

THE ONLINE VIRTUAL EMPLOYMENT ASSISTANT IS A CHATBOT TOOL PROVIDING SLOVENIAN PES USERS (JOBSEEKERS AND EMPLOYERS) WITH REQUESTED INFORMATION AROUND-THE-CLOCK USING INFORMATION GATHERED IN A CENTRAL KNOWLEDGE BASE.

## Online Virtual Assistant (Chatbot 'Iza' (Interaktivna Zavodska Asistentka))

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### SLOVENIA

The Slovenian PES introduced an online Virtual Assistant function on their website in 2013 in order to increase the accessibility and provision of information to users by using virtual employment assistance. The online Virtual Assistant is directly accessed through the Slovenian PES website and it provides answers to users' questions 24 hours a day, so that users can still receive information outside working hours. It aims to gather all information in one place, making this more easily accessible for both external users who visit the Slovenian PES website (jobseekers and employers) and internal users (PES staff). The knowledge base is continuously updated to ensure the most appropriate and accurate answers are provided to users, and there are plans to further develop this tool. Overall, it has been shown to provide accurate answers to users and has made the work of the PES more efficient.

Name of the PES	Employment Service of Slovenia - ESS (Slovenian PES)
Scope of measure	National
When was the practice implemented?	Since 2013 - ongoing (Developments began in 2010 but the Virtual Assistant was fully implemented in 2013).
What was the driver for introducing the practice? Was it internal or external?	<p>The introduction of the Virtual Assistant was driven by internal priorities, and it was specifically implemented within the framework of the project for establishing the Contact Centre of the Slovenian PES. The Contact Centre was implemented within the framework of the ESF Operational Programme for Development of Human Resources (2007 – 2013), part of which highlighted the need to reform institutions in the labour market.</p> <p>The Slovenian PES wanted to increase the visibility and provision of information through multi-channel communication so that it was available 24 hours a day, and virtual assistance was capable of doing this. The Slovenian PES Contact Centre had initially developed a knowledge base where information on all areas of employment services was gathered in one place. This knowledge base was first developed as a tool for Slovenian PES operators in the Contact Centre to provide necessary information to customers by phone and e-mail. This meant that the information was already stored in one place, no matter which channel it was provided through.</p> <p>Slovenia's digital strategy, which aims to strengthen digital business with jobseekers and employers, also formed a basis for developing an online tool where users can access this knowledge base at all times. As a result, Slovenian PES staff in the Contact Centre developed a virtual assistance tool, based on the knowledge base which they had already developed.</p>
Which organisation was involved in its implementation?	<ul style="list-style-type: none"> <li>► Key associates from the Slovenian PES central office were involved in the process of developing the knowledge base and Virtual Assistant, including staff from the information technology (IT) department and experts from different Slovenian PES departments who provided content for the knowledge base. The Slovenian PES project team work at the Contact Centre and is now responsible for keeping the knowledge base content up-to-date.</li> <li>► The knowledge base and Virtual Assistant were implemented with the help of an external contractor in 2013, selected through a public tender. The external contractor also makes programming improvements when necessary.</li> </ul>
Which groups were targeted by the practice?	Both internal and external users are targeted by the Virtual Assistant measure. External users, composed of jobseekers and employers, can access the knowledge base through virtual assistance when visiting the Slovenian PES website, whilst internal users (PES staff) can access the same information through the internal PES intranet site. The Virtual Assistant has therefore enabled the provision of 24/7 assistance to external users, whilst internal PES staff can access this information easily from one central place.

<p>What were the practice's main objectives?</p>	<p>The purpose of the online Virtual Assistant is to provide an information service to Slovenian PES users that is accessible on a 24-hour basis across a 7-day week, so that users can still receive information outside working hours. It aims to gather all information in one place, making this more easily accessible for users through virtual assistance. The knowledge base also aims to make the work of Slovenian PES staff more efficient by gathering information from different areas of the PES in one place.</p>
<p>What activities were carried out?</p>	<ul style="list-style-type: none"> <li>▶ A knowledge base was first developed in 2010 where information was gathered from different departments within the Slovenian PES and stored in one location. This could then be used to support the functioning of an online Virtual Assistant so that users can access this information directly on the Slovenian PES website, as well as provide a repository of information for all Slovenian PES staff through their internal intranet site. The knowledge base is now running smoothly, with only occasional updates to the service.</li> <li>▶ A strengths, weaknesses, opportunities and threats (SWOT) analysis was conducted for the introduction of virtual employment assistance, as well as an assessment of potential economic benefits, timeframe, and organisational aspects which would be involved in the implementation of the online Virtual Assistant. After project documentation was prepared, the project team tested the online service, and the Virtual Assistant was subsequently set up.</li> <li>▶ Instructions and training were prepared for administrators and editors of the knowledge base and Virtual Assistant (internal PES staff).</li> <li>▶ The project team conducts daily checks of the questions received by the Virtual Assistant users, and can then adjust answers and the knowledge base if necessary, so that users can receive a better response. New information is also added to the knowledge base when new programmes and changes in legislation are introduced.</li> <li>▶ When the Virtual Assistant cannot provide users with the exact information they need, users receive a guided answer instead, steering them towards more specific information. If the Slovenian PES is not the competent institution, users will be provided with information on which institution they can contact.</li> <li>▶ There are plans to further develop the knowledge base in the future especially for external users. However, at this moment, everything is in the planning phase.</li> </ul>
<p>What resources and other relevant organisational aspects were involved?</p>	<p>One Slovenian PES staff member was responsible for working full-time on developing the knowledge base. Once the knowledge base and Virtual Assistant became fully functional, this role became part-time. Overall, the project team is comprised of three staff members who work as administrators and editors of the online Virtual Assistant (one staff member is the main administrator and the other two are substitutes when the former is unavailable); one coordinator in the central Slovenian PES office who manages the partnership with the external contractor; and a manager who oversees the service.</p>
<p>What were the source(s) of funding?</p>	<p>The Virtual Assistant was primarily funded through the European Social Fund (ESF), which provided 85% of the funding. The remaining 15 % came from the Slovenian PES budget. The knowledge base was developed as part of the project for the Slovenian PES Contact Centre, and was funded by the budget allocated for this centre.</p>
<p>What were the outputs of the practice: people reached and products?</p>	<ul style="list-style-type: none"> <li>▶ The service is being systematically monitored and evaluated. Daily, monthly and annual statistical reports are prepared for internal use. Part of this data follows the number of inputs provided by users and the number of adjusted answers necessary.</li> <li>▶ The online Virtual Assistant receives approximately 85 queries per day from external users on a variety of topics, and has responded with 97 % accuracy (2017 data). Data from 2013 – 17 shows that the number of queries received depends on how visible the Virtual Assistant is to users. In 2013 when the Virtual Assistant was first introduced, there were a lot of promotional activities for the service as this was something new, therefore there was a high number of users and queries received (22 371 queries received). However, after the initial launch period the service became less visible and user numbers dropped. The lowest number of users and queries received was in 2015 (around 3 000 users and 8 525 queries). As a result, in 2017 the Slovenian PES worked with the external contractor to ensure that the online Virtual Assistant automatically appears on the Slovenian PES website. This improvement in visibility led to an increase in the number of users and queries received, which were the highest they had ever been (14 945 users and 29 926 queries were received in 2017).</li> </ul>

	<ul style="list-style-type: none"> <li>▶ A validation of the knowledge base was carried out internally within the Slovenian PES. This showed that the knowledge is very useful and of a high quality, which is a result of having well-prepared content.</li> <li>▶ Every year, the Slovenian PES conducts user satisfaction surveys on services provided by the PES. Generally, users have a high level of satisfaction with services provided by Contact Centre and the information they receive. However, as the survey questions do not directly refer to the online Virtual Assistant, it is difficult to say to what extent it contributes to satisfaction levels.</li> </ul>
What outcomes have been identified?	The key measures of success for the Virtual Assistant are the number of users, the number of questions received from them, and the accuracy of the responses provided. Since its implementation, the accuracy of responses has always been above 90 %. Moreover, one of the most valuable outcomes of the Virtual Assistant was also the bringing together of information from all areas of the Slovenian PES in one place. This has made the work of the Slovenian PES easier and more efficient, and Slovenian PES employees welcomed the development which saw all information gathered into one place. Answers from the knowledge base are very detailed, which is helpful for Slovenian PES staff and employment advisors in local labour offices.
What are the lessons learnt and success factors?	<p>One of the key success factors for the online Virtual Assistant was the use of an external partner with experience in managing and visualising information in a clear and accessible format, so that they could provide the help needed to develop the knowledge base interface. It is very important that the information in the knowledge base is well organised and that there is a constant flow of information to update it. The administrators and editors of the knowledge base and the Virtual Assistant play a key role in this and should therefore receive the necessary training.</p> <p>It is also important to create a basic structure from the beginning of what the service is intended to achieve. Developing the knowledge base took a lot of time and the project team learnt through mistakes, making adjustment along the way when necessary. In the beginning stages the answers provided by the Virtual Assistant were not of the quality they are now, but through time the team was able to make improvements to the service and knowledge base, which is being constantly updated. This regular maintaining of the knowledge base is necessary for the good functioning of the Virtual Assistant.</p>



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