

# GENERAL PRESENTATION & first results

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Chips JU 2024 Information Day

# INTRODUCTION

- ICOS Project starts in January 2023 for three years, it is funded by the Horizon Europe research program.

## Coordinator



## Technical co-Coordinator

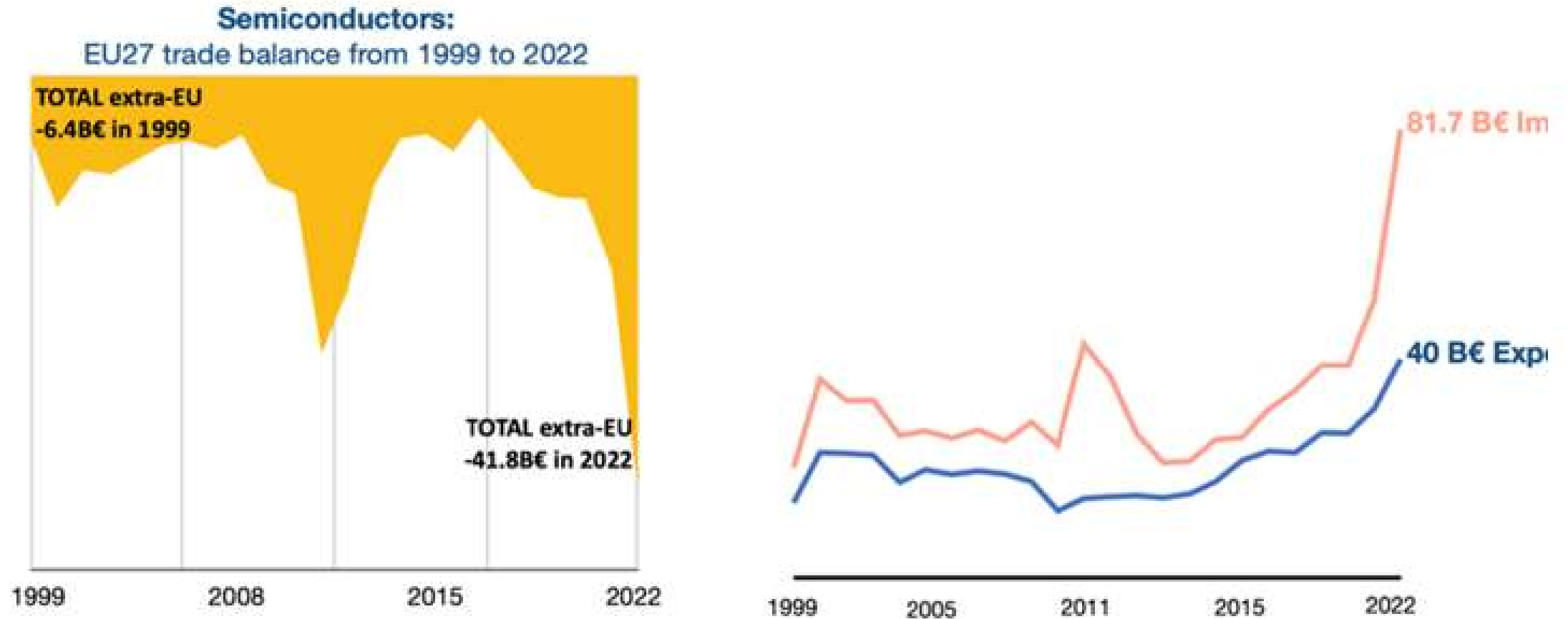


- An ambitious project in the framework of the European strategy for semiconductors.

# MOTIVATION

- **Semiconductors & Semiconductor-based photonics** are pivotal technologies for almost all existing industrial sectors, as demonstrated by the recent chips shortages.
- **International cooperation** is key for speeding up technological innovation (e.g. ITRS/IRDS, Optica)
- **International cooperation programs:**
  - Accounted for more than 150M€ in H2020 (>90M€ in Information Technology)
  - A cooperation program with 13M€ with S.Korea starts in Horizon Europe.

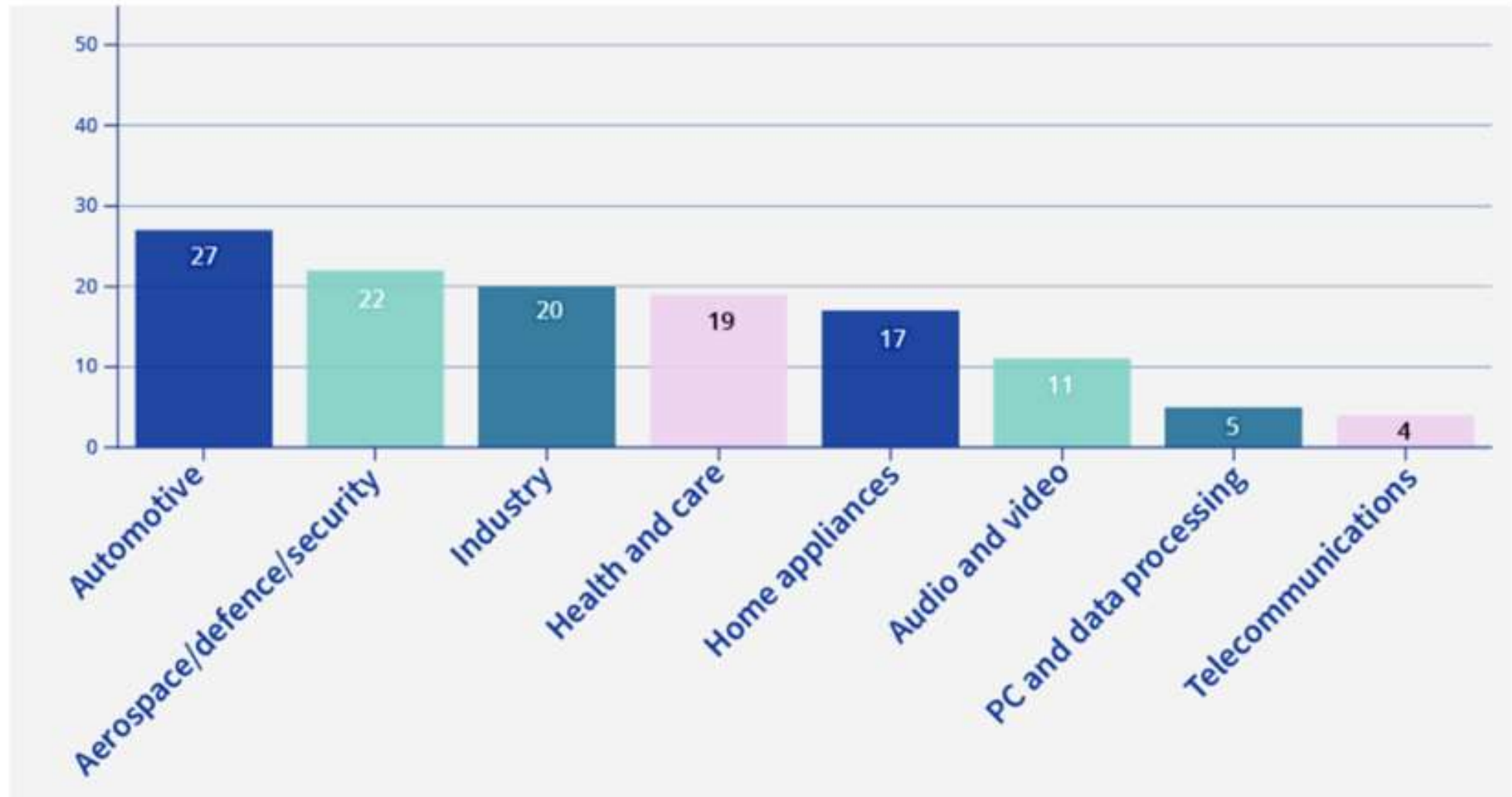
# The EU trade balance with the rest of the world from 1999 to 2022



Source: DECISION Études & Conseil, from Eurostat

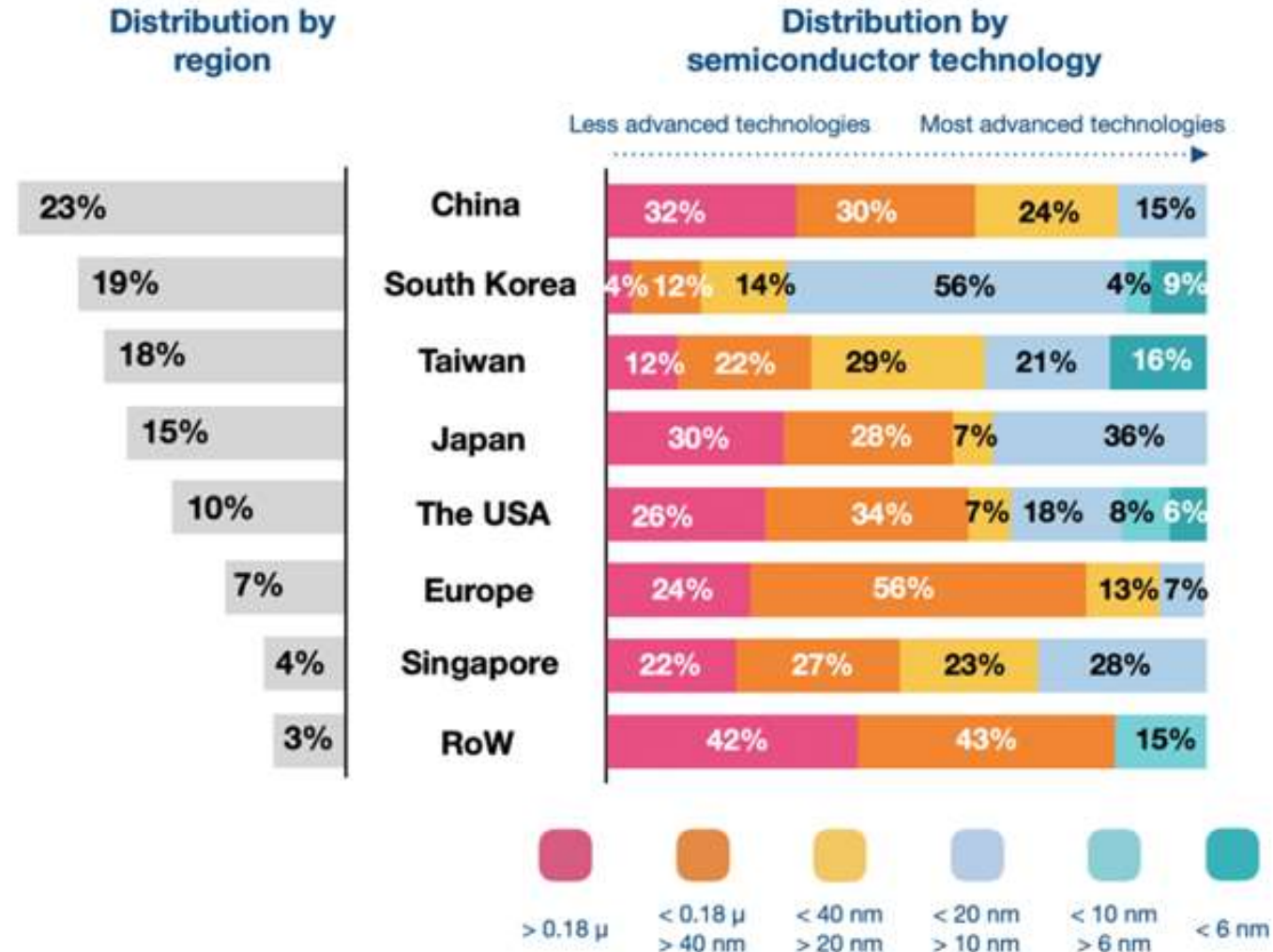


# Europe's market shares in chip production for different sectors in 2023 (in %)



Source: European Council of the EU, 2023

# Installed capacity of semiconductor production in the world



Source: DECISION Etudes & Conseil, Semi Database 4Q2022

# WHERE EUROPE IS LEADING

## Automotive Semiconductor Market Leaders

- 1 NXP Semiconductor NV
- 2 Infineon Technologies AG
- 3 Renesas Electronics Corporation
- 4 STMicroelectronics NV
- 5 Toshiba Electronic Devices & Storage Corporation (Toshiba Corporation)

## Power Semiconductor Top Companies

- 1 Infineon Technologies AG
- 2 Texas Instruments Inc.
- 3 STMicroelectronics NV
- 4 NXP Semiconductors NV
- 5 On Semiconductor Corporation

## MEMS Market Leaders

- 1 Broadcom Inc.
- 2 Robert Bosch GmbH
- 3 STMicroelectronics N.V.
- 4 Texas Instruments Inc.
- 5 Qorvo Inc.

Source: Mordor Intelligence, 2022

# OBJECTIVES OF ICOS

- To identify and support the establishment of the **most promising scientific international collaborations**
- To support the growth of the European Semiconductor industry through **focused research alliances with like-minded countries** based on awareness of advanced research activities
- To strengthen **Europe's position** in global value chains in this area
- Investigated countries:
  - The United States of America
  - India
  - The Republic of Korea
  - Japan
  - Taiwan
  - Singapore
  - Canada
  - China



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**IRDS**

# IMPLEMENTATION

## IMPLEMENTATION

### EXHAUSTIVE ANALYSIS OF SEMICONDUCTORS' VALUE CHAINS, FOR ELECTRONICS & PHOTONICS

Identification of :

- EU's economic and industrial strengths & weaknesses
- Strategic dependencies
- Market and cooperation opportunities

### IDENTIFICATION OF RESEARCH AREAS FOR INTERNATIONAL COOPERATION

Identification of next generation & emerging technologies, especially in advanced computation and functionalities.

### DETERMINATION OF MOST INTERESTING COUNTRIES FOR INTERNATIONAL COOPERATION

Identification of challenges for which international cooperation is critically important.

### AGENDA FOR AND INITIATION OF INTERNATIONAL COOPERATIONS

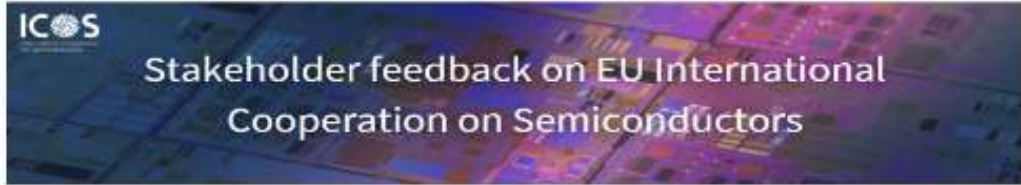
- Dialogue with actors of existing cooperation
- International collaboration with non-EU national authorities
- Define standardisation needs and activities
- Support the European Commission



# Next initiatives

Save a backup on your local computer (disable if you are using a public/shared computer)

## Stakeholder feedback on EU International Cooperation on Semiconductors



Stakeholder feedback on EU International Cooperation on Semiconductors

Deadline: **March 29<sup>o</sup> 2024**

[https://ec.europa.eu/eusurvey/runner/SurveyEU\\_ICOS](https://ec.europa.eu/eusurvey/runner/SurveyEU_ICOS).



ICOS SINANO Institute

icos-semiconductors.eu

## INTERNATIONAL COOPERATION ON SEMICONDUCTORS

Athens, Greece | 13-14 May

EUROSOI ULIS conference

International Cooperation On Semiconductors - Workshop - May 13-14th

<https://icos-semiconductors.eu/events/>

# Thank you for your attention

<https://icos-semiconductors.eu/>

