



**OPEN  
SCIENCE  
HUB**

**EMPOWERING CITIZENS  
THROUGH STEAM  
EDUCATION WITH  
OPEN SCHOOLING**

**DELIVERABLE 7.1**

# **Vision and Value Proposition**

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0.5	31 March 2021	Mariam Suheli Chrouda and Rosario Sapienza	IH	Final version

# LIST OF ACRONYMS

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ACRONYM	DEFINITION
AE	Unternehmensgruppe Der Stadt Linz Holding Gmbh (Ars Electronica)
CCSTI	Centre Culturel Scientifique Et Technique Association
EC	European Commission
EU	European Union
FAB	Onl’Fait
IH	The Hub Sicilia Societa Cooperativa
MFCR	Município De Figueira De Castelo Rodrigo
MS	Member States
OSHub	Open Science Hub
OSHub.Network	Open Science Hub Network
SBC	Social Business Canvas
SCICO	Epistimi Epikoinonia
SCIN	Science In Cz Sro
STE(A)M	Science, Technology, Engineering(, Art) and Mathematics
ULEI	Leiden University
TCD	The Provost, Fellows, Foundation Scholars & The Other Members Of Board Of The College Of The Holy & Undivided Trinity Of Queen Elizabeth Near Dublin
WP	Work Package

# EXECUTIVE SUMMARY

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**This report documents the vision and value proposition of the eight OSHubs that have been created in the context of the project by eight of the nine partners involved.**

What shows is a work in progress towards the establishment of the vision and value proposition. It focuses on the results emerged from the work that the hubs have done on some of the blocks of the OSHub Social Business Canvas. A tool that is helping them to build solid sustainable and feasible plans. In particular the sections analysed have been the results and activities, the actors and their engagement and the value proposition.

What emerged generally is that the hubs are following the main mission of the OSHub.Network project which is the motivation of students' and citizens' agency in producing social and environmental change within their communities, by applying the open school approach and using the STEM curriculum to promote global citizenship.

Despite this common goal though, the approaches of the hubs are different and change depending on three main variables: the type of organization, the previous experiences and the local ecosystem.

This document shows that the OSHubs are living, breathing social entities as also stressed in other deliverables and therefore mutate and respond to the changes of the environment that surrounds them. In particular this deliverable focus the attention on the consequences that Covid-19 had and still has in the building process of the value proposition and vision and tries to underline the first attempts of partners to adapt to the "new normal".

It is still early to draw conclusions on the value propositions presented by the hubs and a clearer understanding of the whole picture will be available when all the blocks of the Social Business Canvas will be addressed. The next steps will see the OShubs engaged in the evaluation of impact, with a workshop on the green section of the OSHub Social Business Canvas, and in the identification of the cost structure, as well as in the adaptation process due to Covid-19.

This information will extend and clear the vision and efficacy of the OSHubs business's plans.

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# 1. INTRODUCTION

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## 1.1 Background: about OSHub.Network

The Open Science Hub Network (OSHub.Network), a consortium of nine partners across Europe, engages schools and local stakeholders in research and innovation as a tool for sustainable community development.

More specifically, the OSHub.Network is establishing a European network of community hubs – OS Hubs, in communities that traditionally do not engage with research and innovation due to various barriers, geographical location, socio-economic status, or ethnic minority group background. OS Hubs inspire, empower and engage citizens – from school children to senior citizens – in STEAM (Science, Technology, Engineering, Arts and Mathematics) learning and research opportunities, grounded on collaboration with societal agents.

As such, local OS Hubs work as mediators in their local communities, positioning schools as active agents for collaboration between civil society, enterprises, research institutes, and families. This is performed by promoting an open schooling approach grounded in community-based participatory research practices: throughout this process, schools and communities identify local relevant challenges, which are then transformed into relevant research and innovation projects, led by students and teachers, in collaboration with local stakeholders.

The OSHub.Network is developing a common methodological framework, that allows each OS Hub to identify and analyse local needs, issues, opportunities and relevant actors, in order to address socio-economic, geographical, gender equity issues, and untapped growth potential. Inspired by the “Mission-Oriented Research & Innovation in the European Union”<sup>1</sup> approach, developed by Mariana Mazzucato, OSHub.Network will define a set of Open Schooling Missions, aimed at addressing local relevant challenges linked to the Sustainable Development Goals. These Open Schooling Missions will then constitute the basis for the creation and development of the open schooling projects, enabling real collaboration across communities.

Importantly, to ensure diversity, inclusion and sustainability, in each OS Hub location, there will be a local management board with representatives from local stakeholder groups – schools (including students), families, research institutes and universities, enterprises, industry, media, local governments, civil society organizations and wider society – which will be involved in all key processes and decisions regarding local OS Hub programmes and initiatives.

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1 Mariana Mazzucato (2018), Mission-Oriented Research and Innovation in the European Union – A problem solving approach to fuel innovation-led growth’, European Commission, Retrieved from: [https://ec.europa.eu/info/sites/info/files/mazzucato\\_report\\_2018.pdf](https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf)



To encourage usage and maximise impact in Europe and beyond, all resources, products and solutions developed by OSHub.Network will be fully based on Open Standards, such as open architecture, open education, open technology, open science, open source, open hardware. Also, OSHub.Network will create an online platform to share OSHub expertise, resources, and best practices with all OS Hubs, their partners and the communities they serve. To ensure the legacy and reach of the project, all OSHub.Network resources will also be shared on existing large online educational repositories, and relevant national networks and repositories.

Finally, OS Hubs will develop a legacy and sustainability plan, and will work closely with local governments, to ensure that each local OS Hub has the tools and resources to continue beyond the lifetime of the project, and that the Open Schooling approach is incorporated in the school vision and organizational structure.

By the end of the project, it is expected that the OSHub.Network will have impacted 25 000 students, 1 250 teachers and 4 000 members of the community, through involvement in more than 150 school-university-industry-civil society partnerships in open schooling projects and activities.

In the long-run, we envision OS Hubs as education brokers in their local communities, supporting local school networks to incorporate Open Schooling in their vision and organizational structure, leading to sustainable quality of education. Most particularly, OS Hubs will facilitate the bridge between the needs and realities of schools and their local context and resources, as well as brokering for implementing national/regional policies, passing along signals from schools when policies are failing and advocating for context-sensitive policies.

## 1.2 Purpose of this report

**This report is dedicated to the creation of a vision and value proposition for each of the Open Science hub that is set to be created during the project.**

It is part of the broad legacy and sustainability plan aimed at ensuring that schools and partners involved have all the tools to sustain the open schooling approach beyond the lifetime of this project.

The scope of the value proposition is to create the best foundations that, as the definition of open schooling underlines, allows to achieve the objectives that better respond to the needs of the community and produce impact.

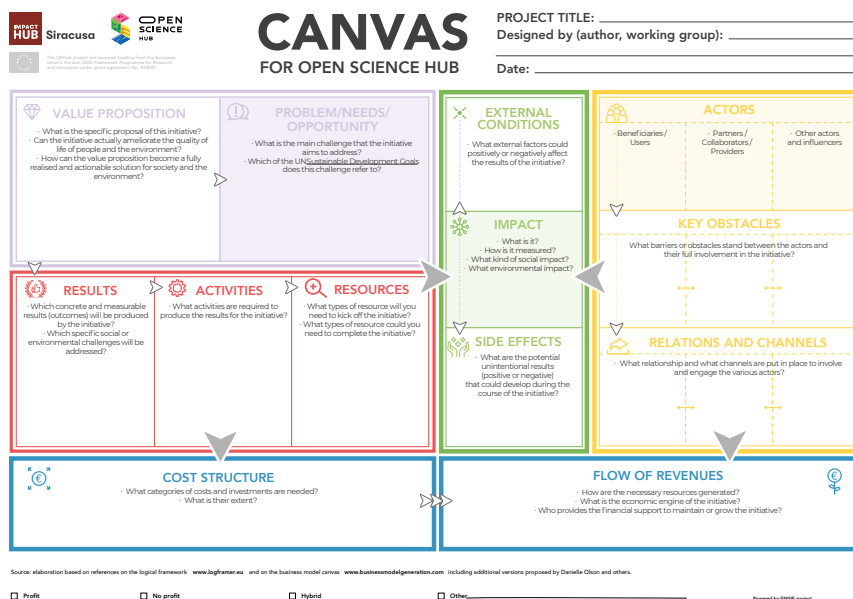
The report explains the process of identification of the value proposition through the use of the OSHub Social Business Canvas as co-design tool to build a sustainability model in which the value proposition represents the heart.

This is a living document as the tool used is itself a living tool and therefore will be reviewed and updated during the project's lifetime in order to reflect the evolution of each Open Science hub's strategy.

# 2. THE SOCIAL BUSINESS CANVAS

## 2.1 Introduction

The Social Business Canvas (Figure 1) starts from the traditional format of the business matrix, to progress further by adding the element of impact to the analysis. The prototype, initially tested through another project (ENISIE project, under the Interreg Italy Malta) and consequently developed and customized explicitly for the Open Science Hub project, merges two elements: The Business Model Canvas, by Alexander Osterwalder and the well-known Logical Framework Matrix adopted by the European Commission in 1992.



The Social Business Canvas is a living and talking tool that is powerful also because it can be modified and adapted anytime the reality and the will of the user changes.

Visually, it presents different boxes all logically connected with arrows, in order to verify the consistency, efficacy and efficiency, as well as feasibility of the plan. A peculiar feature is that each box is differentiated by a color to facilitate the logical reasoning of users. Even though the arrows indicate a path for filling in the matrix, their orientation can change based on the level of knowledge of the user as well as the type of reasoning applied. Each section of each box is filled with questions that can help the user to understand the path to follow and the kind of information to collect in that specific section.

The canvas works with an input-output process through which the user organizes information and, in the end, obtain a sustainable, feasible and efficient plan. The timeline of this plan is really related to the needs of the user and the nature of the initiative/project that wants to put in practice.

## 2.2 The Value Proposition

The Value proposition's block in the canvas is identified in violet.

The value proposition is the heart of the social business model and recall the value proposition already present in the traditional model by Osterwalder. It asks to identify the general objective (the meta-scope) that the user has set itself or, most of the time, through a co-design process with the beneficiaries or target group involved. The approach used in this box can vary depending on the attitude of the user. It may be deductive or inductive and the nature of it then determine the entire experience of the Social Business canvas. In fact, it is not by chance that the section dedicated to the identification of the challenge to address in the value proposition is differentiated between: Needs, problems, opportunities. Even though there is not a clear-cut difference in terms of meaning, this differentiation can help the user to understand what kind of approach wants to apply in addressing the challenge.

Because the Social business canvas is an engine specifically designed to support business ideas and initiatives that have a social purpose, the tool itself proposes to integrate the section about the main challenge with the SDGs or the Sustainable Development goals set up by the United Nation to be achieved by 2030. Similarly, in this case the aim is to facilitate the thinking process of the user in the identification of the challenge/s.

The section on the block dedicated to the value proposition presents some questions that help the user not only to identify the specific proposal of the initiative but also to identify the social and environmental purposes of the initiative, therefore highlighting the innovative and socially driven aim of the social business canvas compared to the traditional version.

## 2.3 Results, Activities, Resources

Following the natural direction of the arrows, the block that is strictly connected, and usually the second to be used, is the red one which asks the user to reflect on results, activities and results.

The reason why these three elements are part of the same box is threefold. First, it is important that these three have a strict logical and coherent connection between each other. Specifically, results and activities need to be logically interrelated to obtain a feasible and efficient plan. In a sort of scale plan, if the value proposition represents the main goal/objective to realize, the results are the more “practical” and specific goals to achieve. In fact, depending on the inductive or deductive approach of the user, he could decide to start the canvas from this box instead of the violet one and vice versa.

Both results and activities have to be measurable, and this characteristic is important to obtain the feasibility and also to later determine the costs.

In the section dedicated to results there is a question which is very similar to the one discussed in the value proposition, about the social and environmental challenges. Following the scale scheme, also the results may share the main challenge or address “sub-challenges” that are related to the main one.

Finally, the resources have to be very clear and as more specific as possible in order to facilitate the identification of costs. Reasoning about costs help also to understand if the activities are well defined and clear. Because the more specific the activities are described, the easier will be to identify the human and material costs to carry them out.

In the end, the key words of this block are specificity and coherent connection. If we were to imagine the social business canvas as a building, surely this box will be the pillars to sustain the roof.

## 2.4 Actors, key obstacles, relations and channels

In the building of the social business model, an important part is played by the identification of target/beneficiaries, and more in general stakeholders, necessary to support the project idea or the initiative. This block is divided in three parts which help the user to identify who are the people involved or to be involved, how they plan to do it and what kind of obstacles can interfere in the engagement process.

The first part asks the user to differentiate the direct beneficiaries of the project idea from the ones (providers, collaborators, partners and other influencers) that in one way or another are useful to the implementation of the activities and the achievement of the goals. The second part of the section asks the user to write down what possible limits he may encounter in the process of involvement of these actors. This section forecasts one crucial element of the social business canvas which is the evaluation of risks and problems. To visualize possible issues helps the user to produce problem-solving strategies in advance.

The last section is dedicated to the explanation of the process of involvement of the actors. This section is the pillar of the social business canvas because it focuses on the “workforce” necessary to carry out the project idea or initiative.

## 2.5 Impact

Visually at the center of the social business canvas, the block related to the impact, which is identified in green, is one of the innovative elements of the social business canvas. Because this model is specifically designed to social business ideas, the role of the impact is one of the most important.

In this section the user is asked to reflect on what impact wants to produce and how much. In fact, one of the first questions is to explain how this impact is going to be measured. This block is strictly connected to other ones that we described above. The measurability of the impact depends on the measurability of results and activities and on the identification of the identity and quantity of the actors involved. It is also related to the value proposition and specifically in what way it will impact the local and, in percentage, the global community.

The block is composed also by a section dedicated to external conditions and one related to side effects.

Sometimes these two can be confused with one another but they are actually referring to different aspects that the user needs to observe.

The first, external conditions refer to what “positive or negative” external factors, that is to say factors that are not produced by the initiative and cannot be controlled, may affect the project idea and its implementation.

On the other hand, the section of side effects really addresses the positive or negative effects that involuntarily the project or initiative can produce.

These three are all part of the same block because in different ways can interfere in the amount of impact produced.

## 2.6 Cost Structure and Flow of revenues

The last block is dedicated to numbers. Once all the blocks are filled. The last step is to draft a financial plan able to sustain the implementation of the project or initiative, on one side, and to imagine a sustainability plan on the other.

The first section is related, also visually, to the cost structure which is strictly connected to the red box and in particular to the resources and activities. The section asks the user to provide costs for all the voices that are needed to carry out the activities. It also asks the extent, so it inserts in the reasoning process also the variable of time. This part will help the user to organize the money and project revenues and expenses.

The second section is the flow of revenues and is particularly important especially when thinking about sustainability. To build a plan able to self-sustain itself is of strategic importance. This part identifies where the money comes from and from whom.

This block is an heritage from the traditional business model but still it contributes to measure the kind of impact that the initiative or project is able to produce and for how long time.

# 3. THE OSHUB SOCIAL BUSINESS CANVAS: VISION AND VALUE PROPOSITION

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In order to build an economic and social sustainability plan for the hubs of the OSHub.Network as foreseen, among other things by the WP7, IH has started a path that sees the partners engaged and supported in the creation of the vision and value propositions, as well as business plans (D7.1 Vision and Value proposition for 8 OSHubs M18; D7.2 Business Models and Feasibility plans, including financial sustainability plans for 8 OSHubs M25).

This report focuses on D7.1-Vision and Value proposition and therefore the blocks that will be taken into account will be the Red (Results, activities resources), the Yellow (actors) and the Violet (Value proposition).

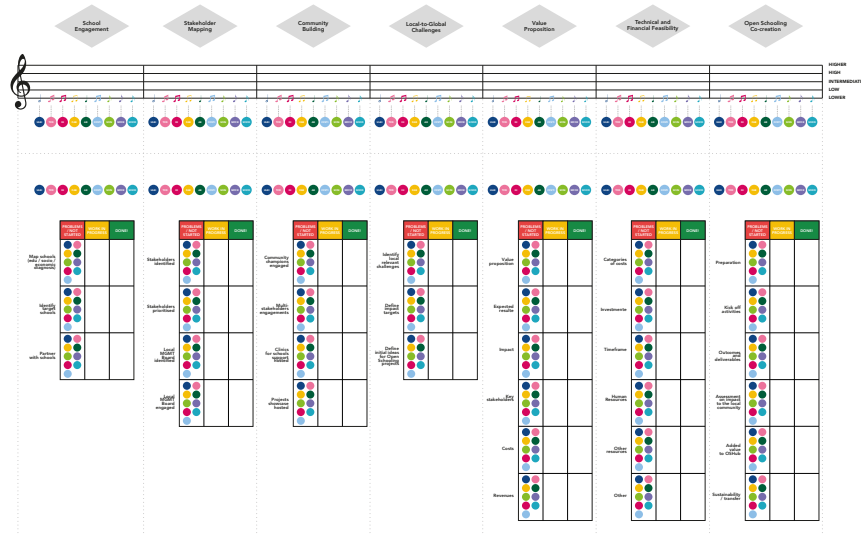
This chapter focuses on the methodology applied by IH in collaboration with all the WP leaders to socialize the tool and then to help the partners in the building of the vision and value proposition.

Please, consider that due to the delays caused by the Pandemic of Covid-19, some of the information present in this report may be updated later.

## 3.1 The OSHub Roadmap

The OSHub.Network, in a process led by IH, has been developing a common methodological framework – the OSHub Roadmap – that supports the OSHub teams throughout the defined OSHub building blocks: school engagement, stakeholder engagement, community building, tackling local-to-global challenges; co-creation of open schooling projects; value proposition; and technical and financial feasibility plans.

For that, IH, together with ULEI and TCD, developed a self-assessment tool (Figure 2) that guides partners throughout the project journey, promoting cooperation and sharing of challenges and best practices, while at the same time helping the WP leaders to supervise achievements and monitor the state of the art evolution of the project.



This is a self-assessment tool that each partner contributes to in order to track their progress and how confident they feel about each building block topic. Traffic light indicators are in place for each task under each building block to help partners indicate if they are having issues with the task/ not started it yet (red), if they are progressing in the task (orange) or if they have completed the task (green). The use of the self-assessment tool helped IH to understand at which stage the partners were and therefore from which point to start inserting the inputs.

## 3.2 The OSHub Mentoring Programme – Methodology

To guide the OSHubs through the Social Business Canvas IH has developed and is implementing a mentoring program that includes:

- 1) a series of online workshops, each dedicated to a different box of the canvas;
- 2) each workshop is followed by a report that partner's need to complete, where they compile and analyse covered in the corresponding workshop;
- 3) feedback calls that use a peer-to-peer learning method to foster collaboration and exchange of skills and know-how between the partners.

## Workshops

The structure of the workshop includes a first part of explaining the value and role of the box, followed by an exercise lasting approximately 10 minutes, followed by a feedback from IH that further helps the understanding of the single block.

Table 1: Workshops organized in the context of the OSHub Sustainability Mentoring Program

<b>CANVAS SECTION</b>	<b>WEBINAR DATE</b>	<b>REPORT DEADLINE</b>
Red Box	December 3, 2020	January 15, 2020
Yellow Box	December 17, 2020	January 29, 2020
Violet Box	February 12, 2021	February 26, 2020

The reason why IH decided, together with the partners, to start from the Red box instead of the violet one is due to the result of the first self-assessment exercise with the Music Sheet. From that it emerged that the partners had already a number of information regarding the specific challenges that they wanted to address and the actors that most of them were already starting to work on community-building and had already identified some of the beneficiaries thanks to another tool of the project, the stakeholder map.



# 4. RESULTS- ACTIVITIES- RESOURCES: REPORTS



The workshop on the red box was carried out on December 3, 2020. After that, IH asked the partners to work on describing what kind of results, challenges, activities and resources they have identified or developed to realize the results. The results represent the specific objectives in which the value proposition, the is to say the main mission of the Hub, is broken up.

The synoptic table that follows shows the categories of actors that the Hubs decided to target and the process of engagement that they have followed.

More details are in the single reports of the eight OSHubs present in this [link](#) in which it is possible to read each OSHub report and look at the most recent update.

Table 2: Red box synoptic table

	RESULTS/ CHALLENGES	ACTIVITIES	RESOURCES
<b>AE</b>	1) Fostered digital literacy within school students in the Upper Austria region;  2) Fostered transdisciplinary thinking in young people between the age of 11-18;  <b>Challenges:</b> Lack of digital expertise; Technological literacy in non-urban regions of Austria	<ul style="list-style-type: none"> <li>– Meeting with head teachers of an initial selection of 10 schools in the region to discuss whether they would be interested in implementing the program and within which curricula;</li> <li>– Approaching artists who have participated in the AE festival that are working in subjects related to the desired curricula and requesting them to host a workshop;</li> <li>– Hosting a training session with each selected artist that is led by an AE educator;</li> <li>– Hosting the selected artist led one-day workshops within the selected classes of the selected schools.</li> </ul> Assessing the success of the workshops with a teacher survey and the selected Digital Literacy assessment tool for the participating students	<b>Human:</b> <ul style="list-style-type: none"> <li>– Project manager</li> <li>– Artists to host the workshop</li> </ul> <b>Material:</b> <ul style="list-style-type: none"> <li>– Materials and tools required for each workshop (diverse and specific to each type of workshop)</li> </ul>

CCSTI

- 1) Improved autonomy and willingness of using OSHub resources, number of OSHub driven projects;
- 2) OSHub Fab Lab designed, made with teachers, educators;
- 3) Promoted "the well-being together" with projects involving wide range of partners;

**Challenges:** School failure; socio-economic local issues

- Develop the program with the local stakeholders and the management board: meet and exchange to develop active collaboration;
- Teacher trainings provided by education partners;
- Workshops to create kits and resources using the potential of the OSHub project;
- Meetings with the locals to identify projects and brainstorm solutions;
- Benchmark the opportunities of financing the projects : Foundations, french calls, etc.

**Human:**

- Project leader
- Fab facilitator La Casemate
- La Machinerie experts

**Material:**

- Consumables
- PC
- DIY Furniture

FAB

- 1) Built relationships between Onl'fait, 3-10 secondary schools in the Geneva region (vocational schools and colléges) and 3-10 other community stakeholders (universities and policy makers)
- 2) Increased student awareness of the scientific and technical local issues
- 3) Increased scientific and technological literacy of the weakest students
- 4) Furnished about 30 square metres of our Fab Lab
- 5) Increased role of the Fab Lab among the actors of science and technology education in the Geneva region

**Challenges:** Local environmental and societal

- Teacher consultations each year of the Open Science Hub programme. These activities take the form of co-creation sessions.
- Stakeholders co-creation consultation each year of the Open Science Hub programme. These activities take the form of co-creation sessions.
- Design and develop working prototypes for increasing scientific and technological literacy.
- Collect and analyse data for competency building with respect to societal and environmental issues to 3 to 10 schools.
- During and at the end of each sprint, put in place evaluation tools to help us, students and schools to evaluate the quality of the programme and its outcomes.
- Disseminate the results of the school initiative and promote Open School at cantonal and national level.
- Development of relationships between vocational schools and relevant stakeholders.
- Development of a formal educational program grounded on concrete research questions related to the territory.
- Work with students and Glitter (Precious Plastic Geneva)

**Human:**

- Experts
- Researchers
- Local Mang. Board
- Fab: Coordinator, facilitator, electronic exp.

**Material:**

- Tools to build prototypes
- Computers
- promotional materials

**MFCR**

- 1) Promoted the use of OS approaches by teachers;
- 2) Fostered students' active citizenship;
- 3) Promoted the collaboration between partners and schools;
- 4) Increased the connectedness between students and R&I professionals/artists/entrepreneurs;
- 5) Increased student and teacher digital literacy and autonomy in using digital tools/platforms

**Challenges:** Social and Environmental

- Capacitation of teachers and school heads on OS via: a certified continuous training program for local and regional schools, organization and facilitation of OS project follow-up sessions for teachers;
- Development of a formal/non-formal educational program grounded on concrete research questions related to the territory, based on research and citizen-science practices, co-created with teachers from the school science club;
- Development of a program aimed at increasing the connection between students and professionals from research and innovation / artists / entrepreneurs.

**Human:**

- 1 program coordinator (1 FTE) and team members
- 1 program coordinator from the school
- 1 representative from a teacher training center

**Material:**

- a physical space/room;
- computers;
- internet connection;
- digitaltools/platforms

**SCICO**

- 1) Created tangible projects that address real issues in the community of Lemnos
- 2) Created a live network between school and local stakeholders;
- 3) Increased student and teacher engagement in STEM education;
- 4) Increase student awareness on SDGs and environmental issues in Lemnos.

**Challenges:** Environmental, educational, social, technological (SDGs 4, 12, 13, 14, 15)

- Design an Educational curriculum (Arduino, App Inventor, 3DPrinting) which will give school necessary knowledge to create projects;
- Run educational workshops on a weekly basis to teach curriculum
- Co-creation activities twice a year to identify issues/related activities
- Issue open call for potential project partners
- Hold regular sessions/meetings to drive collaboration, design new ideas/projects, etc and common event to share results with everyone present
- Run a workshop on the SDGs
- Hold 1 or 2 training events for teachers involved

**Human:**

- Project manager
- STEM educators

**Material:**

- Platform for online meetings
- 3D printer, Arduinos, sensors, etc

**SCIN**

- 1) 5 local OSHubs (three schools, two NGOs established;
- 2) Established school-led form of education which is engaging students, teachers, parents and various local actors for knowledge-based community development
- 3) Tackled environmental, historical, cultural, socio-economic issues faced by local communities
- 4) Built relationships and networks among different levels of stakeholders concerned with sustainable development of local communities

- Training for kids in use of technologies needed for production of TV series, while putting the kids in the role of actual team shooting a documentary on a popular topic(s).
- App editor for OSHub's use (creation of geolocated iOS and Android mobile app, which can be used for connecting any physical location via online map with any historical/social/environmental online content).
- Training for children focused on using the prepared App creator.
- Educational program on air quality involving citizens
- Shooting of educational series co-produced by Czech Television (channel for designated for kids) about engagement of kids in scientific exploratory activities

**Human:**

- Local coordinators
- National coordinator
- Technical staff
- Trainers

**Material:**

- Physical premises for 5 OSHubs (use of already existing ones)
- Posters, leaflets, etc.
- IT equipment (two notebooks, go-pro, 3D printer, etc).

**Challenges:** Environmental**TCD**

- 1) Built relationships between Science Gallery/ (TCD,) schools and other community stakeholders;
- 2) Increased student awareness of their potential to effect change in society with respect to active global citizenship;
- 3) Motivated students who identify with local challenges with respect to the UNs Sustainable Development Goals.
- 4) Useful frameworks and facilitation guidance for schools to replicate and lead the Open Science Hub program

- Teacher consultations at the beginning of each year of the Open Science Hub programme. These activities take the form of co-creation and/or focus groups.
- Development of a year-long Transition Year curriculum including competency building and student-led project builds.
- Develop and deliver a set of workshop activities for competency building with respect to active global citizenship to three schools over two years.
- Experimentation with tools and resources to create a well of activity types to suit students and teachers. Particular focus on tools that can work in a remote learning setting.
- Prototyping of online, hands-on STEAM workshops with a youth audience (15-25s)
- Development and dissemination of teacher packs that enable schools to facilitate the Open Science Hub programme, not bound to the Dublin area with less regular engagement with Science Gallery/ TCD.
- Teacher training at the start of year 3 for the Open Science Hub curriculum, tools and stakeholder management.

**Human:**

- Community champions
- Facilitators
- Researchers

**Material:**

- Craft, handouts
- online materials (Mural, Menti-meter, Google classrooms etc)

**Challenges:** Climate change/ pollution, discrimination, coronavirus impacts, poverty

ULEI	1) Improved the well-being for primary school teachers and students	– Develop a programme that matches (2) university students to schools	<b>Human:</b>
	2) Increased educational opportunities of primary school student	– Set up a training programme together with several partner from Leiden University and the primary schools to train uni students on basic didactic, pedagogical and professional knowledge and skills	– Scientific experts – Uni Students – Project coordinator
	3) Increased number of societal experiences for uni students	– Set up research to visualize the effects of the project to understand the impact of the project and to build a case for future funding	<b>Material:</b>
	4) Improved attitude of uni students towards a career in education	– Set up a sustainable plan for the future of the project, by looking for future financial opportunities and potential collaborations (for example campus The Hague, schoolboards)	– Laptop – Teams – Website – Catering
	<b>Challenges:</b> Social and Collaboration		

The synoptic table presents general information delivered by the partners in the reports about the red block. It is possible to read the detailed version of the reports in the annexes.

What emerges from the information is a general homogeneity among partners in the identification of results. All the partners' specific result is the **improvement of students in scientific and technological subjects by engaging the teachers and updating curricula**, as well as the will to promote the open schooling approach to build awareness among schools and communities on their power to address social and environmental challenges. All the reports then stress the will to increase and improve the cooperation between different stakeholders of the community of reference, thus pointing out the evident lack of connection and collaboration ways between the different sectors of the society.

The differences are mostly related to the nature of each partner's organization. For instance, as a university organization, the results of ULEI highlight that attention is both paid to the well-being of the school students but also the interests of university students, an element that is present only in their report.

The same kind of reasoning appears also in the approach used by FAB and CCSTI. From their results emerges clearly their past experience as Fab labs and therefore the capitalization of the traditional services offered by these kinds of organizations. Two of the partners, TCD and MFCR focus their attention on the importance of global citizenship in raising students' awareness, while a specific attention is dedicated to the SDGs of the United Nations by many of the hubs due also to the suggestion made by the questions present in the Social Business canvas.

The challenges are mostly socially – environmentally driven and are mainly locally based, SCIN on the contrary has a wider territorial diffusion. Some partners underline in fact environmental problems in their regions or provinces (FAB, SCICO, SCIN) and socio-economic issues present in the most difficult neighborhoods (CCSTI). The only challenges that are different is the one identified by ULEI, which, apart from focusing on social issues, addresses the traditional lack of communication between crucial stakeholders in the region. The decision-making process with which these challenges have been identified is not always a bottom-up approach. Some hubs have in fact opted for a top-down approach to facilitate the engagement of actors that may lack of time to dedicate to the project, as well as expertise.

The activities as well as the results, present some common elements and some differences. As common elements we find training programs for students carried out by experts, workshops and meetings with local stakeholders. The approach with which these activities are carried out recalls the open schooling promoted by the OSHub.Network project and co-design and co-creation sessions. Some partners that really are engaged in the co-design approach have also envisioned consultations' sessions.

As for the results, also for the activities the differences among them depend on the curricula of the hubs and their previous experience.

FAB, SCICO and CCSTI focus their workshop on the building of prototypes and the use of laboratory, in some cases already present in their structures. TCD proposes a similar program, by promoting the use of experiments. While AE proposes a peculiar combination of technology and art, by involving the artists that already incorporate tech in their exhibitions, thus combining the purpose of the OSHub project with the art festivals already carried out in the traditional programs of AE.

A different program comes from SCIN which puts school students behind the camera by involving them in workshops aimed at gaining skills about the creation of documentaries thanks also to the relations that SCIN already has with local and national television. ULEI, as already mentioned, 19

proposes a program that aims at encouraging the meeting between university students and school students so that they can both learn from each other respectively the interest in education and teaching for the Uni students, and the interest in science and technology for the school students. MFRC is instead really focused on promoting global citizenship practices together with different important actors of the community. The idea behind the activities is to combine the previous skills acquired in this field to the concept of open schooling.

The resources are very similar from one another and there isn't a real difference as it appears clearly from the synoptic table. Most of them envisaged a management team composed by coordinators, experts and researchers. The material resources are strictly related to the realization of laboratories and prototypes.

## 4.1 Results – Activities and Resources and the Covid-19 pandemic

In the conclusion remarks of each report, the main issue that emerged has been the impact of Covid-19 that affected all the OSHubs.

The sudden shut down of schools, offices and the necessity to focus the attention on how to reorganize the work of the partners' organizations as well as to adapt every activity to distance learning, has switched the priorities of the actors involved. Hence, partners had to revise their results and activities, and are still in the process of doing that, based on the limitations caused by Covid-19.

However, the reports delivered by the OSHubs show that despite the delays and obstacles produced by the pandemic, the partners have structured the foundations for their OSHubs by identifying clear and specific results, challenges as well as the activities through which they want to implement those results. The outbreak of Covid-19 will force them to revisit some of the results and it is possi-

ble that the pandemic consequences will be part of the challenges on which they will focus.

In this case, the reports as well as this document will be adapted accordingly.

## 5. ACTORS, KEY OBSTACLES, RELATIONS AND CHANNELS: REPORTS

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The workshop on the actors' block of the OSHub Social Business canvas has been delivered by IH December 17, 2020. The partners were then asked to deliver a report (see Annexes).

The report dedicated to the Yellow section focuses on the actors divided in: Beneficiaries, collaborators, providers, partners and influencers; the key obstacles that the OSHubs have already encountered and most probably will, encounter in the process of engaging the stakeholders; and the relations and channels put into place for engaging the mentioned actors.

The synoptic table that follows shows the categories of actors that the OSHubs decided to target and the process of engagement that they have followed as well as the strategies used to catch the stakeholders.

More details are in the single reports of the eight OSHubs present in this [link](#) in which it is possible to read each OSHub report and look at the most recent updates.

Table 3: Yellow box synoptic table

	ACTORS	KEY OBSTACLES	RELATIONS & CHANNELS
AE	<p><b>Beneficiaries:</b> Students, teachers, artists</p> <p><b>Other:</b> Local school boards, the Ministry for Education, Industries</p>	<ul style="list-style-type: none"> <li>- Covid-19: Travel restrictions limited the possibility to have hands-on technology workshops and meetings in presence at the Ars Electronica Center, preventing the use of the collection of interactive art and maker tools to incentivise different groups to work together outside of their normal networks.</li> </ul>	<ul style="list-style-type: none"> <li>- Ars Electronica Festival</li> <li>- Conference calls</li> <li>- Open house sessions</li> </ul>
CCSTI	<p><b>Beneficiaries:</b> Teachers, Students, Inhabitants</p> <p><b>Other:</b> La Machinerie, school directors and inspectors, education trainers, Grenoble Alpes University</p>	<ul style="list-style-type: none"> <li>- Teachers: difficulty to understand the potential of the project and of a collaboration with a FabLab; Lack of time</li> <li>- Students: a lot of difficulties affect students caused by social problems within the families, Also, violence is increasing in the area, so the kids are stressed by this bad atmosphere.</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings at the new OSHub (La Machinerie)</li> <li>- Open days</li> </ul>
FAB	<p><b>Beneficiaries:</b> Secondary schools in Geneva, The Canton (regional government), La Maison de la Rivière, FAB</p> <p><b>Other:</b> Post Tenebras Lab, Musée d'Histoire Naturelle de Genève, Syndicat des jeunes, Office Cantonal de l'eau</p>	<ul style="list-style-type: none"> <li>- Teachers: the impossibility of in-person meetings make them not fully engaged in the project. Organizational issues with their school is also an obstacle.</li> <li>- Students: Little engagement due to non-physical gatherings. - DIP: No participation because of the COVID crisis even though they are very interested.</li> <li>- Community: The impossibility of in-person meetings makes it hard to fully engage in the project.</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Contact the stakeholder via email or telephone</li> <li>- Send a dossier to stakeholder</li> <li>- Organise a meeting or call</li> <li>- Follow-up to keep the relationship solid</li> </ul>
MFCR	<p><b>Beneficiaries:</b> School-heads and teachers, high school students</p> <p><b>Other:</b> Municipality, University, Parents' and Students Associations, Teacher training Center, firefighters, professionals from R&amp;I / artists / entrepreneurs.</p>	<ul style="list-style-type: none"> <li>- Teachers: lack of knowledge on IT/digital platforms can make them not engage in the training course. Due to a lack of an holistic approach to education in general, teachers find it very hard to implement OS projects and use OS approach/methods/tools. Time constraints. implementing Open Schooling projects with primary students has been a challenge as it requires the use of tools that fit this age interval.</li> <li>- Students: lack of knowledge on the use of IT equipments and digital platforms. Lack of motivation for students to participate in school activities and is very hard to engage them outside the school period in activities</li> <li>- Local community: Low participation due to the lack of interest from the local community to engage in active citizenship projects that address local challenges.</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Direct access to members of school boards and different stakeholders and beneficiaries</li> <li>- Zoom meetings, phone, email, face-to-face contact</li> <li>- Social media (e.g. Facebook, Instagram)</li> </ul>



SCICO	<p><b>Beneficiaries:</b> Secondary students, teachers</p> <p><b>Other:</b> Dep. of Food Science and Nutrition of the University of The Aegean, municipality of Lemnos, parents association, local businesses and enterprises, local NGO</p>	<ul style="list-style-type: none"> <li>- The municipality: lack of time and dedication</li> <li>- Teachers: lose their motivation as the project offer doesn't give them tangible incentives and is based on their own willingness and motivation to spend extra time out of school</li> <li>- Students: can't easily stay longer hours after school because there is no later bus to take them home</li> <li>- A lack of trust between stakeholders</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Press Conf.</li> <li>- Viber group</li> </ul>
SCIN	<p><b>Beneficiaries:</b> Teachers, students, parents</p> <p><b>Other:</b> Local policy makers, activists, scientists, artists</p>	<ul style="list-style-type: none"> <li>- School: separation of formal and informal education, which poses the biggest barrier between actors</li> <li>- Budget: schools do not operate with sufficient budgets to boost more open-schooling-focused activities, while the OSHubs do not carry sufficient budgets to overcome this barrier</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Direct access to actors and stakeholders</li> </ul>
TCD	<p><b>Beneficiaries:</b> Schools (Students and teachers), Local communities</p> <p><b>Other:</b> Academia, industry, charities, NGOs, artists, local councillors</p>	<ul style="list-style-type: none"> <li>- Schools and local communities: schedule meetings and motivating students with limited hands-on opportunities and digital settings. Also our approach to the Open Science Hub programme is a year-long engagement and it can be challenging to communicate to students that results or outputs will not come quickly and what they are doing across the months is interlinked and contributes to their final project outcomes.</li> <li>- All actors: Management of time, Resource management, Sustained long term commitment</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings</li> <li>- Weekly phone check-ins with teachers</li> <li>- Quarterly teacher review</li> <li>- Student sentiment surveys</li> <li>- Student zine reviews</li> <li>- Ideation session</li> <li>- E-newsletter</li> </ul>
ULEI	<p><b>Beneficiaries:</b> Primary schools, with their teachers, students and school heads, University/ Applied science school students</p> <p><b>Other:</b> Policy makers, experts</p>	<ul style="list-style-type: none"> <li>- Hierarchy. Regarding the influencers, it is quite time intensive to meet with them.</li> <li>- Trust. There is this invisible barrier of mistrust between Leiden University and The Hague. It might be due to the lack of knowledge about the other organisations and what they do.</li> <li>- Sensitive procedure. Especially by embedding this project in the different councils in the Hague is time consuming</li> <li>- Funding, there are some conflicting interests between the partners.</li> <li>- Covid-19</li> </ul>	<ul style="list-style-type: none"> <li>- Students meeting and training session</li> <li>- Interviews</li> <li>- Meetings</li> <li>- Policy paper</li> <li>- Action plan</li> </ul>

From the reports of the yellow block emerges a homogeneity in the identification of the actors already involved or to involve. The reports in this case are very specific thanks also to the use of the stakeholder map tool. The partners were asked to distinguish the beneficiaries from other types

of actors that for the purpose of the synoptic table have been divided between beneficiaries and other partners. The category of "other" in this case includes: collaborators, providers, partners and influencers. To have a more specific understanding of the identity of the single actor it is advised to have a look at each report in the Annex section of this document, as well as, the stakeholder maps that the partners have filled.

The beneficiaries are mainly school teachers and students from different grades. ULEI, in line with the activities and results described, also identifies the university students as both beneficiaries and in a way, providers.

As for the category of other actors, there is a variety of stakeholders involved depending on the peculiarities of each OSHub. In general, it is possible to observe that there are some recurrent kinds of actors in all the reports: Universities/researchers and local policymakers/municipalities. For the rest, the tendency is that to oscillate towards a more socio-cultural environment (artists, local NGOs, activists, museums) on one side, and towards local businesses and enterprises on the other side. It is very common for the partners to try and involve both sectors of the society. Some of the OSHubs seem to not have yet defined the project management board of each Hub that, once identified, will even more help to recognize the roles that each actor holds within the hub.

The key obstacles identified, although very similar, present some differences that are mainly related to the local environment.

The difficulties encountered with the teachers have two main variables: time and lack of knowledge and therefore lack of motivation.

Specifically, CCSTI, MFCR and SCIN all expressed a difficulty from the teachers either to understand the potential of the project or to fully understand the advantages of an Open schooling approach. SCIN specifically underlines the difficulty for them to adapt to a "non-formal/non-traditional" kind of education. All the partners stress the issue of time.

To all these obstacles is added the effect of the COVID-19 pandemic, that has forced teachers to adapt to distance learning, which has revealed to be both time-consuming and difficult to organize, thus leaving little space of extra-curriculum activities.

The difficulties encountered with students also travel along two main lines: distance learning and lack of time/motivation.

The outbreak of the pandemic has shown a clear deficiency in the knowledge on IT devices (MFCR, TCD) or in some cases, as CCSTI underlines, even the lack of IT devices due to socio-economic problems within the families. SCICO and MFCR have also underlined the students' lack of time or motivation after school, either for the lack of bus services that doesn't allow them to remain after the school hours or for a general lack of motivation that does not push students to stay longer at school, nor connected online.

Finally, some partners have identified as obstacles related to the beneficiaries the lack of funding/budget (SCIN/SCICO) or conflict of interest between the organizations involved (ULEI), that contributes to the lack of motivation in teachers, or in any case creates organizational issues.

The difficulties encountered with other actors (collaborators, partners, providers, influencers) are the same for all the OSHubs. Lack of time, lack of engagement and lack of interest are the main issues. It seems that it is very difficult to engage policy makers and municipalities because of the traditional lack of time of these actors and a general lack of interest in these kinds of projects, thus underlining a traditional tendency in local authorities' working culture, which often is quite conservative and cautious.

SCICO and ULEI did a specific focus on two key obstacles when trying to engage different kinds of actors: Trust and Hierarchy. As a matter of fact, it appears to be a resistance from some actors to trust other actors in one case and very rigid hierarchies that slow the engagement process on the other.

The last section of the report is devoted to the approaches and tools used to build and maintain channels and relationships with the different actors identified.

In this case the strategies elaborated by the OSHubs differ even though all have in common the organization of meetings as a crucial tool to both meeting the single actors involved with one-to-one sessions or by organizing community meetings to build connections and cooperation among the actors involved.

CCSTI's strategy rotates around the physical space. They organized meetings and open days to let the community know the laboratory, the services and the potential opportunities to develop new projects. Other OSHubs such as SCICO, MFCR and SCIN capitalize also relationships already established with previous experiences with some of the actors involved, using that direct access to them. ULEI and FAB use not only the traditional tools and strategy of communication but also the dissemination and sharing of policy papers and dossiers as means to start the conversation and attract the attention of possible actors to involve. In the report of TCD emerges the different ways in which they are engaging and nurturing the relationship with students and teachers by using tools as surveys, zines and ideation sessions to really stress the co-design and co-creation approach of the OSHhub.network project. As a mean to share the information with the larger community there is also the use of the newsletter.

All the hubs in various ways use zoom calls, phone calls, emails and chat groups, especially since the Covid-19 pandemic.

Very few have put social media as tools to build channels and create relationships. MFCR for instance highlight the use of Facebook and Instagram to attract the attention of the young students.

## 5.1 Actors – Key Obstacles – Relations & Channels and the Covid-19

As already anticipated, even in this case the OSHubs have suffered the consequences of the pandemic. Building relations and involving actors has revealed to be a really difficult task in a world in which all meetings are forbidden and distancing is advised. Nevertheless, all the OSHubs, thanks also to their expertise in the use of IT devices have tried their best to adapt to the "new normal", trying to transfer all the meetings and activities on-line. All of them have engaged in the use of tools such as Mural, Mentimeter, Slido, Zoom to facilitate as much as possible the communication and the direct engagement of beneficiaries, collaborators and providers.

There are physiological delays and obstacles that come also from schools and local stakeholders and therefore this information will be updated further, and this document will be adapted accordingly.

# 6. THE VALUE PROPOSITION – REPORTS

The workshop on the Violet box of the OSHub Social Business canvas has been delivered by IH February 12, 2021. The partners were then asked to deliver a report for each OSHub (see Annexes).

As already anticipated above, the Value proposition is the beating heart of the Social Business Canvas because it represents the main objective behind any social business or business in general that allows the project idea to live and breathe. Identifying the value proposition is also important because it is the beginning of the logical process that regulates the Social business canvas. In the end every box needs to be coherent and logically related to the Value proposition, because every block is the piece of the puzzle that composes the big picture, which is in fact the value proposition.

The synoptic table that follows shows, in a summarized way, the eight value propositions of the eight OS hubs.

More details are in the single reports of the eight OS hubs present in this [link](#) in which it is possible to read each OS hub report and look at the most recent updates.

Table 4: Violet box synoptic table

	VALUE PROPOSITION	PROBLEM/NEEDS/OPPORTUNITY
AE	<p>– To increase digital skills and promote critical and creative thinking in young people aged 11-18 by inviting artists working with technology to lead workshops in schools.</p> <p>By introducing artists and their methods of thinking when working with technologies we can promote critical understanding of technology in young people. This can lead to a human-centred digital society that can critically reflect will ameliorate the quality of life of people and their environment.</p> <p><b>How:</b> The establishment of Ars Electronica as an ongoing facilitator that can offer not only this service and but continue to nurture a sustainable network of schools and teachers is how this could be realized.</p>	<p><b>Problems/Needs:</b></p> <ul style="list-style-type: none"> <li>– Equipped artists with skills in knowledge-transfer to develop workshops based on their practices.</li> <li>– Connecting and communicating with individual teachers</li> <li>– Establishing a sustainable funding model so that the program can avoid a stop-start</li> </ul> <p><b>SDG 4, SDG 9</b></p> <p><b>Opportunity:</b> In facing the challenge of uncertainty of COVID we have seen the problem of hosting workshops on-site in school as an opportunity to develop new skills in hosting workshops online. This has become an opportunity in increasing reach and accessibility of the initiative.</p>

- Support and help teachers to develop new projects using the OSHub resources and increase the number of projects making tangible objects.

Projects will help students to develop their knowledge, their feeling of being an active part in the community.

**How:** Capacitate teachers and stakeholders with fabrication skills that will allow them to prototype in the Fab Lab. We will also promote connections and collaborations between local partners and schools.

#### Problems/Needs:

- Social and economic difficulties increased by the pandemic.
- Surge of violence

#### SDG 4, SDG 10

**Opportunity:** Teachers are willing to continue doing projects with the students, and they see OSHub as a good opportunity to be helped. Plus, the government has labeled the area “Cit  Educative” and this will bring funding for education projects.

- Offering a methodology and practical tools to place schools at the center of community projects about sustainability, science and technologies by providing support to teachers and students.

Scientific and technology literacy, community engagement, collecting data about the environment are key factors to ameliorate the life of people and the relationship with the community and the environment.

**How:** The physical Open Science Hub located at the Fab Lab will become a pole for knowledge exchange, teacher training and schools’ programs that will make the project sustainable over the next years.

#### Problems/Needs:

- Creating a platform easy enough to be used by all actors
- Students who are less motivated and interested in science and technology.
- Overcome Covid limits

#### SDG4, SDG 6, SDG 11, SDG 14

**Opportunity:** Learning to use tools like Mural to facilitate sessions and alternate remote and live sessions.

- OSHub-PT/Plat. de Escola Aberta supports and works together with schools in the co-creation and integration of relevant and sustainable strategies that promote the development of active citizens in addressing local challenges, through research and innovation projects in collaboration with relevant actors.

OSHub-PT wants students to feel that they are and want to be agents of change, and that they have the tools to take informed decisions and actions. Additionally, students are hubs and drivers for collaboration in their communities, via their families, friends and social networks, and as such have a great potential to achieve a wide impact, with repercussions in the quality of life of individuals and the community, as well as in the environment.

**How:** Capacitating students / teachers / stakeholders with skills that will allow them to address local challenges and use the scientific methods autonomously; promoting a strong connection and collaboration between partners

#### Problems/Needs:

- Lack of autonomy and confidence of teachers in handling with OS approaches and integrating them in their curricular practice
- Lack of active citizenship and low collaboration between partners and school
- Lack of connectedness between students and research & innovation
- Low digital literacy of students and teachers

#### SDG 4, SDG 5, SDG 6, SDG10, SDG 11, SDG 12, SDG13, SDG15, SDG 17

**Opportunity:** Close professional relationship with teachers at an intermediate decision-making level, allowing for co-creation/co-development (in formal and non-formal contexts). Improve the distance learning, through capacitation of teachers/ students in digital platforms/tools integrated with curricular needs. Drinkable Rivers existing project and their kits (for monitoring water pollution).

- SciCo Maker Lab aims at supporting and working together with the educational community (schools, educators, students) in order to enhance STEM education and hands-on learning.

By turning to more inclusive and hands-on teaching approaches, students are more motivated and show agency through having a voice, a choice and ownership of their actions in the local community.

**How:** A necessary step is to go from a pilot project to a larger scale, including more schools, teachers and stakeholders. Through a train-the-trainer model, the knowledge and skills acquired remain in the community and can be transferred to the next school years and generations by the students. The co-creation methodology and the active involvement of multiple stakeholders will keep the focus on real and relevant challenges which will need actionable solutions and have an inner drive.

#### Problems/Needs:

- Drive student and teacher motivation and digital literacy
- Move to a more student-centered educational approach through hands-on learning
- Equip teachers and schools with necessary resources
- Connect school subjects and learning to the real world
- Drive transdisciplinary learning and collaboration
- Connect the school with local stakeholders and the broader community

**SDG 4, SDG12, SDG 13, SDG14, SDG15**

- Promoting trans-disciplinarity and active global citizenship with Transition Year (TY) students through a TY module that can be sustainably delivered in secondary schools year on year. Additionally, providing or pooling networks of stakeholders that can help build student action out into local communities and vice-versa.

**How:** Transforming learning (Alternative / Contemporary learning approaches) Pilot > Forum > Training wheels off > Review

#### Problems/Needs:

- Division of school subjects from the perspective of students
- Divisions between school organisations and local communities. This involves exploring trans-disciplinarity, the impact of various topics across STEAM on society, and the empowerment of young people to become leaders within their communities and further afield.

**SDG 4**

**Opportunity:** Exploring transdisciplinarity, and the impact of various topics across STEAM on society, that can empower young people to become leaders within their communities and further afield.

- By matching University students to primary schools, we are opening up schools to different members in the community and by this help them overcome academic, emotional and creative lag and challenges.

Offering meaningful and relevant societal and educational experiences to the actors in the project and by this, improving career opportunities and decreasing loneliness and anxiety for university students.

**How:** By recruiting, training and matching University students to schools, to offer tailored support tuned to the specific needs and challenges of each school. By offering the university students a side job and relevant training in primary school education, to give them a valuable societal experience. On top of that, by carefully assessing where the support of students is most needed and by providing extra support to the children who need it the most, pressure is released on the teacher workload, leaving teachers with more time to carry out their regular duties.

**Problems/Needs:**

- Social/economic disadvantaged neighbourhoods in The Hague are facing severe problems due to corona.
- Increased workload due to Teacher shortage and pupils are falling behind in their academic, creative and emotional development.
- Quality education for all primary school children in The Hague and extra support for teachers.

**SDG 4**

**Opportunity:** University students have time and energy to help the schools, Governmental financial support (social economic recovery plan) and Schools are more eager to open up to external support.

The synoptic table presents general information delivered by the partners in the reports about the violet block. It is possible to read the detailed version of the reports in the annexes.

The value propositions of the eight OSHubs present some common features despite proposing very different project ideas.

In addressing the problems/needs that justify the value propositions, some partners focus on the lack of students' knowledge and therefore motivation about technology and science. This appears to be the main issue together with socio-economic difficulties as stressed by ULEI and CCSTI. The thread of motivation goes hand in hand with the identification of local stakeholders' (mainly municipalities and governors) lack of commitment and cooperation.

In the Social Business Canvas there is a specific question dedicated to the SDGs that the OSHub wants to tackle with their value proposition. All eight OSHubs have chosen SDG 4: quality education, together with other goals on climate change, sustainable communities and cities, preservation of sea and forest as well as peace and justice.

## 6.1 Opportunities in the time of Covid-19

However, if the problems and needs reflect in part the challenges identified both in the yellow and red blocks, the value propositions blocks seem to present a very innovative and positive output. Many of the OSHubs have in fact recognized the Covid-19 pandemic as an opportunity, a blessing

in disguise. Despite the outbreak of the virus has limited and delayed most of the steps that they were doing, it has also pushed them to adapt to the new reality and try to transform the negativity into opportunity.

So, many of the reports highlight the fact that covid helped them to develop new skills in the use of digital tools to communicate with the beneficiaries and collaborators, as well as innovative digital tools (Mural, slido, Mentimeter) to facilitate and carry out co-design and co-creation sessions from distance. Some of them also included the will to focus on the exacerbation that Covid is producing on social issues that otherwise would have been left untreated.

## 6.2 OSHub Value Propositions

As explained above, to identify the problems and issues to address, as well as to exploit the opportunities is crucial to develop a clear and coherent value proposition. The value proposition presented in fact reflects and responds to the issues listed in this section.

As already emerged from the actors' section in the yellow block, they all seem to target the same categories of beneficiaries (Students and teachers). However, the value propositions pictured, show very different approaches with which the OSHubs decided to address needs and problems by identifying objectives and goals to achieve.

Some of the partners (AE, FAB, CCSTI) underline straightway the importance of the physical space that is provided in this project for OSHubs, as a means to reach out and let the beneficiaries (students and teachers) experiment and prototype new projects and scientific and technological experiences. In general, then, it is possible to divide the value propositions in two variables. On one side OSHubs such as AE and CCSTI attention is devoted to increasing and improving the knowledge of digital skills/digital literacy by promoting STEM curricula and, in the case of AE, by stimulating the interest towards technology and science through art.

On the other side the value propositions stress the importance of students' agency in relations to the local challenges and to the local community. FAB for instance underlines that scientific and technological literacy are key factors in stimulating the students' engagement in addressing local challenges.

MFCR stresses the importance to boost active citizenship in students by implementing research and Innovations projects using co-creation approaches. A similar importance to the students' agency comes from the value propositions of SCICO and TCD that both, with different instruments aim at increasing students' action into the local communities, also by encouraging collaboration and co-operation between different stakeholders within the local community.

Peculiar is the case of ULEI which as it is the only one to consider university students as beneficiaries, poses them together with school students and teachers at the center of the value proposition. In particular it is their well-being to be the aim of ULEI OSHub. Overcoming anxiety, loneliness and excessive workload on one side and allowing both young schools students and university students to discover new possible career paths.

Altogether, it is possible to observe how in these value propositions converge the information gathered in the red and yellow boxes, therefore showing the mechanism of the OSHub Social Business Canvas. From the central role of art in the AE's case, to the involvement of university students in the ULEI's case. These value propositions are in the blossoming phase and, as for the other



blocks, will be subject to adaptations and changes due to the Covid pandemic and this document will adapt accordingly.

## 7. FINAL REMARKS AND FUTURE STEPS

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The Open Science Hub Network (OSHub.Network) has the main goal of establishing a European community of hubs – OSHubs, in realities that traditionally do not engage with research and innovation due to various barriers, geographical location, socio-economic status, or ethnic minority group background. OSHubs inspire, empower and engage citizens – from school children to senior citizens – in STEAM (Science, Technology, Engineering, Arts and Mathematics) learning and research opportunities, grounded on collaboration with societal agents.

From these premises it is possible to observe the process of implementation of this objective through the lens of the OSHub Social Business Canvas.

The partners started to work on a vision for the eight OSHubs in which schools (students and teachers) are encouraged to become active agents, within the local communities, that promote change through research and innovation projects, based on the open schooling approach. Since the red block, the results set by the OSHubs and the activities that they are implementing, address local social and environmental challenges by promoting, even though with different formulas that reflect the peculiarities of the OSHubs, STEAM curricula in a combination of formal and non-formal education approaches. The activities created are set to make students protagonists of change in their own communities. Looking at the activities it is possible to identify two main categories. On one side, the co-creation of a program to increase the knowledge in science and technology not only by implementing the STEAM curricula but by providing actual “hands in the dough” opportunities for students to prototype and experiment. On the other side the activities are focused on the building of communities that encourage and are involved in these research and innovation project opportunities.

The OSHubs become the vehicles to increase the collaboration between civil society, local authorities, enterprises and other relevant stakeholders of the society. The yellow block shows how the partners have engaged in the creation of stakeholder maps that respond to the principles of diversity and sustainability. The community-building whose process is visible in the yellow block is helping to spread the change that comes from the schools with the rest of the local society. The Social Business Canvas not only allows to have a clear picture of what these communities look like but helps also to identify the processes behind the creation of the communities. From the obstacles encountered, to the relations and channels used to reach the different stakeholders. What emerges

is a variegated picture in which school boards, parents, students, teachers, municipalities, policy makers, researchers, universities, Ngos, artists, all participate in the change, trying to balance the differences and empowering the common interests.

The value propositions are the result of an inductive process that saw the OSHubs starting from the local challenges and results, climbing all the way up to the value proposition by enlarging step by step their vision. Each OSHub offers different solutions based on their nature, whether they have the support of universities, municipalities or previous experiences that let them engage already crucial stakeholders.

Their value propositions however share the same main goal: activating the agency of students and citizens in addressing the challenges that from the local go to the global level, thanks also to the use of the SDGs of the United Nations. The goal is to improve the quality of education, by addressing the lack of digital and technological literacy and use that propulsive power to produce social and environmental transformation towards a more equal and sustainable society.

## 7.1 Obstacles and limits of the Covid-19 Pandemic

As this document shows in each paragraph dedicated to the different blocks of the OSHub Social business canvas, the partners have all encountered delays and limits due to the outbreak of Covid-19 worldwide. The pandemic came at the same time in which the OSHubs were in the phase of engaging schools and stakeholders, and some of them were in the creation process of physical hubs. The initial shock necessarily stopped all these activities and frozen the reality for several months, delaying consequently all the goals and timelines that each one of them had already set up.

The OSHubs are now adapting to the new reality which is made of schools that close and open from time to time, switching from distance learning and learning in presence. They also have to deal with very stressed teachers that are trying from their side to balance this precarious equilibrium and lack the time to engage in new learning methods and curricula.

The time after school of students is considerably reduced and it is not easy to attract their attention with online meetings. Furthermore, the OSHubs are mainly engaged in already socio-economic complicated neighborhoods that often lack of digital devices to ensure a proper engagement of students from home.

Covid-19 also complicated the community-building process. Organizing meetings trying to match the different schedules of very different stakeholders is revealing a really challenging task that can have repercussions in the communication between these actors and in their level of commitment.

For all these reasons, as anticipated through the document, it is still difficult to draw a clear picture from the reports presented by the partners, especially in terms of specificity and clarity. The social business canvas is a living and breathing entity and therefore has the capacity to change and adapt. This document, which presents a picture of the directions that the vision is taking, will change accordingly.

That being said, the OSHubs are now trying to overcome these limits with different solutions: they

are prototyping parts of their programs to be distance learning friendly by using digital devices such as Mural that helps to facilitate the engagement process of both students and other stakeholders of the community. This is the reason why many of the OSHub have described Covid not only in terms of its problems but also as an opportunity to improve their digital and technological skills, reach out to a larger target group and therefore broadening the perimeters of their value propositions.

## 7.2 Future steps

The vision and Value proposition are part of what is known as the Social Business plan. As already explained above, the Social business canvas allows to build a feasibility and sustainability plan for any social business idea or initiative that one wants to implement. Therefore, apart from continuing to work on the value propositions, the OSHubs will also work on impact, cost structure and flow of revenues to understand if and how to sustain the activities, results and lastly the value proposition. The blue block is usually considered the "Litmus paper" of the Social Business Canvas because there it will emerge possible issues with activities, results and resources on one side, and limits in the engagement of actors on the other.

# REPORTS

As already repeated throughout the document, the reports from the hubs are consultable through this *link* where it is possible to get access to the constantly updated versions of the reports. In the end these reports, together with the report about Impact and the one about the Cost structure and flow of revenue will compose the eight OSHubs' business plans.





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SCIENCE  
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**EMPOWERING CITIZENS  
THROUGH STEAM  
EDUCATION WITH  
OPEN SCHOOLING**



# **DELIVERABLE 7.1**

**Vision and Value  
Proposition**