

## WG4 SMART TEXTILES FOR BUILDING AND LIVING

Dr. Enrico VENTURINI (leader WG4)  
Dr. Georgios PRINIOTAKIS (co-leader WG4)

### 1. OBJECTIVES OF THE MEETING

Aims of the working session:

- Knowing the participants and their competences better for further project ideas and collaboration opportunities.
- Brainstorming to identify new project ideas.
- Establishing a roadmap for longterm actions of the Working Group.

### 2. PROJECT IDEAS

- Innovative energy production
- Monitoring and self-regulating textiles through e-yarns
- Improvement of fire-proof resistance
- Reduction of environmental impact
- Nanotechnologies for buildings
- Visual impact
- Advanced functionalities
- Interactive textiles
- Industrialization of e-yarn production
- Improvement of insulation properties

### 3. ROADMAP

- **Long term roadmap: 1 project idea decided by WG4 participants**
  - **WG4 - IDEA N°1 – Advanced functionalities**
- **Short term roadmap**

#### WG4 - IDEA N°1

##### **WHAT? Description of the action(s)**

The outcomes are:

- Photocatalytic action of materials/textiles to reduce pollutants (indoor/outdoor), antibacterial effect of titanium dioxide, combine fabrics made of optical fibers with applications in filtering/depolluting systems (Technology from BROCHIER), indoor/outdoor.

- Use of PVDF as a new material for building applications, with new properties for textile structures (UV protection); use of PVDF (Piezo-electrical properties) in innovative energy production systems; extrusion of PVDF filled with nanoparticles;
- Self-regulating systems.