CHAPTER 5 – Cluster Analysis

CLUSTER MANAGEMENT TOWARDS EXCELLENCE IN ADVANCED MANUFACTURING AND TEXTILE INDUSTRY

Partners:
Executive Summary

This report is part of a larger study which aims to identify the main trends, opportunities and challenges of the Fashion Industry shaped by the emergence of Advance Manufacturing systems and Digital Technologies.

Considering the context of a recent pandemic adding the sustainability outstanding challenges which emphasize the need to promote digitalization and new emerging technologies, this study expects to guide companies to change their strategies, from increased digital manufacturing processes, greener materials usage and shorter value chains business models, in order to become more efficient and profitable, and, at the same time, taking care of our planet and cultivating the Textile and Clothing image. The full study document goes through an approach based on 3 essential points:

First, an analysis is made of the Textile and Clothing Industry Market, and the Advanced Manufacturing Market, identifying its trajectory in the last years and mapping the main trends.

Secondly, the trends, challenges and opportunities inherent to the promotion of Sustainability, Circular Economy and Digitization are identified and explained.

And finally, a characterization of the external political, social and economic factors, like the transformation of the value chains and the recovery and resilience plans after the COVID-19 pandemic that can help to shape the industry and the decision making process.

This document is the fifth of five sections and focuses on the Cluster Analysis, involved in the Textile but also in the Advance Manufacturing Industry, from Portugal, Spain and France.

The full study is available for download at www.clamtex.eu, where the target audience can have access, in a comprehensive way, to the main trends that are affecting Advance Manufacturing and Textile Industry in the upcoming future.
Chapter 5
Cluster Analysis
Cluster Analysis

ATEVAL - Asociación de Empresarios Textiles de La Comunidad Valenciana

Founded on May 6, 1977, it was the first Association of Spain that registered at the Office of Deposit of Statutes of the Ministry of Labor. The basis of its work is to observe, listen and act, which has allowed to assert them as an indisputable interlocutor before entities, institutions and administrations. Our main values are Customer Orientation, Professionalism, Rigor, Cooperation, Commitment, Illusion, Innovation, Efficiency and Productivity.

Strategic objectives / Main goals:
• To promote cooperation between the companies in the cluster
• Provoke business changes, boosting business creativity
• To be an entity that multiplies business values
• Improving access to international markets
• Increase the capacity of companies and their employees to face the current challenges of the sector and the markets

Strategic Lines:
ATEVAL works on five strategic themes:
• Encouraging innovation
• Fostering sectoral and cross sectoral cooperation developing new value chains
• Facilitate new management models
• Support the internationalisation and improve the competitive positioning of the associated companies
• Improving people's skills and training
Cluster Analysis

AEI Tèxtils - Associació Agrupació d’Empreses Innovadores Tèxtils

AEI Tèxtils is a cluster with non-profit association structure that aims to bring together all Catalan companies and entities directly or indirectly linked to the advanced textile materials sector, which form a specialized production hub with competitive advantages.

The group made up of companies and all the entities in the territory that support its innovative potential, make up the so-called cluster of advanced textile materials in Catalonia, whose mission is to encourage innovation, improve the competitiveness of its members and to promote cooperation, complementarity and communication between them.

Strategic Objectives

• Promote innovation in the broadest sense, improving the capabilities of member companies and combining them through horizontal or multidisciplinary collaborations.

• Commercial presence abroad, through promotion and internationalization actions

• Improving the management and productivity of companies to generate added value and meet the challenges of the current environment.

Strategic Lines

AEI works on four strategic themes:

- R&D&I
- Internationalization
- Competences
- Marketing
Cluster Analysis

PRODUTECH – Associação para as Tecnologias de Produção Sustentável

PRODUTECH – Association for Sustainable Production Technologies is the promoter and manager of the Pole of Production Technologies.

The purpose of this Association is to implement collective efficiency initiatives and strategies aimed at the development of companies that produce technologies for production, promoting, in a sustained manner, their global competitiveness, namely in the areas of internationalization, innovation or qualification.

Objectives

• Promote or support initiatives and projects that enhance cooperation between companies that produce production technologies;

• Promote the image and value of companies producing production technologies;

• Foster research, development, innovation and constant exchange of ideas, experiences and projects in the companies and sectors involved;

• Establish privileged contacts with higher education institutions, research units, interface R&D institutions, technological centers and other public or private bodies;

• Promote information, dissemination and debate activities, namely conferences, workshops and, as well as the production of documentation and studies.
Cluster Analysis

Cluster Têxtil – Tecnologia e Moda

Founded by 60 members (45 companies + 1 start-up and 14 non-business entities), the Textile Cluster is a platform where entities establish win-win relationships, with the ultimate objective of producing and sharing knowledge as a support for innovation and competitiveness.

The Portuguese Textile Cluster is officially recognized by the Portuguese Government, as the entity responsible for managing and promoting the development, innovation and competitiveness of the Textile and Clothing value chain acting as:

• Strategy influencer and roadmapping;

• Bridge for the definition of industrial policies and smart specialisation strategy (Regional, National and European);

• Tool for economic development, to seed innovation, competitiveness and new business models enabler.

The Portuguese Textile Cluster is also a sectoral support structure with the purpose of stimulating processes of interaction, articulation, collaboration and information sharing within the economic aggregate itself, acting in a way that is supplementary to the performance of its own as an instrument of obtaining increments of competitiveness for innovation and internationalization, in a logic of collective efficiency.
Cluster Analysis

Pole EMC2

EMC2 is a French competitiveness cluster created in 2005 in the framework of a national initiative for industry competitiveness, operating in the Pays de la Loire and Brittany regions on advanced manufacturing technologies.

The association gathers all the actors of innovation around key markets and technologies to foster the emergence of collaborative projects of R&D. EMC2 leads a network of 396 members composed of more than 180 SMEs, Large Enterprises such as Airbus, Les Chantiers de l’Atlantique, Naval Group, EDF, Air Liquide, as well as Research & Technical Organizations (Ecole Centrale de Nantes, Université de Nantes, IMT Atlantique, IRT Jules Verne).

EMC2 supports its members along the entire value chain of innovation projects. EMC2 strategic vision is to enable companies to gain competitiveness on their manufacturing processes, products or services offering services adapted to every step of their transformation toward factories of the future.

Strategic objectives / Main goals

- Promote and support R&D and Innovation
- Foster cross sectoral cooperation (Key enabling technologies)
- Support companies in their development
- Animate the network composed by the industrial around a shared technology roadmap
- Strengthen local & national partnerships, international relationships
Cluster Analysis

CLAMTEX partnership SWOT Analysis

**S**
- Sector’s resilience, flexibility and versatility
- Strong know-how, industrial specialization and experience
- Innovative companies and good product reputation
- Wide range of advanced, academic skills and innovation capabilities
- Strong cluster presence and visibility and high degree of participation by members

**W**
- Shortage of skilled labor in more technical roles
- Mismatch between the human resources training and the sector’s needs
- High dependency of supplies of raw materials
- Low level and difficulties to implement Industry 4.0
- Consumption fluctuations
- Sector mainly composed by small companies

**O**
- Strong higher education and research system
- Digitalization and Industry 4.0
- Recovery and Resilience Plan and EU Funding Opportunities
- New business models based on sustainability and circular economy
- End-of-life Hotspot gap in the Textile Value Chain
- Cross-sectoral collaboration, strategic, regional and international partnerships and joint participation in activities

**T**
- Need for technological adaptation
- Agressive cost-competition
- Decrease and shift in the fashion consumption
- Highly competitive environment for innovation systems
- Little collaboration between complementary companies
- Sensitivity of the sector to the fluctuations of the world’s economy
Main Conclusions
From Chapter 5
Main Conclusions

This chapter aims to identify and convene CLAMTEX partners to address all the major challenges that the textile and advance manufacturing industry are facing in the future, and understand how each of the cluster association can use their skills and competencies to develop knowledge and solutions to advance towards a sustainable and circular textile value chain, while supporting the uptake of advance manufacturing systems in industry.

The climate emergency has made it clear that the way the Industrial sectors have been operating is no longer viable or sustainable. In this sense, it is urgent to stop and reverse the current state of play where the Cluster associations have an important role. To this end, efforts must be made to transform the manufacturing processes, the materials used and the business models themselves, in order to promote business Sustainability.

The new technologies associated with Industry 4.0, namely, big data, the Internet of things, augmented reality, virtual reality, 3D printing, among others, will be excellent tools, whose adoption will certainly promote the transformation of the sector.

It is important that the transformation of the sector is not approached individually, as a collective approach will make it easier to take advantage of the competitive advantages of each partner and maximize potential synergies.

Finally, it is important to mention that the cross-sectorial and cross-regional collaboration will be a facilitator in the sector’s transformation process. First, because it increases the probability of success. Second, it disperses and shares the risk. And third, it allows the sharing of knowledge and the creation of synergies.