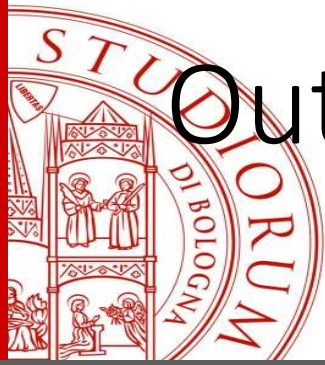


The Chips-IT Foundation

Enrico Sangiorgi
University of Bologna and Foundation Chips-IT

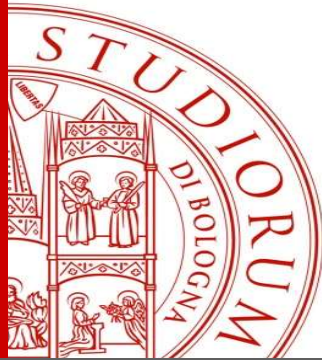
Chips JU Information Day

Rome, March 6, 2024



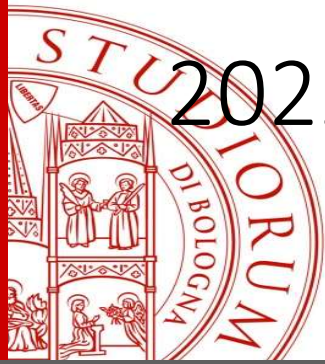
Outline

- The birth of the Chips-IT Foundation
- The infancy
- Next steps and future challenges



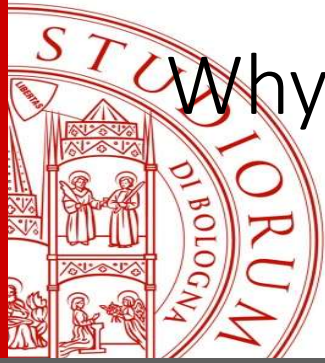
Decree law 1st March 2022, n. 17, Article 23

To promote R&I in microelectronics..... a fund is set up in the Ministry's of economic development's budget with a budget of 150 million euros for the year 2022 and 500 million euros for each of the years from 2023 to 2030.



2022: a working document on semiconductor policies

- Experts from MEF, MiMIT and MUR wrote a document suggesting a long-term strategy in the Semiconductor sector.
- The document suggested to establish a national research center focused on IC Design.
- In October 2022 the report was presented to the Government.



Why an Italian Center for chips design

- As outlined in the Chips Act documents, the design of IC's represents over 30% of the total added value of the semiconductor industry but it is not sufficiently developed in Europe and in Italy.
- The demand for design of advanced IC's has been increasing by the semiconductor industry and by the application sectors (automotive, automation, etc.)
- A Center with a three-fold mission: prepare new talents, support the semiconductor industry and help the application sectors that are more and more depending on advanced IC's, to approach this know-how.



The 2022 Budget Law (for 2023)

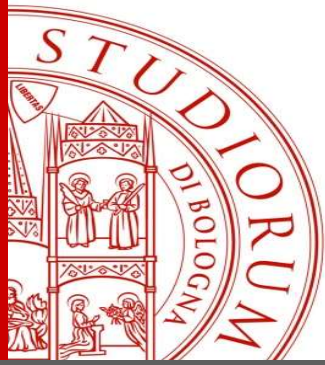
- The budget law for 2023 has established the *Italian center for the design of semiconductor integrated circuits*, to promote the design and development of integrated circuits, strengthen the system of professional training in the field of microelectronics and ensure the establishment of a network of universities, research centers and enterprises which favors innovation and technological transfer in the sector.
- The Center was endowed by the initial budget of 225 M€ for the time frame 2024-2030.



The setup of the Foundation

- The Statute of the Chips-IT Foundation was approved by decree of the Minister of Economy and Finance in agreement with the Minister of Enterprises and Made in Italy on **19 July 2023**
- President, Supervisory Board and Board of Auditors were appointed by decree of the Minister of the Economy and Finance in agreement with the Minister of Enterprises and Made in Italy on 30 October 2023, registered by the Court of Auditors on **1 December 2023**.
- A launch event was held in Pavia on **November 4th**, with the presence of the three Ministers

November 4th, launch event in Pavia



ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

IL PRESENTE MATERIALE È RISERVATO AL PERSONALE DELL'UNIVERSITÀ DI BOLOGNA E NON PUÒ ESSERE UTILIZZATO AI TERMINI DI LEGGE DA ALTRE PERSONE O PER FINI NON ISTITUZIONALI



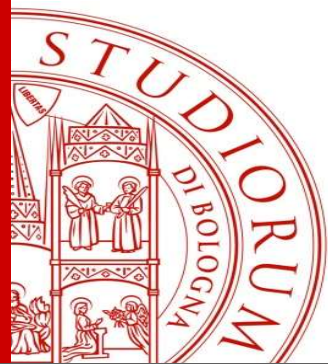
Supervisory Board

Alberto Sangiovanni-Vincentelli, President

Luca de Angelis

Enrico Sangiorgi

Francesco Svelto



Prima Sede: Pavia, complesso di via Taramelli





High-level Goals

- Focus on the development of the Italian chip design capabilities in cooperation with Universities and Industries
- Platform from which Industries can access talents for their research and development agenda
- Industries can participate by means of partnerships or as members/supporters
- Well connected in the European Chips Act Ecosystem (Italian Competence Center)



Research Priorities (1)

Analog/mixed signal IC for High-Speed Communication:

mmWave and Sub-THz Transceivers for 6G and beyond

MIMO and Array Digital Processors
Silicon Photonics and Photonic
Microsystems

High-Performance Computing and RISC-V

Digital and Analog Components for Machine Learning and Artificial
Intelligence

Digital Processors, Accelerators, Memories and In-Memory Computing
Cryo-Electronics for Quantum Computing

Power and Energy Management

Circuits and Technologies for GaN and SiC Devices (WBG)

Harvesting and Storage for Green and Renewables

Wireless Power



Research Priorities (2)

Smart Sensing and Actuation

Body and Brain Silicon Interfaces and
Medical Diagnostic Technologies

Advanced Imaging, Displays and Human-Machine
Interaction Technologies

Emerging Sensing Systems, IoT and Security

Packaging and systems:

Systems on Chips (SoC)

Systems in Package (SiP)

3D-IC



Next steps

The call for Director is out and will close on March 18

<https://www.fondazione-chipsit.it/bandi-e-selezioni/bando-direttore-2024/>

Chips-IT is partner with CNR, IUNET and FBK in the WBG Pilot Line proposal (submitted to the Call, February 29)

Chips-IT will be selected as the Italian Competence Center in the Chips for Europe Initiative (second half 2024)

Admission of the private members of the Foundations (Industry)

The collaborative model with the network of Italian Universities is under discussion