



# WORKSHOP

# INDÚSTRIA CERÂMICA 4.0

## 2 fevereiro 2017

**Juan Boix Palomero**

ITC - Instituto de Tecnologia Cerâmica

### Title

New control methodologies in the ceramic tile manufacturing processes

### Abstract

The last thirty years have been witnessed a tremendous transformation of the ceramic tile production process with the incorporation of technology that has in some cases been quite revolutionary. This technology is still in a state of incipient automation, albeit with great possibilities for development which will enable increasing the flexibility and productivity of the manufacturing facilities, and the quality and performance of the end product, thus enhancing company competitiveness.

During the conference, different control and automation possibilities of some ceramic tile process stages will be analysed. A description of the measuring elements and of the current state-of-art will be given. Concretely, three different control systems will be presented: an automatic moisture content control in the spray-drying stage, an automatic bulk density control of the pressed bodies in the pressing stage and a non-destructive inspection system for measuring the bulk density distribution in the ceramic tiles. The advantages and disadvantages of each system will be analysed and key notes, allowing to define the “ceramic plant of the future”, will be given.