

EUROPEAN CLUSTER CONFERENCE 2020

10-11 NOVEMBER 2020 | BRINGING TOGETHER THE CLUSTER COMMUNITY

Ecosystem session: ELECTRONICS

Clusters strengthening ecosystems



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Electronics

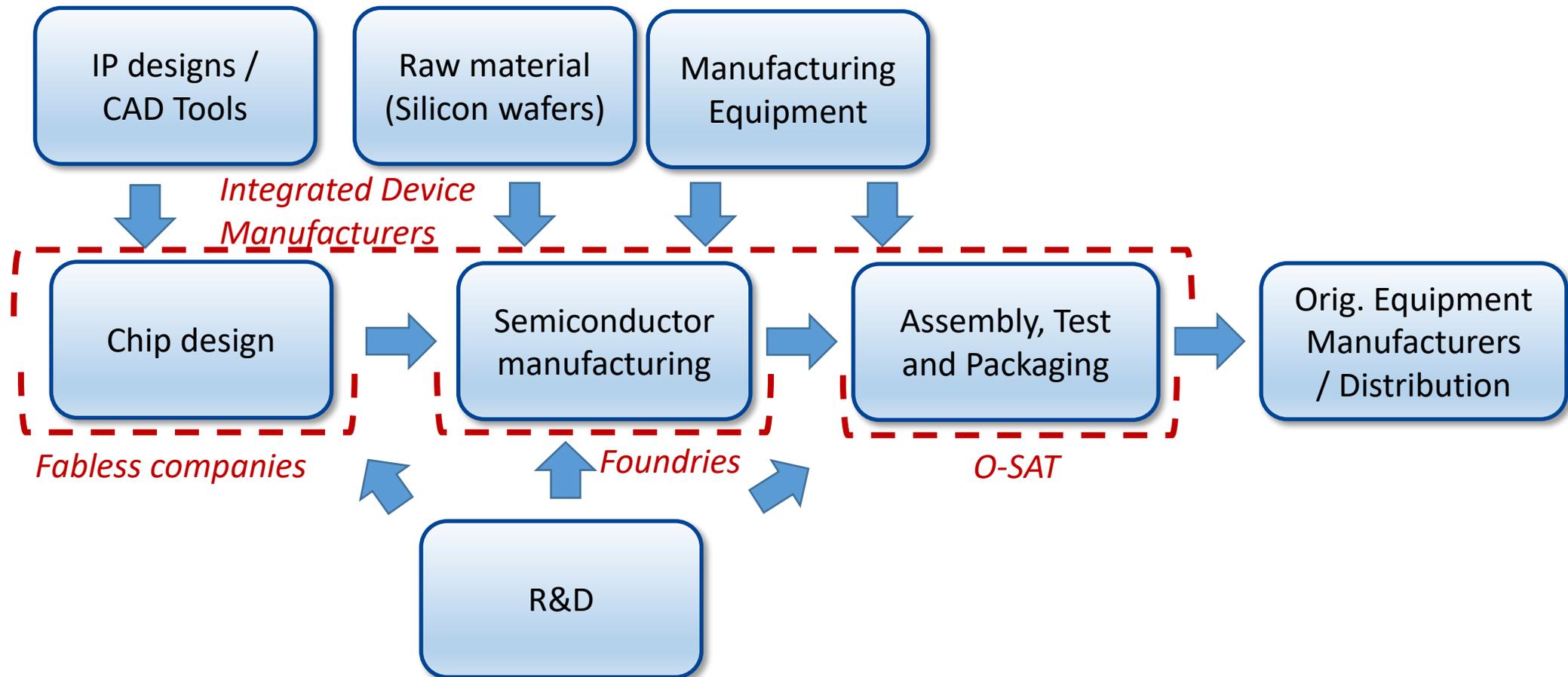
Clusters strengthening ecosystems

Francisco Ibanez Gallardo - Deputy Head of Unit Competitive Electronics Industry at DG CNECT, European Commission



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Electronics Components - Value-chain

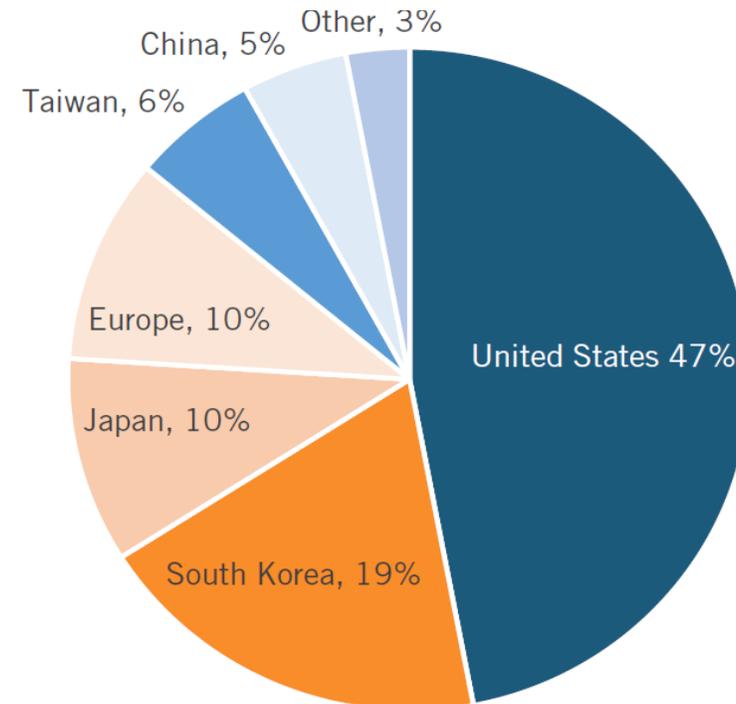
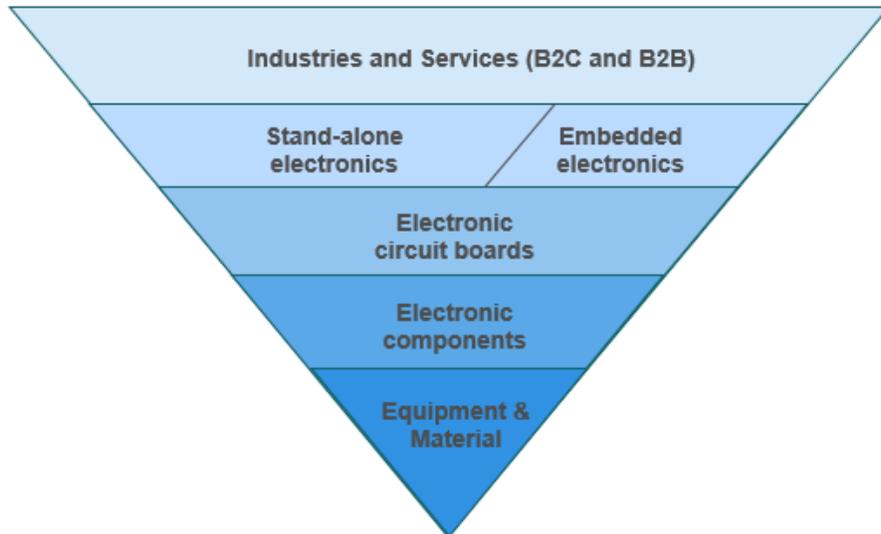


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Microelectronics

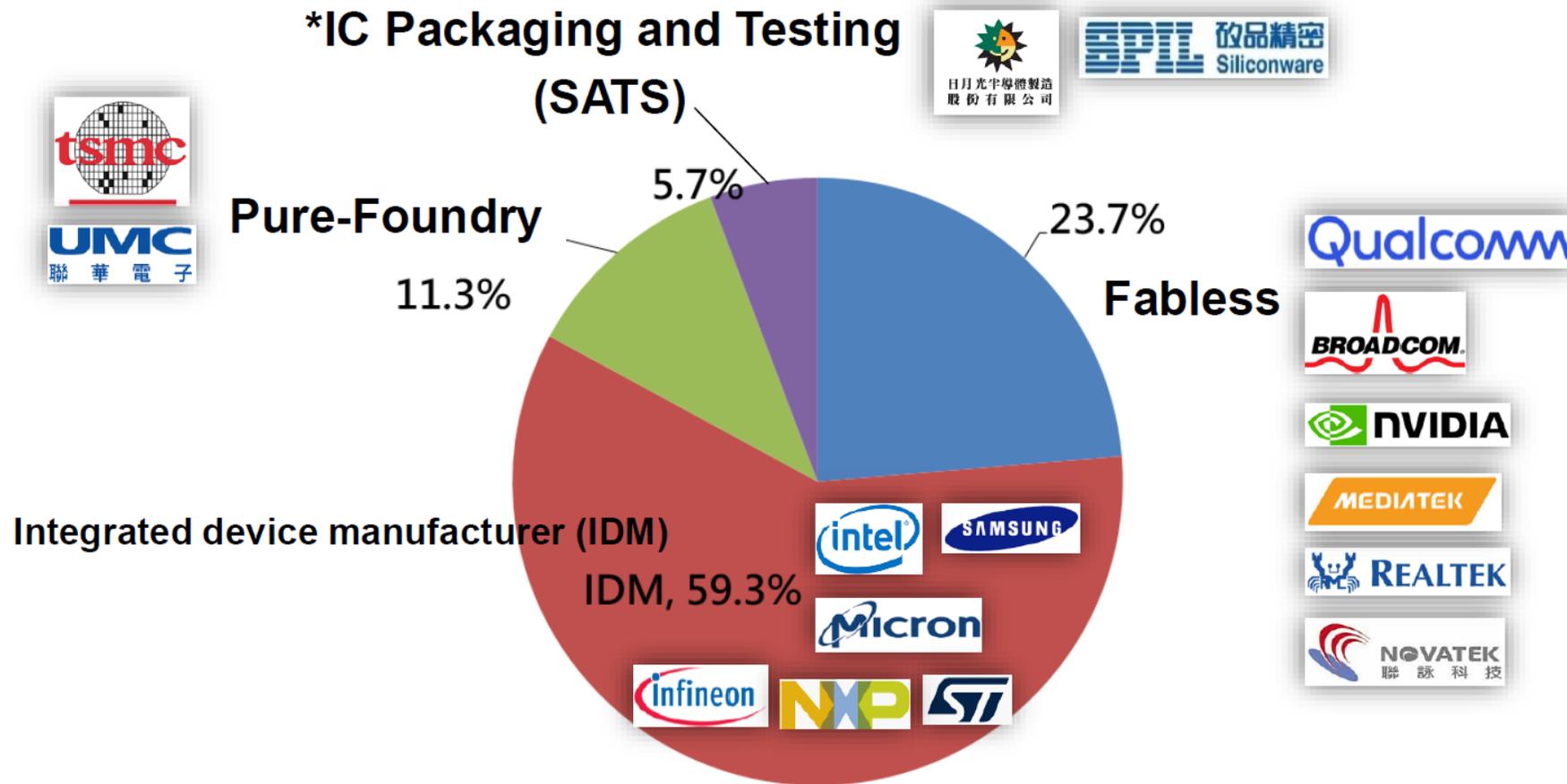
- Est. 2020 ~420B€; slowdown 2019-2020
- CAGR previous 15 years: 8%
- Enabling technology serving all industries
- EU market share ~10%



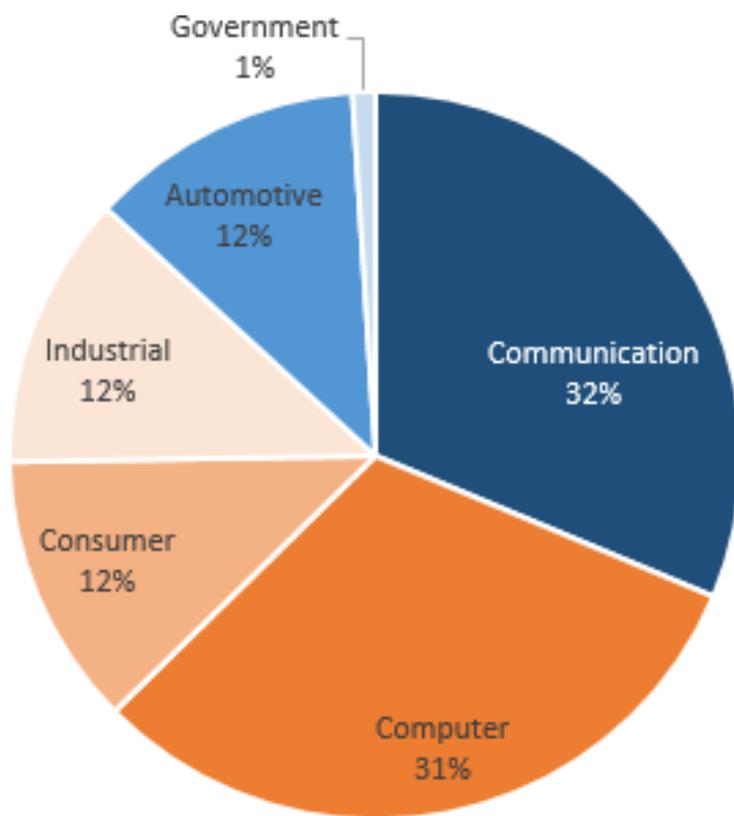
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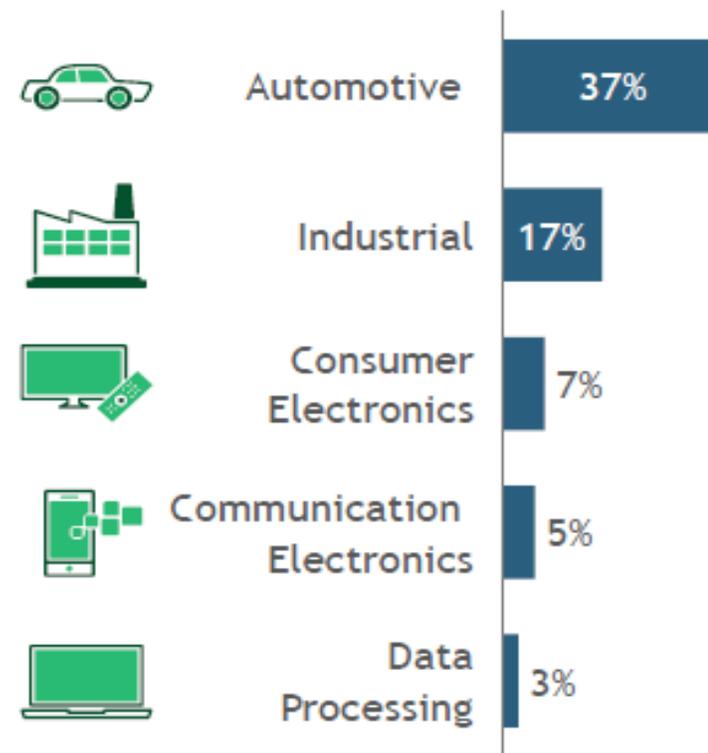
Electronics



Electronics



Europe share by end-application



Electronics. Summary

The value of electronic systems produced in Europe directly enabled by semiconductor components is 494 B€.

The semiconductor component industry is worth 412 B€ (2019) globally; in terms of revenues, EU headquartered companies account for 10% (i.e., around 40 B€).

550k jobs directly related to the design, manufacturing and market of electronics components and systems

Europe strengths in specific areas: automotive, industrial, aerospace, health

Europe dependence in processors (general purpose, graphics), user-programmable devices (FPGA),...

Emerging opportunities: Edge-computing, Artificial Intelligence,...

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Clusters & Ecosystems
breakout session

« Electronics »

Hervé Floch
CEO



THE PHOTONICS & MICROWAVE ELECTRONICS COMPETITIVENESS CLUSTER IN NOUVELLE-AQUITAINE



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Key figures (since 2005)



280 Members
(205 companies)



International offices
(China, USA + Japan in 2021)



A team of 28 people



40 events/ year



1137 projects labeled for €1.7 billion
542 projects financed for €916 million



3,000+ direct jobs
10,000+ indirect jobs
created



100+ start-ups
created



50+ companies established
(exogenous development)



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A unique position in Europe and an extended range of applications/markets



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ELECTRONICS

Value chain and European independence



1. Materials
(Semiconductors, Dielectrics, Organics, Ceramics)



3. System design
Architecture, High-level Simulations



5. Fabrication
PCB boards, Si-wafers III-V wafers



7. Production tests
Benches, ATE, Application tests



9. Production
Release for Production



2. Components, Devices
(Si, GaN, SiC, RLC, diodes)



4. Circuit design, Simulations
Board, Integrated circuits, Electronic circuits



6. Assembly Packaging
3D packaging SMD lines



8. Qualification
Life test, stress test, EMC, Thermal cycling



 *EDA simulation tools*

 Level of independence
5 = no need to go outside EU

RLC = Resistors, Inductors, Capacitors
PCB = Printed Circuit Board
SMD = Surface Mount Devices
ATE = Automated Test Equipements
EMC = ElectroMagnetic Compatibility

ELECTRONICS

ALPHA-RLH strengthening the European electronics industrial ecosystem and economy



- **Technological independence / sovereignty**

Supporting SMEs in ECSEL and IPCEI programs (for instance NANO-2022 projects)

- **ITAR-free electronic components & equipments design**

Contributing to guidelines towards SMEs

- **Support in electronic manufacturing services (EMS)**

Promoting innovative SMEs' expertise to the regional ecosystem and beyond

- **Accelerating use of 4.0 technologies in SMEs (Robotics, IoT, IA, Cybersecurity)**

Organising events like 'The IoT Journeys by ALPHA-RLH'

- **Accelerating the innovation transfer towards industry**

Bringing together research laboratories, technology transfer centers and industry



3D-Packaging technologies