The European project GoIT (2022-2025): Fostering Open Source EDA for Open Source Hardware

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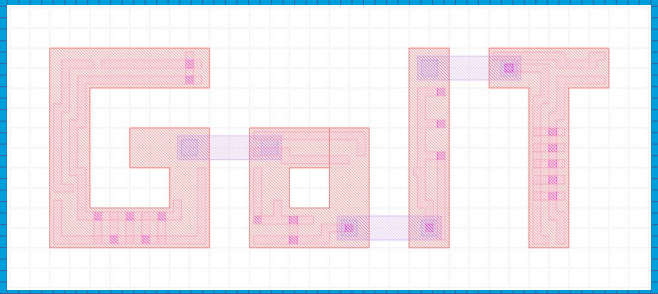


Summary of the CSA

- Europe's IT hardware development is constantly challenged by outrageously **expensive development tools**, legal constraints like **NDAs** or patents, lock-in threats, dependency from external vendors or supply chains and foreign political events.
- **Open-source silicon chips** carry the potential of catapulting Europe into a renaissance of digital technology. The road ahead is steep, but rich of rewards. Therefore we loudly say: Go IT!
- GoIT project has received funding from the European Union's Horizon Europe research and innovation programme under **grant agreement No 101070660**.

The Consortium

Partner - Role	Type of Organization	Country	Group involved - Contact
EDI – Project Leader	Public Research Institute	Latvia	Rihards Novickis
Sorbonne Université	University	France	LIP6, CIAN Team, Marie-Minerve Louërat
FSI – Free Silicon Foundation (I)	Foundation	Italy	Luca Alloatti
CSIC	Public Research Institute	Spain, Seville and Madrid	Piedad Brox-Jimenez, David Arroyo
Fibra Servi	SME	Belgium	Staf Verhaegen
Grenoble INP	MPW service in University	France	CIME-P, Aurélien Nicolet

Where does GoIT come from

Education

In 1979 Carver Mead and Lynn Conway published a textbook: "Introduction to VLSI Systems", transforming education as it became the cornerstone for teaching VLSI systems worldwide.

EDA

With the increasing complexity of ICs, electronic computer-aided design has become an integral part of the design, validation and verification, leading to ever-increasing productivity.

Fabless

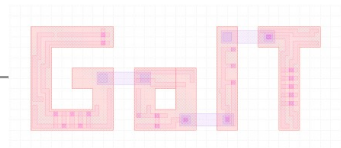
In 1986 Morris Chang piloted the first semiconductor wafer fabrication plant, currently known as TSMC, which shaped the modern fabless semiconductor design business model.

Standardization

The nineties establishment of open-standard, on-chip interconnect specification boosted the reusability and modularity of IC designs, leading to the modern System-on-Chip.

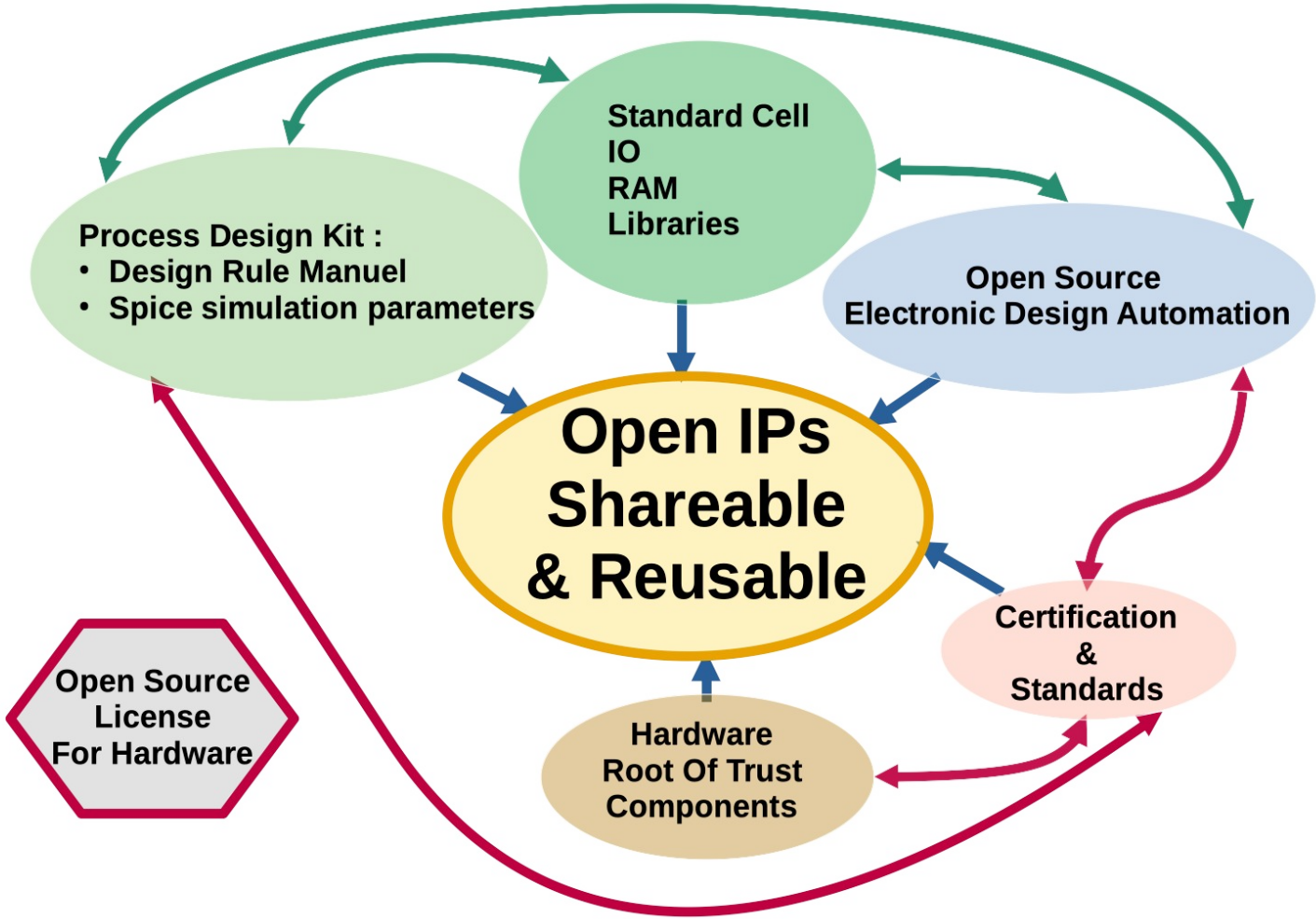
Open Ecosystem

- *Facilitating open-source hardware community*
- *Educating policymakers*
- *Releasing open PDKs*
- *Opening design toolchains*
- *Improving IP quality and reusability*
- *Establishing trustworthiness*



Evolution of the chip design and fabrication

Work Packages



Open IPs come with Open-Source Design Flow

- Objectives
  - Paving the way for **open-source PDK and open source IPs**
  - Developing complete **open-source EDA flow**
  - Building a comprehensive **open-source IPs repository**
- Concrete actions
  - **Identify technologies** to target : **IHP 130,** GF 180, SkyWater 130
  - Survey and cartography the **open-source IP ecosystem**: open-source standard-cells libraries, Open EDA flow, open initiatives in HW security
  - Work on possible **standard formats**

Conclusion

- GoIT website :

https://wiki.goit-project.eu/index.php?title=Main_Page

- FSIC 2023 conference, Sorbonne Université, Paris, 10-12 July 2023

https://wiki.f-si.org/index.php/FSiC2023

- GoIT is funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the granting authority can be held responsible for them.
- **Thank you to IHP** for organizing **OpenPDK Workshop** !