

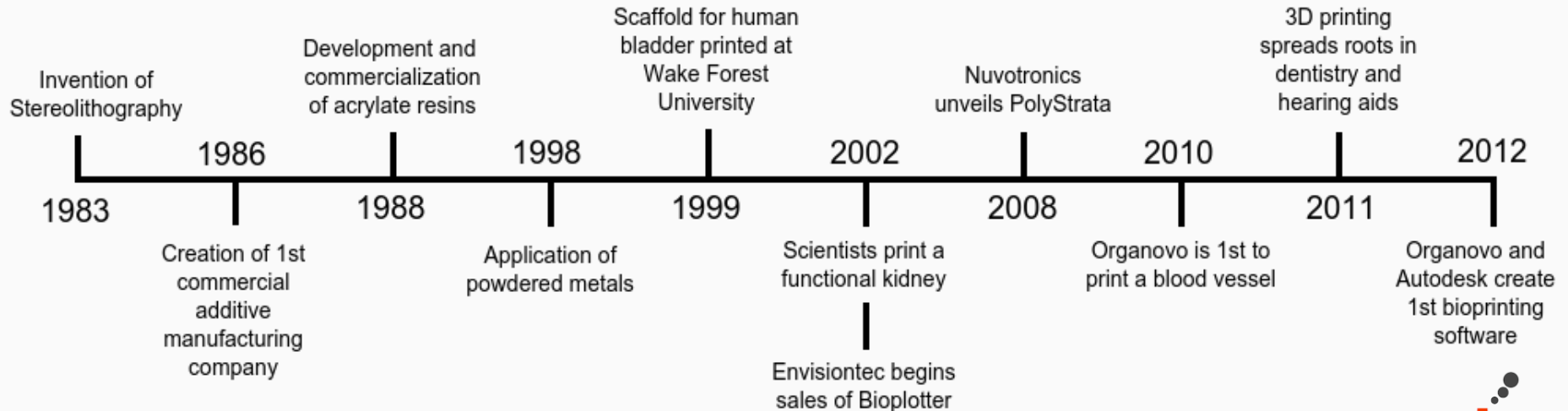


The Capabilities of Bioprinting

Presented by Morgan Moench & iMakr Ltd

3D Bioconference – MECC Maastricht
January 31st – February 1st 2017

How far have we come?



Currently: Healthcare & 3D Printing

Bioprinting



- Printable tissue
- Directly implantable
- Multi-material printing

Prothetics



- Stronger materials
- Better functionality/design
- Increased range of motion

Dentistry



- Scan & Print full models
- Castable pieces
- Directly implantable

Microfluidics

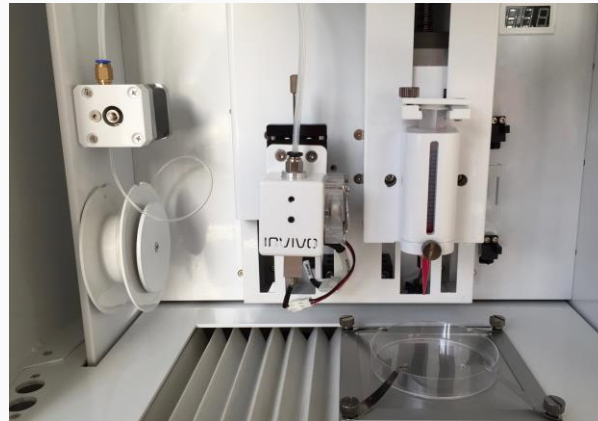


Lab-on-a-Chip

- Simulation of organs
- Controlled environment
- No human subjects

Available Bioprinting Technology

- Combination of hotend extrusion and syringe extrusion
- Full temperature control
- Robust, smart software
- Multiple materials

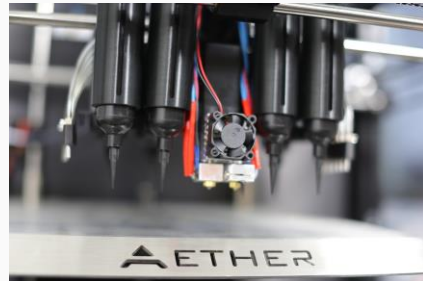


iMakr's Experience So Far

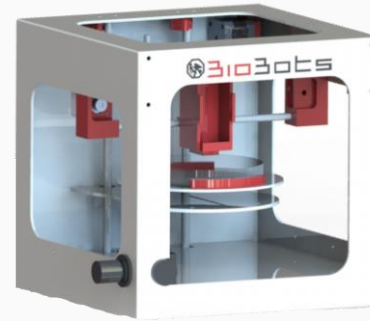
**Rokit
INVIVO**



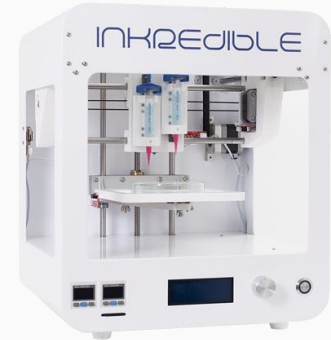
Aether1



BioBot1



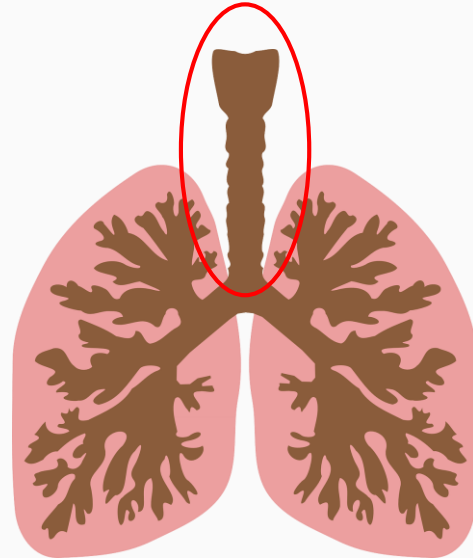
**Cellink
INKredible**



Our Customers: Tubular Structures

Criteria of research:

- Both flexible and rigid material
- Printing whole piece at once
- Various different materials
- Consistency



Our Customers: Tissue Engineering

Criteria of research:

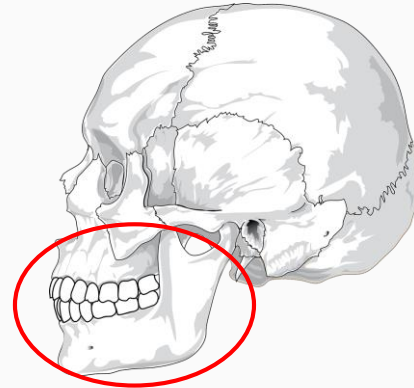
- Controllable printing environment
- Printing only biocompatible materials
- Printing whole piece at once
- Various different materials



Our Customers: Implantable Bone Structure

Criteria of research:

- Only rigid material
- Directly implantable
- Mimic bone properties
- Consistency



Who else is using this technology?

- Tobias Zehnder and University of Erlangen-Nuremberg
 - Hybrid matrix structures for bone tissue engineering
- Ravi Sinha and MERLN Institute
 - Scaffolds for bone tissue engineering



In Summary

- Approval from FDA and other authorities
- Discovery of new materials
 - With supporting research
- Improving technology
 - Compact mechanics
 - Array of materials

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