CHIPNL Competence Centre

Chip Competence Centre in the EU.

Juli-2026

CASIMIR INSTITUTE

Future Chips and High-Tech Systems

Accelerating sustainable chips and high-tech systems innovation from research to impact.

Peter-Jan Hendrikx – Institute Program Manager High Tech Equipment

CASIMIR INSTITUTE FUTURE CHIPS AND HIGH-TECH SYSTEMS TU/e

Casimir Institute: Our research focus explained

RESEARCH FOCUS

Future Chips

Accelerate innovations in chip design and fabrication to enable digital transformation.

High-Tech Systems

Enable extreme functionalities and performance for future high-tech systems.

RESEARCH DOMAINS

Next-Gen Chips

Heterogeneous integration of our expertise in electronics and photonics.

Materials and Processes

Specialized in atomic-scale processing, including nanolayer preparation and patterning.

High-Tech Equipment

Advance productivity, accuracy, and efficiency via our expertise in mechatronics, control & methodologies.

Foundational Technologies

Merge insights from mathematics, physics, AI, computer science, and data science.

CASIMIR INSTITUTE FUTURE CHIPS AND HIGH-TECH SYSTEMS TU/e

CHIPNL Competence Centre

The Dutch Semicon Eco-System.

The Dutch high-tech history

Share innovation. Shape tomorrow.

- Many global players and champions
- Semiconductor IC is almost 65 years old
- Even today: no single company masters all steps necessary to design, package, produce and test a complete device
- 1 chip? 60 countries & 800 process steps

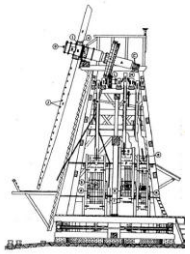
We have a long history of innovations…

Innovation	Year
Microscope	1590
Crankshaft	1594
First submarine	1620
First electric vehicle	1835
Electrocardiologygraph (ECG)	1903
Artificial kidney	1943
Automatic transmission (CVT)	1958
Compact disc	1979
Wifi	1991
Bluetooth	1994
Tom Tom navigation	2004

COMPACT disc DIGITAL AUDIO

TOMTOM

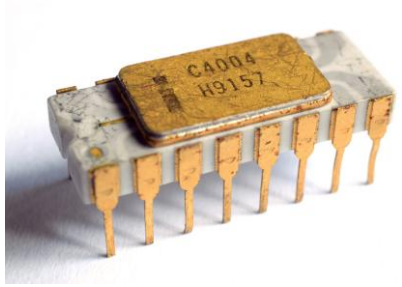
Wi-Fi



Collaboration is not a choice… it's a must!

Key figures semiconductors in NL

Share innovation. Shape tomorrow.



- 430+ companies within a range of 200 kilometers (or 124 miles)
  - ✓ Within NL 168,000 employees
  - ✓ Globally 85,000 employees (and families)

- 75% Dutch owned – 25% foreign owned (mainly USA and Germany based)
- 2024 global sales revenue € 61+ billion (4.6 % of Gross National Product)
- 85% of all chips manufactured makes use of 'Made in NL' equipment

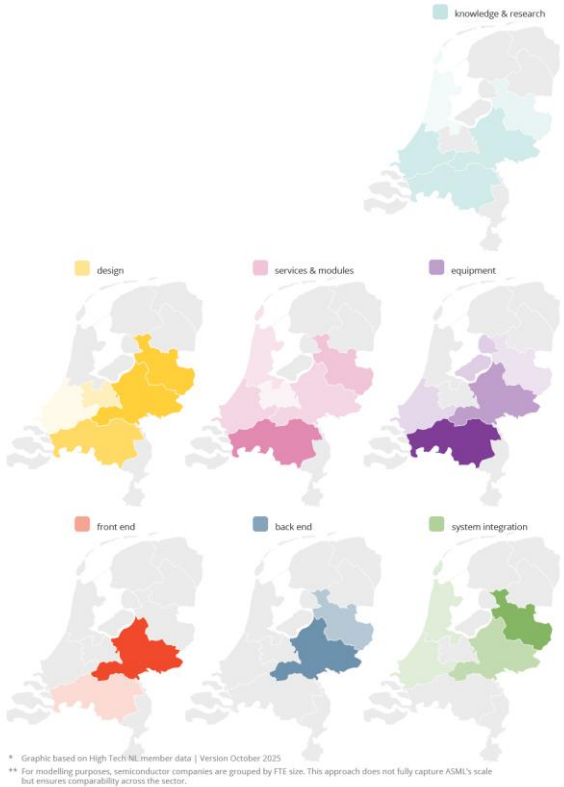
- Big 5 (ASML, ASM, Besi, NXP, Nexperia) account for €45 billion in revenue; €6.8 billion in R&D; 96,000 FTEs
- ASML, ASM, Besi, and NXP are the main drivers.

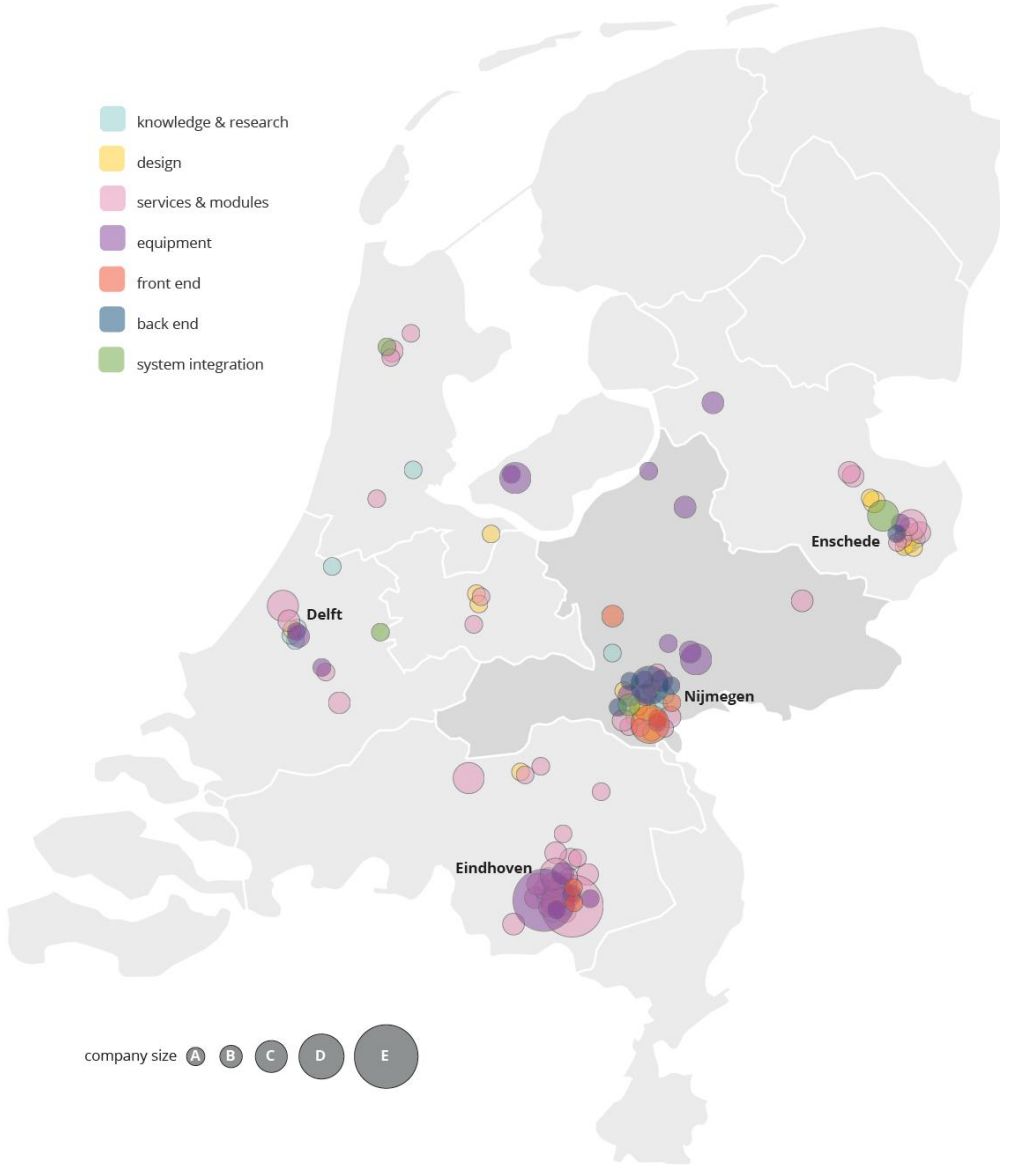
- We have many world leaders, mainly in design & manufacturing of equipment (33% global market share):
  - ✓ Front and back-end machines
  - ✓ RF and radar technology
  - ✓ Chip Design
  - ✓ Metrology
  - ✓ Test Technology & Engineering
  - ✓ Photonics

Semiconductors in the Netherlands

Share innovation. Shape tomorrow.

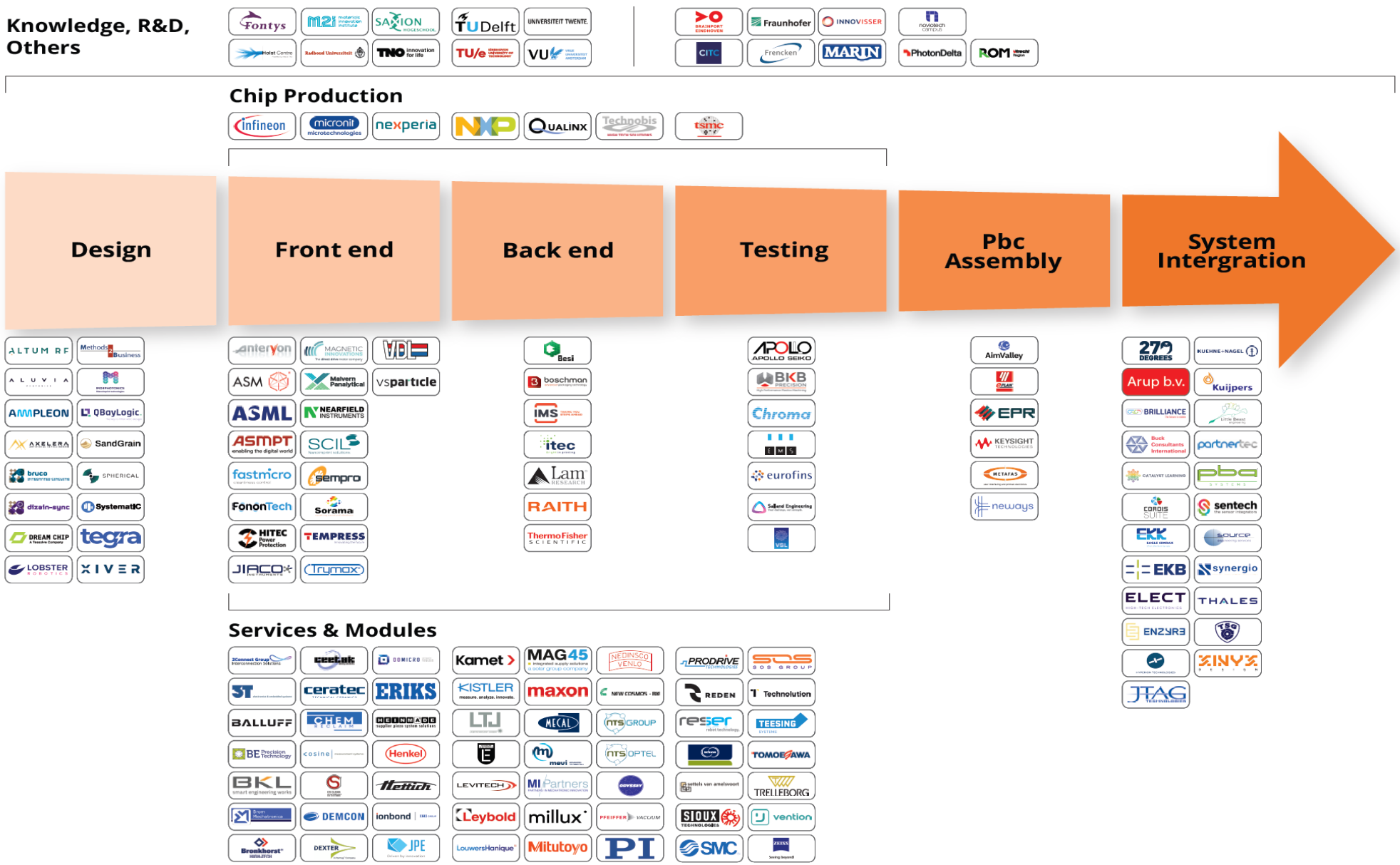
- Ecosystem visualisations are generally made by positioning all stakeholders in that ecosystem against a background of a geographical map or in a value chain representation.
- An insight into the geographical distribution of activities may be a helpful instrument for policy makers





Semiconductors Ecosystem

Share innovation. Shape tomorrow.



CHIPNL Competence Centre

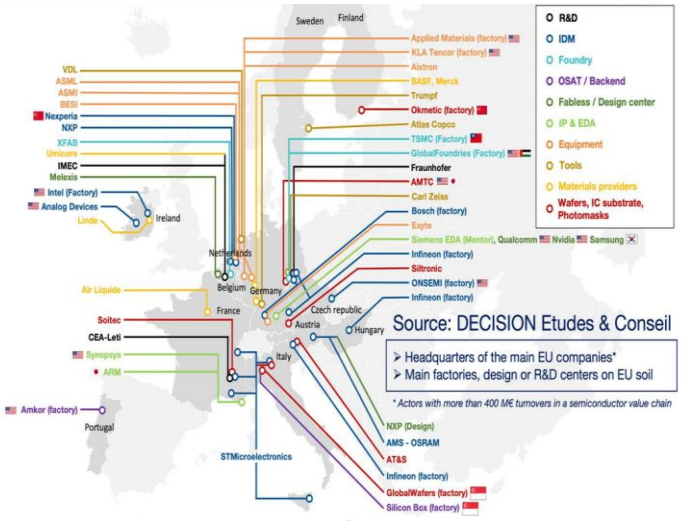
Chip Competence Centre in the EU.

Chip Act 1.0 - Chip Competence Centre in EU

Together, we ensure a flourishing Dutch sector within a strong European industry.

Chip CC- National hubs in EU, Connecting: Industry & startup/scale-ups

-To funding
-Technical support
-Supply chain support
-Talent

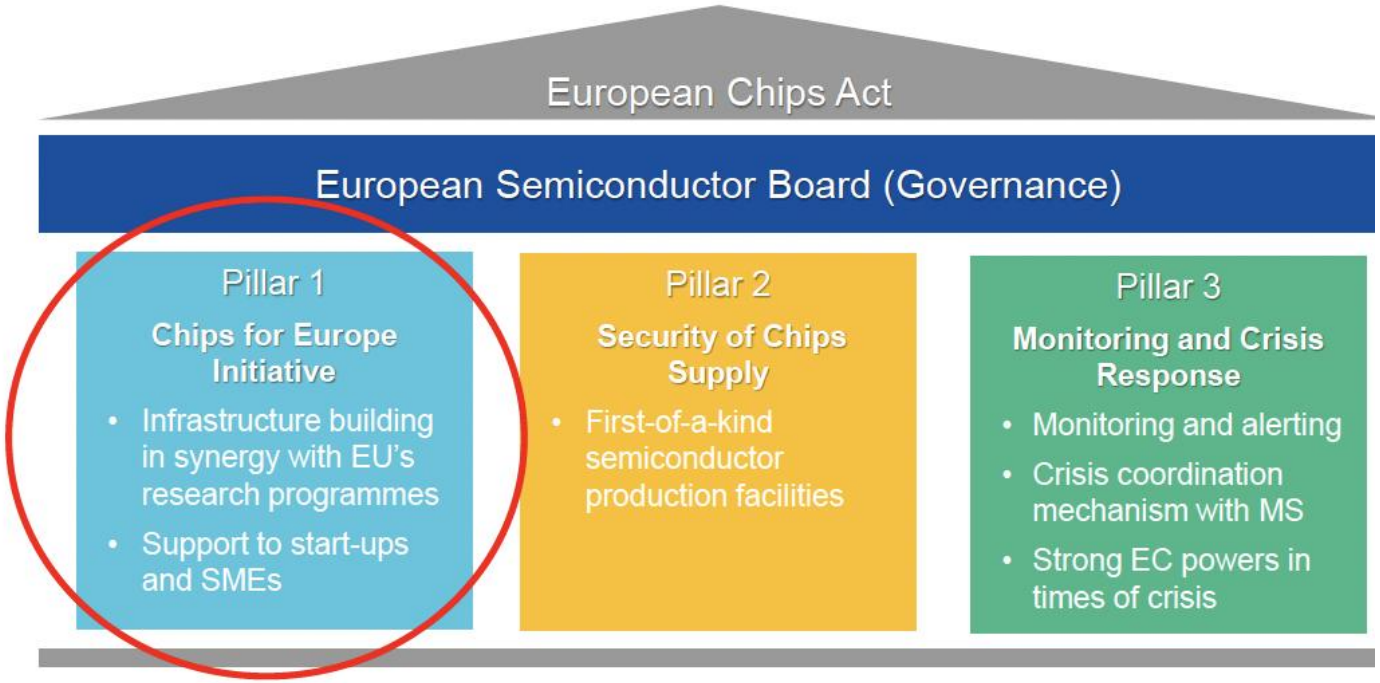


EU Chips Act 1.0: Chips for Europe Initiative

Chips are the driving force behind all major economic, ecological, and societal transitions.

Goal: Reinforce Europe's technological leadership by:

- Facilitating the transfer of knowledge from the lab to the fab
- Bridging the gap between research, innovation and industrial activities
- By promoting the commercialization of innovative technologies by EU-industry including start-ups and SMEs
- Open doors to new markets and opportunities.



Supporting Finnish Chip Excellence

FiCCC

Finnish Chips Competence Centre

Enabled by EU and national funding | A consortium | Linked to Finnish semiconductor R&D

Chips JU

BUSINESS FINLAND

www.ficcc.eu

FiCCC born and raised by EU & National strategy – Focus on semiconductors AND relevant verticals

Chip For Europe Initiative

EuroCDP EDA PDKs IPs

Pilot lines PL1 PL2 PL3 PL4 PL5 PL6

Quantum tools /IP

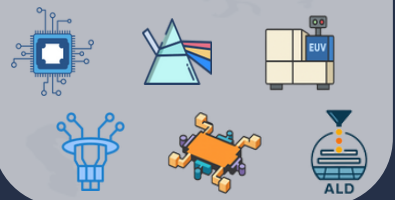
Quantum Pilot Lines

Competence centers

"Chips Fund"

Chips From The North, National Strategy (TIF)

Growth opportunities



Outcomes

1. Competitive R&D ecosystem
2. Workforce growth
3. R&D & site investments
4. Manufacturing investments
5. Ecosystem growth

FiCCC
Finnish Chips Competence Centre

Research

Tampere University
VTT
Åbo Akademi University
University of Oulu
University of Turku
Aalto University
University of Helsinki
University of Eastern Finland

Industries (With national interest)

FiCCC provides a full turnkey service model

Service palette that complements the needs of Finnish chip companies

Strong in tech

- Chip design expert advisory
- System design expert advisory
- Fabrication roadmap - from PoC to piloting

Supporting business success

- Partner Matching & Collaboration
- Access to funding and European opportunities
- Deep tech entrepreneurship and business development
- Talent support & Training for biz skill

FiCCC - When one door closes, we open the next one

An easy contact point – access all Finnish & EU semiconductor–photonics resources

Flexible: from quick advice to long-term project building and support

Meet us after the session or visit **www.ficcc.eu**

Follow us on LinkedIn!

CHIP HAPPENS FiCCC

Following the success from 2025, we are proud to present:

Nordic Chip Summit 2026

7–8 September 2026
Espoo, Finland

FiCCC – At your service

Pasi Pylväs

FiCCC Director
Tamlink

pasi.pylvas@tamlink.fi
+358 (0)50 4873 498

Elina Mielityinen

FiCCC Coordinator, Media Communications
Tamlink

elina.mielityinen@tamlink.fi
+358 (0)41 5021 606

Tomi Salo

Kvanttinova Oy
tomi.salo@kvanttinova.fi

Tapani Lähdesmäki

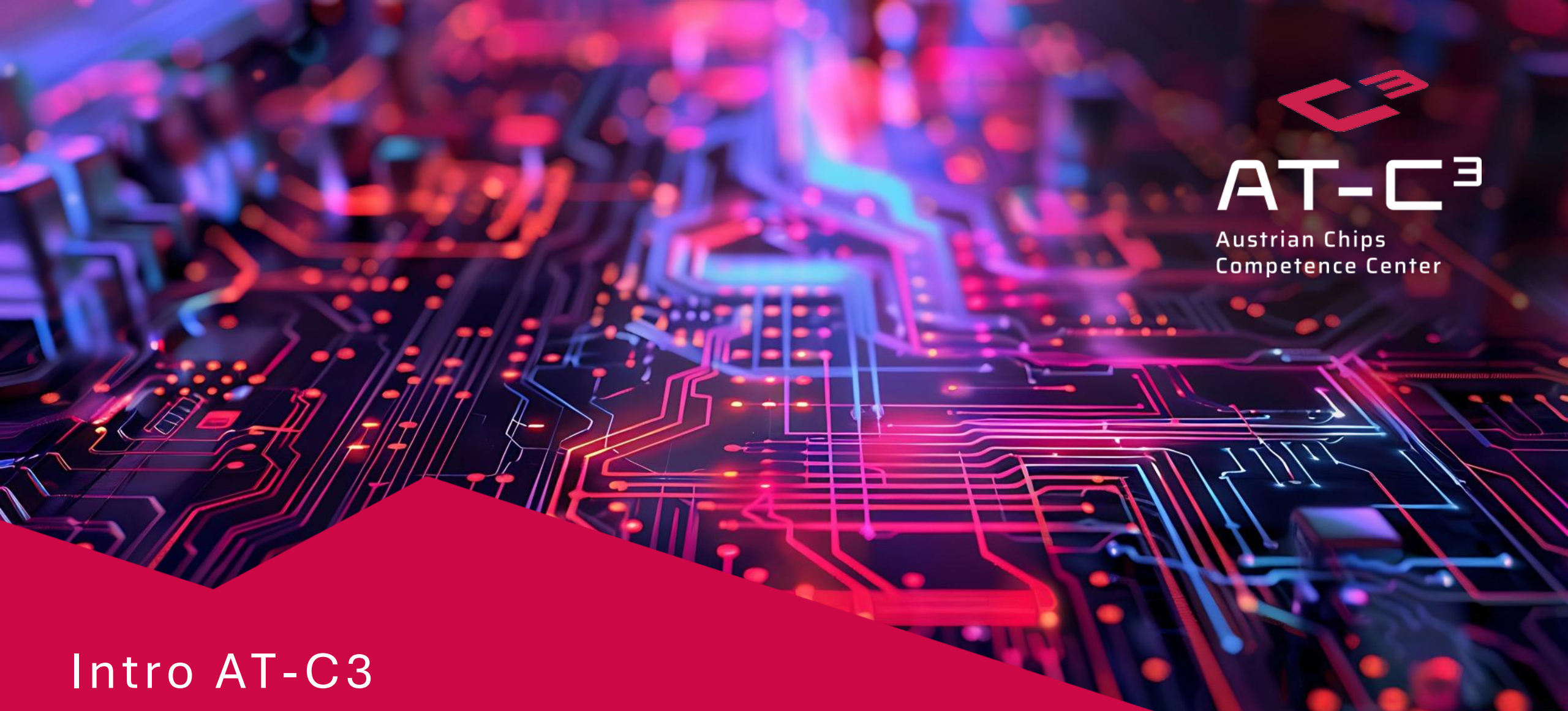
BusinessOulu
tapani.lahdesmaki@businessoulu.com

Jari Saukko

Tamlink
jari.saukko@tamlink.fi

Chips JU

BUSINESS FINLAND



Intro AT-C3

Borislav Hinkov

Chips JU
Co-funded by the European Union
The project is supported by the Chips JU and its members including top-up funding by the FFG.
FFG Promoting Innovation.
FTE NATIONALSTIFTUNG FORSCHUNG | TECHNOLOGIE | ENTWICKLUNG

Austrian Chips Competence Center AT-C³

Austria's Center for Chips Competences, Design & Pilot Line Access

Starting Date

- 1st of January 2025

Focus on four mayor pillars:

- Funding scheme for Start-ups/SMEs
- Skills & Training Courses
- Ecosystem support/build up in Austria
- European Network Access incl. Specialization

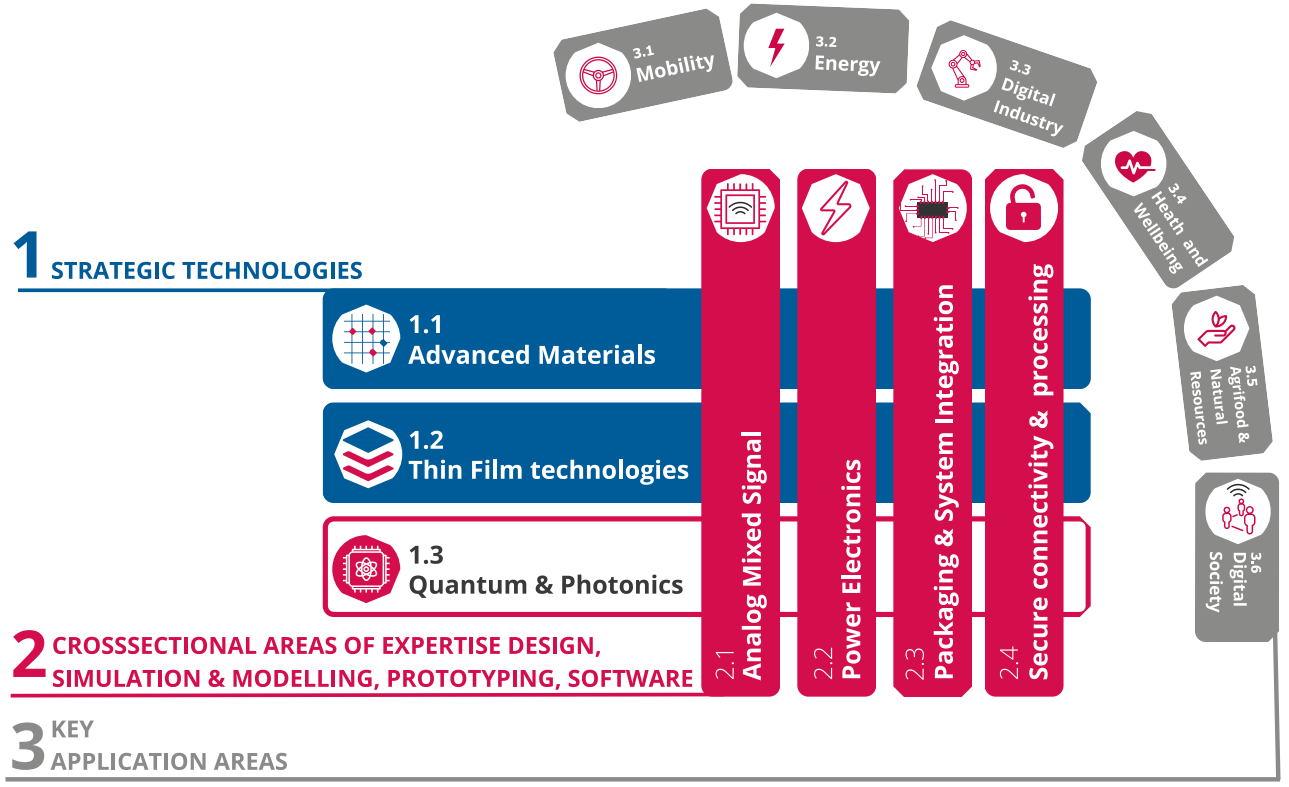
"One-Stop-Shop" for Chips Competences in Austria

- … along the Electronics & Software-Based Systems value chain
- for companies
- for research organizations
- focus on start-ups and SMEs

AT-C³ Objectives and Technologies & Skills Areas

Our Objectives

- Expand Austrians ESBS site & grow the European ecosystem
- Promote disruptive innovation & support high impact projects
- Enable Austrian companies to accelerate their development significantly
- Provide fabless companies with access to European foundry services
- Expand chips competences through skills training activities



AT-C³ Services

We **offer FUNDING**

- Accessible for Austrian SMEs and Start-ups
- Up to **80% funding** through ESTP projects covering:
  - Materials & Process Innovation
    Sustainable synthesis, lifetime prediction, and performance optimization
  - Chip Design & System Integration
    Consulting and supporting in chip and package design incl. electromagnetic compatibility and electrostatic discharge
  - Semiconductor Manufacturing
    Consulting and support in prototype manufacturing incl. redesign, assembly and test

We **provide ACCESS**

- Support in accessing the European Chip Design Platform
- Support in accessing the EU Pilot Lines
- Support in accessing Open Access EU Foundries

We **provide FREE SERVICES**

- Fully funded Skills & Training Programs starting from 2026
- Provision of financial expertise
- Access to EU Chips Fund
- Support in company valuations or co-investments, among other services

Co-funded by the European Union

The project is supported by the Chips JU and its members including top-up funding by the FFG.

FFG
Promoting Innovation.

FTE NATIONALSTIFTUNG
FORSCHUNG | TECHNOLOGIE | ENTWICKLUNG

Austrian Chips Competence Center

office@atc3.at

www.atc3.at

Project No. Chips JU: 101217532

Project No. FFG: FO999917171

CHIPNL Competence Centre

ChipNL Competence Centre.

Building on a holistic semiconductor value chain

www.cccnl.nl

CHIPNL Competence Centre

CCCNL consortium is a collaboration between key regions, building on a strong heritage

www.cccnl.nl

Co-funded by the European Union

Rijksdienst voor Ondernemend Nederland

BOM Catalyzing Change

BRAINPORT EINDHOVEN

CHIPTECH TWENTE

High Tech NL Share innovation. Shape tomorrow.

imec

Innovation Quarter

JePPIX Platform for Photonic Integration

oost nl

TNO innovation for life

We guide to capitalize on opportunities both nationally and internationally

The Netherlands have a leading role in

- **Equipment** (~85% of workforce): photolithography (ASML), atomic layer deposition (ASM), metrology (ASML & Nearfield)
- **IDMs/Electronics** (~5% of workforce): electronics (NXP), high-volume chip production (Nexperia), RF manufacturing (Ampleon)
- **Photonics** (~2% of workforce): from design to small scale production, assembly, testing and packaging

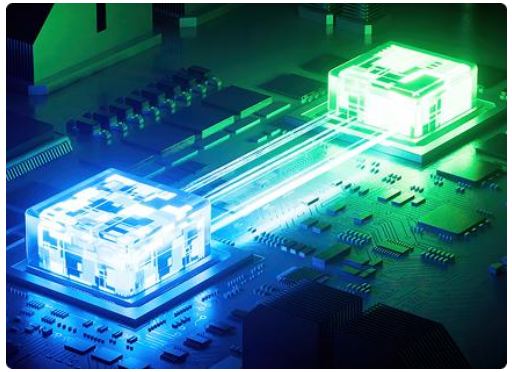
Value chain ecosystem of 300+ smaller companies

- A cluster of OEMs and suppliers such as VDL, Prodrive, Neways, NTS
- Knowledge institutes and talent development (TNO, IMEC, Holst, TU/e, UT, TU Delft)
- Promising start-ups (Axelara AI) and incubator vehicles (HighTech XL)
- Strong industry associations (HighTech NL, Chiptech Twente, etc)

ChipNLCC focuses on four key areas of expertise

Semicon Manufacturing Equipment

Technology for chip production such as lithography, etching and metrology, with Dutch leaders like ASML and ASM

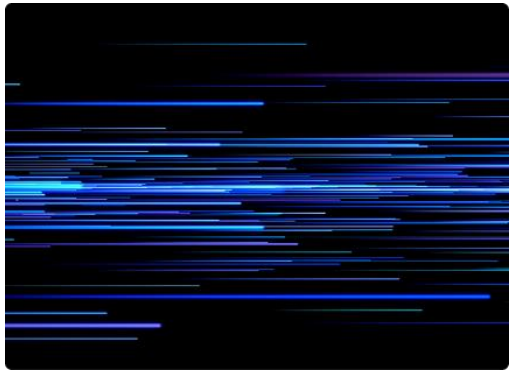


Chip Design

The design of integrated circuits for applications in fields such as automotive and medical technology

Heterogeneous Integration

The combination of different semiconductor components into powerful, compact systems for AI, 5G and medical devices



Photonics and Quantum Technology

Chips that use light for data processing, with applications in ultra-fast communication and advanced sensor technologies

CHIPNL Competence Centre

BD – Business Development
PM – Partnership Management
SCC – Supply Chain Coordination

Elly Zwartkruis
Managing Director

Rutger Holtzer
Talent Lead

Ron van der Kolk
BD Lead

Vera Janssen
SCC Lead

Peter-Jan Hendrikx
PM+Marcom Lead

Anna Paar
PM – Zuid & West NL

Jeroen van de Put
BD – Zuid NL

Ruben Ottenheijm
Business Intelligence

Nick Hol
Talent – Zuid & West NL

Ivan Stojanovic
BD – Oost & Noord NL

Tasfia Kabir
SCC Photonics

Anneke Bekx
Event Manager

Mark Luke Farrugia
PM – Oost & Noord NL

Albert Vullers
BD – West NL

Judith van der Ven
Marcom Manager

Wouter van Kooten
Talent – Oost & Noord NL

Jacqueline Schardijn
BD – West NL

Thiago Raddo
SCC Electronics

Natasja Thaels
Marcom Manager

Marieke Vizee
Marcom Manager

Bart van ‘t Ende
Investment Mgr

CHIPNL Competence Centre

Chip CC Services

Together, we strengthen the position of Europe in the global semiconductor market

Services offered by ChipNL Competence Centre

- Supply Chain & Technology
  - Support for product development, testing and production
- Business Growth & Funding
  - Guidance on investment opportunities and growth-related funding programs
- Talent & Skills
  - Access to specialized training, education and matchmaking with industry
- Promotion & Internationalisation
  - Boosting visibility and expansion within the European network

We guide on opportunities nationally and internationally.

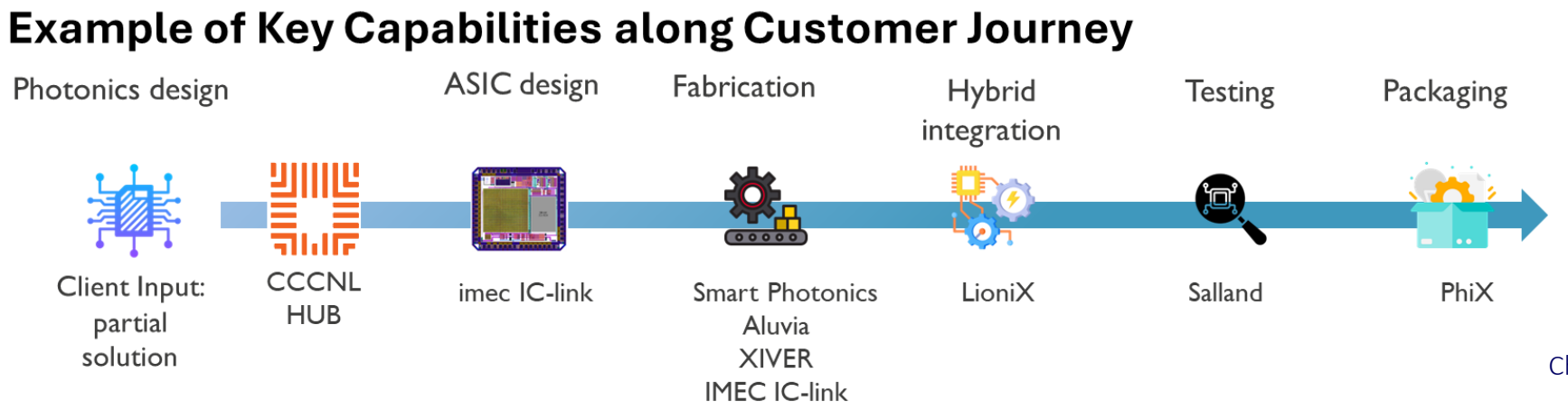
Promising innovations require infrastructure and facilities that are accessible to SMEs

ChipNL Competence Centre offers services to gain access to infrastructure such as cleanrooms, pilot lines, and shared testing facilities in the Netherlands and beyond.

- Referral to pilot lines
- Referral to EU Chips Design Platform and Competence Centres
- Referral to third parties and solution providers

ChipNL Competence Centre – Third parties

1. Chip design for both electronics (IMEC IC-link) and photonics (Epiphany)
2. Foundries & cleanrooms various fabrication technology platforms
   - Only country in Europe with advanced doping technology (Aluvia)
   - Only independent pure-play MEMS foundry in Europe (XIVER)
   - Access to TSMC manufacturing via VC aggregator (IMEC IC-link)
3. Testing capability for high-volume testing (Salland)
4. Packaging capability for high-volume photonics (Phix) and electronics packaging (Neways)
5. Machining manufacturer from metrology (NIF), lithography (SCIL) to thin-film deposition (DEMCON)



Access to European Pilot Lines

FAMES (Fully Depleted SOI Applications)
Coordinator: CEA-Leti, France
Focus: Development of low-power, fully depleted silicon-on-insulator (FD-SOI) technologies
Applications: Targets non-volatile memories, RF, and 3D integration
Goal: Enable energy-efficient, scalable chip solutions for next-gen electronics

nanoIC (Nanoelectronics IC)
Coordinator: imec, Belgium
Focus: Sub-2nm and beyond front-end-of-line chip manufacturing
Applications: High-performance computing, AI, mobility, energy, and healthcare
Goal: Bridge the gap between research and production for ultra-advanced nodes

APECS (Advanced Packaging and Heterogeneous Integration)
Coordinator: Fraunhofer-Gesellschaft, Germany
Focus: Chiplet integration, 3D packaging, and heterogeneous system design
Applications: AI, IoT, quantum tech, and secure electronics
Goal: Provide open-access prototyping, testing, and packaging services for startups and SMEs

WBG (Wide Band Gap Materials)
Coordinator: CNR, Italy
Focus: Development of wide band gap semiconductors like SiC and GaN
Applications: Power electronics, electric vehicles, renewable energy systems
Goal: Improve efficiency, thermal performance, and power density in next-gen devices

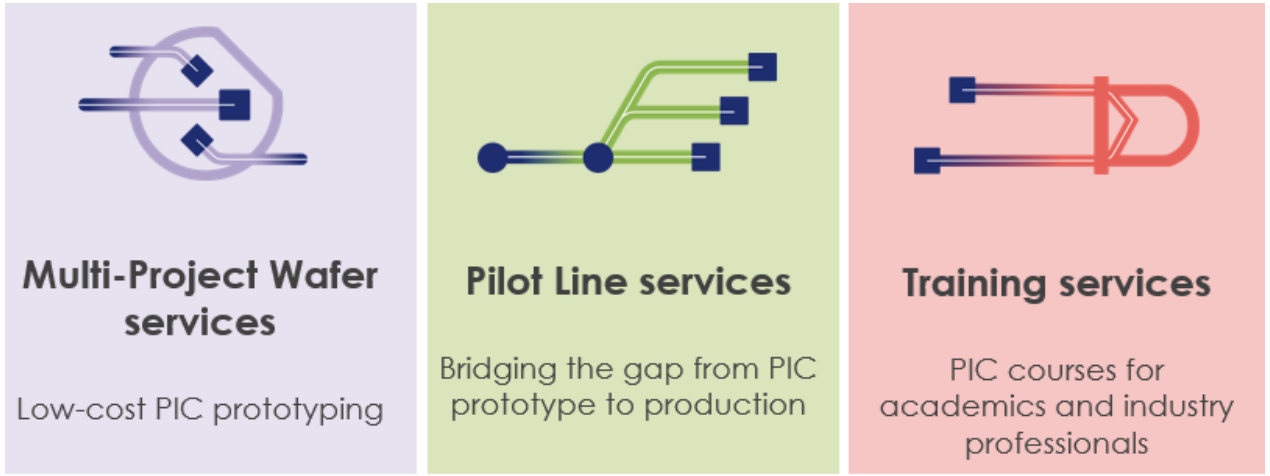
EU-Platform for Photonic Components & Circuits

Photonics and Quantum Photonics

Uniqueness: an open-access European platform that facilitates the development and industrialization of photonic integrated circuits (PIC). JePPIX operates under an open-access framework, enabling the development of photonics solutions

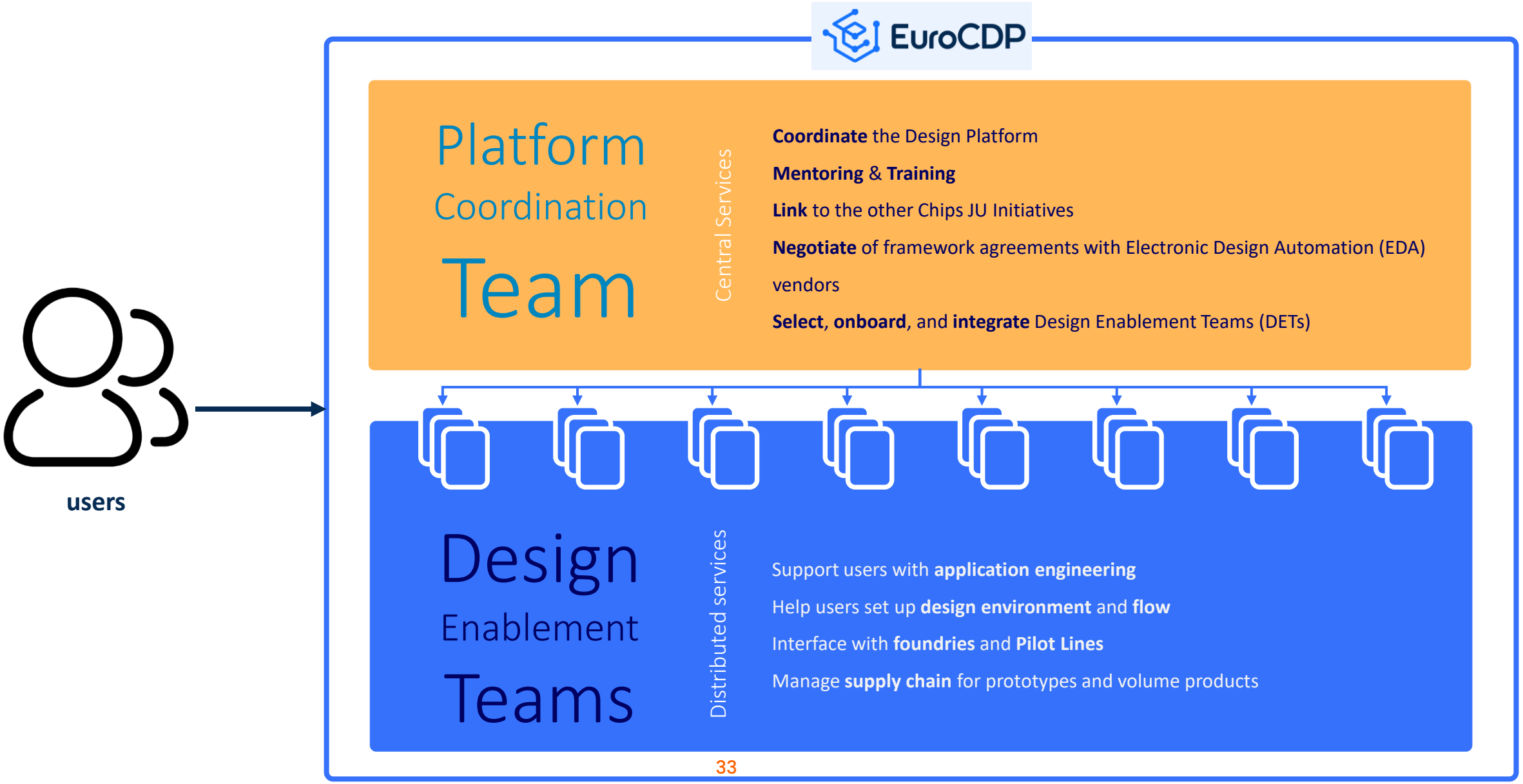
Advantages:

- Brokerage services for prototyping such as MPWs of PICs in different technology platforms (InP, SiN, membrane)
- Brings together the European PIC supply chain



www.jeppix.eu/

EuroCDP at a glance



EU – Chip design - User journey

CHIP DESIGN JOURNEY

Fabless use-case

Industrial solution

central cloud

EDA framework | IPs | Manufacturing | Tests | Debug

Pathfinding	Design	Prototyping	Ramp-up	Production
Ideation	Design flow	MPW shuttles	Private shuttles	Scalability
Training	Expertise	Assembly	Qualification	Operational support
Sandbox	IP sourcing	Test	Supply Chain	Secure Supply Chain
EuroCDP + CCC		EuroCDP		DETs

incubation — acceleration

orientation program — startup programs — product and volume

Quantum Sensing Testbed & Quantum Lab

TNO Quantum Sensing Testbed

Uniqueness: an open-access testbed facility to accelerate the development and market adoption of quantum sensors. It focuses on sensors based on nitrogen vacancy centers in diamond, enabling detection of magnetic fields, currents, rotation, and temperature

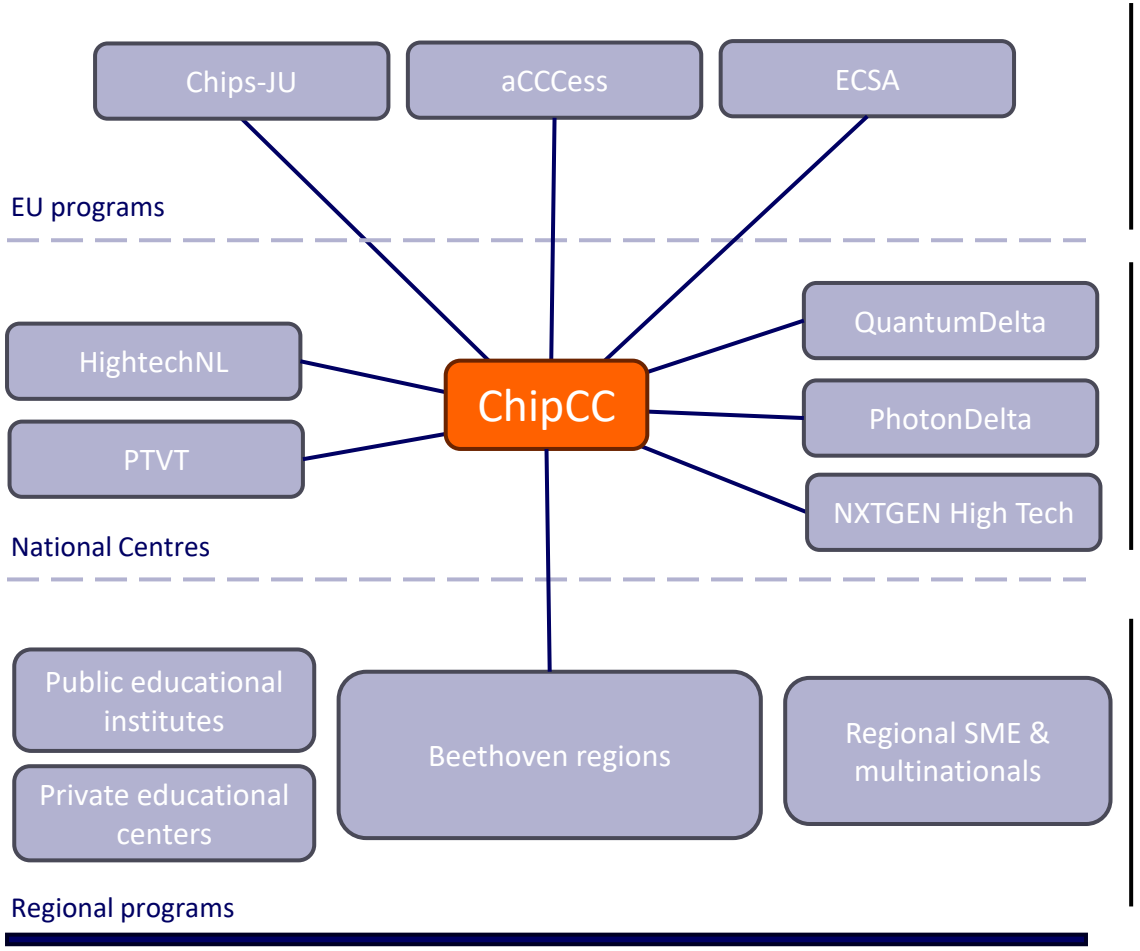
www.tno.nl/en/technology-science/facilities/quantum-sensing/

TNO Quantum Application Lab

Uniqueness: a public-private R&D initiative to help companies to develop applications of quantum computing. Companies assess the real-world potential of quantum technologies. Companies reduce investment risks. The Lab covers sectors such as aerospace, energy, agriculture, healthcare, and finance

www.tno.nl/en/technology-science/facilities/quantum-application-lab-qal/

ChipNL CC as spider in the Dutch semiconweb



- Translates Dutch semiconductor talent best practices to EU and back
- Central hub for national semiconductor coordination
- Collaborates with regional initiatives for maximum impact
- Fulfilling a brokerage role between industry and education and training institutions
- Development of a Skills Development Platform
- Talent Attraction and Retention Programme
- Capitalising on synergies with other Talent and Skills initiatives

Regional Funding opportunities

Equity
VC funds (incl. ROM funds)
National VCs
Private equity

Loans
Banks
Oost NL funds, bv Vroege Fase Financiering
High Tech Fund (Utwente)

Grants
EFRO (OP/Oost, test and demonstrate and innovate)
MIT

CHIPNL Competence Centre

Your Dutch contacts

Coördinator	Elly Zwartkruis	e.zwartkruis@brainportdevelopment.nl
Supply Chain Coordinator	Thiago Raddo	thiago.raddo@imec.nl
Talent & skills	Rutger Holtzer	r.holtzer@brainportdevelopment.nl
Business growth & funding	Ron van der Kolk	ron.vanderkolk@oostnl.nl
Supply chain & technology	Vera Janssen	vera.janssen@tno.nl
Promotion & internationalisation	Tom van der Dussen	tom.vander.Dussen@hightechnl.nl

www.cccnl.nl