



Sprawozdania

Informacje na temat projek	tu				
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Data rozpoczęcia 1 Września 2022	31 Sierpnia 2025	Agenda cyfrowa	0	Czyste powietrze	0
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Periodic Reporting for period 1 - GOIT (Go IT!)

Okres sprawozdawczy: 2022-09-01 do 2024-02-29

Podsumowanie kontekstu i ogólnych celów projektu

Project strives to reach all relevant key players and stakeholders, to identify all possible obstacles to open-source hardware development, formulate solutions, and feedback inputs to those with the power of influence (policy makers, managers, etc.) therefore supporting them to coordinate the evolution of open-source in Europe. Further, project partners and related stakeholders will coordinate and support the community of programmers and developers directly, by continuing to organize get-together events (like the Free Silicon Conference), by overcoming critical obstacles (like the availability and compatibility of PDKs and design tools), and by creating the prerequisites to grow in a sustainable manner (re-usability, licences, etc). In all these activities, dissemination and advertisement on different levels plays a crucial role.

The following objectives have been identified:

- Study and support (Communicating to the decision makers what is relevant to ongoing efforts of the open-source hardware communities, their struggles, and their needs);

- Direct technical coordination (Facilitating open-source community by organizing get-together events for open-source hardware communities);

- University coordination (Promoting and facilitating the creation of an international network of academics, which work towards the same goals);

Maturity, interoperability, availability of tools and components (Promoting the compatibility/interoperability between technical developments and their availability by facilitating compiling and testing tools, the creation of shared software interfaces, libraries and repositories);
Open Process Design Kit (PDK) (We will work towards releasing of an open-source Process Design Kit by a major CMOS foundry);

- IT security thorough open-hardware (We will promote the concept of hardware-security by openness, and we will put in contact the relevant players to create a pilot demonstrator of the open-hardware security approach);

- Sustainability, re-usability, hardware licence (We will work to disseminate the best available software tools, the best hardware projects, and the general philosophy and potential of the open-source world);

- Certification and standards (We will contribute by providing technical inputs, consultation, or direct participation whenever possible, to the creation of certifications by the relevant offices and standards by the relevant key-players).

Prace wykonane od początku projektu do końca okresu sprawozdawczego oraz najważniejsze dotychczasowe rezultaty

The most significant scientific contributions were made under the WP3 (Hub of open-source EDA software and hardware libraries) and WP5 (Open Source PDK: compatibility with open source EDA tools, open-source standard-cell libraries).

The main focus of WP3 was based on providing interoperability and availability of design tools. Contribution were made to the open source hub's architecture definition, based on expertise in open source (hardware) development. Two working tool-chain flows were created and distributed on

GitHub.

Remarkable contribution was done within WP5 by working on open source PDK support for selected technology nodes. This has been done by development and releases of several python packages. The progress has been reached also at the technical level while working on configuration, installation and compatibility issues of Open Source PDK. Results are available and distributed on GitHub. Considerable work has been performed to develop a list of technologies for open-pdk and list of technologies compatible with open-EDA tools. Work has also started on organization of building a demonstrator on IHP and AMS technologies.

Some experiments with packaging EDA software for different EDA tools on the dev, releases and latest subprojects were carried out on the OpenSUSE Build Service. Expertise gained here will be used for setting up the EDA software repositories in the second period of the GOIT project.

Within the first period, activities under the WP1 (Roadmapping and direct technical coordination), WP2 (Sustainability and licences), WP6 (Open source for hardware Root-of-Trust (RoT) components) were performed to promote sustainable and smooth cooperation environment among all possible stakeholders – academia, business, public authorities and society, as well as to communicate and disseminate the results by creating awareness about the current challenges, threats and opportunities for the European semiconductor ecosystem in relation to the open-source silicon chip community. To stimulate cooperation among research groups, project team members participated in numerous visits, forums, conferences and dissemination events.

In addition, in the framework of the WP2, new lecture was created, "Free and Open Source EDA tools and hardware" (Master of Computer Science, Sorbonne Université, Paris), and regular lectures on "Open software and open licenses" were delivered at Polytech Sorbonne (the engineering school of Sorbonne University, Paris).

Within the WP4 (Certifications and standards), the study of the standardization efforts related to open hardware and open silicon in ISO and CEN/CLC, specifically in the fields of Cybersecurity, AI and blockchain and Distributed Ledger Technologies, was carried out. Then, the report was prepared, providing summary of very relevant initiatives in the domain of open hardware and open silicon. The analysis presented into report takes into consideration the entire hardware production cycle; this approach demands going beyond chips production and the use of microelectronics in computers to discuss several other aspects associated with open hardware and open silicon.

To ensure successful project implementation and indicate the progress, during 1st period several documents have been prepared and delivered:

- Roadmap of recommendations for the development of open-source silicon in EU (deliverable 1.1.)
- Report on activities and licence development was created (deliverable 2.1.)
- Report on requirements, methodology and structure of the hardware repository (deliverable 3.1.)
- Report on the status of the hardware repository, its structure and tools (deliverable 3.2.)
- Report on the main initiatives in open source hardware (deliverable 4.1.)

Innowacyjność oraz oczekiwany potencjalny wpływ (w tym dotychczasowe znaczenie społeczno-gospodarcze i szersze implikacje społeczne projektu)

The project pursues enabling and implementing Europe's (and the world's) policy and future for opensource hardware. This ambition includes fostering an unprecedented open-source hardware community, providing the decisive de facto open-hardware license, improving the quality of opensource silicon intellectual property, fostering open-source process development kits, promoting open and accessible standard cell libraries, and aligning all these processes with European policymakers for sustainable and secure future.

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