

The Fabless Business Model and Opportunities for Finland

Chip Happens! Virtual Morning Coffee

Online

28.8.2025

Toni Mattila

Head of Microelectronics, Photonics and Quantum (HW Tech) – "The CHIPS Campaign"

European Co-operation and Funding Opportunities

1. Chips JU

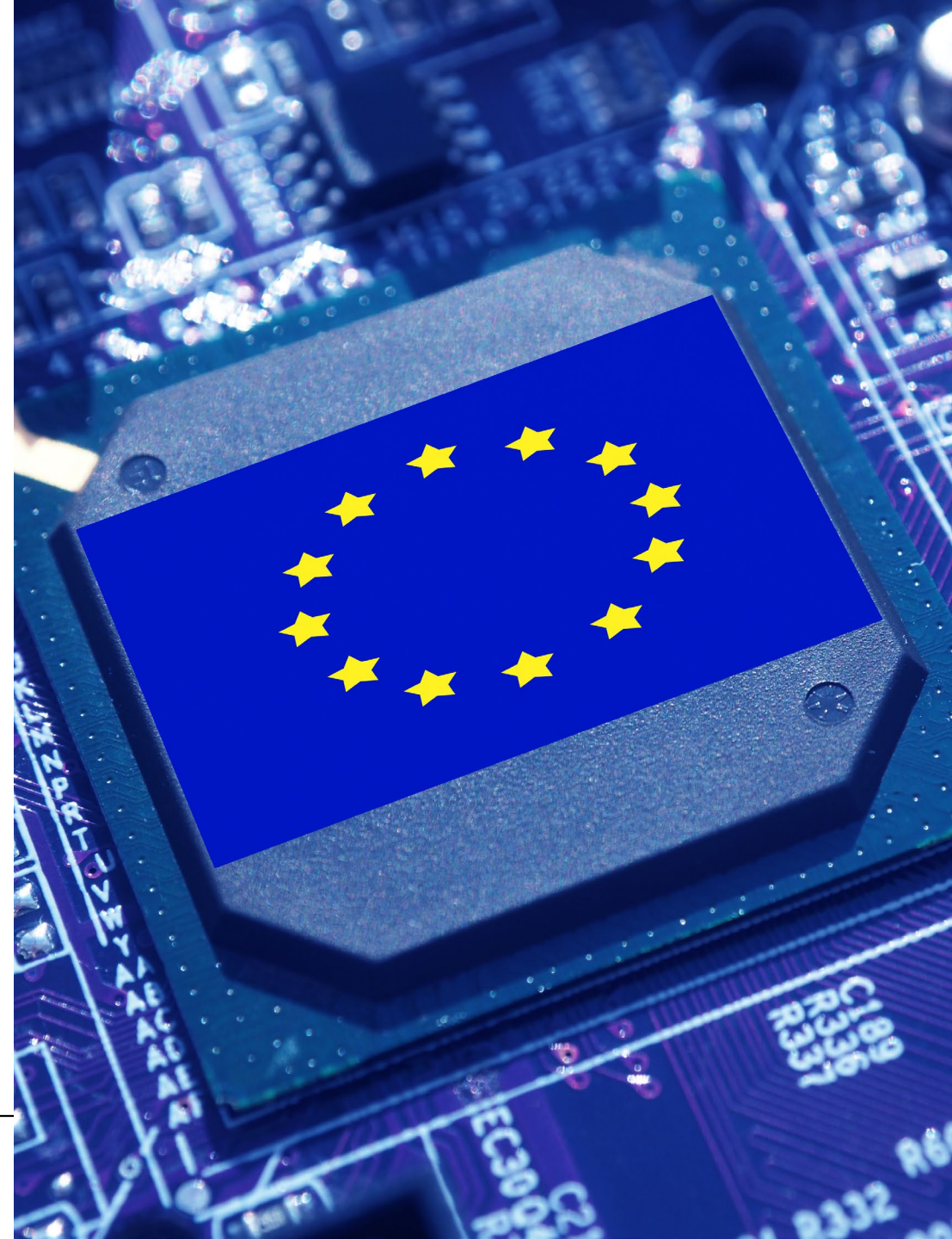
- Calls in 2025
 - Initiative calls:
 - Low-power Edge AI Chips, DL Sep 17
 - Accelerator for Advanced Strained SOI Substrates, Nov 20
 - Electronic Components and Systems Research & Innovation (ECS R&I)
 - R&I cooperation between EU and Japan, DL Sep 17
- 2026 calls announced in late 2025
 - EF ECS meeting, Dec 3 – 4, in St. Julian's, Malta

2. Eureka

- Globalstars
 - Call with Taiwan DL: Aug 29, 2025
- Xecs – Call 5: Matchmaking Oct 9, Riga, Latvia
 - Project Outline DL: Jan 22, 2026
 - Full Project Proposal DL: April 6, 2026

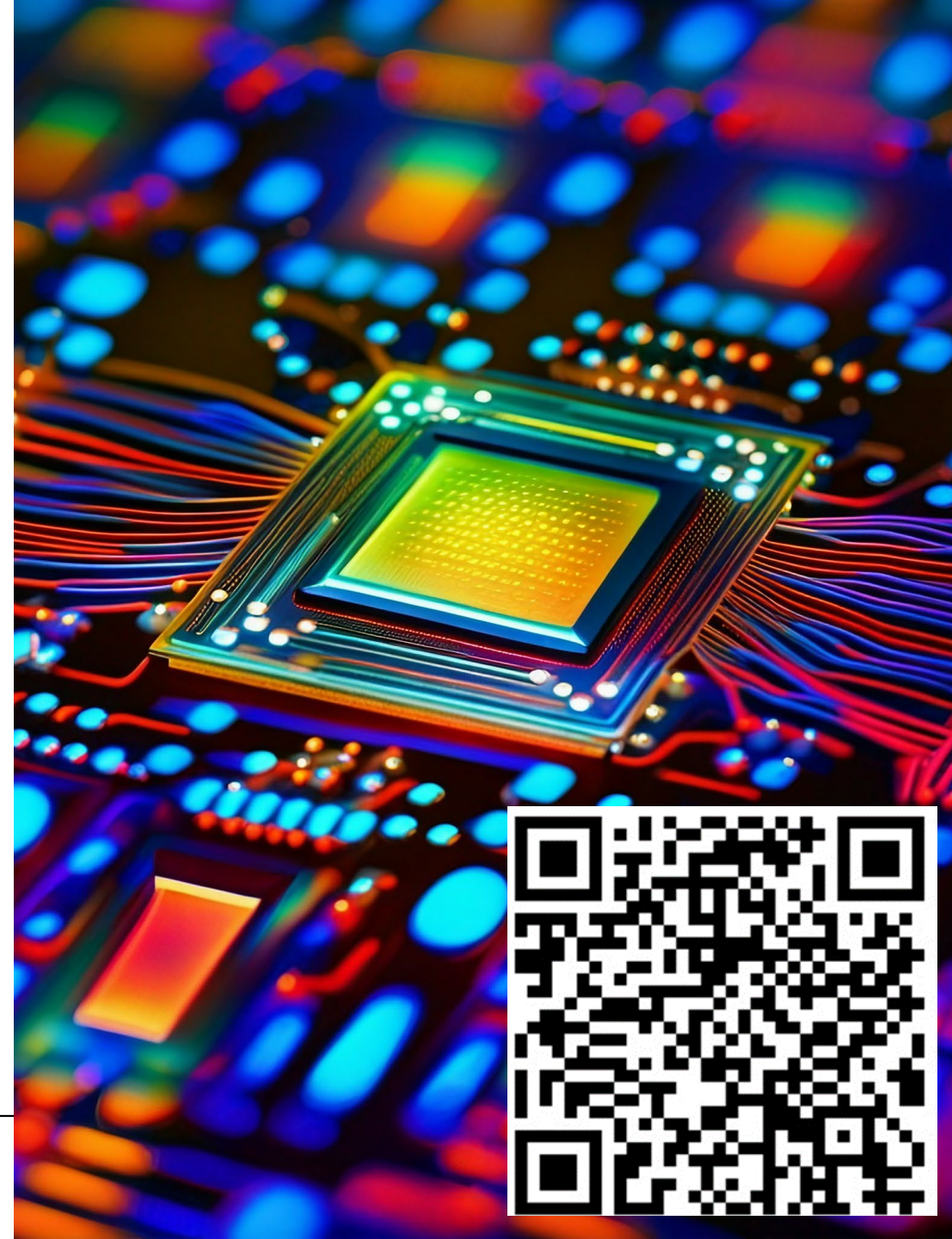
3. Horizon Europe – Cluster 4 (and 5)

- Cluster 4 - Digital, Industry, and Space
 - Call deadlines in October, 2025



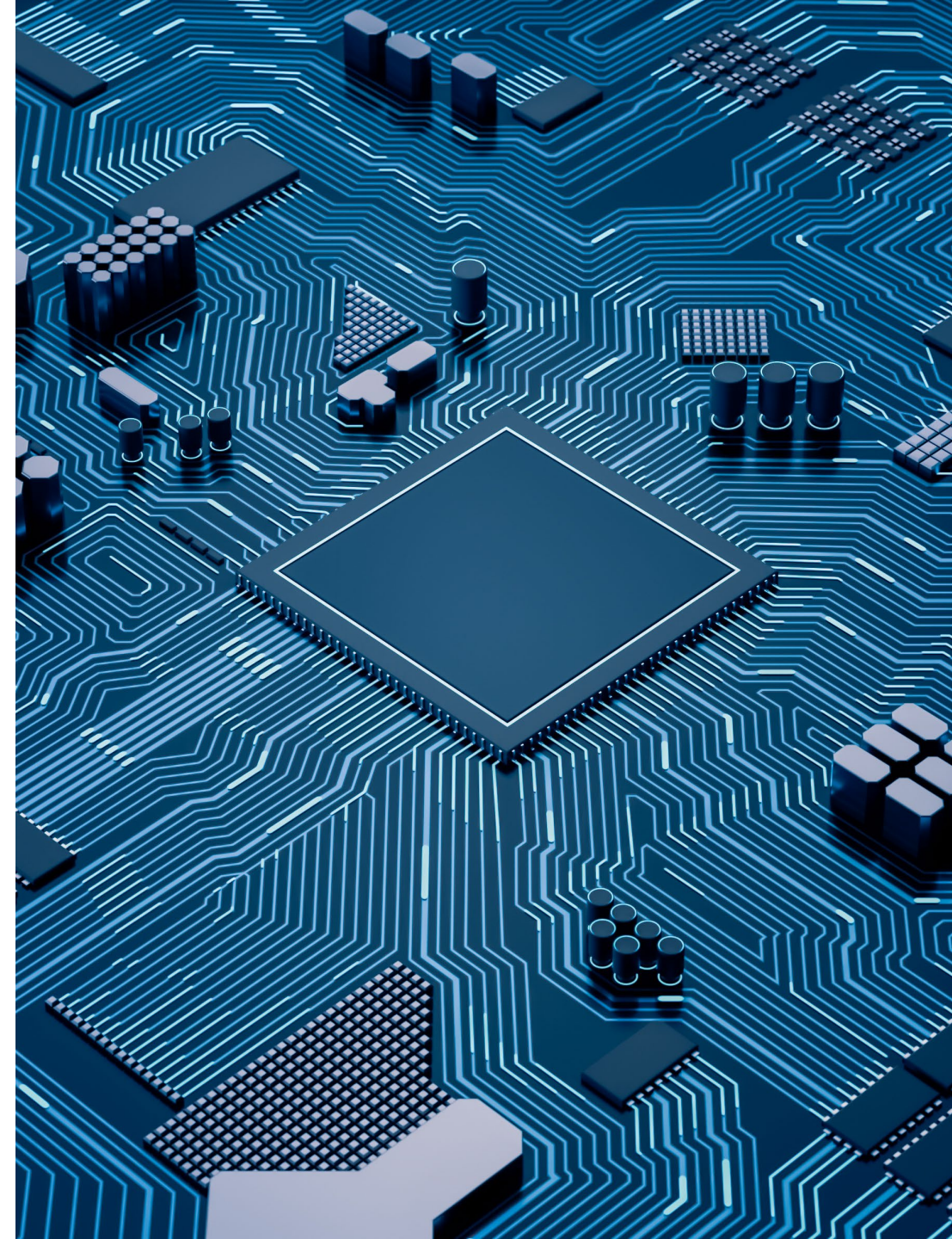
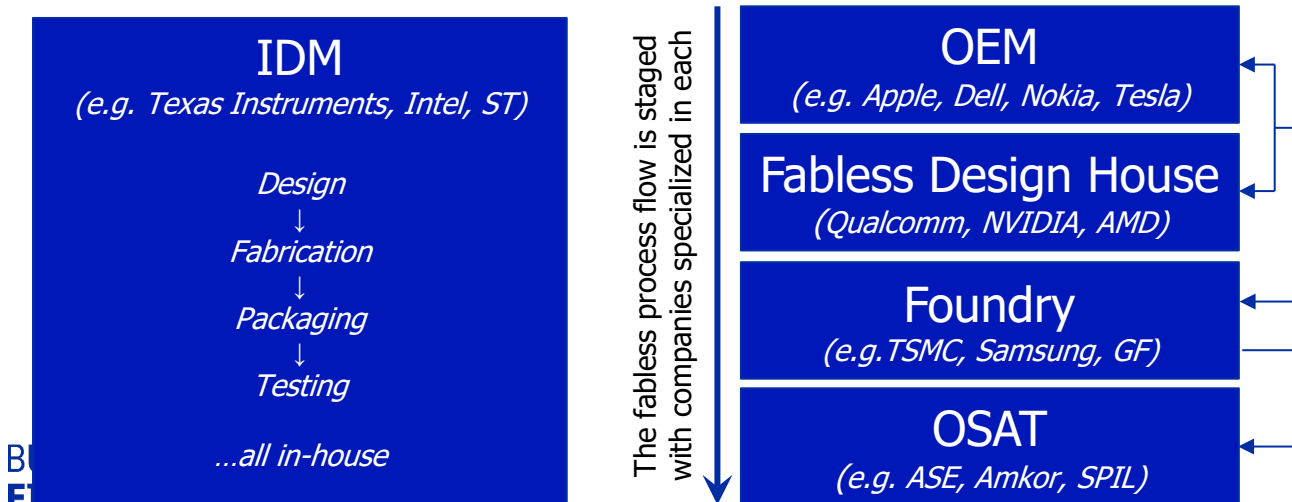
Some Upcoming CHIPS Events

- Sep 1–4: BF Delegation to Berlin & Dresden, GER
- Sep 16–18: 25th [European Microelectronics & Packaging Conference \(EMPC 2025\)](#), Grenoble, FRA
- Sep 31: Nordic Chip Collaboration Webinar
- Oct 2 – 3: [Deep Tech Business Summit \(NORDEEP\)](#), Espoo
- Oct 6 – 9: [BF Delegation to the UK](#)
- Oct 27 – 31: [BF Delegation to Japan](#)
- Nov 11: "Suomen sirualan 2. kokoontuminen"
- Nov 18 – 21: SEMICON Europa, Munich, GER
- Nov 19: Slush – "Semiconductor focused side event"
- Sep 9-11, 2026: The 11th [IEEE ESTC Conference](#), Helsinki, FIN



The Fabless Business Model

- Integrated Device Manufacturers (**IDM**) designed *and* fabricated chips
- In the **Fabless Business Model** *design* and *fabrication* steps are separated and performed by companies specialized in each
 - Developed in the early 1980s as process technologies were advancing rapidly and foundries became very expensive to build and operate
 - Taiwan Semiconductor Manufacturing Company (TSMC) was the first pure-play foundry (est. 1987)



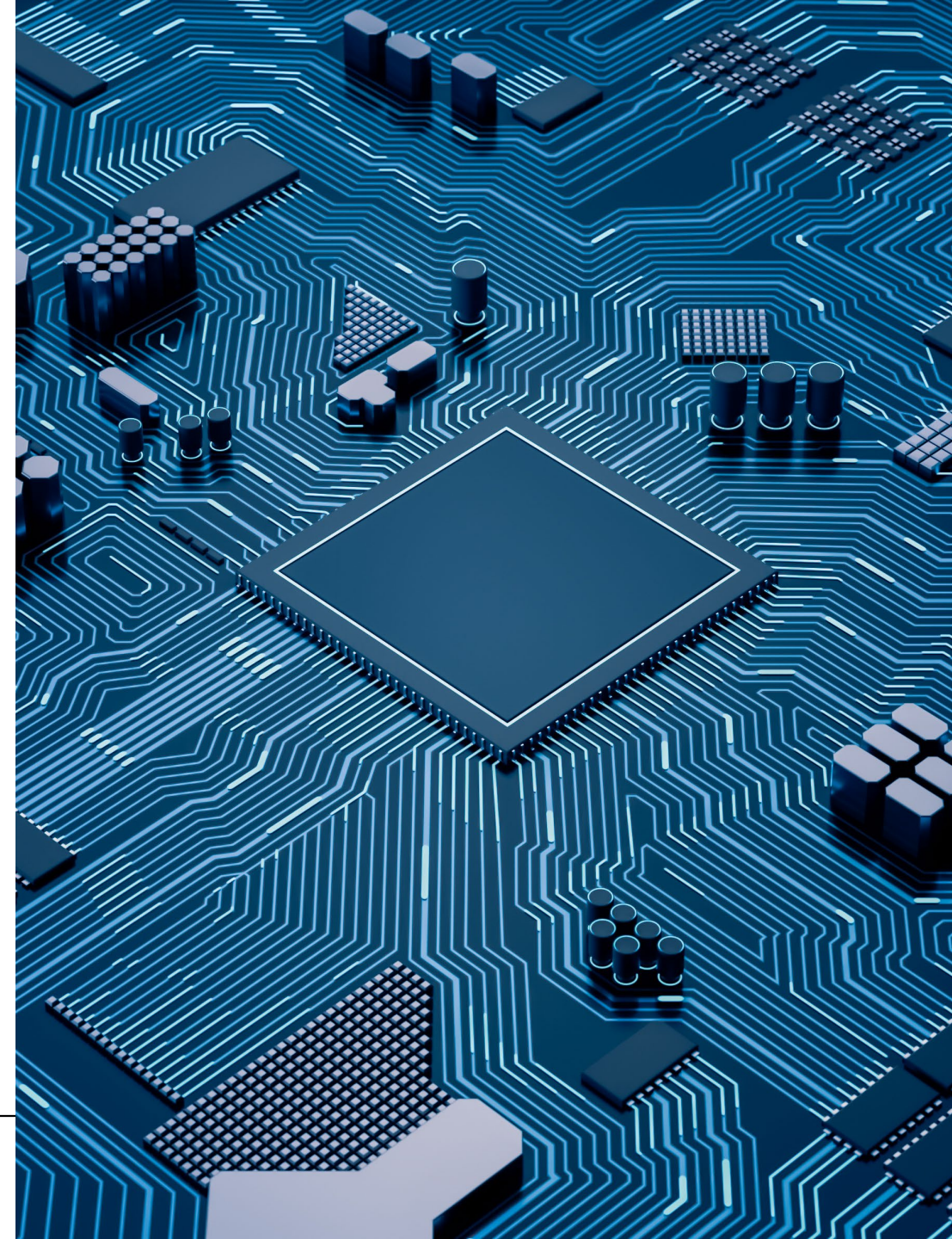
The Fabless Business Model

Advantages

- + Lower capital expenditure – no need to build fabs
- + Faster innovation – focus on design
- + Flexibility – multiple foundry partners

Disadvantages

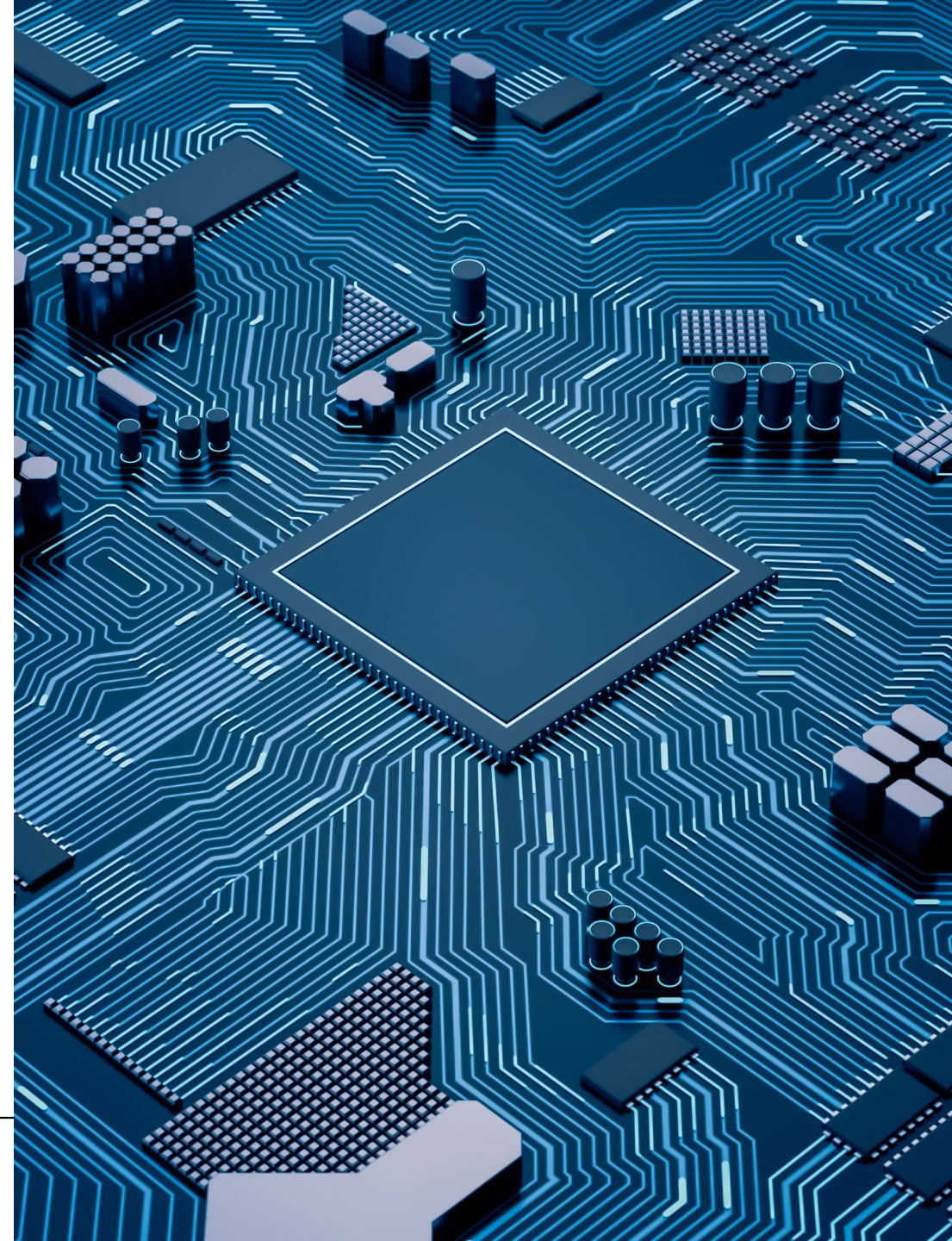
- Dependency on foundries
- Capacity constraints during shortages
- Geopolitical concentration of advanced fabs
- Technology risks (incl. control of pricing, IP, etc)



The Fabless Business Model

Opportunities for Finland

- Start-ups and SMEs benefit from low capital intensity
 - Companies can grow into global scale without the need to invest into fabrication
- Model is based on the idea of specialization, but chip designers are a scarce resource
 - Opportunity to leverage design knowhow both in education and creating new companies
- The fabless business model is an integral part of the European Chips Act
 - Pilot lines, Design Platform (incl. EDA tools), Competence Centers, and the Chips Fund
 - Being a member of all EU pilot lines is an opportunity to develop also *fabrication* capabilities



BUSINESS
FINLAND

THANK YOU FOR YOUR ATTENTION



Toni Mattila, Ph.D. (Tech), Adj. Prof.

Head of Microelectronics, Photonics and Quantum (HW Tech) – *"The CHIPS Campaign"*

Business Finland

Toni.Mattila@businessfinland.fi