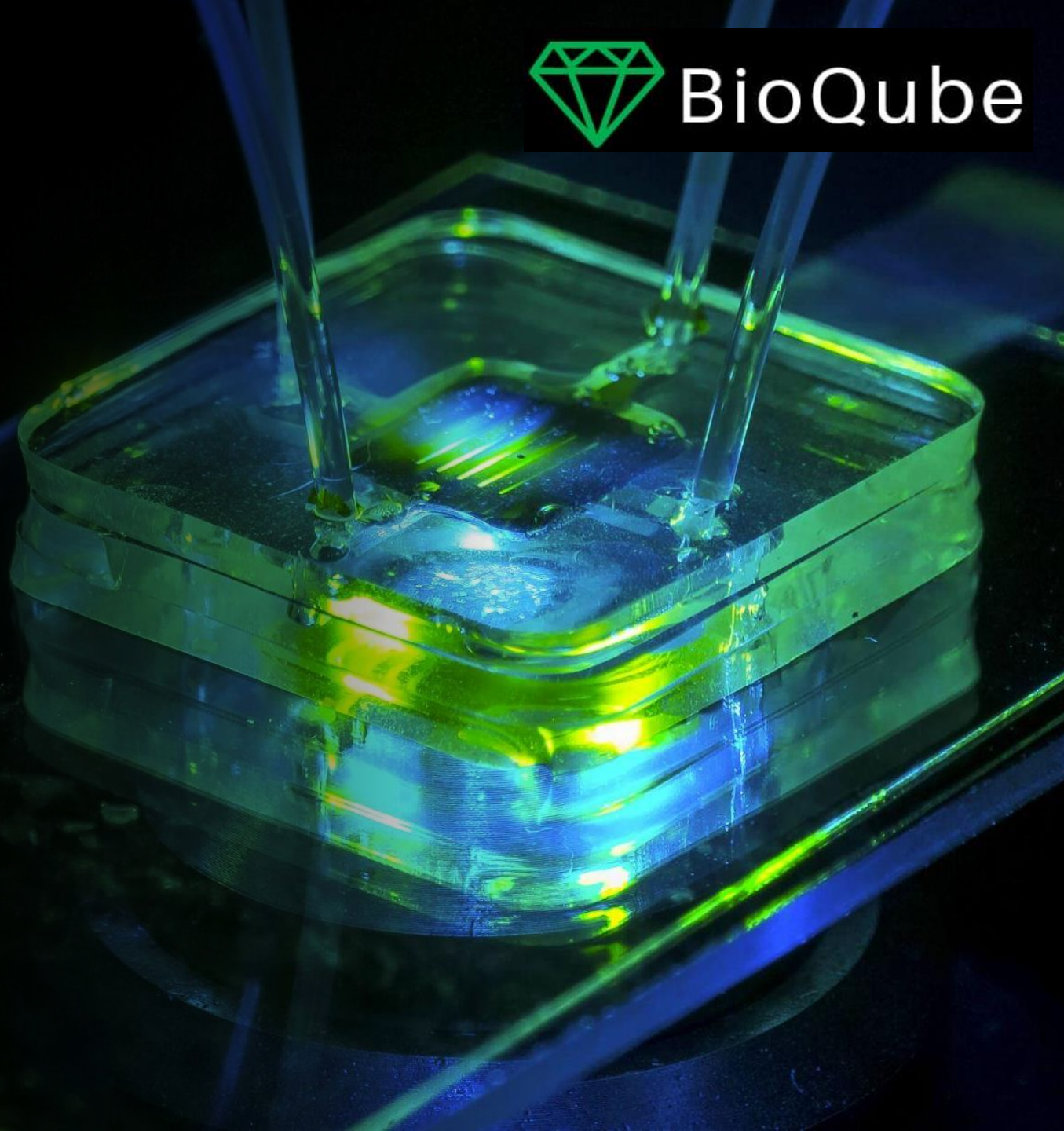# BioQube

Revolutionizing blood testing with Quantum Diamonds

Our Vision

- BioQube seeks to provide a new and exciting future for biodiagnostics. Our solution combines ease of use with pinpoint precision without requireing any invasive prosedures.

- BioQube's Vision is to solve problems in the diagnostics of almost any desease. Altsheimer is the first step on this mission.

Problem Space

Speed & Usability

Current Tests are often slow and require highly trained staff, which is not redealy available everywhere.
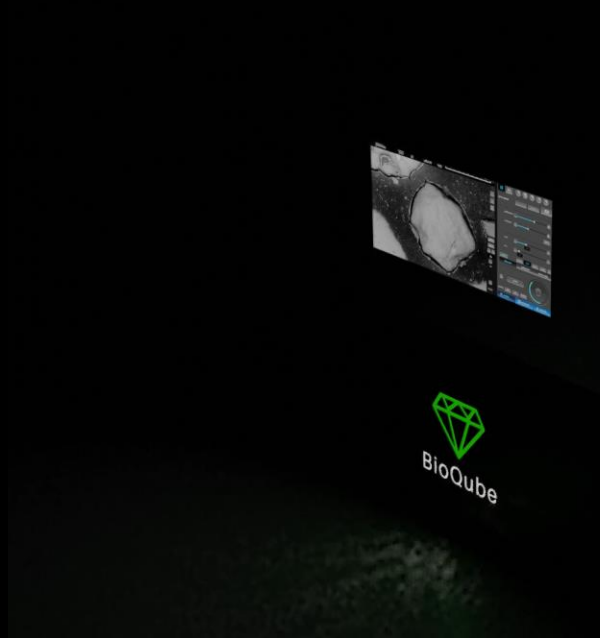
Cost & Flexibility

Due to high manual labor usage, costs of current tests are high and they can not be carried out everywhere on a flexible timescale.

Accuracy

Current tests are often not accurate enough to diagnose certain deseases early enough for effective treatment.

Our Solution powered by Quantum NV Diagnostics

The **BioQube**

Enabling easy fast, low cost and accurate blood diagnosis without the need for specialised staff.

FASTER

With our NV-Diamond setup utalizing microfluidic Chips, we can provide fast testing, with results only limited by the computational power needed for processing of the meassurements.

COST EFFECTIVE

BioQube requires no skilled labor. Additionally, due to the reusable nature of our Design, we have no single use components. This leads to repeatet testing being very cost effective.
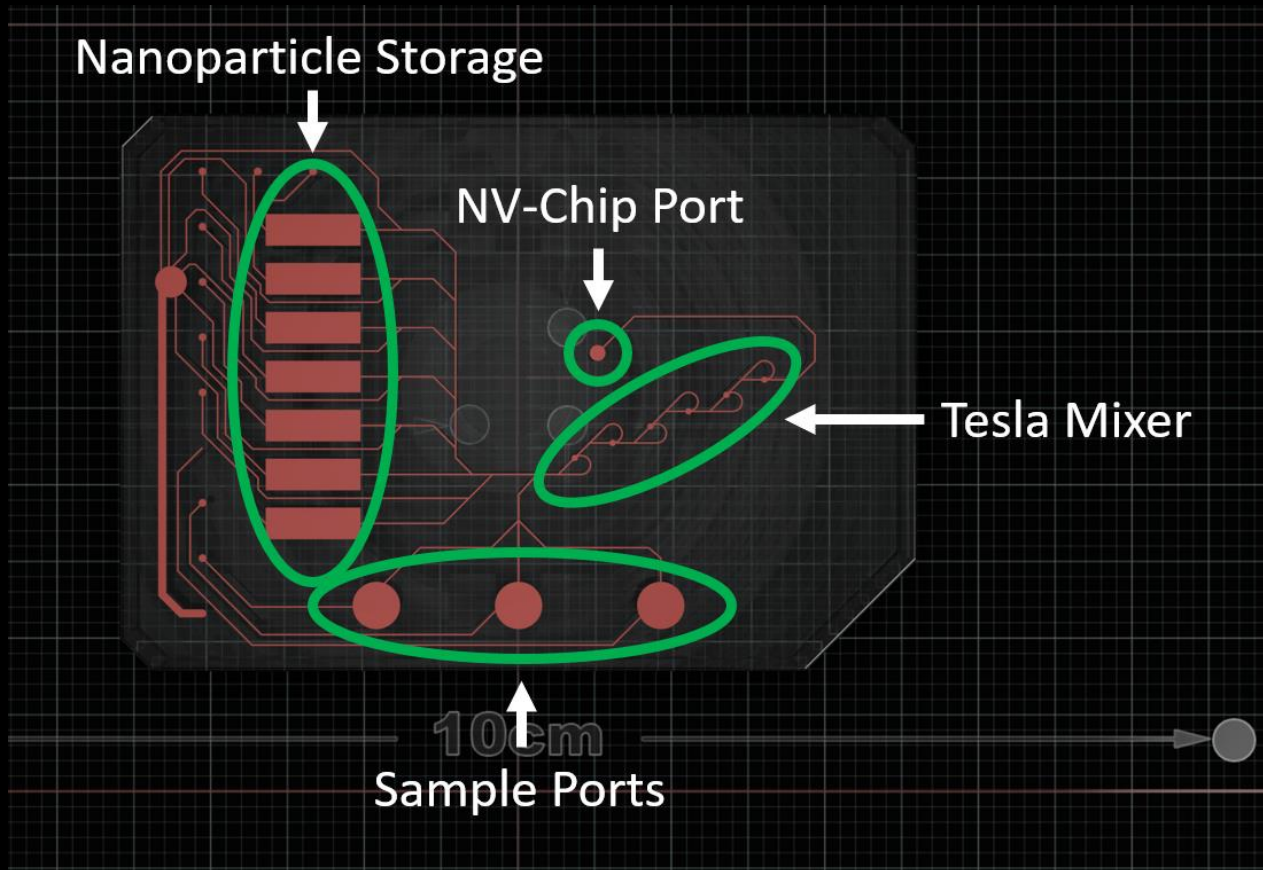
MORE SENSETIVE

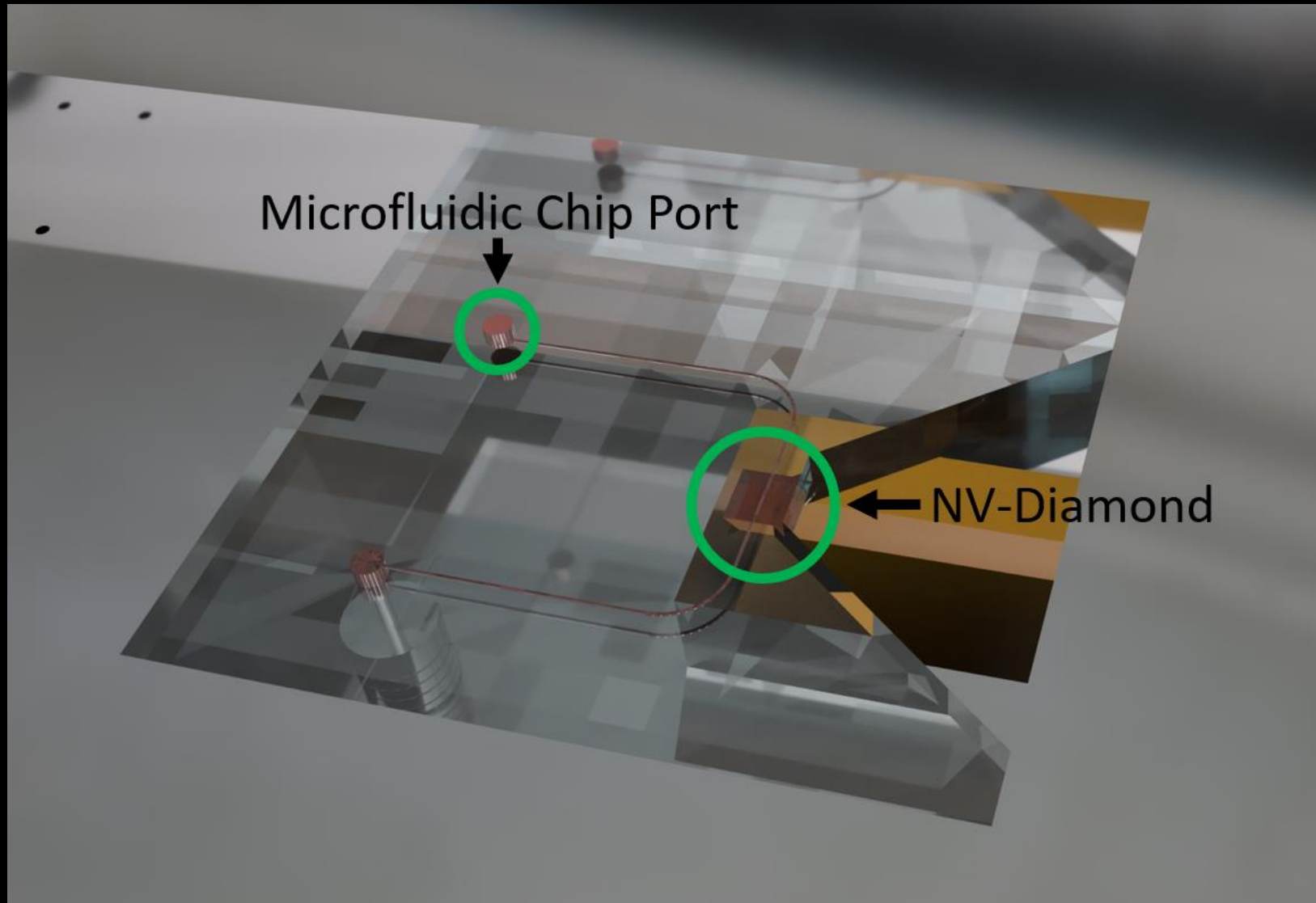BioQube leaverages Quantum NV-Vaccency technology to acchieve unpresidented sensetivity and accuracy.

Our Solution the Sample Handling

The Microfluidic Chip provides easy, fully automated and reliable sample preparation and handling.

The BioQube folds open giving easy access for up to 3 different blood samples to be placed into the machine. Then the sample and the nanoparticles needed for the testing are fed through and mixed in the Tesla mixer. The mixed and prepared sample is then passed on to the NV-Chip for the diagnostics. The Chip has 7 compartments for different nanoparticles so each sample can be tested for up to 7 different diseases per diagnostic run. After the analysis has been done the Chip flushes itself with a cleaning solution, making it ready for the next run.
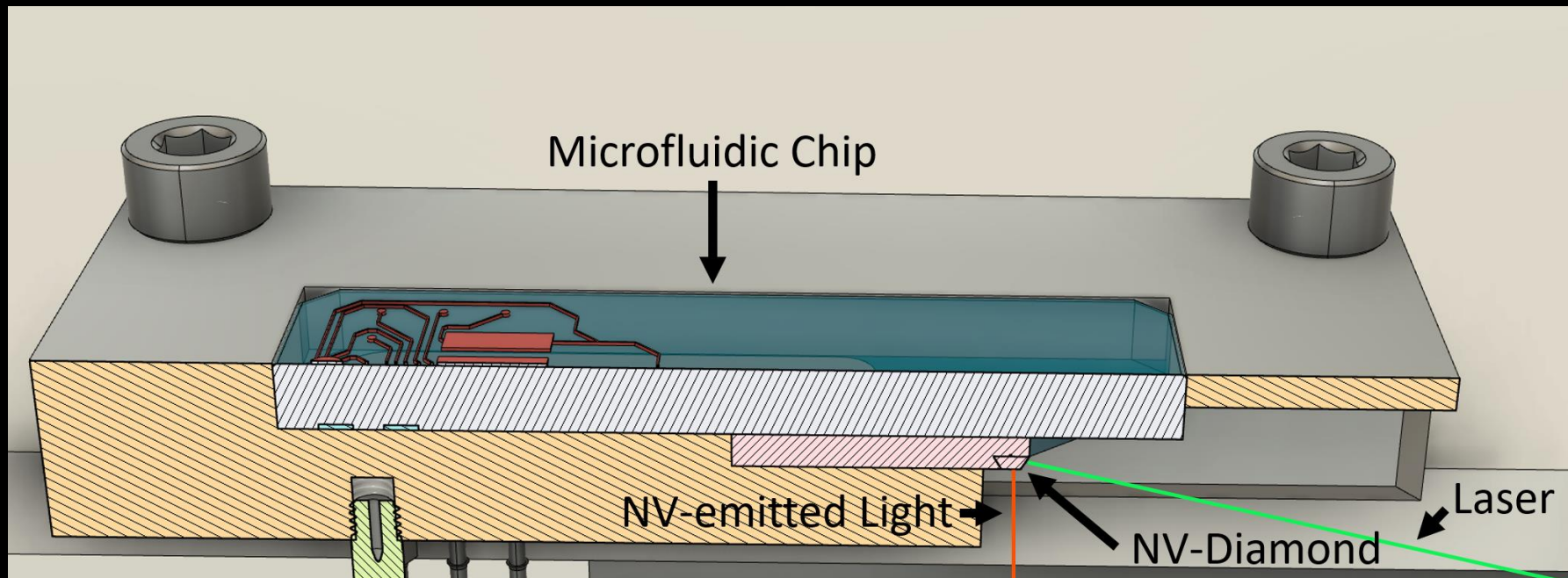
Our Solution the NV-Measurement

The prepared fluid enters the NV-Measurement chip from the port on the top left and is then routed over the top of the NV-Diamond. The Sample is analysed by the NV-Setup and then discarded.
This glass chip also gets cleaned automatically leaving no need for human labour.
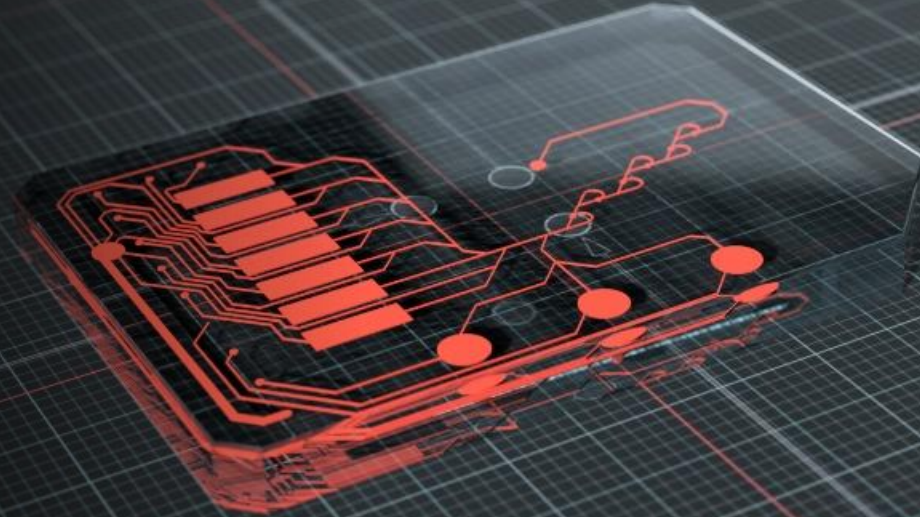
Our Solution the Chip -Stack

This view shows how the two chips fit together inside the actual machine. The laser for pumping the diamond and the emitted light is the basis of the analysis are also visible.

Disruptive new Diagnoses

- Diagnoses of Alzheimers
- Effective monitoring of chronic conditions
- Early detection of cancer
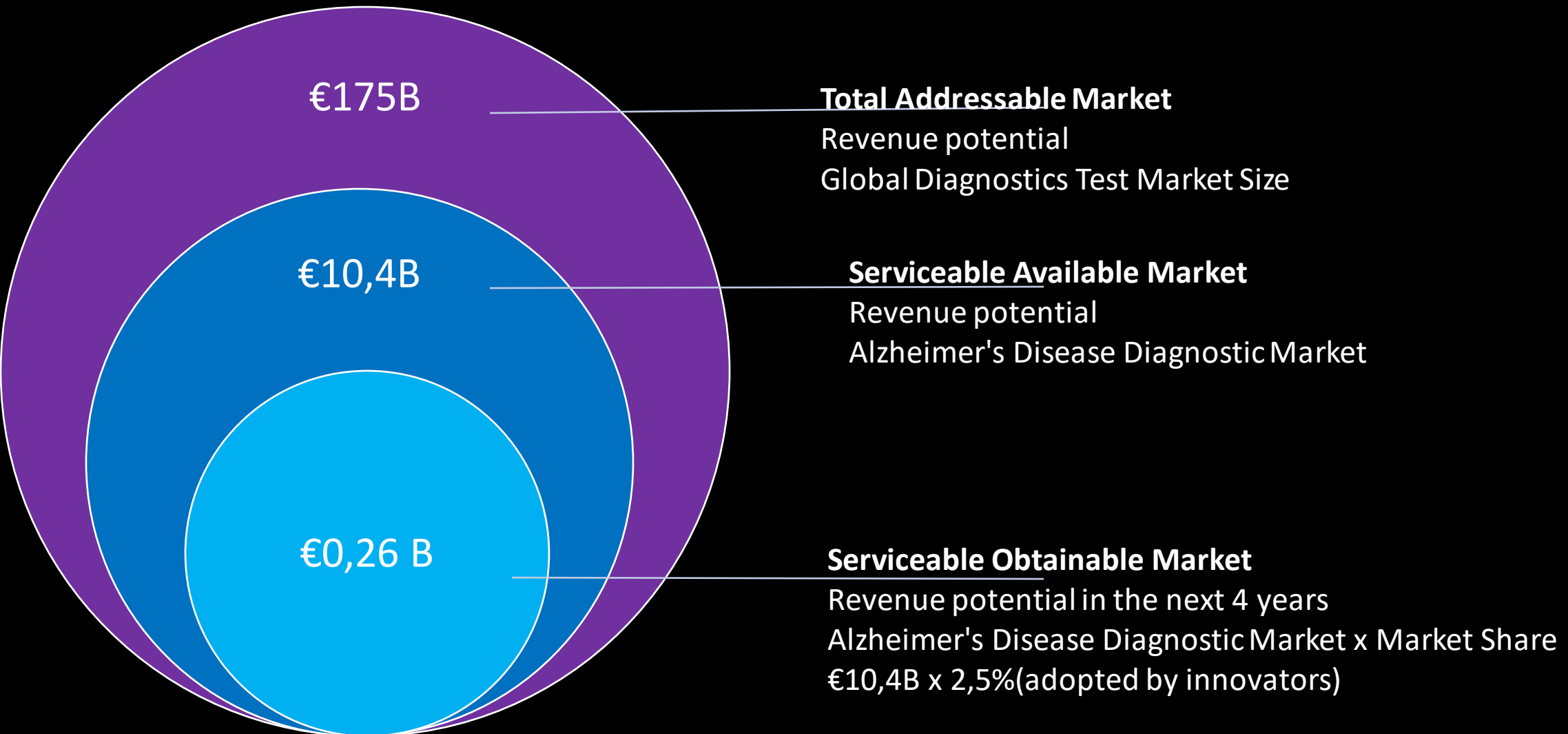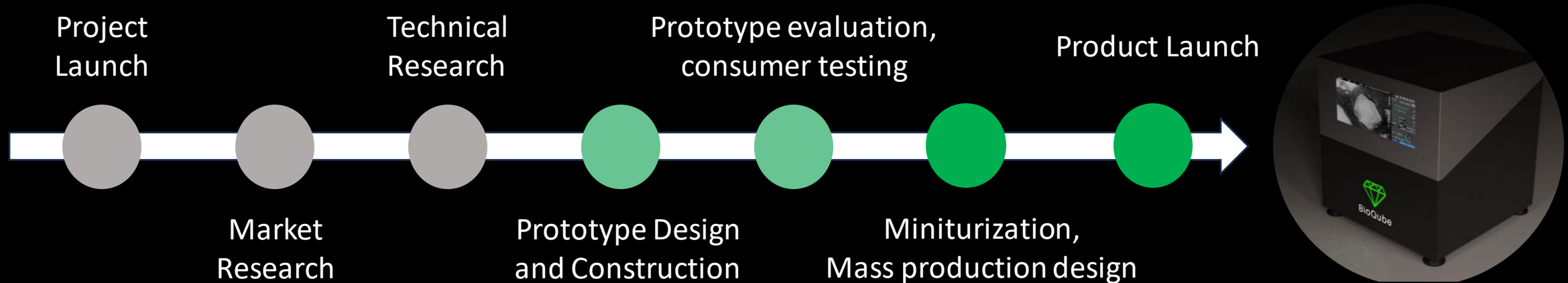- Beter dosage of medicine

Our Competitors (diagnoses of Alzheimers)

	BioQube	SIEMENS Healthineers	Roche	GE HealthCare
Cheap	✅	❌	✅	❌
Fast	✅	❌	❌	❌
Non-Invasive	✅	✅	❌	✅
Accurate	✅	✅	✅	✅
Early diagnoses	✅	✅	❌	✅
No need for expertly trained staff	✅	❌	❌	❌

Market Size

BioQube

€175B

Total Addressable Market
Revenue potential
Global Diagnostics Test Market Size

€10,4B

Serviceable Available Market
Revenue potential
Alzheimer's Disease Diagnostic Market

€0,26 B

Serviceable Obtainable Market
Revenue potential in the next 4 years
Alzheimer's Disease Diagnostic Market x Market Share
€10,4B x 2,5%(adopted by innovators)

Roadmap

Project Launch

Technical Research

Prototype evaluation, consumer testing

Product Launch

Market Research

Prototype Design and Construction

Miniturization, Mass production design
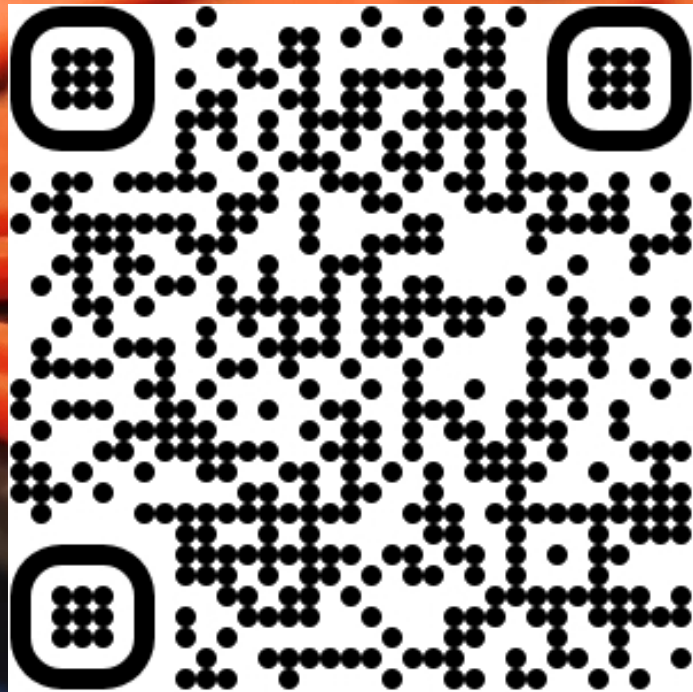
Helping 33 million people with Alzheimers Disease

Learn more:

Tobias Beck
Hardware Design

Matthäus Hirsch
Hardware Design

Tim Maehrholz
Market Research

Lisa Haag
Biological Research

Jascha Fricker
Technical Design

Benedict Brouwer
Technical Design