**INNOVATIVE CERAMICS FROM INDUSTRIAL WASTE AND BY-PRODUCTS**

The design and manufacture of bricks, ceramics and cements made through low-impact processes by recovering industrial waste and by-products represents an important step towards the goals set out in the "2030 Agenda for Sustainable Development". Since the scientific and economic interests fall in different productive sectors, one of the objectives of the project will be to create new links between the ceramic sector, companies producing binders for the building industry, companies of management and processing of industrial waste, and research institutions, each sharing their knowledge and expertise. The research addresses the feasibility of innovative and green solutions for the production of new materials to be used in the current and historical building sector.

The experimental path involves the creation of laboratory prototypes of innovative and sustainable materials, using the solid waste of sewage sludge processing and waste from industrial production. The production recipe, the formation process, the physical-mechanical performance and the durability of such materials will be optimized on this model. A multiscale analytical protocol will be developed for the study of experimental samples in order to fully and quantitatively characterize these heterogeneous and not very standardized materials.