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# MICROCHIPS AND EUROPE’S STRATEGIC AUTONOMY – a view from Germany

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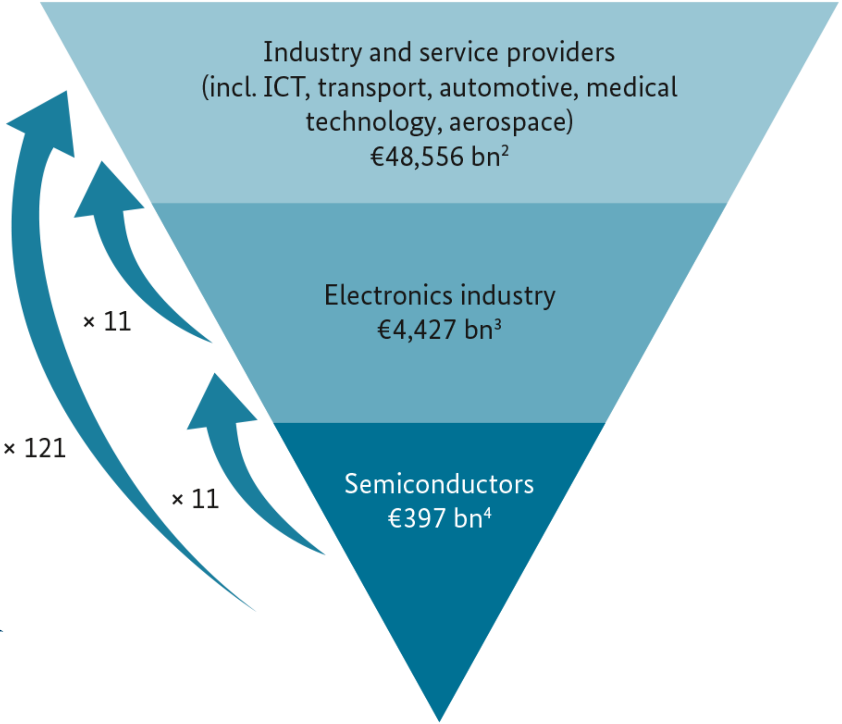
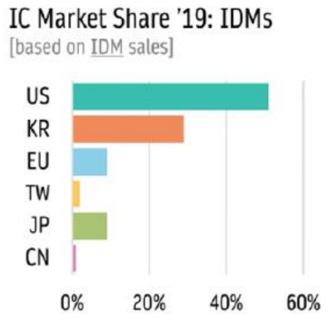
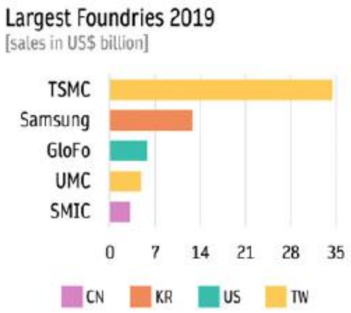


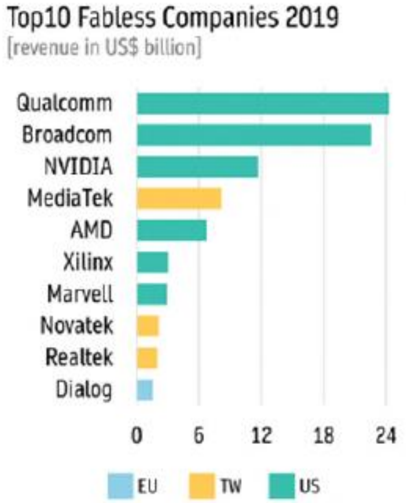

huge dependancy

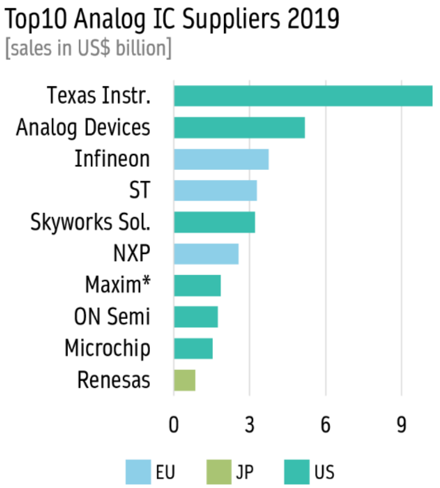
huge leverage

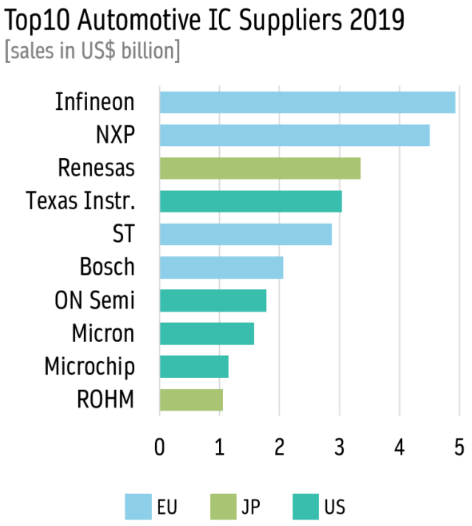
# Examples of the semiconductor value chain



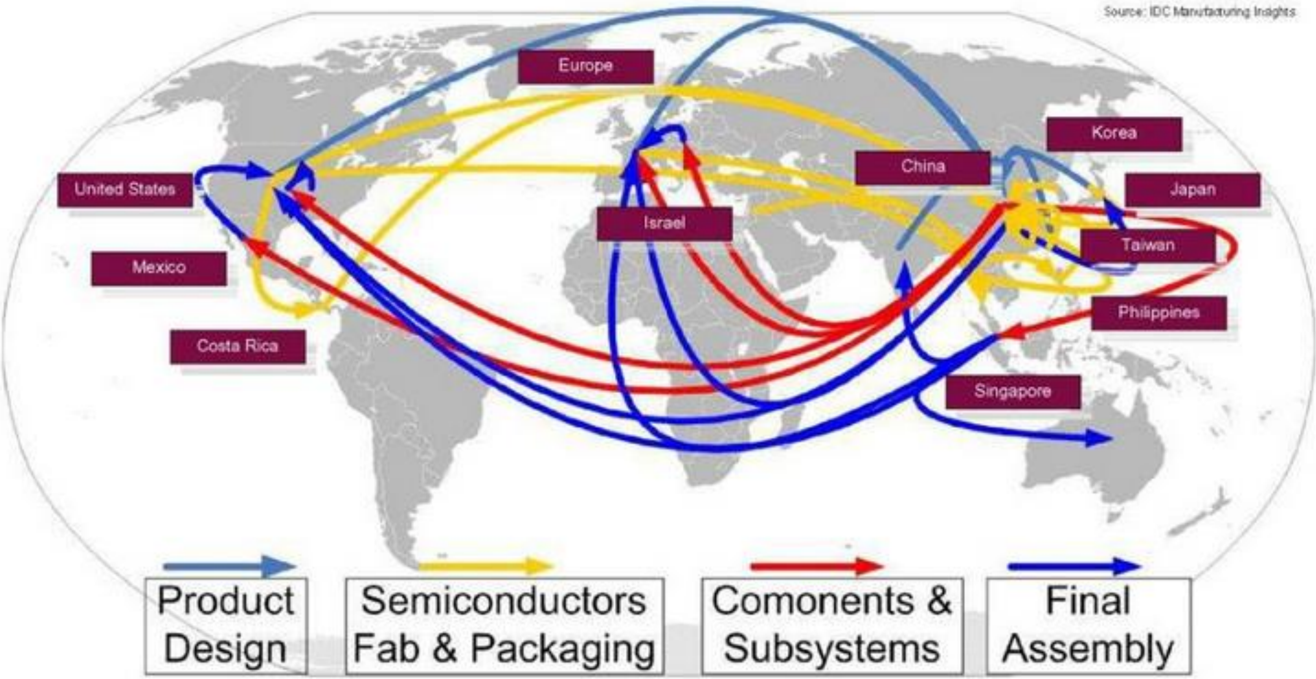




Source: Jan-Peter Kleinhans & Nurzat Baisakova, The global semiconductor value chain, 2020

# Semiconductor value chain




Source: IDC manufacturing insights

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# EU: strengths and weaknesses

<u>Leading</u>

- power electronics
- smart system integration
- EUV-technology
- Industry 4.0 for chip manufacturing

<u>Competitive</u>

- science and research
- security electronics
- chip-design / EDA
- advanced packaging

<u>Dependent</u>

- memory chips
- high performing processors /accelarators
- US-IPR
- chip manufacturing nodes < 22 nanometer

$\Rightarrow$ Europe in delicate situation

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# EU: strengths and weaknesses – what can we do?

**Leading – keep the position**
- power electronics
- smart system integration
- EUV-technology
- Industry 4.0 for chip manufactuiring

**Competitive – push further**
- science and research
- security electronics
- chip-design / EDA – priority !
- advanced packaging – strategic !
- Green-ICT - new

**Dependent – differentiated efforts**
- memory chips – nothing
- high performing processors /accelarators – gain sovereignty by chip-design first
- US-IPR – gain sovereignty by investing in RISC-V (open source)
- chip manufacturing nodes < 22 nanometer – subsidies to attract non-EU investors

# 3 options for more sovereignty

Option 1 „strategic patience“
boost innovation in/from Europe (e.g. KDT, IPCEI, EU Chips Act) and develop the EU ecosystem

Option 2 „new orbit“
attract non-EU investments *plus* Option 1

Option 3 „disruption“
attract non-EU investments *only* (without Option 1)