DIN - DEPARTMENT OF INDUSTRIAL ENGINEERING

PhD Course in Mechanics and Advanced Engineering Sciences (DIMSAI)

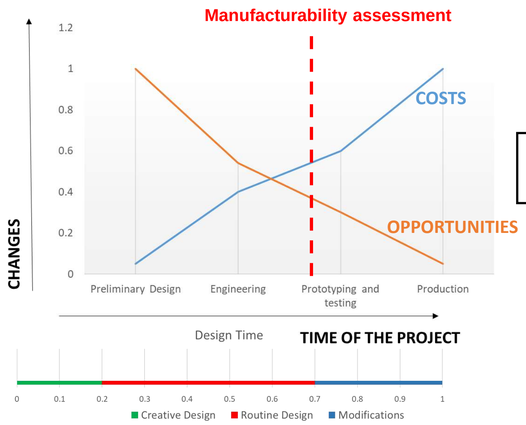
PHD STUDENT POSTER - AY *2016/2017* **Curriculum number 1.2** **Cycle *XXXII***

Candidate: *Mattia Mele* **Supervisor:** *Giampaolo Campana*

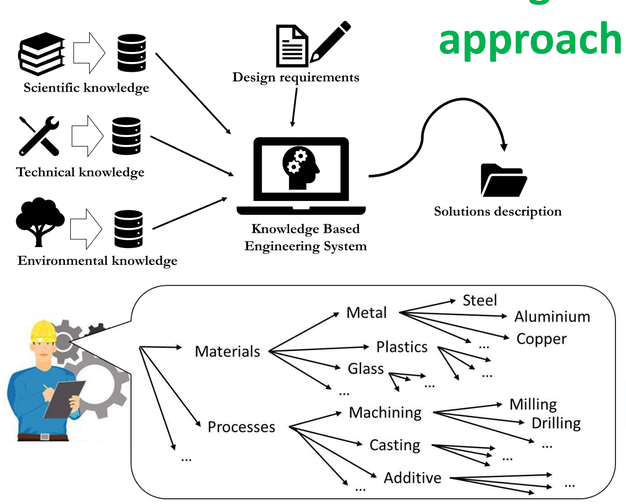
INVESTIGATION INTO A METHOD FOR THE APPLICATION OF KNOWLEDGE BASED APPROACH TO MANUFACTURING ENGINEERING

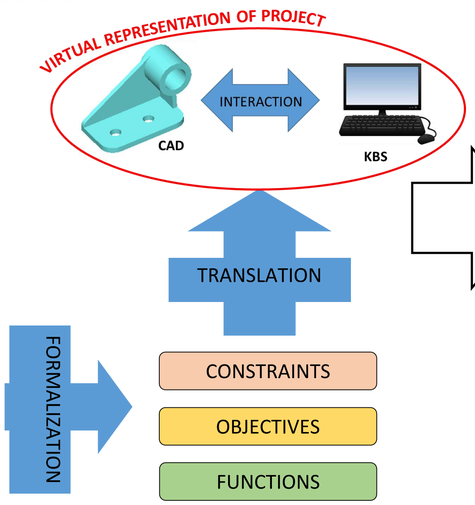
CONCEPT

Traditional approach

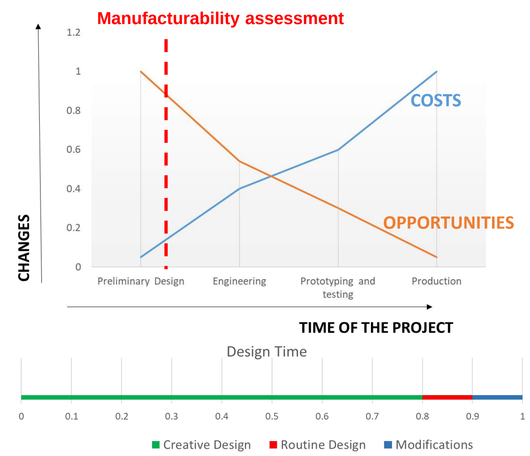


Knowledge-based approach





Expected results



APPLICATION

Plastic bottle preliminary analysis for manufacturing purpose

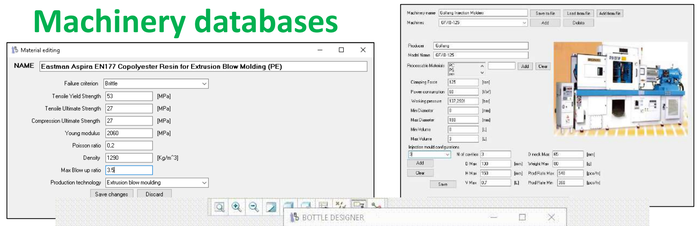
Design requirements
- Top Load
- Internal pressure…

Design variables
- External shape
- Neck diameter
- Height of the bottle…

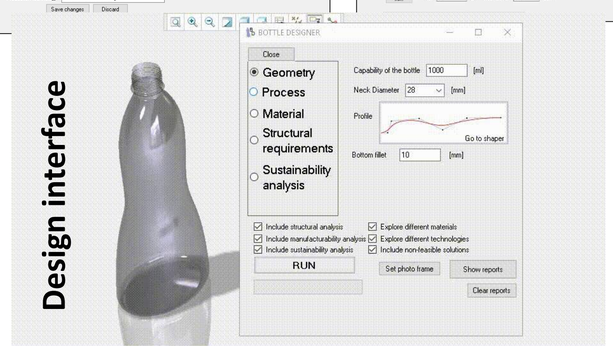
Manufacturing processes
- Stretch blow moulding
- Injection blow moulding
- Extrusion blow moulding

Materials PET, PC, HDPE, LDPE, PP…

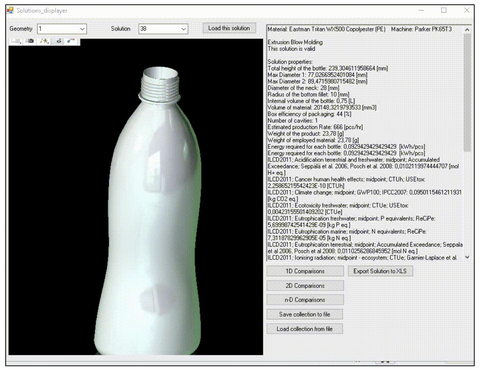
Machinery databases



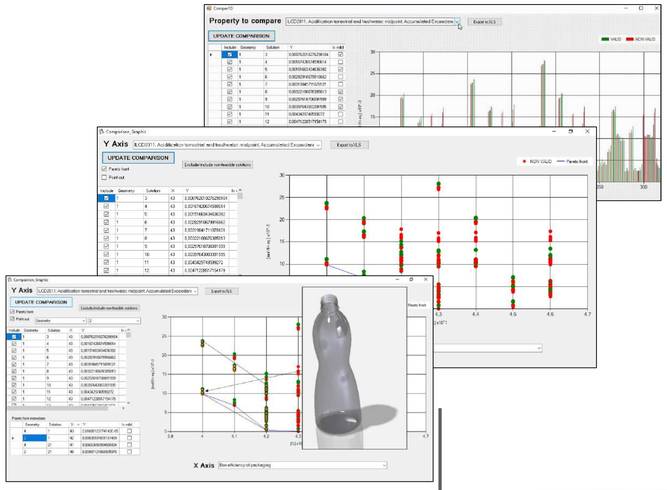
Design interface



Solutions set



Tools for decision-making support



ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

IL PRESENTE MATERIALE È RISERVATO AL PERSONALE DELL'UNIVERSITÀ DI BOLOGNA E NON PUÒ ESSERE UTILIZZATO AI TERMINI DI LEGGE DA ALTRE PERSONE O PER FINI NON ISTITUZIONALI