Fun events!



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Future developments



Current
Experiments

Improve
experiments
ISBEP and
Innovation Space
Project



New experiments

Set up new
experiments



Challenge-based
Learning

Further develop the
concept of
Challenge-Based
Learning



Partnerships

Create partnerships
to offer challenges
in themes, like
Agro-Food and Tech
and Artificial
Intelligence

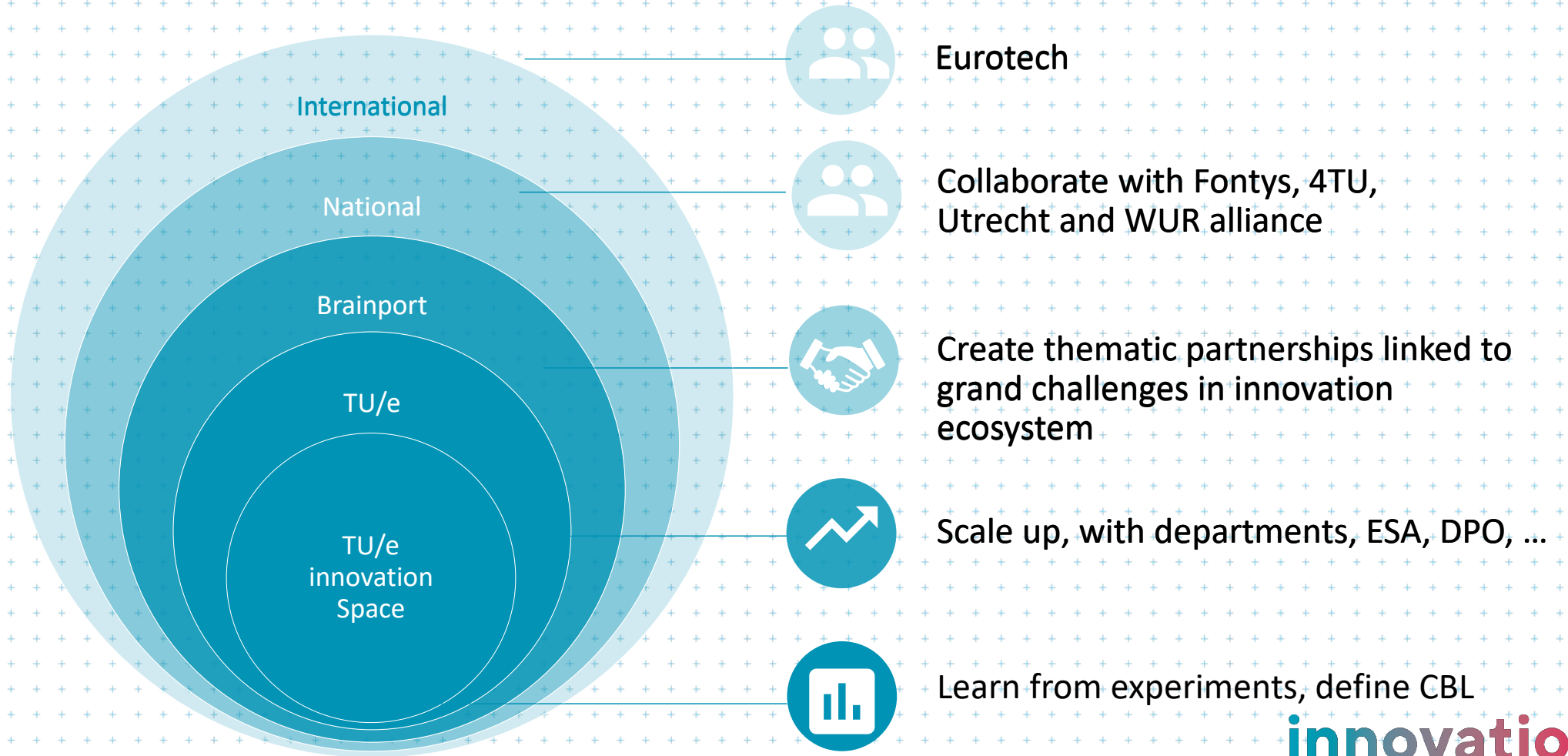


Link grand
challenges

Link projects to
grand challenges
(inspired by EU
mission-oriented
policy)

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Next steps in collaboration



A vibrant, high-energy photograph of a group of people, likely students or young professionals, celebrating. They are surrounded by a thick shower of multi-colored confetti (red, blue, yellow, and green). The people are smiling and looking towards the camera. The background shows a modern building with large glass windows and structural beams. The overall atmosphere is festive and joyful.

**Join our
community!**

Let's keep in touch!



innovationspace@tue.nl



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from dream to
demo



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