ICOS

International Cooperation On Semiconductors

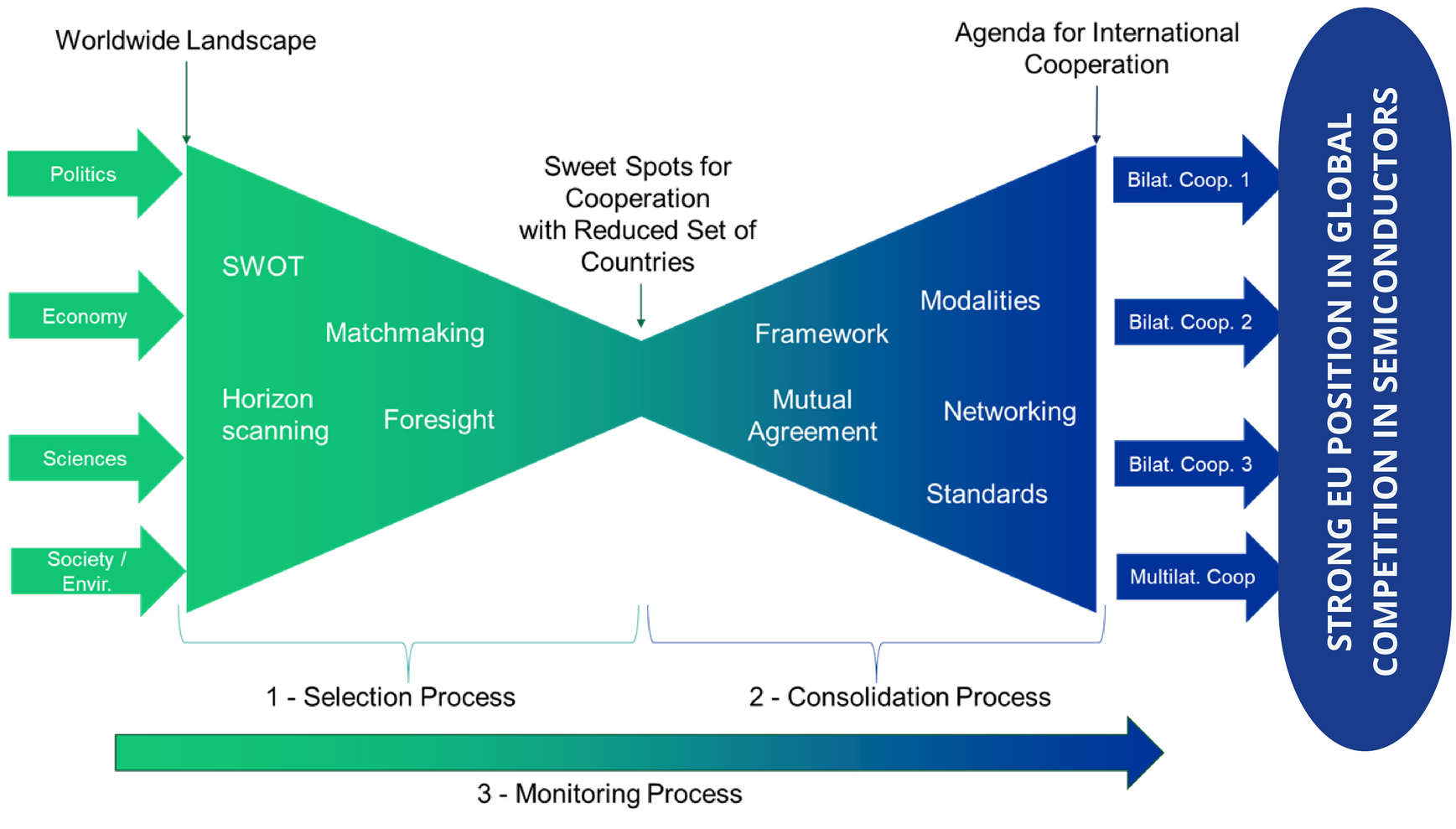
CONTEXT

Semiconductors & Semiconductor-based photonics are pivotal technologies for almost all existing industrial sectors, as demonstrated by the recent chips shortages.

OBJECTIVES

- Support the growth of the European Semiconductor industry through focused research alliances
- Identify and support the establishment of the most promising scientific international collaborations
- Strengthen Europe's position in global value chains in this area

CONCEPT



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

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OUTCOME & IMPACT

- **Raise awareness of the advanced research activities** inside and outside Europe
- **Reduction of the gaps & Increase European Leadership** in Semiconductor & Semiconductor-based photonics
- **Facilitate the European industry in the realization of emerging technologie**s: advanced computation & advanced functionalities
- **Reinforce the position of the European industry** through new standards
- **Contribute to the European Strategic Autonomy** through balanced partnership with like-minded leading countries
- Contribute to other European initiatives in this sector : **European Chips Act & Digital Agenda.**
- **Contribute to the realization of the Green Deal:**
  - Digitalisation of many domains to reduce footprint
  - Electronics monitoring targeting societal challenges (energy, health, environment, etc.)
  - Sustainable electronics (energy consumption, critical materials, etc)

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