

Post-doctoral offer: Maturity model to support the co-creation of locally accessible urban factories

G-SCOP Laboratory is a leading French academic lab in industrial engineering. Among the numerous topics our lab addresses, we focus on the sustainability of industrial organisations. We mainly study the industry's ongoing transformations towards more local, circular, and people-centric models.

The European Green Deal is the political response of the EU to this challenge. It aims to put the EU on the right track towards a carbon-neutral society. The project is part of a Green Deal European project that tackles the problem of local, sustainable and urban manufacturing. Is it possible to invent a new production model that could solve the problem of being integrated into the urban environment while still producing quality products with little impact on the planet? We propose to rely on existing new forms of collaboration and value creation. Digital communities gathered around open-source projects, Makers that create collectives of professionals, artists, artisans, and designers to co-create solutions, SMEs and entrepreneurs creating more sustainable, circular business models are essential resources that could participate in building the model we are looking for. The LAUDS-Factory is an innovative concept aiming at creating small, versatile factories in local and urban areas to co-create and produce customised products in small series. In addition, these local infrastructures should participate in creating a more user-centric model where the user is active in the produce-use-repair-recycle loop. These LAUDS factories aim to promote the new European Bauhaus approach by bringing the production close to the user and integrating the output into the social environment.

The post-doctoral project aims to develop a maturity model to enable collaboration among the various actors involved in a LAUDS co-creation project. The challenge is to create and implement an evaluation framework that would support and develop the collaborative capacity of the project members.

Thus, it aims to support and develop the collaborative capacity of the various involved actors in a distributed and decentralised environment. The aim is to create a local readiness level scale to allow a self-evaluation of the actors while building an LAUDS factory. It will also include a persona analysis of the LAUDS factory's potential stakeholders (SMEs, start-ups, artists, makers and citizens, and local authorities...) and classification and clarification of their needs and expectations through interviews and surveys. It is essential to consider the diversity of the regional territories and different scales. The outcome of this thesis will be a capacity-building model that takes into account all the dimensions of the collaboration (i.e. actors, shared knowledge and documentation, quality criteria, openness and business models, networking,

political and territory, etc.), including a stakeholder map to clearly understand the context conditions and the value elements to be delivered to each stakeholder.

The research methodology will be iterative and empirical, strongly connected to the case studies of the project. The first phase will include an extensive literature review of existing maturity models and approaches, understanding the new urban manufacturing approaches and the articulation between design and manufacturing. This should lead to a maturity scale and method for evaluating and supporting the projects to scale up production and quality standards. The second phase of the thesis will be empirical. Through participating in several projects funded by the LAUDS factories project, we will have the opportunity to test and refine the implementation of our method. This will be a co-development phase that is very user-centric. Through case studies, we will gather data and evidence that will allow a strict and robust evaluation of our proposition and, at the same time, create a methodology to implement it concretely. The project's third phase will be the consolidation and publication of the final version of the model and the implementation method. The conceptual elaboration of the model should also be associated with a process and information support to disseminate the results among the society, which allows reuse by anyone willing to develop an urban manufacturing approach.

Required skill:

- communication in an international environment
- interview and data structuring, data analysis
- interaction with professionals in an industrial environment

Profile:

PhD in industrial engineering, design science, or management science, preferably with an engineering background.

Duration: Three years

Salary: 2000 € + depending of experience

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