# TECHNOLOGY FOR THE IMPLEMENTATION OF RAPID PROTOTYPING IN MECHATRONICS

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e-Manufacturing Applications with EOSINT M

#### **Typical examples**

#### DirectPart®

prototypes for parts to be produced in series by other methods, e.g. casting one-off products, specialized parts small-series production test parts, scientific apparatus etc.

## DirectTool®

injection moulding tooling (inserts) other tooling, e.g. die casting, blow moulding, sheet metal forming, extrusion etc. tooling fixtures etc.











## Typical examples

Prototypes for parts to be produced in series by other methods, e.g. casting or Powder Metallurgy (PM)

One-off production of specialized parts

Small-series production of metal parts

Test parts, scientific apparatus etc.



## EOSINT M produces functional metal prototypes quickly and efficiently

### Rapid Prototyping examples





Lock barrel in DirectMetal 20, single DMLS process replaces 16 EDM operations

Toothed belt wheel for Volvo S80, available "next day"





Example of EOSINT M270 parts build for industry in INCDMTM









#### Uses of CAD and Rapid Prototyping in medicine

Combined with traditional CT scanning techniques rapid technologies (prototyping and tooling) can be used as instruments for better (threedimensional) visualization, simulation of procedures and treatment of patients.



The CAD models, virtual model of a human body or a part of it can be used to study the problematic area before the actual operation starts. This is especially important in cases where functionality of the body part has to be re-established (orthopaedic surgery). Besides the continuous flow and other FEA methods that are used to calculate required mechanical and physical properties of the implant, the virtual models can also be used to study the surgical procedures, like directions of implantation, required preoperational treatments and preparations, etc.



From CT -→ CAD Design and FEA -→ Design Optimisation -→ IMPLANT





