

D3.1.2

REPORT ON TRAINING MATERIALS AND SUPPORT STRUCTURES FOR SMEs (2ND VERSION)

November 2015

This document assesses FIWARE's technical infrastructure and describes a support infrastructure for the Accelerator Project EuropeanPioneers.

We apply the ITIL service model to analyze the quality of existing FIWARE services and to recommend improvements for quick wins.

Furthermore, we describe our own support structure, summarize major training events and present first feedback collected from our SMEs at the most recent training days.

This document is a deliverable of the European Pioneers project supported by the European Commission under its FP7 research-funding programme, and contributes to the FI-PPP (Future Internet Public Private Partnership) initiative.

DELIVERABLE DETAILS

[Full project title]: Expansion of Media Content Use Cases: Exploiting Content-Technologies in Multimedia Products.
[Short project title]: ExpaMeco (aka. EuropeanPioneers)
[Grant agreement number]: 632871

[WP n°]: WP3: Providing and improving FI-PPP Content Technologies
[WP leader]: Heike Horstmann, Fraunhofer IAIS

[Deliverable n°]: D3.2.1
[Deliverable title]: REPORT ON TRAINING MATERIALS AND SUPPORT STRUCTURES FOR SMES (2ND VERSION)

[Deliverable nature]: Report (R)
[Dissemination level]: Restricted to other programme participants (including the Commission Services) (PP)

[Contractual delivery date]: M18 – November 2015
[Actual delivery date]: April 2016
[Editors]: Heike Horstmann, Fraunhofer IAIS
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1 INTRODUCTION

This deliverable “D3.1.2 - REPORT ON TRAINING MATERIALS AND SUPPORT STRUCTURES FOR SMES (2ND VERSION)” will provide an update on report D3.1.1 and describe the changes and improvements in Support, Monitoring and Communication as well as the technical support within EuropeanPioneers project with its focus on related main activities in Task T3.1 of WP 3.

The major objectives of task T3.1 “Training and support on Future Internet technologies” deal with activities necessary to foster the take-up of FI-PPP technologies. In this context three major directions are followed:

- (1) Organizing and providing FIWARE-related training to the program participants.
- (2) Providing a EuropeanPioneers technical Help Desk as single contact point to provide or trigger a quick response to any issues concerning FIWARE raised by the SMEs of EuropeanPioneers.
- (3) Evaluating and improving the general support infrastructure of FIWARE.

Objectives (1) and (2) request a close link to FIWARE and its support infrastructure. Thus, we see the EuropeanPioneers Help Desk just as special FIWARE Help Desk within EuropeanPioneers. As we cannot take over full FIWARE support due to lack of expert knowledge and capacity, our own Help Desk heavily relies on existing FIWARE infrastructures. For that reason, we start with our assessment of the current FIWARE infrastructure in Section 2 (FIWARE Infrastructure Assessment). In Section 3 we will then outline our own support infrastructure within FIWARE describing major objectives, tasks and tools of the EuropeanPioneers special Help Desk. Further information – especially our slides from the training events – is added as attachments to this document.

2 FIWARE INFRASTRUCTURE ASSESSMENT

Ensuring sustainability of FIWARE at the current stage not only includes providing ready to market technologies but also a capable support infrastructure fulfilling essential requirements for pushing and supporting the development and operations of new products based on FIWARE. This includes two major aspects:

- (1) **Easy and fast access to all relevant information** to advertise FIWARE and to enable all interested SMEs to understand FIWARE, the scope of FIWARE and all FIWARE technologies at a level to make a quick but founded decision if and how FIWARE can be beneficial for their businesses.
- (2) **A professional support infrastructure** to enable all SMEs that decided to build their business on FIWARE to make the most of the provided technologies and to reduce their risk to fail with FIWARE technologies due to a lack of knowledge, unresolved bugs or immature technologies.

Thus, part of our work in EuropeanPioneers focusses on the assessment of the FIWARE information and support infrastructure to improve the attractiveness and sustainability of FIWARE during the acceleration program and beyond. Positive side effect of an improved infrastructure also includes more efficient processes by eliminating root causes and reducing the amount of unnecessary or repeating support requests. In our evaluations we further concentrate on one of FIWARE's key infrastructures for technical users: the FIWARE Lab.

Our assessment is mainly based on feedback from users (call participants and SMEs within the second round) as well as additional evaluations of information sources and support infrastructure within WP3 of EuropeanPioneers.

The following sections provide updates on or additions to the related sections within D3.1.1.

2.1 Information and support infrastructure

In the following section, we summarize the current state of FIWARE information sources and support infrastructures and give recommendations for service improvements based on common best practices, in particular ITIL (Information Technology Infrastructure Library).

2.1.1 Terminology

One of the foundations of our assessment is ITIL (Information Technology Infrastructure Library), which is a well-known knowledge catalogue of best practices for IT service management. It provides standard generic terms to describe design and operation of IT services.

In ITIL terminology, FIWARE program has entered its service operation phase. Thus, we can analyze available information by applying knowledge about standard processes and parameters to reflect how FIWARE matches the standard best practices relevant for support infrastructure.

2.1.2 Knowledge management: FIWARE Online information resources

In our last report (D3.1.1), we communicated that our overall impression was that there had been an organic growth of online resource neither with centrally steered strategy nor with much coordination. Since then, FIWARE established more centrally steered informational resources, those we list in the following.

Communications
Central mailing list managed by the PR agency Oglivy , Fiware-office-comms@lists.fi-ware.org
Ask fiware https://ask.fiware.org/questions/ - an open FAQ forum, 58 questions posted as of JAN 1 st 2016
LinkedIN group to connect technical professionals and entrepreneurs, founded on JAN 16 th 2016 FIWARE tech https://www.linkedin.com/groups/8464480
Open Community Forum / FIWARE Startup Community http://www.fiware-forum.eu/

In the following, we list observed improvements to resources discussed in the previous report.

FI-WARE.ORG (FI-WARE HOME)
General
<ul style="list-style-type: none"> - Reworked drop-down menu on the top reveals a well-thought navigation structure and service categories - Refreshed design - Richness and diversity of FIWARE initiatives becomes visible
Lab
<ul style="list-style-type: none"> - http://infographic.lab.fi-ware.org/status improved its availability and look and feel - Service plans are still not available, but an Open Call from FIWARE itself supports several commercial vendors to launch their service based on FIWARE technology in March 2016. https://www.fiware.org/2015/10/07/new-fiware-open-call-for-fiware-lab-nodes-support/ - Organisations behind nodes with unstable service left the ecosystem.
Catalogue
<ul style="list-style-type: none"> - Updated landing page to access both GE and SE catalogues http://catalogue.fiware.org/

MEDIAFI.ORG (FI-CONTENT HOME)
General
MediaFI.org successfully launched the FIWARE Media&Content Lab lab.mediafi.org featuring 24 quality approved Specific Enablers, leveraging four generic interactive use case scenarios DISCOVER, TWEAK, TRY, RUN, quite many of them with vivid demos and 1-click installation.

To conclude, FIWARE ecosystem displays many tangible improvements regarding online information resources and knowledge management, to improve user friendliness and structure. An asset to observe is how these resources help FIWARE to get traction e.g. we recommend to measure posted questions, web analytics and demo interactions to sense the real market demand.

2.1.3 Incident management

Service Desk

Our overall impression regarding the Service Desk since the last report is that the quality of service has generally improved, please see the next section for KPIs. We have established the workflow proposed in D3.1.1 with only minor adaptations (Figure 1).

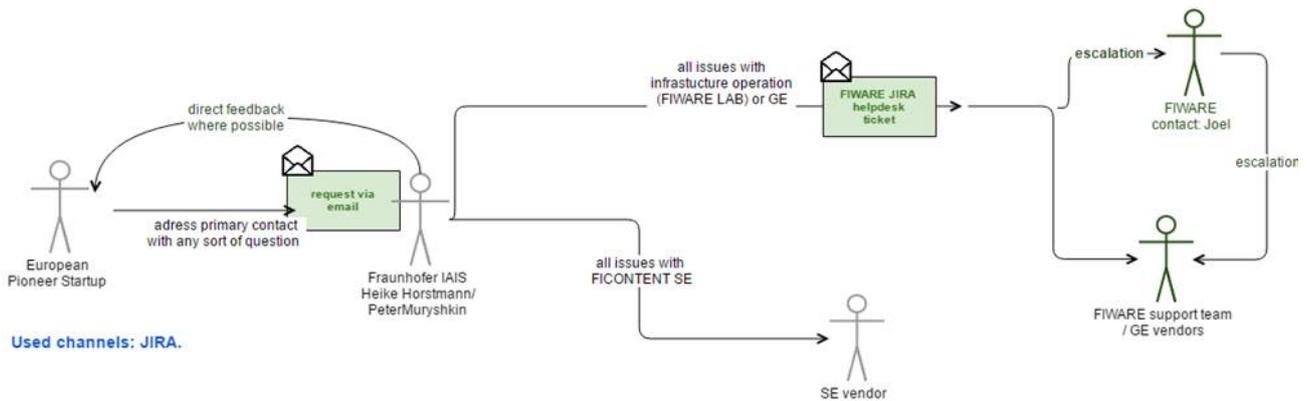


Figure 1: Workflow of Service Desk within EuropeanPioneers

Measuring service quality with KPIs

Currently, there is yet no official communication towards our recommended KPI strategy. The Technical Committee launched on January 18th 2016. However, there is at least a clearly visible positive trend. This trend proves the Service Desk performs well. In the dashboard screenshot below (Figure 2), you can see that the Service Desk keeps resolving increasing numbers of incoming tickets. Additionally, there is a clear change in the average age of tickets: this KPI has improved to an average of 15 days (Figure 3). Nevertheless, it is still not clear how does this relate to a formal or unofficial (like best effort) FIWARE SLA. We state herewith anyway that those two KPI graphs prove an increase in Service Desk performance (more new tickets and still less time for a ticket to be answered).

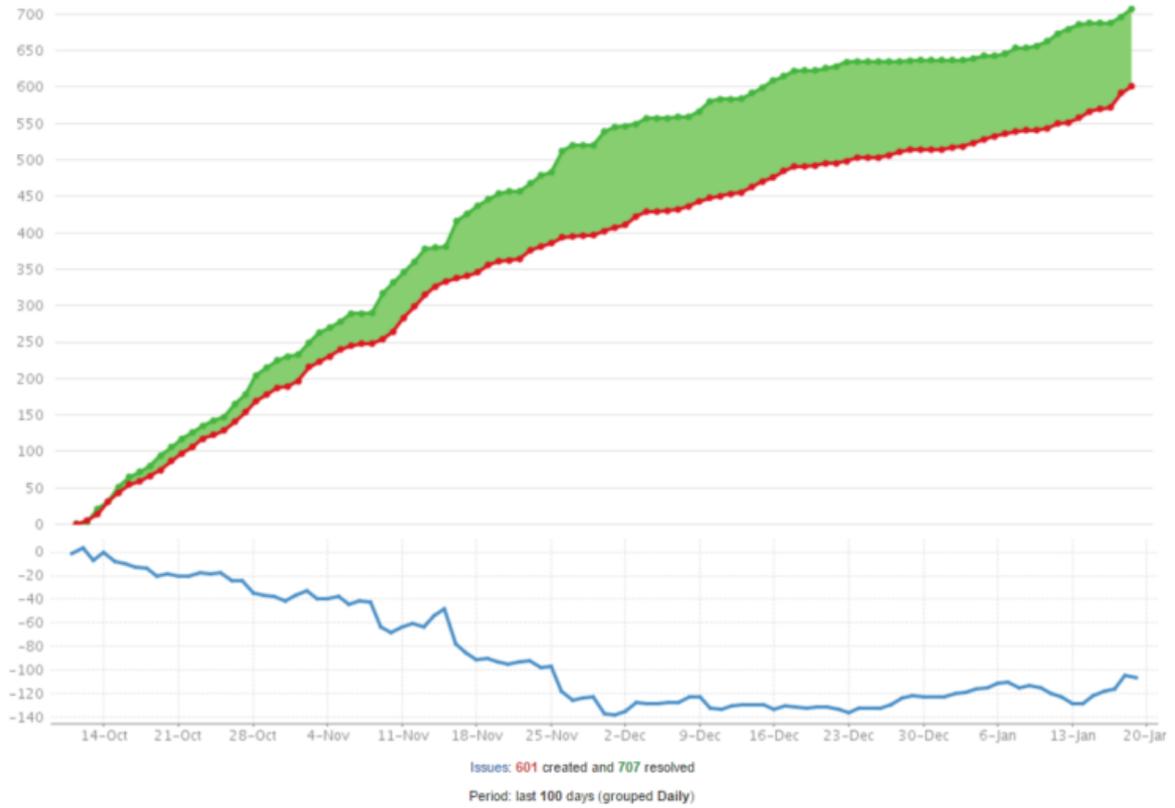


Figure 2 – While total number of created issues keeps growing, Service Desk teams manage to be faster and solve more and more tickets.
Source: <https://jira.firmware.org/secure/Dashboard.jspa?selectPageId=10702>

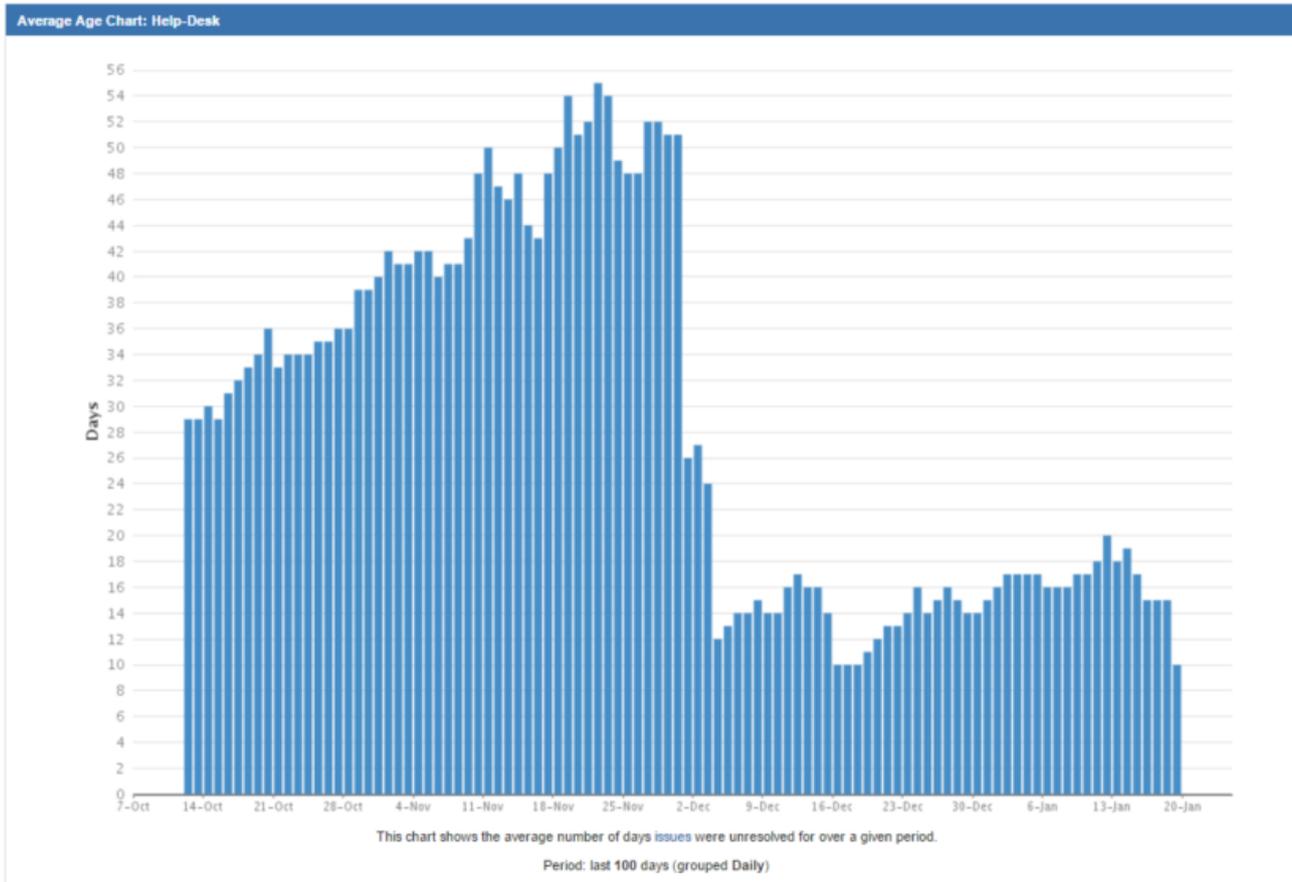


Figure 3 – Since December 2015, average time to solve a ticket improved from 32-50 to 10-18 days.
Source: <https://jira.fiware.org/secure/Dashboard.jspa?selectPageId=10702>

2.1.4 SLA

No official SLA information is available: we assume that FIWARE delegates this responsibility to the mentioned commercial vendors which will hopefully come up with their offers soon. We assume also that the major strategy to develop a sustainability plan (mentioned in this section in the previous report) is also delegated to these companies, experienced in offering commercial SaaS.

2.2 Platform overview (FIWARE Lab)

In this period of reporting (second batch of teams), we did no longer focus on FIWARE Lab. We discovered that the motivation of participants of the program has been rather low to try out FIWARE Lab services for the reason that no production ready SLA (Service Level Agreement) is available and this is too risky for their business, given that the PaaS market is very broad. Thus, we have agreed to leave this type of experimentation optional for the sake of FIWARE software component integrations.

The daily check i.e., the service availability monitor <https://fi-health.lab.fiware.org/> evolved, and we suppose that this transparency lead to management decisions to review the member list of the project, rendering a result of less but more stable nodes.

SANITY CHECK STATUS		
Prague	last updated: 2016/01/19 12:21 UTC	took: 0h, 43m, 21s
Mexico	last updated: 2016/01/19 12:02 UTC	took: 0h, 24m, 57s
Zurich	last updated: 2016/01/19 11:48 UTC	took: 0h, 11m, 1s
Karlskrona2	last updated: 2016/01/19 11:47 UTC	took: 0h, 9m, 21s
Volos	last updated: 2016/01/19 11:52 UTC	took: 0h, 14m, 53s
Gent	last updated: 2016/01/19 12:00 UTC	took: 0h, 6m, 29s
SaoPaulo	last updated: 2016/01/19 12:08 UTC	took: 0h, 13m, 5s
Poznan	last updated: 2016/01/19 12:05 UTC	took: 0h, 10m, 4s
SophiaAntipolis	last updated: 2016/01/19 12:02 UTC	took: 0h, 13m, 26s
PiraeusN	last updated: 2016/01/19 11:55 UTC	took: 0h, 17m, 47s
Budapest2	last updated: 2016/01/19 11:56 UTC	took: 0h, 9m, 10s
Crete	last updated: 2016/01/19 12:15 UTC	took: 0h, 22m, 33s
PiraeusU	last updated: 2016/01/19 12:00 UTC	took: 0h, 22m, 39s
Trento	last updated: 2016/01/19 11:53 UTC	took: 0h, 15m, 44s
Lannion2	last updated: 2016/01/19 12:29 UTC	took: 0h, 52m, 0s
Spain2	last updated: 2016/01/19 13:55 UTC	took: 0h, 13m, 41s

Figure 4 - The automated daily node acceptance allows customers to decide which node appears more stable, and helps managers to shape budgets for quality assurance. Source: <https://fi-health.lab.fiware.org/>

2.3 Conclusions

In the following section, we summarize and reflect on changes in quality of service we can observe in this reporting period.

Observed strengths

The node availability and acceptance checks of FIWARE Lab evolved to a high-level user friendly service monitor, providing also higher level of detail to technically interested users. The scripts used to perform these checks have been released as open source which creates more transparency and supports establishment of future FIWARE nodes.

Another great improvement is – this is not for FIWARE Lab but for the FIWARE software stack – following our efforts to create public pressure, FIWARE prioritized the necessity of Docker technology, which lead to quite many Generic Enablers to appear in the standard public catalogue. <https://hub.docker.com/u/fiware/>

Observed weaknesses

While even being experimental, existing nodes should host an array of open SaaS endpoints representing online Generic Enablers as APIs, our advice to launch another monitor also for this availability check has been ignored.

An issue not mentioned above is, that the Service Desk continues to work very inefficiently, as due to lack of professional service and information architecture design, external users do not get emails with a tracking ID which makes follow-up communication extremely ineffective. For some reason, the inbound email channel to create service tickets is combined with a mailing list, so a request support needs to be moderated first. Sadly, this possible security measure does not prevent the messages from the dark side of the Internet to manage their way to the Service Desk – see an example screenshot below rendering SPAM mails reaching the Help Desk.

T	Key	Summary
	SUPP-45	spam filter in list
	CLD-1025	[SPAM] Super watches. Best present in the world. Christmas sale!
	CLD-1020	[SPAM] Best watches in the world. Super present. Christmas sale!
	SUPP-275	Apply anti-spam measures in Askbot
	HELP-5679	[SPAM] Friend request from KlaraMara...
	SUPP-241	Delete spam detected by spamassassin in one list
	SUPP-310	Activate autodiscard of spam in fiware-ops-help list
	HELP-2943	[Fiware-lab-help] Request for Communitis Status was marked as SPAM
	HELP-5664	[Fiware-general-help] [SPAM] Super watches. Best present in the world. Christmas sale!
	HELC-1220	[Fiware-fiche-coaching] [SPAM] Super watches. Best present in the world. Christmas sale!
	HELC-1221	[Fiware-fractals-coaching] [SPAM] Super watches. Best present in the world. Christmas sale!
	SUPP-322	Activate autodiscard of spam in 2 mailing lists
	HELC-1222	[Fiware-souffi-coaching] [SUSPECTED SPAM] Super watches. Best present in the world. Ch
	HELP-327	FIWARE.Request.Tech.Security.IDM-KeyRock.Unsubscribe

Figure 5 – SPAM reaches also FIWARE Service Desk.

Source: <https://jira.fiware.org/issues/?jql=text%20~%20%22%5C%5C%5BSPAM%5C%5C%5D%22>

We recommend to transfer the Service Desk business from R&D into the hands of experienced Operations professionals (from internal communication, we know that this should be now in progress).

3 EUROPEANPIONEERS TECHNICAL SUPPORT INFRASTRUCTURE

The infrastructure providing technical support to the start-up teams was further improved based on the experiences with the first batch of start-up teams. Building a good relationship to the technical members of each start-up team is crucial in order to support the teams regarding FIWARE usage. Therefore, a first contact to the start-up teams was established during the Welcome Days in Berlin and further intensified at dedicated physical and virtual meetings. In between those meetings, bilateral communication with all start-up teams took place to track the process regarding the agreed FIWARE milestones. This strategy was continued until the final stages of the program for the second batch of the start-up teams.

3.1 Communication channels in EuropeanPioneers

Already for the first batch several internal (within EuropeanPioneers) and external (to the FIWARE community) communication channels have been setup and/or were used. Some of them have proven to be useful, while others have not. TeamworkPM is no longer used for the second batch. It has been replaced by an own EuropeanPioneers Slack space with several channels on dedicated topics. Technical reports are no longer requested monthly from the teams, but only on a bi-monthly frequency in order to decrease the formal reporting efforts of the teams. Instead, the progress of each team is tracked and updated based on the bilateral communication and after the meetings. The following table gives an overview on the communication tools / channels used to support the teams of the second batch.

Tool / Channel	Internal / external use	Description	Purpose
Email, Phone	In- and external	--	Used for bilateral and direct communication
Skype, WebEx, Google Hangout	In- and external	Video conferencing tools with screen sharing capabilities	Used for direct communication with more than two persons
Slack	Internal	Chat and communication platform with the ability to setup topic related dedicated open or closed channels	Used for information exchange and discussion related to a topic or within a group
FIWARE infrastructure	External	Manifold tools and channels to get in contact with FIWARE community. Mainly GitHub and JIRA are used to support the second batch of start-up teams.	Exchange with FIWARE community Publishing and tracking of issues
Technical Reports	Internal	Written reports from the teams, either to track the progress or to report on a result achieved	- Track the progress in using and implementing FIWARE Document the results

Tool / Channel	Internal / external use	Description	Purpose
Support and Training Events	Internal	Face to face meetings with dedicated bilateral mentoring and plenary information sessions	Provide introductions and updates on FIWARE Track progress regarding FIWARE related milestones Stimulate the exchange of experiences between teams
GitHub	Public	Direct developer communication	Sharing evaluation scenarios and regression tests

3.2 Support and Training Events

For the second part of the program the number and the location of the support and training events have been changed. Another physical event has been added to the schedule to intensify the contact to the teams. Instead of meeting with the teams in Berlin each time, it was decided to have at least two of the four training events at places closer located to the offices of the start-up teams. In addition, several virtual training sessions have taken place at the beginning of the program, right after the Welcome Days. Those sessions were used to introduce the teams to the concepts of DevOps in general and the benefits and usage of Docker in special. The teams were free to join those sessions, although every team was asked to attend at least one of the sessions. The following sections give a brief summary of the goal and the outcome of training events that have taken place between May 2015 and February 2016.

3.2.1 Tech Camp in Dublin (May 2015)

To promote the second call of the programme and to give startups the chance to get further information on FIWARE two Tech Camps were organized. The first one took place in Dublin, Ireland. Startups from the Irish digital ecosystem and CTO's who are evaluating technical platforms to base their technologies on, attended the Tech Camp to be educated and informed about FIWARE. In dedicated sessions FIWARE in general and some technologies in detail were presented.

3.2.2 Tech Camp in Warsaw (June 2015)

A second Tech Camp was organized in Warsaw, Poland after the success of the first one in Dublin. It was targeting the Polish and eastern European tech and startup ecosystem. In contrast to Dublin, the Tech Camp in Warsaw was also promoting other accelerators from the programme (Impact and INCENSE). Again, an overview on FIWARE and a more detailed introduction to FIWARE Lab and some of the enablers were provided.

3.2.3 Welcome Days in Berlin (August 2015)

The main objective of the Welcome Days was to get to meet the 13 selected start-up teams and establish a first contact to them. FIWARE was introduced to the teams in a plenary session and

afterwards the FIWARE-related milestones were discussed, if needed adapted and fixed in a one-on-one mentoring session with each team. Based on those milestones the progress of the teams regarding FIWARE usage and implementation is tracked and assessed.

Especially the bilateral mentoring sessions helped to understand in more detail where the teams are aiming at during the program and how FIWARE can help them to build or to improve their MVP. Each of the very intensive sessions took 30-45 minutes.

We communicated also, that teams' first encounters with FIWARE technology need to find a written form, specifically technical representation of their first experiments we would expect are runnable test scripts (possible installation problems with Enablers would be accordingly captured in such scripts).

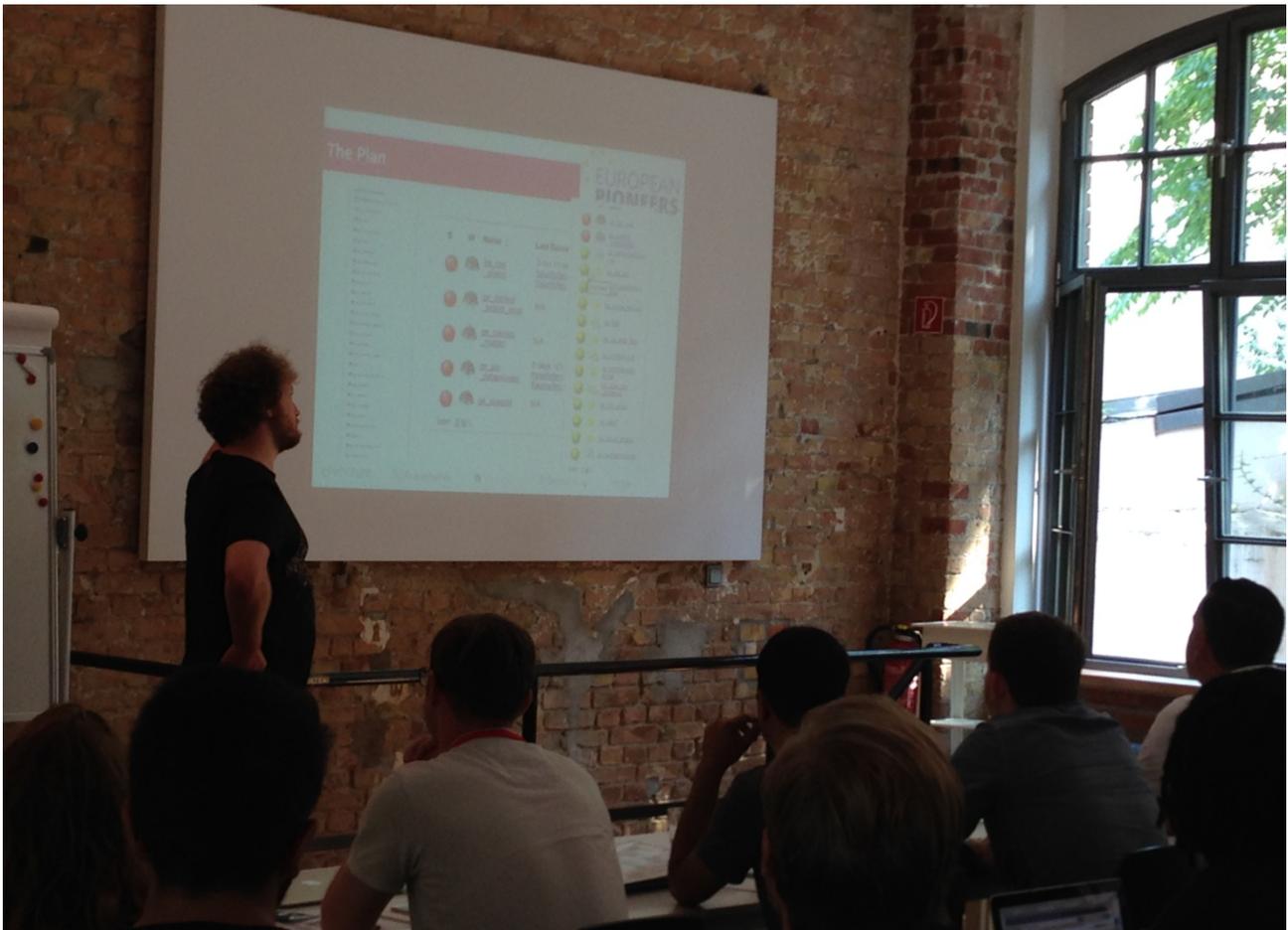


Figure 6 - Plenary Session on FIWARE at Welcome Days

3.2.4 Virtual Training Sessions (September-October 2015)

One of the most crucial lessons learned with the first batch was the fact that we could not judge for sure how easy or complex it could be for a start-up colleague to dive into the task of FIWARE integration. After all, this complexity would depend on a mixture of facts like de-facto complexity and maturity of an Enabler, developer's seniority and skills, specific team situation and last but not least developer's motivation to deliver.

To make the initial phase more transparent and introduce more comparability, for the second batch we decided to ask teams to come to a series of online events and discuss with us in detail what

they do, which problems they experience and simultaneously write up automated installation scripts aka Docker files in those cases where the vendor did not provide such, and additionally design simple black box functional tests aka smoke tests.

Benefits of such procedure are:

- Quick possibility to estimate developer seniority to design further communication and expectations
- Formal testing procedures can be shared between the teams using the same Enablers
- Formal testing procedures can be publicly shared to enrich FIWARE community foundation as many new developers get easier access to new knowledge
- Formal testing procedures are perfect regression test material and reproduction scenarios in cases of software errors in Enablers.

The following diagram shows the proceedings of the virtual training sessions. We did not expect that everybody would join all slots. Our expectation was furthermore that advanced and well-organized teams will demonstrate their ability to act and deliver required results.

In order to collect these results, we established an example GitHub project with a folder for each Enabler in question and invested required efforts to drive the teams towards creating GitHub accounts and joining this example projects. Already at this stage we learned that FIWARE priority is different from team to team.

Currently, we review and qualify these contributions to pass them to the large central code base of FIWARE as tangible technical output regarding Enabler evaluation and improvement from our Accelerator. The upcoming report D3.2.2 will provide further details.

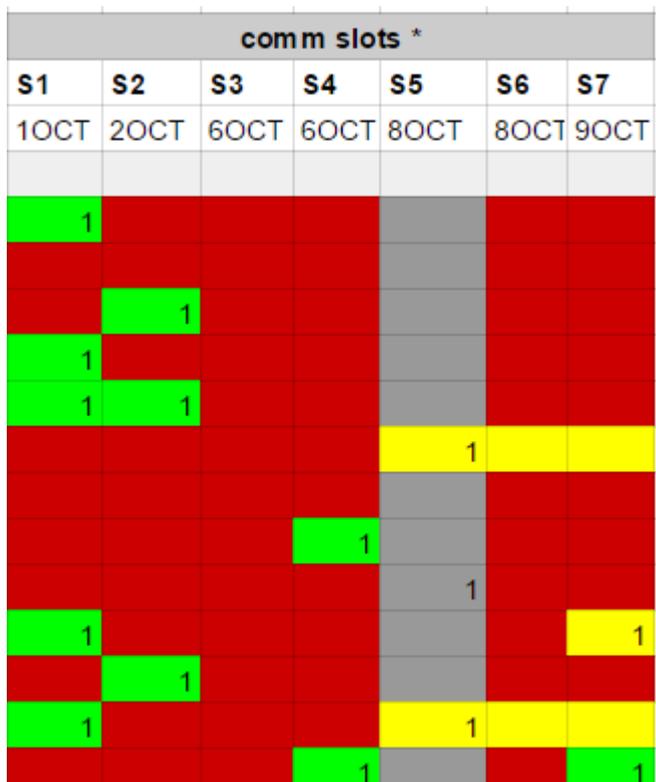


Figure 7 - proceedings of the virtual training sessions

Legend

- S1...S7 communication slots where we were available online in virtual sessions and invited teams to join.
- Each line represents a communication activity of each of 13 teams (therefore 13 lines).
- Red no participation
- Green team participated in the slot and there have been a fruitful communication leading to progress towards publishing a contribution for their enablers in our example GitHub project.
- Grey slot S5 was dropped by us.
- Yellow team delivered agreed result in final form which was accepted, so no further participation before next training days was required.

3.2.5 First Training Days in Tel Aviv (October 2015)

Prior to the First Training Days all teams were requested to provide a short report on their progress in terms of FIWARE usage and implementation. Based on those reports, FIWARE mentoring has been continued with one-on-one interviews with each of the teams. In those sessions the achievements so far were discussed and assessed and deviations from the fixed FIWARE related milestones were detected. Sometimes milestones had to be postponed due to other urgent issues. Sometimes milestones had to be changed or discarded since it turned out after more detailed technical evaluation that a GE / SE would not be of use for the team. The milestones were updated accordingly and alternative GEs / SEs were considered. The experiences and results from other teams were shared and the exchange between the teams was stimulated. The three days of the Training Days helped with a further improvement of the contact to the teams.

3.2.6 Second Training Days in London (December 2015)

In between the Training Days the progress of the teams were tracked via bilateral communication. Some of the teams were introduced to the developers of a GE / SE to intensify discussions on technical details and business aspects like licensing terms and conditions. Achievements of the teams were either documented in reports or by commits to GitHub. FIWARE mentoring during the training event has been continued with again one-on-one interviews with each of the teams. The milestones were updated and if necessary adapted. A special focus was laid on the requirements for becoming good marks for the FIWARE VIP program. In a dedicated plenary session the assessment scorecard was introduced and possible strategies to fulfill the requirements were discussed. All teams were asked to consider additional FIWARE usage in their MVPs. Those discussions continued after the event with direct bilateral communication.



Figure 8 - Peter Muryshkin gives a talk in London during Second Training Days.

3.2.7 Third Training Days in Berlin (February 2016)

In between the Training Days there was again a constant bilateral communication. The teams intensified their direct communication with GE developers and in some cases, developed a commercial relation or another form of a close cooperation, in order to achieve a customization of FIWARE components, best suitable with their business requirements. Contributions of the teams were submitted to GIT Hub and also documented in reports.

As the final training event was taking place shortly before the end of the program, the focus was laid not only on the contribution of the individual teams to FIWARE, but also on gathering feedback and the assessment of the FIWARE technology readiness level. The final outcomes of this assessment will be reported in the deliverable D3.3.2 "Report on the product readiness of the Future Internet Technologies".

Milestones and contributions of the teams, as well as their experiences with the GE/SE have been once again discussed and monitored in one-on-one interviews. For the teams who are still behind in their FIWARE contribution, suggestions on what they still need to do have been provided. The requirements for the VIP program have once again been highlighted, as well as the various opportunities the teams would get by joining the program. Again all teams have been asked to assess and use more FIWARE components and provide all documentation on used or assessed FIWARE technology. The teams have been encouraged to apply for the VIP program.

4 SUMMARY

This deliverable summarizes our assessment of the current state of FIWARE support and information infrastructure with the focus on changes and improvements that have been achieved during the project and our suggestions for further improvements, which will increase the attractiveness and acceptance of FIWARE technologies.

Since our last report we could already examine positive changes in the FIWARE Information support structure, as well as implement several support elements especially focused on the EuropeanPioneers SME teams.

We could monitor a significant increase in the FIWARE Help Desk performance, however an SLA, which would be crucial for a wider acceptance of FIWARE products is still missing. We would like to suggest to continue improvements in this area, so that FIWARE could mature in achieving current commercial standards in support and stability.

In regard to our own support infrastructure in this second batch of teams, we could intensify support for and communication with the EuropeanPioneers SMEs, by increasing the amount of on location and virtual training sessions. We standardized a crucial part of the technical support by streamlining the initial testing of the software. We also encouraged a presence on GitHub in addition to other communication channels and community-building activities. That way we could improve the monitoring of the team contributions to the project and also foster knowledge transfer related to FIWARE technologies. In some cases we assisted in establishing direct communication between FIWARE developers and the EuropeanPioneers SMEs. The possibility of a direct communication and partnership can be very productive and foster the primal goal of the FIWARE project, namely to leverage technology highly beneficial for the SME ecosystem. We hope such direct cooperation between businesses and developers will become a central part in further FIWARE development. We suggest, that FIWARE should keep a strong focus on improving the support infrastructure, communication and quality assurance, by implementing best practice project management and quality assurance, to ensure that FIWARE products could become competitive and sustainable in future use.

5 ATTACHMENTS

The following files are attached in the following pages of this document.

20150811_WelcomeDays_TechnicalSessions.pdf

Welcome Days: Presentation of information and expectations using FIWARE technology during the acceleration program with introduction to one-to-one sessions

EP_CTO_welcome.pdf

Welcome sheet with most important information and links regarding FIWARE, provided to CTOs before the Welcome Days.