Diagnosis of the Mould Making Business

Synergies in the mould sector

- Automotive
- Aeronautical
- Electronics
- Packaging
- House-ware etc.

Requirements
- Complexity
- Manufacturing cycle time
- Quality
- Life-span
- Technological upgrading

Competitive factors
- Price
- Time-to-market
- Quality
- Flexibility

Portuguese Mould Making Scenario

“Small but important differences”

- Unique competences in the design and manufacturing of high complexity moulds.
- Emphasis on:
  - Experience in design and technologies
  - Smooth and long-term relations with clients
  - Perspective of engineering service providing
  - High productive flexibility

Strategies to improve competitiveness

- Optimistic strategy:
  - The Portuguese industry has unique and valuable characteristics to overcome competitiveness challenges
    - Flexibility, Experience and Service to Costumer
    - Increase of mould value:
      - Increase of mould functions (client needs fulfill, delivery time reduction, mould in-service guarantee, etc.)
      - Reduction of manufacturing costs (reduction of wastes)
    - Average productivity indexes are acceptable
  - Increase competitiveness through the increase of mould overall value
    - Increase competences in flexibility, know-how and service to costumer and simultaneously
    - Decrease mould cost and delivery time

The tool: Lean Manufacturing

Lean manufacturing and the wastes

Industry in general (Asadu et al.)

Does these wastes occur at mould sector?
(L. Fitchbaugh)

25%

 Added-Value Activities

YES!

Wastes

(Disproduction, inventory, defective product, over-processing, waiting, motion, Transportation and People waste)

75%

Regulations, Standards and Legal Requirements

Conclusions

- Lean manufacturing concepts and aims match mould making business competitiveness factors.
- The limited expansion of L.M. at mould making can be attributed to the inadequacy of the traditional L.M. tools to the sector’s specificity.
- The purposed model keeps the L.M. concepts and aims, purposing tools accepted and compatible with mould making business.
  - Automation
  - Internet-based manufacturing
  - Best-practices of planning
  - Simultaneous engineering