



Smart SME's

Co-financed by the European Parliament through the Alpine
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WP 4 Conceptualization of new approaches

Factsheet

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INTRODUCTION

In work Package 4 we expanded the scope of previous activities addressing the hurdles and drivers to foster digitalization of the whole value chain rather than focusing on the single SME. We also investigated the transferability of the results of previous WPs to other value chains, related to the natural fibres ones, namely wood, agri-food and textile. Details about these value chains and relevant digitalization examples can be found in the report on best practices for the digitization on the wood and agri-food supply chains of SMEs.¹

Digitalization of the whole value chain puts the whole process a step forward, pushing systemic transformation and allowing SMEs to benefit of a fairer, more transparent and dynamic environment where to make business and grow.

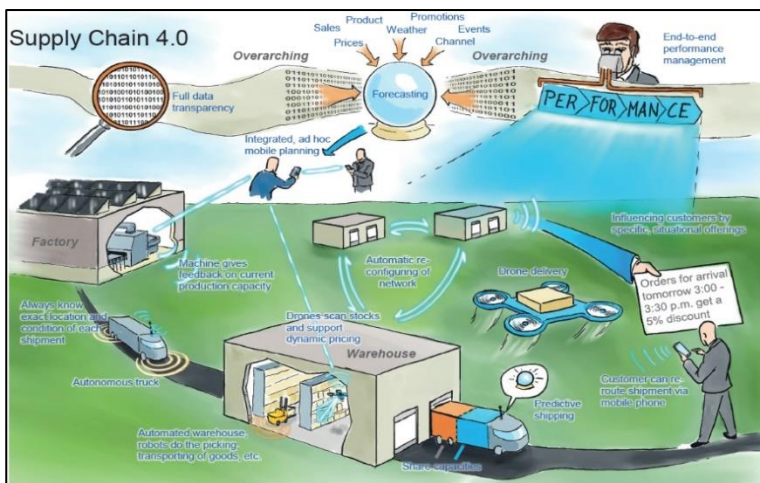


Figure 1 The Vision of the Supply Chain 4.0
Source: <https://www.mckinsey.com/business-functions/operations/our-insights/supply-chain-40--the-next-generation-digital-supply-chain#>

The use of technologies to connect and manage value chains cannot be postponed any more due to the increasing complexity of value chains in terms of network, processes, products, demands and organization capacity.

It offers several advantages making the whole value chains making it faster, more flexible, more customized, more accurate, more efficient.

Focusing on the value chain related dimensions, digital innovation can bring several advantages in terms of end to end visibility, new customer experience, supply chain synchronization, improved logistics and storage management. Data collection and analytics can create new opportunities for data driven services and business models.

¹ <https://www.alpine-region.eu/publications/report-best-practice-digitization-wood-and-agrifood-supply-chains-smes>



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Figure 2: Opportunities related to the digitalization of the whole value chains.

EXAMPLES OF VALUE CHAINS DIGITALIZATION



Wood Chain Manager
 Researchers from the Slovenian Forestry Institute developed the website Wood Chain Manager that offers different interactive tools suitable for the organization and optimization of forestry works



Foodchain Italy
 Foodchain Spa is an appealing case of Italian Blockchain. This Startup born in 2016 wants to make transparency an essential asset for any supply chain actor to guarantee the provenance, quality, and value of the food, supporting producers, and protecting consumers This is an example of the value chain as a service



Business intelligence system adoption: a comparative study on 14 T&A companies
 The utilization of big data for decision-making, supply chain management, inventory management at stores and warehouses, shipments to customers, and logistics is a major challenge in T&A industry. BIS with Industry 4.0 concept have a positive role in resolving sustainability issues in organizations.



Intervention fields

In order to boost the digitalization of the value chains, the following intervention fields have been identified:

- Value chain digital maturity assessment
- Awareness raising among companies, decision makers, value chains leaders
- Support technology transfer and industrial R&D
- Increase organization capacities
- Improve digital education and digital skills
- Infrastructure, data, standardization and digital trust
- Facilitate access to finance for SMEs

Stakeholder analysis

| Stakeholder | Interest (1-5) | Power (1-5) | Description |
|----------------------|----------------|-------------|---|
| SMEs | 4.5 | 2 | SMEs would be interested parties if correctly educated and supported in the process. Nevertheless, their power is limited due to dimension and limited resources |
| Innovation agencies | 2 | 3 | Innovation agencies can have a big role to increase the capacity for innovation and support technology transfer |
| Value chain leaders | 5 | 5 | Value chain leader companies are capable of exerting greater influence over other supply chain organizations. They have the right attitude and the interest to drive the digitalization of the whole value chain and force the transformation on single companies in the supply chain |
| Cluster initiatives | 4 | 4 | Cluster initiatives and umbrella organizations have the interest to help their affiliate to grow and compete. They can have high power to facilitate the transitions offering dedicated services and provide the right framework. |
| Public authority | 1 | 3 | Public authorities can affect the digitalization process by providing incentives, regulations and funding. Moreover, they can assure the right ecosystems for transformation |
| RTOs | 2 | 1 | RTOs can provide new technologies and knowledge to accelerate the change. |
| Private stakeholders | 2 | 2 | Private stakeholders including Forests and land owners can benefit from the digitalization of the supply chain in terms of resource management and work organization. Their willingness to be involved in the whole transformation is important to cover the whole supply chain. |

Main barriers

- Many new technologies are used or starting to be used. However, the level of implementation in Europe is still shallow compared to other regions in the world, such as the US, mainly due to the lack of workforce digital skills.
- Primary requirements to enable most of the new technologies, broadband coverage, and good internet connection are not evenly distributed within Europe, especially in remote rural areas.
- Small and medium sized enterprises seek cost-effectiveness and reliability on new technologies. Resistance to change and to the introduction of new technologies in wood and agri-food might be due to the knowledge gap by new technologies providers.
- Small and medium sized have difficulties with investment capabilities.
- Proper governance for 'fair' distribution of information is one of the key challenges for digitalizing food-chains.
- In general, the process of digitalization is accompanied by uncertainty of the return and fear by employees, and sometimes by employer too.



Action plan

Starting from these considerations an action plan for the digitalization of value chains in wood, agrifood and textile sectors has been drafted and shared with project partners.

The plan includes actions and strategies prioritized for the following years. According to available money, funding body expectation and involved parties willingness, it would be possible to get inspiration from this plan to develop one big or more small projects.

Projects can cover just one of the intervention fields or encompass more dimensions, focus on different target groups and sectors, aim at different level of implementation.

The first priorities for the first year include the following:

1. Definition of **assessment tools** for the **digital maturity of value chains** in the selected sectors
2. Creation of a **network** of stakeholders for **transregional** collaboration
3. Identification of **key enabling technologies** and existing initiatives and projects to build on
4. Creation of **cross-regional funding** schemes to support SME

