Company-Community Collaboration for Open Source Development of products and services

Rendicontazione

Informazioni relative al progetto

OPEN_NEXT

ID dell'accordo di sovvenzione: 869984

Sito web del progetto

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10.3030/869984

Progetto chiuso

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Coordinato da
TECHNISCHE UNIVERSITAT BERLIN
Germany

Questo progetto è apparso in...

31 Agosto 2023

Periodic Reporting for period 2 - OPEN_NEXT (Company-Community Collaboration for Open Source Development of products and services)

Periodo di rendicontazione: 2021-03-01 al 2022-11-30

Sintesi del contesto e degli obiettivi generali del progetto

Today's industrial product creation is expensive, risky and unsustainable. At the same time, the process is highly inaccessible to consumers who have very little input in the design and distribution of the finished product. During OPEN_NEXT, SMEs and maker communities across Europe came together to fundamentally change the way we create, produce, and distribute products. By sharing ideas and knowledge openly on digital platforms, OPEN_NEXT established new collaborations between companies and consumers. This model was demonstrated and tested with 17 SMEs and within four makerspaces clusters over the course of the project timeline. The industries in focus included eco-friendly mobility, consumer electronics, and built-to-order furniture. OPEN_NEXT empowered both companies and consumers to co-design and co-manufacture products based on new mindsets, new business models, and new collaborative software solutions. The following specific objectives were defined:
Sharing – Creating the adequate and needed information and communication technology (ICT) to develop, build and share open source hardware (OSH).
Collaborating – Our network of makerspaces worked as facilitators to support the SMEs to create OSH to co-develop products and services with makers and their customers.
Documenting – The journeys of 17 SMEs that participate in communities to develop innovative, creative and user-centric OSH.
Network building – of labs, SMEs, citizens and other actors as well as promoting collaborative production engineering for OSH creation via a European open hardware alliance.

Lavoro eseguito dall'inizio del progetto fino alla fine del periodo coperto dalla relazione e principali risultati finora ottenuti

Through facilitation by our makerspace partners within the clusters Copenhagen, Amsterdam, Berlin and Vienna, 17 SMEs were successfully enabled to co-develop OSH products and services with makers and communities of individuals and groups of consumers, users and customers.
Defining the needs and capabilities as well as drafting an envisaged user journey for the makerspace-SMEs collaboration took place in the first year, followed by a nine-month open source development journey of our six SME partners within the clusters Amsterdam, Berlin and Copenhagen. During this phase, tools, models, framework and ICT infrastructure were built and tested together with the SME pilots to gather feedback and perform modifications. These were utilised for verification during the demonstration phase as part of a combined facilitation offering with further eleven SME cases (selected out of around 30 interested applicants). Those were acquired through a call for collaboration between Nov. 2021 and Jan. 2022 to participate freely and lasted between three and six months each. In 2022, our four makerspace partners worked closely together with the eleven SME demonstrator cases to carve out realistic goals and realise them together with the entire OPEN_NEXT team. Different roles emerged within the makerspaces which were case-based and required a high level of adaptability: acting as matchmaker; provider of facilities for prototyping and exchange; serving communication and moderation needs; facilitating a collaborative working culture; managing the co-creation processes; and enabler of understanding roles, motivation and responsibilities.
Several tools, guidelines, methods, standards and supporting ICT infrastructure features were developed and validated during OPEN_NEXT. The Library for OSH Hardware (LOSH) provides a stable search service for finding projects/parts for design reuse OSH (losh.opennext.eu/). The Wikifactory platform extends their existing offering (wikifactory.com) with features such as: an import-export tool avoiding platform lock-ins; a new format to host open calls of SMEs for crowdsourcing of ideas, designs, documentation from the OSH community; and a collaborative manufacturing platform for matchmaking and quoting for distributed manufacturing. A model for maturity assessment of OSH development in company-community collaboration (C3) was developed that allows to identify, assess and improve OSH projects. A refined demonstrator of a project status dashboard that allows to analyse OSH projects was developed and tested on the platform GitHub and partially out rolled on Wikifactory. Furthermore, documentation guidelines were shared as open access resources on Wikifactory and GitHub which enable design reuse by OSH projects.
Significant knowledge and insights could be created on how to derive and establish open business models for SMEs with a dedicated toolkit. The recombination of building blocks for certain conventional business models was most fruitful which were found to be: platforming, leverage through communities, ecosystem infrastructure, consulting services, crowd- and third-party funding, and selling hardware products.
The SMEs reported positive outcomes on sales, sustainability and innovation capacity. In addition to the new business models, the establishment of networks is cited as a reason for better profitability and better sales. This is also because of the much-increased visibility of the SMEs and their products and their presentations on diverse digital platforms.
By creating open source/access results, they were carved out to ensure long term sustainability beyond the project duration. Envisaged users of results are mainly SMEs, the OSH community, makerspaces, future research projects on the topic of OSH, amongst others.
The following two new entities were formed and will further exploit some of the results after the end of the project:

The European Open Hardware Alliance (EUOHA) for promoting collaborative production engineering practices and networking of labs, SMEs, citizens and other OSH actors in Europe.
The OHO - Open Hardware Observatory e.V. for publishing and certifying OSH (registered 05/21).

Progressi oltre lo stato dell'arte e potenziale impatto previsto (incluso l'impatto socioeconomico e le implicazioni sociali più ampie del progetto fino ad ora)

During their journeys, fab labs acted as a catalyser to support businesses by facilitating close integrations of diverse stakeholders. Through these activities, OPENNEXT increased the open innovation capacity of SMEs, particularly their capacity to develop user-centric solutions. Overall, OPENNEXT contributed in reducing SMEs' time to market as well as their development costs and increased revenues by providing critical engineering support to enhance SMEs overall collaborative capacity, enabling design reuse through standardisation of documentation of OSH, operative and strategic project management support and seamless ICT solutions for co-development and the cross-linking of OSH products on the Internet.
The support to OSH communities was through the SMEs, whereby OPEN_NEXT provided guidance to them on how to reach out, engage, and maintain the collaboration with these communities. It was the goal of this project to foster innovative energy and user-driven value in OSH communities to the benefit of the user, of course, but also of the designers, the manufacturers and society as a whole, minimising over-production (and thereby waste) and democratising the way we consume. On a socio-economic level, OPEN_NEXT seeks to unlock an enormous potential for restructuring the social organisation of product development and reforming conventional industrial practice.
Throughout Europe, the project raised awareness of the values of OSH and facilitating participation within OSH communities. We see open source sharing and co-creation as the natural next step in a digital transformation that is already upending global production and providing access to new, specialised knowledge everywhere.

Project logo

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