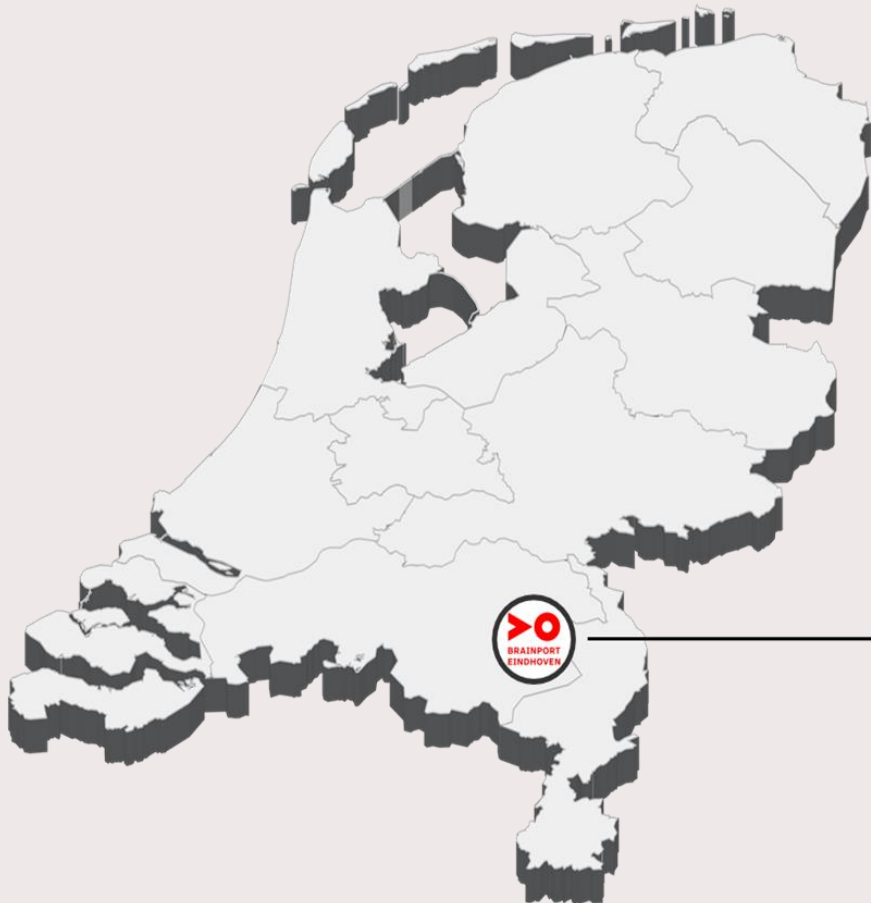


The Beethoven program

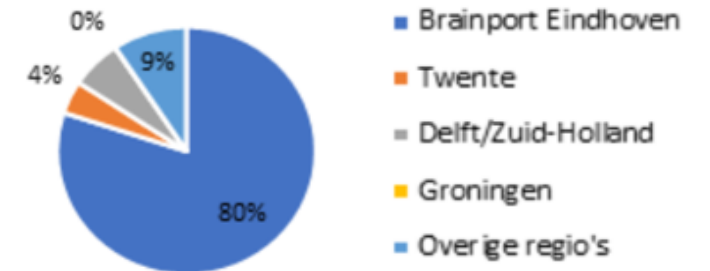
A UNIQUE PUBLIC-PRIVATE SYMPHONY FOR SEMICONDUCTOR TALENT AND SKILLS IN THE BRAINPORT AREA

Margo Strijbosch – Manager Beethoven Program TU/e
SEMICON Europe Sovereignty Through Skills: Building Europe's Semiconductor Workforce Infrastructure
November 20th, 2025

Most key players in semicon are based in Brainport

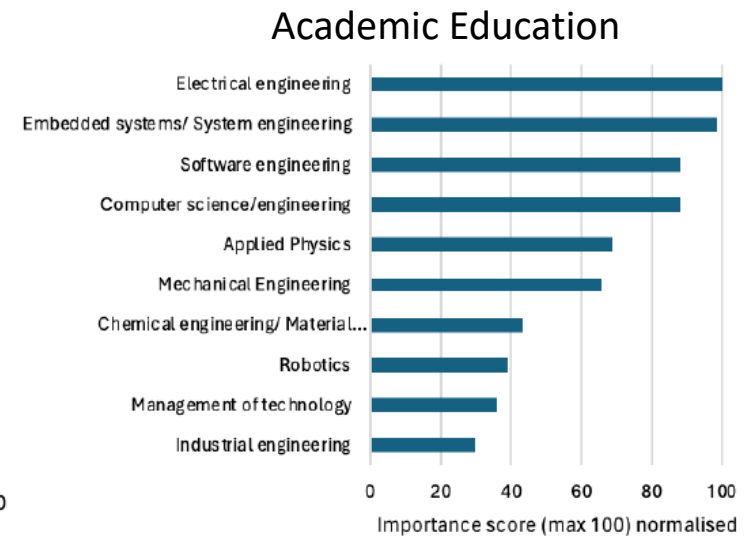
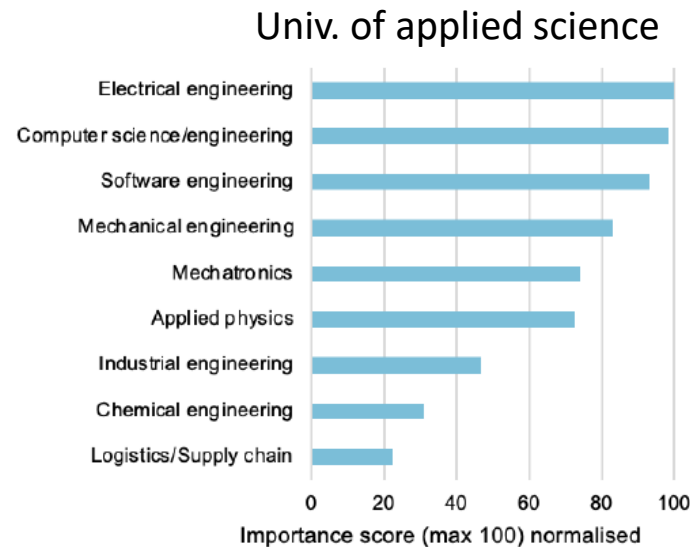
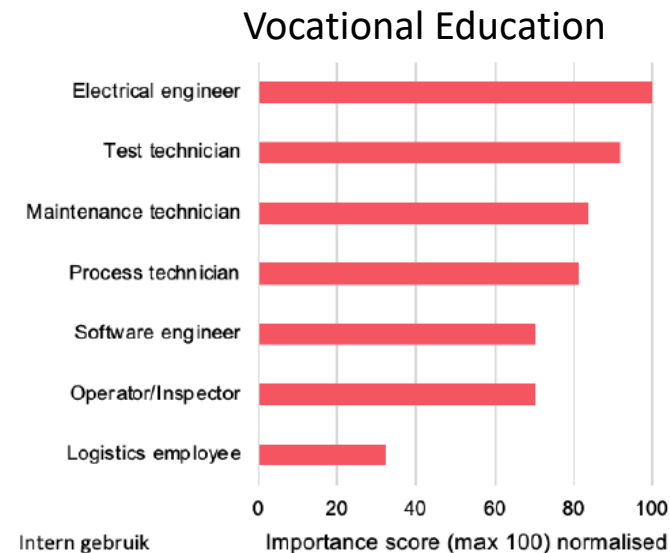


Yearly turnover Dutch semicon



Industry needs talent

- ❑ Currently approximately 50.000 fte in 335 semicon companies in the Netherlands
- ❑ The additional need for talent until 2030 is 38.000 fte
- ❑ 26.000 additional fte is needed for Brainport area only
- ❑ 39% vocational education, 23% university of applied sciences and 38% academic education



Strengthening the Dutch and European microchip industry

Dutch government secures 2.5 billion euros for the Eindhoven microchip sector

DIGITAL - Most of the investment, 1.7 billion euros, is being put on the table by the central government, while the Eindhoven region is contributing 800 million euros.

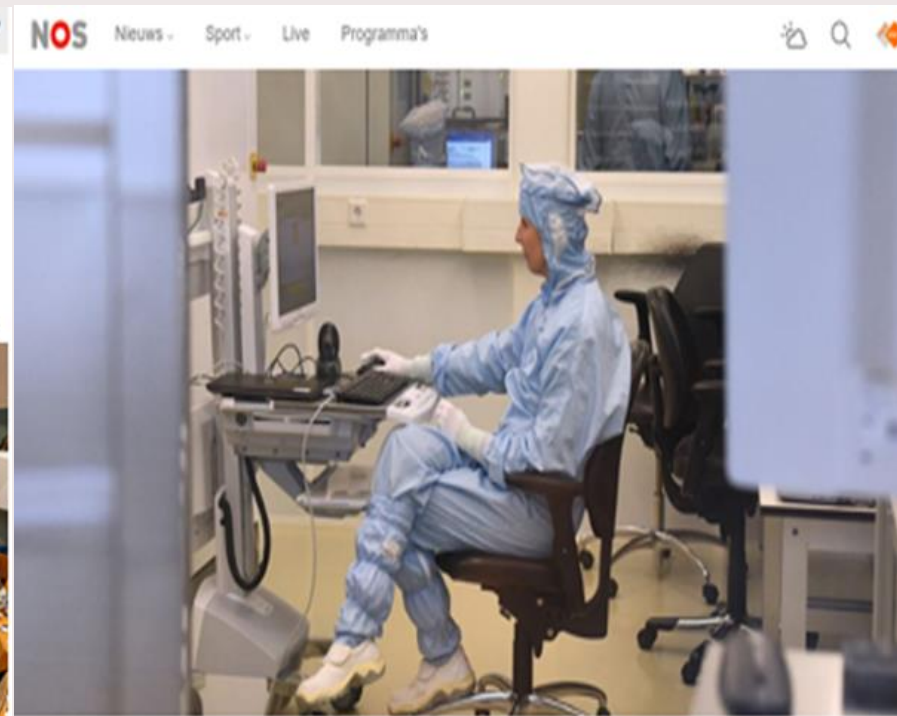
NEWS 28 MARCH 2024



Operatie Beethoven: 2,5 miljard voor regio Eindhoven

door Hoger Onderwijs Persbureau/Karen Luiken/Marieke Verblesen, 02 april 2024

Het rijk en de regio gaan samen 2,5 miljard investeren in de toekomst van ASML en Brainport. Een groot deel daarvan – 1,7 miljard – komt van het kabinet. Het overige deel van deze 'Operatie Beethoven' wordt vanuit de regio gefinancierd. Ook Fontys is onderdeel van die mega-investering.



NOS Nieuws • Maandag 25 maart, 19:39 • Aangepast maandag 25 maart, 21:50

Miljardenimpuls voor behoud techbedrijven regio Eindhoven

Project Beethoven

Op donderdag 28 maart maakte het demissionaire kabinet een maatregelenpakket van € 2,51 miljard bekend waarmee het Rijk met de regio wil investeren in het leef- en vestigingsklimaat in de regio en in een nationaal talentplan voor talent voor de microchipsector. Ook wel project Beethoven genoemd. Wat houdt het maatregelenpakket in?



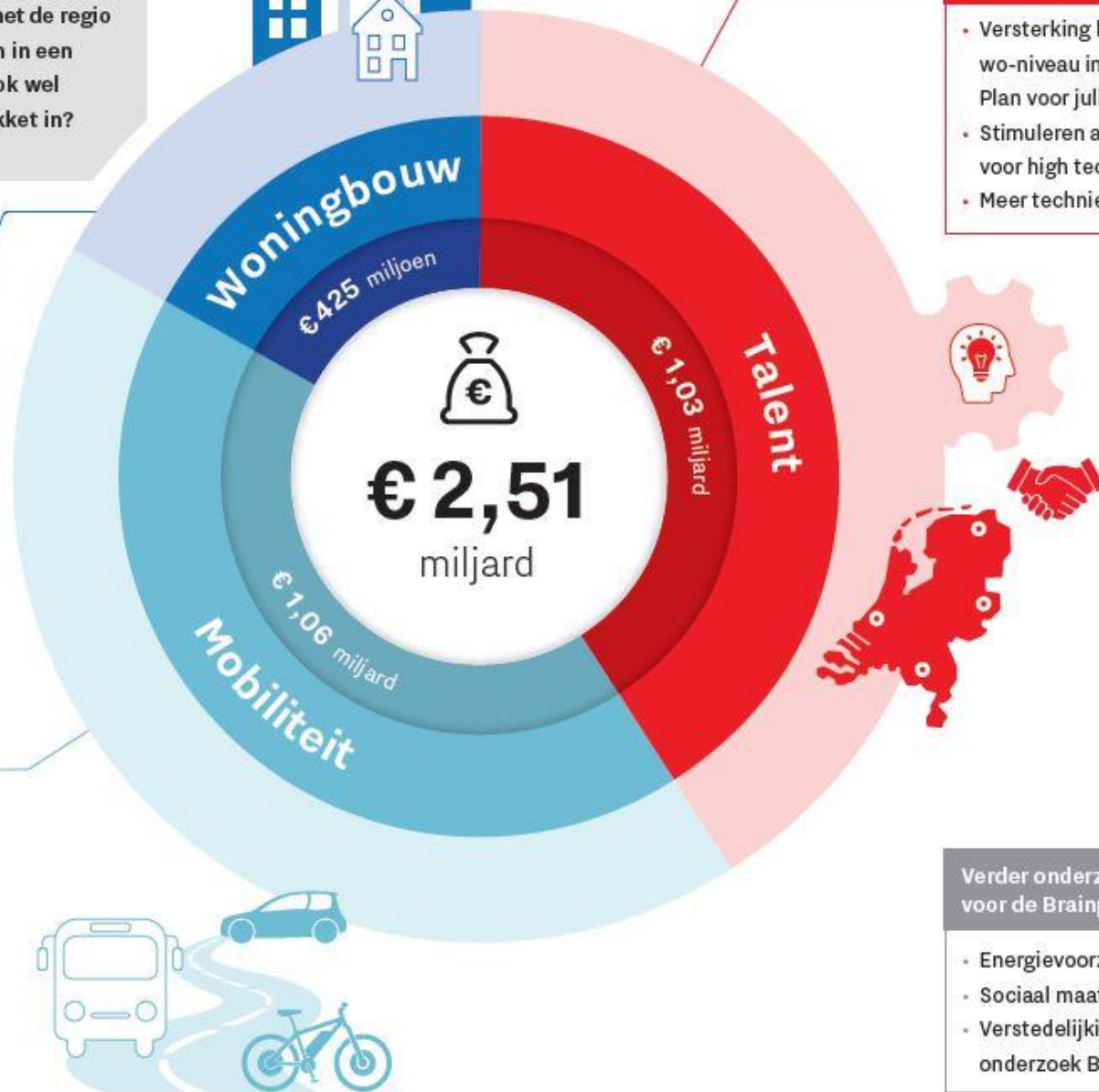
Versnellen bouw Brainportregio

- Versnellen bouw woningen Brainportregio (die zijn niet allemaal betaalbaar)
- Versnellen bouw van circa 20.000 woningen in de Brainportregio
- Investeren in grootschalige woningbouwlocaties (NOVEX) KnoopXL en HOV4, voor openbare ruimte, klimaat e.d. voor de bouw van circa 20.000 woningen



Verbeteren infrastructuur in de Brainportregio

- Extra geld voor verbeteren OV-infrastructuur tbv bereikbaarheid Brainport-regio (HOV4 en nieuw busstation Eindhoven)
- Verbreding A2/N2 in combinatie met OV-infrastructuur westzijde Randweg Eindhoven
- Regionale mobiliteitsmaatregelen in de Brainportregio



Talentontwikkeling voor de Nederlandse chipindustrie

- Versterking bèta en techniek onderwijs op mbo, hbo en wo-niveau in 4 regio's (Brainport, Delft, Twente en Groningen). Plan voor juli gereed. Speciaal gezant aangesteld.
- Stimuleren arbeidsparticipatie en Leven Lang Ontwikkelen voor high tech
- Meer techniekonderwijs voor basis- en voortgezet onderwijs

Verdeling bijdragen Rijk, regio



Rijksoverheid

€ 1,73
miljard



Regio

€ 778
miljoen

Voor het talentplan geldt dat iedere regio zelf verantwoordelijk is voor de cofinanciering.

Verder onderzoek naar aanvullende maatregelen (ook na 2030) voor de Brainportregio, met name:

- Energievoorziening en netcongestie (MIEK-verkenning)
- Sociaal maatschappelijke voorzieningen (verkenning)
- Verstedelijking en bereikbaarheid na 2030 (Actualisatie MIRT-onderzoek Brainport 2040) inclusief voorzieningen, energie etc.

Summary Beethoven

Strengthening the Dutch microchip sector, particularly in the Brainport Eindhoven region, to bolster the Netherlands' position in the global microchip industry and contribute to economic security and strategic autonomy.

- Total investment = €2.5 billion, **to support and grow the microchip sector.**
- Education and Talent Development: €450 million until 2030, with an annual investment of €80 million thereafter. (€275 million Brainport region). *
- Significant investments are being made in the Brainport region's infrastructure (mobility, housing)

* = additionally: 225M is regionally cofunded + 352M is for the TechKwadraat program to stimulate techrelated primary and secondary education

Beethoven: the talent perspective



4 regions

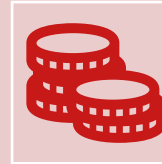
Brainport, Delft, Twente, Groningen
(Vocational, Higher Professional and
University Education)



Brainport in 2030

> 5000 extra graduates
 ~ 920 vocational education
 ~ 2750 univ. of appl. Sc.
 ~ 1380 academic

> 19.100 up- and reskilled talents



Brainport budget

275ME Subsidy
225ME public private cofounding
350ME Techkwadraat subsidy



Brainport from 2030

2000 extra graduates annually
~150 vocational education
~1100 univ. of appl. Sc.
~ 900 academic

The Beethoven Ecosystem @ Brainport



core partners

Education partners

Industrial partners

Universities
of applied
science



Zuyd
Hogeschool



avans
hogeschool

Vocational
Education



gilde
opleidingen



ROC NIJMEGEN

curio

Yuverta

yonder

SintLucas

+ other regions

Academic
Education



Universiteit Twente
de ondernemende universiteit



Radboud Universiteit

RWTH AACHEN
UNIVERSITY

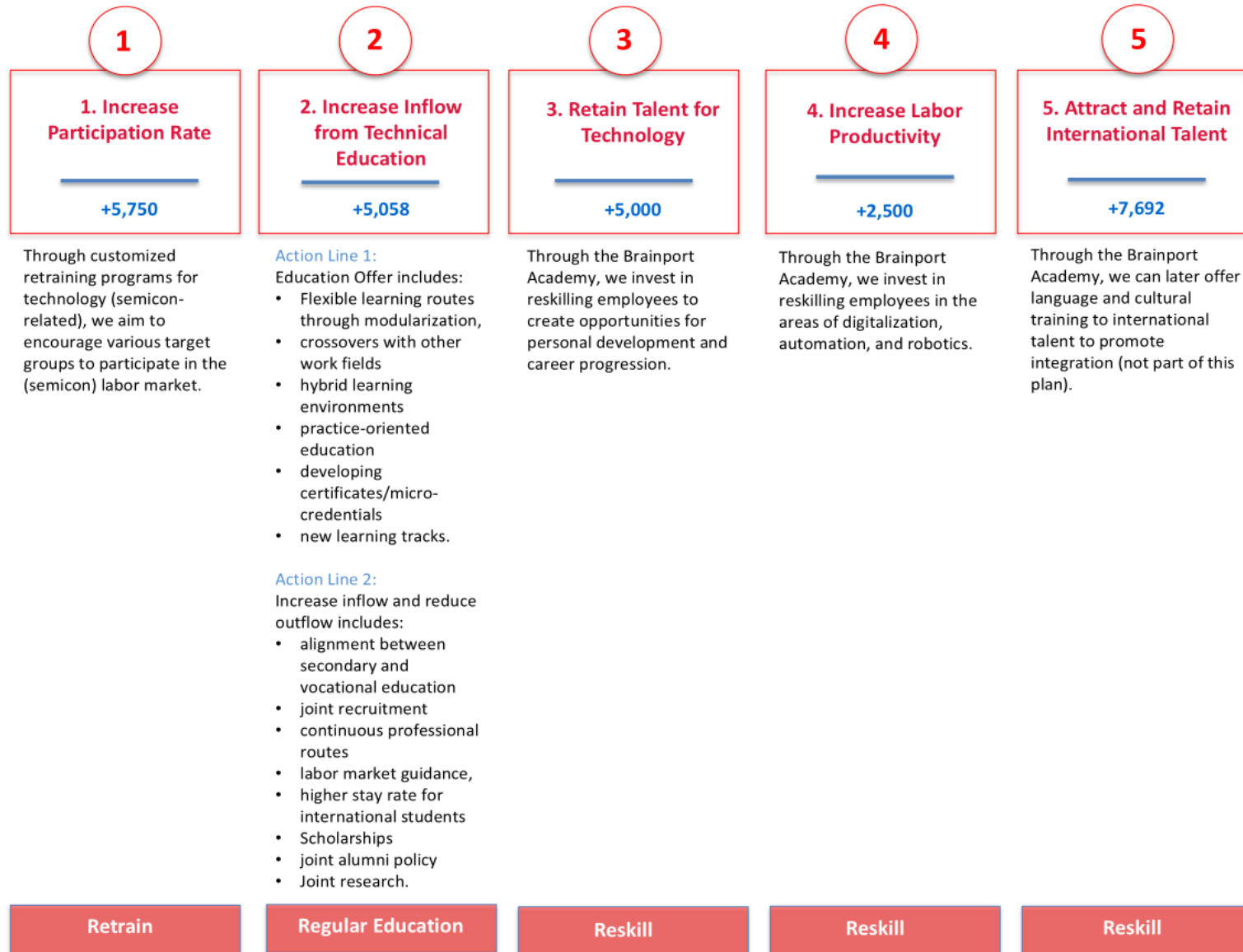
KU LEUVEN

imec

+ other regions

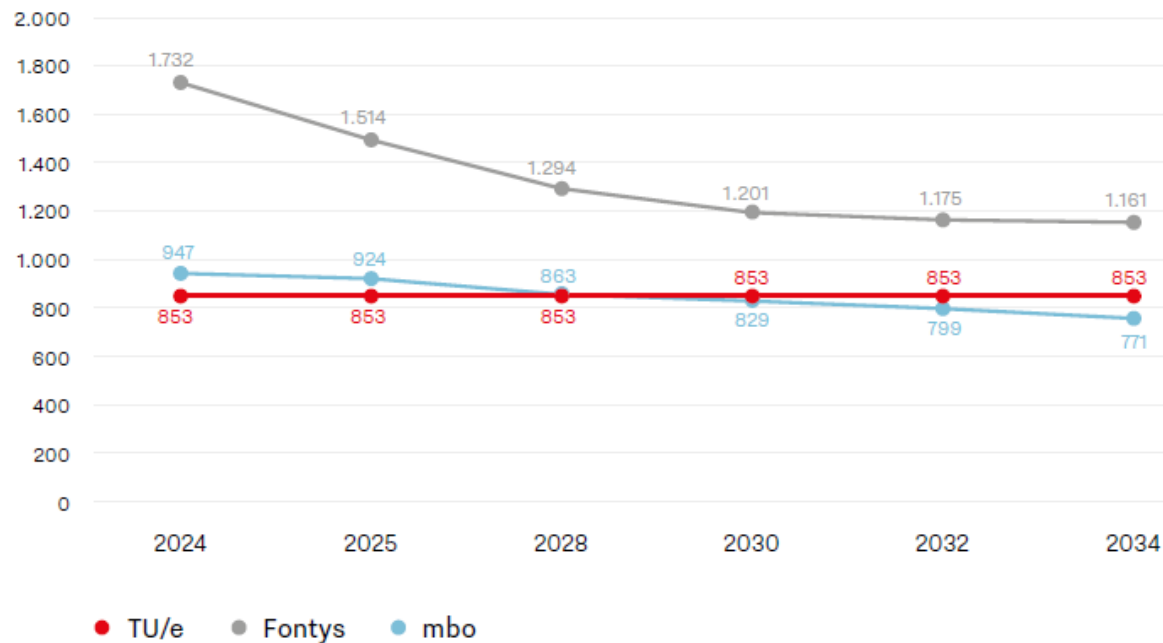


The Beethoven Interventions @ Brainport

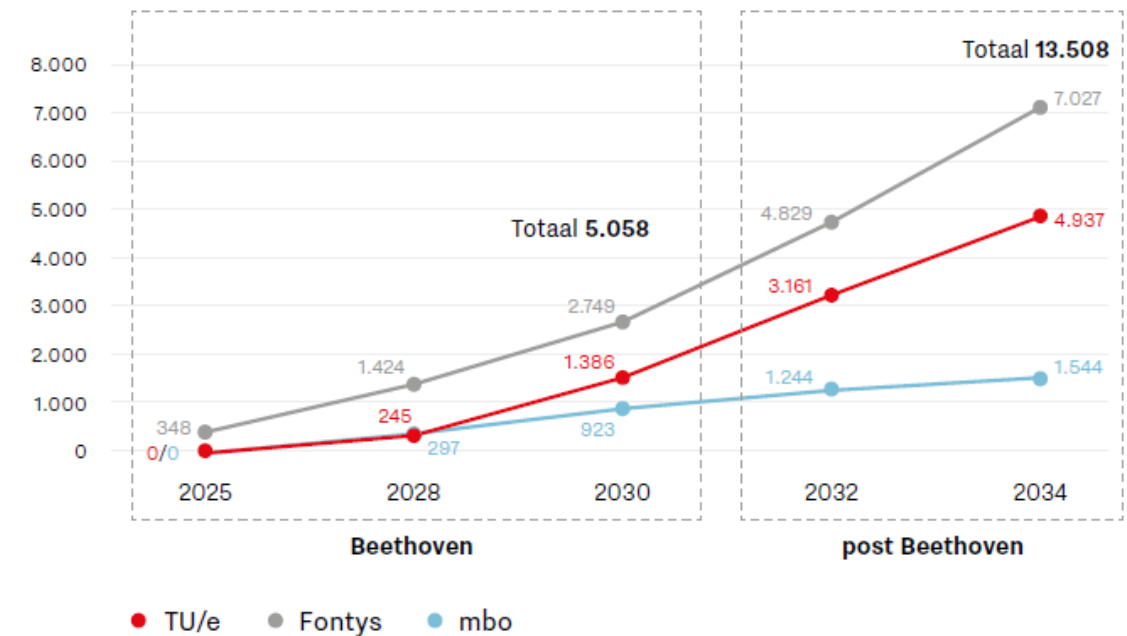


Goal Beethoven @ Brainport

Semicon graduates without Beethoven



Semicon graduates with Beethoven



Our objectives



- Be the chips and high-tech systems university of Europe
- Excel in high-tech systems research
- Be a leading academic institute in SEMICON education
- Act as a 4th generation university in close interaction with our Brainport ecosystem

Key elements Beethoven TU/e



TU/e in 2030:

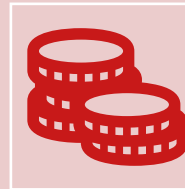
- 1,380 extra graduates
- 1,900 extra enrolled students
- Internationals (50% EER, 50% NON-EER)



From 2030, 900 graduates annually

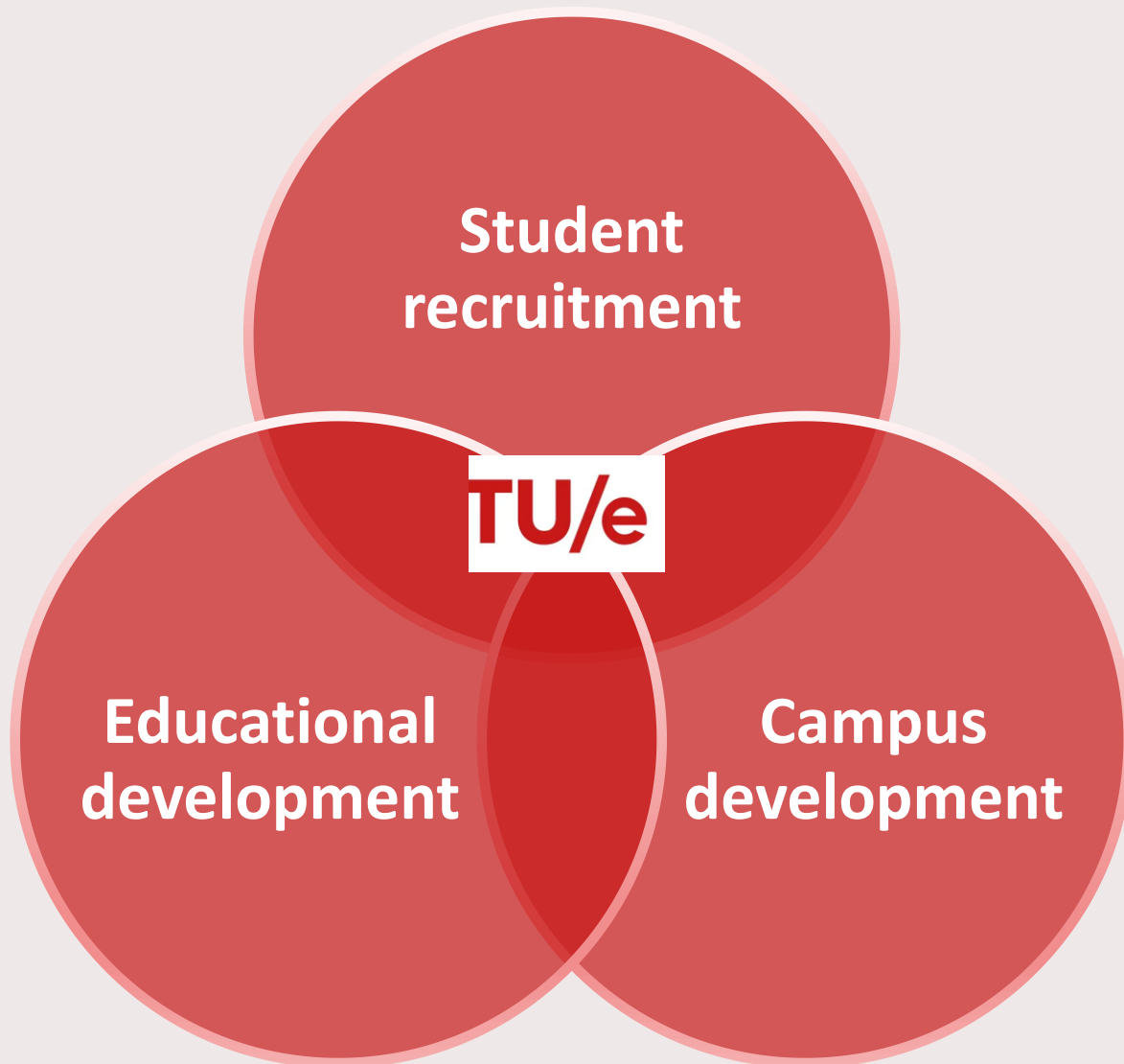


Growth at TU/e: MSc programs in 4 departments: EE, ME, APSE and M&CS



Total TU/e budget: 225 ME (90ME Beethoven, 70ME tuition fees, 65ME third party cofunding)

Our activities

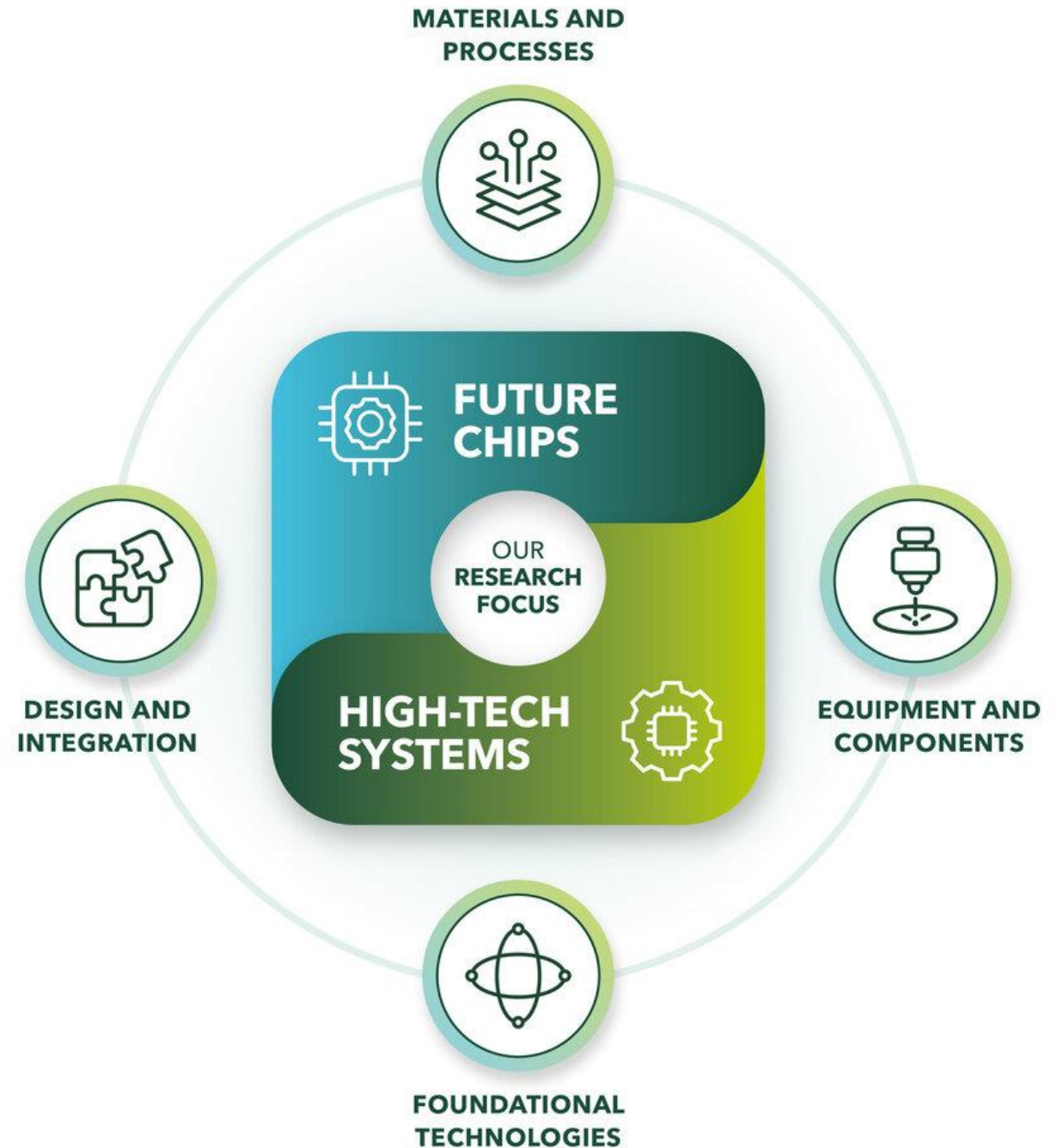


- **Studentrecruitment**
 - international via www.hightechuniversities.nl and specific TU/e campaigns & friends/alumni
 - regional with Brainport partners
- **Retention from bachelor to masters**
- **Scholarships: 100 annually**
- **15 new mastertracks (incl premasters)**
- **Increase stay rate and connect with industry**
- **Brainport academy for life long learning**
- **Campus Development**
 - New (Semicon) lab building
 - New cleanroom:
- **Staff growth**
 - ~ 150 scientific staff
 - ~ 150 support staff

Our interdisciplinary approach makes us unique

Research focus on future chips and high-tech systems and four research domains

More than 700 researchers now,
Growing towards >1000 in 2030



“Like Beethoven revolutionized music – the Beethoven program is a revolution in public private cooperation for talent and skills”

- Inspired by Ludwig van Beethoven

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Thank you for your attention

Stay in touch?

- **Websites**
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- **Email**
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