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Deliverable D6.2
Usage and training report for Y1 plan for Y2

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Abstract
This document constitutes deliverable D6.2 of the Arrowhead Tools project.

WP6 supports and proactively guides use case tasks in WP7,8 and 9 on how to use the tools of WP5, according to the engineering process of WP2 and the Toolchain architecture of WP4 for a solution implementation based on the SOA framework of WP3.

ECSEL EU project 826452 - Arrowhead Tools
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1. Introduction

The goal of WP6 is to support and proactively guide the users of the Arrowhead technology, by providing the appropriate training material covering the engineering process, the SOA framework and associated tooling. Hence, this goal shall be achieved by structuring the reference material available and identifying the expectations regarding training material. It is considered that the targeted training material shall be made available for project internal and external usage, as well as for users of different levels of expertise.

In the “GENERAL PROJECT REVIEW CONSOLIDATED REPORT” for Year1, there are two main recommendations concerning this activity:

1/ in the part “3. General comments”:

- A first set of trainings on Arrowhead Tools technologies for the use cases have been conducted. These should be extended in the next periods. Further emphasis on a convincing plan for training and learning should be provided (see Recommendation R6 below).

2/ in the part “4. Recommendations concerning the period covered by the report”

- R6. Training and learning are crucial for the success of the whole project. The training material from the project should be more visible. For an Open-Source project, the education and training of usage should be easily accessible to all internal and external stakeholders. The strategy to learning and training should be clearly state-of-the-art and for some parts innovative using e.g., video sessions, bots, AR etc. per tool/toolchain/use case. In addition, learning and training should be customized for the different types of stakeholder expected to use the Arrowhead Tools future outcomes. It is expected that this “learning room” will be more comprehensive and visible in the next deliverables from WP6 and it should be strongly demonstrated at the next review meeting.

All actions taken in WP6 are aligned with these recommendations. At M18, we have reached a first level of training material organization and dissemination. This is not optimal, but it is already well exploitable and used by partners. WP6 management team will ensure that this direction is well understood and applied by partners, by organizing monthly meetings, by using the channels of WPs leaders to relay the communication of our objectives and required actions. A task force is dedicated to collect and make proposal of enhancements for the material management. Of course, we are currently using and checking the state of the art as proposed. we are convinced by the concept of the "leaning room" and our actions and decisions are directed to work in this direction.

In this perspective, the Task T6.2 objectives are the following:

- Provide training documentation
- Arrange and conduct workshops for specification, integration and verification.
- Be a first line of support for Use cases

Task 6.2 collects inputs from technical work packages:

- WP2 partners will provide internal training and support regarding IoT and SoS solution engineering procedure
- WP 3 partners will provide internal training and support regarding Arrowhead Framework architecture, Eclipse Arrowhead framework core systems, Deployment of local clouds, Design and implementation of application services, Design,

implementation and integration of SoS solutions, IoT interoperability, Eclipse Arrowhead framework performance and demand of resource

- WP4 partners will provide internal training and support regarding Tool chain architecture and interoperability, Tool data semantics and interoperability,
- WP5 partners will provide internal training and support regarding Tool chain integration based on the WP4 architecture and its reference implementation from WP5, Tools specific for individual use case as being developed in WP5, Tool chains specific for individual use case as being developed in WP5

The deliverable D6.2 consists in the first iteration of report for the training materiel collections, synthesis, and delivery to partners and external partners.

Moreover, the D6.2 is also made of all the training material available at the following location:

https://atmospheres.research.ltu.se/owncloud/index.php/apps/files/?dir=/Arrowhead_Tools/WP6%20Training/Training%20Material&fileid=833352

2. Structuration and cartography of training material

To help the understanding of further sections, it is important to refer to D6.1, which provides:

- a brief state of the art of training methods
- the methodology for structuring and indexing the training material in the context of the Arrowhead Tools project.
- conformity criteria and verification methods of the respective following topics of interests for the project.
- the description of the" Arrowhead training tool" use case demonstrator and its corresponding training and support material as example reference.

3. Training and Training material catalogue

This table shows which objectives that are addressed by this WP and how these are supported by the content in this deliverable.

#	Project Objective	Contribution
1	Reduction of solution engineering costs by 20-50%	WP6 (Training) is involved but indirectly to this objective: the training of engineers on Arrowhead Tools Framework will have a qualitative impact on cost reduction. High Impact
2	Interoperability for IoT and SoS engineering tools	WP6 (Training) is involved but indirectly to this objective: the training of engineers on Arrowhead Tools Framework will have a qualitative improvement of actual interoperability in IoT and SoS areas. Medium Impact
3	Interoperability and integration of data from legacy automation engineering tools to the Eclipse Arrowhead framework integration platform	WP6 (Training) is involved but indirectly to this objective: the training of engineers on Arrowhead Tools Framework will have a qualitative improvement on Interoperability and integration of data. Medium Impact
4	Integration platform interoperability with emerging digitalization and automation framework	WP6 (Training) is involved but indirectly to this objective: the training of engineers on Arrowhead Tools Framework will have a qualitative improvement on Integration platform interoperability. Medium Impact
5	Flexible, interoperable and manageable security for digitalization and automation solutions	WP6 (Training) is involved but indirectly to this objective: the training of engineers on Arrowhead Tools Framework will have a low qualitative improvement on security. Low Impact
6	Training material (HW and SW) for professional engineers	WP6 (Training) is obviously directly involved to this objective. WP6 is delivering Training material to different targets, but mainly for professional engineers. High Impact

The catalog of delivered or planned training material or session is a living document, filled in by WP6 management team, following inputs given by partners continuously.

This catalog compiles all information in an Excel table, Appendix 1: WP6-AHT-Trainings-and-training-material-catalog.xlsx

Also available in the project repository:

https://atmospheres.research.ltu.se/owncloud/index.php/apps/files/?dir=/Arrowhead_Tools/WP6%20Training/Training%20Material&fileid=833352

In this file, there are two tables: “Training sessions” and “Training material”.

3.1 Training sessions

The full list of identified available and/or performed training sessions is available in Appendix 1. In the following subsections, a few of these are highlighted.

3.1.1 Training session TS-25: Eclipse Arrowhead framework introduction

3.1.1.1 Topic and content

Some Basic Principles of Arrowhead

- Arrowhead: Interoperability and Integrability
- Local Automation Clouds
- Service Oriented Architecture
- Authorization with Certificates
- Various Multi-clouds: Edge, Platform, Enterprise
- Inter-Cloud Orchestration
- Arrowhead Relays
- Maturity Levels for Integrability – hardware and software adaptors

Presentation:
https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/5%20Meetings/3%20Multi%20WP%20Workshops/191111-15%20Multi%20WP%20WS%20Porto/Day-2

3.1.1.2 Targeted audience

Technical developers new to Arrowhead.

3.1.1.3 Result

Attendees have an understanding of the Basic Principles of Arrowhead

3.1.1.4 Schedule

1-hour plenum session in the Porto Workshop 2019-11-12.

3.1.2 Training session TS-26: Eclipse Arrowhead framework installation

3.1.2.1 Topic and content

A Hands-on session on how to deploy the Core systems software of the Eclipse Arrowhead framework to create local clouds. For Linux, Windows and MacOS.

Presentation:
https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/5%20Meetings/3%20Multi%20WP%20Workshops/191111-15%20Multi%20WP%20WS%20Porto/Day-2

3.1.2.2 Targeted audience

Technical developers planning to deploy the Core systems of the Eclipse Arrowhead framework.

3.1.2.3 Result

Attendees have an understanding of how to access the code of the Core systems and how to install it.

3.1.2.4 Schedule

90 minutes plenum session in the Porto Workshop 2019-11-12.

3.1.3 Training session TS-27: Eclipse Arrowhead framework based development

3.1.3.1 Topic and content

Hands-on training 30 minutes each of:

- Consumer implementation
- Producer implementation
- Small application system implementation
- Security
- Inter local cloud service exchange
- Support services, Event Handler, QoS
- Data Manager
- Management Tool
- Test Tool & Sandboxing tool

Presentations:
https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/5%20Meetings/3%20Multi%20WP%20Workshops/191111-15%20Multi%20WP%20WS%20Porto/Day-2

3.1.3.2 Targeted audience

Technical developers planning to develop a technical solution based on the Eclipse Arrowhead framework.

3.1.3.3 Result

Attendees have an understanding of how to utilize the applicable parts of the Eclipse Arrowhead framework. And where to get if and where to find support.

3.1.3.4 Schedule

Plenum sessions of 30 minutes each in the Porto Workshop 2019-11-12.

3.1.4 Training session TS-28: Understanding, knowledge and usage of the Eclipse Arrowhead framework for Use Cases

3.1.4.1 Topic and content

An introduction to the Eclipse Arrowhead framework with the objective how to utilize it in a Use Case development.

3.1.4.2 Targeted audience

Use Case developers.

3.1.4.3 Result

Attendees have an understanding of how to utilize the Eclipse Arrowhead framework in a Use Case development. Where to get the Arrowhead Core system software and where to find support.

3.1.4.4 Schedule

Training for WP9 UCs in January 2020, Munich.

Training for WP9 UCs, March 16th, 2nd session Online

Training for WP8 UCs, April 6th Eindhoven-> Online

3.1.5 Training session TS-30: SysML

3.1.5.1 Topic and content

Utilizing SysML-based Arrowhead design methodology for designing Arrowhead installations

Two separate sessions for different audience

- Suggested for: everyone.
  In this first SysML session, we provide a step-by-step, hands-on tutorial on how to use the SysML-based Arrowhead design methodology for designing your Arrowhead installations.
- Suggested for: advanced SysML users and people aiming at deepening their knowledge in SysML-based Arrowhead design.

Here, we have a detailed discussion on some of the open semantic details of our modeling approach, also touching on how Arrowhead is impacting SysML v2.

Presentations:
https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/5%20Meetings/3%20Multi%20WP%20Workshops/201103-05_WS_Budapest/Technology_sessions_Day-2/SysML

3.1.5.2 Targeted audience

See above.

3.1.5.3 Result

Attendees have an understanding of how to utilize SysML-based Arrowhead design methodology for designing Arrowhead installations and where to find support.

3.1.5.4 Schedule

90 minutes each of the two sessions performed November 4th 2020 in the Online "Budapest" workshop.

3.1.6 Training session TS-31: Eclipse Arrowhead framework architecture for Use Cases

3.1.6.1 Topic and content

Development of an Eclipse Arrowhead based architecture and approach for its implementation.

These training sessions is tailored towards the adaption of Eclipse Arrowhead for a Use Case at hand. The goal with these sessions is to have a proposal for each use case of an Eclipse Arrowhead based architecture and approach for its implementation.

3.1.6.2 Targeted audience

Use Case developers.

3.1.6.3 Result

An Eclipse Arrowhead based architecture and approach for its implementation for the Use Case at hand. And also, that personnel implementing the use cases have an understanding how to do it and how to get support and, if applicable, how to get additional training.

3.1.6.4 Schedule

8 Sessions for selected use Cases performed November 3rd 2020 in the Online "Budapest" workshop.

3.1.7 Training session TS-38: STudio4Education: An educational Arrowhead Tools Service

3.1.7.1 Topic and content

Tutorial on the training tool Studio4Education and how it supports development of Arrowhead based solutions.

Presentation:
https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/5%20Meetings/3%20Multi%20WP%20Workshops/201103-05_WS_Budapest/Technology_sessions_Day-2/Training%20material%20and%20tools

3.1.7.2 Targeted audience

Beginners with Arrowhead Tools framework: students, engineers, and other people having to interact with Arrowhead Tools framework.

3.1.7.3 Result

The audience has learnt how to use Blockly as a visual coding language that allows users to create codes by stacking blocks together. Then STM32 Ecosystem is presented and the proposal to build a STudio4Education Toolchain: entry description being Papyrus (SysML) connected to the Arrowhead Tools Framework to pilot Blockly assembly and implement on STM32.

3.1.7.4 Schedule

90-minute session performed November 4th 2020 in the Online “Budapest” workshop.

3.2 Training material

The full list of identified and/or available training material is available in Appendix 1. In the following subsections, a few of these are highlighted.

3.2.1 Training material TM-06: Arrowhead Crash Course

3.2.1.1 Topic and content

Introduction to Eclipse Arrowhead framework and local cloud automation concepts and technologies. Overview of SoS engineering, security and deployment approach.

3.2.1.2 Targeted audience

All new user of the Eclipse Arrowhead framework.

3.2.1.3 Result

The attendees learn what the Eclipse Arrowhead framework is, how it works and what value it brings. And also, how to learn more and the availability of the Eclipse Arrowhead framework.

3.2.1.4 Availability

Available for the project partners by December 2019: https://atmospheres.research.ltu.se/owncloud/index.php/s/3qqcOjlL1oi7uxB

3.2.1 Training material: IoT and SoS Automation (Book)

3.2.1.1 Topic and content

Eclipse Arrowhead framework commons. Update of the IoT Automation book.

The Eclipse Arrowhead framework has evolved since the existing book on the Arrowhead framework IoT Automation was published. The Arrowhead Framework has also been accepted as an Eclipse project "Eclipse Arrowhead". An updated version of the book that will address these developments is planned.

The existing book:

This book presents an in-depth description of the Arrowhead Framework and how it fosters interoperability between IoT devices at service level, specifically addressing application. The Arrowhead Framework utilizes SOA technology and the concepts of local clouds to provide required automation capabilities such as: real time control, security, scalability, and engineering simplicity. Eclipse Arrowhead Framework supports the realization of collaborative automation; it is the only IoT Framework that addresses global interoperability across multiple SOA technologies. With these features, the Arrowhead Framework enables the design, engineering, and operation of large automation systems for a wide range of applications utilizing IoT and CPS technologies. The book provides application examples from a wide number of industrial fields e.g., airline maintenance, mining maintenance, smart production, electro-mobility, automotive test, smart cities—all in response to EU societal challenges.

Features

- *Covers the design and implementation of IoT based automation systems.*
- *Industrial usage of Internet of Things and Cyber Physical Systems made feasible through Arrowhead Framework.*
- *Functions as a design cookbook for building automation systems using IoT/CPS and Arrowhead Framework.*
- *Tools, templates, code etc. described in the book will be accessible through open sources project Arrowhead Framework Wiki at forge.soa4d.org/*
- *Written by the leading experts in the European Union and around the globe.*

3.2.1.2 Targeted audience

Technical users of Eclipse Arrowhead framework.

3.2.1.3 Result

The reader will learn, in depth, what Eclipse Arrowhead framework is, how it works and what value it brings. And also, how to learn more and the availability and governance.

3.2.1.4 Availability

Existing version: https://www.amazon.com/IoT-Automation-Arrowhead-Jerker-Delsing/dp/1498756751

Updated version release planned for: 2022.

3.2.2 Training material TM-03: Eclipse Arrowhead framework - Training Session

3.2.2.1 Topic and content

Getting started with the Eclipse Arrowhead framework

- Local cloud architectural point of view
- Demo example
- Model
- Resources
- How to run an example
- Implementing your own provider and consumer

3.2.2.2 Targeted audience

Software developers. Newcomers

3.2.2.3 Result

An initial start of developing Eclipse Arrowhead framework based solutions, including implementation examples.

3.2.2.4 Availability

https://atmospheres.research.ltu.se/owncloud/index.php/f/1672181

3.2.3 Training material TM-04: Arrowhead slack forum

3.2.3.1 Topic and content

A slack-forum is available where support can be requested. The forum is monitored daily.

3.2.3.2 Targeted audience

Software developers.

3.2.3.3 Result

Support with issues with the reference implementations of the Cores systems and/or with application system development etc.

3.2.3.4 Availability

https://arrowhead-dev.slack.com/

3.2.4 Training material TM-16: Toolchain Modeling: Comprehensive Engineering Plans for Industry 4.0

3.2.4.1 Topic and content

The document presents an overview of the concepts related to tools and toolchains, especially their formalized definition along with example and counterexamples. Exemplary toolchains are discussed and mapped onto the Arrowhead Engineering Process model.

3.2.4.2 Targeted audience

Developers wanting to explore model-based development for Tool chains based on Eclipse Arrowhead.

3.2.4.3 Result

Knowledge on model-based development for Tool chains based on Eclipse Arrowhead.

3.2.4.4 Availability

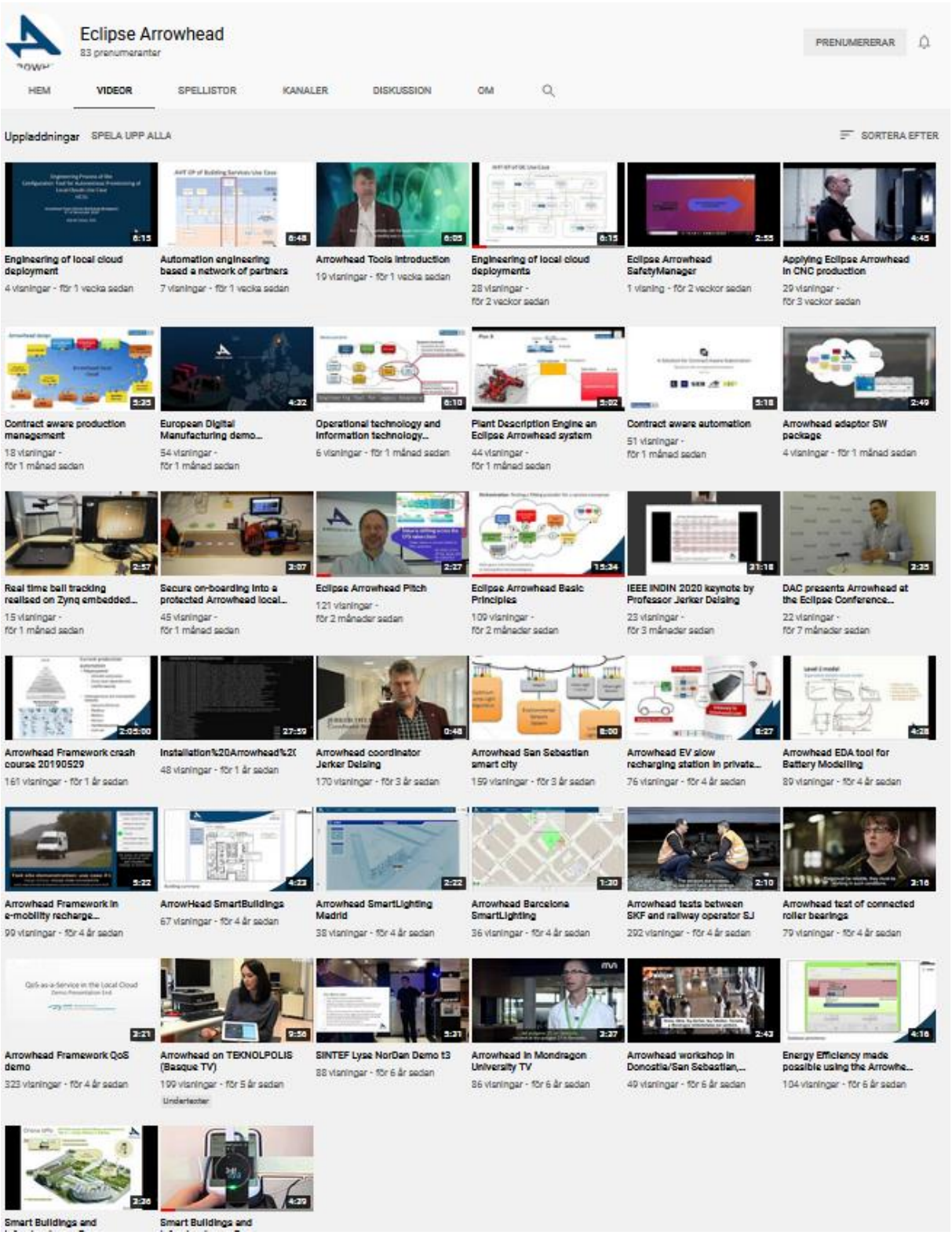
https://atmospheres.research.ltu.se/owncloud/index.php/s/Pu5OHQpzHkjzvln

3.2.5 Training material TM-05: YouTube videos

3.2.5.1 Topic and content

Eclipse Arrowhead framework crash course	A condensed presentation of Eclipse Arrowhead framework and its resources.	https://www.youtube.com/watch?v=Q6hd6190vfI https://atmospheres.research.ltu.se/owncloud/index.php/s/AnLA2ag82akdBJn
Arrowhead Management Tool Overview	Quick overview of the Arrowhead Management Tool	https://www.youtube.com/watch?v=Ut4Uowh6aOU
Arrowhead Management Tool Demonstration	Demonstration of the Arrowhead Management Tool	https://www.youtube.com/watch?v=khulPzTo5SY

…and more:



3.2.5.2 **Availability**

https://www.youtube.com/user/ArrowheadProject

3.2.6 Training material TM-32: The training tool Studio4Education

3.2.6.1 Topic and content

Training tools with HW and SW kits enabling efficient and large-scale training of professionals. The tools and kits are also applicable to education at university level and with smaller updates also applicable for high school and elementary school education.

3.2.6.2 Targeted audience

Beginners with Arrowhead Tools framework: students, engineers, and other people having to interact with Arrowhead Tools framework.

3.2.6.3 Result

Give tools to professionals and subsequently to students to develop IoT applications based on the ARROWHEAD framework.

Learning how to program Arrowhead Tools Framework, by using visual coding language Blockly, model in SysML through Papyrus and implement on STM32.

3.2.6.4 Availability

Not available yet for delivery.

3.2.7 Training material: Scientific publications as material for training

3.2.7.1 Topic and content

Within the Arrowhead Tools project many scientific publications have been made. 40 at the last Periodic Report. These are valuable contributions also as in-depth training material

3.2.7.2 Targeted audience

Depending on the topic of each publication.

3.2.7.3 Result

Depending on the topic of each publication.

3.2.7.4 Availability

Via Deliverable D11.2 of WP 11: <Dissemination and exploitation report year1 and updated plan for year 2> : https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/WP12_Management/Milestone%20deliverable%20submissions/Milestone%203%20For%20submission/D11.2%20For%20submission

And:

https://www.arrowhead.eu/arrowheadtools/publications/scientific-publications/

3.2.8 Training material TM-47: Eclipse project - Eclipse Arrowhead - Web

3.2.8.1 Topic and content

As the Arrowhead Framework transfers to the Eclipse Arrowhead project, The Eclipse web are becoming a valuable source for training material content.

The Eclipse Arrowhead project consists of systems and services that are needed for anyone to design, implement and deploy Arrowhead-compliant System of Systems. The generic concept of the Eclipse Arrowhead framework is based on the concept of Service Oriented Architectures, and aims at enabling all of its users to work in a common and unified approach – leading towards high levels of interoperability.

3.2.8.2 Targeted audience

Software engineers and developers of Eclipse Arrowhead.

3.2.8.3 Result

Comprehensive knowledge of the Eclipse Arrowhead.

3.2.8.4 Availability

The web is at this point not fully updated since the transfer is not yet completed. But the website is available here: https://projects.eclipse.org/projects/iot.arrowhead

4. Plan for collection of training material

4.1 Information to the consortium

The following description is broadcasted every month to all partners in order to invite and inform people on training material collection.

In the context of WP6, we are building a catalogue in order to reference trainings:

- Training Material i.e., tutorials, videos, slides, demos, examples, websites, and other resources (repositories, slack forum, FAQ, etc.)
- Training Sessions i.e., workshops, conferences, lectures, hackathon, training sessions, etc.

All existing or planned training activities and material shall appear in this catalogue:

https://atmospheres.research.ltu.se/owncloud/index.php/f/833352

Please share the training activities by using the following template:

https://atmospheres.research.ltu.se/owncloud/index.php/s/RBBKnNbRJ03USce

The trainings catalogue will be updated monthly along the course of the project. This is important for EC effort reporting because it shall reflect partners activities related to trainings. The corresponding deliverable D6.2 will report on this activity

4.2 Guidelines for training inventory

Partners wishing to share training contents are invited to follow the template available at the following location:

https://atmospheres.research.ltu.se/owncloud/index.php/s/RBBKnNbRJ03USce

WP6-Trainings-Inventory-Guidelines.docx

In this document they will find information to follow on:

1- Collection procedure and guidelines
2- Trainings in scope
3- Submission of trainings

WP6-AHT-New-training.xlsx

This document is an empty Excel table with same structure as the catalog WP6-AHT-Trainings-and-training-material-catalog.xlsx. Thus, the WP6 management team can update the catalog with the formatted information of the new training material.

4.3 Provision of training material

The training material is available at the following location:

https://atmospheres.research.ltu.se/owncloud/index.php/apps/files?dir=/Arrowhead_Tools/WP6%20Training/Training%20Material

There, 6 directories are used by the WP6 to sort the material:

1- General Information
2- Engineering process training and support material (WP2)
3- SOA Framework training and support material (WP3)
4- Tool chain architecture training and support material (WP4)
5- Tools usage training and support material (WP5)
6- The directory “submitted trainings” is used to receive the new material to be sorted.

5. Training material catalogue analysis

5.1 Training sessions

45 training sessions are available.

WPs covered: WP2 (16), WP3 (16), WP4 (14), WP5 (34), WP7 (9), WP8 (8), WP9 (24)

Topics covered:

- Eclipse Arrowhead framework (5)
- Eclipse Arrowhead framework architecture (4)
- Eclipse Arrowhead framework core systems (3)
- Eclipse Arrowhead framework commons (3)
- Design and implementation of application services (19)
- Design, implementation and integration of SoS solutions (2)
- IoT interoperability (2)

Types are:

- Presentation (31)
- Seminar (2)
- Training sessions (5)
- Workshop (6)

- Slides (1)

5.2 Training material

35 training material are available.

WPs covered: WP2 (8), WP3 (7), WP4 (18), WP5 (19), WP7 (11), WP8 (13), WP9 (14)

Topics covered :

- Eclipse Arrowhead framework architecture (1)
- Eclipse Arrowhead framework commons (10)
- Eclipse Arrowhead framework core systems (2)
- Design and implementation of application services (1)
- Design, implementation and integration of SoS solutions (7)
- IoT interoperability (5)
- Tool chain architecture and interoperability (8)

Types are: Course (1), Document (5), Forum (1), Package (1), Repository (2), Slides (7), Tutorial (1), Video (8), Website (5), Wiki (1)

6. Plan for Year 2

Maintain the material collection effort

The procedure will remain the same, with enhancement if required.

Analysis of existing materiel will help to drive or propose missing targets: WPs, topics, etc.

Dissemination

One objective is to create some emulation for training events or material production, in order to increase the usage of Arrowhead tools inside and outside the consortium.

Organization of a “Hackathon”

Hackathon definition (Wikipedia): A hackathon (also known as a hack day, Hackfest or codefest; a portmanteau of hacking marathon) is a design sprint-like event; often, in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, domain experts, and others collaborate intensively on software projects.

We will see if this kind of event corresponds to our WP6 objectives. Nevertheless, we will organize at least one event for knowledge sharing.

7. Appendixes

Appendix 1: WP6-AHT-Trainings-and-training-material-catalog 2020-12-10

8. Conclusions

The work done in WP6 since the start of the project allows us today to offer a significant number (more than 80) of training material. These elements represent the continued work of the consortium to propagate the technical and scientific knowledge generated by the project within

the community of engineers and researchers inside and outside the project. We are in the middle of the road, there is still some structuring work to be done to improve the management and operation of all this material. We are currently following the plan for year 2 and the recommendations made by the reviewers. Our objective in this WP6 is and remains to deliver training at the professional level for engineers around Arrowhead Tools technology.

9. Revision history

9.1 Contributing and reviewing partners

Contributions	Reviews	Participants	Representing partner
X	X	Emmanuel Vaumorin	Magillem
X	X	Mats Johansson	LTU
	X	Jerker Delsing	LTU

9.2 Amendments

No.	Date	Version	Subject of Amendments	Author
1	2020-11-24	0.9	Version for review	Emmanuel Vaumorin
2	2020-12-10	0.99	Update after review. Training catalogue in annex. For final review	Emmanuel Vaumorin
3	2020-12-14	1.0	Editorial updates after final review	Mats Johansson

9.3 Quality assurance

No	Date	Version	Approved by
1	2020-12-14	1.0	Jerker Delsing