Project Management Handbook
Deliverable No. 6.2

Project Acronym	IoTrain	Grant Agreement Number	619390-EPP-1-2020-1-DE-EPPKA2-CBHE-JP	
Document Version	1.1	Date	2021-01-31	Deliverable No.	6.2
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Version History

Version	Date	Change	Author(s)
1.0	2020-12-19	Draft 1.0	Ali Behravan (USI)
1.1	2021-01-31	Draft 1.1	Ali Behravan (USI)

Contributors

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And All Partners	

Disclaimer

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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1 Introduction

The project handbook provides guidelines and information for the operation of the IoTrain project. It defines the rules and basic support for cooperation between partners and establishes procedures for documentation, quality management, management decision schemes and control procedures.

Key topics to be addressed in the handbook are:

- Project internal management structure
- Responsibilities
- Project internal processes (publication, internal review, etc.)
- Project infrastructure (IoTrain Intranet, communication, etc.)
- Reporting procedures
- Quality management
- Risk management

2 Management Structure

The project internal management structure of IoTrain is described in the following sections beginning with the definition of the different roles in section 2.1:

- Coordinator
- Work Package Leader
- Deliverable Leader

Section 2.2 maps the roles to management bodies such as General Assembly and Executive Board. Processes of decision making in these bodies are explained.

2.1 Roles

Each project partner participating in the IoTrain project is committed to constructively contribute to the achievement of the project goals and provides its input actively and on time. Nonetheless, management roles have been identified to ensure coordinated activities within IoTrain. On a project level the coordinator implements a proper management. On a work package level the work package leaders and deliverable leaders efficiently handle the necessary coordination.

2.1.1 Coordinator

USI serves as coordinator in the IoTrain project. Roman Obermaisser (USI) is an experienced project manager, who can draw upon extensive experience as project coordinator (e.g., MS@CPS, FP7-project GENESYS, ARTEMIS-project ACROSS). Ali Behravan (USI) is the other member of the project coordination team. This team takes care of the scientific, technical and strategic management of the project. The team is supported by experts in charge of specific activities including webmaster, legal advisor and dissemination specialists.

USI also appoints a *quality and risk manager* implementing the procedures of quality control and risk management. The quality and risk manager maintains and updates the list of risks and manage the identified risks.

USI takes care of the following activities:

- overall scientific coordination,
- group management (e.g., prepare and follow-up project reviews, general assembly meetings, etc.)
- project administration and reporting (including financial aspects, project indicators, etc.);
- management of amendments to the grant agreement and the consortium agreement;
- monitoring of the overall progress of project partners with their obligations,
- quality of the results,
- proper implementation of decisions of the general assembly,
- financial and legal aspects of the project,
- communication between the EC and the IoTrain consortium including the collection and submission of deliverables, organization of project meetings, and engagement with the public.

The IoTrain project consists of 6 work packages (WP), and each WP is supervised by a WP leader. The WPs are further divided into tasks (deliverables), foreseeing a deliverable leader (deliverable leader), for each task.

2.1.2 Work package leaders

WP leaders will strictly examine and monitor the progress of their WPs and will be responsible for the success of these WPs. The main responsibilities of the WP leaders are the

- overall coordination and planning within the WP,
- preparation of WP meetings,
- fulfillment of work package objectives,
- communication flow and adjustment between tasks,
- quality control of deliverables, and
- reporting to the coordinator

The WP leaders are as follows:

Table 1: Work Package Leaders

Work Package	WP Partner Leader	WP Leader
WP1 Preparation	SCU	Mohammad Javad Rashti
WP2 Development	UPB	Grigore Stamatescu
WP3 Quality Plan	UMA	Xiaojun Zeng
WP4 Dissemination	IBS	Farideh Saadati
WP5 Exploitation and Sustainability	PTX	Mahdi Bohlouli
WP6 Management	USI	Ali Behravan

2.1.3 Deliverable leaders

Each deliverable leader is responsible for the

- planning and execution of the scientific and technical activities of the respective task, and
- timely completion of deliverables due in its task.

Deliverable leaders provide required information to the work package leaders.

2.2 Management Bodies

Beside individual management roles also consortium bodies have been designed in order to enable the overall project governance and the regular and structured exchange between the management roles and project partners. The management structure is visualized in
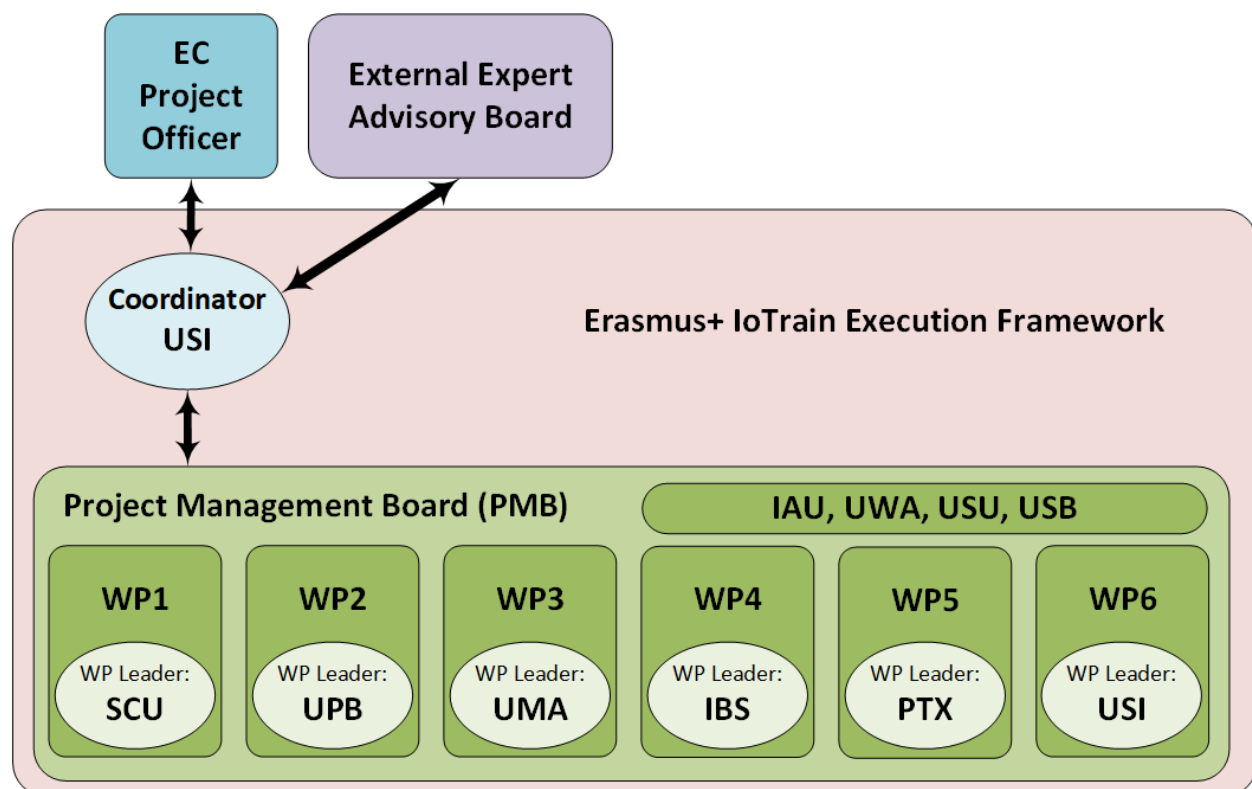

Figure 1. The Project Management Board and the coordinator take care of the communication flow between the WPs. This will be ensured by regular consultations, either by written means or through physical meetings or phone conferences. The coordinator is responsible for the communication with the EC and the External Expert Advisory Board and the project partners on a general level.
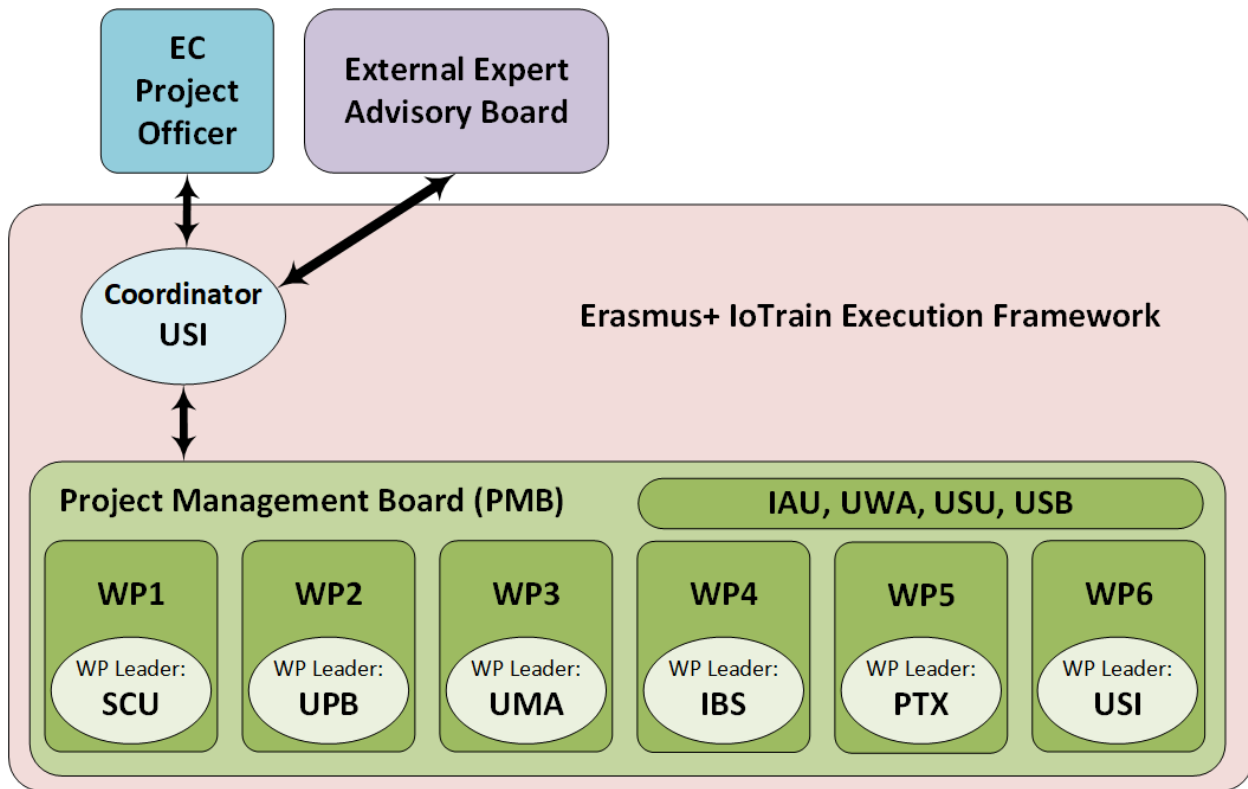
Figure 1 IoTrain Management structure

2.2.1 Project Management Board

The Project Management Board (PMB) is the decision making body of the IoTrain project. The PMB is composed of the coordinator and of one duly authorized representative from each project partner with decision-making power. Each member of the PMB has one vote, the voting regulations are detailed in section 2.2.2. The PMB is responsible for the

•   overall direction and strategy of the project,

•   all strategic decisions with regard to the technical objectives of the projects and to the content of the WPs (e.g. changes in the work plan, contract amendments),

•   termination of contract with respect to a project partner

•   Regular participation in the monthly PMB telcos

•   Keeping staff members of the respective organizations aware of their decisions and actions

•   Providing the requested inputs to the PMB or the coordinator

•   Ensuring that the quality is well maintained in each WP

•   coordination and adjustment between WPs

•   quality and progress control of deliverables

•   monitoring the effective and efficient implementation of IoTrain.

If necessary, the Project Management Board can propose changes in the description of work after the confirmation of the Coordinator. The IoTrain Project Management Board is populated as follows:

Table 2 IoTrain Project Management Board members list

Member	Organization	WP Leadership
Mohammad Javad Rashti	SCU	WP1 Preparation
Grigore Stamatescu	UPB	WP2 Development
Xiaojun Zeng	UMA	WP3 Quality Plan
Farideh Saadati	IBS	WP4 Dissemination
Mahdi Bohlouli	PTX	WP5 Exploitation and Sustainability
Ali Behravan	USI	WP6 Management
Muayed S AL-Huseiny	UWA	-
Wael Sh. Abd Alaziz	USU	-
Shahram Mohanna	USB	-
Reza Ghaemi	IAU	-

The PMB members shall meet monthly or at any other time when necessary, aligned with the major project milestones. The meetings of the PMB are organized by the coordinator, who will also chair these meetings. Regular PMB Telcos are scheduled for **every third Monday per month from 11:00 CET to 13:00 CET.** In case of a change, information is circulated via the IoTrain mailing list.

2.2.2   Decision Making

Decisions in the Project Management Board are taken by a majority of two-thirds (2/3) of the votes. The Project Management Board ensures the smooth workflow between WPs by coordinating the respective intersection points and dependencies according to the advices of the coordinator.

Within the WPs the WP leaders schedule regular meetings (physical ones, video/phone conferences) with the WP partners to discuss the deliverable activities, the respective progress and to ensure sound adjustment between tasks. Decisions within the WP require a majority vote. The WP partners jointly elaborate and fulfill the task plan.

2.3   External Expert Advisory Board

An External Expert Advisory Board (EEAB) is appointed and steered by the PMB for the external evaluation and to guarantee the quality of the project flow including the implementation and the results. The EEAB shall assist and facilitate the decisions made by the PMB. The active involvement of external quality experts will be instrumental in offering insights from a non-partner. This also will cross-fertilize and expand the consortium's vision on quality assurance. Finally, it will serve to minimize risks and deviations from the quality assurance plan, as these people will be allocated externally, thus will have a more objective and critical viewpoint to the processes and outcomes of the project. Therefore, these quality practices will ensure high-quality and timely outputs. The members of the EEAB are required to sign a non-disclosure agreement no later than 30 days after their nomination. The members are one European, one Iranian and one Iraqi.

In order to define the members of the "external expert advisory board" the following procedure will be used:

  - Each project partner will provide a list of candidates

  - the list will be consolidated and shared with the consortium

  - a voting will be announced by the coordinator to determine the members

The EEAB members are invited to participate in PMB meetings but do not have any voting rights. However, one EEAB meeting in each year with the participation of EEAB is recommended. The Coordinator writes the minutes of the EEAB meetings including the EEAB's suggestions which are then discussed and agreed on in the EEAB. Agreed suggestions are then implemented by the project.

3   Responsibilities

The different responsibilities in the IoTrain project are described in the following sections. Responsibilities are listed for the categories:

- Work Packages
- Deliverables
- Administration/Financial

3.1 Deliverable Responsibilities

Responsibilities for the deliverables are assigned to project partners. These partners are responsible for the contents of the deliverables and their timely completion. The table of project months is as following:

Table 3 Deliverables to partner responsibility mapping

from	15/11/2020	to	14/12/2020	M01
from	15/12/2020	to	14/1/2021	M02
from	15/1/2021	to	14/2/2021	M03
from	15/2/2021	to	14/3/2021	M04
from	15/3/2021	to	14/4/2021	M05
from	15/4/2021	to	14/5/2021	M06
from	15/5/2021	to	14/6/2021	M07
from	15/6/2021	to	14/7/2021	M08
from	15/7/2021	to	14/8/2021	M09
from	15/8/2021	to	14/9/2021	M10
from	15/9/2021	to	14/10/2021	M11
from	15/10/2021	to	14/11/2021	M12
from	15/11/2021	to	14/12/2021	M13
from	15/12/2021	to	14/1/2022	M14
from	15/1/2022	to	14/2/2022	M15
from	15/2/2022	to	14/3/2022	M16
from	15/3/2022	to	14/4/2022	M17
from	15/4/2022	to	14/5/2022	M18
from	15/5/2022	to	14/6/2022	M19
from	15/6/2022	to	14/7/2022	M20
from	15/7/2022	to	14/8/2022	M21
from	15/8/2022	to	14/9/2022	M22
from	15/9/2022	to	14/10/2022	M23
from	15/10/2022	to	14/11/2022	M24
from	15/11/2022	to	14/12/2022	M25
from	15/12/2022	to	14/1/2023	M26
from	15/1/2023	to	14/2/2023	M27
from	15/2/2023	to	14/3/2023	M28
from	15/3/2023	to	14/4/2023	M29
from	15/4/2023	to	14/5/2023	M30
from	15/5/2023	to	14/6/2023	M31
from	15/6/2023	to	14/7/2023	M32
from	15/7/2023	to	14/8/2023	M33
from	15/8/2023	to	14/9/2023	M34
from	15/9/2023	to	14/10/2023	M35
from	15/10/2023	to	14.11.2023	M36

The process for deliverable completion is detailed in section 5.1.

The following table lists the mapping of deliverables to responsible partners :

Table 4 Deliverables to partner responsibility mapping

WP	WP leader	Task	Type	Due Date	Deliverable Leader	Contributors
Prep.	SCU	D1.1 Analysis of existing courses and resources	Report	M3	IBS	IAU, USB, SCU, USU, UWA
		D1.2 Market needs analysis and goal definition	Report	M6	USB	IAU, IBS, SCU, USU, UWA
		D1.3 Requirement and Market Needs Analysis	Event	M7	USU	USI, PTX, UPB, IAU, USB, IBS, SCU, UWA
		D1.4 IoT Trainings Gap Identification Report	Report	M9	UWA	IAU, USB, IBS, SCU, USU
		D1.5 Course Development Plan	Report	M11	SCU	IAU, USB, IBS, USU, UWA
Dev.	UPB	D2.1 Course Development Hackathon	Event	M13	UPB	USI, PTX, UMA IAU, USB, IBS, SCU, USU, UWA
		D2.2 Final Version of Courses	Report	M18	UPB	USI, PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D2.3 Staff Training and Mobility in Siegen	Event	M19	USI	PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D2.4 Summer School in Iran	Event	M20	IBS	USI, PTX, UPB, UMA IAU, USB, SCU, USU, UWA
		D2.5 Summer School in Iraq	Event	M20	USU	USI, PTX, UPB, UMA IAU, USB, IBS, SCU, UWA
		D2.6 Summer School (for Iran and Iraq) in Ahvaz	Event	M32	SCU	USI, PTX, UPB, UMA IAU, USB, IBS, USU, UWA
Qual.	UMA	D3.1 Quality control and monitoring plan	Report	M6	UMA	USI, PTX, UPB IAU, USB, IBS, SCU, USU, UWA
		D3.2 1st Project Annual Quality Monitoring Meeting	Event	M13	UPB	USI, PTX, UMA IAU, USB, IBS, SCU, USU, UWA
		D3.3 Qualitative and Progressive Assessment Reports	Report	M12, M24, M36	UMA	USI, PTX, UPB IAU, USB, IBS, SCU, USU, UWA
		D3.4 2nd Project Annual Quality Monitoring Meeting	Event	M25	IAU	USI, PTX, UPB, UMA USB, IBS, SCU, USU, UWA
		D3.5 External evaluation reports	Report	M36	USI	PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D3.6 Final Project Quality Assurance Report	Report	M36	UMA	USI, PTX, UPB IAU, USB, IBS, SCU, USU, UWA
Diss.	IBS	D4.1 Dissemination policy and plan	Report	M3	USB	PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D4.2 Project website	Service	M6	UWA	USI, PTX, UPB, UMA IAU, USB, SCU, USU, IBS
		D4.3 Entrepreneurship and dissemination workshop	Event	M25	IAU	USI, PTX, UPB, UMA USB, IBS, SCU, USU, UWA

		D4.4 Dissemination and Marketing Materials	Report	M9	PTX	USI, IBS, UPB, UMA IAU, USB, SCU, USU, UWA
		D4.5 Newsletters and mailing lists	Report	M12, M24, M36	PTX	USI, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
Exp. & Sus.	PTX	D5.1 Industry Exploitation Workshop	Event	M25	IAU	USI, PTX, UPB, UMA USB, IBS, SCU, USU, UWA
		D5.2 Sustainability Plan and Monitoring Report	Report	M24	PTX	USI, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D5.3 Exploitation Plan	Report	M32	PTX	USI, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
Man.	USI	D6.1 Kick-off meeting	Event	M01	USI	PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D6.2 Project Management Handbook	Report	M03	USI	PTX, UPB, UMA IAU, USB, IBS, SCU, USU, UWA
		D6.3 1st Management and Project Progress Meeting	Event	M07	UMA	USI, PTX, UPB SRU, USB, IBS, SCU, USU, UWA
		D6.4 Communication and collaboration tools	Service	M08	USI	PTX, UPB, UMA, IAU, USB, IBS, SCU, USU, UWA
		D6.5 Interim Financial Monitoring Report	Report	M18	USI	PTX, UPB, UMA, IAU, USB, IBS, SCU, USU, UWA
		D6.6 2nd Management and Project Progress Meeting	Event	M19	USI	PTX, UPB, UMA, IAU, USB, IBS, SCU, USU, UWA
		D6.7 Final Project Report	Report	M36	USI	PTX, UPB, UMA, IAU, USB, IBS, SCU, USU, UWA
		D6.8 Project Final Meeting	Event	M36	UPB	PTX, USI, UMA, IAU, USB, IBS, SCU, USU, UWA

3.2 Financial and Administrative Responsibilities

The following table provides two contact persons from each partner responsible for financial and administrative issues:

Table 5 Financial and administrative responsibilities

Financial and Administrative Responsibilities		
ID	Partner	Contact Person
01	USI	Ali Behravan, Petra Wenzel
02	PTX	Mahdi Bohlouli
03	UPB	Elisabeth Lazarou, Adriana Dumitrescu
04	UMA	Xiaojun Zeng
05	SCU	Mohammad Javad Rashti, Avatef Bereihi

06	USB	Shahram Mohanna, Abdolhamid Bahr Peyma
07	IAU	Reza Ghaemi, Ehsan Pouladi Borj
08	IBS	Farideh Saadati
09	UWA	Muayed S AL-Huseiny
10	USU	Wael Sh. Abd Alaziz

4   Project Infrastructure

A project infrastructure has been set up to provide communication means and a dedicated intranet workspace for the IoTrain project.

4.1   IoTrain Intranet

A Microsoft SharePoint server realizes the IoTrain intranet. It is a web-based file sharing and work support tool and that can be accessed by all project partners by using personalized login credentials.

Requests for credentials can be sent via email to Mr. Ali Behravan (ali.behravan@uni-siegen.de) including the full name and an email address of the person the account is requested for. After account creation, the login and password are sent to the given email address.

Sharepoint provides support for secure web-based file sharing, file versioning and support for cooperation such as discussion forums.

Access is possible by opening https://IoTrain.teams.uni-siegen.de/ with a web browser. When using Microsoft Internet Explorer or the Google Chrome browser, it is necessary to add "@uni-siegen.de" to the username.

After login, the user is shown the IoTrain Sharepoint Intranet main page (see Figure 2).
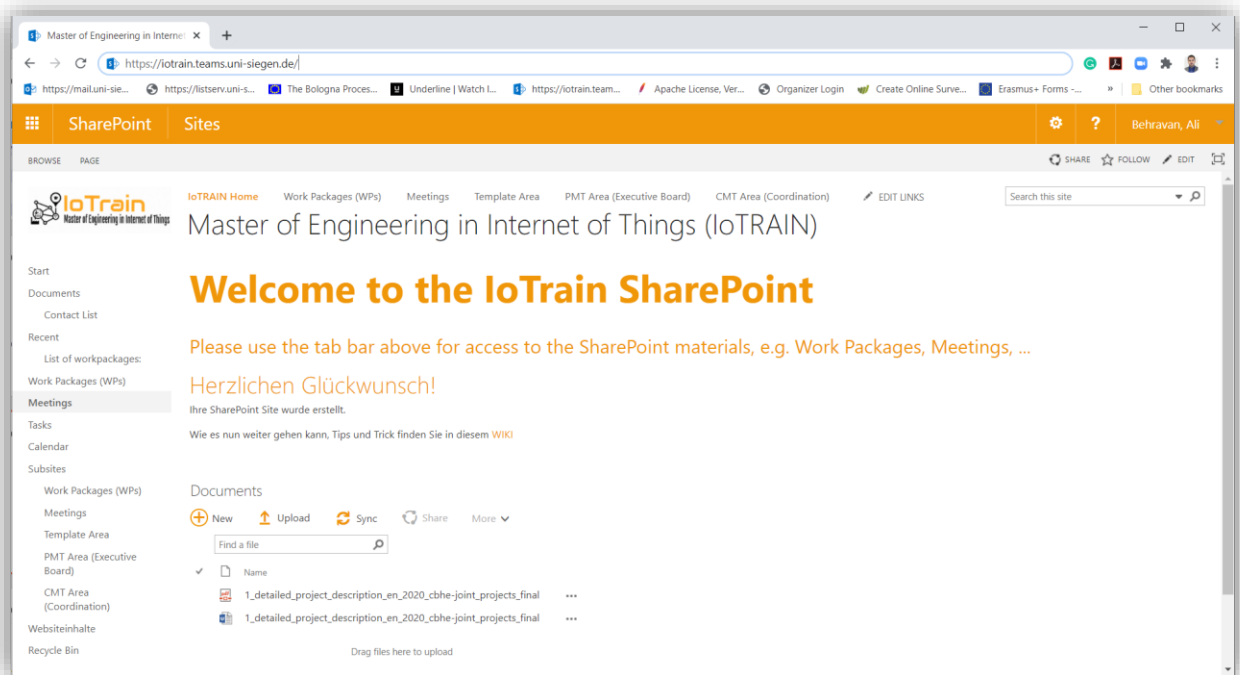

Figure 2 IoTrain Sharepoint Intranet main page

From the main page, the user can navigate to different sub sites as shown in Figure 3. Dedicated sites are provided for Plans and Reporting, Meetings, Work Packages, Templates and Administrative.
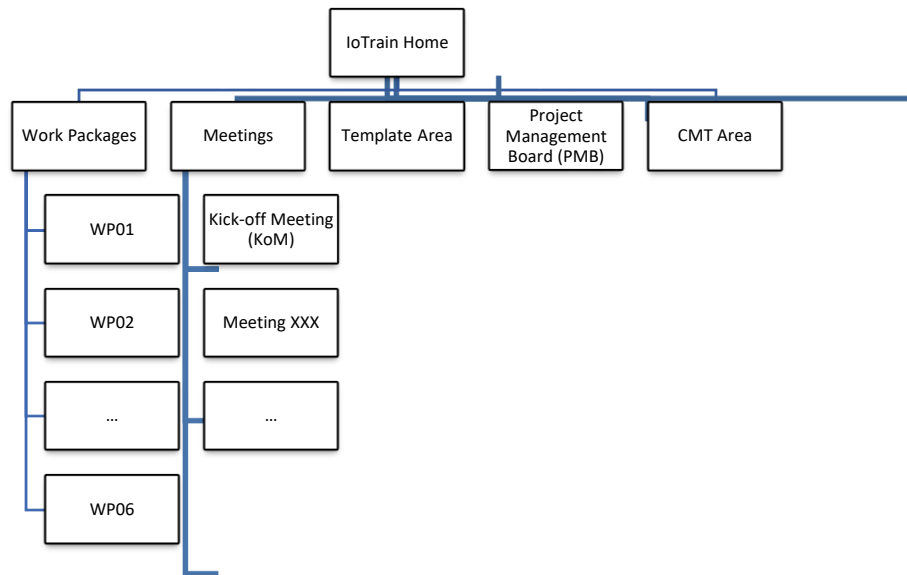
Figure 3 Sharepoint Site Structure

Each sub site provides a shared document library that can be populated by the partners. The most important features for using Sharepoint including document libraries and versioning are described in the following.

Sharepoint provides a built-in versioning system that shall be enabled for all document libraries. A new version of the document is easily created when uploading the file with same name by using the "Create a new file" feature as shown in Figure 4.
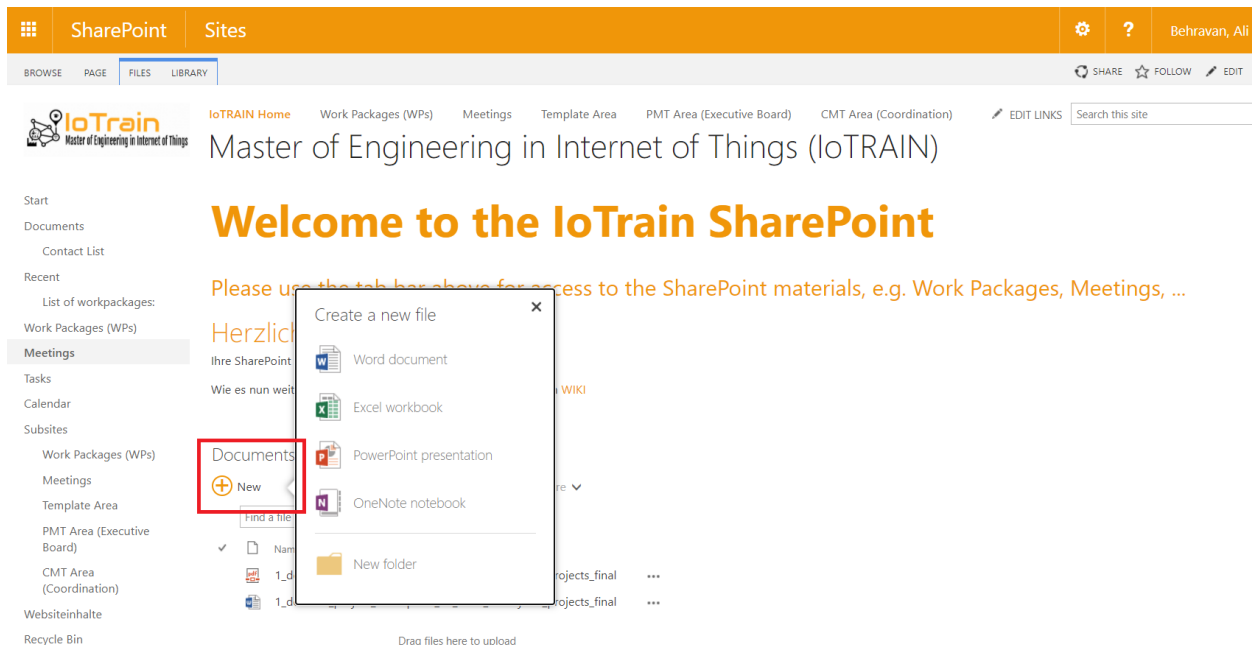
Figure 4 IoTrain Shared library "Create a new file" feature

By using the context menu of a document entry, the version history, the sharing option, and the download tab can be displayed as shown in Figure 5.

Figure 5 Version history for a Sharepoint document

To avoid inconsistencies, partners are asked to minimize the use of email attachments when exchanging documents that need to be accessed and edited by several people. Uploading the document to SharePoint and providing the link via Email is the preferred option. The advantage is that the latest version of the document is always available.

SharePoint provides a functionality to directly email the link to a file. It is available through the context menu as shown in Figure 6.
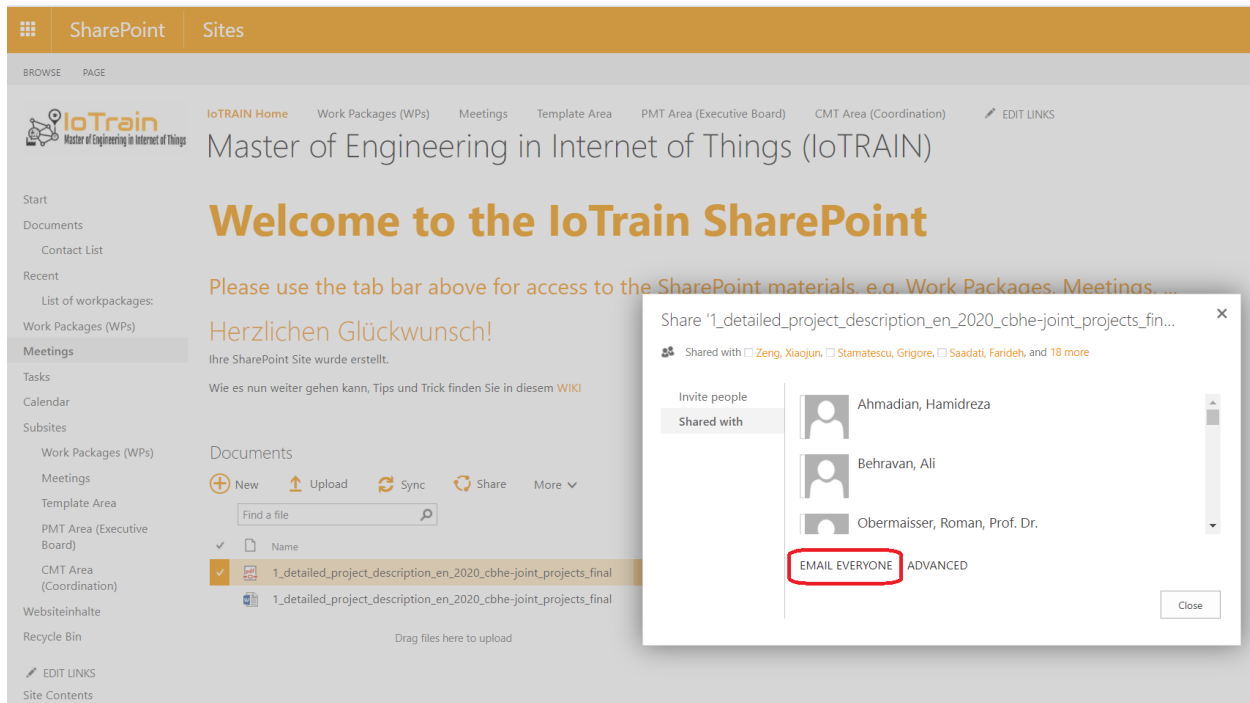
Figure 6 Sharepoint - "Share-Email everyone a file" feature

4.1.1 Deliverables in Sharepoint

Deliverables and their working documents are stored in dedicated folders of the work package's shared libraries. For example deliverable D1.1 is stored in folder "Deliverables->D1.1" of the shared document library of the "WP1" subsite.

All partner contributions for the deliverable are placed in this folder and integrated into the deliverable by the respective deliverable leader. The following naming convention shall be applied to the IoTrain deliverables:

- IoTrain_ D.D_ title_ Version.file extension
    - Title: Title or short description of the document
        - Use 7-bit ASCII characters (a..z, 0..9, _, -) only
        - (DO NOT use special characters, e.g. ":")
    - D.D Deliverable Identifier
- The file extension has to be added by the user based on the type of file.
- Example:
    - IoTrain_D1.1_Analysis_of_existing_courses_and_resources.docx

4.1.2 Workpackage Timelines

The SharePoint is a suitable infrastructure to dynamically track the status of the IoTrain project. Every workpackage (WP) has its timeline for 36 months of the project. The timeline includes the current day, the WP duration, the deliverables numbers and titles, and it shows the nearest deliverable within the workpackage. Figure 7 shows a zoomed view of an example WP1 timeline.

Workpackage 1 Timeline

Figure 7 Sharepoint - "Timeline" feature

The status of the deliverables (tasks) will be updated by the deliverable leader monthly. To do this, the deliverable leader does the "Right-Click" and chooses "***Edit Item***". Figure 8 shows the Tasks feature as a list of deliverables within a workpackage, due date, deliverable leader, and WP leader.
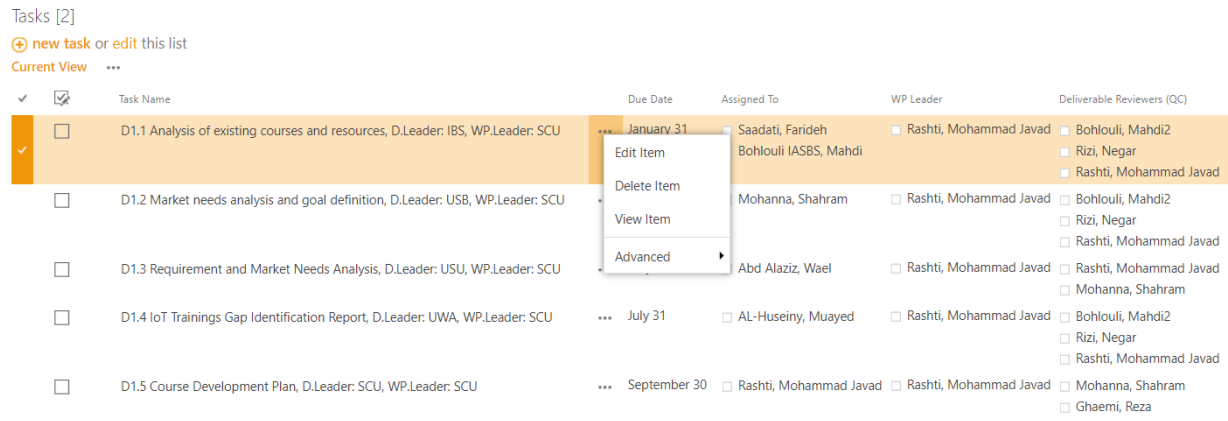
Figure 8 Sharepoint - "Tasks" feature

The status of each deliverable will be updated by the deliverable leader **monthly**. The deliverable leader updates the information including the percentage of completion (% Complete from 0%-100%), Task Status (Not Started, In Progress, Completed). Figure 9 shows this section.

Figure 9 Sharepoint - "Tasks" feature –> Edit Item

4.1.3 Documentation and Reporting Templates

To provide a corporate identity for the IoTrain project and to support partners (e.g. partner internal effort reporting), several templates are available in the Sharepoint "Template Area" subsite.

Templates are made available for:

- Deliverables (Microsoft Word)
- Table of Achieved Planned Results (Microsoft Word)
- Presentations (Microsoft Powerpoint)
- Timesheets (Microsoft Excel)
- Travel Report (Microsoft Word)
- Minutes of meetings (Microsoft Word)
- Joint Declaration (Microsoft Word)

4.2 Tooling

The following tools shall be used to ensure consistency and interoperability for project documents like deliverables or presentations:

- Microsoft Word
- Microsoft Excel

- ▪ Microsoft Powerpoint

4.3 Project Website

To communicate the project results to the interested public, a project website will be set up. The domain and host is provided by the coordinator and UWA is responsible to design the website and its webpages based on the WordPress accounts generated by the coordinator. The UWA has a webmaster who collects the required information from all the partners and is responsible for weekly update and maintainence of the project website. The project website quality and look must be in confirmation of the PMB and the coordinator. The project website is available under www.IoTrain.eu. The dedicated deliverable D4.2 provides more detailed information on the project website. The publication of the website must be based on the EC rules described in section 5.2.

4.3.1 Update and maintenance process for website

Key aspect for a good dissemination is a website showing up to date information on the project. A process is defined to simplify website updates with content of interest. Two procedures are foreseen to keep the website content up to date.

On demand update requests from partners are to be provided by email to UWA, changes are then applied to the website. Periodic updates on a weekly basis are triggered by the UWA requesting new input from the partners. The received input is consolidated and aligned before being added to the website. For the update procedure for IoTrain website, an instruction is published by the UWA (D4.2).

4.4 Mailing Lists

To enable effective communication within the IoTrain project, an email list has been set up (IoTrain@listserv.uni-siegen.de). The email list covers general items that are of interest for all partners, e.g., WP-related discussions and information exchange, information and requests from the EC, meeting preparation, etc.

Subscription and unsubscription for the mailing lists is handled by Mr. Ali Behravan (ali.behravan@uni-siegen.de).

4.5 Teleconferences

Teleconferences organized by the Coordinator (USI) are held with the Jitsi web conferencing system (Figure 10) for video conferencing and desktop sharing (presentations). The conference scheduling and invitations are done via the mailing list. The monthly teleconference link is:

https://meet.armstrong.zimt.uni-siegen.de/IoTrain_Monthly_Meeting
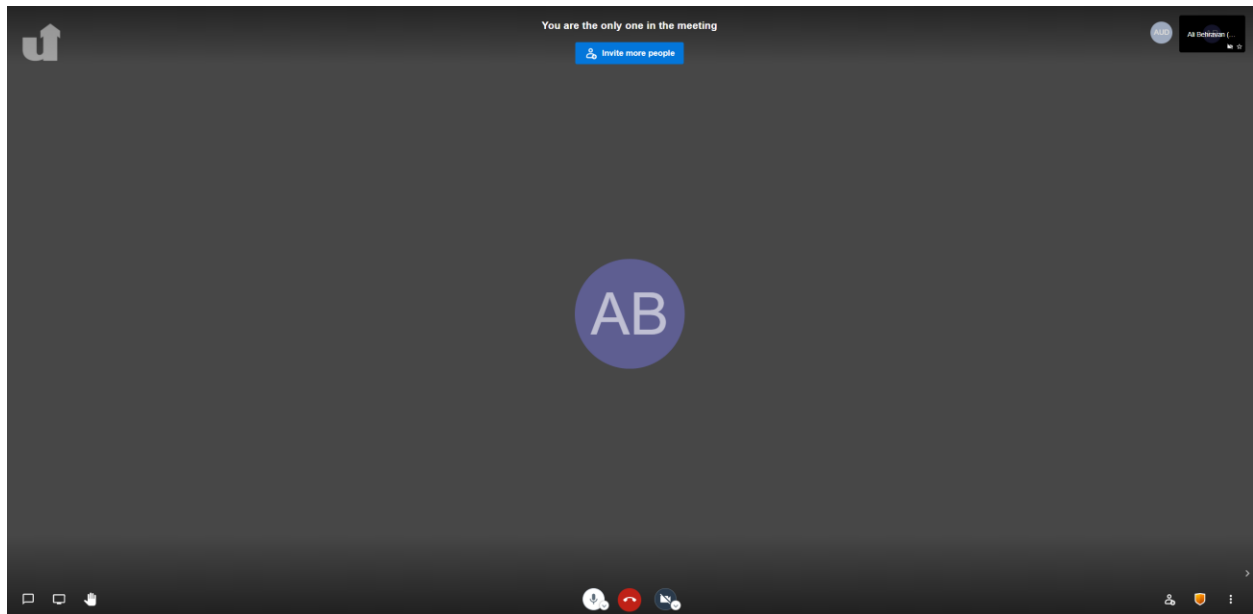
Figure 10 Update procedure for IoTrain website

5   Project Internal Processes

The IoTrain project internal operation is optimized by the definition of processes for recurring actions and other important procedures.

5.1 Deliverable Completion

The IoTrain deliverable completion process is organized as shown in Figure 11.
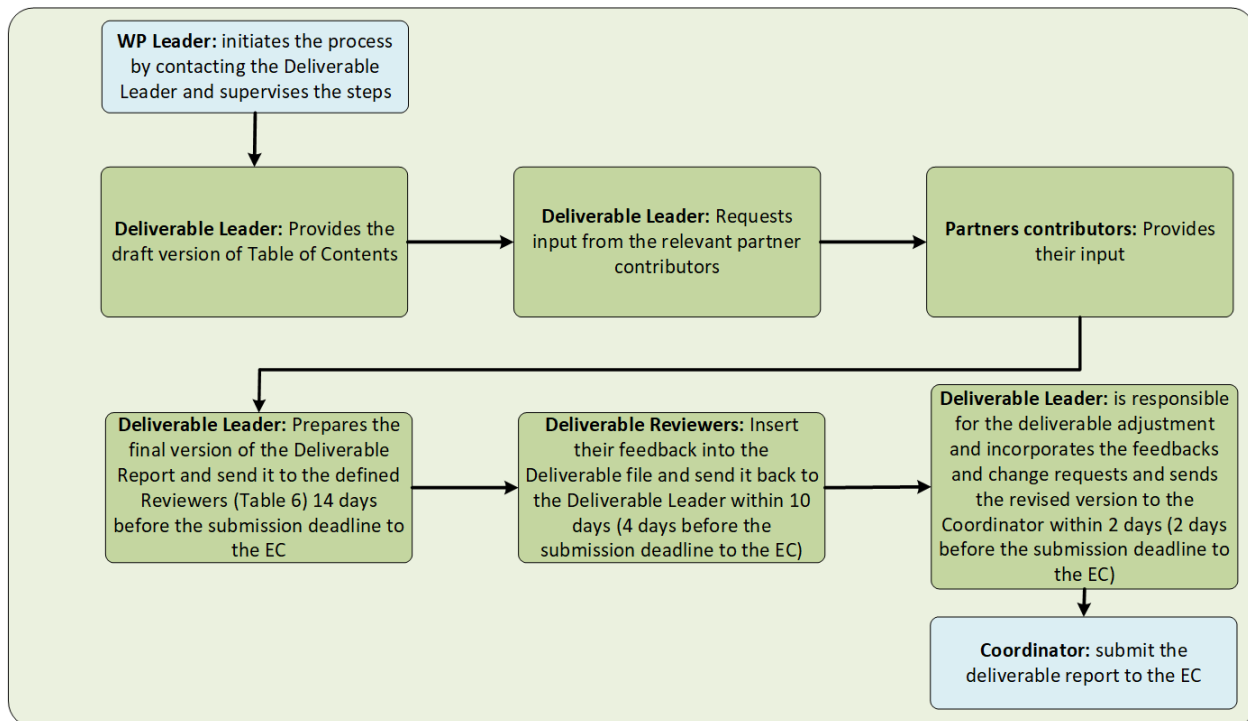
Figure 11 IoTrain deliverable completion process

5.2 Project Deliverables'/Publications' Rules

The project deliverables/publications addresses project results, academic publications, and other media as well (e.g., press releases, website). For this, the project partner uploads a draft version of publication to the project SharePoint and inform all the partners via mailing list at least 14 days before the submission. Then, the project partners have to send their feedback including the interest conflicts (statement of reason is needed) within 4 days to the deliverable leader. The deliverable leader will inform the Partners if objection was received and the deliverable leader/project partner and opposing Partner resolve interest conflict within 8 days. Otherwise, the Partner publish and provide information on publication for the Dissemination Report.

There are very important rules for the Project Deliverables/Publications, including the project website. Based on the rules of the EC, the project results/deliverables/publications/website must display **Erasmus+ Logo which mentions "*Co-funded by the Erasmus+ Programme of the European Union*"**

or

Figure 12 Erasmus+ Logo

Also, these project publication and results must include disclaimer:

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".

All publications shall include the following statement to indicate that foreground was generated with the assistance of financial support from the European Union:

The research leading to these results has received funding from the European Union's ERASMUS+ Programme under grant agreement n° 619390-EPP-1-2020-1-DE-EPPKA2-CBHE-JP

5.3   Project Handbook Update Procedure

When an update is requested by a partner, the change request is included in the agenda of the next PMB telco. After the PMB has decided on the change, it is integrated into the project handbook by the coordinator and the new version is circulated via email.

5.4   Internal Deliverable Review

An internal review process is established to perform a quality assessment of project deliverables prior to submission to the EC. The internal review process by the Quality Committee (QC) is used to improve the overall quality of the work/meetings/events and to ensure that results are useful for achieving the overall project results. Output from these technical reviews will be documented in a formal report including acceptance or non-positive recommendations from the reviewing team. Also, for the events such as hackathons and meetings, the reviewer is responsible to carefully supervise the quality and planning of the events and their venue/online platform. As a general rule, each project partner shall review his own results before transmitting them to someone else. The Deliverable Leader will be the first instance to perform a quality control of deliverables. Further, all project deliverables will undergo a quality control of

the Deliverable Reviewers (QC). The process can be seen in Figure 11 that defines a detailed internal review process for project deliverables including the reviewers of the deliverables, the stages at which a review will take place and providing advice to reviewers for an effective review process.

The project internal deliverable review process is balanced among all the IoTrain partners. For each deliverable, two partners have been selected to provide reviews. These reviews are submitted to the deliverable leader of the respective deliverable by storing them in the deliverable's subfolder in Sharepoint. Table 6 provides and overview on deliverables and partners responsible for reviews.

Table 6 Deliverable Reviews

Number	Deliverable Number	Deliverable Title	Planned Delivery Month	Deliverable Leader	WP Leader	USI	PTX	UPB	UMA	SCU	USB	IAU	IBS	UWA	USU
1	D1.1	Analysis of existing courses and resources	M3	IBS	SCU		X			X					
2	D1.2	Market needs analysis and goal definition	M6	USB	SCU		X			X					
3	D1.3	Requirement and Market Needs Analysis	M7	USU	SCU					X	X				
4	D1.4	IoT Trainings Gap Identification Report	M9	UWA	SCU		X			X					
5	D1.5	Course Development Plan	M11	SCU	SCU						X	X			
6	D2.1	Course Development Hackathon	M13	UPB	UPB						X	X			
7	D2.2	Final Version of Courses	M18	UPB	UPB						X			X	
8	D2.3	Staff Training and Mobility in Siegen	M19	USI	UPB		X	X							
9	D2.4	Summer School in Iran	M20	IBS	UPB	X	X								
10	D2.5	Summer School in Iraq	M20	USU	UPB			X						X	
11	D2.6	Summer School (for Iran and Iraq) in Ahvaz	M32	SCU	UPB	X		X							
12	D3.1	Quality control and monitoring plan	M6	UMA	UMA					X					X
13	D3.2	1st Project Annual Quality Monitoring Meeting	M13	UPB	UMA		X		X						
14	D3.3	Qualitative and Progressive Assessment Reports	M12, M24, M36	UMA	UMA		X	X							
15	D3.4	2nd Project Annual Quality Monitoring Meeting	M25	IAU	UMA	X			X						
16	D3.5	External evaluation reports	M36	USI	UMA				X					X	
17	D3.6	Final Project Quality Assurance Report	M36	UMA	UMA		X								X
18	D4.1	Dissemination policy and plan	M3	USB	IBS							X			X

No	Del	Title	Month	Lead	Partner										
19	D4.2	Project website	M6	UWA	IBS	X						X			
20	D4.3	Entrepreneurship and dissemination workshop	M25	IAU	IBS	X						X			
21	D4.4	Dissemination and Marketing Materials	M9	PTX	IBS	X						X			
22	D4.5	Newsletters and mailing lists	M12, M24, M36	PTX	IBS	X						X			
23	D5.1	Industry Exploitation Workshop	M25	IAU	PTX	X	X								
24	D5.2	Sustainability Plan and Monitoring Report	M24	PTX	PTX			X							X
25	D5.3	Exploitation Plan	M32	PTX	PTX			X							X
26	D6.1	Kick-off meeting	M01	USI	USI				X			X			
27	D6.2	Project Management Handbook	M03	USI	USI					X	X				
28	D6.3	1st Management and Project Progress Meeting	M07	UMA	USI	X								X	
29	D6.4	Communication and collaboration tools	M08	USI	USI				X		X				
30	D6.5	Interim Financial Monitoring Report	M18	USI	USI				X			X			
31	D6.6	2nd Management and Project Progress Meeting	M19	USI	USI				X			X			
32	D6.7	Final Project Report	M36	USI	USI				X					X	
33	D6.8	Project Final Meeting	M36	UPB	USI	X			X						
Total						13	10	8	9	6	5	6	7	5	5

5.5 Conflict Management

The identification of conflicts that arise in the course of the IoTrain project is within the responsibility of each project partner. Any arising dissent between project partners shall be communicated to the coordinator who then initiates the conflict resolution procedure. The conflict resolution procedure foresees the following three steps:

1. The coordinator shall contact the conflicting partners independently from each other to identify the point at issue. After having figured out the different viewpoints, the coordinator shall propose a solution. If this solution is accepted by the conflicting parties, a respective memo will be recorded. If no solution can be found, the conflict will be escalated to the next level.

2. In case step 1 fails, the conflict shall be communicated to the general assembly that shall elaborate solution scenarios and then vote on these solution scenarios.

3. If level 2 fails, the final decision shall be taken by arbitration in Brussels under the Rules of Arbitration of the International Chamber of Commerce. The award of the arbitration will be final and binding upon the project partners concerned.

The coordinator reports any problems concerning the entire project such as serious delays, financial matters, contract matters, or defaulting partners to the EC project officer.

6   Reporting and Documentation

This section defines the reporting and documentation of resource usage and completion of deliverables. Every partner reports the spent effort for the deliverables in which the partner participates. This process enables tracking of project progress and makes sure that potential problems are recognized early and time for corrective action remains. The basis for the reporting is the partner's internal system for recording worked hours using timesheets. Furthermore, WP leaders and deliverable leaders (supported by the general assembly, if necessary) will estimate the status of completion for the deliverables every month during the monthly meetings. The degree of completeness of deliverables will be expressed as a percentage.

For these reports, templates are provided in the Sharepoint Intranet template document library under https://IoTrain.teams.uni-siegen.de/templates/ .

All partners report the actual spent effort on deliverables by the timesheets every three months to the Coordinator. The template for the project timesheet is shown in Figure 13.

The main element of the timesheet is a table with the following columns

- Project Number
- Information of the Employee: This information includes surname, first name, institution, country, position, and staff category
- Year
- Month
- Number of days (please be aware of maximum 20 working days per month)
- Workpackage Number and Title
- Description of Tasks includes Deliverable Number and Deliverable Title and description of tasks performed and outputs produced
- Signature of the staff member
- Signature of the person responsible in the institution (where the staff member is employed)

Add Row	Delete Row		PROJECT TIMESHEET	
Project number :	619390-EPP-1-2020-1-DE-EPPKA2-CBHE-JP_ IoTrain			
Surname :				
First Name :				
Institution :				
Country :				
Position :				
Staff Category :				

Year	Month	Number of Days	Work Package	Description of tasks performed and outputs produced
Total days:		0		

Signature of the staff member :   Signature of the person responsible in the institution (where the staff member is employed) :

_____   _____

Figure 13: Example of Project Timesheet

The individual travel report will be used for the documentation of the travel, travel costs, and cost of the stay. An example of the travel report is in Figure 14.

INDIVIDUAL TRAVEL REPORT for travel costs and costs of stay
To be filled in by each participant
In case of circular/multiple travels, please fill in separate Individual Travel Reports.

Ref. No……………………………..…………Project No. 619390-EPP-1-2020-1-DE-EPPKA2-CBHE-JP
The reference number must correspond to the progressive numbering indicated in the financial statements in the final report

(1) PERSONAL DATA

Surname: .... Forename: ....
Home institution: ....
Staff position/student year of study at home institution: ....

(2) TYPE OF ACTIVITY *(Tick as appropriate)*

STAFF

☐	Teaching/training assignment
	Training and retraining purposes
☐	Updating programmes and courses
☐	Practical placements in companies, industries and institutions
	Project management related meetings
☐	Workshops and visits for result dissemination purposes

STUDENTS

☐	Study period
	Participation in intensive courses
☐	Practical placements, internships in companies, industries or institutions
☐	Participation in short term activities linked to the management of the project

(3) DETAILS OF THE TRAVEL

	From (Depart date) *(dd/mm/yy)*	To (Return date) *(dd/mm/yy)*
PERIOD*		
PLACE OF DEPARTURE**	HOME INSTITUTION ……………………………………………………………. COUNTRY…………………………………….. CITY……………………………………..	
PLACE OF DESTINATION/ LOCATION OF ACTIVITY	HOST INSTITUTION …………………………………………………………… COUNTRY…………………………………….. CITY……………………………………..	
TRAVEL DISTANCE***	Km ……………………………..	

*Please indicate period of travel from departure to return to place of origin
** If different from Home institution please enclose authorisation from the Agency
***Travel distance in Km (One-way travel using distance calculator: http://ec.europa.eu/programmes/erasmus-plus/tools/distance_en.htm) from place of departure to location of activities

(4) DETAILS OF THE ACTIVITY

DATES *(excluding travel)*	**From (date):………………………… To (date): ……………………………..**

DESCRIPTION OF ACTIVITY(IES) PERFORMED *(brief description of the activities performed)*
……
……
……
……
……
……

SIGNATURE OF THE PARTICIPANT

I hereby declare that I have been carrying out the above-mentioned activities.

Date:……………………………………….. Signature: ……………………………………….

Figure 14: Example of Travel Report

The Minutes of Meeting (MoM) is prepared for the documentation of any decisions or actions that are made during the meetings. The names of the representatives from each partner organization will be written in a table in the first page of the MoM. The second page of MoM shows time and date, title of the meeting, type of the meeting (face-to-face/virtual teleconference), description of the decision or action, the name of actionee who is the responsible partner, and the deadline (if needed). Figure 15 and Figure 16 show the example of Minutes of Meeting (MoM).

MINUTES of MEETING

\<title>, TELCO, xx.xx.2020

List of Participants	
Name	**Partner**
\<name>	\<organization>

1/2

Figure 15: Example of Minutes of Meeting (MoM) (Page 1)

< xx.xx.2020>

Telco (e.g. final integration)

Time: xx:xx

No	Description	T*)	Actionee / Date
1.	Describe the task that USI needs to deliver by Jul. 22th.	A	e.g., USI, Jul. 22th
2.	Describe the decision that made during the telco	D	<relevant partners>
3.			

*) A=Action, D=Decision

2/2

Figure 16: Example of Minutes of Meeting (MoM) (Page 2)

The deliverable report template is prepared as a Microsoft Word file and is uploaded on the IoTrain SharePoint.

Dx.x   Version 1.0

UNIVERSITÄT SIEGEN

Co-funded by the Erasmus+ Programme of the European Union

IoTrain
Master of Engineering in Internet of Things

<Deliverable Title>
Dx.x

Project Title	Erasmus+ Master of Engineering in Internet of Things		
Project Acronym	IoTrain	Project Number	619390-EPP-1-2020-1-DE-EPPKA2-CBHE-JP
Date	2020-xx-xx	Deliverable No.	x.x
Contact Person	<Firstname and lastname>	Organisation	<Acronym>
Phone	t.b.c	E-Mail	t.b.c
Version	1.0	Confidentiality level	Public

Petanux • The University of Manchester • Shahid Chamran University of Ahvaz • University of sistan and baluchestan • Islamic Azad University • Institute for Advanced Studies in Basic Sciences, IASBS • wasit university

Figure 17: Example of Deliverable Report (Page 1)

Version History

Version No.	Date	Change	Editor(s)
0.1		Initial draft	
0.2		Input from working groups integrated	
0.3		Intermediate version	
0.4		Final draft for QC	
1.0		Final version for delivery to EC, integrated	

Contributors

Name	Organization

Disclaimer

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Figure 18: Example of Deliverable Report (Page 2)

Dx.x   Version 1.0

Table of Contents

07.01.2021   IoTrain   Page 3 of 5

Figure 19: Example of Deliverable Report (Page 3)

1   Introduction

Here you write the introduction. Introduction must contain the following information about the deliverable:

1.1   Abstract

1.2   The scope of the document, i.e., what is discussed in this document and what is not discussed

1.3   Purpose of the document

1.4   Relation to other deliverables

1.5   Relation to workpackages

1.6   Terminology (if needed)

1.7   Motivation (if needed)

Figure 20: Example of Deliverable Report (Page 4)

2   First level heading

In order to define headers, please use only the defined styles from the "Styles" ribbon.

2.1   Second level heading

This the second level heading that you can choose by "Heading 2".

2.1.1   Third level heading

This is the third level heading that you can choose by "Heading 3".

Figure 21: Example of Deliverable Report (Page 5)

7 Meetings

This section provides information on the meetings scheduled for the IoTrain project including project internal as well as review meetings.

7.1 Preparation and organization of meetings

7.1.1 Convening meetings

The chairperson of a consortium body shall convene meetings of that consortium body.

Table 7 Rules for convening meetings

Type	Ordinary meeting	Extraordinary meeting
EEAB	At least once a year	Upon Request
PMB	Monthly, On the 3rd Monday of each month from 11:00 CET to 13:00 CET, Link: **https://meet.armstrong.zimt.uni-siegen.de/IoTrain_Monthly_Meeting** Password, if required: 2020	Upon Request

7.1.2 Notice of a meeting

The Coordinator shall give notice in writing of a meeting to each member of that consortium body as soon as possible and no later than the minimum number of days preceding the meeting as indicated below.

Table 8 Meeting notice deadlines

Type	Ordinary meeting
EEAB	45 calendar days
PMB	General plan is decided at the KoM, notice 7 days before each occurrence

7.1.3 Minutes of meetings

The chairperson of a consortium body shall produce written minutes of each meeting, which shall be the formal record of all decisions taken. He shall to upload the draft minutes on the project SharePoint within 10 calendar days of the meeting.

The minutes shall be considered as accepted if, within 15 calendar days from uploading, no member has objected in writing to the chairperson with respect to the accuracy of the draft of the minutes.

7.2 Project Meetings

Different types of meetings will be scheduled for the IoTrain project. Some of them only take place a single time while others are repeated periodically.

Table 9 provides information about the type, objective, participants and schedule of the following meetings:

- Kick-off
- General Assembly
- PMB
- WP
- Project close down

Table 9 Project meetings, types and schedule

MEETINGS			
Title	**Objectives, Content**	**Participants**	**Schedule**
Kick-off meeting	• Introduction of project partners • Project overview • Technical approach • WP presentations • Legal, financial & administrative issues	All partners	1x, Project start
Meetings of Project Management Board (PMB)	• Decisions on project coordination and controlling • To ensure proper communication exchange and coordination between WPs • Adjustment between WPs • Project status and progress (tasks, schedule, resources, costs) • Strategic decisions • Changes to workplan	PMB Members	Monthly
Regular Meetings within WPs	• Decisions on WP and deliverable activities • Adjustment between and within tasks • Risk evaluation	WP partners	According to WP schedule
External Expert Advisory Board (EEAB) Meetings	• Offering insights from a non-partner • Cross-fertilizing and expanding the consortium's vision on quality assurance • To minimize risks and deviations from the quality assurance plan • Capturing critical viewpoint to the processes and outcomes of the project. • Ensuring high-quality and timely outputs	PMB Members and EEAB Members	3x, Each year one time
Project close down meeting	• Presentation of project results • Dissemination • Exploitation	All partners	1x, Project end

Table 10 provides information about the schedule of physical meetings during 36 months of the IoTrain project, which may take place virtually due to the COVID-19 pandemic:

Table 10 Project meetings, types and schedule

#	Title	Date	WP	Location		Days
1	Kick-off meeting	M01	WP6	Siegen-Germany		3
2	Requirement and market needs analysis	M07	WP1	Manchester-UK	Co-located	2

	1st Management and project progress meeting		WP6	Manchester-UK		
3	Course Development Hackathon	M13	WP2	Bucharest-Romania	co-located	3
	1st Project Annual Quality Monitoring Meeting	M13	WP3	Bucharest-Romania		
4	2nd Management and project progress meeting	M19	WP6	Siegen-Germany	co-located	3
	Staff training and mobility in Siegen	M19	WP2	Siegen-Germany		
5	Summer school in Iran	M20	WP2	Zanjan-Iran	Concurrent	7
6	Summer school in Iraq	M20	WP2	Sumar-Iraq		
7	Entrepreneurship and dissemination workshop	M25	WP4	Tehran-Iran	co-located	3
	Industry Exploitation Workshop	M25	WP5	Tehran-Iran		
	2nd Project annual Quality Monitoring Meeting	M25	WP3	Tehran-Iran		
8	Summer School (for Iran and Iraq)	M32	WP2	Ahvaz-Iran		7
9	Project final meeting	M36	WP6	Bucharest-Romania		3

8 Risk Management

The quality and risk manager maintains and updates the list of risks and manage the identified risks. The set of risks identified in the description of work and the associated mitigation plans are continuously monitored, maintained and extended as necessary. The WP leaders report issues arising in the course of the quality control that might pose a risk or increase the probability of a risk to the coordinator.

The technological and management risks that may arise during the duration of the project have been identified and mitigation strategies have been proposed. Project risks are potential threats (e.g., deviations from the project scope, the project schedule or project costs) to the project success. Risk management is used as a means to systematically manage the uncertainties within the IoTrain project in order to increase the likelihood of meeting the project objectives.

The objectives of risk management are:

- identification, analysis and prioritisation of risks
- planning and execution of preventive measures (risk avoidance)
- planning and execution of corrective measures (risk reduction)
- risk control

The progress reports, prepared quarterly by the WP leaders for the coordinator, contain an evaluation of risks. Thus, the coordinator assesses the risk probability on a regular basis and, if required, inform the General Assembly.

If risks are identified at the WP level and cannot be eliminated, the coordinator is notified and proposes corrective measures. Any identified risks that have impact on other WPs are communicated to the General Assembly.

8.1 Risk analysis

Several technical challenges and risks have been identified with different probability levels and impact on the project objectives. The procedure to handle these risks is described. At the project start the list of identified risks is evaluated and updated. The list is revisited every six months to track the progress of risks and risk mitigation. Actually, the following risks have been already identified and need to be watched closely:

Table 11 Identified risks

Description	Probability	Impact	WP	Mitigation strategy / Fall-back solution
Financial shortage	Low	Significant	All	Universities cooperation for facilitating procedures and supporting the program and co-financing it. Increase the online activities to reduce the costs if absolutely necessary
Reluctance or delay of the partners in fulfilling the commitments.	Low	Significant	All	(1) Regular and early enough reminders on the partners (via email and monthly PMB telco). (2) Reminding the partners regularly on the importance of the new curriculum and its strong contribution to educational, economical and society development.
No internship or training possibility for the graduate students	Very Low	Significant	2	Industrial cooperation in training students is secured by LOIs from the industry at the national level and can be used at international level as well.
Withdrawal of one partner	Very low	Moderate	All	The existence of many local universities in partner countries can replace the withdrawing partner.
Not getting enough application for the master program	Very low	Significant	2	Plan an early promotional program at each institute and other local universities to guarantee a minimum share of students from its B.Sc. graduates. Additionally, promote the program internationally.
Visa rejection by the respective embassy for the events (e.g., project meetings, staff mobilities)	Medium	Moderate	All	1) The planning of each training event leaves more than sufficient time to allow the visa applications to be able to submit much earlier than normal visa application.2) Provide the online alternative if the number of staff failing to get their visa is limited. 3) The backup alternative location is identified within the plan. In this way, if the number of staff failing to get their visa is significant, the alternative location can be used.
Financial barriers	Medium	Significant	All	Financial difficulties can be the main problem. In the worst case and in the case of sanctions,

				especially against Iran we will try to find other possible alternatives. We have been informed that IASBS has also opened an official bank account in Bank Melli Hamburg, which is located in Germany. So, this facilitates the bank-to-bank transfer from German partner to Iranian partner inside Germany. In case of a problem for other Iranian partners, who don't have a bank account in Iran, we may get delegation letters from them and transfer the whole Iranian budget to IBS and ask them to distribute the budget between Iranian partners.
Cultural misunderstandings	Medium	Minor	All	At the kick-off meeting, a cultural expert will be invited to give the project team a cultural seminar to smooth the difference of any potentials. Increase communications to enhance mutual understanding, in particular, when any disagreement occurs
Not getting accreditation in time	Medium	Minor	5	1) Engage with Accreditation body from the eraly stage of the project and start the Official Accreditation Process as early as possible; 2) Due to the special interest of the IBS, the institute is ready to integrate the developed curriculum of IoT in its existing programs and also proceed with accreditation and launching new study program in IoT field.
Conflicts and possibly diverging goals between stakeholders and project partners.	Low	Moderate	All	Most of the project partners have had joint projects, visits, collaborations with each other in the past. So, we think that these types of conflicts are in low risk. But in case of any happening conflict, we will try to solve them by holding regular meetings and discussions.
The quality assurance plan (WP3) requires the coordination and participation of the partners in order to keep the plan on schedule. Besides, in order to ensure the quality of the project, the monitoring of project activities depends on the	Medium	Significant	3	1) An internal and mutual review mechanism procedure will be developed with all partners and between different deliveries to enhance the awareness and participation to implement quality assurance plan; 2) The quality of the project will be ensured via the internal review mechanism/process for all deliveries from different partners and external reviews and feedbacks from the invited two external experts.

communication among project partners.				
Problems in gap identification step due to poor support from industries and private sector	Low	Moderate	1	the probability of this risk is estimated to be low. Aligned with other parts of the world, the Iranian and Iraqi industries and private sector are moving towards new technologies. For instance, the studies done by the Iranian Ministry of Information and Communications Technology (IMICT), the Ministry of Higher Education and Scientific Research in Iraq (MOHESR) and the Iranian and Iraqi Research Institute for Information Science and Technology (IRIIST) support this fact. Nevertheless, to minimize this risk, the partner institutions, well-known and reputable HEIs, will use their collaboration network to persuade SMEs, industry and the private sector to actively participate in this WP and in the gap identification step.
Various views on IoT skill-mismatch problem	Low	low	1	this risk will be addressed by studies done in the gap identification step as the main goal of this WP. The courses offered in IoTrain are aligned to the guidelines of IMICT, MOHESR and IRIIST and serve as the common denominator in this regard.
Risk of poor support or interest from other HEIs in Iran and Iraq	Low	Low	1	this risk is also estimated to be low. National policy of the Iranian and Iraqi Ministry of Science, Research and Technology (IMSRT), as the responsible ministry for HEIs in Iran and Iraq, are to persuade and boost such inter-academia collaborations nationwide and this line is seriously followed by all universities. Moreover, the Iranian and Iraqi consortium members as leading reputable big HEIs have strong connections with other (smaller) institutions and support them in this regard to multiply the project effect and reduce this risk.
Rapid technological change in IoTrain	Medium	Moderate	1 and 2	similar to other technological domains, the technological changes are fast in IoT as well. To minimize this risk, the consortium will study and consider the most advanced technologies and state-of-the-art research in IoT when designing the training materials and keep updating with the emergent new technologies. To this aim, the requirements of

				Iranian and Iraqi private sectors and industry will be prioritized.
Inadequacy of previous knowledge of a typical IoT graduate to exploit the offered courses	Low	Minor	2	this risk is common in any training activities and is not limited to IoTrain. In any domain, it is assumed that a typical participant knows the basics to fully benefit from a course. To minimize this risk, the consortium members will investigate the current training materials and courses in Iranian and Iraqi HEIs in the domain of IoT and will devise a learning path (flowchart) and roadmap highlights, which aid the candidates to follow up the course materials efficiently. In this regard, each course will be supplied with learning plans and scenarios. The students are guided by mandatory, preliminary or complementary courses, books or other useful learning materials to prepare themselves.
Deviation of the involved training staff from the training goals	High	Minor	2	this risk might happen as some materials which will be developed in the framework of this project are new to Iranian and Iraqi training staff due to the innovation in IoT and its originality in nature. This risk will be reduced through the embedded staff training and mobility events in the project. The events are not only underpinning opportunities for educating Iranian and Iraqi staff, but also serves as meetings for the exchange of ideas, good practices and increasing awareness between themselves as well as their European counterparts. Therefore, the risk will be negligible in practice.
Not meeting the expected level of quality in the training materials	Low	Severe	3	this risk is principally associated with the low-quality training materials, which would be of little value to fulfil the goals and promises of the project. This risk will be minimized due to the following factors: 1) The training materials will be developed based on the results of the extensive analysis done in the gap identification report. 2) The European and also the Iranian and Iraqi HE partners are well known institutions and have extensive experience in developing high-quality training materials. 3) The wise and accurate design of an effective project management strategy,

				which has considered possible obstacles and risks as well as appropriate reactions. 4) Two review procedures will be applied to the quality in the training materials. One is the internal mutual reviews between the project partners to utilize the rich and in-depth expertise among the project teams; The other is the external reviews, including the selected Europe universities and the two invited external experts.
Bias in activities and being blind to some qualitative aspects	Low	Minor	3	this risk can occur as the involved members might be biased due to not clear understanding of the problem and being blind to horizontal dimension. This risk will be minimized as the quality control plan in this WP is assigned to UMA in Europe and USB in Iran who have extensive experience in this regard and will closely collaborate with each other and the coordinator. Moreover, the regularly planned qualitative, innovative and progressive assessment reports (D3.2) are enlightening in this regard. Involvement of two independent external evaluators (D3.3) in the major milestones of the project and considering their feedback is also foreseen to address this risk and minimize it. The evaluators will provide their feedback to the consortium and will aid them in dealing with such risks.
insufficient or inadequate dissemination and activities, which threaten the long-time success of the project	Low	Moderate	4	The consortium members have tried to keep this risk as low as possible by designing an efficient and large-scale dissemination plan. In this regard, a high attention and enough budget is allocated to dissemination and different workshops, meetings and schools are foreseen in the project timeline in order to ensure that dissemination is successful. The results will be disseminated to academia, industry and also to other related stakeholders in order to maximize the success of the project. Planned workshops and meetings will also ensure comprehensive result dissemination to both academia and industry, enabling successful technology implementation, exploitation and adoption.

				Wider public will also be appropriately informed about the project results.
insufficient or inadequate exploitation activities, which threaten the long-time success of the project	Low	Moderate	5	The consortium members have tried to keep this risk as low as possible by designing an efficient and large-scale exploitation plan. In this regard, an industry exploitation workshop is foreseen in the project timeline in order to ensure that exploitation is successful. The exploitation of the results will be facilitated by a well-designed management plan for intellectual property rights.
Harmonizing the project activities and addressing the project risk factors	Low	Moderate	6	this risk can be minimized by having properly defined project management strategies, which consider project goals and aims, project timing, project budget, possible risks, partners' specific strengths and expertise, and tries to minimize the risks for achieving high quality results. In this regard, IoTrain will have a "Project Management Handbook", which considers those and other related assumptions and risks. The handbook will be released as deliverable D5.1. As the consortium partners are all relatively large HEIs and have extensive experience and knowledge in international collaboration in various projects, we expect that incongruousness to be low.
Leave of a partner organization	Very low	Moderate	6	due to professional expertise and broad experiences of the partner organization this risk is estimated to be quite low. Based on our well-organized consortium, the partners will be able to finish their duties in the case of leave of a partner and bring the project successfully to its end. Nevertheless, if a partner decides to leave the consortium, the assigned activities and roles will be overtaken by the remaining partners, who have similar or close expertise.
Staff-related risks	Low	Moderate	6	this risk may occur due to change in the project team or inability of members to efficiently work. This risk can be minimized by assigning the most appropriate person with the most relevant expertise and experiences to the given task. To even lower the risk in the case of unexpected leave, the activities and

				knowledge related to the given task will be documented in Wiki regularly by the responsible staff. The staff activities will be monitored by the group leaders which he/she belongs to. Since in the proposal preparation phase much time is invested in the discussion and careful selection of the staff, we expect that this risk will be low in our project.
Communication and collaboration problems due to distant geographical location of the partners	Very low	Minor	6	this risk can be minimized by using modern communication and collaboration platforms, which allow concurrent collaborative work and supports revision. The communication and collaboration platform will be selected, setup and released as deliverable D5.2. In addition, local coordinators in Iran and Iraq will be able to overcome the issue of language and geographical distance.
Financial, cost/effort overrun risks and associated problems	Medium	Moderate	6	the risk of going over the budget or not being able to fulfil the promises within the allocated budget is considered to be a very common risk. To minimize it, the consortium partners have thoroughly discussed the financial aspects of the project and planned it accordingly. The overall budget allocation strategy is given in Section F.3. To support the financial aspects and address the associated risks, Annual Financial Monitoring Reports are foreseen in the project as deliverable D5.3. Further all project partners will be informed and highlighted the importance of the financial and cost managements via all project management meetings, and be aware of the consequence that their universities or institutes will need to cover the cost if the budget is overrun.

9   Contact Details

Table 12 IoTrain contact list

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