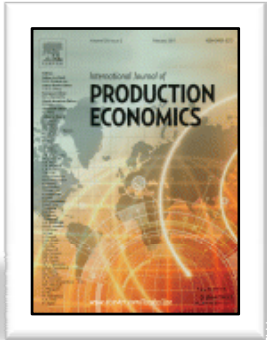




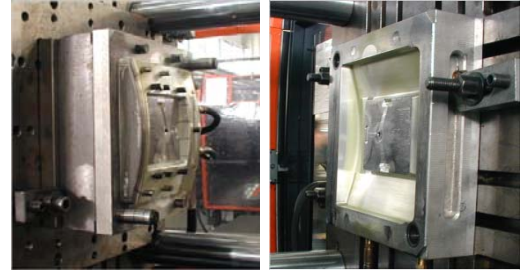
Life Cycle Cost for Technology Selection: A Case Study in the Manufacturing of Injection Moulds



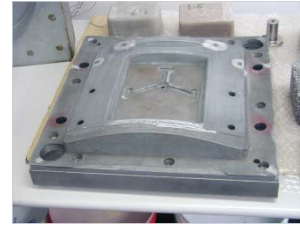
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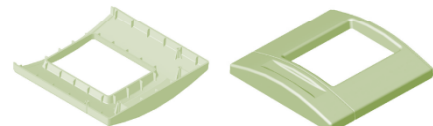
During mould design phase different approaches are envisaged to materialize part production and they must be evaluated not only in technological criteria but also in an economical perspective. However the comparison of such alternative approaches is not always evident for the mould designer. The solution proposed in this paper, based on the development of a life cycle cost model, fosters its application as a methodology to compare two mould manufacturing alternatives: a spray metal shell mould backfilled with a resin and aluminium powder resin and a conventional machined aluminium mould. A better mould or a better alternative is the one that incurs in fewer life cycle costs, assuming that the injected part is produced within a conformed quality.



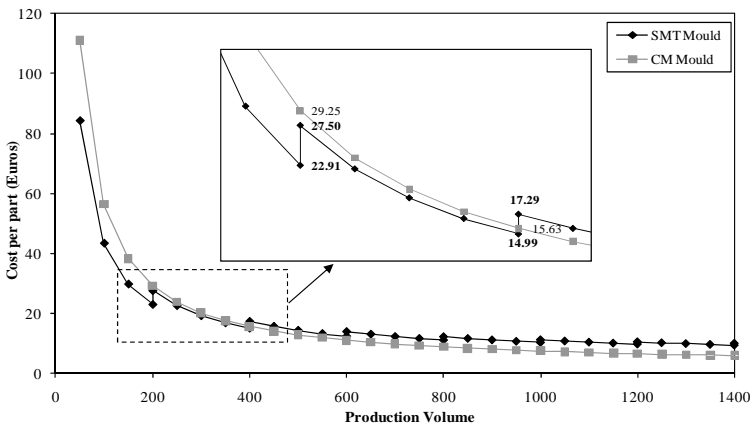
Conventional Manufacturing mould positioned on the injection machine: core and cavity



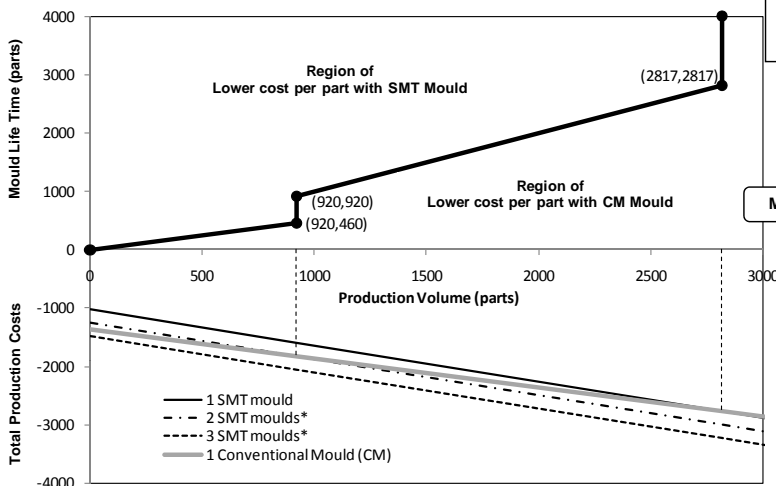
Mould core obtained with Spray Metal Tooling



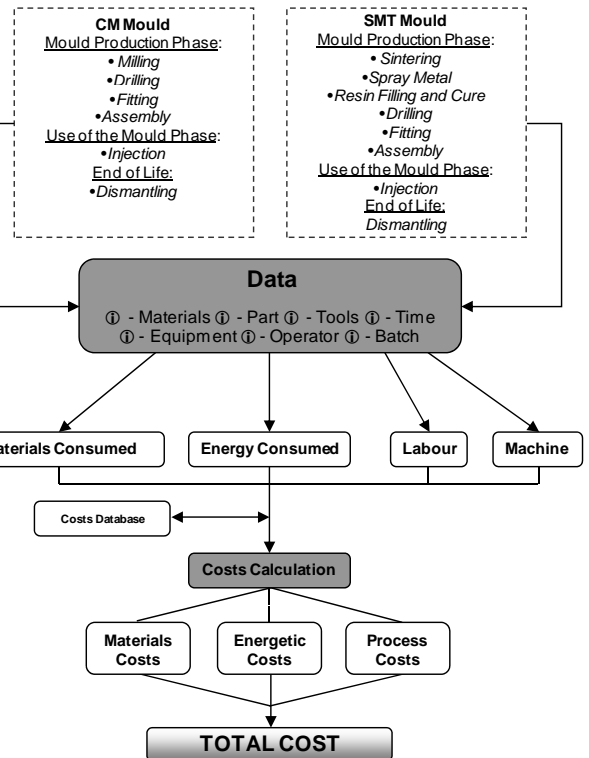
3D CAD model of the part



Variation of the cost per part with the production volume in euros (duration of the SMT mould equal to 200 parts)



Economically viable domains of the CM and SMT mould as a function of the production volume and STM mould duration.



Life Cycle Cost Model.