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| 1.0 | 28.05.2021 | Final version | Integration of the quality controllers' comments. |

EXECUTIVE SUMMARY

This first version of the Sustainability Report summarises main activities carried out under the Sustainability Work Package and develop ideas and actions explored for ensuring sustainability of the Change2Twin projects and results.

It includes details about the Change2Twin Community that now gathers 272 members, the network of 38 EU DIHs developed as part of the project, services provided by and to this DIHs network (Change2Twin partners being acted as a DIH), collaborations and networking opportunities with other local, EU or international projects, networks or initiatives but also details about the Marketplace as a key element of the sustainability and preliminary inputs for the first initial business model. A follow-up of all KPIs supporting the sustainability approach is also included at the end of this deliverable.

In order to monitor, review and update planned activities for next years and build a sustainable pathway after the end of the project life, this report will be updated though the submission of D6.4 on M24, D6.5 on M36 and D6.7 M48.

TABLE OF CONTENTS

| | | |
|-------|--|----|
| 1 | Introduction | 4 |
| 1.1 | Introduction to the CHANGE2TWIN SUSTAINABILITY concept | 4 |
| 2 | PATHWAY TOWARDS SUSTAINABILITY | 5 |
| 2.1 | Development of a Pan-EU Network in Digital Twins..... | 5 |
| 2.1.1 | Creation of a Change2Twin Network gathering EU Digital Twin stakeholders..... | 5 |
| 2.1.2 | Creation of a dedicated Change2Twin EU Network of Digital Innovations Hubs | 6 |
| 2.2 | SERVICES MAPPING | 12 |
| 2.2.1 | Services mapping and short-term implementation | 12 |
| 2.2.2 | Extension of the range of services and organisation of the implementation | 14 |
| 2.3 | CLUSTERING AND COLLABORATIONS developed for the project sustainability | 17 |
| 2.3.1 | T6.4 Overview of clustering and collaborations | 17 |
| 2.3.2 | Perspective on Year 2 and next | 19 |
| 3 | The Change2Twin MARKETPLACE as a TOOL for the DIHs and a key element of the SUSTAINABILITY | 20 |
| 3.1 | Marketplace offerings..... | 20 |
| 3.1.1 | Initial Marketplace based on internal Change2Twin offerings | 20 |
| 3.1.2 | The Marketplace as an item..... | 21 |
| 3.1.3 | Open the Marketplace to offerings provided by external technology providers | 21 |
| 3.2 | Preliminary inputs regarding Business model of the marketplace | 21 |
| 3.3 | First concept C2T business model..... | 22 |
| 3.4 | Next steps and sustainability work in reporting period 2 (m13-M30)..... | 23 |
| 4 | Follow-up of planned kPIS..... | 24 |
| 5 | Conclusion..... | 27 |

1 INTRODUCTION

1.1 INTRODUCTION TO THE CHANGE2TWIN SUSTAINABILITY CONCEPT

The Change2Twin project has a strong EU dimension and is providing concrete tools and added value that will be a relevant basis for building a sustainable network focused on Digital Twins (DT).

Main Change2Twin assets for supporting the sustainability of the project so far include:

- *A large Change2Twin stakeholders Community:* Change2Twin already developed a wide community around digital twinning, gathering European stakeholders from digital twin experts (from and outside the Change2Twin consortium), manufacturing SMEs interested in implementing digital twin technologies, technology providers, Digital Innovations Hubs and other competence centers supporting SMEs, other EU projects and Network focused on related manufacturing topics. Initial preparations to connect the EDIHs (European Digital Innovation Hubs) has already started. Initial preparations to connect the EDIHs (European Digital Innovation Hubs) has already started.
- *A Network of DIHs:* Change2Twin developed a Network of DIHs committed to support the Change2Twin activities and EU manufacturing SMEs in the implementation of digital twin technologies. A dedicated certification training has been developed and implemented for the benefit of the DIHs Network.
- *Digital twin experts, learning material and information:* The Change2Twin consortium gathers high level digital twin experts across Europe who are working for the benefit of EU SMEs and DIHs by developing supporting materials dedicated to key issues of digital twin implementation. Change2Twin especially developed two assessment tools dedicated to the use of the DIHs: the Compass Tool focused on the digitalization assessment and the “7-Steps-Tool” focused on the Digital Twinning readiness assessment with a 7 steps roadmap to successful digital twin implementation. Those tools aim at supporting the EU DIHs in providing relevant digital maturity assessment service to SMEs of their ecosystem. Combined with the Marketplace, they should help to identify appropriate digital twin solutions. As best practices and learning material, Change2Twin can also rely on the pilot experiments implemented under the project and that showcase the added value of digital twin.
- *Marketplace with digital twin solution providers across Europe:* The Marketplace is the key element of the sustainability, gathering internal Change2Twin partners’ technology offerings but also open to the promotion of offerings from external technology providers.
- *Use cases examples:* Change2Twin launched 4 pilot projects that aim at implementing advanced solutions for Digital Twin. The pilots are implemented with the support of the Change2Twin experts, and they will be used to demonstrate to the DIH network the technological, industrial and business feasibility of Digital Twin, in order to support the network with fully functional and replicable applications. Additional use cases and success stories will also be provided through the implementation of the assessments and experiments launched under the FSTP funding opportunities (Assessment and Deployment Vouchers Open calls).

Based on these activities, Change2Twin has already key assets for developing its sustainability strategy. In order to maximise impacts of EU funding, enhance Change2Twin results and ensure a sustainable support to EU manufacturing SMEs and DIHs, it is essential to ensure the sustainability of the Change2Twin Network and Marketplace after the end of the project. For this purpose, main sustainability challenges have been identified:

- Activate and ensure the sustainability of an EU Network dedicated to digital Twin technologies
- Develop and ensure the sustainability of the Change2Twin services
- Create, promote and ensure sustainability of the Change2Twin Marketplace dedicated to digital twin technologies
- Consolidate the sustainability approach and an appropriate business model

2 PATHWAY TOWARDS SUSTAINABILITY

2.1 DEVELOPMENT OF A PAN-EU NETWORK IN DIGITAL TWINS

Change2Twin relies on a wide high-level network of stakeholders interested and experienced in the digital twinning. From a sustainability view, we need to create a strong community dynamic among Change2Twin stakeholders, gather a wide range of profiles (from the academic and private technical staff qualified on digital twinning topics to SMEs interested in digitalisation and digital twin deployment, Digital Innovations Hubs committed to support SMEs, technology providers, public and regional authorities) that can contribute to support and promote the digitalisation of manufacturing SMEs.

Objective of the C2T sustainable Network:

- Maintain EU competitiveness by enhancing the EU-collaboration on Digital Twin
- Support and connect the DT community and interregional networks (especially EU DIHs connection)
- Support research and industry to engage in adoption of DT and possibly cross-border collaborations
- Enhance the EU-wide capacity and capabilities for services providers to engage in digital transformation
- Create the basis for a faster growth of EU Digital Twin market by anticipating and managing the interoperability issues, both inter- and cross-sectorial, arising at the interface of integrated DT solutions.

The establishment of a Change2Twin network has many benefits for the overall DT ecosystem. In Change2Twin, we are supporting the development of this network by providing services and training to DIHs, engaging with third networks and providing tools for solution providers.

2.1.1 Creation of a Change2Twin Network gathering EU Digital Twin stakeholders

One of the initial objectives set up in the Change2Twin proposal was to build a dynamic and engaged community around digital twinning topics and attract a significant number of new users of advanced ICT in the manufacturing sector and more innovative technology suppliers, in particular SMEs and mid-caps. The relevance and the sustainability of this community or network is a key pillar of the sustainability approach. We need to orchestrate and rely on a strong, large and relevant community of stakeholders, all interested in the digital twin technologies and committed to support their implementation within manufacturing SMEs.

On M12, the Change2Twin Community gathers 272 members from:

- European manufacturing SMEs & midcaps which are looking for more information and knowledge on digital twinning technology and its benefits, Change2Twin funding opportunities

- DIHs that get certified for delivering assessment services under the 1st Open call but also other DIHs interested in supporting SMEs towards digital twinning and/or promoting technology providers from their ecosystem.
- Digital twin technology providers which are interested in being of the Change2Twin marketplace as a new way of finding customers
- Business associations, clusters, chambers of commerce etc. That are working with their members on digitalisation topics and interested in digital twinning
- Academic & research community interested in the Change2Twin results and experiments for further research
- Other EU and I4MS projects or Networks (including other providers of Marketplaces and policy makers at regional level)

With 272 users on the Change2Twin Community, we managed to reach expected KPIs by the first year of the project regarding the number of users registered on the community (K5.4 Number of registered users of the community: 250).

For next years of the projects, we will continue to extend our community and will work on developing and maintaining attractivity and relevance of the exchanges.

2.1.2 Creation of a dedicated Change2Twin EU Network of Digital Innovations Hubs

2.1.2.1 DIHs as key players

Digital Innovation Hubs play a key role in supporting SMEs towards digitalisation. They are local contact points for innovative SMEs, technology providers and local public authority. They provide a full range of services to their ecosystem in order to support them to access to innovations, build and boost relevant projects and identify relevant funding opportunities.

That is why the Change2Twin sustainability strategy is partly based on the activation of a wide and strong pan-European network of DIHs which will contribute to attract a large number of SME end-users and contribute to better support manufacturing SMEs through the digitalisation pathway. The DIHs are therefore one of the main direct target groups of the Change2Twin project and future network.

2.1.2.2 The initial Change2Twin certified DIHs Network

On this first year of the project, we have developed a network of Digital Innovation Hubs for supporting the implementation of the first Assessment Open call. The DIHs play a significant role in this call as they deliver the digital maturity assessment service to the successful SMEs. Only “certified DIHs” are allowed to deliver assessment services within the Open call process. Therefore we carried out a “DIH certification process”.

Due to the Covid crisis, we had to change the DIH certification process which initially planned the organisation of a physical Certification Workshop with a limited number of DIHs. We finally organised a remote Certification webinar and thus we were able to involve a much larger number of DIHs. For this first year, we are very proud to rely on a network of 38 certified DIHs across Europe (KPI was at 25). They have all been provided with general information about the Change2Twin objectives and activities, including the Open calls, and get targeted knowledge on common understanding of digital twins, presentation use cases, main barriers and enabling technologies. Importantly, all the certified DIHs have been trained to the use of the Assessment Tools specifically designed for their benefit in order to properly perform their assessment services. They also get presentation of the Marketplace on which they will be able to find suitable digital twin solutions.

On this Year 1 of the project, we managed to attract, train and certify 38 DIHs from 15 EU countries (Austria, Czech Republic, France, Hungary, Ireland, Italy, Latvia, Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Switzerland).



Figure 1: Map of the Network of the Change2Twin certified DIHs (Y1)

Below is the list of all the DIHs involved in the first Change2Twin Certification process

| DIH name and website link | Shortname and JRC catalogue link | Country | Location |
|--|---|----------------|-------------|
| Am Lab | Am Lab | Hungary | Szombathely |
| Aragon DIH, coordinated by ITAINNOVA | Aragondih | Spain | Zaragoza |
| BI-REX BIG DATA INNOVATION & RESEARCH EXCELLENCE Bi-Rex | Bi-Rex | Italy | Bologna |
| Centre for Applied Data Analytics and Machine Intelligence, CeADAR DIH | CeADAR | Ireland | Dublin |
| Com oNext (Innovation hub) | Com oNEXT | Italy | Com o |
| Confindustria Emilia-Romagna Ricerca | Confindustria EmiliaRomagna Ricerca | Italy | Bologna |
| Digihall | Digihall | France | Paris |
| DIGIMAT: South Moravian Digital Manufacturing Hub | DIGIMAT | Czech Republic | Kurim |

| | | | |
|---|--|-------------|---------------|
| Digital Innovation Hub Slovenia | <u>Digital Innovation Hub Slovenia</u> | Slovenia | Ljubljana |
| Digital Norway Toppindustriesenteret | <u>DNT</u> | Norway | Oslo |
| DIH Andalucía Agrotech | <u>DIH Andalucía Agrotech</u> | Spain | Sevilla |
| DIH for Smart Manufacturing -Pomurje Technology Park | <u>DIH for Smart Manufacturing</u> | Slovenia | Murska Sobota |
| DIH High Tech Software Cluster | <u>DIH High Tech Software Cluster</u> | Netherlands | Eindhoven |
| DIHBU Industry 4.0 | <u>DIHBU</u> | Spain | Burgos |
| North- East Romania DIH - Digital Innovation Zone | <u>Digital Innovation Zone</u> | Romania | Piatra Neamt |
| DIHNAME – DIH Normandy Advanced Mobility | <u>DIHNAME</u> | France | Colombelles |
| I4MSOUTH DIH Region de Murcia | <u>I4MSOUTH</u> | Spain | Murcia |
| iMan Norte Hub | <u>iMan Norte</u> | Portugal | Porto |
| Innomine Digital Innovation Hub | <u>Innomine DIH</u> | Hungary | Pecs |
| Innovacoop | <u>Innovacoop</u> | Italy | Bologna |
| Intelligent Systems for Production and Resource Optimisation in Industry | <u>IS4PROD</u> | Ireland | Limerick |
| ITI Data Hub (The Data Cycle Hub) | <u>ITI Data Hub</u> | Spain | Valencia |
| Linz Centre of Mechatronics | <u>LCM</u> | Austria | Linz |
| MADE - Competence Center | <u>MADE</u> | Italy | Milan |
| MEDISDIH - Apulian Mechatronics Technological Cluster and DIH | <u>MEDISDIH</u> | Italy | Valenzano |
| Minalogic | <u>Minalogic</u> | France | Grenoble |
| National Centre of Robotics | <u>NACERO</u> | Slovakia | Bratislava |
| Pôle EMC2 Competitiveness cluster for innovation in production technologies | <u>EMC2</u> | France | Nantes |
| RTU ITI Digital Innovation Hub | <u>RTU ITI DIH</u> | Latvia | Riga |
| Sibiu Smart Systems | <u>Sibiu Smart Systems</u> | Romania | Sibiu |
| Smart Fab Carinthia | <u>Smart Fab Carinthia</u> | Austria | Spittal |
| SMITZH DIH | <u>SMITZH</u> | Netherlands | The Hague |
| SpeedHub | <u>SpeedHub</u> | Italy | Verona |
| Swiss Smart Factory | <u>SSF</u> | Switzerland | Biel |

| | | | |
|--|--|-------------|---------|
| Smart Welding Factory (SWF) | <u>SWF</u> | Netherlands | Hengelo |
| SMILE-DIH (Smart Manufacturing Innovation for Lean Excellence center - Digital Innovation Hub) | <u>SMILE-DIH</u> | Italy | Parma |
| Transilvania Digital Innovation Hub | <u>Transilvania Digital Innovation Hub</u> | Romania | Cluj |
| t2i – trasferimento tecnologico e innovazione s.c. a r.l. | <u>t2i</u> | Italy | Treviso |

We are already working on the extension of this DIH Network. 15 additional DIHs across Europe have expressed their interest for being part of the Change2Twin certified DIHs Network and willingness participate to the next Certification process that should take place at the end of the 2021 or beginning 2022 before the launch of the second Assessment Open Call. In addition, we plan to launch a second communication campaign for reaching out further DIHs before the next certification process.

Based on these positive insights, we can confidently expect extending our DIHs Network to more than 50 DIHs for Year 2 and 60 or 70 by the end of the project.

2.1.2.3 Build a mutual-benefit cooperation Network with DIHs

The collaboration with the DIHs is a mutual benefit cooperation. They provide their assessment services as part of their role of certified DIHs but also access through the Change2Twin Network to a broad range of knowledge and expertise around digital twin technologies.

| Change2Twin started to establish strong cooperation and exchanges with DIHs | |
|---|--|
| Benefit for C2T from the DIHs collaboration | Benefit for the DIHs from the C2T collaboration |
| The 38 certified DIHs play a key role in the Assessment Open call process as they provide the relevant assessment expertise and services to the successful SMEs. | Certified DIHs benefit from a large EU visibility by being member of an EU DIHs Network and H2020 funded project. |
| Change2Twin benefits from the ecosystem of the DIHs and target a very wide audience for promoting Change2Twin activities, Open calls, Marketplace, etc. That networking activities is essential for targeting as much SMEs as possible and address their needs. | Certified DIHs access to high quality tools especially developed for their use (assessment tools developed by TNO) in order to deliver digital maturity assessment to SMEs. Dedicated trainings to the use of assessment tools have been provided to the DIHs. |
| Change2Twin can activate the DIHs Network for getting relevant feedbacks on main SMEs barriers or difficulties towards digitalisation and especially access to digital twin technologies. | DIHs will use the Marketplace to help local SMEs to find the relevant digital twin solutions and thus support digital twin adoption. Moreover, the Marketplace is of high interest for the technology providers of their ecosystems. |
| With the DIHs Network, Change2Twin contributes to build a strong community able to find the suitable expertise for any issues related to digital twinning. | Through the certification process, DIHs benefit from high level knowledge and expertise on digital twin (common understanding, enabling technologies, main barriers, standards, etc) |
| Change2Twin benefits from the DIHs feedbacks regarding the technologies promoted on the Marketplace, but they are also the best player for | The pilot experiments implemented in Change2Twin can be used by the DIHs as blueprints for similar experiments with local |

| | |
|--|--|
| contributing to populate the Marketplace with external offerings from their ecosystem. | SMEs/mid-caps. On Year 2, we will work on the development of a dedicated on-boarding document that could help the DIHs to create their Digital Twin. |
| Change2Twin can rely on the feedback from the digital assessments performed by the DIHs for setting up a digital benchmark of the EU SMEs. | The DIHs will also benefit from the Change2Twin market analysis and benchmarking carried out. That Benchmark will support DIHs in their SMEs assessment and support. |
| Change2Twin can gather from the DIHs significant info relevant to interoperability issues arising during the integration of different DT solutions | The DIHs can benefit from the coordination of C2T aimed to their effective integration with the coming EDIH network |

This DIHs network was initially set up for supporting the implementation of the Assessment Open call and is a real added-value for the overall activities of the project. The ecosystem knowledge and expertise of the DIHs will contribute to better target SMEs needs and maximise impacts of the Change2Twin results. There are very good feedbacks from the DIHs regarding the collaboration initiated. There are strong interests in getting targeted knowledge on digital twin topics and the Assessment tools that have been made available for the use of the DIHs have been also highly appreciated. Complementary dedicated trainings and Q&A sessions have been organised.

2.1.2.4 Activities planned on next years for developing sustainability of the network

A second round of the Deployment Voucher Open call will be launched on Year 2. Prior to this call, we will organise a second DIHs Certification round in order to extend our certified DIHs Network and maximise impact of the call and project activities.

We will:

- still continue to target EU DIHs referenced in the JRC catalogue and make a focus on non-represented countries such as (Poland, Finland, etc)
- work at fostering a community feel and collaboration among the network, all gathered around digital twin opportunities for the manufacturing SMEs
- adapt our communication, dissemination, and trainings to the DIHs (and therefore SMEs) needs, based on feedback survey and webinars organised with DIHs.

Focus will also be put on the collaboration strategy with the future European Digital Innovation Hubs and the Digital Transformation Accelerator

The European Digital Innovation Hubs (EDIHs) will be established as part of the European Commission’s Digital Europe Programme to shape digital transformation over the 2021-2027 period. The EDIH network will support digital transformation in SMEs and public sector organisations by encouraging the adoption of the latest advanced technologies of Cybersecurity, Artificial Intelligence and High-Performance Computing. EDIHs will serve as “one-stop-shops”.



Figure 2: Map of the current EDIHs candidates

The future EDIHs aims at providing technological expertise and experimentation facilities to EU SMEs in order to enable the digital transformation of the industry and the public sector. They will advise SMEs on how to integrate digital innovations into their products, business models and processes and improve digital skills. EDIHs are expected to support deployment of digital technology at large, thus reaching also less innovative and digitized SMEs. European collaborations are strongly encouraged among EDIHs and we can contribute to facilitate this collaboration through the Change2Twin Network.

The EDIHs will be supported by the Digital Technology Accelerator (DTA). The DTA will support the EDIH network with variety of activities, including community building, collaboration activities like matchmaking as well as training and capacity building. Given the central role of EDIHs and the DTA in the new Digital Europe Programme, the Change2Twin project will also explore how to connect to this network in the following years (EDIHs are expected to be selected in Q 3-4, 2021). Some of the certified DIHs in Change2Twin may be selected as EDIHs, providing a connection between the two networks. But also the collaboration on a network level will be important to ensure alignment between the Change2Twin service and DTA and avoid duplications.

Through the Change2Twin Network, we can contribute to foster EU collaboration of DIHs for supporting digital twins' implementation within EU manufacturing SMEs.

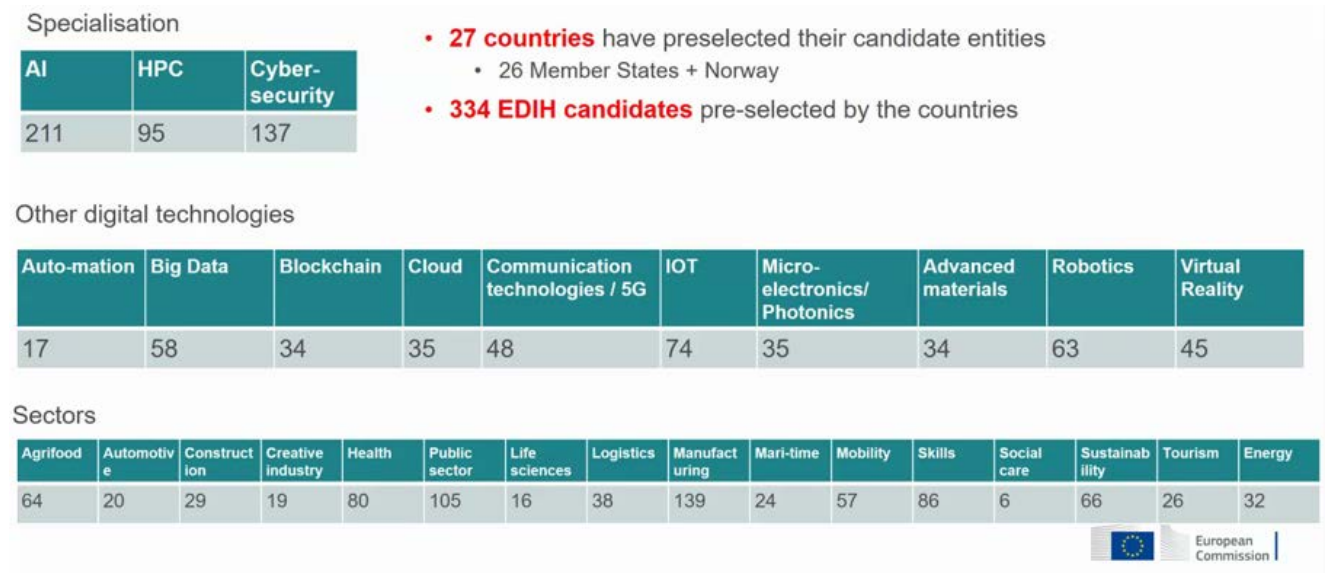
- (E)DIHs will improve their knowledge and expertise on digital maturity assessment processes and digital twins' technologies and issues.
- Sharing of best practices and success stories on digital twin implementation between the (E)DIHs is strongly encouraged through Change2Twin with the organisation of dedicated best practices workshops and success stories repository.
- The Change2Twin Network allows the (E)DIHs to promote their services and expertise at an EU level. Indeed, any EU SME interested in applying to the Assessment Open call can select the DIH of choice for benefiting from the assessment services. Cross-border cooperation are

encouraged through the implementation of the Change2Twin open calls. Moreover, through the Change2Twin Marketplace, we support (E)DIHs for opening their local ecosystem (innovative SMEs and technology providers) to new markets at an EU level.

- The Change2Twin consortium and network gathers a strong network of digital twin experts which can provide targeted knowledge, up-to-date information, expertise and training (e.g. via the training of DIHs) of digital twins to the broader (E)DIH network.

For ensuring the sustainability of the Network, we need to build a strong added-value collaboration with the Network of DIHs and supporting them in their activities with relevant and useful tools and knowledge for helping SMEs to access to digital twin technologies.

Below are official figures published by the EC regarding the current EDIHs candidates (a total of 334 across 27 countries) and the distribution according to specialisation area and sectors. We can see that 139 DIHs are focused on the manufacturing sector. On Year 2, we plan to focus on the identification of these manufacturing oriented EDIHs in order to foster our Network and make the connection between EDIHs and DIHs. Once the Digital Technology Accelerator is also operational, we will also seek contact and alignment discussions with the project.



2.2 SERVICES MAPPING

In order to keep the DIHs Network active and ensure its attractivity and sustainability, we need to address DIHs needs and deliver relevant services to them. It is stated in the GA that Change2Twin will act as a one-stop-shop (for DIHs), with a catalogue of services provided by its members (partners of the project) and its extended Network.

On this first year, we started to identify services that could be of interest for the DIHs and could be offered by our partners network. We also took care of identifying services that are already offered by other existing EU projects or network and initiated discussions for finding cooperation opportunities in this case.

2.2.1 Services mapping and short-term implementation

DIHs offers a broad range of direct services to the SMEs. The idea of Task 6.2 is focused on the identification of services that could be delivered by the Change2Twin project acting as an EU Network. Change2Twin aims at offering services to its DIHs Network: providing network services, raising

awareness on specific topics and provide DIHs with relevant and useful tools, such as the digital maturity assessment tools developed under Change2Twin, and the Marketplace dedicated to digital twin technologies.

From this first work of services mapping, we have selected a limited number of the most relevant services that can be implemented on a short term and be implemented through available tools (Change2Twin Community, Fundingbox Platform, Change2Twin Website, Change2Twin Marketplace, etc):

| List of the first services that are going to be delivered to the DIHs Network on short-term | | | |
|--|--|---|--|
| Services | General description | Timeline | Implementation tool |
| Newsletter focused on Digital Twin purposes | The 3-monthly basis newsletter will provide the DIHs with latest news about Change2Twin updates, key information on Digital Twin event, other EU projects/funding opportunities, etc. | The first version is planned by the end of June. | Will be disseminated through the Change2Twin community platform and website. |
| Success stories repository | <p>This service will aim at sharing best practices on end users and digital twin technologies used. That can be implemented on two layers:</p> <ul style="list-style-type: none"> - With the presentation of Change2Twin use cases and success stories from Open call applicants - But also, success stories implemented or supported by the DIHs <p>That will contribute to support SMEs to go towards digital twin adoption, with successful and concrete use cases description. That will also contribute to promote DIHs support services and foster DIHs cooperation.</p> | <p>For success stories from the pilot experiments and Open call applicants, we need to have consolidate data before making stories available. We could plan first success stories on 2022.</p> <p>Regarding the DIHs success stories, we are currently identifying the first ones that could be promoted.</p> | Will be made available through the Change2Twin website. |
| Technology watch | <p>The Technology watch service would aim at providing DIHs with targeted technical information on Digital Twin and side technologies (IoT, big data, AI, security, etc)</p> <p>On a short term, we plan to organise first webinars focused on some specific partners' technologies.</p> <p>Then we will extend the focus to more enabling technologies, as well</p> | First webinars could take place on the last quarter 2021. | On a short term, that will take the format of webinar but we need to define the most appropriate process/channel for this service. |

| | | | |
|--|---|--|--|
| | as to interoperability criteria between different DTs solutions. | | |
| DT Dictionary | We wish to provide a clear common understanding of terms related to digital twins in one single document, easily accessible. | Partners of the project are already involved on tasks aiming at identifying key terms. | Need to be linked to activities performed under WP1 in order to avoid duplication of work. |
| Identification of funding opportunities relevant for digital twins | The idea is to provide targeted information about funding opportunities that could be relevant for projects related to digital twin implementation. | A good work is already performed on this area, especially by Fundingbox which is a core partner of the project. Therefore, based on its work, we could point and disseminate specific opportunities. | The information will be disseminated through the Change2Twin website and the newsletter. |
| Keep contact with relevant EC services (e.g., Technologies for Smart Communities (Unit C.5), Digital Transformation of Industrial Ecosystems (Unit A.4)) | Establish communication with EC services that handle policy and funding opportunities related to Digital Twin technology. | Preparation in Q3 2021, release of the first interview end Q3/Q4 2021. | Ideally short video in the form of interviews on the activities and main policy objectives of the EC services. |

2.2.2 Extension of the range of services and organisation of the implementation

For next years of the projects, we will continue to consolidate and identifying complementary services that could be delivered to the (DIHs) network. A key element in the services offer is also to be positioned as a complementary offer of the existing one (services offered by existing network/projects/initiatives such as DIH4INDUSTRY with the DIWARE platform). Several Marketplaces are being/have been also developed in other H2020 funded project (RAMP, etc), therefore a focus will be also made on the identification of cooperation opportunities with existing and future EU projects (mainly EU funded projects under H2020 and Horizon Europe, especially Cluster 4), networks or initiatives we could collaborate with for implementing some services.

Discussions have already been engaged with several projects and network for exchanges best practices and try to identify potential collaborations. Below are described the ongoing projects and networks that have already been identified as relevant for establishing cooperation and the status of current discussions and collaboration's' interests.

| Collaboration opportunities for the implementation of services | | | |
|--|---|---|---|
| Existing projects/ networks | Short description and main objectives | Collaboration opportunities | Status of discussions |
| MIDIH project and the DIH4INDUSTRY Platform | The objective of the EU MIDIH project , is to create an extensive and connected network of DIHs of the Digital Industry area. For that purpose, the DIH4Industry platform was created as a digital EU Marketplace platform of knowledge, components and services provided by MIDIH for the benefit of DIHs. | <ul style="list-style-type: none"> We are studying potential opportunities of connecting Change2Twin with the DIH4INDUSTRY Platform. Moreover, we plan to exchange on the DIH4INDUSTRY sustainability and what is their business model. | We already organised meetings with representatives of the DIH4INDUSTRY Platform in order to present our respective projects and objectives and identify potential cooperation opportunities. Work has to be pursued. |
| DIWARE Platform and AI REGIO | AIREGIO project is now supporting the building an approach focusing on DIHs specialized in manufacturing. The DIH4Industry platform aim to offer services to DIHs in a cross-DIHs cooperation mode | <ul style="list-style-type: none"> We are studied how we could connect the DIWARE platform to our Marketplace (interoperability). Can some Change2Twin assets be displayed on the DIWARE platform (Especially the digital maturity assessment tools)? | We already organised meetings with representatives of AI REGIO in order to present our respective projects and objectives and identify potential cooperation opportunities. AI REGIO expressed interest for the assessment tools developed under Change2Twin. Work has to be pursued. |
| RAMP (Robotics and Automation Marketplace) | RAMP is the digital marketplace for robotics capable of accelerating productivity in SME/Mid-caps and of broadening markets for Technology Solution Providers. RAMP is powered by an EU Network of DIHs and is supported by EU-funded Innovation Actions such as L4MS, DIH ² , Better Factory, KITT4SME and SHOP4CF. | <ul style="list-style-type: none"> There could be opportunities of connection between the Marketplaces | We initiated contacts and will develop discussions. Updates will be included in the next report. |
| SmarTEEs Project (H2020) | European acceleration program dedicated to help innovative companies to access new markets and grow their business in adopting flexible electronics in new products lines. | <ul style="list-style-type: none"> We could get feedback and lessons/best practices on how they organised their Marketplace which is made of 3 layers (Technical/Organisation/Business layers) | TNO is partner of both Change2Twin and SmarTEEs project, therefore it facilitates the communication. Discussions has to be developed for identifying concrete collaboration opportunities |

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| | The project acts as a DIH and planned to develop a Marketplace (Showroom with more than 35 products and disruptive technologies, a Community with Business connections and Brokerage activities services). The project is aligned with the Smart Anything Everywhere (SAE) initiative. | | |
| Pulsate Project (H2020 project and supported by I4MS) | PULSATE is a parallel I4MS-4 project to Change2Twin that focuses on Advanced laser based and additive manufacturing experiments funded through FSTP. | <ul style="list-style-type: none"> ▪ Open Call announcement ▪ Common presentations ▪ Common work on standardization, ▪ Sharing networks and cooperation between Change2Twin marketplace and the PULSATE Agora. ▪ Best practices sharing on management. | Fundingbox and SINTEF are partners of both Change2Twin and Pulsate, therefore we already started to share information on standards, management structures best practices, etc. We currently use TEAMS as a cooperation platform. We organised common presentations of open calls. |
| ScoDIHNet | The SCoDIHNet initiative is a network of DIH, it does not run experiments but offer a number of services that helps DIH in their day-to-day operation. Initiative is co-supported by AIOTI and the 5GIA, that aims at supporting DIHs that provide services on 5G, IoT, Cybersecurity and artificial intelligence (Today: 78 members from 24 EU countries). | <ul style="list-style-type: none"> ▪ SCoDIHNet aims at providing services to DIHs. Therefore, we can benefit from their work and best practices and identify complementary services ▪ SCoDIHNet is also in discussion with the DIWARE Platform for the implementation of some services and other collaborations opportunities. | We have established close contact with the coordinator and are sharing best practices and information on services mapping and collaboration opportunities with existing projects or networks (ex: DIWARE, DIH4INDUSTRY, DIHNET, etc) |

Discussions with the above projects have been initiated under the services point of view but other collaborations opportunities have also been identified have as part of the dedicated task *T6.4. Clustering and collaboration opportunities*. Further details are available in the next section. In the next sustainability report, all the collaboration's follow-up will be gathered in one single section. Any other collaboration opportunities are studied, especially with other EU projects where Change2Twin partners are member (ex: Jotne is partner of the Arrowhead Tools, DAIS, Kyklos4.0) and as described in section 2.1.2.4, we will also study how to organise a fruitful collaboration with the Digital Technology Accelerator (DTA) that will support the future EDIHs in their actions.

2.3 CLUSTERING AND COLLABORATIONS DEVELOPED FOR THE PROJECT SUSTAINABILITY

2.3.1 T6.4 Overview of clustering and collaborations

For addressing the sustainability challenges, Change2Twin identifies relevant cooperation opportunities with other EU Networks and projects, in order to learn lessons from existing projects and identify synergies.

| Clustering and collaboration opportunities initiated | | | |
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| Existing projects/networks | Short description and main objectives | Collaboration opportunities | Status of discussions |
| I4MS | I4MS, ICT Innovation for Manufacturing SMEs, is a European initiative supporting manufacturing SMEs and mid-caps in the widespread use of information and communication technologies (ICT) in their business operations. Under I4MS, SMEs can apply for technological and financial support to conduct experiments allowing them to test digital innovations in their business via open calls. I4MS is the CSA for Change2Twin and other projects under the ICT-03 topic. | Participation in the I4MS working groups and events. Use of the I4MS Contact Points as Supportive Partners for the dissemination of Change2Twin activities. Joint participation and organization of events. | Collaboration is established and ongoing. A joint webinar organized under the I4MS umbrella with the DigitBrain project will be held in June 2021. |
| DIH2 | DIH ² believes in the power of robotics to transform the agility of manufacturing in Small and Medium-sized Enterprises (SMEs) and to drive economic growth across the European Union. Their role is to facilitate the connections that enable agile production in factories, where speed and versatility are essential to satisfy customer demand. To this end, they are currently bringing together a network of 25 Digital Innovation Hubs (DIHs) to generate innovation that maximises productivity and optimises agility in over 300,000 manufacturing SMEs and mid-caps across the European Union. The ambition is to expand the network to over 170 DIHs by 2022. | Cross-dissemination of opportunities for Digital Innovation Hubs | Collaboration is established and ongoing. |
| DIHNET | The DIHNET.EU project enables the coordination of European, national, and regional initiatives directly supporting the digital transformation and Digital | Cross-dissemination of opportunities for Digital Innovation Hubs. | First direct contacts were made, and a collaboration was |

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| | Innovation Hubs (DIHs). The project aims to create a sustainable pan-European network of networks, with a focus on regional DIHs. | | established via the I4MS CSA. |
| DigitBrain | DigitBrain H2020 Innovation Action to Enable SMEs To Benefit from Digital Twins The EU Research and Innovation Programme, Horizon 2020, funds DigitBrain Project for the next 3,5 years with more than 8 million euros. The new innovation project, which started on 1st July 2020, aims to enable small and medium-sized European manufacturing companies to benefit from AI-based Manufacturing-as-a-Service (MaaS). | Cross-dissemination of opportunities for manufacturing SMEs/Midcaps. Organization of joint events. | Collaboration is ongoing under the I4MS umbrella. A joint webinar will be organized in June 2021. |
| EURADA | Founded in 1992, the European Association of Development Agencies (EURADA) gathers professionals working on economic development across Europe. EURADA represents development agencies before the European Union institutions. | Cross-dissemination of opportunities for Digital Innovation Hubs and manufacturing SMEs/Midcaps. | Collaboration is ongoing. |
| Digital Twin Consortium | Digital Twin Consortium drives the adoption, use, interoperability, and development of digital twin technology. They aim to be the USA Authority in Digital Twin as it relates to policy, security, interoperability, and overall development of digital twins. They work at defining the ecosystem, standards requirements, architectures, open-source code, identify gaps, and publish statements and opinions. It gathers stakeholders from industry, academia, and government in a collaborative open environment. | <ul style="list-style-type: none"> ▪ Collaboration with the DTC will be part of a more general networking activity and will support the exploration of existing international projects focused on diffusion and harmonisation of Digital Twin technologies. ▪ Cooperation on shared objectives (standardisation, open data, environmental impact, etc) ▪ Cooperation regarding the Marketplace <p>DTC benefits: Awareness (pilots showcasing), increase their network (DIHs, SMEs), collaborate on re-use and new materials.</p> <p>Change2Twin benefits: increase impact and network (especially technology providers), collaborate on defining twin descriptions and adoption strategies.</p> <p>Existing results re-used: videos on digital twin, Digital maturity assessment and readiness tools, Marketplace and marketplace model.</p> <p>The discussion about the possibility of using different standards for DT, and how these standards may ensure the</p> | Meetings has been organised for presenting our respective projects (members, objectives, technologies, competition, etc). |

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| | | interoperability is an important topic to be addressed from C2T in support to the goal of a wide diffusion of DT technology across the European SMEs. | |
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2.3.2 Perspective on Year 2 and next

Ongoing cooperation with other initiatives will continue and additional initiatives will continue to be identified and contacted. In June 2021 Change2Twin will participate in the I4MS booth in the Advanced Factories fair in Barcelona and will continue to identify other interesting events and opportunities for collaboration. A joint webinar with the DIGITbrain project will also be held in June.

With the objective of guaranteeing the long-term sustainability of the project, Change2Twin is actively in contact with regional authorities by promoting a constant dialogue to explore different alternatives to mobilise ESIF funds.

Change2Twin has an active role in the *Digitalization Working Group*, coordinated by FBA and EURADA (European Association of Regional Development Agencies) and integrated by a community of European Regional Authorities. The working group was launched in March 2021 and has the long-term vision to lead the digitalisation transformation for the regional economic development.

The main objectives of the Digitalisation Working Group are :

- Establishing an open dialogue to understand the regional challenges in the transition towards a digital economy.
- Exploring synergies with regional authorities to mobilise structural funds for the deployment of digital twins by their local SMEs.
- Analysing potential tools to establish follow-up funding mechanisms by connecting Change2twin applicants with regional entities to look for alternative funding or support services.
- Mobilising the network of DIHs to promote the collaboration with regional development agencies.

The annual activities planned to implement the objectives will be:

- Organise four Working Group meetings.
- Distribute four newsletters covering relevant information and initiatives.
- Open different communication channels to allow its members to explore new collaborations and exchanges of good practices.

3 THE CHANGE2TWIN MARKETPLACE AS A TOOL FOR THE DIHS AND A KEY ELEMENT OF THE SUSTAINABILITY

The Change2Twin Marketplace has been designed as a tool for supporting DIHs activities. It should help the DIH to identify the enabling technologies suitable for the selected purposes of the SME. The enabling technologies are provided as a recipe by the Marketplace.

3.1 MARKETPLACE OFFERINGS

3.1.1 Initial Marketplace based on internal Change2Twin offerings

All the offerings that are going to be included in the initial version of the Marketplace are listed and described on in the deliverable *D1.3 Enabling Technologies for Digital Twin*. Those items include both “Innovation items” (With a TRL below 8, “Innovation items” are provided through interaction with the potential user and the item provider) and “Offerings” (which described items with a TRL 8 or 9 and that make available license terms).

Through the Innovation items and offerings populating the initial version of the Marketplace, we will find enabling technologies provided by partners of the project and useful tools developed for supporting SMEs and DIHs (ex: assessment tools, trainings workshops, community tool, on-boarding documents and related guidelines, etc) and we can find different types of offerings based on the characteristic of the provider:

- Companies who provide commercial products and services,
- Research and academic institutions that provide concepts, frameworks, consulting and teaching services,
- Prototypes that are not yet market ready,
- Pilot Partner and corresponding consulting companies or technology provider who do not provide a particular offering, but identify, select, integrate, apply and test solutions for a particular pilot,
- Partners providing or contributing to data, standards, models and formats,
- Partners who provide knowledge, competence and experience in analysing a use case challenge and developing a solution for the concrete use case challenge,
- Communities who provide open-source or open use packages as well as standards or de-facto standards that are provided with the goal to retrieve larger acceptance and distribution.

In order to populate the Marketplace with the above listed items, we started to collect offerings available from the Change2Twin partners.

For this purpose, dedicated mechanisms for items onboarding have being implemented. From M10, BOC took the lead on the organisation of regular handholding meetings with all Change2Twin partners that have an item to be included in the Marketplace. This process aims at defining how items should be described and deals with any description issues. With work is based on preliminary work developed under WP1 and will be supported by WP6 for extending this process to all external offerings' providers. The initial version of the Marketplace will be based on this first set of internal offerings and should be publicly available by the end of May (M12).

This process will be pursued on Year 2 for collecting other and new partners' items and reported in the next updates of the *D6.1 Plan for the Exploitation and Dissemination of the Results*.

3.1.2 The Marketplace as an item

The software package of the Marketplace is also considered as a marketplace item which could be deployed towards DIHs and will strongly support the sustainability strategy. Indeed, three different items can be included as Marketplace items: a “ready to use” marketplace, a “ready to install” marketplace and a “ready to adapt” marketplace. These three layers of the Marketplace item are further detailed in the deliverable *D2.2 Marketplace design and Methodologies*.

The opportunity to allow DIHs to download and install their own marketplace on their own infrastructure is a key element of the sustainability approach as it will ensure a strong involvement of the DIHs in the use of the Change2Twin Marketplace.

3.1.3 Open the Marketplace to offerings provided by external technology providers

The initial version of the Marketplace will be extended to all relevant offerings provided by external technologies providers interested by promoting their solutions on an EU level Marketplace dedicated to digital twin solutions. The objective is to provide a comprehensive coverage of enabling solutions.

A dedicated email address (marketplace@change2twin.eu) is currently available allowing any external stakeholder to directly contact the Change2Twin project about any request related to the Marketplace. We already registered more than 30 requests for being referenced on the Marketplace. We are working on a dedicated process for supporting and facilitating this growing interest. For more efficiency, we plan to make available on the second semester 2021 an online form that could be directly completed by all external providers interested in the Marketplace and will support the provision of item description. The launch of the initial Marketplace will also allow to strengthen its promotion, especially towards the DIHs that already expressed a strong interest for communicating about the Marketplace opportunities towards technology providers from their ecosystems. Dedicated webinars and communication actions will be implemented in order to target relevant stakeholders and raise interests among DIHs ecosystems and technology providers.

As described under section 2.2.2, we also started to discuss with other existing Marketplace or European funded projects/networks that have or planned to launch a Marketplace, in order to identify best practices on marketplaces implementation and Marketplace sustainability approach.

3.2 PRELIMINARY INPUTS REGARDING BUSINESS MODEL OF THE MARKETPLACE

Cooperation with other EU projects has supported the identification of best practices on marketplaces implementation. Based on the initial version of the market place, also some initial considerations of its business model (as one of the key assets of the network) has been suggested in D2.1. Based on the analysis of the market place users, it is suggested that 6 potential revenue models are possible for the market place (percentage fee of the solution found, membership, advertising, financed by a single or network of parties like EU/national funding, etc, affiliation with other initiatives, payment for offerings listed as SaaS deployment). The deliverable also suggests three possible scenarios for the sustainability of the market place. These preliminary considerations have been further considered from an overall perspective and connect to in D6.2 on the business model. As the network develops and the Marketplace grows, the business model and position of the market place as a key deployment mechanism will be further developed and explored. Post-project sustainability approach in the next periods will further follow and work on the integration of the business model of the market place, the overall business model of the network and the overall sustainability of the results and network.

3.3 FIRST CONCEPT C2T BUSINESS MODEL

The overall mission of Change2Twin is to develop a sustainable EU network of DIHs and knowledge and solution providers in order to boost the optimal adoption of digital twin technologies across Europe. In order to develop a sustainable network, we will explore the business model that the network can adopt after the end of the project. The sustainability approach therefore is very closely related to the work on the overall initial business model of the Change2Twin network developed in D6.2. The business model provides a structured framework to address how the Change2Twin network generates (services and assets) and captures value (e.g., financing). The business model looks at 4 main elements:

1) The customers of the network:

- **(E)DIHs**: can be seen as one of the key direct customers of the network. Change2Twin aims to forge a network of DIHs and knowledge providers, who in turn can support the SMEs in the implementation of digital twins. Change2Twin offers the DIHs an opportunity to collaborate, access to information and expertise on digital twins as well as tools to support them in offering direct services to SME end users. Specific knowledge on interoperability could be also delivered to the DIHs (indeed, as Digital Twin is an integration of different technologies, it is important to manage properly such systems at their interface and ensure the interoperability system).
- **Solution providers** – commercial services providers with capabilities in digital twin also form a direct customer group as they make use of and populate one of the tools of the Change2Twin – the market place
- **Indirect customers** of the network including **policy-makers** on EU, national and regional level who are aiming to support the digitization and competitiveness of industry and **third parties** such as other networks, clusters, market places, financing organizations, etc.
- **SME as indirect end-users** should also be seen as *indirect* customers of the network. Even though they are the recipients of funding and can have access to the market place and general services of the network, in many cases, local SMEs are likely to require targeted support by the local DIH/CC/EDIH.

2) The value of the network is created by the services and the tools offered by the network. Also, the brand of the network and its embedded expertise and connections add additional value. We currently see the market place and the community as key mechanisms to deliver this value to the direct customers.

3) The partnership in the network: the network partners and their expertise and capabilities form the basis of the assets of the network, including expertise on digital twins, understanding of the needs of DIHs and SMEs as well as experience in developing tools such as the market place. The Change2Twin network was initiated by the consortium partners but is quickly expanding with certified DIHs, interested solution providers as well as via connections with other networks. Each of these members may have different level of interest in participating in the network. Therefore, the business model suggests organizing the service delivery and the partnership via a membership model. One such example is the Eclipse Foundation.

4) Funding of the network activities after the project is also a key element. We have identified in total 12 revenue models that networks could use, we will focus on the most promising models in the next report. Given that EU networks often address a market failure and aim to bring community services, we expect that (at least some) public funding might still be needed to run the network in the future and cover some of the incurred costs.

Deliverable 6.2 has also explored in detail the above 4 elements from a market place or collaboration tools. For the next period the suggested initial ideas will be further discussed within and outside the consortium and will be further developed

As mentioned before, one of the key recent developments in the DIH ecosystem has been the announcement of the new Digital Europe Programme which envisions the selections of approximately 200 European DIH (EDIHs) across Europe. These EDIHs will have both regional functions to support the local ecosystem and European function related to collaboration on EU level. The EDIHs will be supported by the Digital Technology Accelerator which will aim to forge the EDIH network.

One of the key recent developments in the DIH ecosystem has been the announcement of the upcoming Digital Europe Programme which envisions support for approximately 200 European Digital Innovation Hubs. The EDIH network will be coordinated by the Digital Technology Accelerator. The connection and division of responsibilities among this new network and existing networks like Change2Twin will be developed in line with the EDIHs establishments. However, it is possible that some alignment of services or topics might be needed in the ecosystem in the future years. For the time being, we can suggest that the Change2Twin network can offer the EDIHs and the network access to the specific expertise on digital twins. The Change2Twin network is also open, continuously certifying DIHs, and therefore can welcome the future EDIHs too. However, the development of the EDIH network could influence the business model of the C2T network and should be explored once the EDIHs are selected.

Further development, updates and re-iterations of the business model are therefore expected within the project lifetime. For the next steps in the project, we will use the initial business model further discuss with the consortium and related projects the feasibility and optimisation of the model.

3.4 NEXT STEPS AND SUSTAINABILITY WORK IN REPORTING PERIOD 2 (M13-M30)

The initial business model and its elements provides a basis for further discussion in the consortium and the network. The elements of the business model as well as the connection with the upcoming EDIH network will be further explored to find out possible alignment and complementarities.

In addition, analysis of the customers and their interest in the expected services and possible payment alternatives will be explored and further detailed in next sustainability reports. Connection and discussions with other market places and projects will continue to ensure that lessons learned are captured by the Change2Twin project.

4 FOLLOW -UP OF PLANNED KPIS

By the end of the project Change2Twin plans to deliver the following results:

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| R1 An architecture-agnostic Pan-European marketplace populated with the state-of-the-art technologies and service providers and used by a thriving network of DIHs | |
| KPIs | <p><i>K1.1 Number of individual components in the marketplace: 250</i></p> <p><i>K1.2 Number of integrators registered in the marketplace: 100</i></p> <p><i>K1.3 Number of DIHs using the global marketplace: 25</i></p> <p>On M12, it is too soon for addressing these KPIs with relevant figures but a lot of activities and work have been developed for targeting those KPIs.</p> <p>K1.1: Thanks to the on-boarding processes set up, both for internal and external offerings, the initial version of the Marketplace will include a first set of partners' offerings/components and will be populated on Year 2 with a growing number of external offerings. Indeed, the Marketplace has raised a lot of interests raised among DIHs and external technology partners for being registered/promoted on the Marketplace.</p> <p>K1.2: Similar to K1.1.</p> <p>K1.3: On year 1, we enrolled 38 DIHs in our certified DIHs Network. They have been trained to the use of the assessment tools and initiated to the advantages of the Marketplace. On one hand, the certified DIHs are going to use the Marketplace as part of their assessment services delivered under the Assessment Open call, in addition they are also interested in using the Marketplace as part of their DIH activities/services and in promoting Marketplace opportunities among technology providers of their local ecosystem. Moreover, thanks to the Marketplace model, DIHs will also have the opportunity to run their own version of a local Marketplace. The consolidated number of DIHs that effectively use the Marketplace could be provided in next release of the Plan for the Exploitation and Dissemination of the Results (PEDR – D6.1) .</p> |
| R2 A new benchmarked service model facilitating DIHs in providing support to manufacturing companies | |
| KPIs | <p><i>K2.1 Number of assessment services delivered: 50</i></p> <p><i>K2.2 Average satisfaction of service customers: 4/5</i></p> <p><i>K2.3 Number of external DIHs certified in providing the service: 25</i></p> <p><i>K2.4 Number of complete solutions deployed: 17</i></p> <p>On M12, it is too soon for addressing these KPIs with relevant figures but a lot of activities and work have been developed for targeting those KPIs.</p> <p>K2.1: Assessment services will be delivered on M13. Therefore, figures will be updated next PEDR update. However, as a first estimation, we can expect 22 assessment services delivered as it is the number of applications selected on the first Assessment Voucher Open call.</p> <p>K2.2: This KPI will be updated in next PEDR release. We plan to collect feedbacks from SMEs and DIHs that are using the assessment tools in order to improve the tools for better</p> |

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| | <p>addressing the SMEs and DIHs needs but also collect information/knowledge on and services provided to the SMEs and DIHs</p> <p>K2.3: We are already above the expected KPI with a total of 38 DIHs for the 1st certification round. They all participated to the first Certification process that took place on January 13 and 14th, 2021. We still continue to receive interest requests from EU DIHs for being part of our Network and we will launch on S2 2021 a second communication campaign towards DIHs; therefore, we can expect much more certified DIHs o Year 2.</p> <p>K2.4: This KPI will be updated in next PEDR release;</p> |
| <p>R3 An open, widely available toolbox for establishing a new marketplace consisting of software and body of knowledge gathered during the project</p> | |
| KPIs | <p><i>K3.1 Number of DIHs establishing their local marketplaces: 10</i></p> <p><i>K3.2 Number of downloads of the best practice whitepaper: 150</i></p> <p><i>K3.3 Average satisfaction rating of the users of the toolbox: 4/5</i></p> <p>On M12, it is too soon for addressing these KPIs with relevant figures but a lot of activities and work have been developed for targeting those KPIs.</p> <p>K3.1: We are working on the implementation strategy. We plan to select a group of well committed DIHs for starting to establish their own marketplace and will get their feedbacks for analysing their needs and improving the service. This KPI will be updated in next PEDR release.</p> <p>K3.2: This KPI will be updated in next PEDR release.</p> <p>K3.3: This KPI will be updated in next PEDR release.</p> |
| <p>R4 Sustainability model for the Change2Twin continued existence beyond the runtime of the project</p> | |
| KPIs | <p><i>K4.1 A legal entity (existing or new one) taking ownership of the global marketplace: 1</i></p> <p><i>K4.2 Number of DIHs committed to use and support the marketplace after the project: 15</i></p> <p><i>K4.3 Business model for monetizing the marketplace and providing continued financing: 1</i></p> <p>On M12, it is too soon for addressing these KPIs with relevant figures but a lot of activities and work have been developed for targeting those KPIs.</p> <p>K4.1: This KPIs will be updated in next PEDR releases. The identification of the legal entity that will take the ownership of the global marketplace is a work performed under the sustainability work package and especially in relation to the business model and business plan definition.</p> <p>K4.2: This KPI will be updated in next PEDR release.</p> <p>K4.3: Marketplace business model is studied under Task 6.6 in strong relation with WP2 and also with the work carried out for the definition of a relevant business model and business plan. First preliminary ideas for the business model are available through the D6.2 (TNO). This KPIs will be updated in next PEDR release.</p> |

| R5. Thriving community built around the project | |
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| KPIs | <p><i>K5.1 Number of stakeholders mapped and contacted: 200 stakeholders</i></p> <p><i>K5.4 Number of registered users of the community: 250</i></p> <p><i>K5.3 Number of supportive partners registered in the Community: 20 Supportive Partners (around 10% of the stakeholders reached)</i></p> <p><i>K5.4 Webinars / Training Bootcamps: 8 / 34</i></p> <p><i>K5.5 Number of DIHs added to the Community: 50 DIHs</i></p> <p><i>K5.6 Number of followers on social media: over 2000</i></p> <p><i>K5.7 Number of EU projects / platforms integrated with Change2Twin :3</i></p> <p>After one year of project, we can address the KPIs with the below figures. Further detailed information is available in the D7.3 dedicated to dissemination, communication and community activities.</p> <p>K5.1: 185 stakeholders have been mapped.</p> <p>K5.2: 272 community users have been registered.</p> <p>K5.3: This KPI will be updated in next PEDR release.</p> <p>K5.4: 3 webinars have been organised and 18 training workshops. For further detailed information, please refer to D7.3.</p> <p>K5.5: 38 have been added to the Community.</p> <p>K5.6: We have 300 followers on social media (*in the 6-monthly report we asked to correct the goal to 200 (typo mistake))</p> <p>K5.7: 3</p> |

5 CONCLUSION

This first Sustainability Report covers all activities launched and planned for developing and ensuring the sustainability of the Change2Twin Network and services. The “Sustainability “approach deals with a very large number of issues and topics, that is why WP6 is in strong connection with all the other WPs and activities carried out within the project. On this first Year, we initiated and set up several key elements such as raising awareness about Change2Twin and Digital Twins technologies and opportunities, the launch of the first Open and the pilot experiments, the creation of the DIHs Network and Change2Twin Community, the development of the Marketplace model and digital readiness assessment tools, etc. Based on these first key activities, we started to develop further actions related to develop DIHs services, identify clustering and collaboration opportunities and develop a first initial business model. All these elements will support the sustainability concept. Three updates of the Sustainability report will be submitted on M24 (D6.4), M36 (D6.5) and M48 (D6.7).