
formlabs
The next chapter of 3D printing: Mass Customization
Dr. Tajti Ferenc - Engineering Operations

formlabs

500+ employees

6 offices

Boston, Berlin, Japan, China, Budapest, North Carolina

225+ engineers and researchers

Many 3D printing experts, material scientists in SLA and SLS

100+ partners through 6 continents

North America, Europe and Asia

We develop complete systems that make **affordable**, **high-precision** 3D printing **accessible** to a wide audience

40,000,000+
Printed parts

50,000+
Printers

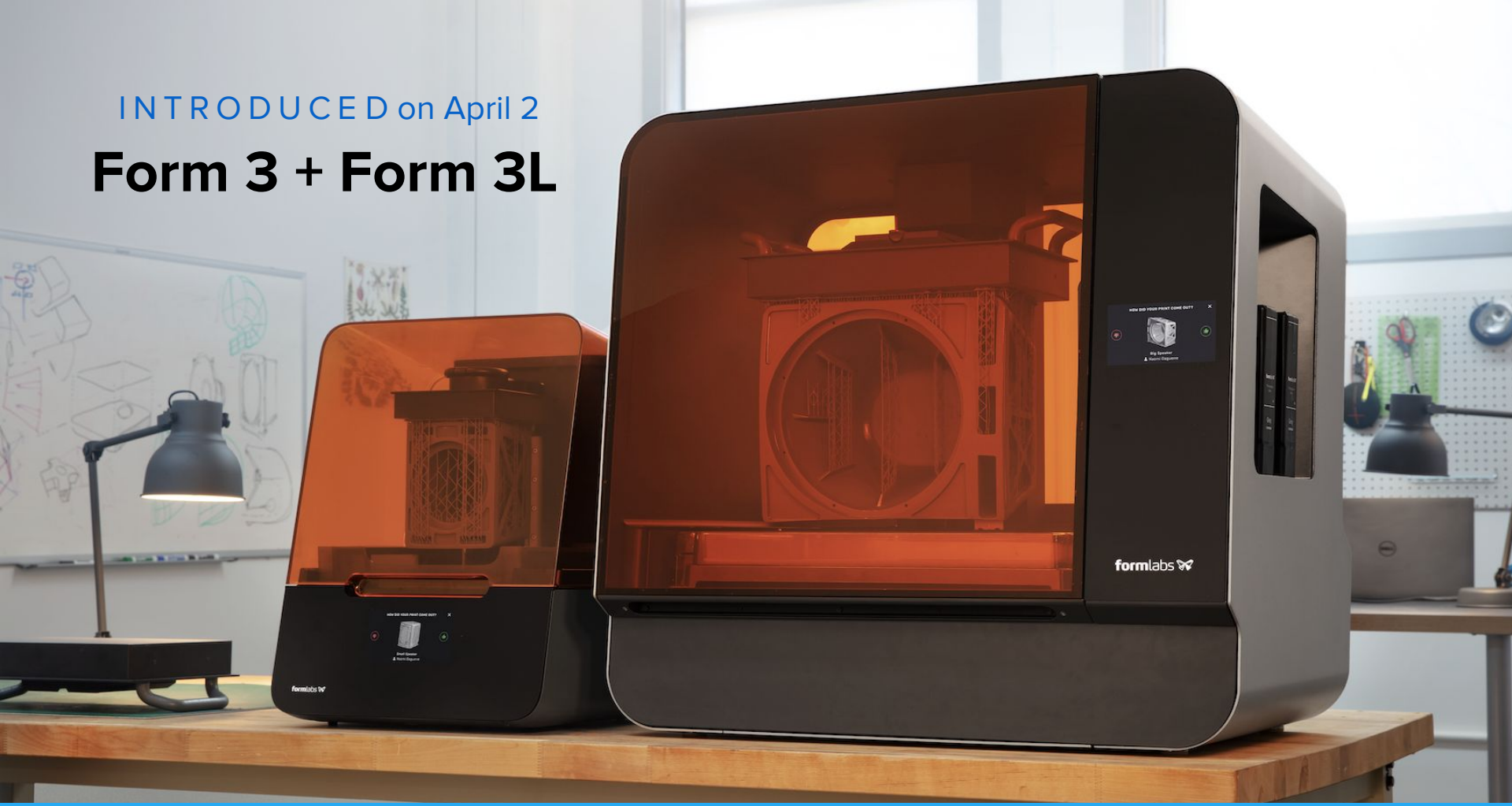
30,000+
Prints / week

Form 3 and Form 3L

Powered by
Low Force Stereolithography (LFS)

INTRODUCED on April 2

Form 3 + Form 3L



The Form 2 rivals printers that cost much more

Part Cost: $0.42
Machine Cost: from $2,000

Hobbyist FDM

Part Cost: $1.1
Machine Cost: from $4,000

Professional DLP

Part Cost: $1.1
Machine Cost: $2,850

Desktop SLA (Form 2)

Manufacturing is becoming digital

Additive market to grow from $1.5B to $8.75B by 2020

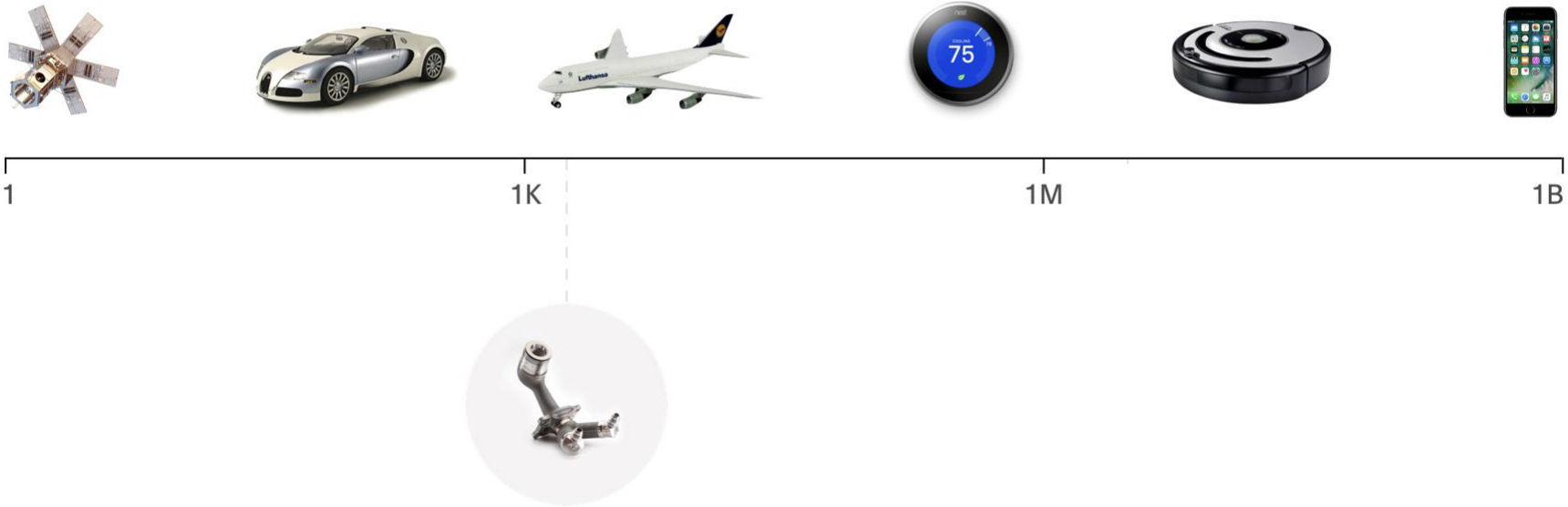
Rapid Prototyping ▶ Jigs & Fixtures ▶ Small Batch Production ▶ Mass Customization

*Approximation based on 50% reduction (plastics) of reduction 50% (vertical) of IDC market size estimates.

– 2016 Worldwide Semiannual 3D Printing Spending Guide

Manufacturing Across Volumes

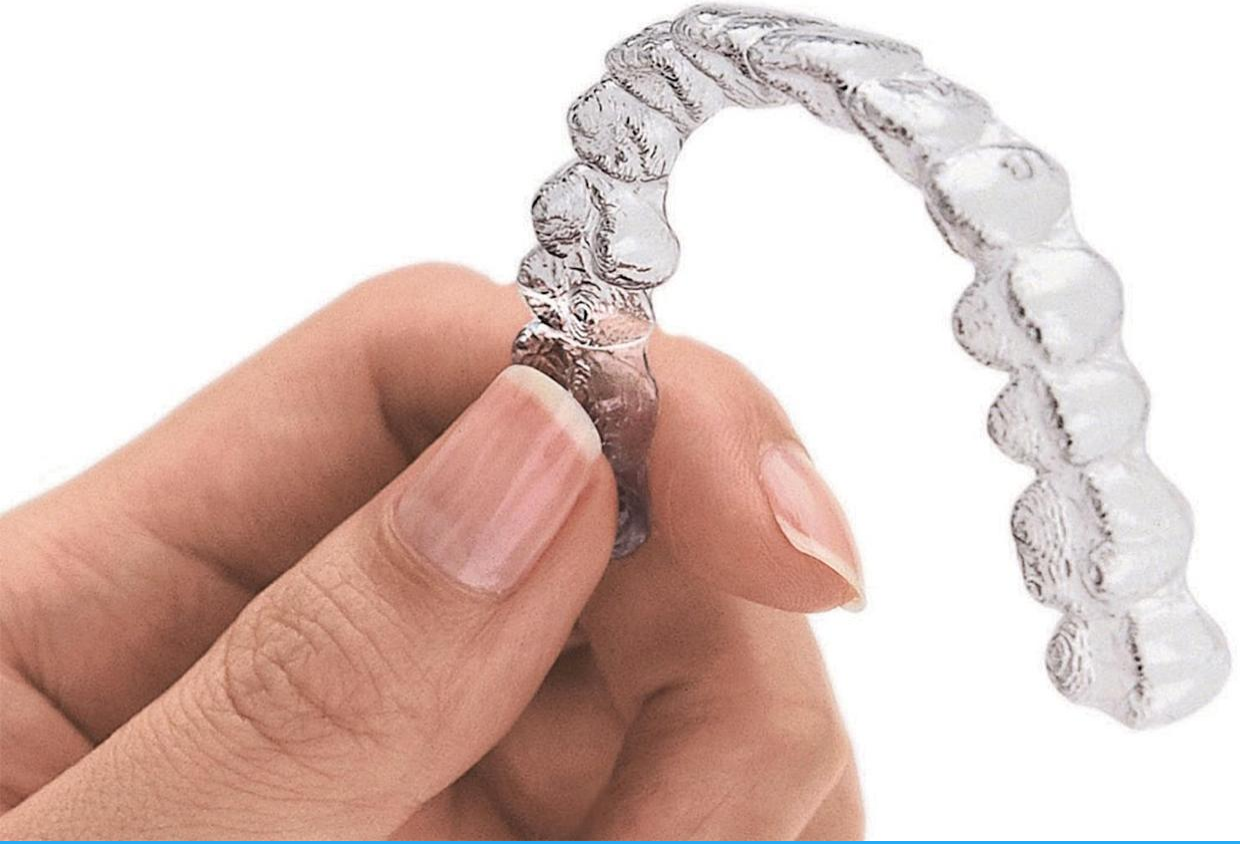
Manufacturing Across Volumes



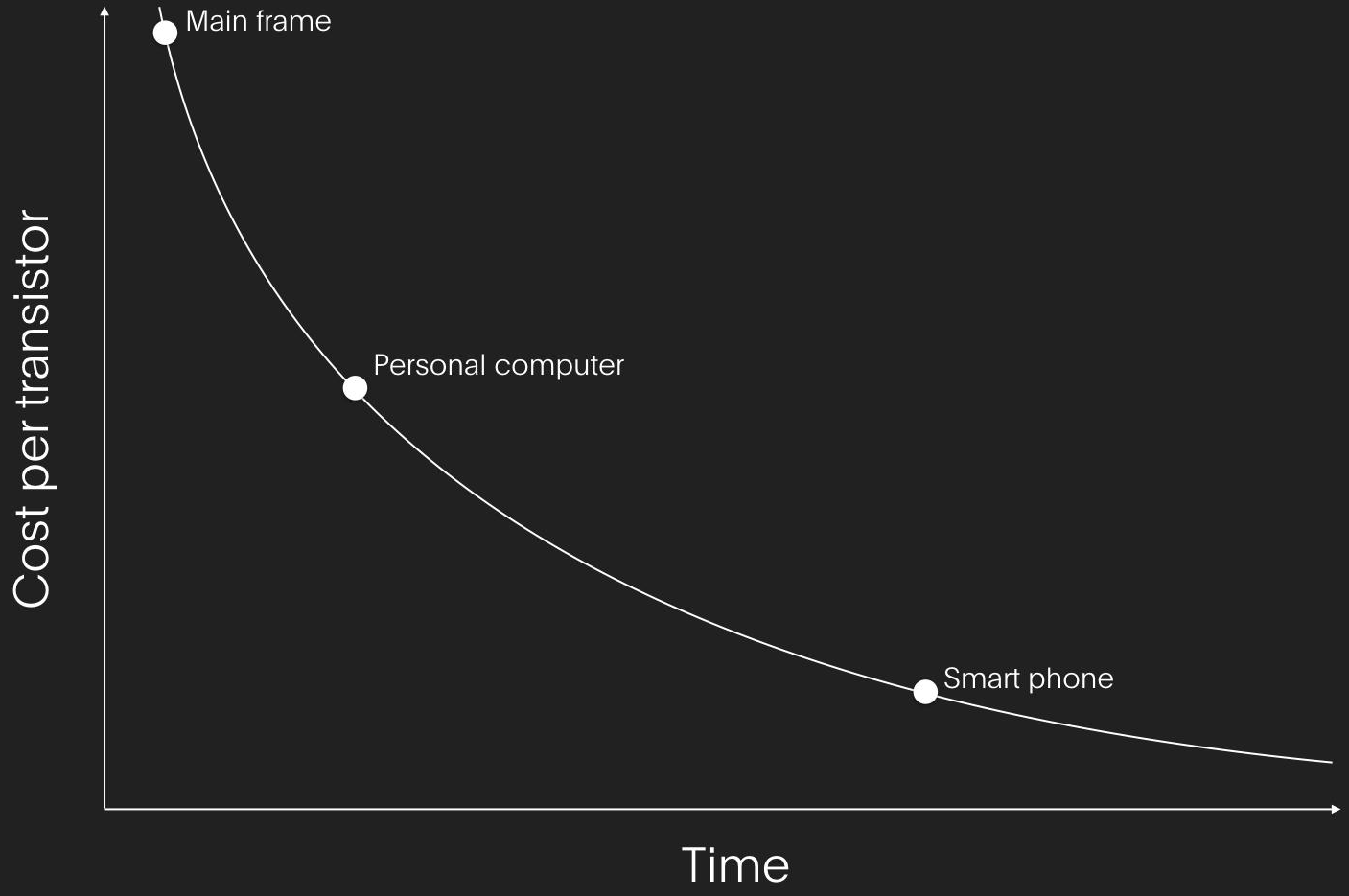
Manufacturing Across Volumes

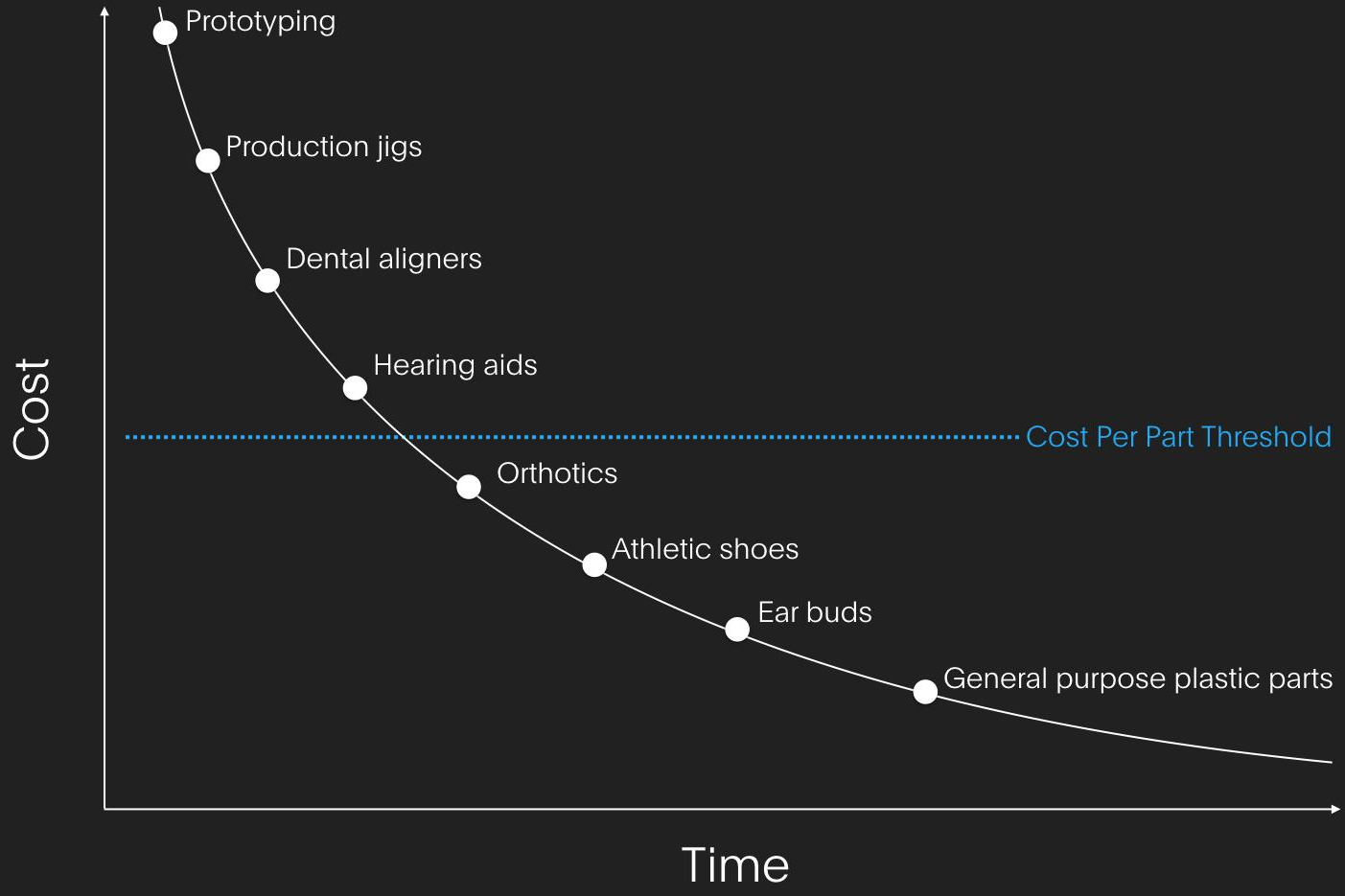
1 — 1K — 1M — 1B

?



Price per part cost


Main frame
Personal computer
Smart phone
Cost per transistor
Time


Prototyping
Production jigs
Dental aligners
Hearing aids
Cost Per Part Threshold
Orthotics
Athletic shoes
Ear buds
General purpose plastic parts
Cost
Time

Equipment Ownership

+

Materials

+

Labor

Cost Per Part

Equipment Ownership

+

Materials

+

Labor

Cost Per Part

Equipment Ownership

+

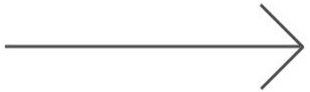
Materials

+

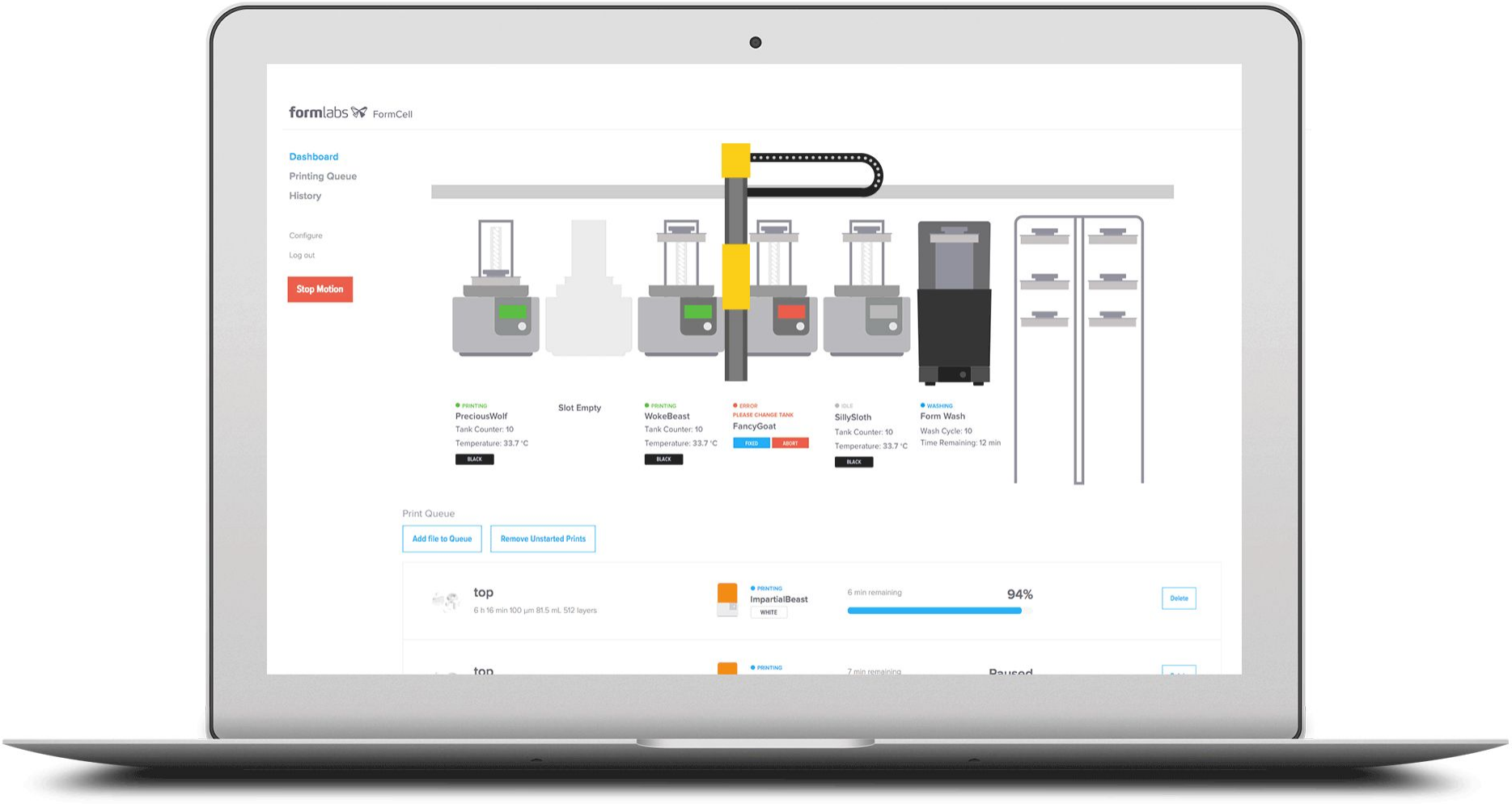
Labor

Cost Per Part

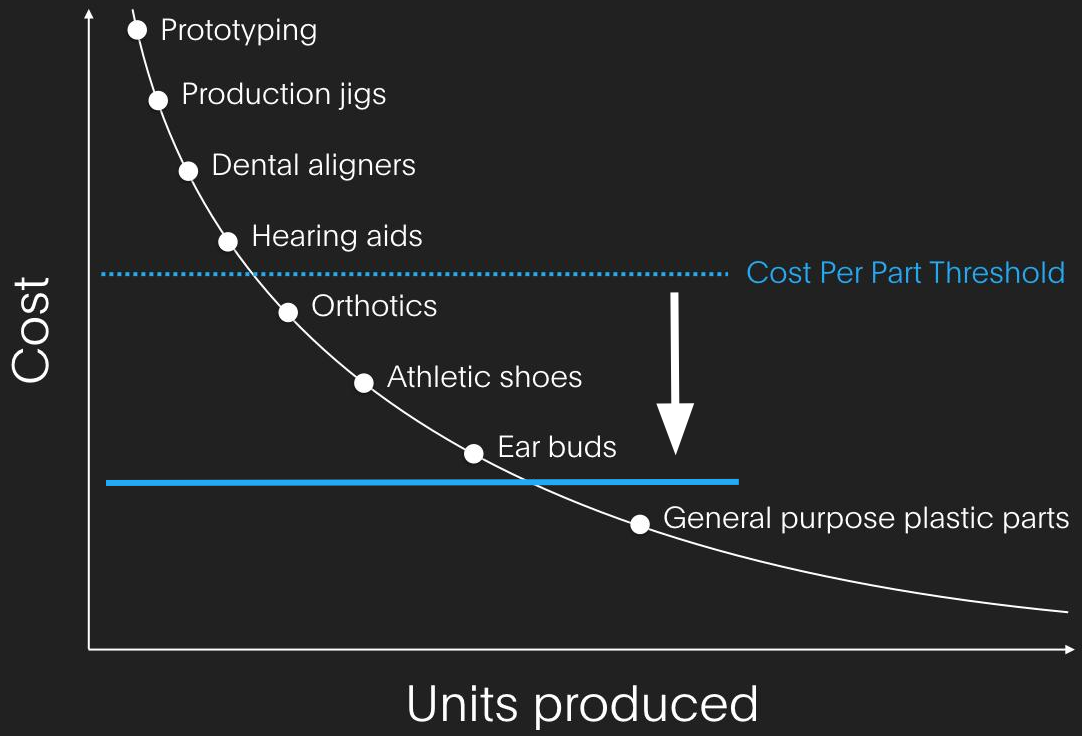
Changing to distributed systems



Changing to distributed systems



Form Cell: Scalable Automation


Prototyping
Production jigs
Dental aligners
Hearing aids
Cost Per Part Threshold
Orthotics
Athletic shoes
Ear buds
General purpose plastic parts
Cost
Units produced

Audiology

Hearing specialists and ear mold labs are using digital workflows to manufacture higher quality custom ear products more consistently, and at higher volumes.

Custom Earbuds & Hearing Aids

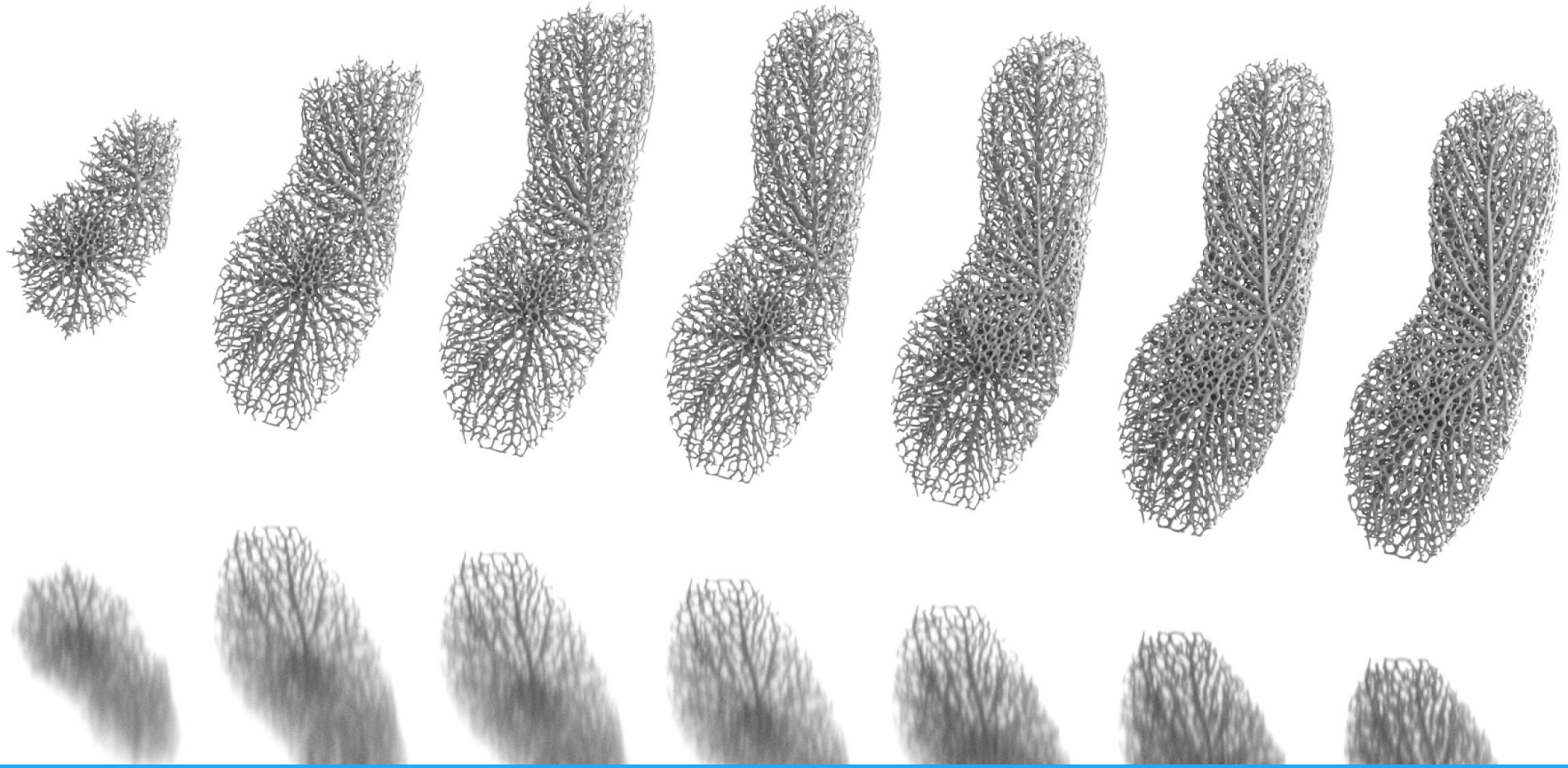
dB HEARING

“The Form 2 has enabled our lab to transition our custom hearing product manufacturing from manual to digital. 3D printing custom hearing products allows for greater control and consistency, and with the quality and affordability of the Form 2, we see potential to ramp up production going forward.” **Paul Thorpe, Lab Manager, Universal dB**

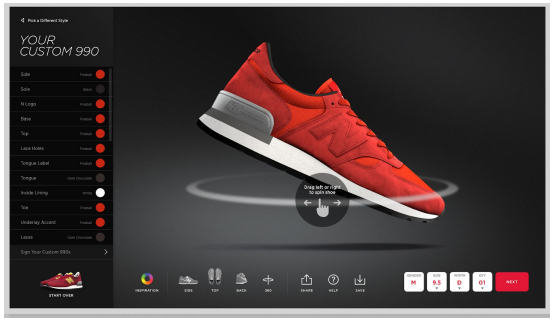
Ownphones developed and printed customized wireless earbuds with Formlabs printers

What is next?

Materials



Digital workflow example



Scanning **Design + customization** **Printing**

Dental

Trusted by dentists and dental technicians, our printers have been used in over 100,000 surgeries worldwide, and printed over 1,000,000 dental products, unlocking large-scale dental 3D printing for the first time.

Surgical Guides

Thermoformed Clear Aligners & other

Splints & Guards

Models

Dentures

"After 8 years of 3D printing, using several different printers, I find the Form 2 3D printer to be the perfect choice for precision 3D printing, for models, surgical guides and ortho applications. The combination of precision, cartridge resin for quick change of printing resins, and low cost make the Form 2 the perfect choice for any size dental laboratory." **Lee Culp, CDT, Sculpture Studios**

Jewelry

Use the precision of the Form 2 to prototype new designs or create custom jewelry.

Vulcanized Rubber Molding

Investment Casting

Custom Jewelry

Gesswein
The Right Tools Since 1914

"As a pioneer in desktop 3D printing, Formlabs is the perfect partner to help us grow in 3D printing. When it comes to 3D printing technology for jewelry professionals, Formlabs is the leader in this space." **Scott Petrillo, Vice President of Sales**

SLA Materials

Switch seamlessly between a library of general, advanced, and specialty materials. Our in-house material science team is always developing new materials to expand the capabilities of the Form 2.

Materials for high resolution rapid prototyping. With Formlabs Standard Resins, you can print strong, precise concept models and prototypes that bring your ideas to life. Standard Resins include Black, White, Grey, Clear, Draft and a range of colors with our Color Kit.

Standard Resins

Other technologies

Meet the Fuse 1

Industrial Power That Scales

Cheapest cost per part in 3D printing.

Unrestricted part geometry, no supports.

Large prints. 165 x 165 x 320 mm build volume for bigger parts and higher throughput.

Nylon 12

Industry standard for strong and durable functional prototyping and end use parts.

Thank you