

Mapping the innovation paths of the semiconductor industry

SEMICON EUROPA 2023

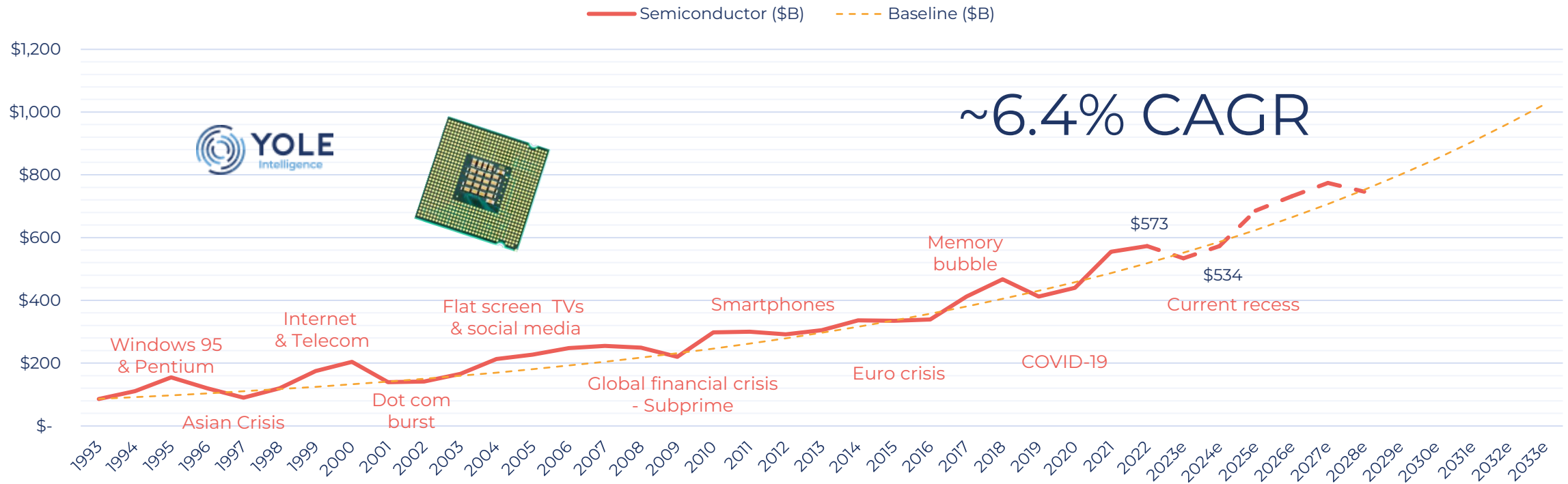
A NEW CONTEXT

SEMICONDUCTOR DEVICE INDUSTRY – 40 YEARS PERSPECTIVE

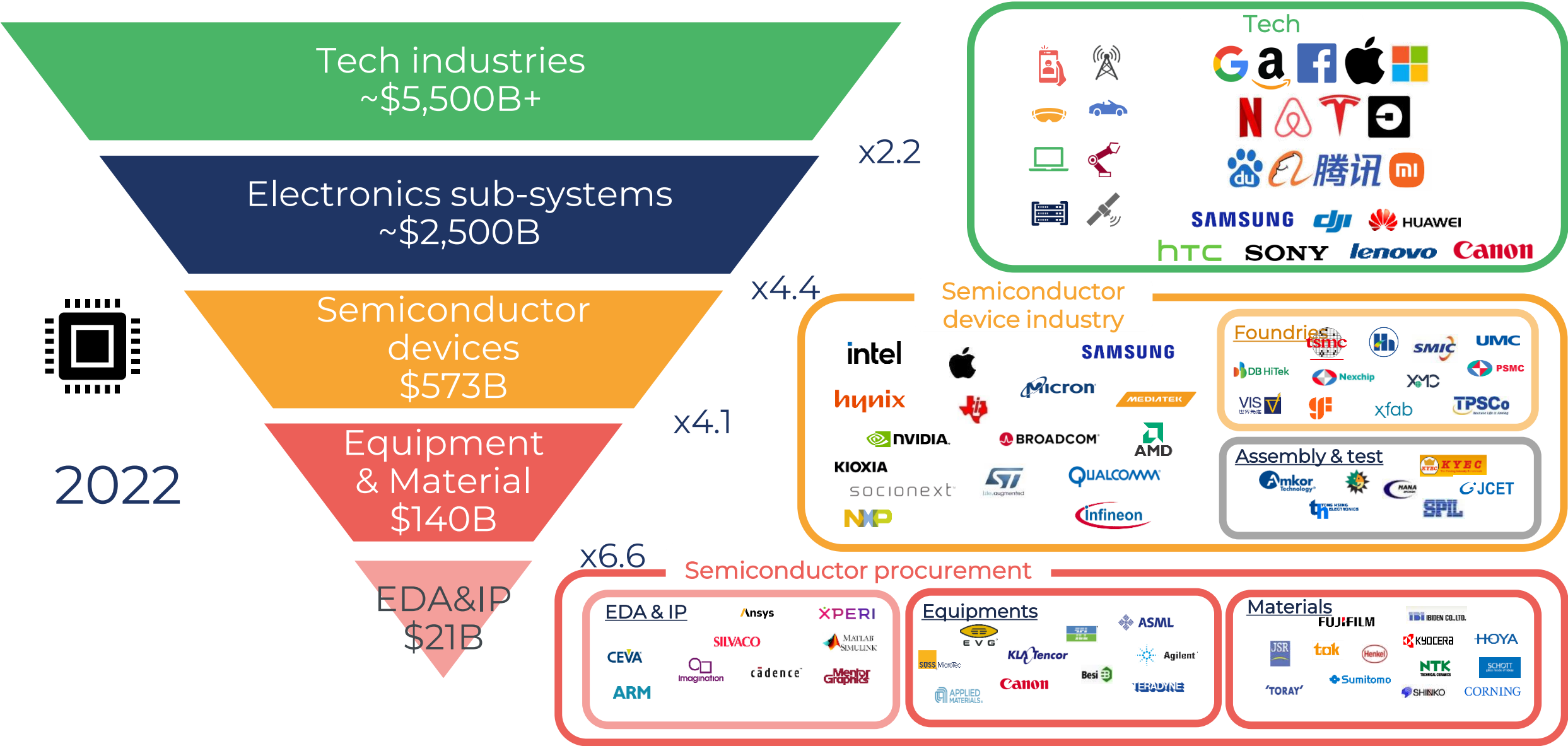


- The semiconductor device industry reached a new peak in 2022 and is now heading for a correction
- -7% decline is expected in 2023 with an overall revenue of \$534B
- Longer term, semiconductor device growth expectation is for 6.4% CAGR reaching \$1,000B by 2033.

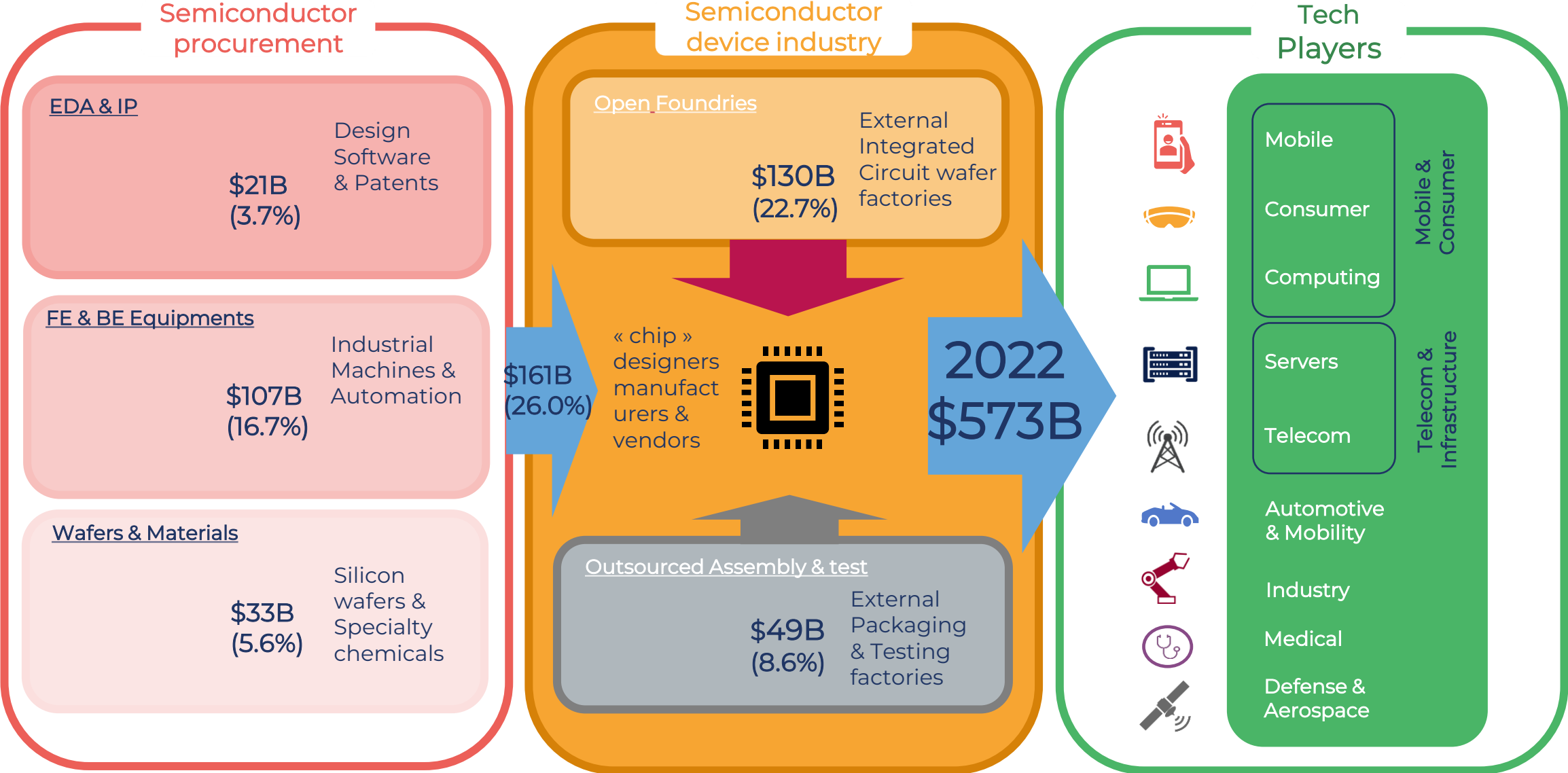
1993-2033 Global semiconductor industry revenue (in \$B)



ON THE SHOULDER OF (TECHNOLOGY) GIANTS

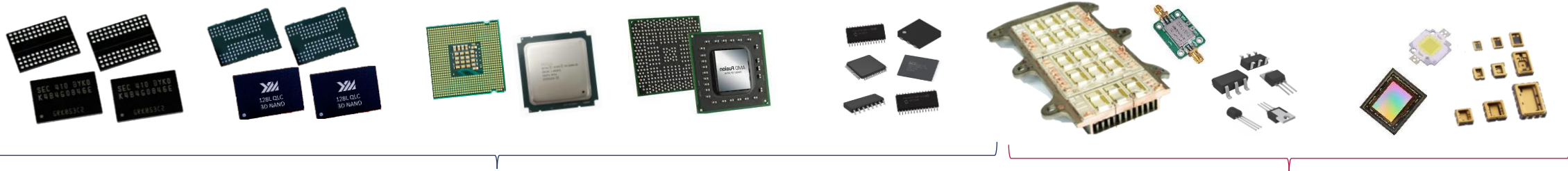
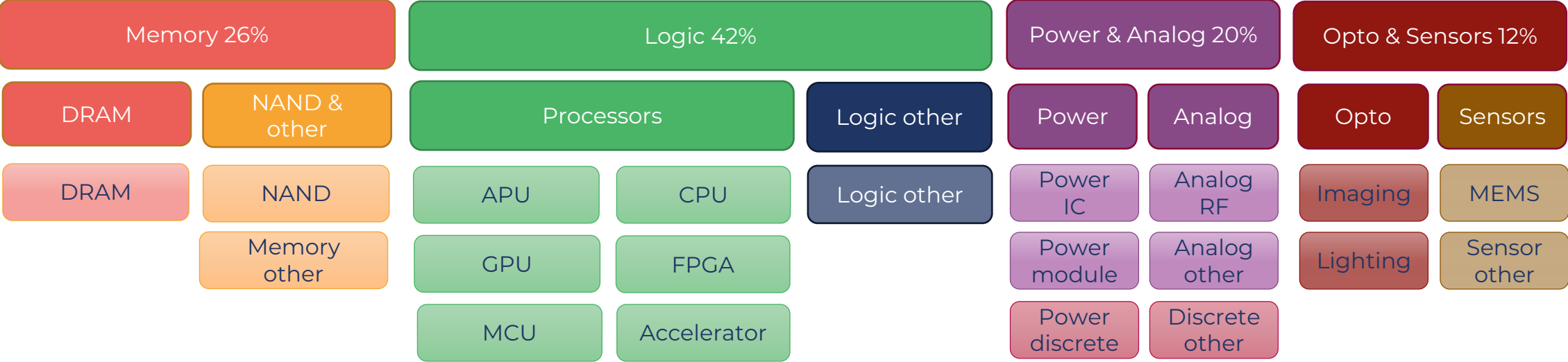


SEMICONDUCTOR INDUSTRY VALUE CHAIN





2022 Semiconductor device industry (\$573B)

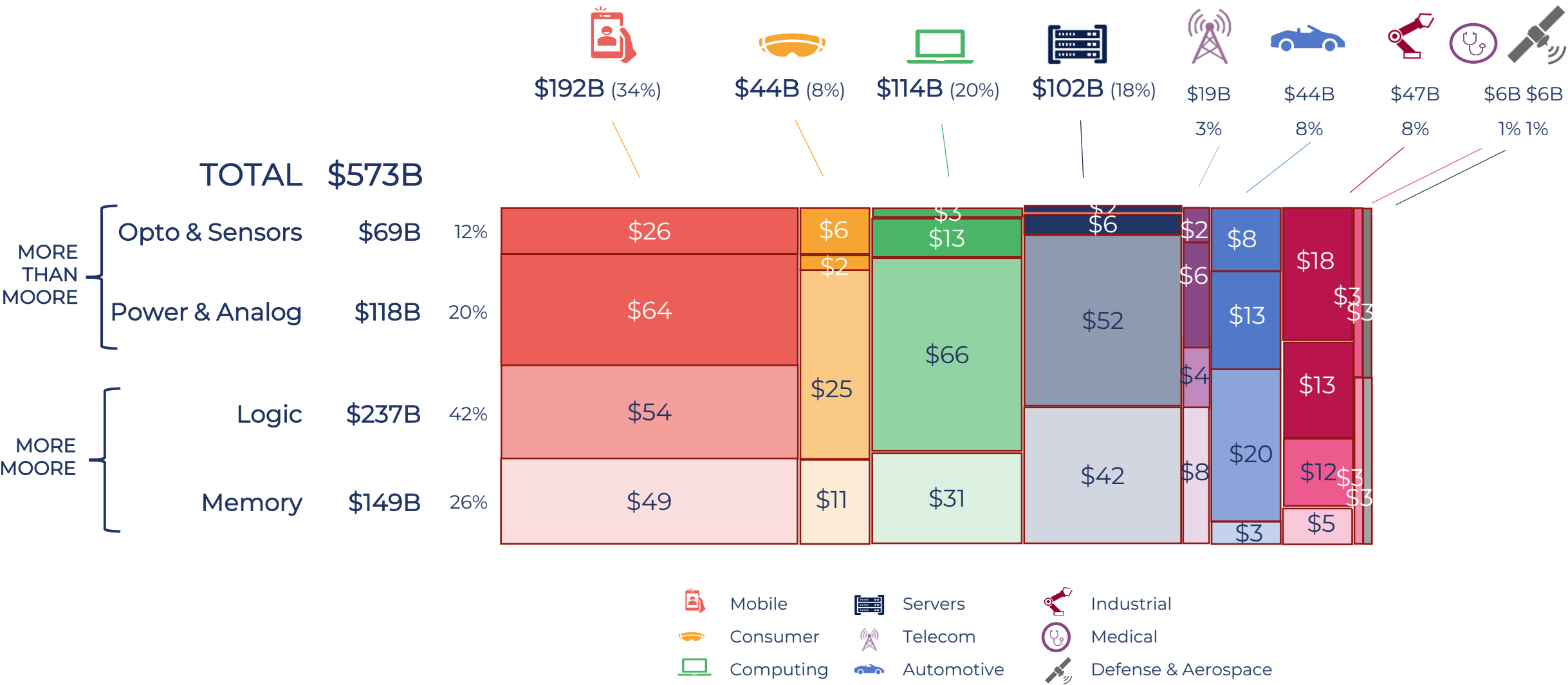


More Moore
(MM)
67%

More than Moore
(MtM)
33%

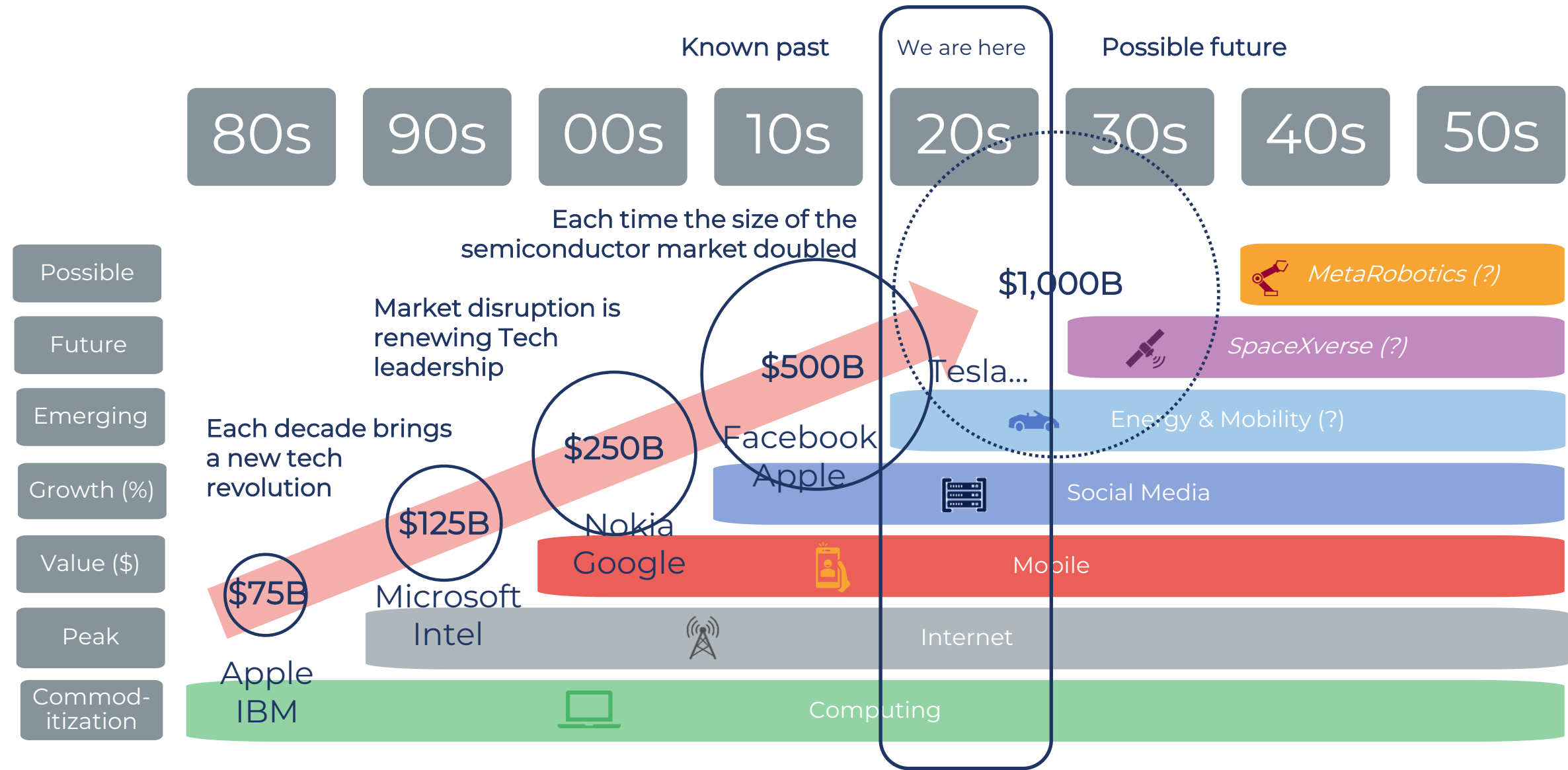
OVERVIEW OF THE SEMICONDUCTOR DEVICE INDUSTRY – 2022 PERIOD

Overview of the semiconductor device industry report, Yole Intelligence, 2023



INDUSTRY OUTLOOK

SEMICONDUCTOR DEVICE APPLICATION MARKET MEGATRENDS

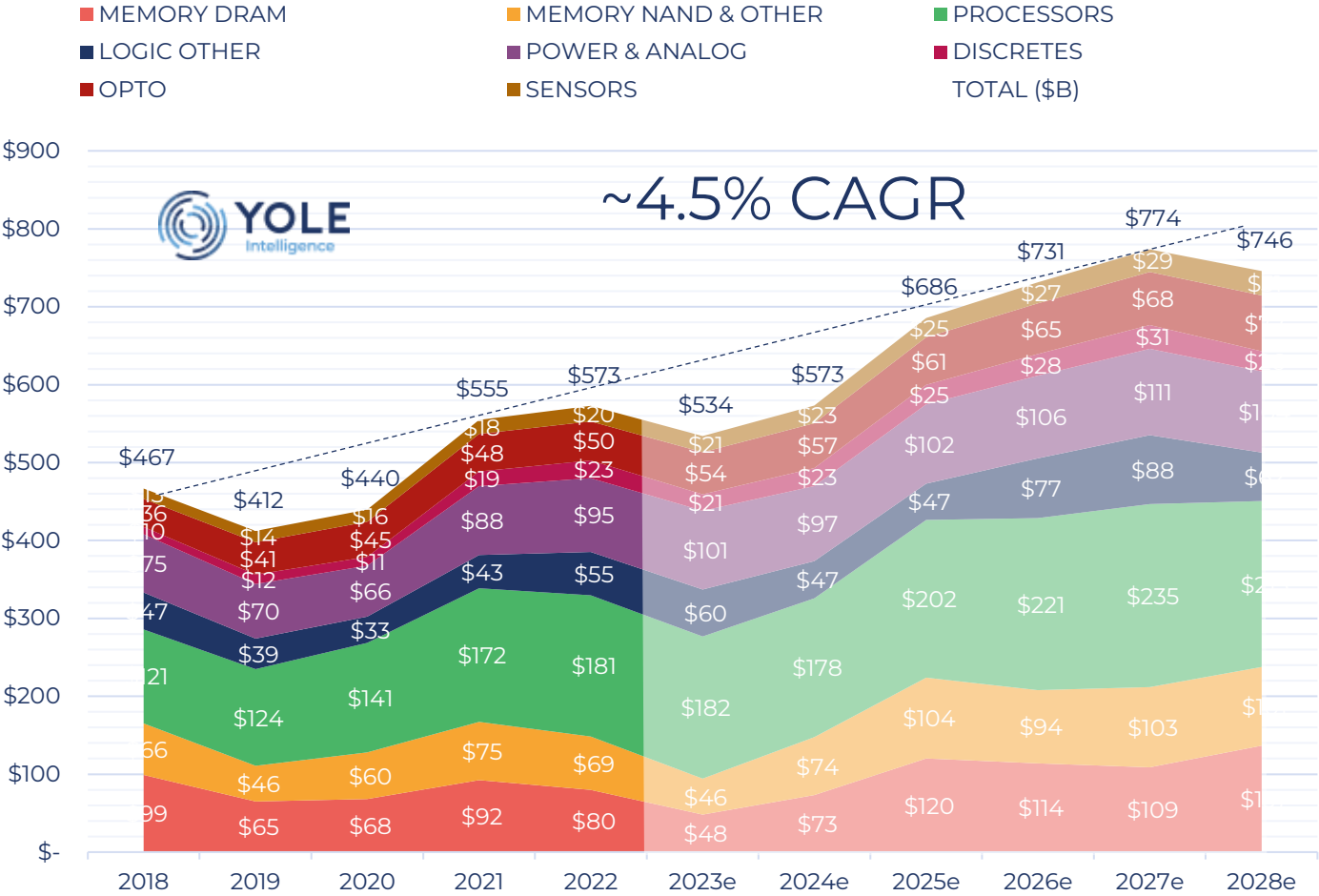


SEMICONDUCTOR DEVICE REVENUE FORECAST – PER DEVICE TYPE



- peak in 2022 at \$573B and is expected to retreat -7% to \$534B in 2023
- A new growth cycle is expected for the following 5 years
- Every semiconductor category will play their share in this growth momentum,
- Memory and Logic are the two categories getting most of the volatility.

2018-2028 Semiconductor device revenue forecast (in \$B)

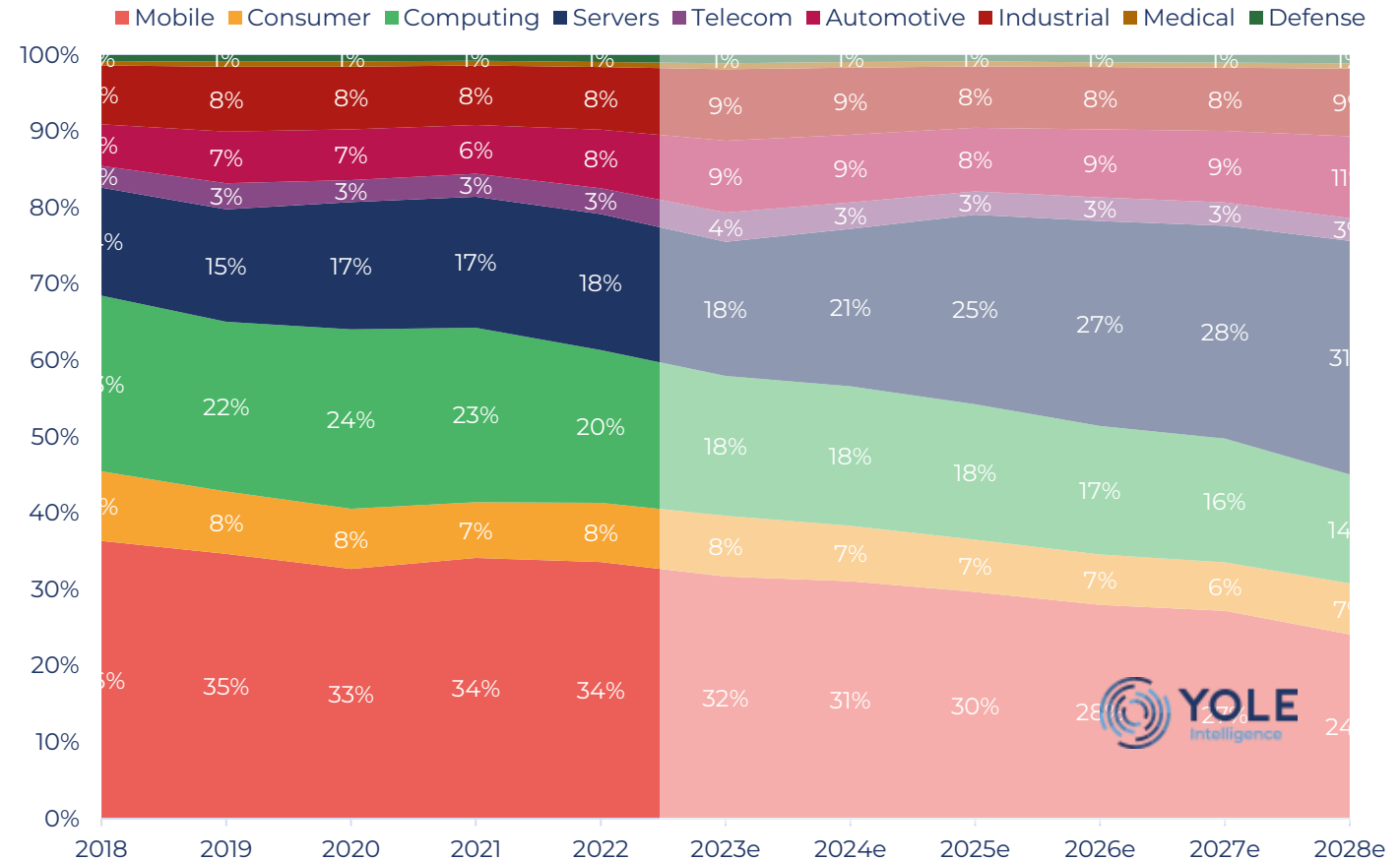




The structure of the market per market is expected to slowly evolve within this 5 year forecast

- Mobile will retreat from 35% to 25% of the semiconductor market
- Computing will retreat from 20% to 15% of the semiconductor market
- Servers will grow from 18% to 28%
- Automotive and Industrial will grow from 15% to 20%

2018-2028 Semiconductor device revenue breakdown
(in %)

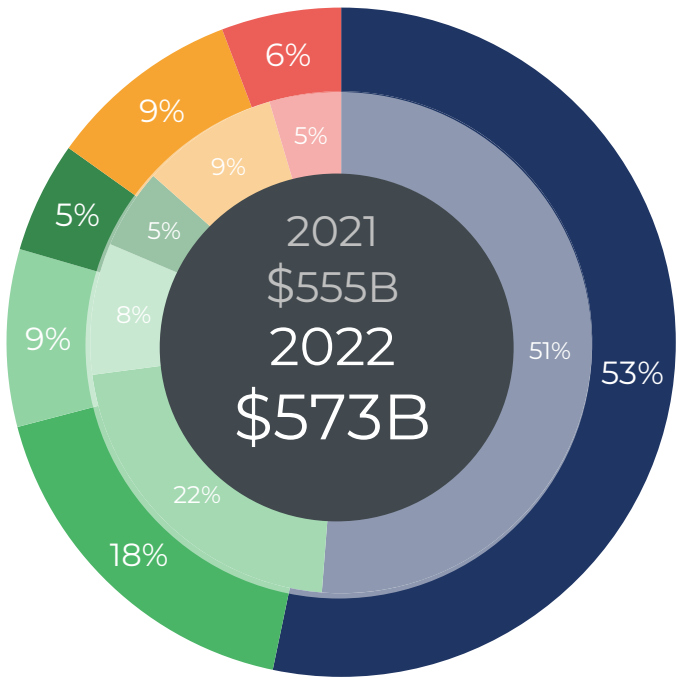


2021-2022 SEMICONDUCTOR INDUSTRY MARKET SHARE (IN %)

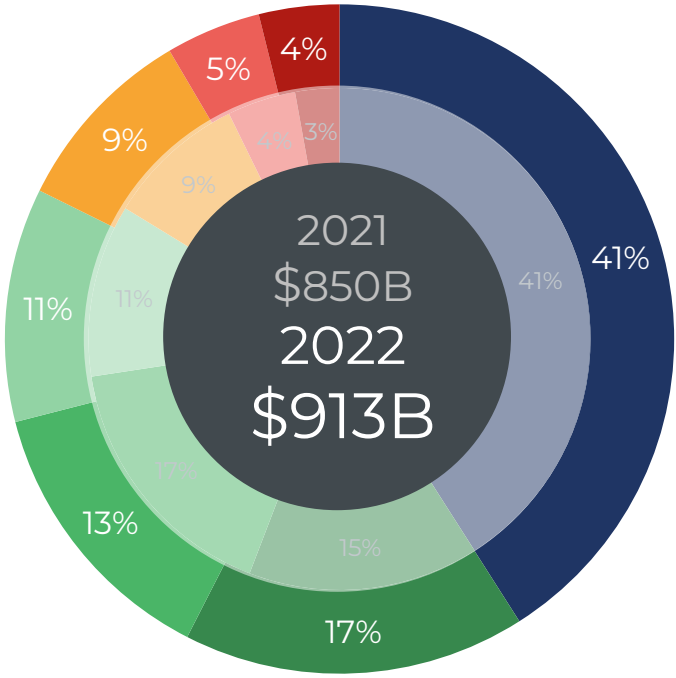
Source : Overview of the semiconductor device industry report, Yole Intelligence, 2023



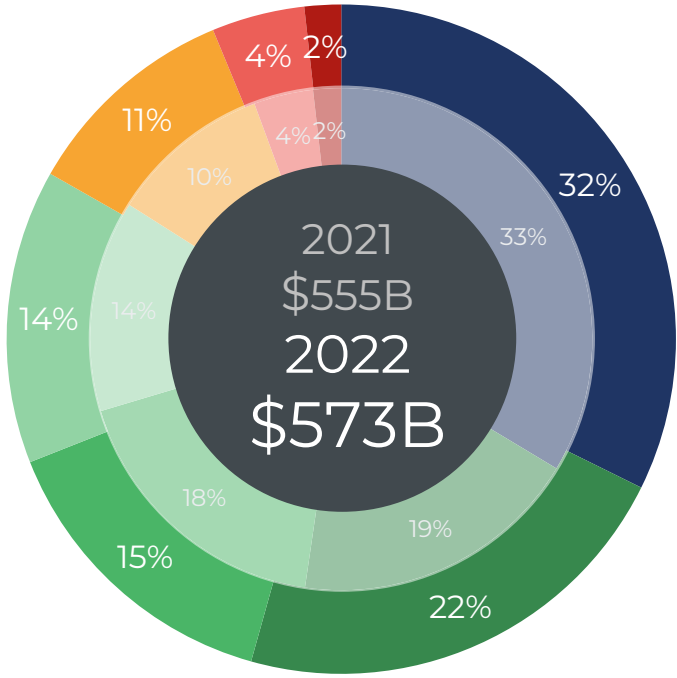
Semiconductor device players
per geographical area (in %)



All semiconductor players*
per geographical area (in %)



All semiconductor players* added value
per geographical area (in %)



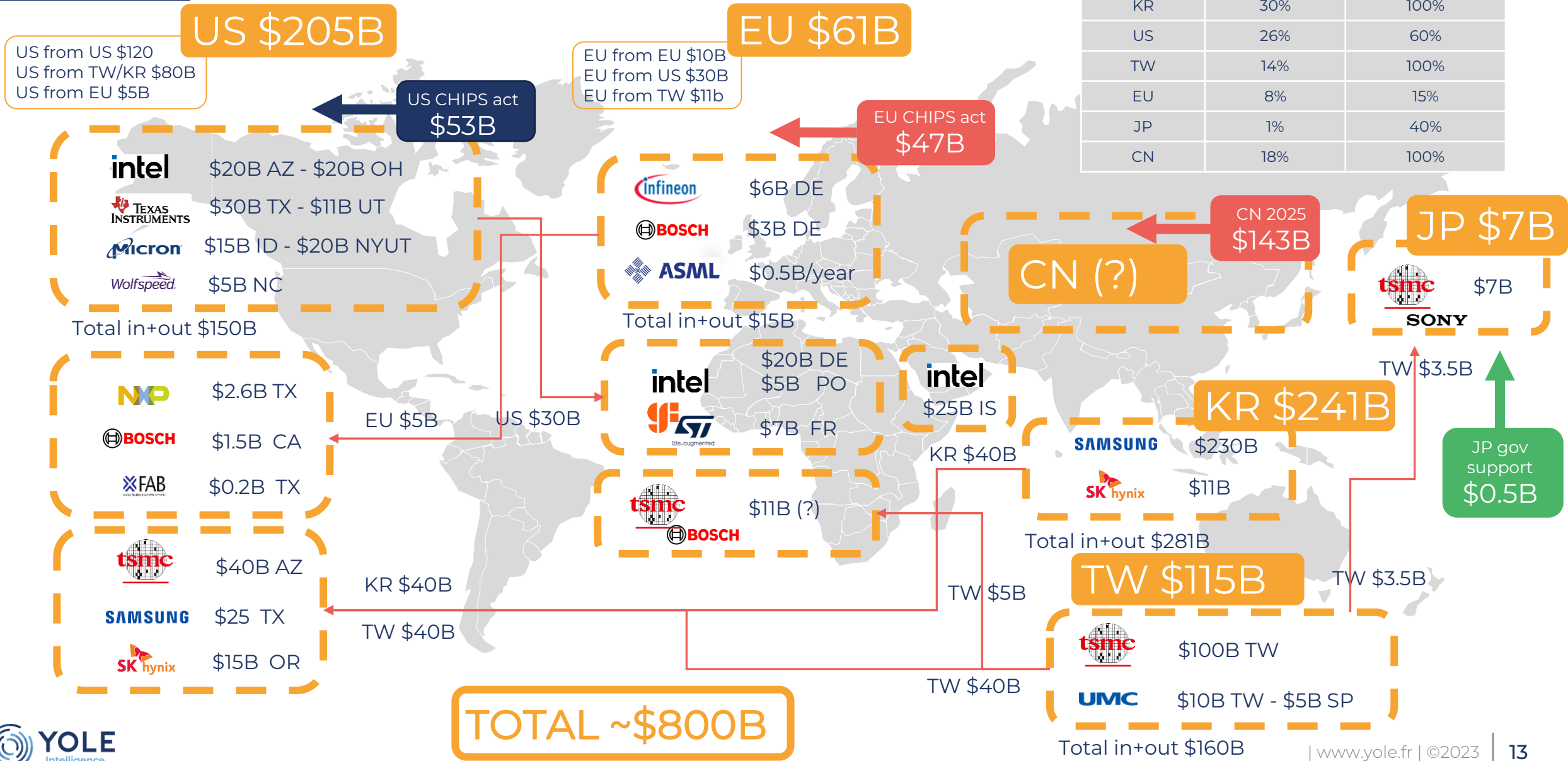
US TW KR JP EU CN Other**

* Include device, open foundry, OSAT, Equipment, Material, EDA&IP

** Include UK,IS,SP,MA

SEMICONDUCTOR FAB INVESTMENTS: 2021 – 2023 ANNOUNCEMENTS

Source: Overview of the semiconductor device industry report, Yole Intelligence, 2023

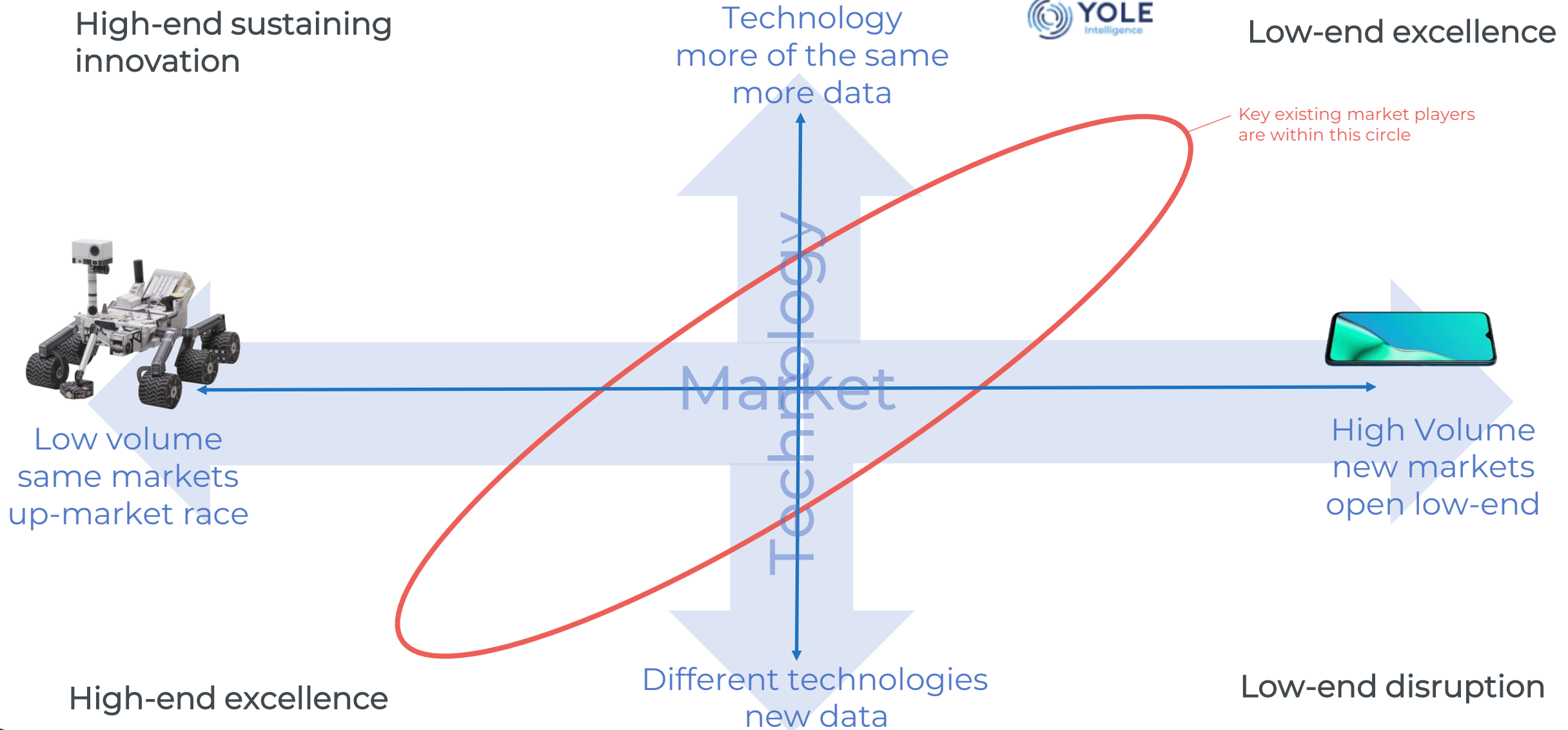




INNOVATION PATHS

SEMICONDUCTOR TECHNOLOGY TRENDS

Innovation paths : 4 quadrants analysis







THANK YOU