



# Overview and Impact

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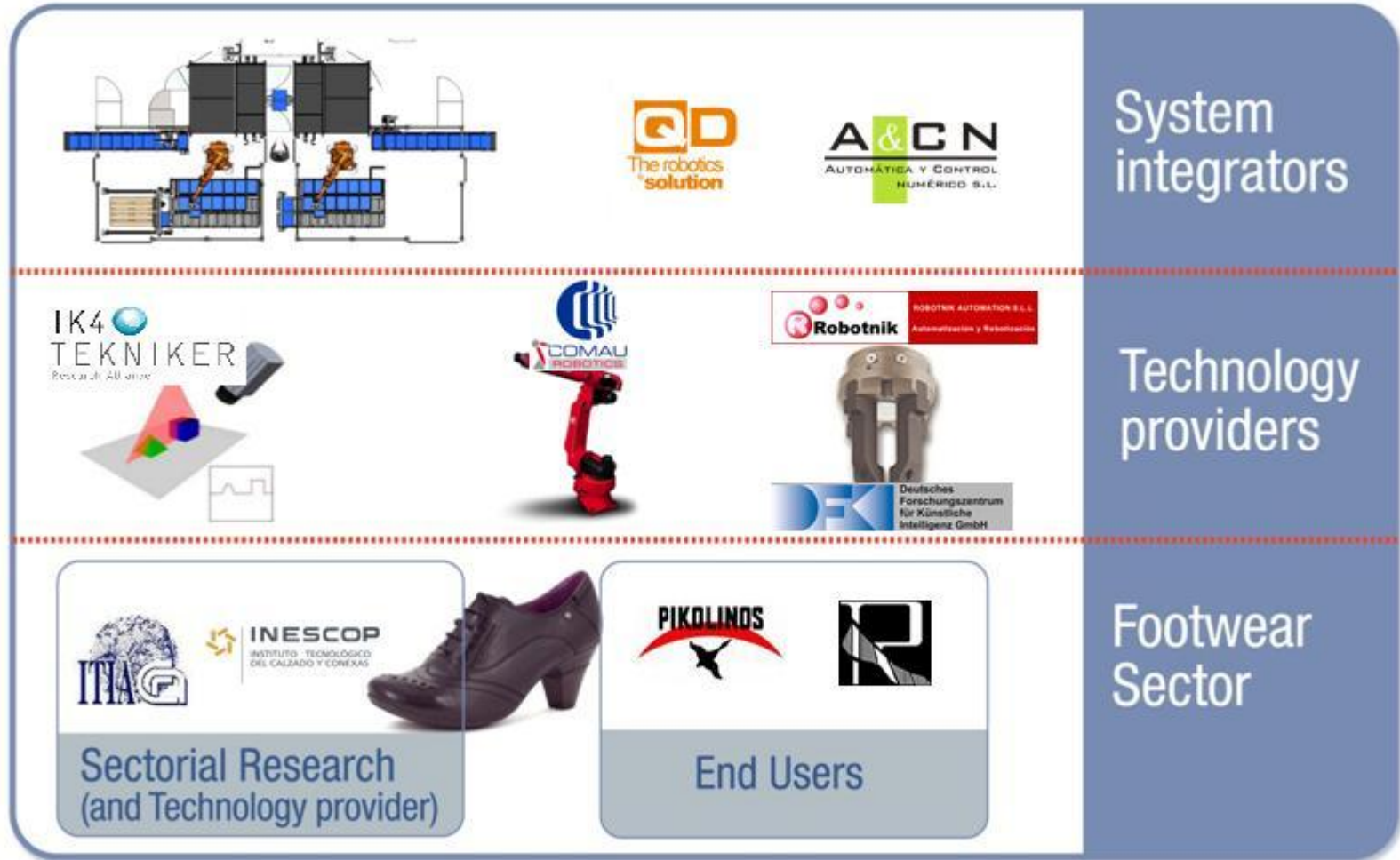


- Lack of automation:
  - The high number of products *variants*
  - ***Complex manufacturing*** process
  - ***Complex assembly*** process
  - ***Manual*** quality control and packaging



# Scientific Objectives

- New programming approaches
  - CAD and sensor based programming
  - Manual guidance devices for PBD
- Sensor based control strategies
  - Force control based real time trajectory adjustment
  - Visual servoing: To control the position of the robot's end-effector relative to the shoe
  - Intelligent engine able to select and implement the best control strategy for each application
- Manipulation
  - Strategies and devices for rigid and non-rigid parts manipulation
- Footwear Manufacturing
  - Process control
  - Quality assurance



60% of Industrial partnership

- To contribute to European Footwear competitiveness by the introduction of robotics
  - To enhance final product quality. To achieve 100% inspection of final product (over certain aspects).
  - To allow more flexible production lines to answer small production batches.
  - To reduce assembly costs.
  - Compatibility with current production means and procedures
- To obtain better working conditions for workers
  - Dust and chemical products
  - Rotating machinery in some manual operations
  - Human force needed in some operations (Last Opening)