Virtual Campus Hub

Deliverable D4.3 (WP4)

e-Link evaluation report

Authors:

Laura Farinetti, Fulvio Corno, *Politecnico di Torino*

Norberto Patrignani, Enrico Ghia, *I3P*

Date:

October 29, 2013

Table of Contents

1   Introduction

The goal of this Deliverable D4.3 is to report on the evaluation, experimentation and trials involving the "StartApp" web platform, whose planning and design were reported in D4.1, and whose main implementation features were described in D4.2.

2   StartApp brief overview

The StartApp an on-line tool for innovative start-ups, that is able to support, in a virtual way, some phases of their learning path towards incubation (the so-called pre-incubation period). The StartApp name is evocative of the "Start-up" nature of the Innovation Teams participating to the platform, and at the same time it remembers that it hosts a collection of "Apps", i.e., specific functions suitable for implementing suitable sub-tasks.
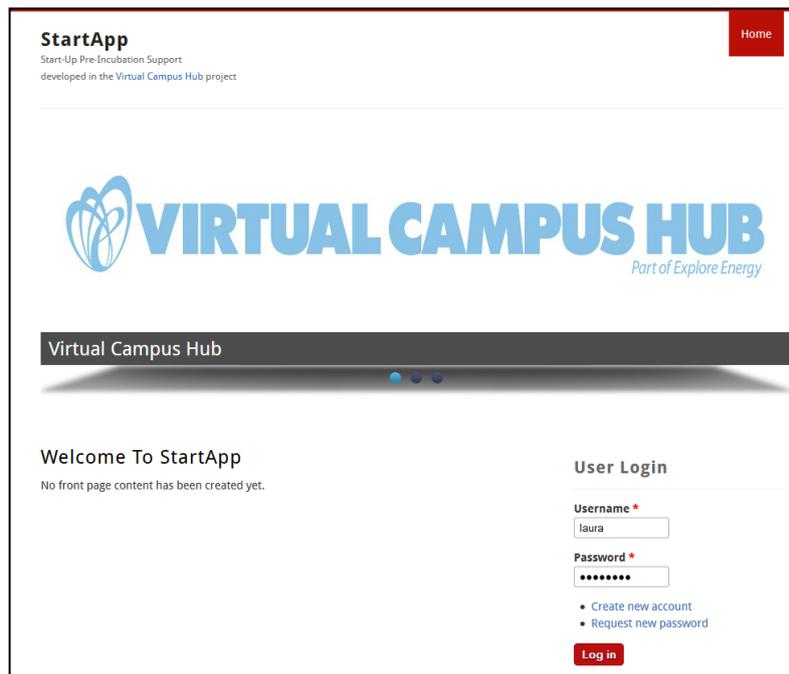

Figure 1. Home page of the StartApp tool, http://toce.polito.it/vchub/

While full details are provided in the previous deliverables, we remind here the main characteristics of the designed service:

- The target users are post-graduate persons, who aim at building new and innovative companies in the Energy Sector.
- The service will follow such users in their pre-incubation phase. In this phase, there is a mix of learning activities (about business models, economics, but also technology, market structure, etc) with some initial research and business development.
- Functionalities and implementation were designed in collaboration with other VC Hub partners, but also with the I3P Incubator in Torino, Italy.
- Users of the website are recognized as part of "Innovation Teams" (companies are not formally registered, yet). Each innovation team is followed by a "Tutor" from the Incubator.

Figure 2. The StartApp tool menu bar

The StartApp features may be briefly classified as content-based features, and interactive features.

Content-based features in StartApp include a Smart List of Web Links (Smart Links), Patent database access, and a market and industry database. These functions are based on a Content Management System (CMS) and are curated by the international experts and the incubator tutors. During the months and years, such portions of the StartApp website will increase and will include all sorts of information useful for innovators.
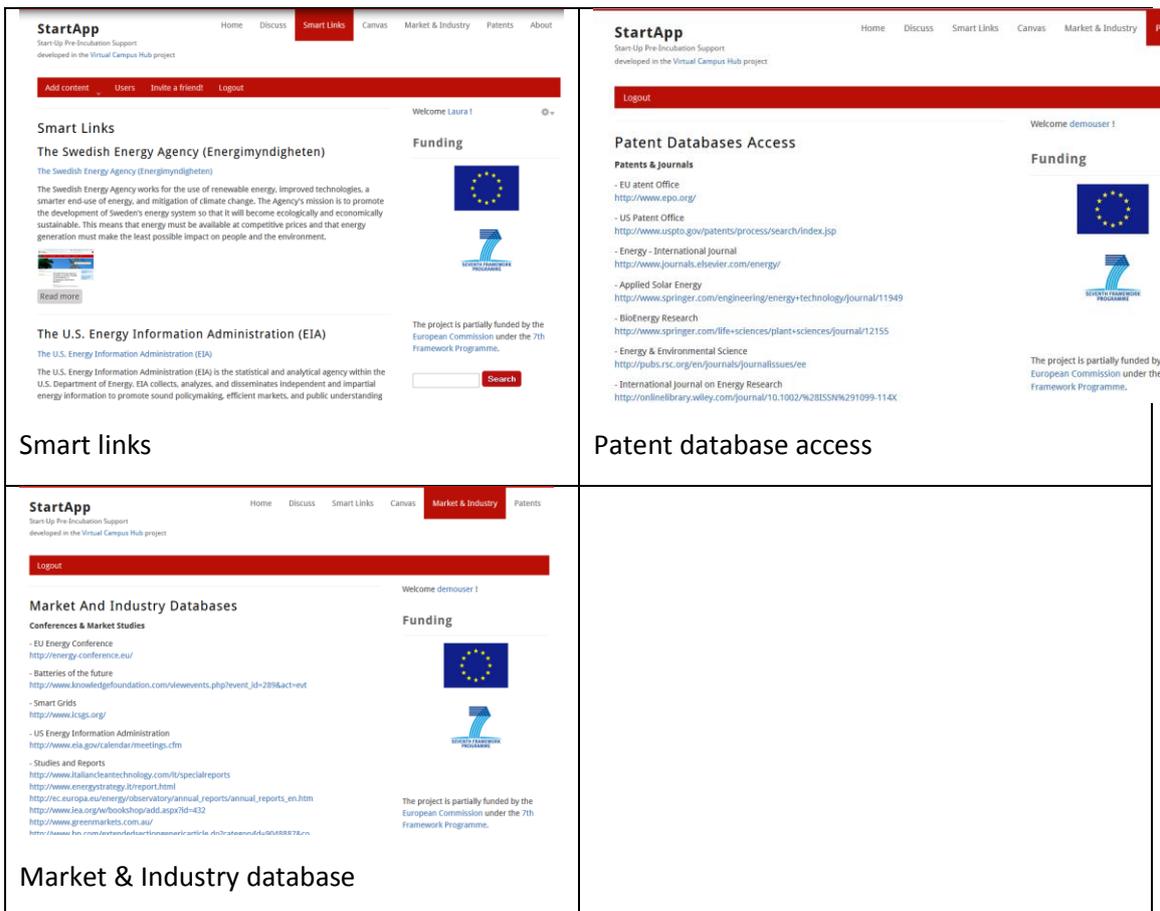

Smart links

Patent database access

Market & Industry database

Figure 3. An overview of content-based functionalities

Interactive functions in StartApp include a discussion forum and a tool for developing the Osterwalder canvas, that manages an iterative workflow between the innovators and the tutors.
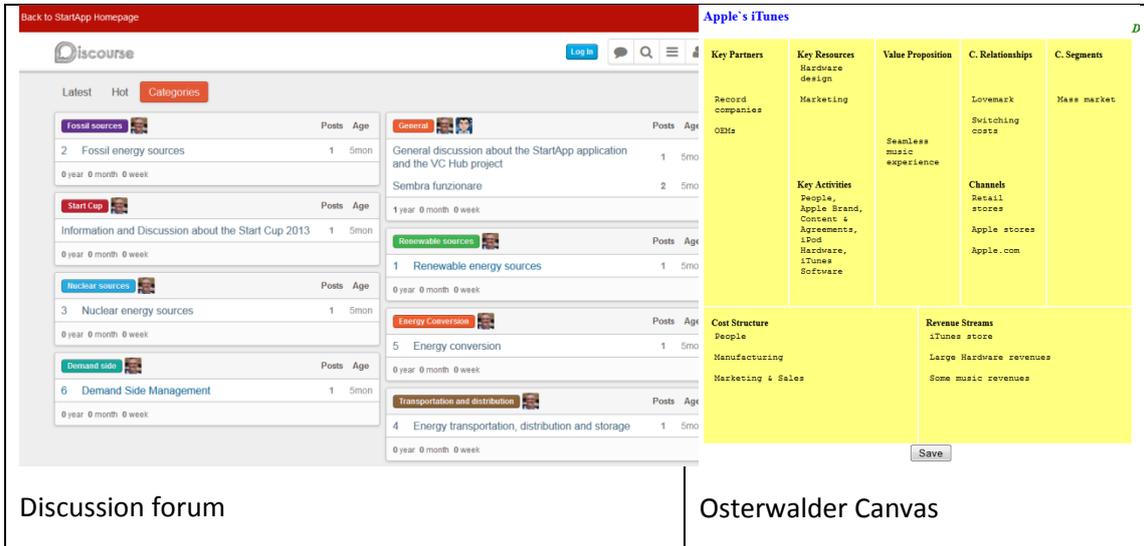

| Discussion forum | Osterwalder Canvas |

Figure 4. An overview of interactive functionalities

For full details about the characteristics, content and functionalities of the mentioned StartApp sections, please see deliverable D4.2.

3   StartApp evaluation

The StartApp website has been tested and evaluated during the final phased of the VC Hub project. In particular, we conducted a three-tiered test methodology:

1. Technical and functional testing, conducted at Politecnico di Torino
2. General functionality and informal feedback, conducted within VC Hub project participants
3. Structured focus groups, involving actual companies in the incubation and pre-incubation phases, and lead by the I3P experts and tutors.

The following subsections report on the results of these three phases.

3.1   Technical and functional testing

3.1.1   Technical assessment

The first tier of evaluation for the StartApp has been of technical nature. The goal of these tests was to assess the technical maturity, robustness, scalability and suitability of the StartApp implementation for the intended target audience.

In particular, the set of technical tests included:

- Web standard compliance (html, css, and relevant standards) and browser compatibility
- Maintainability (ease of adding new functionality) and survivability (possibility to run for several years, with changing and evolving technologies)
- Scalability[1] and performance (response times on unloaded server, and number of simultaneous users)
- General usability (from the end-user-side of the interface, as well as from the editor-side).

The tests were conducted by a group of 6 independent experts in web technologies in the Department of Computer Science Engineering of Politecnico di Torino. These experts were given test account to the platform, and were asked to run some tests and experiments and report on the evaluation facets listed above.

Without reporting all specific data or experiments, we may summarize the most important findings in this evaluation phase:

1. The adoption of a well-known, robust and feature-rich content management system such as Drupal allows us to achieve very high level of web standard compliance and

---

[1] These tests have limited scope, due to the nature of the hardware used to host the service during this initial stage of the project

browser compatibility, as well as excellent survivability. The editor-side interface was perceived difficult to use, while the user-side was considered very easy.

2. The integration with the "Discourse" forum system, that is a very new product, still in its early stages of development, yielded contrasting results. On one hand, usability is very high, as it replicates common Web2.0 interaction paradigm. From the system point of view, however, installation and maintenance of the Discourse platform is very complex, since it uses technologies (such as Ruby, Rails, Redis, etc) that are not commonly known. The current version of Discourse is also quite slow, especially at the first interaction steps (subsequent interactions are faster). When the number of users increases, memory requirements are also significant, even if this is less of a problem in more recent releases. Compatibility and compliance are very good (even if it's difficult to run automatic validators against a totally dynamic interface.

3. The implementation of the Osterwalder canvas still suffers from some web compatibility issues and uneven usability. While the functional flow, efficiency and scalability are very good, and the editing flow is well tied within the Drupal database, the graphical aspect and some html compliance issues should be updated in the near future.

This technical analysis helped us to identify the portion of the StartApp platform that will require some additional work in the near future, in order to support larger number of users in a more seamless way.

Overall, the robustness of the platform (we never experienced crashed or anomalous behavior) and its performance (except the startup phase) are sufficiently adequate to adopt the platform in the VC Hub project and to proceed to the next evaluation phases.

3.1.2   General functionality

The second tier of the evaluation aimed at assessing the general functionality of StartApp features, their ease of comprehension and usage, and collect feedback over their implementation and their suitability for the intended target entrepreneurs.

This step was performed through a semi-formal process involving all VC Hub project partners. Each partner was given two accounts on the system, one to mimic the role of an innovator, and one to impersonate the activity of a tutor.

VC Hub partners had the opportunity to use and test the platform for 3 weeks, and during this period they could give feedback on the StartApp functionality and implementation. Also, a joint testing session was organized in occasion of the last project review meeting.

The suggestions gathered form VC Hub partners, in addition to point out some small bugs or misfunctionalities, mostly related to the content area of the StartApp, and in particular to the opportunity of adding a "training" section to the website: such section could include learning material about business plan preparation, and other common tasks faced by new innovators. The Osterwalder canvas function was also appreciated by several VC Hub

partners, since it is a useful model used by most incubators, and such partners declared they would use it with their local companies.

3.2   Focus groups with entrepreneurs

At I3P, Incubator of Innovative Enterprises of Politecnico of Torino, a collection of tests have been executed on the pilot StartApp Web site provided by Polito / DAUIN / VCHub.

3.2.1   Context of the tests

The tests were done by I3P's startups in the energy sector, including two already-incubated companies (with 2-3 years of experience), and several other new innovators participating in the pre-incubation phase:

- Eolicar srl, www.eolicar.it
    - Eolicar's mission is to design, produce, and sell technologically advanced wind turbines, with a compact design, high reliability and performance over time.
    - The Company has started the certification process IEC61400-2 with ICIM for the E20kW, its main product.
- Wave for energy srl, www.waveforenergy.com
    - They produce a power generator capturing energy from sea waves.
    - They invented ISWEC, that is a gyroscopic energy conversion device, floating on a hull designed ad-hoc to guarantee stability and an optimum synchronization to the wave length of the installation site. The hull has to enhance the pitch motion of the device to extract the highest level of available wave power. When a wave arrives from the prow, a pitch oscillation is imposed to the inertial system. Gyroscopic effects, thus, produce a roll motion of a flywheel. High level control logic and the absence of movable parts exposed to marine environment make ISWEC a completely sustainable technology for wave energy production.
- Other innovators in the pre-incubation phase. Such persons have been involved in the trials and in the focus group, but still don't have a formally registered company. They are currently in the pre-incubation phase of the "Start Cup" annual contest for entering the incubator.

The trial and the focus groups have been led by Tutors and Senior Consultants of I3P, in particular those expert in the energy domain:

- Enrico Ghia (ghia@i3p.it)
- Federico Oliaro (oliaro@i3p.it)
- Norberto Patrignani (norberto.patrignani@polito.it).

The simple tests executed consisted in asking the entrepreneurs to use the main menu features like

- discussion forums ("Discuss")
- links to external articles ("Smart Links")
- interactive application about Osterwalder's canvas creation ("Canvas")
- market and industry studies, research reports, etc. ("Market & Industry")
- patents databases access ("Patents")

and followed by some informal feedback and questionnaires to gather their opinion. Free comments and suggestions were solicited. Both the effectiveness of the technical implementation, and the perceived usefulness of the approach, were important variables that have been recorded.

3.2.2   Tests feedback

In the following we provide some comments about the feature and a "ranking" in terms of relevance / usefulness (High, Medium, Low).

3.2.2.1   Discussion forum

The discussion forums are very similar to other environments and the user interface is very friendly and human computer interaction is very well designed.

RELEVANCE / USEFULNESS = LOW.

3.2.2.2   Smart Links

Links to external articles are very useful since this field of innovation (cleantech and renewable energies) is very dynamic and its growth rate is extremely high. The main issue here is to involve people in capturing new knowledge and their willingness to easily share it with "Smart Links". A suggestion can be to be able to identify the "knowledge providers", special users that are willing to share knowledge and to actively feed "Smart Links".

RELEVANCE / USEFULNESS = MEDIUM.

3.2.2.3   Osterwalder Canvas

Osterwalder's canvas creation is a very useful feature since it is the most common object of interaction between startups and tutors inside the incubator. Usually this interaction requires a face to face (F2F) meeting and it is time consuming. The opportunity to share drafts and comments for sure will improve the effectiveness of the F2F meetings as the tool can be used before the real meeting as a preparation environment and as a sharing tool. It could even be used for training purposes.

Some suggestions for "Canvas" feature are:

- ensure the usability of the interface from mobile devices (90% of startups users and tutors today use these devices) (but, of course, this suggestion is a "general" suggestion for the entire VC-HUB web site, not just for "Canvas")
- insert a kind of "readme" about use and meaning of the commands and "buttons"
- keep track of versions (a kind of "versioning" feature, with accept/refuse, etc.)
- facilitate the management of several "projects" / "canvas" from the same user (typically a tutor is following several projects)
- provide some "alerts" when new canvas or modifications / new content to existing ones are inserted
- provide the opportunity to share files between tutors and startups; sometimes just the canvas is not enough
- verify the opportunity to link the canvas to the project calendar / GANTT or project milestones display for scheduling operations, appointments, meetings, etc.

RELEVANCE / USEFULNESS = HIGH.

3.2.2.4   Market & Industry Database

A facilitated access to market and industry studies, research reports, etc. is of particular importance in this field. Market "assessment" is one of the fundamental steps in the pre-incubation process for evaluating with the "inventors" not just the feasibility but, most important, the potential market. These materials are of crucial importance, not just because they are sometimes very expensive (so sharing inside the "virtual incubator" can enable access to lower prices), but also because to carefully select the most updated and relevant ones it is time consuming. Again, it is crucial here to have some persons committed to the update of this content.

RELEVANCE / USEFULNESS = HIGH.

3.2.2.5   Patents Access

A facilitated access to patents databases access is very important because the typical "prior-art" search, for assessing the "novelty" of an invention, is performed basically by checking carefully these online databases. It is also worth to mention that for this kind of searches it is also important to check with a legal agency the real "patentability" of an invention. Access to patents is also important for cross checking "who" have submitted a patent application: a key knowledge for a good mapping of potential markets and for identifying potential competitors.

RELEVANCE / USEFULNESS = MEDIUM.

4   Conclusions

The StartApp on-line tool, whose design was presented in D4.1 and whose implementation was described in D4.2, has been evaluated from the technical point of view, for the functional aspects, and for its suitability to the needs and requirements of the target groups of new entrepreneurs, innovators, and their tutors and supporting incubators.

The results of this evaluation are encouraging, and in particular some features (market and industry database; Osterwalder canvas) were highlighted as highly useful. Some other features, such as the forum, despite their technical and graphical sophistication, were considered less useful, probably because such tools already exist in other contexts, and the need of a "private" and specific forum is not very relevant.

In the forthcoming months, even after the end of the project, the StartApp tool will continue to be available, and will be hosted by Politecnico di Torino. The I3P incubator will have access to StartApp for their internal incubated companies (in the Energy sector), and for the Start Cup competition that will take place in April-May 2014.

The federation of other VC Hub project partners, as well the incubators related to their institution, will also have access to the service.