Cost Report

Costing model

The aim of this document is to show the process and philosophy behind the costing method used for the FSAE Cost Event.

# Context/hypothesis

The simulated company is sized to build primarily an FSAE car. Therefore, it will not have in-house specific expensive machinery used for only few parts of the car. For instance, 3D stereolithography printer used for the air intake.

Of course, the machinery will not be used all the year to build only one FSAE car. Thus, we assume that the remaining time where the equipment is not used to build our car is used for other customers, to build another FSAE car, small/medium series of components, prototyping, …

The same hypothesis is used for manpower.

# Manufacturing/assembly Equipment

* Hand tool and electric tools :
  + 2 full roller cabinet
  + Torque wrench
  + Drill/ Angle grinder
* 3 Axis CNC mill dimensions
* 2 Axis CNC lathe dimensions
* (Conventional lathe)
* (Conventional mill)
* 2D laser cutting (or water jet) dimensions
* Lifting equipment
  + Mobile workplace crane
* Hydraulic press
* Band saw for stock
* Manual/hydraulic sheet bender
* Workstations
* (%tage accessories for CNC: length probe for mill tools; tool holders, … or price for more precise model)
* TIG Welder
* PPE equipment
* Specific tools (percentage of hand tool ?)
* Drill press

Include a percentage for maintenance in the shop (preventive maintenance + maintenance) : time of availability and cost for parts.

# Metrology

* Micrometre
* Inside micrometre
* indicator
* Profile projector?

# Consumables

* Cutting fluid
* Glue
* Cleaning agents
* Cutting tools (insert/mill/sawblade…)
* Grease/oil
* Fasteners
* Stock material
* Sand paper
* …

# Real Estate

* Shop floor
* Electricity and electric supply
* Heating
* Water
* Maintenance of building
* Compressed Air
* Recycling/waste management
* Worktable/office

# Manpower

* Technician (CNC program and run CNC program, complex assembly)
* Operator (Run CNC program and simple assembly task)
* TIG Welder (Experienced welder, and simple assembly task)
* Engineer (Complex CNC program, run CNC program, complex assembly) 50%administrative sales etc; 50%manufacturing
* Administrative/sales

# IT

* Computers
* Dedicated software: CAM/CAD (Fusion 360)
* Office pack
* Printer (A3/A0)

# Other

* Insurance
* Security/safety
* Compatbility
* Office furniture (paper/pen/…)
* Internet/phone access