

# The JobTech Platform A Research Project Description

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## 1 Introduction

This document proposes a two-year research project funded by the Swedish Public Employment Service (SPES) and Lund University. In the project, two researchers from Lund University will study SPES and the realization of their JobTech platform<sup>1</sup>, and thereby their move from the role of being a service provider to becoming a service enabler. The JobTech platform provides an infrastructure of open innovation, allowing an ecosystem of third-party organizations and private citizens to create new technologies, products, and services based on resources released by SPES to the platform, such as open source software, data, application programming interfaces, and standards (see Figure 1). The JobTech platform enables ecosystem members to collaborate and co-create, potentially resulting in accelerated innovation and new business opportunities, as well as reduced costs through shared maintenance and shorter time-to-market.

Through the research project, the researchers will take an active part in the realization of the JobTech platform together with SPES by engaging in discussions, communicating knowledge and lessons learned from existing research, as well as findings that are made as research progresses. The aim through this active role is to iteratively intervene and improve the implementation, release, and continued evolvment of the JobTech platform, as it is being studied. The research will focus specifically on the following four Research Goals (RG):

**RG1** Develop guidelines to help SPES decide what resources to share on the JobTech platform.

**RG3** Develop metrics to measure the health of the JobTech platform.

**RG2** Develop guidelines for a governance structure of the JobTech ecosystem and governance activities to be performed by SPES, in the role of the platform leader.

**RG4** Identify factors that encourage third-party organizations to use and contribute back to the JobTech platform.

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<sup>1</sup> See: <https://jobtechdev.se/>

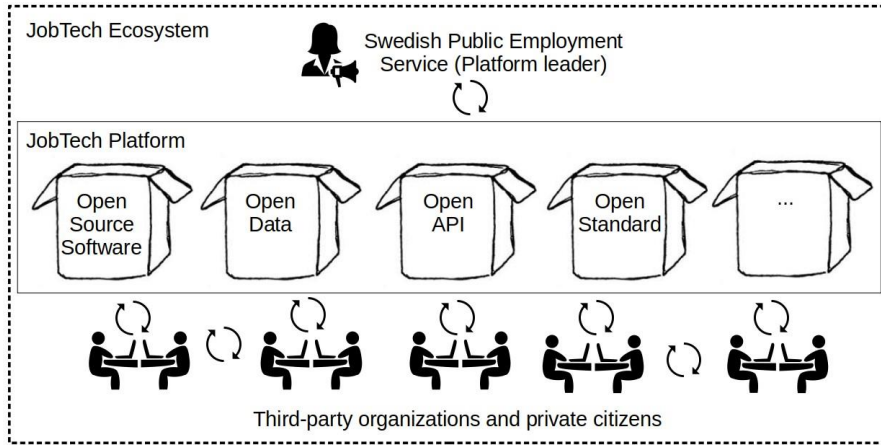


Figure 1: Overview of the JobTech ecosystem and the JobTech platform with examples of resources it may contain, which the platform leader and the thirdparty organizations use, co-develop and collaborate around.

Beyond contributing to a successful realization of the JobTech-platform, the research project aims to create a blueprint for how software organizations similar to SPES within the public sector can undergo a similar transformation by opening up. All research results will, if not requested otherwise by SPES, be made publicly available and published as open access.

Below, we provide a brief background and framing of the project based on related work, and then lay out our planned research approach.

## 2 Related Work

Open Innovation (OI) has sparked software organizations into realizing the potential of opening up their gates to in- and outflows of ideas, knowledge, and technology [1]. Instead of developing monolithic applications and focusing R&D resources internally, the software organizations' leverage the external knowledge and workforce available from parties with aligned interests to accelerate internal innovation processes. One common approach is for a software organization to open up and turn internally produced software into a platform. Through this move, the software organization opening up (platform leader), enables thirdparty organizations to build complementary innovations on top of the platform, e.g., in the form of specific products, related services or component technologies [2]. The platform unites the different organizations in that it solves a common problem, allowing them to focus on more value-adding activities, and/or enabling new business models.

Based on the relationships underpinned by the platform, the software organizations together form a software ecosystem through which they interact, collaborate and potentially compete on a shared market [3]. As more organizations join an ecosystem and new components are built, the value of the platform increases for the ecosystem's members, as does the ecosystem's attractiveness for new members. However, to get a good indication of an ecosystem's health one should also consider how productive and active the ecosystem's members are, as well as the quality of their components [4].

Open Source Software (OSS) communities are a common type of software ecosystems used by software organizations to gain the potential benefits that OI can provide [5]. In an OSS community, the OSS project makes up the platform which is co-developed openly and transparently by the stakeholders in the community [6]. The stakeholders use the OSS project as a complement to different extents in their products, services or operations [7]. Reduced maintenance cost, shortened time to release and market, and increased innovation are common motives [8]. Besides using it as a complement for their business models, many software organizations also use OSS as a tool for their business strategy in gaining a competitive edge, e.g., through disrupting competitors, creating new standards, and performing external R&D [9].

Considering software organizations within the private sector, OSS is generally adopted<sup>2</sup>. Recent research on government agencies in Sweden indicates that this may also be true within the public sector [10]. However, the study also suggests that a very limited amount of software is made available as OSS. As the authors highlight, "*...this is interesting in the light of calls for more open data and open software in the public sector*" [10]. Even though it is suggested that the development largely resembles private sector counterparts, and that established best practices are implemented [10], there is a lack of knowledge in how the potential benefits of OI apply to software organizations within the public sector as compared to those in the private [11].

There has been some research on the phenomena labeled Government-as-a-Platform [12], where different types of resources from a government agency together form an open platform that allows people and organizations inside and outside of the government to innovate. However, the research still lacks in terms of how these platforms are realized. A gap also exists in terms of how software ecosystems are realized within the public sector, as opposed to the private, where it has been given much focus [13].

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<sup>2</sup> <https://www.zdnet.com/article/its-an-open-source-world-78-percent-of-companies-runopen-source-software/>

### 3 Planned Research Approach

To answer the defined research goals of this project, the researchers will take an active role in the realization of the JobTech platform. This approach, commonly referred to as action research, is preferable before a more passive approach as SPES will actively be developing the JobTech platform throughout the lapse of this research project. Thus, close and iterative collaboration is expected between the researchers and SPES.

Interviews, focus groups, and document analysis will be used to gather data from SPES, constituting the platform leader, and third-party organizations using the JobTech platform. Synthesis will be based on thematic analysis of interview transcripts and extracted findings from document records. Findings will be continuously looped back to SPES to be used as input to the realization process of the JobTech platform.

To complement and generalize the synthesized findings beyond SPES, and to increase their transferability, software organizations similar to SPES within the public sector will be surveyed.

The main researcher (Post-doc, see Table 1) will be responsible for all parts of the data collection and be the main contact towards SPES and other thirdparty organizations partaking in the case study. All interviewees will receive a summary of interview transcripts with the chance to clarify and correct any misunderstandings. Audio trails will be kept for traceability. Everything mentioned during interviews or in communication will be kept confidential by the researchers. Nothing in regards to recordings, transcripts, documents, and communication etcetera will be redistributed or shared with any third party without explicit consent.

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