

FLOW®

BEAMS

The background features three water droplets in a horizontal sequence, illustrating the process of being pierced. The first droplet on the left is intact. The middle droplet has a needle entering from the left, creating a small hole. The third droplet on the right has the needle fully inserted, and the water is being displaced to the right, forming a tail.

FLOWBEAMS[®]

**PAINLESSLY
TRANSFORMING LIVES**

LEA MILOVICH, CEO

CARLA CAMP 2024

NEEDLES: PIERCING THE PROBLEM



1

Pain & Fear

Resulting in lower patient compliance
20-40% world population

2

Medical Complications

Stick incidents
Risk of infection and complications

3

Cytotoxic Waste

~44 million needles used each day WW
8% of total waste is medical waste (NL)

4

Limited Precision

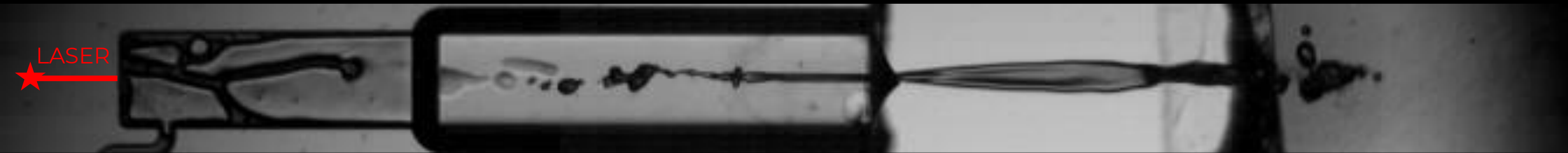
Resulting in costly corrections

8 billion people want an alternative!

A Dutch scientist has invented needle-free injections



TECHNICAL SOLUTION



Fl+: +0.404 ms

Within 1 millisecond

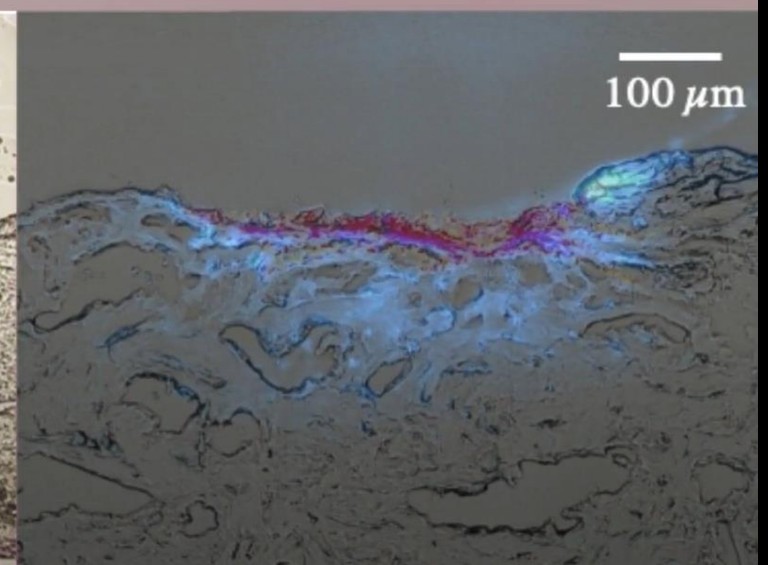
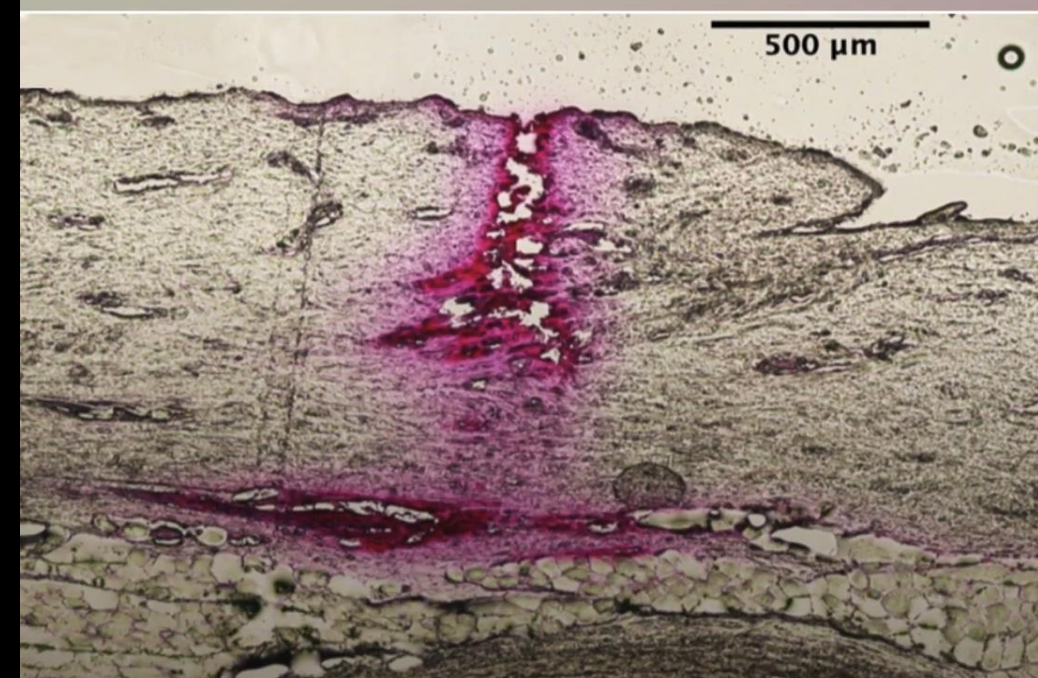
Injection

Air

Skin

Needle injection

Jet injection



- Needle-free injection
- Handheld prototype
- 3 patents & trade secrets

FlowBeams

PAINLESSLY TRANSFORMING LIVES



Better

- Patient compliance
- Immune response



Safer

- No infection risk
- Less bio-toxic waste



Faster

- No needle replacement



Cheaper

- Less waste
- Self-administration

No pain – All gain



**NEEDLES ARE
EVERYWHERE**

TARGET MARKETS



1

Tattoo



Pigmentation

PMU



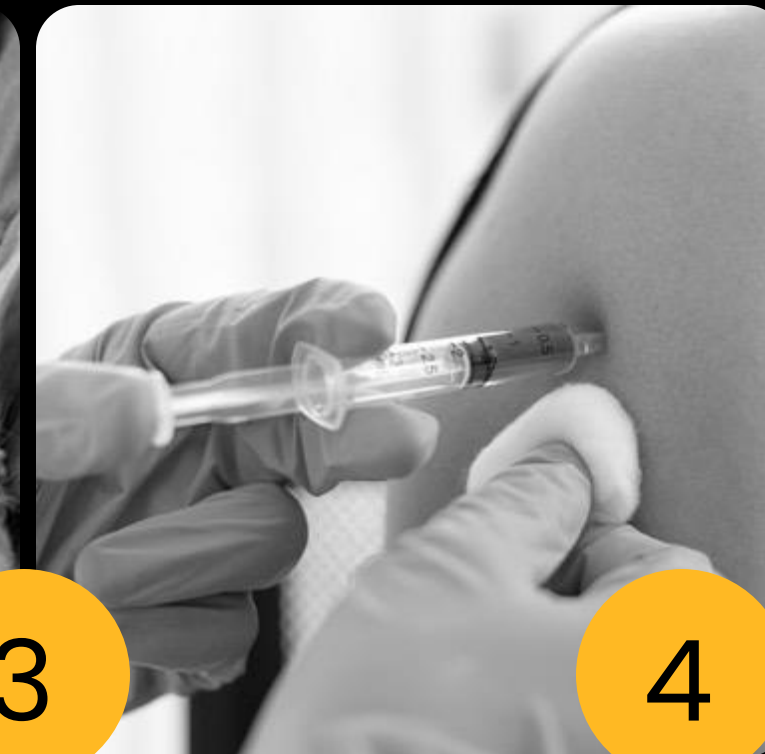
2

Cosmetics



3

Veterinary



4

Human Pharma

Regulatory Effort

LOW

HIGH

COMPETITION

	FLOW BEAMS	JET INJECTORS	TATTOOS PMU	MICRO NEEDLES	COSMETIC CREAMS
DAMAGE TO SKIN	●	●	●	●	●
VOLUME PRECISION	●	●	●	●	●
DEPTH CONTROL	●	●	●	●	●
MARKET APPLICABILITY	●	●	●	●	●
WASTE GENERATED	●	●	●	●	●
DURABILITY	●	●	●	●	●
USABILITY	●	●	●	●	●
COST	●	●	●	●	●



GROWTH

BUSINESS MODEL

STRATEGY

GROWTH

2,5M EIC
Team expansion
Beta prototype



2024

INVESTMENT

Volunteer testing
Strategic partnerships



2025

REVENUE

Sales
Early adopters
MVP



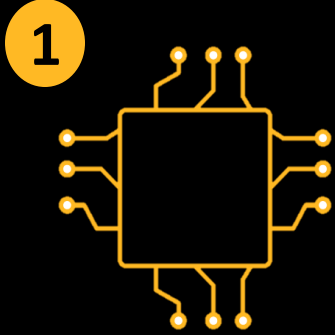
2027

MARKET EXPANSION

Investment round II



2028



CORE TECH



PARTNERSHIPS &
EARLY REVENUE



B2B - LICENSING
- WHITE LABEL

OUR TEAM



Prof. David Fernandez Rivas
CScO & Founder

Dutch Engineer 2021
Affiliation MIT &
Erasmus UMC
Serial Entrepreneur



MSc. Lea Milovich
CEO & Co-founder

+15 years experience in
international business,
start-up coaching
& valorization



Jelle Schoppink, PhD
CTO

Expert in applied physics
With background in
microfluidics and advanced
drug delivery methods



Luanda Lins PhD
Biomedical Engineer

PhD in materials engineering
and 8 years experience in
biomedical engineering



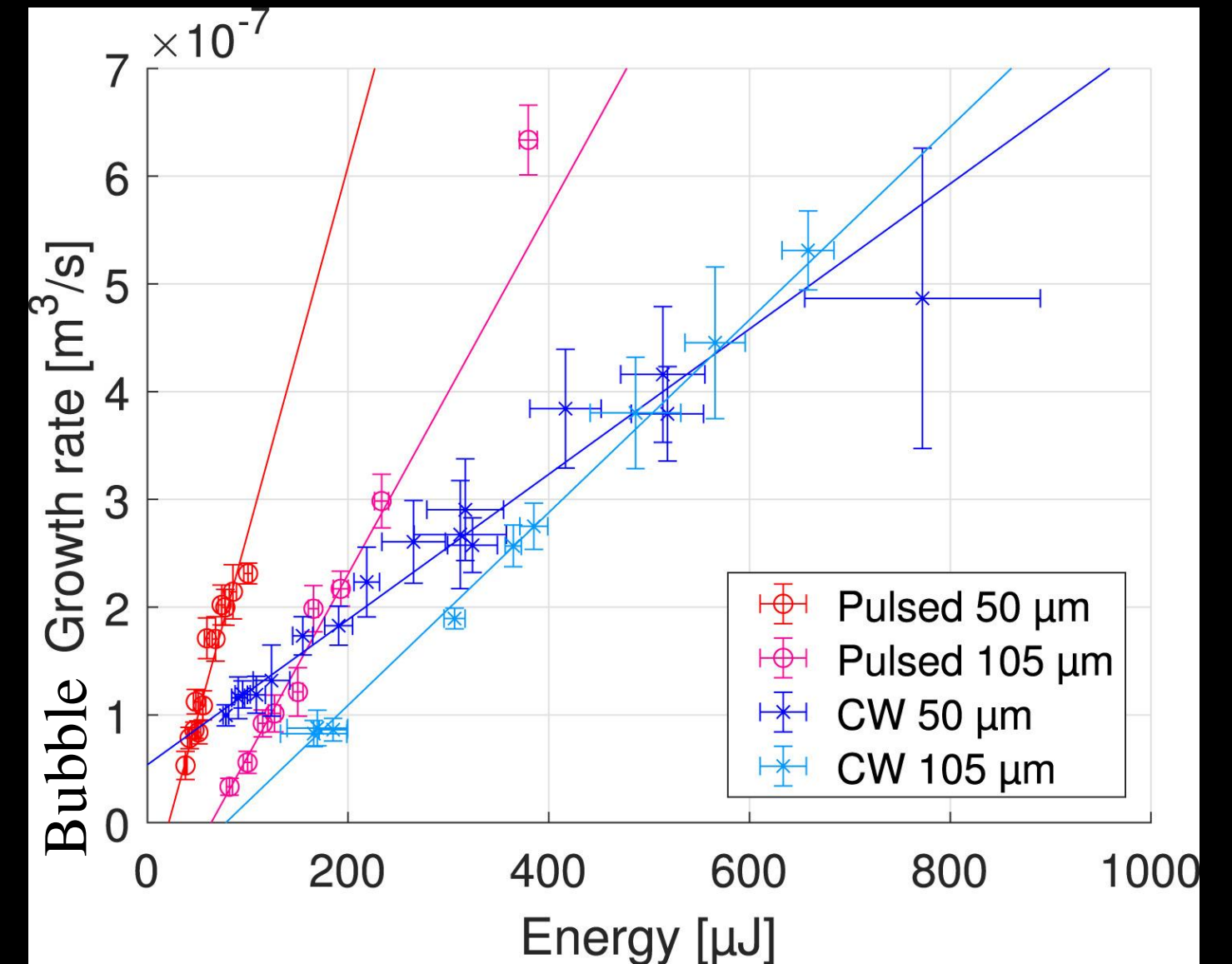
INFLUENCE OF OPTICS

Optimal delivery requires control over bubble & jet dynamics

- Microfluidic confinement
- Laser optics

Type of laser: Pulsed or Continuous-wave

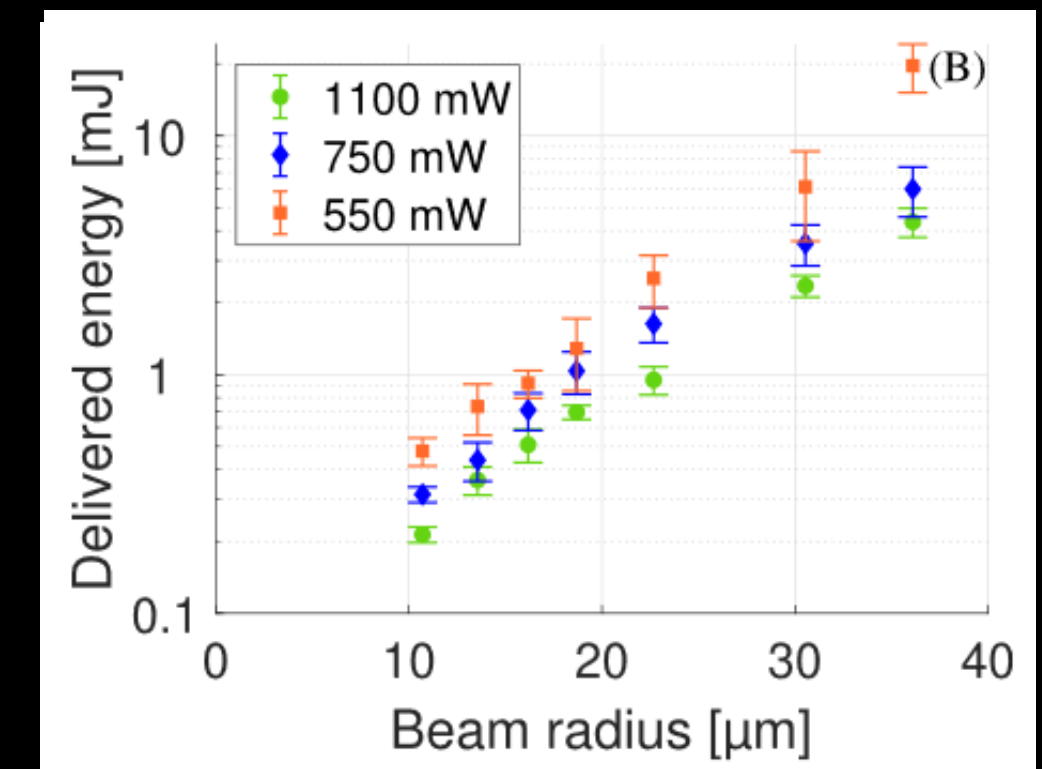
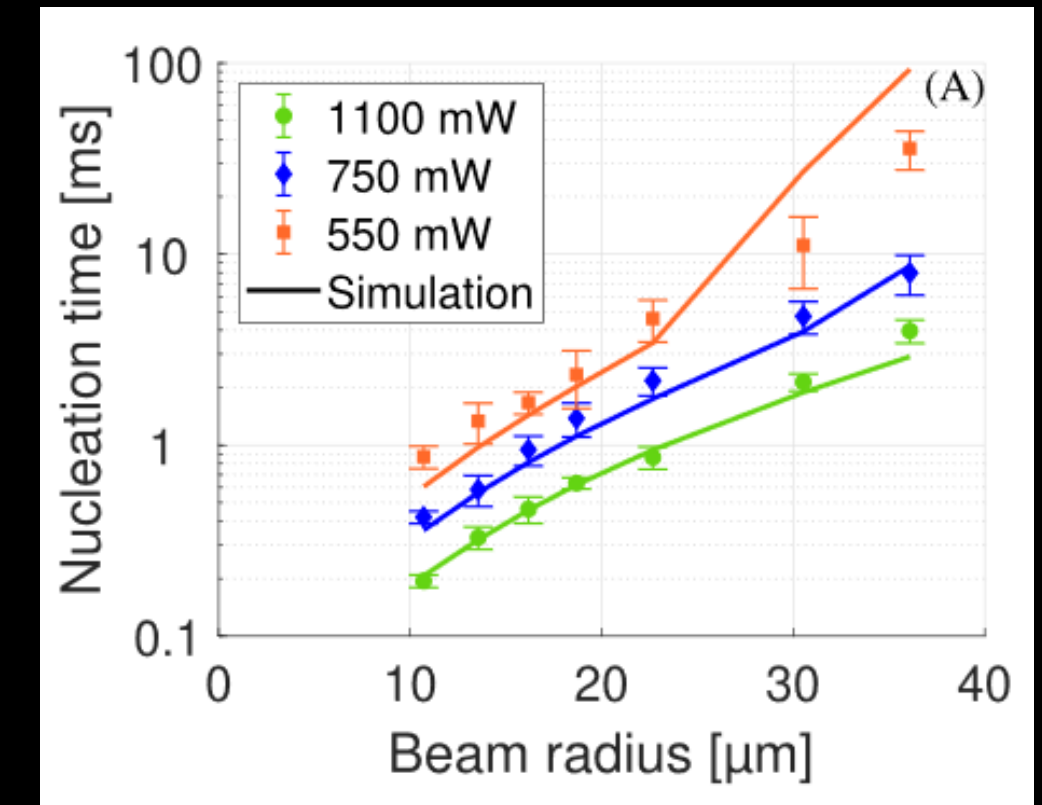
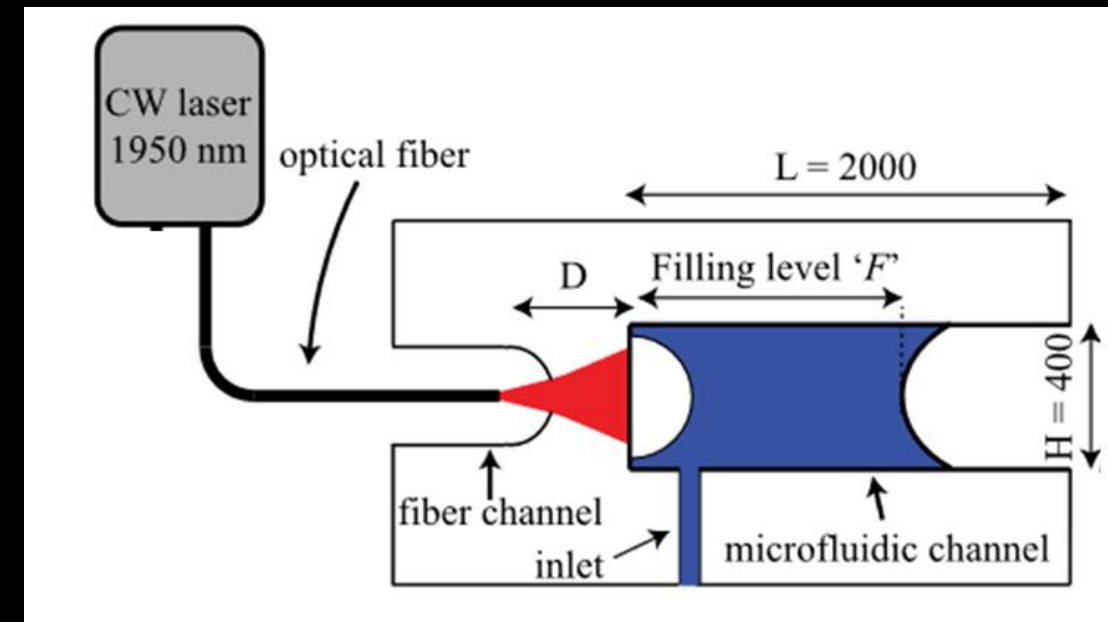
- Different timescale & absorption dynamics
- Efficiency: Pulsed
- Reproducibility: Pulsed
- Bubble dynamics: Similar
- Affordability & size: Continuous-wave



CONTINUOUS-WAVE LASER

Dynamics controlled through laser power & beam size

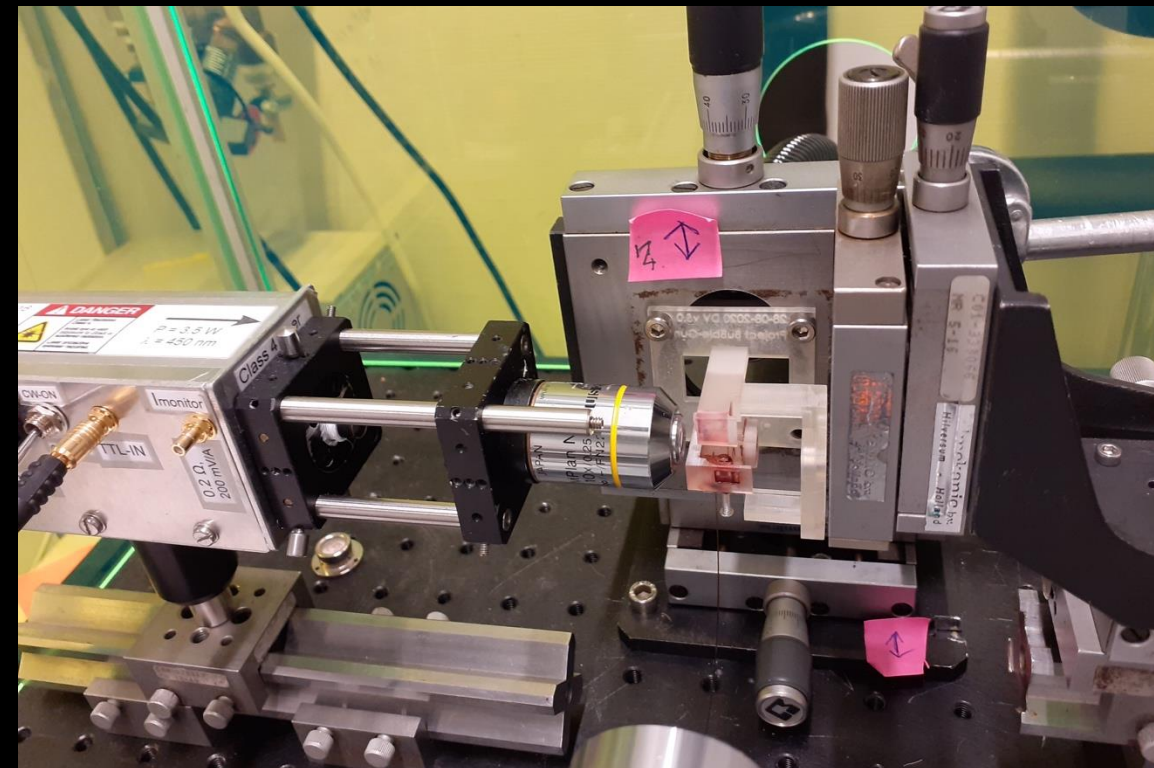
1. Delay in bubble formation (nucleation time)
2. More energy
3. Faster bubble & jet
4. Deeper penetration



TOWARDS A FULLY HANDHELD DEVICE

Miniaturization of laser, microfluidics & electronics

- Laser type
 - Fiber
 - Free-space
 - Integrated photonics
- Wavelength
- Tolerances & Reproducibility
- **Keeping it affordable**





JOIN US TO EMPOWER LIVES WITH INNOVATIVE NEEDLE-FREE TECHNOLOGY

[FLOWBEAMS.COM](https://flowbeams.com)

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**FLOW[®]
BEAMS**