WG1

Smart Textiles in Healthcare and Medicine

THEMATIC WORKSHOP

21th November 2019, St. Gallen / Switzerland

CONTENT

1. AGENDA AND PRESENTATIONS

21th November 2019 (09:00 – 18:30)

Venue: Empa, Lerchenfeldstrasse 5, 9014 St. Gallen / Switzerland

8.45 – 9.15	• **Welcome coffee and Registration**
9.15 – 12.15	• **Visit of EMPA (Swiss Federal Laboratories for Materials Science and technology) and presentation of their projects on smart textiles** • **Coffee break** • **Discussion**
12.15 – 13.45	• **Lunch**
13.45 – 14.00	• **Welcome and Presentation of CONTEXT network** Yesim OGUZ GOUILLART (IFTH) WG1 Leader, Aleksandra IVANOSKA-DACIK (The Research Center for Environment and Materials at Macedonian Academy of Sciences and Arts) WG1 Co-leader *Explications on working group and discuss about previous meetings*
14.00 – 14.15	• **Trends and market needs** Experience of an end-user (company or medical personnel)
14.15 – 14.30	• **WG1: Textiles in Healthcare and medicine** ***Scientific and technological bottlenecks*** Yesim OGUZ GOUILLART WG1 Leader, Aleksandra IVANOSKA-DACIK WG1 Co-leader
14.30 – 14.45	• **Coffee break**
14.45 -15.20	• **Short presentation of all the participants** *2 min for each participant*
15.20 - 16.20	• **Discussion**
16.20 – 16.30	• **Wrap up and closure** *Main conclusions*
16.45 – 17.45	• **Working Group internal meeting** • *Discussion on the outputs from the WG meeting, plenary discussion on project proposals.*

2. SUMMARY OF THE MEETING

2.1 PRESENTATIONS

The first part of the meeting consisted of several plenary presentations introducing the different aspects involved in the development, industrialization and commercialization of smart textiles in healthcare and medicine.

The workshop has started with the introduction of CONTEXT Cost Action, followed by a presentation of the trends and market needs by a Swiss embroidery company who develops e-textile products. After the end-user experience share, each participant has presented their work field and their experience with smart textiles. This workshop is ended with a presentation of the scientific and technological bottlenecks of smart textiles in healthcare and medicine.

2.2 WORKING SESSION IN GROUPS

The working session was conducted through a participatory dynamic, carrying out four main activities:

o Brief presentation of the attendees.

o Discussion on the main bottlenecks for the industrialization and market launch of smart textiles for healthcare & medicine

o Thinking-out session of solutions to the needs identified during the presentations in the previous part and the previous discussion.

3. DISCUSSION AND CONCLUSIONS OF THE SESSION

The discussions started with the presentation of an industrial who has smart textile product experience. The attendees questioned the industrial, about their experience, bottlenecks and the expectations of the industrial. Then, all the attendees presented their selves and their studies. Later, the bottlenecks occurred and observed during the evolution of the smart textile technology were discussed with the participants.

The most important outcomes to face the main technological bottlenecks in industrialization and commercialization are presented below:

Smart textiles for healthcare & medicine – with electronics	Smart Textiles for Healthcare & medicine – without electronics
• Real need	• Real need
• Adapt the rigid electronics to flexible textiles (integration of electronics)	• Biocompatibility
• Industrialization (prototype to reliable products)	• Standardization

• Work together with
  • Scientifics
  • Different fields (electronics, it, medical, etc.)
  • Design
	• Certifications

• Standardization	• Work together with
	  • Scientifics
	  • Different fields (medical and else.)

• Certification	• Comfort
• Service after-sale	• Environmental issues
• Data protection	
• Simulation of interaction of smart textiles with human	
• Comfort	
• Environmental issues	
• Energy harvesting	

Then the discussion has continued the solutions to overcome of these bottlenecks, some propositions are given below:

- Cooperation with clusters (textile and other fields like automobile, sport etc.)
- Cooperation with different industrials in the application fields (textile, medical, aeronautic, etc.)
- Cooperation with different industrials of different specialties (textile, chemistry, electronics, etc.)

Finally, the workshop is ended with the discussions about how to create projects together as the aim of COST action.

- Follow the open calls and possible budgets
- Participate and disseminate the events to follow the new technologies or needs
- Find textile solutions to replace existing cumbersome treatments in medicine and healthcare field.