



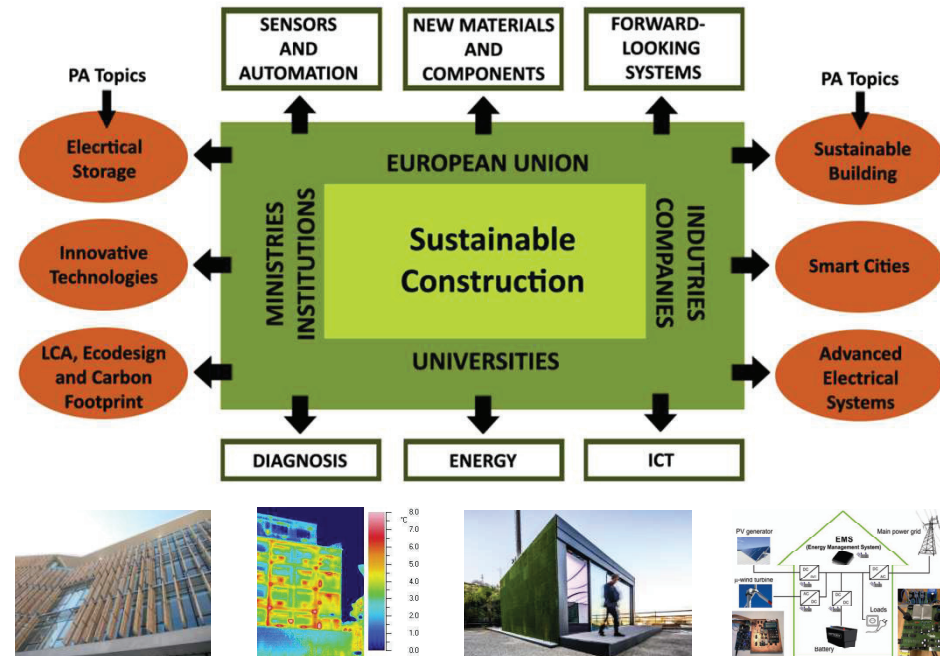
## Project Area 15: Sustainable Construction

**Objective:** The objective concerns technologies, systems, products and materials of construction sector, primarily aimed at the improvement of performance levels and safety, as well as the optimization of the final use of energy. The activities are aimed at the definition of strategies, methods and tools concerning the regeneration of building and of the city as a whole and the conscious improvement of integrated energy and sustainable management of metropolitan areas. Particular attention is addressed to make the performance of buildings measurable in working conditions and in the laboratory.

### Approach:

The energy efficiency achievements in the building sector are widely supported in particular by European Union (e.g. Horizon 2020). Thanks to the expertise and the resources of ITC, INM, ICAR, ITAE, IM, the PA will provide its contribution to meet current and future scientific and technological challenges in the field of buildings with the aim of enhancing the buildings stock in terms of both energy efficiency and renewable energy production. Specifically the PA will develop the following main topics : 1. Sustainable Constructions, 2. Smart Cities, 3. Advanced Electrical Systems for Sustainable Buildings, 4. Electrical storage enabling the Smart Building, 5. LCA, ecodesign and carbon footprint of building elements 6. Innovative technologies enabling smart building. The approach presents an interesting level of multidisciplinary and lends itself to contributions of specific scientific competence that DIITET is able to make available internally.

### Figures:



### Scientific Impact/Results:

Beneficial impacts of the PA's work are expected in terms of scientific, societal, economic, industrial and politic outcomes. The PA's research results will have direct application in industrial and regulatory fields, both at national and international levels, since active collaborations with the major technical-scientific and research organizations in the construction sector are planned. Participation to national and international research projects and initiatives with leading research institutions, industries and Universities is considered the main instrument for the achievement of the PA's goals.