



**I-THEN INTERNATIONAL TECHNICAL HIGHER EDUCATION NETWORK**

# Needs assessment and requirement analysis for digital tool

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# ITHEN NEXTCLOUD PILOT

## INTRODUCTION

The Aim of IO2 is to define collaboration methods within the new I-THEN Network, also using a joint small-scale online platform. From November until January a methodology for a possible needs assessment has been developed, interviews with representatives of all educational partner institutions have been conducted and user stories have been developed and shared with the partners. The interviews, the review of documents and the discussion during the 1st online partner meeting at the 2nd February 2021 build the basis for conclusions and drafting first ideas, that will be presented in the following document.

In the following document we describe our proposal for enhancing connectivity within I-THEN. The approach is based on two main lines of investigations:

1. The findings of the needs assessment, in which three main user stories were developed (the perspective of teachers, administration staff and students), have two results in common:
  - (a) a need for regular communication within the network members has been identified;
  - (b) a need for a more standardized information exchange and management has been observed, e.g., through a common document management platform.
2. The definition of requirements for technology development involves a clear identification of the users that are expected to regularly interact within the network. As the identity and objective(s) of the I-THEN network are still under discussion between partners, both the mid- and long-term organizational needs and identification of I-THEN stakeholders (key, primary and secondary) are still not fully clear and user clusters difficult to point out.

We want to make sure that the proposed solution focuses on the enhancement of the I-THEN network as such, starting from its current situation and support with additional tools the interaction within the current member and not focus specifically on the existing IMM course. In our opinion this is important in order to have all partners equally on board. It does, however, not mean that tools tested could not be relevant and enriched for the cooperation within the IMM implementation process.

## CURRENT STATUS OF THE NEEDS ASSESSMENT

### STATUS OF THE NETWORK AND STAKEHOLDER ANALYSIS

The I-THEN network (active participants) is designed to be formed by 3 major groups of stakeholders:

- SMEs and NGOs
- Universities
- TVETs

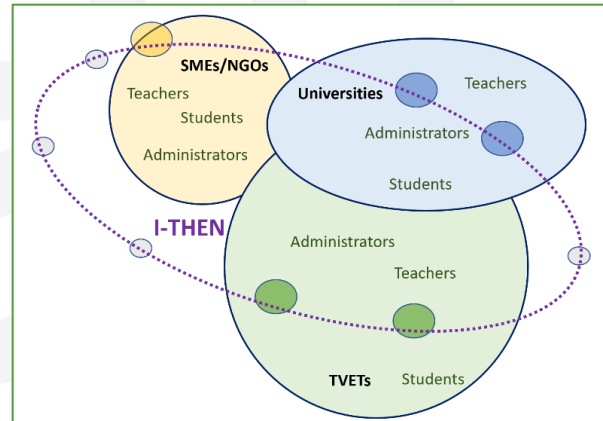


Figure 1 – Key stakeholders of the I-THEN network

At the present time I-THEN is still in the definition phase and the partners are in the process of identifying common objectives, identifying the local needs of each group of stakeholders and institutions involved in the project, developing a shared strategy and defining methodologies and communication flows.

The IMM course, active since three years and involving 4 of the project partners, builds a starting point for the I-THEN Network and the analysis of requirements related to communication tools and information management of the network.

However during the interviews it emerged that the IMM course will not be the focus of current network activities and thus might not be considered as the center for information and knowledge exchange between the network members.

During the 1<sup>st</sup> partners meeting (on the 2<sup>nd</sup> of February) and after the presentation of the first results, it was agreed among the partners that the I-THEN network should primarily define its own objectives for cooperation (independent from the IMM Course) so that requirements and needs of all partners would be an integral part of the approach from the beginning.

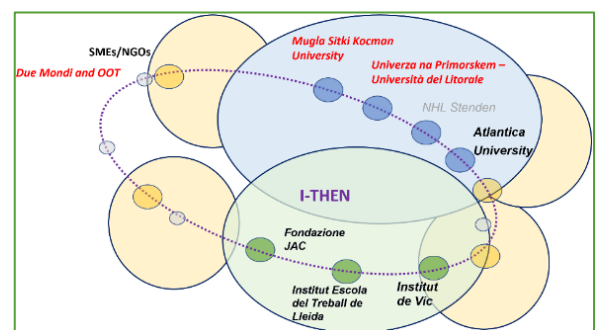
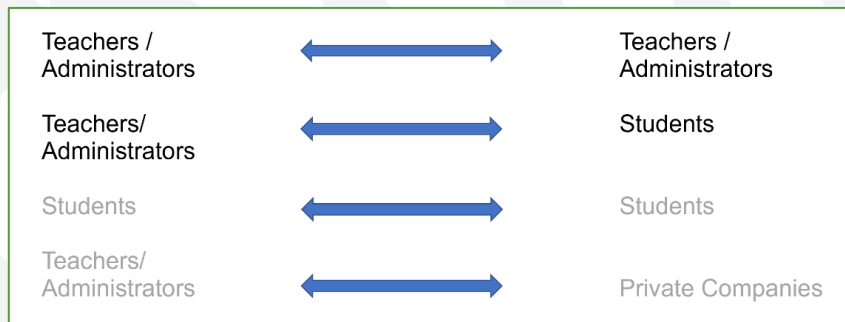


Figure 2 -The partners involved into I-THEN



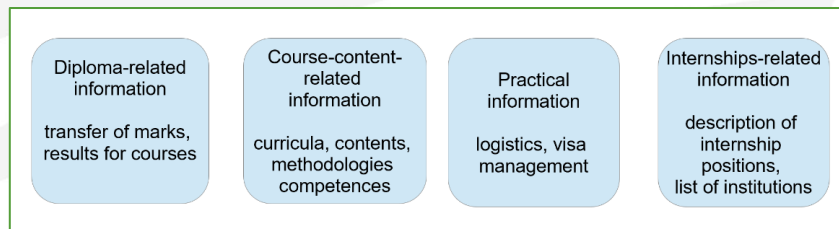
## FLOW OF DATA AND INFORMATION BETWEEN THE DIFFERENT STAKEHOLDERS

During the Interviews four main directions of information flow have been identified (see Figure 3).



**Figure 3 -Main information flows shaping the I-THEN network**

Furthermore it has been identified that the following Information has been mainly shared between the IMM partners along the IMM-Course implementation. (see Figure 4).



**Figure 4 – Main information shared for IMM course**

It must be underlined, that so far not so much information has been shared between the I-THEN Partners as the project just started and a regular collaboration and information exchange has been not established yet. But during the 1<sup>st</sup> partners meeting on the 2<sup>nd</sup> of February it has been agreed that the internal collaboration would mainly focus on exchanging course-content related information (curricula contents, methodologies, competences) that partners will develop/elaborate along the project implementation. One important goal for the network is to extend the members of the network and involve private companies. But at this stage the ways of communication and collaboration as well as information exchange are not defined yet.

Digital Tools currently in used for communication between the partners (within the IMM course) and are:

- E-Mail for communication with partners/companies, external partners
- G-Drive for storing and exchanging data, google docs
- Trello for the project management and classes (as part of complex learning management for students)
- MS Teams for teaching, also Moodle
- Video conferences/calls (Zoom, MS Teams, Jitsi)
- Each teacher uses it's own system, that is comfortable for him/her
- All institutions have internal platforms/databases but those cannot be used for the international course (limited access for representatives from other partner institutions)



## IDENTIFY NEEDS AND POSSIBLE SCENARIOS

According to observations from discussions with partners, four main categories of needs could be identified:

- **strengthen exchange** between teachers of different partner institutions on teaching contents (teaching methodologies, details about the teaching program, what materials are used)
- **alignment of management of students' profiles/requirements for attending the course**
- **finding a way for the students to ensure that the systems (institutions) work together** -> one access point for all the information necessary - communication standardized (coordinated international internships)
- **improved retrieval of information/documents**, e.g., having a joint space for storing

These needs have been further detailed into user stories (see annex) and 4 scenarios.

### Scenario 1: teacher - teacher

Establish a shared course and methodology space with regularly updated, detailed documentation on the course contents/methodologies and foster structured and regular exchange between the teaching staff of the partner institution.

Establish standard procedures and policies that motivate regular exchange of all partners involved into teaching the IMM course in the different institutions.

### Scenario 2: administration - administration

Establish a common identity of the international course (design, align requirements, align administrative data flow between the partner institutions).

I-THEN email system: every person involved in the I-THEN possesses and uses a specific I-THEN email address. It is linked with the systems of all partners so that the person can always be reached.

### Scenario 3: teacher/administrator - student

Joint organization/alignment of students' data and course results: each institution adds data of each student using a standardized form.

Necessary information about criteria/requirements for the diploma from each country is available and regularly updated.

Shared space for the course, where all the practical information for the current and next semester (accommodation, insurance, official documents needed, deadlines, reports by former students ...) can be found

### Scenario 4: students/administrators/teachers - SMEs

I-THEN transnational internship service: access to a database of partner institutions including direct links to contacts for finding the best internship company (description of internship, positions, list of institutions)



## THE PROPOSED APPROACH

During the 1<sup>st</sup> partners meeting, where the scenarios have been presented and discussed, it has been suggested and agreed for further requirement analysis to focus on **scenario 1**, that meets best the needs of the current status quo of the network.

Due to the fact, that the I-THEN Network has been just established and did not yet develop practices for information and knowledge exchange as well as regular collaboration practice, we think that the following strategy could support this process and at the same time identify the right tool for the network partners.

We therefore propose a step-by-step strategy aimed at identifying and refining requirements jointly with project partners (so called co-design approach) through frequent iterations. In other words, the approach consists in releasing in a short time some tools that can be used by project partners (i.e., the users) for conducting current project activities (e.g. developing methodologies). Users (I-THEN partners) will be asked to

- use the tool(s),
- define processes and policies for their use and
- communicate their feedback to OOT so that regular improvements of the technology can be released.

The **final goal** is to release tools validated by the project partners and a plan for the continuous improvement of the toolbox before the September event takes place.

**Methodologically**, this means that cycles of testing - the duration of which must be participatorily agreed - will have to be planned and a work plan developed.

### STEP 1: ENHANCING REGULAR AND STRUCTURED COMMUNICATION

Both for methodological reasons and due to the partners' priorities to better systematize the discussions, it is recommended to start the testing exercise by selecting a **communication tool**.

Concretely, we propose to install the tool [Rocket Chat](#). It aims at enhancing regular communication between all the partners. To achieve this, the tool meets the following **requirements**:

- it provides features for the creation of thematic groups;
- it provides features for managing users profiles and permissions;
- it is linked to users' email addresses through sending notifications;
- it provides features for allowing integration with document management tools;
- it provides features for searching and easily retrieve discussion threads;
- it provides a robust and working mobile version;
- it provides a robust and active open source platform, well documented and maintained by the community.

During the trial phase, partners will agree on the usage of the tool and on standard communication processes.



## STEP 2: ENABLING COMMON ACCESS AND SHARING OF FILES AS WELL AS COLLABORATIVE EDITING

Based on the outcome of step 1, we subsequently propose to select a **common digital library with a document sharing platform and collaborative editor**. It can be seen as the next step through which the collaboration of partners can be deepened.

As concrete tools, we propose to use [NextCloud](#) or the [OOT K-Box](#) as a document sharing platform and [OnlyOffice](#) or [Collabora](#) as a collaborative editor. The tools meet the following **requirements**:

- they provide features for the creation of folders and / or tagging.
- they provide features for managing users profiles and permissions.
- they are linked to users' email addresses through sending notifications.
- they provide features for searching and easily retrieving documents.
- they allow to upload versions of a document and to access older versions.
- they allow to edit documents. - they provide support for mobile access.
- they provide a robust and active open source platform, well documented and maintained by the community.

## ACCOMPANYING EVALUATION AND ORGANIZATIONAL DEVELOPMENT PROCESS

In order for the network to attain the maximum possible benefit from the trial, all partners will be involved in setting up goals for each step, constantly evaluating the implementation and defining processes for its long-term usage.

To achieve this, we propose the following procedure:

1. Digital meeting at the beginning of each phase in which the partners define together both objective, processes during implementation and evaluation criteria
2. Constant use of the tool and feedback during the implementation
3. Evaluation meeting at the end of the first trial phase and collaborative review of processes and features

## ANNEX 01 – User Story – perspective of a teacher

### USER STORY 1: SAME STORY, DIFFERENT DAY

#### BASIC INFORMATION

WHEN: August 2021 during the preparation of the semester

WHERE: At an institute of a I-THENnew network member

WHAT: Searching for concrete contents and methodologies used from the courses in the network partners

WHY: Make sure that students receive the best possible education where contents are not repeating and methodologies learned are used and deepened

WHO: Sophie, teacher of the knowledge management course





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## SETTING

### ONCE UPON A TIME

*Describe here the initial/background situation at the point when the story starts.*

Last year our academy signed the contract to join the IMM course. We are very excited to host 20 students in the third semester who will arrive at our institute in October. They already spent one semester in Italy and one in Spain.

### GEOGRAPHY

*Where does the story take place? Is it one place or do you describe different places?*

At the institute in the department that is responsible for teaching in the IMM.

### GOAL OF THE ENDEAVOUR THAT IS CENTRAL TO THE STORY

We have agreed on the general competences that our classes will focus on. Now we need to design the courses themselves. Thus we want to know the following:

- Competences, contents: what the students have already learned to avoid repetitions and to enable more profound learning.
- Teaching methodologies: we would like to learn from other teachers in order to improve our approaches
- Students expectations and results: their wishes and where they would like to deepen or refresh their understand
- Requirements and regulations of the certificates

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## THE PLOT

### DESCRIPTION OF THE EXPECTED/LINEAR STORY

*Describe best of possible worlds. Not “only” what we want to achieve.*

Being confident that the I-THEN network is well organized, Sophie expects to find all the relevant documents in her email or on the project page in Trello. In particular she expects to find detailed documentation on what is taught at the other universities and how it is taught (methodologies). She has heard that the Spanish partner institutions have a well-organized Google Drive.

However, she starts to worry, when a colleague tells her that there is no central database and results from the other semester are transferred in a long-taking procedure, via email or sometimes only by the students themselves (in paper). There is the Trello website, but it is only used for documentation of planned activities for the Erasmus-financed project.

### THEN ONE DAY

*The characters encounter some problems or challenges. What challenges might appear as hypothesis during the story, what problems must be solved to reach the goal?*

Just before the semester starts, Sophie receives an email answer from Italy that they cannot provide her with the details requested as the course was conducted by an external teacher who is no longer working with the academy.



Realizing what awaits her, Sophie starts contacting various colleagues, based on the information she finds on the website and on recommendations from her direct colleagues.

### BECAUSE OF THIS

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If she has respected all the requirements for the certification in the other countries. \* The timeline presented at the beginning of the course might be too optimistic as she does not know in depth about the experience of her colleagues in the other countries.

Sophie and her team do not feel comfortable about the new course they have prepared. They fear about the reputation of their academy and about its position in the network they have just newly joined.

### THE CLIMAX

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### THE RESOLUTION

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If they had access to a structured platform with the course contents and methods of the partners countries as well as students' feedback, it would have strongly reduced their efforts of planning the semester.

Sophie imagines a shared folder where the following documents are contained:

- Overview of whole course (and in the future its branches) related to the regulations of the certifications in each country.
- Methodology and content of the courses in each institution, updated every semester.
- Contact to the teachers who teach each course.
- Exemplary exams / project tasks in order to understand which competences students gained.

The portal provides the following options:

- documents can easily be found through search with keywords, institutions.
- Documents are regularly updated, last updates can be seen, versions can be uploaded
- staff receives a reminder to update the documents
- Course contents are organized in a standard structure.

## ANNEX 02 – User Story – perspective of administration staff

### USER STORY 2: HOW TO SKIP THE QUEUE AND TAKE THE FAST LANE

#### BASIC INFORMATION

**WHEN:** June 2023 when the certificates for the students are prepared

**WHERE:** At an Academy of a I-THEN, new network member

**WHAT:** results and courses taken by the students abroad have to be transmitted back to the home institution

**WHY:** certificates follow different rules in each country

**WHO:** Arnaldos, administrator of the Advanced Academy



## SETTING

### ONCE UPON A TIME

*Describe here the initial/background situation at the point when the story starts.*

When students transfer from one institution to the other it is important to know about their number, their preferences etc. Also we want to share with them all practicalities and already link them to our older local students who are serving as tutors.

At the end everything should go quickly: Our students, who spent three semesters in different institutions, want to receive their certificates. However, the reporting of results is not centralized. Also, the other institutions are not aware of the criteria necessary for our certification. Thus delays and several stops on the way are the normality.

### GEOGRAPHY

*Where does the story take place? Is it one place or do you describe different places?*

At the university's administration unit.

## GOAL OF THE ENDEAVOUR THAT IS CENTRAL TO THE STORY

### THE PLOT

### DESCRIPTION OF THE EXPECTED/LINEAR STORY

*Describe best of possible worlds. Not "only" what we want to achieve.*

Arnaldos is sure to receive the information by the relevant deadline. However, two days later he worries that he still has not heard from his colleagues. He picks up the phone and contacts his colleague from the Dutch university.

She, however, explains that the information can only be transferred through the international department who posted a letter on the way to Italy yesterday.

Also Arnaldos is never sure how to reach a student or member of staff involved in I-THEN: every semester students change their email addresses, teaching staff is sometimes external from institutions.

### THEN ONE DAY

*The characters encounter some problems or challenges. What challenges might appear as hypothesis during the story, what problems must be solved to reach the goal?*

When the students' data finally arrives, not all the information necessary is contained and further phone calls need to be made for clarification.

### BECAUSE OF THIS

The student that asked for his certification has become unsatisfied. She was offered a position for which it is necessary. However, the company wants her to start as soon as possible.

Without the full data from the stay abroad that follow all the local requirements of the certificate, Arnaldos cannot move on with preparing the documents.



The rectorate has already become involved into this, as the Advanced Academy depends on the number of students attending and thus on their feedback.

## THE CLIMAX

### THE RESOLUTION

Arnaldo's dream would be to be able to share the results on-line with his colleagues. In the best of possible worlds, he would find a standardized form where to enter the data of each students. He can edit these requirements in order to make sure that his colleagues at the partner institution are aware of the changes in his certification.

The system also provides visual feedback onto whether all the necessary information for each certificate is contained. Furthermore, officially stamped documents that are scanned can be added to the system so that they can be directly accessed by partners.

**I-THEN mailing system:** Every person involved in the I-THEN possesses and uses a specific I-THEN email address. So Arnaldos can directly contact the administrator of the partner institution or even the teachers of the course. Also the students do not have to receive a separate email address at every institution.

He has heard about the Erasmus+ funded project European Student Card (<https://europeanstudentcard.eu/>) and is working on establishing a collaboration.

### THE MORAL

Following this approach, the whole coordination of I-THEN becomes more efficient and transparent. Students are receiving their certification on time and members of staff have more time to spend on other issues.

## ANNEX 03 – User Story – perspective of a student

### USER STORY 3: ON THE WAY TO A HIGH-END TRANSNATIONAL QUALIFICATION

#### BASIC INFORMATION

WHEN: January 2023

WHERE: Barcelona, Catalunya

WHO: Rebecca, an extremely motivated Italian student in her third semester

WHAT: she wants to find possibilities of internships at other I-THEN partners and more about her next semester in Portugal

WHY: She takes the transnational profile of I-THEN serious and would love to make most of it.

#### SETTING

#### ONCE UPON A TIME

*Describe here the initial/background situation at the point when the story starts.*



Rebecca is a student in the International Marketing Management. She spent her first semester in Italy and her second in the Netherlands. Now she is in her third semester in Catalunya before continuing to Portugal. Her first internship at the end of the first year she did in Italy at the company of a friend of the family because this was the easiest solution.

### GEOGRAPHY

*Where does the story take place? Is it one place or do you describe different places?*

The third semester in IMM is both challenging and rewarding as the students get to experience both courses in Institut de Vic and Escola del Treball. Rebekka, however, is also in contact with other partner institutions of I-THEN (for example in Turkey) because she wants to do her internship abroad.

### GOAL OF THE ENDEAVOUR THAT IS CENTRAL TO THE STORY

As a very motivated transnationally oriented student Rebecca has two main goals: \* make most of her last semester in Portugal and spend least time on the related organizational issues. Thus, she is looking for all the relevant information. \* organize an internship in an I-THEN partner country different from Italy. Accordingly, she needs to know about possibilities and requirements / formalities.

### THE PLOT

#### DESCRIPTION OF THE EXPECTED/LINEAR STORY

*Describe best of possible worlds. Not “only” what we want to achieve.*

Rebecca is a busy student as the IMM is very demanding. However, she knows that the next semester will start sooner than imagined.

So she starts her research on the Atlantica University in Portugal. She already heard about their great hospitality to students and the mentoring system they offer. So she starts to look on the Atlantica homepage where specific information for IMM students would be found. Also, she contacts JAC, her home institution, to set her into contact with Portugal.

In parallel she is looking for an internship. She has heard about the good link of the Turkish I-THEN partner with local enterprises. So she starts to scan their homepage and to write an email to the coordinator.

#### THEN ONE DAY

*The characters encounter some problems or challenges. What challenges might appear as hypothesis during the story, what problems must be solved to reach the goal?*

Being a busy student, Rebecca only finds to phone Atlantica University in the late afternoon. This, however, happens to be after the working hours of the administration office there. From her home institution she gets the contact of a former student, however, Rebecca soon realizes that he was focusing on different topics and thus cannot be helpful for her.

Soon after contacting the Turkish I-THEN partner, she managed to get a phone call with the coordinator. However, after a long talk Rebecca realizes that it is more complicated to arrange and internship there. Regulations of every I-THEN partner country are different and the Turkish partner cannot be aware of all of them. Furthermore, they do regularly



have companies asking for international interns through the local Chambers of Commerce. However, this information gets lost as there is no clear channel how to transfer onto the I-THEN network.

### BECAUSE OF THIS

Because of this, Rebecca is stressed. She thinks that she cannot qualify in the way she hoped to. Thus she is also unsatisfied with the services provided by the institution - especially since covering both student fees and living costs is challenging for her (even though she is still convinced of its value).

When she started her course she expected that the processes for going from institution to institution are standardized and transparently accessible to her any time. Same accounts for the necessary contact persons.

Also, she thought that internships are centrally governed so that all institutions are aware of the demands of the other countries and are sharing their offers.

### THE CLIMAX

### THE RESOLUTION

Rebecca opens the I-THEN platform and there it is: all the practical information for her next semester in Portugal (accommodation, insurance, official documents needed, deadlines). In a standardized structure she is presented with everything she needs. Additionally, the database includes the following: (1) comments / experience reports by former students and their contacts if they shared it; (2) links with the relevant documents and web pages on the partner institution's or country's homepage; (3) direct possibility to contact the relevant person in the partner institution, including a pre-written email so that the person knows which issue Rebecca is referring to.

Then she enters the I-THEN transnational internship service. First she has to enter her data (home institution; course year) so that the system automatically adapts her search results to the specificities of her needs. Then, she is connected with possible companies that offer internships in the host countries. Sometimes, current positions are posted, however, it is not always possible for all institutions to update the database regularly. Still, she can always find out whom to contact and general information like language requirements.

### THE MORAL

Both situations require structured access to and sharing of information that does already exist at the I-THEN partner institutions.

Through using an IT tool to link this knowledge, services for students can be highly improved: it is now transparent where to go for arranging organizational issues related to the course.

However, it is necessary to establish standard procedures in the I-THEN network in parallel. This means there have to be clear responsibilities and accountability (who is updating which information when / how often and how). It has to be said that great part of the update can happen automatically as the IT tool accesses certain files in each institution.