LOCAL ACTION PLAN SUSTAIN-3D & EURAMATERIALS NETWORK FRANCE

Picture 1 : Local Stakeholder Group meeting of the 23rd of October 2024

September 2024

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INTRODUCTION

Building on insights from the Northsea programme project COM3 SUSTAIN-3D identifies barriers, solutions and mitigating initiatives to help SMEs further implement additive manufacturing (AM)-technology.
The partnership consists of knowledge Institutions and Business developers with a strong outreach to SMEs. Their main objective is to ensure, that companies can profit from new technologies and be at the forefront of R&D.

Implementing new technology like AM is in its essence a wicked problem. On the one side, SMEs know, that AM will help them innovate and stay ahead of competition. On the other hand, it is hard to grasp exactly what AM can do in their production. Some SMEs invest heavily in AM. But often investments aren't monetized. Deployment of already installed AM machinery is in some cases under 3%. Others don't invest or invest in cheap machines that do not meet expectations. All three scenarios slows transition toward Industry 4.0. SUSTAIN-3D seeks to mitigate this issue.

Studies of the problem point to complex causes:

- lack of skilled workers and innovators
- lack of (digital and structural) infrastructure and
- lack of objective institutional and digital support.

A complex problem like this is beyond any one company to solve. Companies across Denmark, Belgium, France and the Netherlands have teamed up with knowledge institutions, and local industry networks to analyze and develop and implement solutions to the problem.

GOALS

The overall goals of the project SUSTAIN3D are to:

- Create demand:
  - More SMEs need to invest in the right AM technology
- Create effect:
  - Expensive production grade machines must be utilized better
  - Ensure, that SMEs invest in the right equipment

During 18 months (September 2023- February 2025) the project SUSTAIN3D will:

- Asses if the CORA/COM3 model for digital transformation can be meaningfully applied to the case of AM-technology. This will create a foundation for the partners to work on also after the project period. See appendix 1.
- Implement local action plans related to Skill, Services and Infrastructure. This will ensure after effect help 30 SMEs and 5 partners to increase capacity for implementing AM

TASK FOR PROJECT PARTNERS

Activities for EuraMaterials, as one of the project partners, include:

1: Participate in the project Kick-off in Denmark

2: Participate in the workshop Skills in Belgium

3: Participate in the workshop Infrastructure in Denmark

4: Participate in the workshop Services in the Netherlands

5: Organize 4 Local Stakeholder Group meetings (LSG) in France

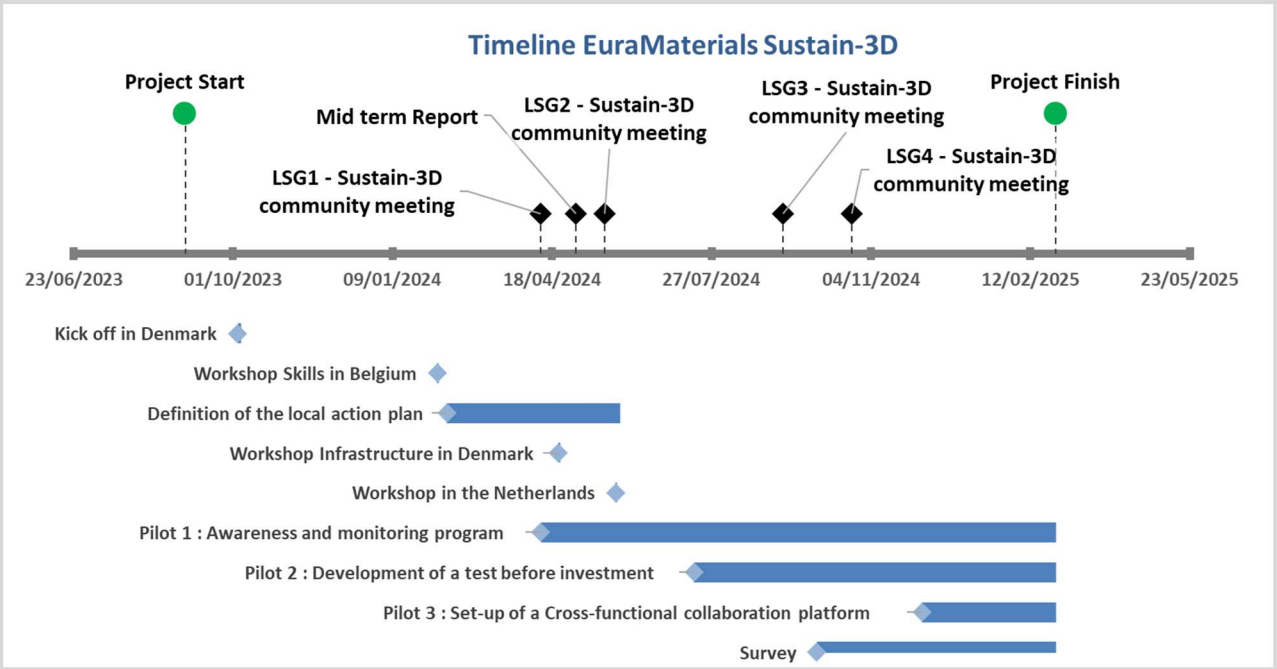
6: Develop a Local action plan

7: Execute 3 pilots

8: Participate to the Final conference

9: Participate to the monthly meetings with the PM team

10: Realize communication and dissemination activities in France.



ROLE OF EURAMATERIALS

The above activities take place in affiliated countries (Denmark, Belgium, France, and the Netherlands).

EuraMaterials is a innovation cluster serving materials processing industries to enable them to find innovative solutions, perform and grow. It has a specific focus on facilitating meetings and exchanges between players specializing in different materials. AM is a key ingredient in this ambition.

As a cluster with an extensive network of SME's mostly situated in the north of France, the aim of EuraMaterials within the project is to gain knowledge about its stakeholders (French SME's), to develop and test the best possible activities that enable stakeholders to enhance their capacity in the AM field.

Thanks to the project, EuraMaterials launched the "SUSTAIN-3D community". The "SUSTAIN-3D community" serves as the backbone of its stakeholder engagement, consisting of around 70 members (including 13 companies) working with or interested in 3D technology and AM. The network holds 3-5 meetings annually, which also function as Stakeholder Group meetings, providing valuable input for the Local Action Plan and pilot projects. The community will continue after the end of the project. A planning of actions for 2025 is already foreseen.

As a partner of the SUSTAIN-3D project, EuraMaterials contributes to the activities of the project, especially the workshops, the joint action plan, the communication and dissemination of the results of the project. Moreover, EuraMaterials has to execute some activities on the French territory, such as the organization of 4 local stakeholder meetings, a local action plan and 3 pilots.

Picture 2: Local Stakeholders Group meeting of the 21st of May 2024

SKILLS, SERVICES & INFRASTRUCTURE

SKILLS

The definition of skills is:

"Learning skills for 3D printing is about understanding how to make digital models into physical things. This includes multidisciplinary – or soft - skills, which use expertise from different fields without combining them; interdisciplinary – or hard -skills, which blend knowledge from various fields to innovate. This involves CAD skills, which focus on using design software effectively for 3D printing, Knowledge about which materials to use and other specific engineering skills"

- Admire-project 2023

INFRASTRUCTURE

The definition of technological infrastructure is:

"In the context of additive manufacturing within a small or medium sized enterprise, "technological infrastructure" refers to the required hardware, software, and networking components required to support the entire workflow of 3D printing processes"

- Inspired by: Kristin et. Al 2020 & Ruraldigital.eu 2023)

SERVICES

The definition of services is:

Service within additive manufacturing (3DP) in the context of small and medium-sized enterprises (SMEs) refers to an ecosystem of services that focuses on specialized support that facilitates the adoption, optimization, and utilization of 3D printing technology.

- Inspired by: Søberg et. al 2018

See also appendix 2.

DETAILED ACTIVITIES PROJECT PARTNER EURAMATERIALS

Activities	Participants from EuraMaterials	Date
Participation in project Kick off in Denmark	Stéphan Vérin	4,5,6 October 2023
Attending Workshop Skills in Belgium	Stéphan Vérin, Lionel Buissières	6,7 February 2024
Develop a Local action plan	Lionel Buissières, Amandine Caux, Stéphan Vérin, SUSTAIN-3D community	February 2024 – May 2024
LSG1 : SUSTAIN-3D community meeting	Lionel Buissières, Amandine Caux, SUSTAIN-3D community	11 April 2024
Pilot 1 : Awareness and monitoring program	Lionel Buissières, Amandine Caux, SUSTAIN-3D community	April 2024 – February 2025
Attending Workshop Infrastructure in Denmark	Lionel Buissières, Amandine Caux	22, 23 April 2024
LSG2 : SUSTAIN-3D community meeting	Lionel Buissières, Amandine Caux, Stéphan Vérin, SUSTAIN-3D community	21 May 2024
Attending Workshop Services in the Netherlands	Lionel Buissières, Amandine Caux, Stéphan Vérin	28, 29 May 2024
Pilot 2 : Development of a test before investment	Lionel Buissières	July 2024 – February 2025
LSG3 : SUSTAIN-3D community meeting	Lionel Buissières, Amandine Caux, Stéphan Vérin, SUSTAIN-3D community	10 September 2024
Group meeting on AM, organized by Plastium (member of the SUSTAIN-3D community)	Lionel Buissières	03 October 2024
LSG4 : SUSTAIN-3D community meeting	Lionel Buissières, Amandine Caux, SUSTAIN-3D community	23 October 2024
Pilot 3 : Set-up of a Cross-functional collaboration platform	Lionel Buissières, Amandine Caux	December 2024 – February 2025
Attending Symposium on AM organized by FAN (member of the SUSTAIN-3D community)	Lionel Buissières, Amandine Caux	06 February 2025
Closure event of SUSTAIN-3D	Lionel Buissières, Amandine Caux, Stéphan Vérin, David Ferron (member of the SUSTAIN-3D community)	10 February 2025
Communication and dissemination activities in France	Lionel Buissières, Amandine Caux, Stéphan Vérin	Continuously via Linkedin, EuraMaterials AM network and other channels

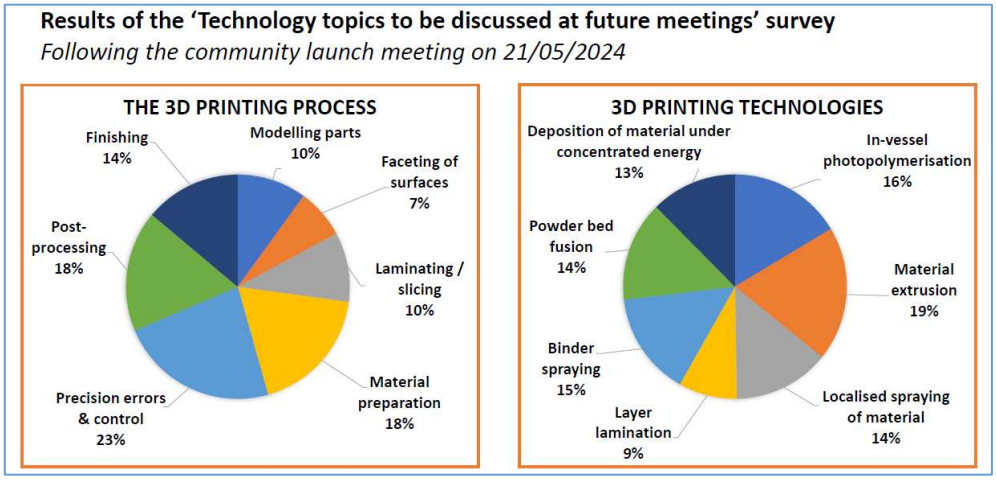
PILOTS ACTIONS FRANCE

PILOT 1: AWARENESS AND MONITORING PROGRAM

This pilot is part of the overall action plan: Infrastructure / establish partnership and create an ecosystem (See also appendix 3).

During the pre-configuration phase of the local stakeholder group, a partnership was set up with stakeholders interested by AM (CCI Hauts-de-France, Dagoma 3D and Laho Formation) and an initial workshop addressed the theme of decarbonising industry through AM (reducing waste, improving companies' carbon footprint, etc.).

An official launch meeting was organized the 21st of May 2024: Presentation of the local action plan and realization of a survey on the challenges of AM for the industry (results below).



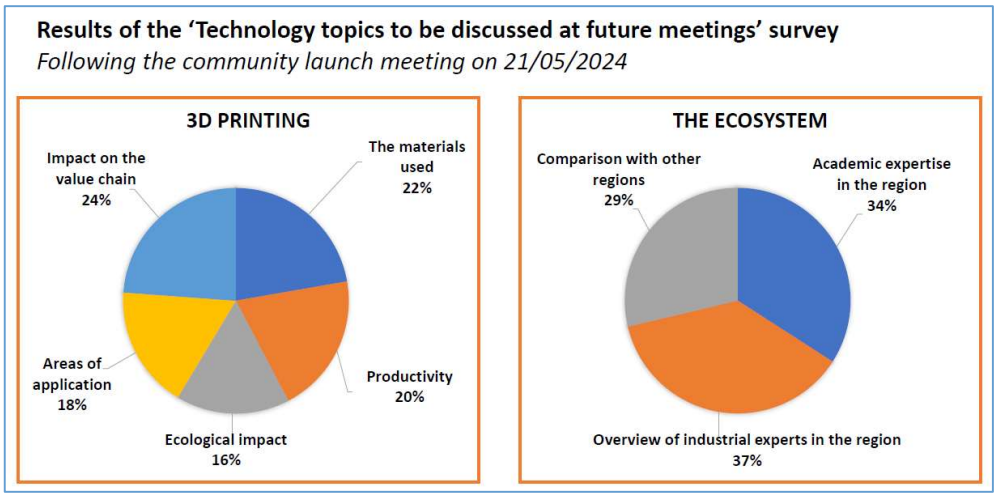


Figure 1&2: Results of the survey after the Local Stakeholders Group meeting of the 21st of May 2024

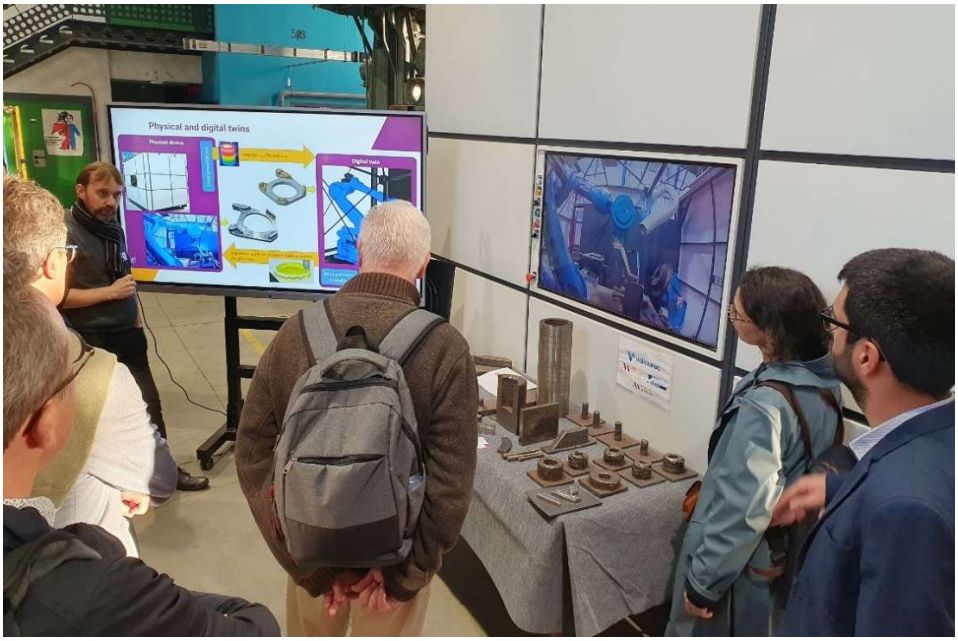
The meetings 3 & 4 dealt with the most important issues to emerge from the survey :

- 10/09/2024: Characterisation on site
- 23/10/2024: Post-processing for metallic 3D printing

EuraMaterials also set up a monthly monitoring on regional, national and European news concerning AM in order to share it with the stakeholders.

EuraMaterials also works with PLASTIUM (Plastics industry local cluster) to participate in the establishment of a training course for plastics companies on additive manufacturing.

Note: This pilot will be maintained and amplified at the end of the SUSTAIN-3D project and a new meeting of the local stakeholder group has already been organized for 25 March 2025 on the theme of sustainability, which is also in high demand.



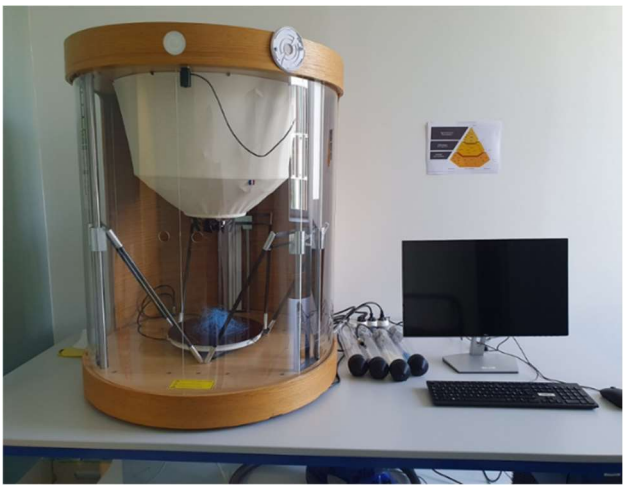
Picture 3: Local Stakeholders Group meeting of the 23rd of October 2024

PILOT 2: DEVELOPMENT OF A TEST BED BEFORE INVESTMENT

This pilot is part of the overall action plan: Services / Test in fieldlabs (See also appendix 3).

At the request of a number of companies in the local stakeholder group, EuraMaterials has created an offer based around the 3D printer it has on its site.

The aim of this offer is to make the printer available to companies wishing to carry out R&D tests before investing in the technology.



Picture 4: The 3D-printer now accessible at EuraMaterials

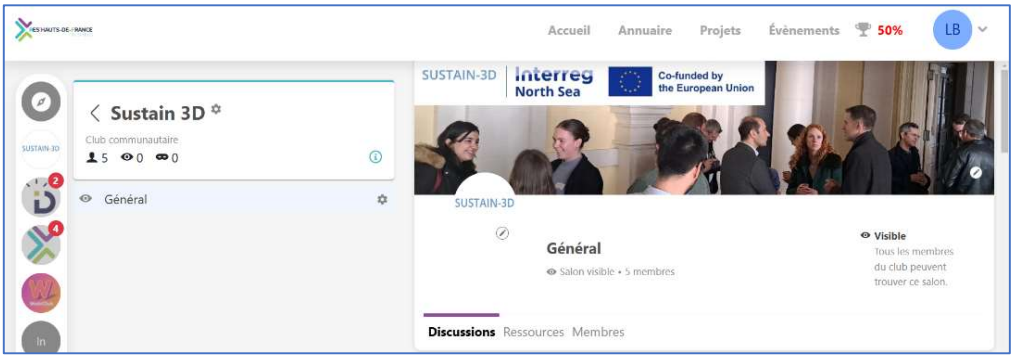
The printer available at EuraMaterials is a POLLEN printer, able to print a wide variety of industrial materials to create functional parts. The machine works with plastic granules (including elastomers) and can print 2 different materials at the same time thanks to its 4 injection nozzles. The resulting parts meet industrial quality requirements.

We can also work with partners to print parts and help companies innovate using AM.

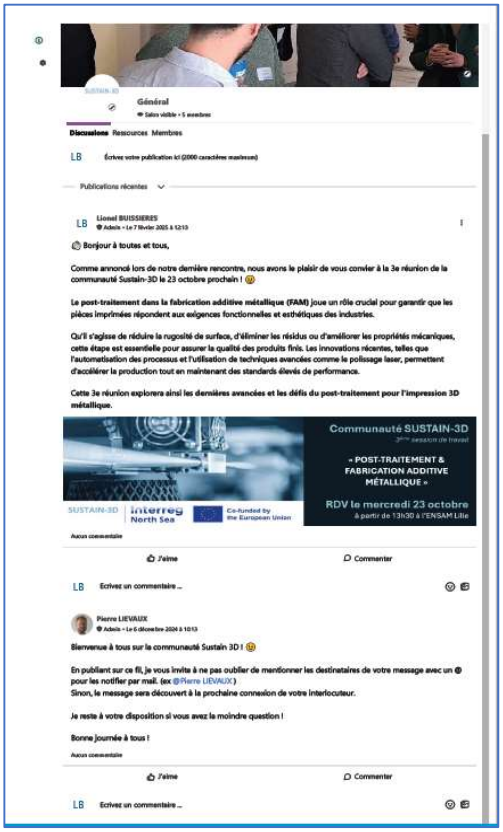
A concrete example below: EuraMaterials is currently carrying out tests for a company working for the automotive sector, by printing a connector using a new material (see pictures below). EuraMaterials is responsible for obtaining the material and printing the connector so that the company can carry out its own tests. If the tests are conclusive, this company will invest in a new printer to develop its product range.

Picture 5&6: Elements of a connector printed by EuraMaterials (test of the material)

PILOT 3: SET-UP OF A CROSS-FUNCTIONAL COLLABORATION PLATFORM DEDICATED TO AM



Picture 6 & 7 (below): Views of the landing page & news of the SUSTAIN-3D online platform



This pilot is part of the overall action plan: Skill development / cross functional collaboration (See also appendix 3).

Following discussions with our local stakeholder group, we realized that there was a real need for communication and exchange between participants outside meetings.

The decision was taken to launch an online community to meet this need.

This platform is accessible since December 2024 on the website https://www.hautsdefrance-id.fr/reshauts-de-france-business/ and only members of the SUSTAIN-3D community have access. This platform is hosted in a regional platform maintained by the supplier Wudo and financed by our regional council. EuraMaterials is in charge of the animation of the SUSTAIN-3D platform.

On this online platform, the local stakeholder group will be able to find the elements of the awareness programme, communication on the news and events of each member, the monitoring put in place by EuraMaterials, exchanges of good

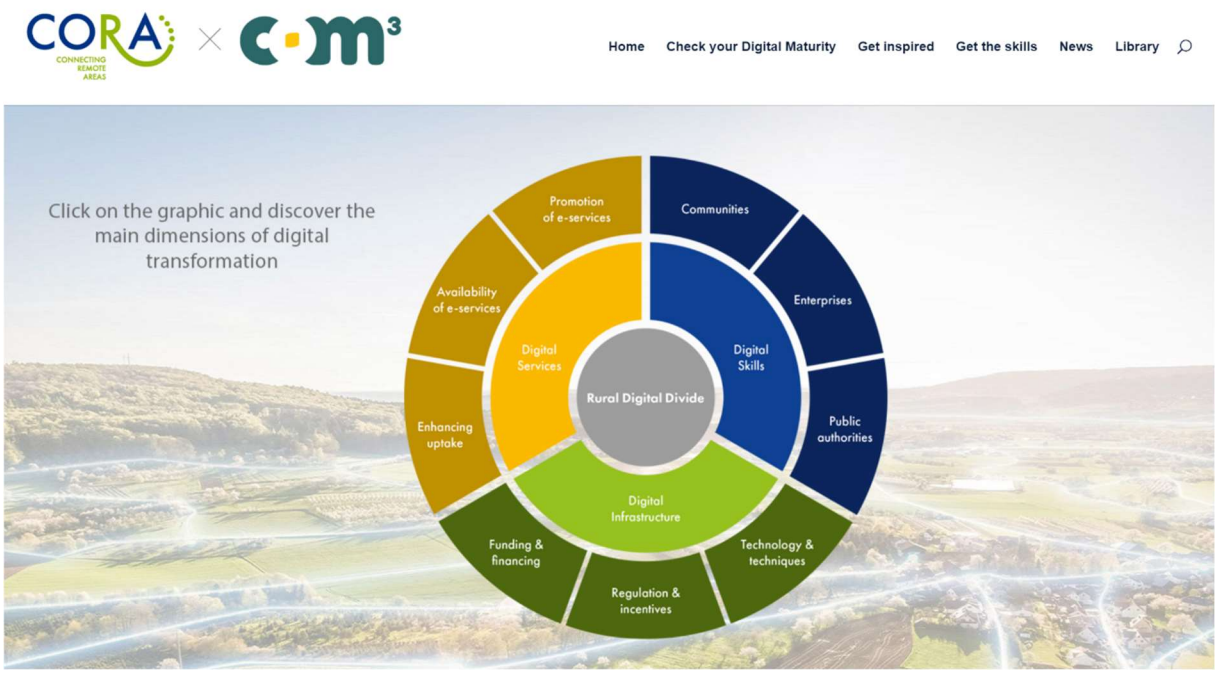
practice, the search for partners / AM solutions (spare parts? Materials? Technology?...).

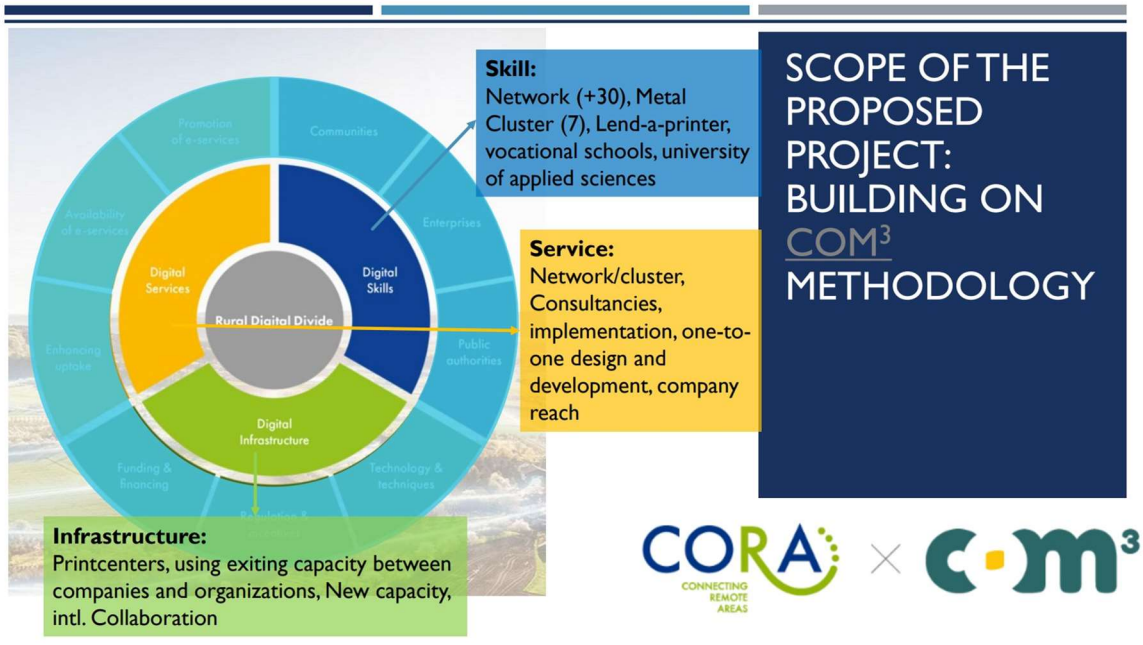
Next step 1: Mapping of all potential regional stakeholders to further develop the community

Next step 2: Open up the community on a cross-border / Cross Regional basis (already partly done: partnerships being set up with Belgium (SIRRIS), Normandy (Communauté FAN) and Grand-Est (AM dynamic with Grand Enov+).

APPENDIX 1

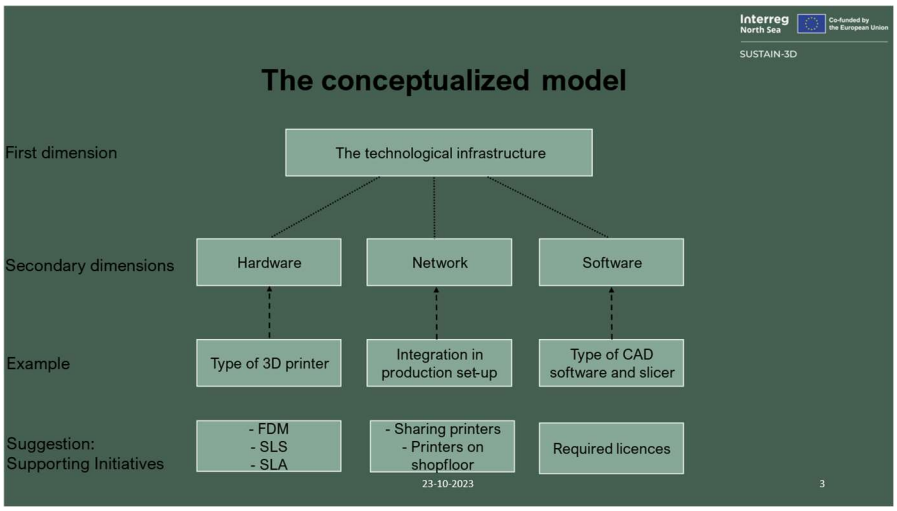
https://ruraldigital.eu/model/



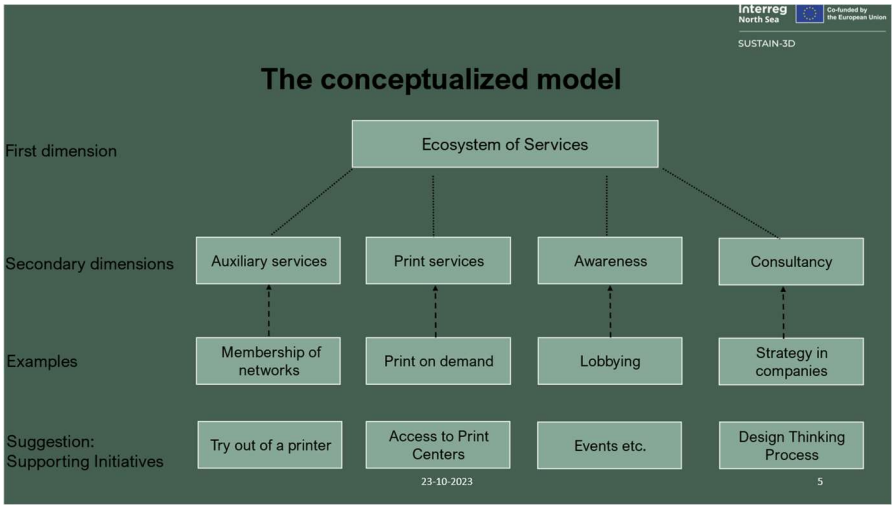


APPENDIX 2

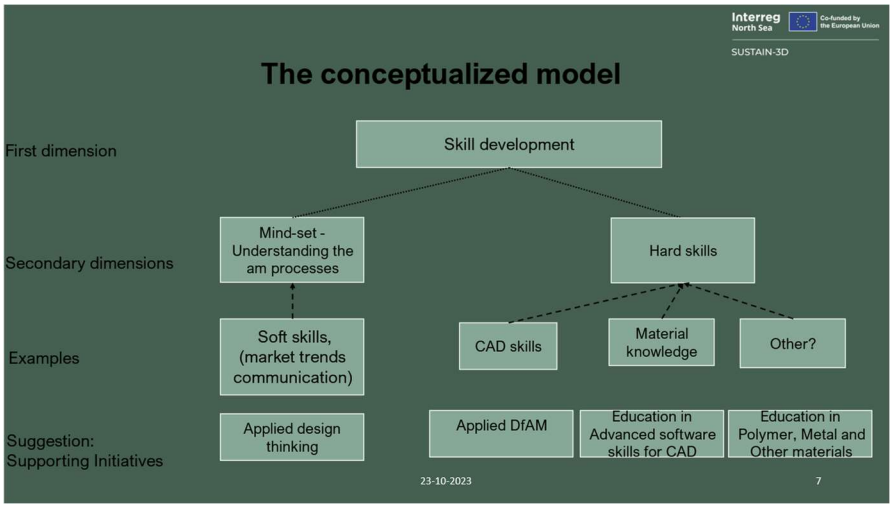
Technical Infrastructure



Services



Skills



APPENDIX 3 CORA.COM3 SUSTAIN3D MODEL

The global action plan of the project is accessible here : https://prezi.com/view/XhsBE3DapXaaBKDIFiPT/

Below is a view with all the actions :