

COVID-19: the semiconductor industry's silver lining

**Emir Demircan, Director of Advocacy and Public Policy
SEMI Europe**

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CONNECT - COLLABORATE - INNOVATE - GROW - PROSPER

SEMI connects the global electronics supply chain

1,000+
STANDARDS

20+
TECHNOLOGY
COMMUNITIES

170+
PROGRAMS

2,300+
MEMBER
COMPANIES

2,300+
PROGRAM
HOURS

5,000+
VOLUNTEERS

GLOBAL ADVOCACY
WORKFORCE DEVELOPMENT
TECH COMMUNITIES
MARKET INTELLIGENCE
STANDARDS/EHS
THOUGHT LEADERSHIP
EXPOSITIONS/CONFERENCES

7
SEMICON

1.3 MIL
PEOPLE
SERVED



COVID-19 Impact

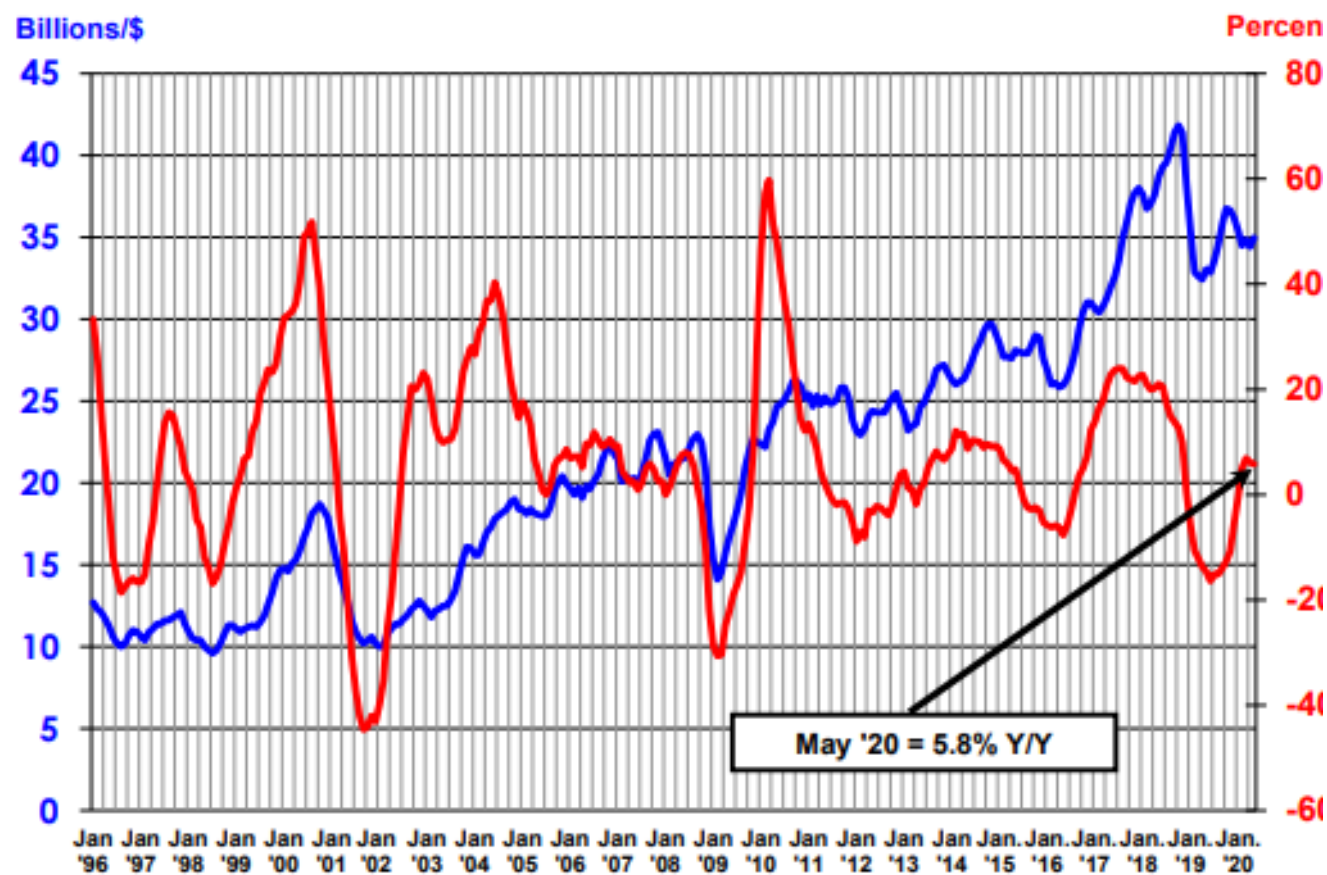
- 2019-20 **slowdown years due to geopolitical tensions**
- COVID-19 impact on semiconductors:
 - Weaker consumer and automotive electronics
 - Stronger cloud, server, digital and medical
- Semiconductors crucial to keep the world economy engine running
- Industry engagement with the Commission and Member States
 - Semiconductors as **essential business / cross-border mobility**
- Most fab operations have continued
- **Novel smart and secure digital** solutions: remote maintenance...
- New opportunities for Europe: **Edge AI, medical...**



- **Global Semiconductor Sales Increase 5.8 Percent Year-to-Year in May; Annual Sales Projected to Increase 3.3 Percent in 2020, 6.2 Percent in 2021.**

Worldwide Semiconductor Revenues

Year-to-Year Percent Change



Source: WSTS

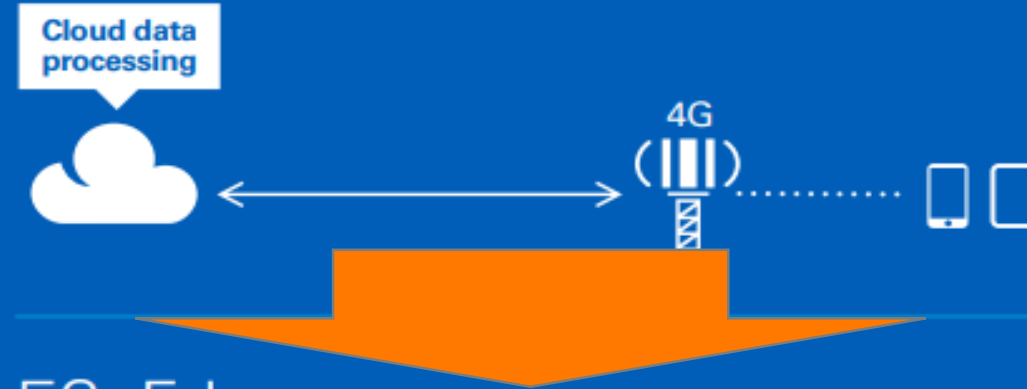
Revenue Y/Y % Change

Edge AI: Europe's leadership in global data battlefield

- Shift from cloud to edge | The way data is treated ->
 - **80% vs 20% in 5 years (edge vs center)**
- With COVID-19; digital, IoT, tracking / monitoring are rising
- **Edge AI** - key for smart manufacturing, connected healthcare & intelligent transportation (**main EU end-users**)
- Europe to capitalize on **software, embedded electronics, sensors, power electronics**
- By 2024, **Edge AI chips** to exceed **1.5 billion units**, CAGR 20% vs 9% for overall semiconductors
- **5G+Edge**: \$517b market by 2023

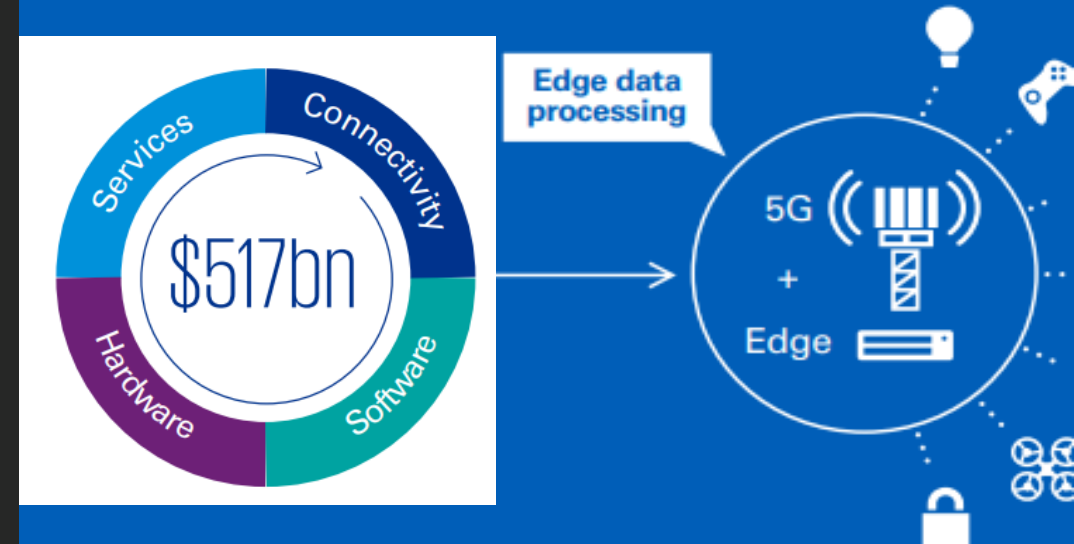
4G+Cloud

Processing and storage in a single, centralized location



5G+Edge

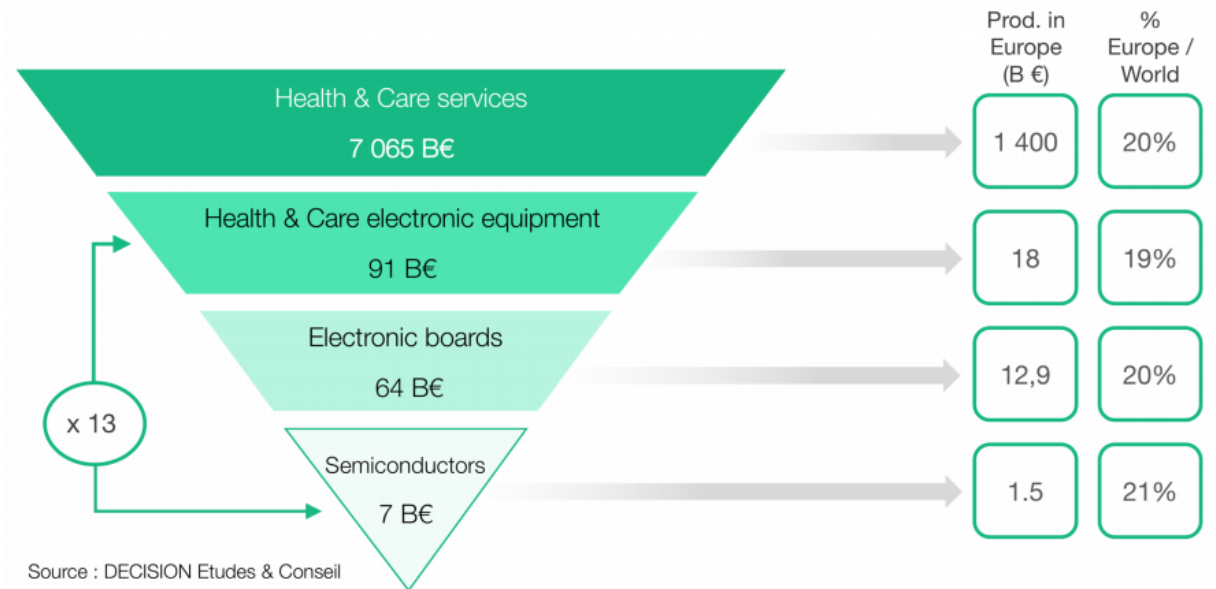
Primary processing and storage moves closer to support high bandwidth devices and time-sensitive data



Medical electronics: Europe's key strength

- EU produces **21% of global medical electronics**
- Increased demand X-ray machines, ventilators, digital testing & diagnostic equipment, telemedicine
- Chips for medical segment to grow by **6%**
- Medical electronics is **pivotal to strengthen EU resilience against future pandemics**

Worldwide Health & Care electronics value chain in 2017



Source: Omdia

Work-from-home, e-learning, online shopping,
home entertainment, video streaming, VR / AR...



Digital life

- **Accelerated digitization**
 - Increased data use **by 47%**
 - Increased Internet use by **by 70%**
 - Increased video streaming **by 12%**
- Increased requirements in bandwidth & processing
- **238%** surge in cyberattacks:
 - **“Trusted Electronics”** will be on the rise!

Electronics enabling digital life

Covid-19, trade tensions and decoupling...

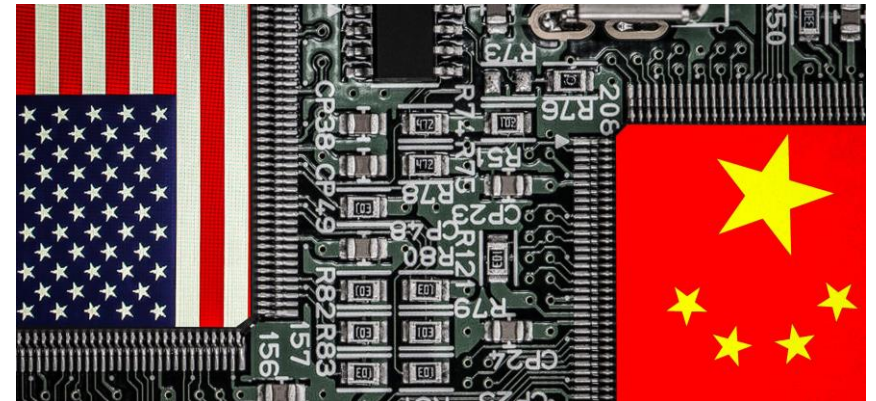
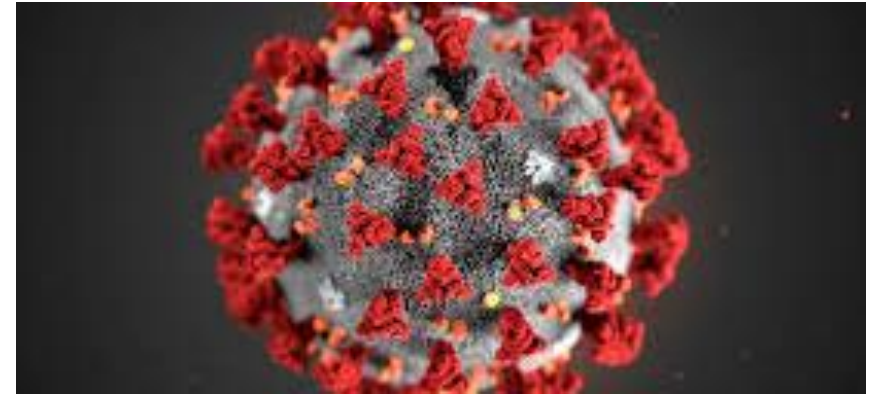
Changing semiconductor geopolitics

Short-term

- Maintain **critical technologies ownership** in Europe / strengthen FDI screening

Long-term

- Reinforce **Europe's technological autonomy**
- Establish **strategic value chains**, built on **global supply chains**
- Coherent EU, MS and industry strategy towards **accelerated RD & manufacturing (Made in Europe)**



Europe's Strategic Electronics Ecosystem

IoT
Applications



RTOs



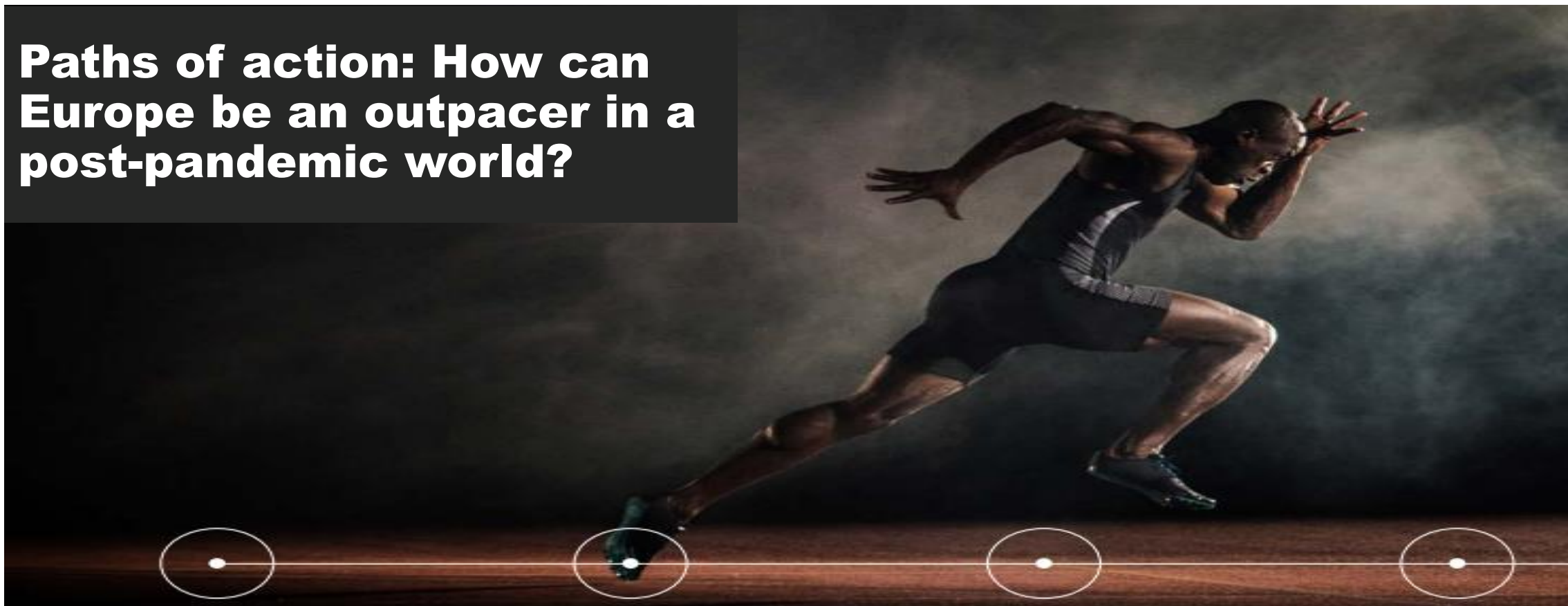
Suppliers



Design &
Manufacturing



Paths of action: How can Europe be an outpacer in a post-pandemic world?



Edge AI

Testing &
Experimentation

Increased market
share

Advanced
Skills



Summary

- Microelectronics is crucial to keep Europe and global economy running
- Seize upcoming data opportunities to be an outpacer in post-COVID-19
- Establish strategic value chains in Europe, built on global alliances
- Coherent EU, MS and industry strategy towards accelerated RD & manufacturing (Made in Europe)
- Europe is strategically positioned to lead the digital age,
 - faster implementation is needed

Thank you!