Freeform Injection Molding

- A collaborative platform for medical device development

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The Findings That Motivate this presentation

Product developers and managers face too many barriers – especially in MedTech…

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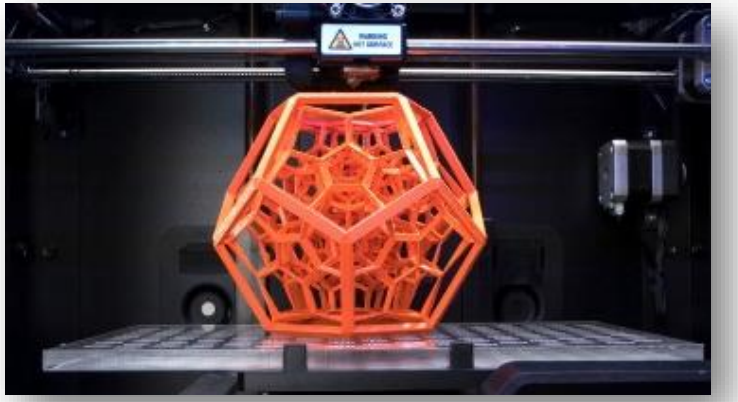
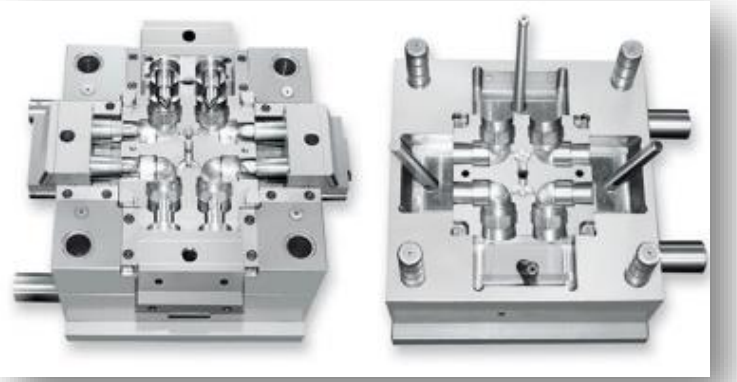
- "The business potential is not sufficiently clear – investment denied"
- "The mold design came out wrong – rework is six weeks"…

Situation: 2 different platforms for prototyping and production

- 3D-printing / AM is ideal for prototyping
  - Flexibility & freedom of Design
  - Low start-up costs, no tooling investments
  - Short lead times



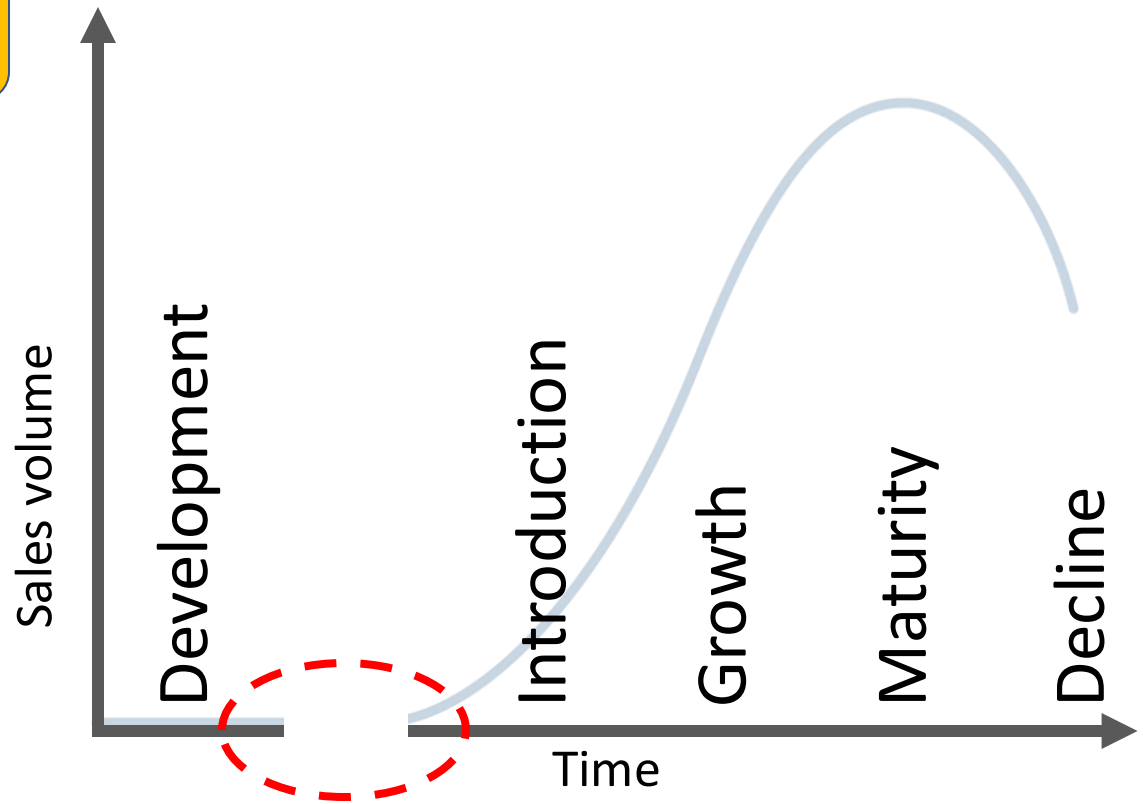
- Injection Molding is ideal for production
  - Scalability & wide range of materials
  - Low unit costs
  - Short throughput times



Complication: Lack of compatibility creates a gap in the launch ramp…

Key problem: AM does not scale, IM does not prototype. No “middle ground”…

- Selection of materials is different
- Processing of materials is different
- Behaviour of materials is different

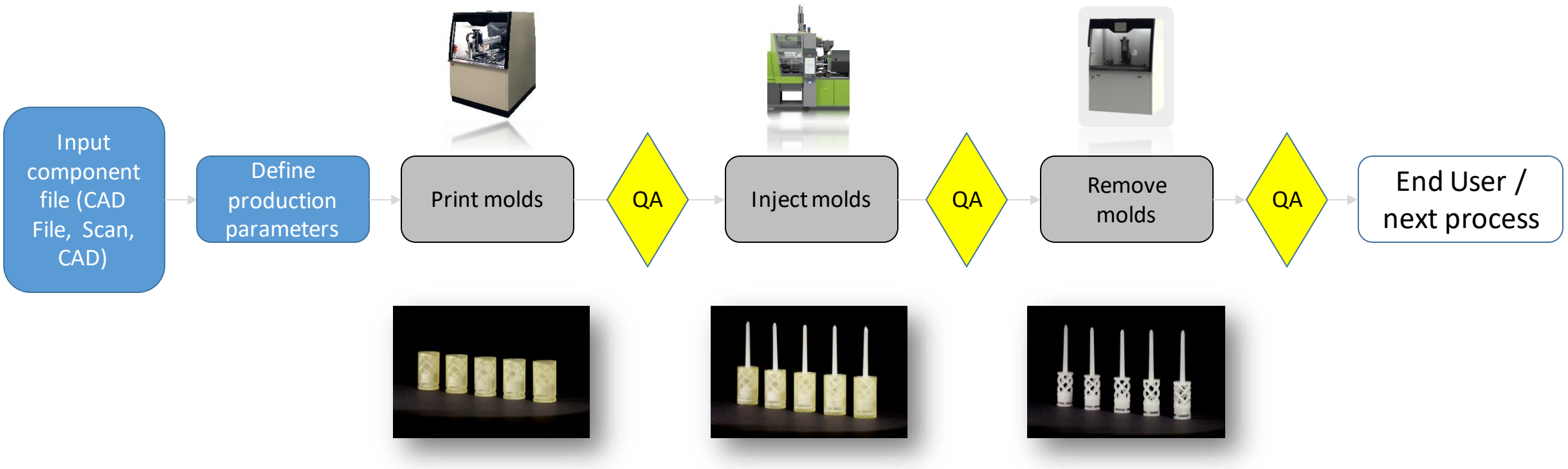


Question: What would happen if we could merge 3D-print and injection molding?

What if additive manufacturing could help injection molding to become more agile?

- Enabling shorter lead-times
- Enabling lower start-up costs
- Enabling increased design freedom

Answer: We Get the Most Versatile and Collaborative AM-based Platform on the Planet…



FIM (Freeform Injection Molding) fully integrates the benefits from AM and IM

MedTech benefits: Biocompatibility

FTIR shows that “no transfer of resin has taken place during injection molding in 3Dprinted mold of dual-cure resin”

Cytotox shows that “On none of the tested items we found cell killing or inhibition”

MedTech benefits: Widest range of materials…


Recycled PPE


PMMA


KyronMax


PA66


PA6GF50


Recycled HDPE


PEEK


Stainless Steel

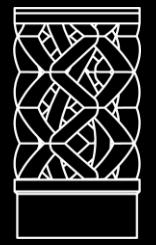

Flame-retardant ABS


Soft TPE 50 shore A


Ultrasoft TPE 10 shore A


Tefabloc


Zirconium Oxide


Your material

HIGH-TECH SUMMIT

- Freeform Injection Molding

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