



UNIMORE

UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

Master's Degree Programme in
Digital Automation Engineering - DAE

Sustainability and digital transformation

(digital manufacturing path, 2nd year, 1st semester, 6 CFU)

Roberto Rosa

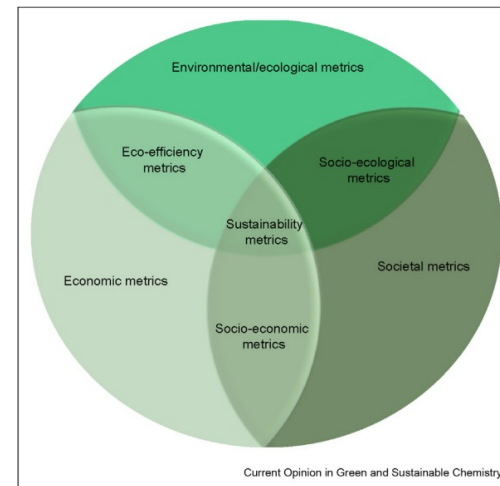
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Sustainability and digital transformation: objectives

- Advanced knowledge of the methods and tools to objectively quantify the environmental, economic and social sustainability



- Ability to perform a trustworthy sustainability assessment of a digital manufacturing process
- Ability to develop calculation tools to dynamically monitor the sustainability performances of the digital manufacturing process

Sustainability and digital transformation: contents

- Methodologies of Life Cycle Assessment (LCA), Life Cycle Costing (LCC) and Social-LCA

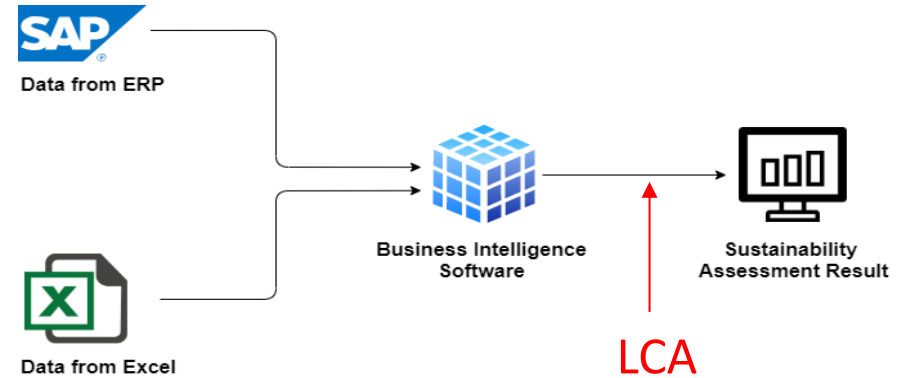


SimaPro  **ecoinvent**

- Circularity metrics, SDGs and composite sustainability indicators

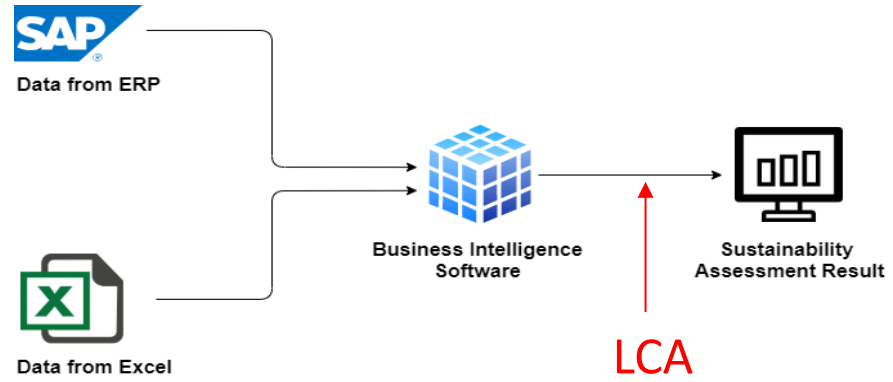
Sustainability and digital transformation: contents

- Development of tools able to communicate with IoT and ERP for automatic inventories and dynamic sustainability assessment

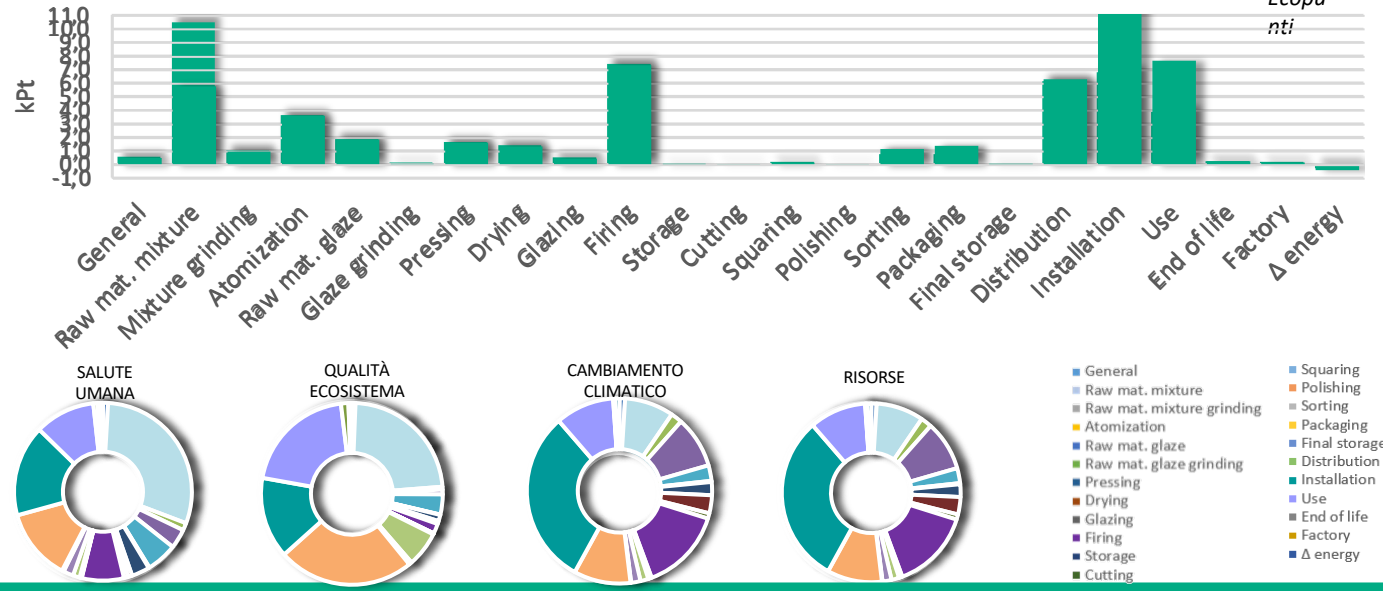


Sustainability and digital transformation: contents

➤ Development of tools able to communicate with IoT and ERP for automatic inventories and dynamic sustainability assessment



VALUTAZIONE DELL'IMPATTO



- Theoretical lessons (*ca.* 50%) and practical group lab-activities (*ca.* 50%)
- Expert seminars on specific topics
- Visits to leading companies
- Written theoretical examination (50% of the mark) and group lab project (50% of the mark)