GLOBAL COMPONENT AVAILABILITY UPDATE

Hanno Septer | Group Sourcing Lead

#InCaprocks

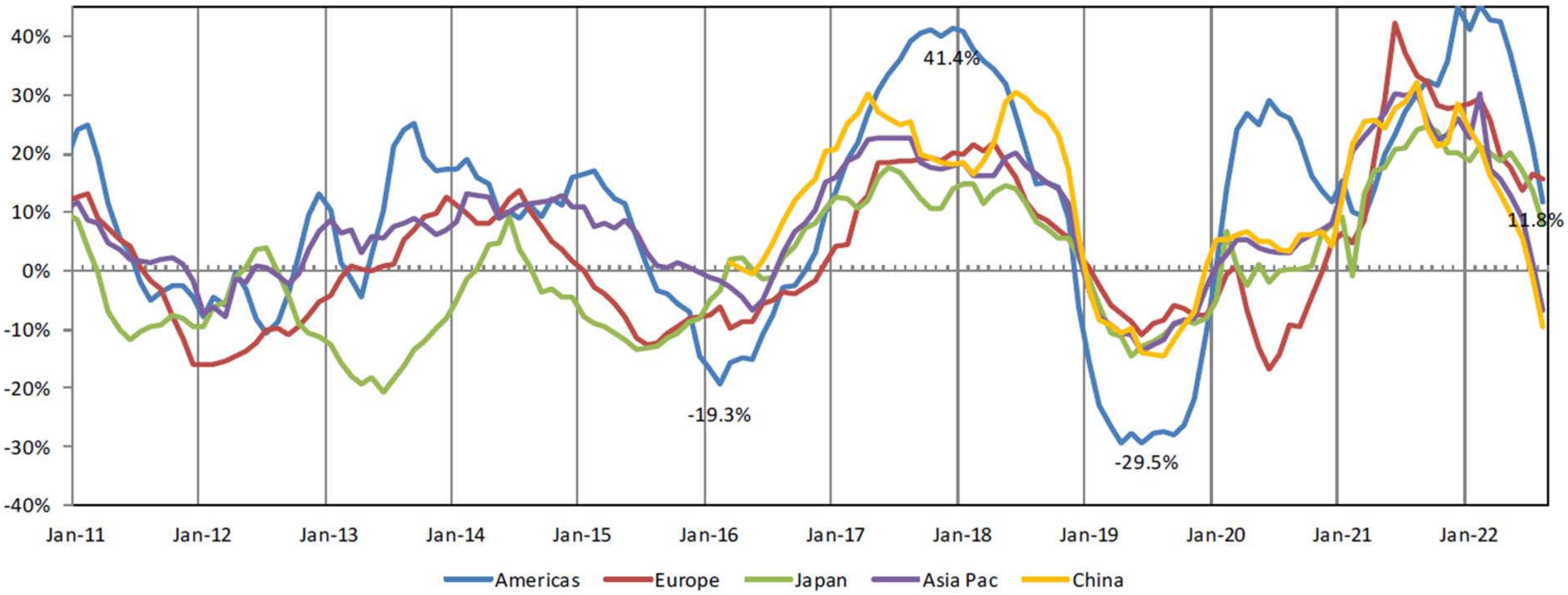
HANNO SEPTER - GROUP SOURCING LEAD

- From 1993 Arrow Electronics
  Several roles
- From August 2022 Incap Corporation
  Group Sourcing Lead

SEMICONDUCTOR INDUSTRY CHARACTERISTICS

GROWING INDUSTRY, BUT CYCLICAL BUSINESS

Yoy growth in monthly billings 2011 - 2022



Source: Semiconductor Industry Association (SIA) -3 month rolling average billings

HIGHLY CONCENTRATED MARKET

TOP 10 manufacturers 55% of total market volume

2021 WW Semiconductor Revenue by Supplier TOP10 suppliers drive 55% of Total

Worldwide semiconductor revenue were $595bn in 2021, an increase of 26.3% from 2020

2021 Rank	2020 Rank	Vendor	2021 Revenue	2021 Market Share (%)	2020 Revenue	2020-2021 Growth (%)
1	**2**	Samsung Electronics	73 197	12,30%	57 181	28,00%
2	**1**	Intel	72 536	12,20%	72 759	-0,30%
3	**3**	SK Hynix	36 352	6,10%	25 854	40,60%
4	**4**	Micron Technology	28 624	4,80%	21 780	31,40%
5	**5**	Qualcomm	27 093	4,60%	17 664	53,40%
6	**6**	Broadcom	18 793	3,20%	15 754	19,30%
7	**8**	MediaTek	17 617	3,00%	10 988	60,20%
8	**7**	Texas Instruments	17 272	2,90%	13 619	26,80%
9	**10**	NVIDIA	16 815	2,80%	10 643	58,00%
10	**14**	AMD	16 299	2,70%	9 665	68,60%
		Others (outside top 10)	**270 354**	**45,40%**	**214 982**	**25,80%**
		Total Market	**594 952**	**100.0**	**470 889**	**26,30%**

HIGHLY CONCENTRATED MARKET

TOP 10 Customers consume 42% of total supply

Top 10 Companies by Semiconductor Design TAM, 2021 (Millions of U.S. Dollars)

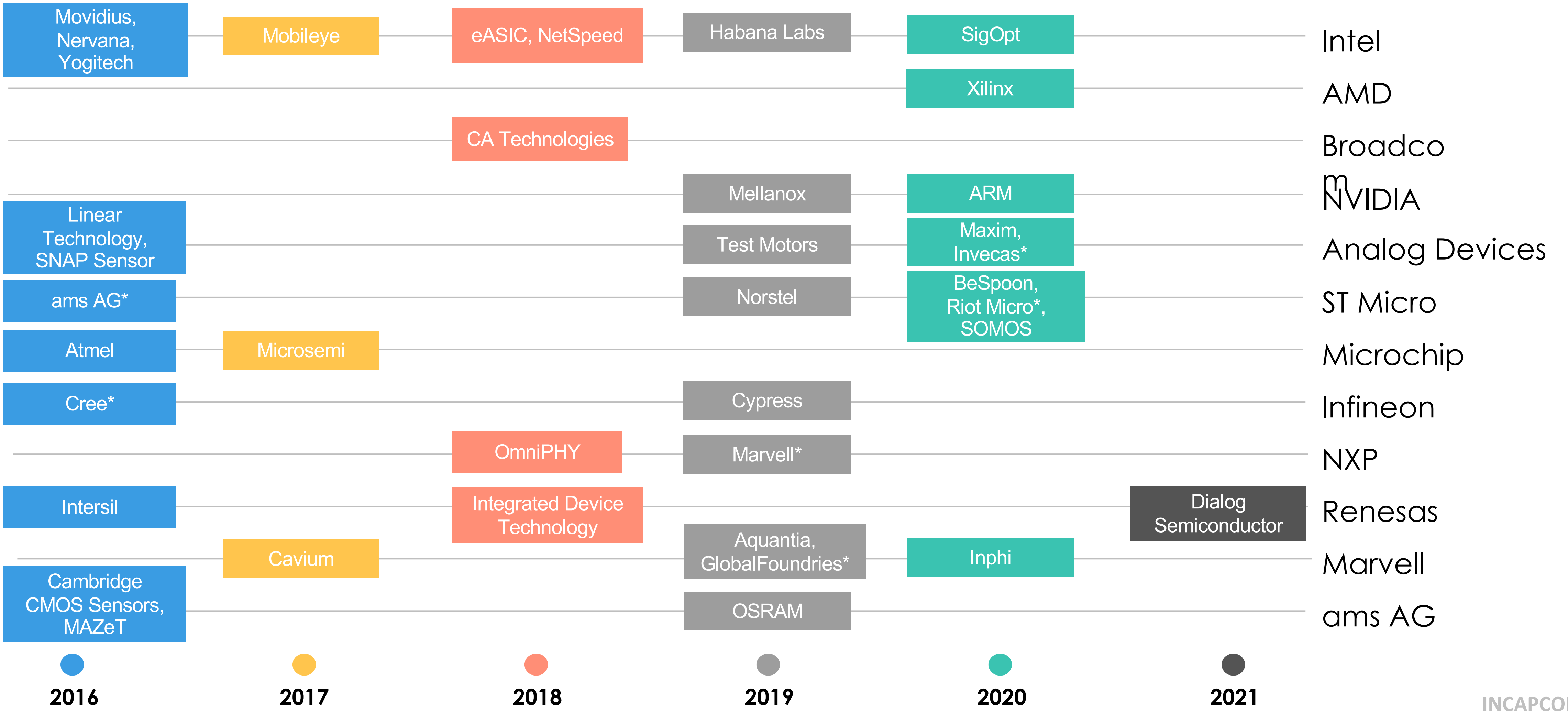
2021 Rank	2020 Rank	Vendor	2021 Spending	2021 Market Share (%)	2020 Spending	2020-2021 Growth (%)
1	1	Apple	68,269	11.7	54,180	26.0
2	2	Samsung Electronics	45,775	7.8	35,622	28.5
3	4	Lenovo	25,283	4.3	19,023	32.9
4	6	BBK Electronics	23,350	4.0	14,258	63.8
5	5	Dell Technologies	21,092	3.6	16,814	25.4
6	8	Xiaomi	17,251	3.0	10,254	68.2
7	3	Huawei	15,382	2.6	22,710	-32.3
8	7	HP Inc.	13,789	2.4	10,745	28.3
9	9	Hon Hai Precision	8,855	1.5	7,387	19.9
10	10	Hewlett-Packard Enterprise	6,736	1.2	5,395	24.8
		Others (outside top 10)	337,695	57.9	269,849	25.1
		Total semiconductor	**583,477**	**100.0**	**466,237**	**25.1**

TAM = total available market

Source: Gartner (February 2022)

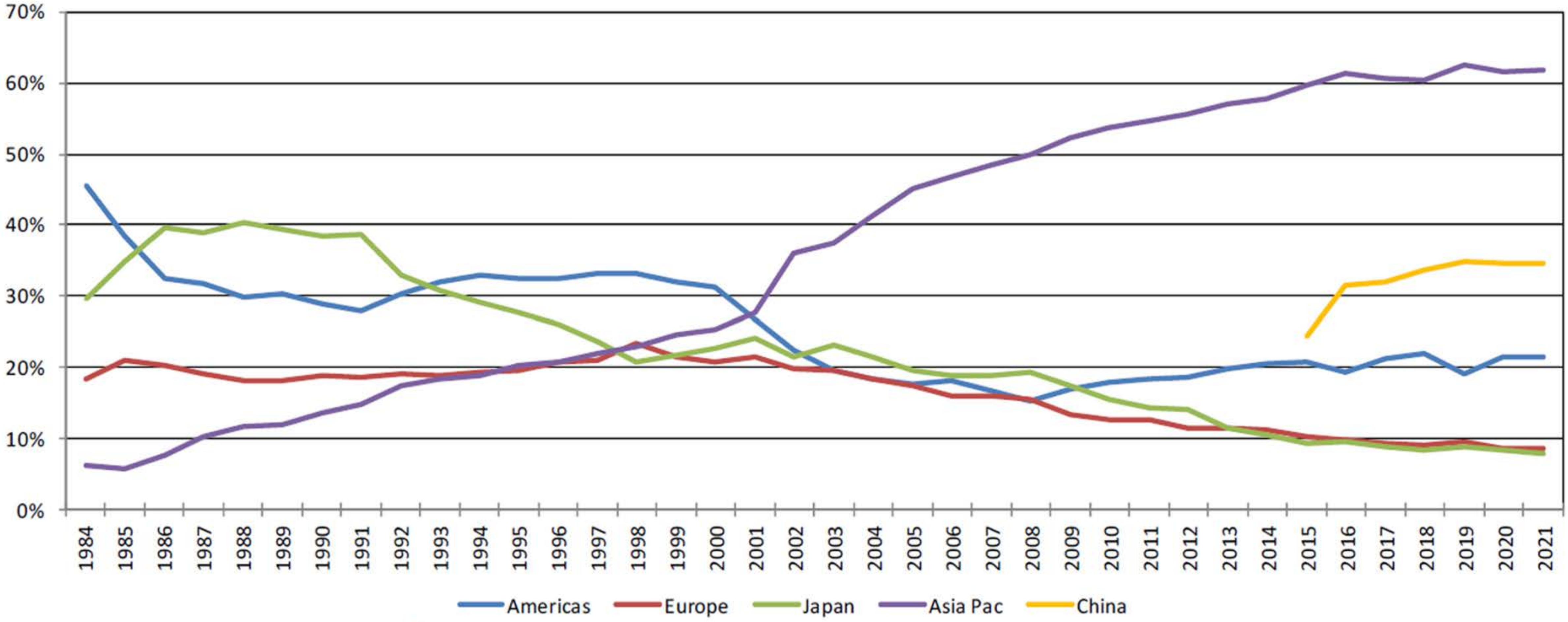
HIGHLY CONCENTRATED MARKET

Manufacturer consolidation



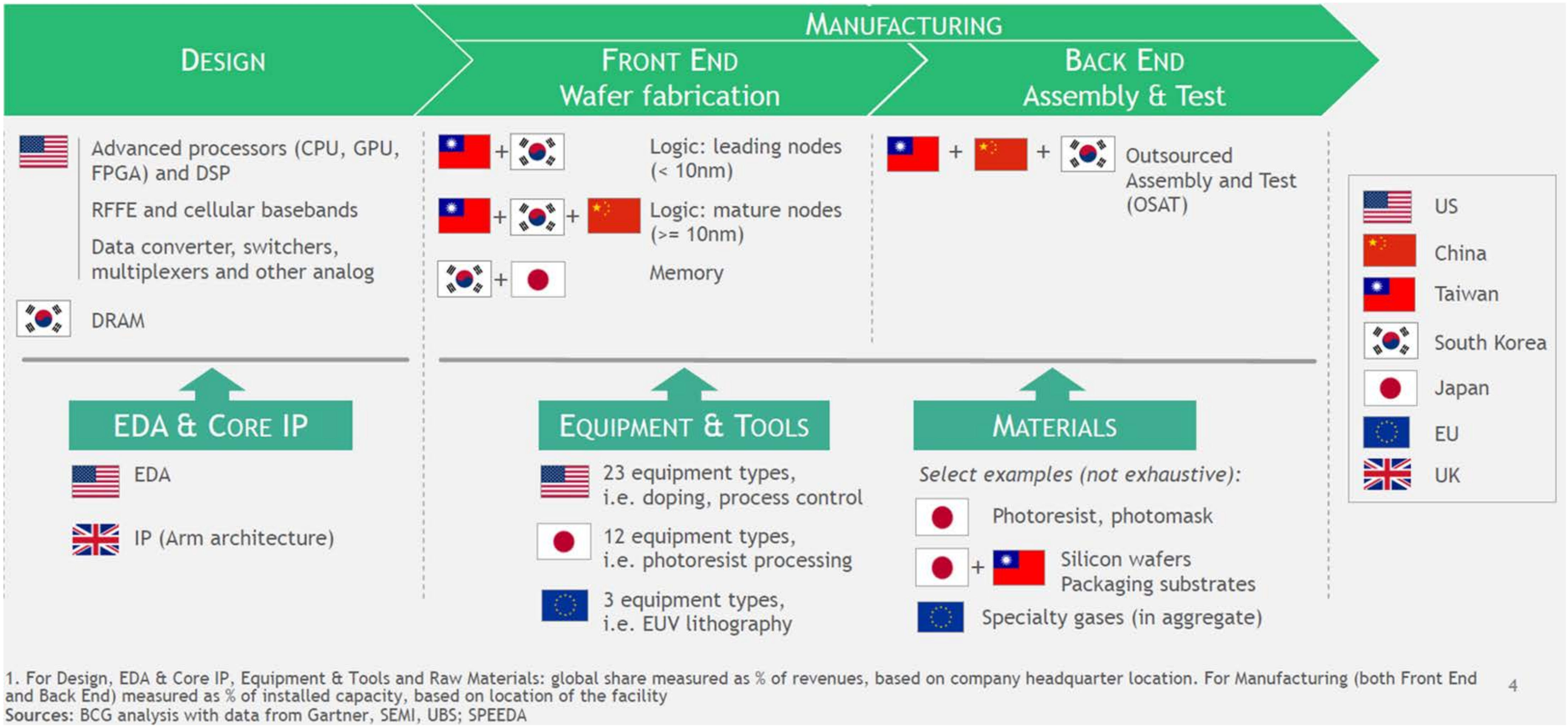
HIGHLY CONCENTRATED MARKET

APAC's regional share > 60% of global billings

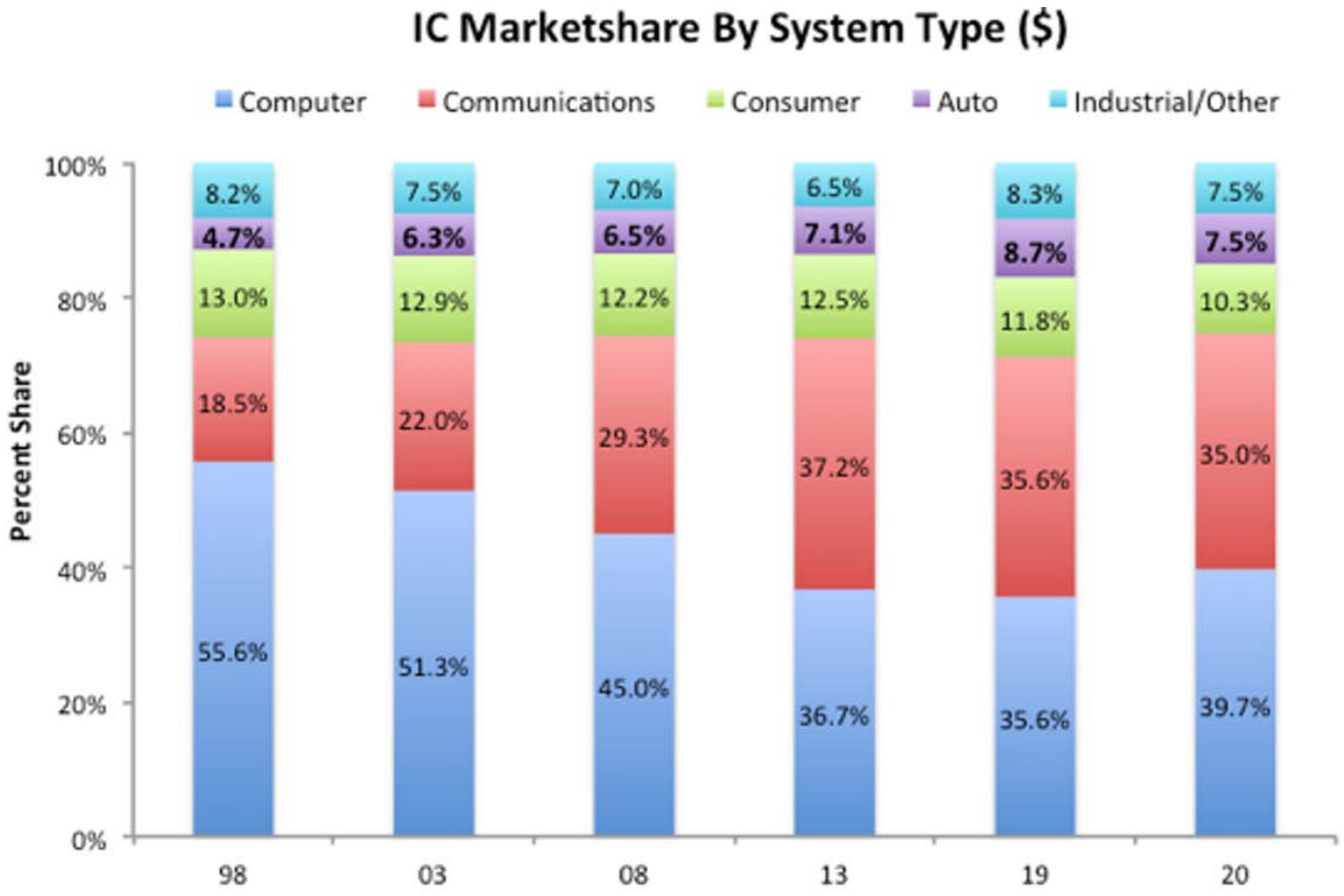


Source: Semiconductor Industry Association (SIA) -3 month rolling average billings

DIFFERENT PRODUCTION STEPS DOMINATED BY CERTAIN GEOGRAPHICAL AREAS



BILLING IS CONCENTRATED TO 3 MARKET SEGMENTS



Source: IC Insights

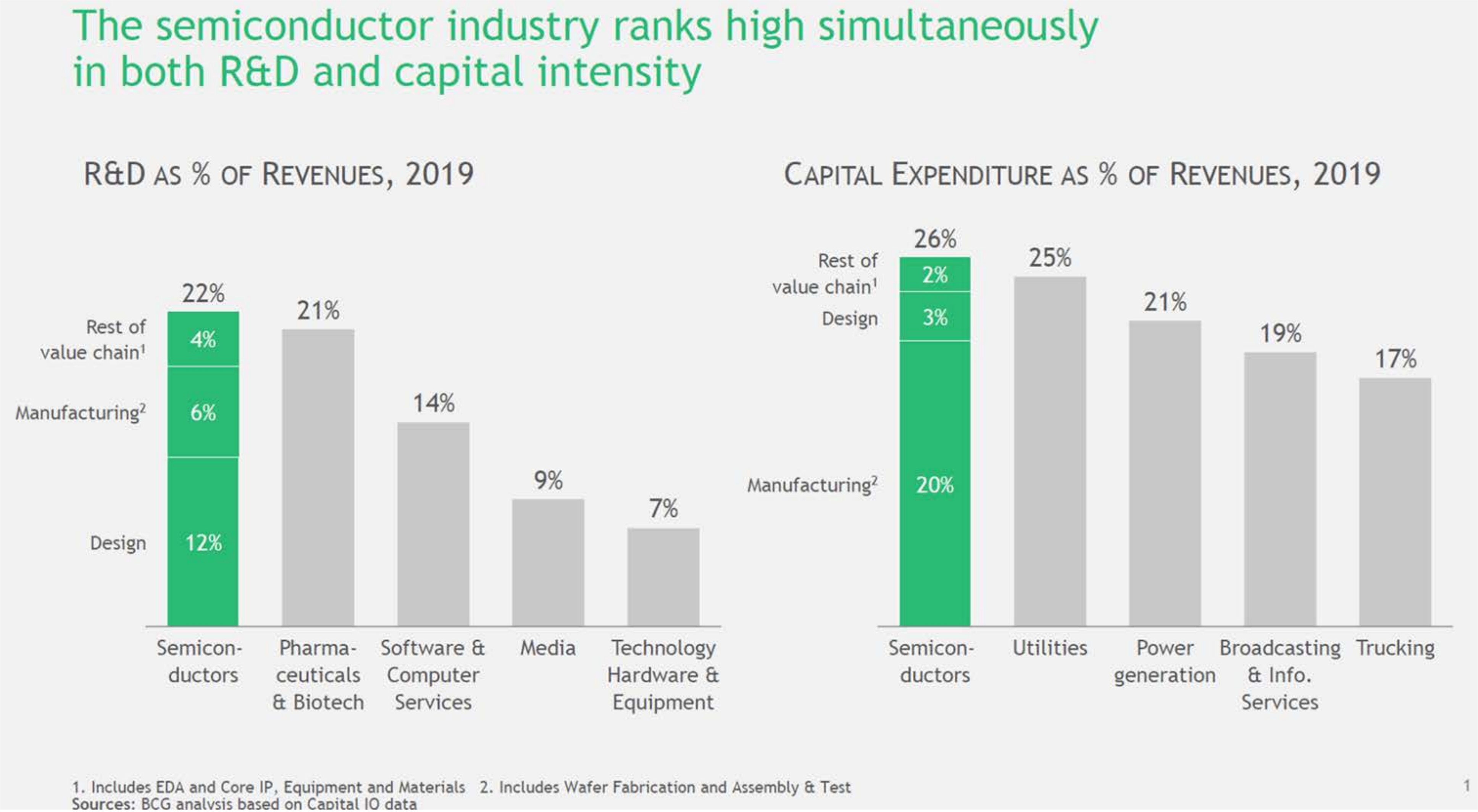
2020

- 3C (85%)
- Auto (7.5%)
- Others (7.5%)

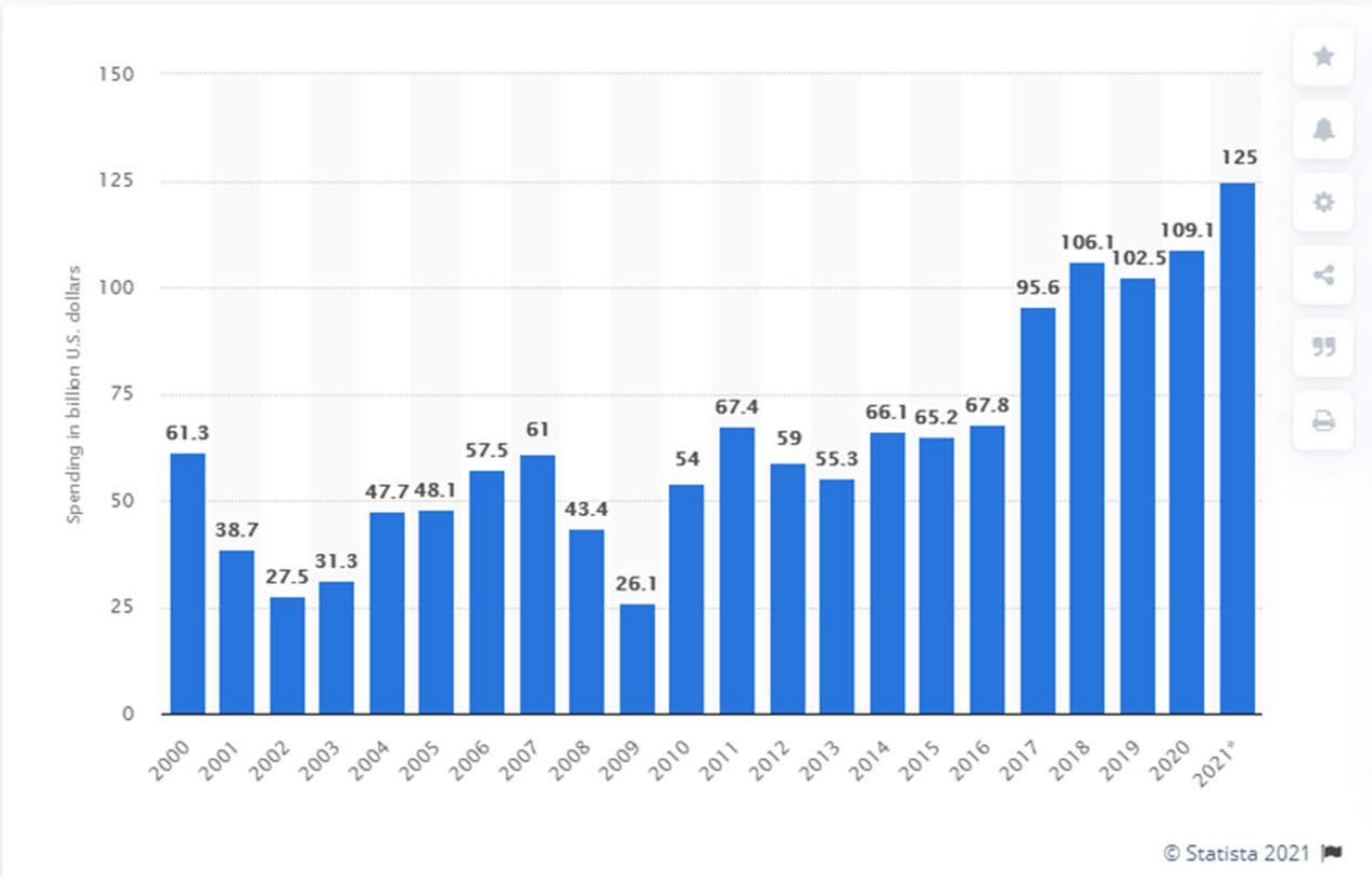
1998

- 3C (87%)
- Auto (4.7%)
- Others (8.2%)

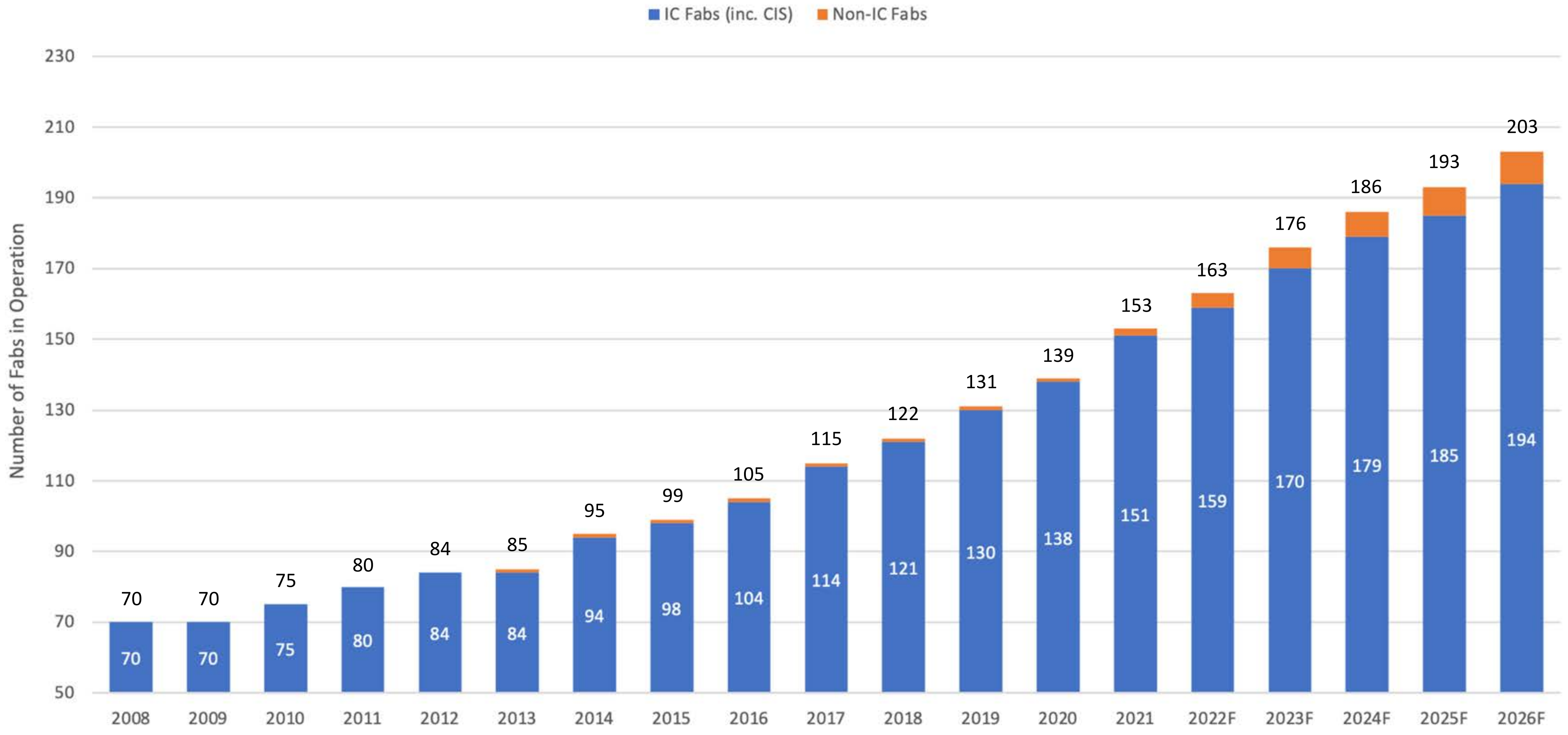
VERY DEMANDING INDUSTRY REGARDING R&D AND CAPEX



EARLY WARNING OF CAPACITY ISSUES ARE SEMI INDUSTRY CAPEX NUMBERS



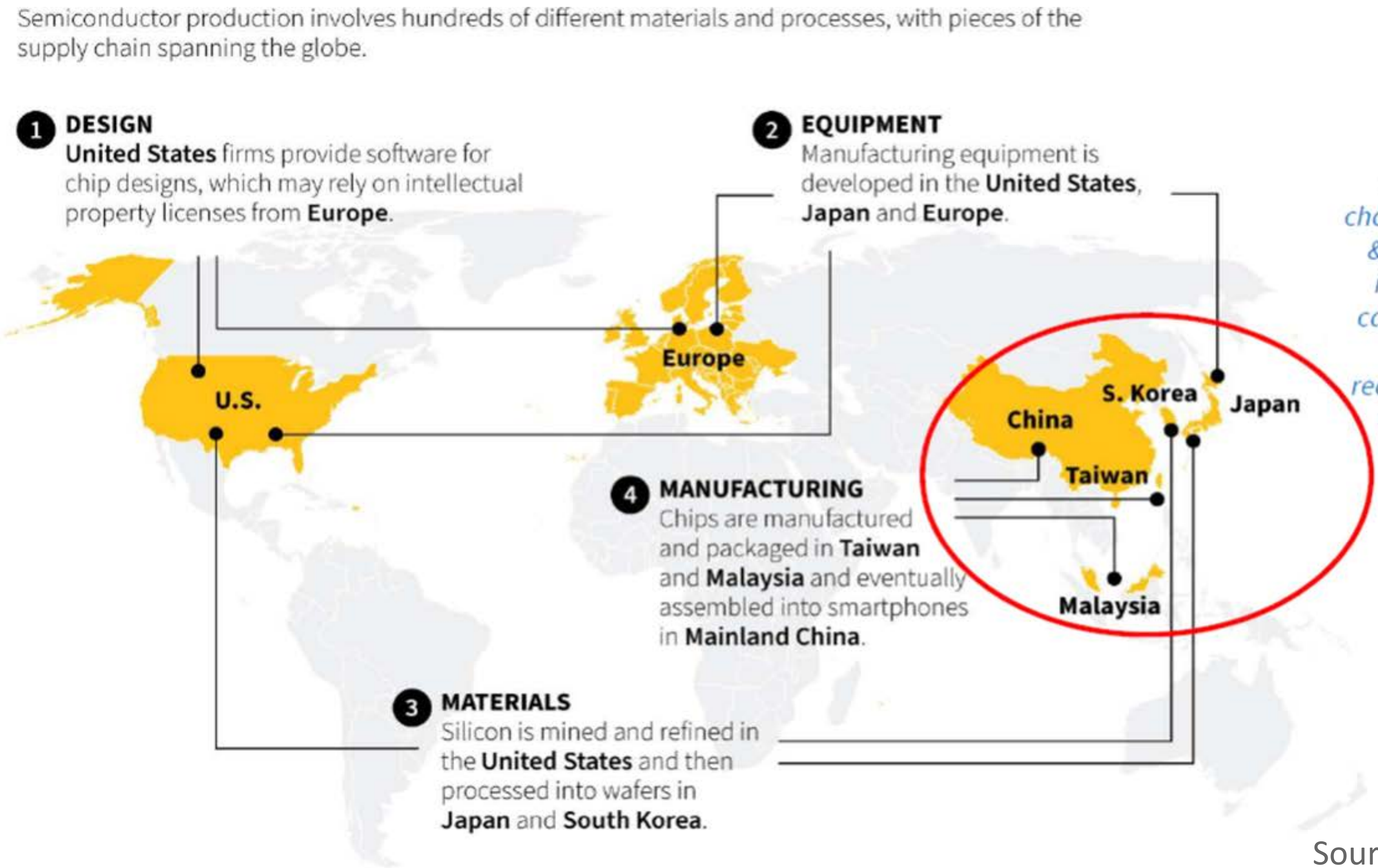
INVESTMENTS INTO NEW 300MM WAFERS SEMICONDUCTOR FABS



Source: Knometa Research

SEMICONDUCTOR INDUSTRY HAS VERY LONG PHYSICAL MANUFACTURING CYCLES

Global Supply Chain of Smartphone Processor

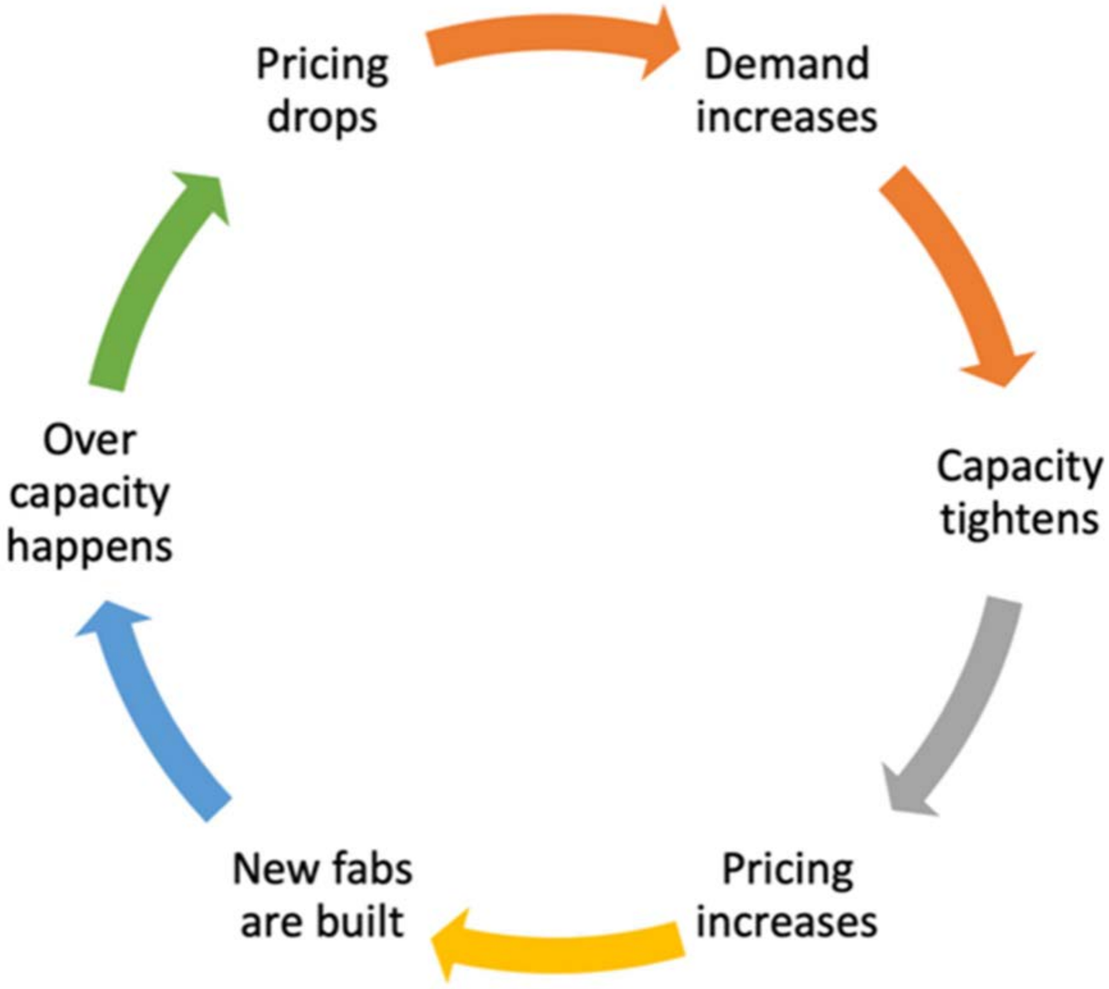


Too much of the semiconductor supply chain (foundry, wafer-fab & packaging) is located in APAC – with very few capacity alternatives for disaster recovery or redundancy planning, as well as heavy shipping costs

Source DIGI International

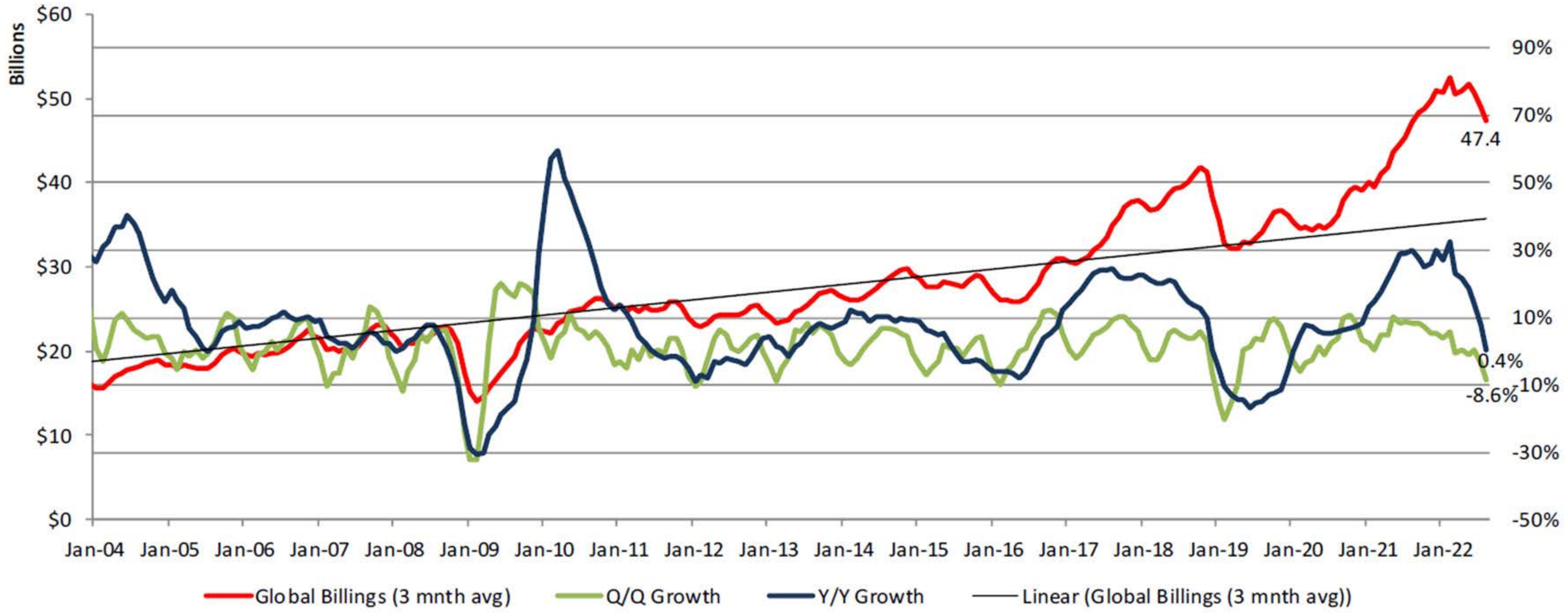
MARKET OUTLOOK

MARKET OUTLOOK



WORLDWIDE GROWTH RATES

Negative Q/Q growth (-8.6%), positive Y/Y (0.4%) worldwide growth rates
China negative Q/Q -12%, negative Y/Y -9,5%



Source: Semiconductor Industry Association (SIA) -3 month rolling average billings

MARKET OUTLOOK

Source: Semiconductor Intelligence, Semiconductor Services

MARKET OUTLOOK

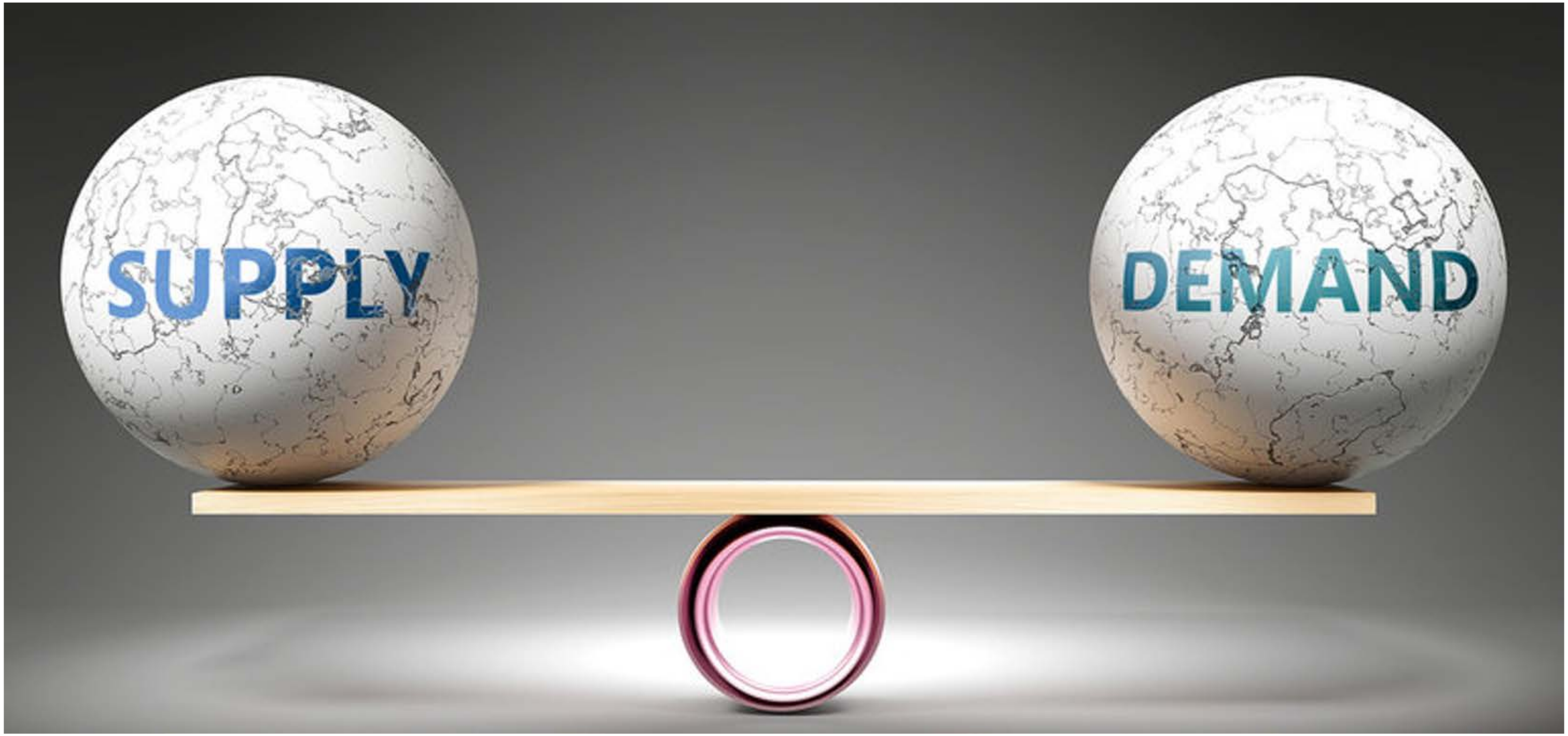
- **ADVANCED** production technology
  <16nm components - IT & computing, tablet, cellphone – **late 2022**

- **MAINSTREAM** production technology
  >28nm automotive and industrial components – potentially **early-mid 2023**

- **MATURE** production technology
  > 65 nm components aimed mainly to the industrial markets – potentially **mid-late 2023**

- Certain high demand / high tech components potentially by **2024**

MARKET OUTLOOK



MARKET OUTLOOK

IMPLICATIONS TO INCAP

MARKET OUTLOOK

Components availability in general is expected to be easier during Q1 – Q3 2023. Early signs of the change visible already today.

However, delivery issues will not be fully behind us yet.
For some components, functionalities and production technologies, delivery challenges may remain all through 2023.

Incap continues to provide long term visibility to its supply chain and works very closely with customers and suppliers to mitigate possible supply issues.

THANK YOU!