

The logo for AIXEMTEC features a stylized orange graphic on the left consisting of two parallel diagonal lines and a solid orange trapezoidal shape. To the right of this graphic, the word "AIXEMTEC" is written in a bold, white, sans-serif font. Below "AIXEMTEC", the tagline "PRECISE. FLEXIBLE. PRODUCTIVE." is written in a smaller, white, sans-serif font, with the word "FLEXIBLE" highlighted in orange.

AIXEMTEC

PRECISE. FLEXIBLE. PRODUCTIVE.

Full-service Automation Technologies for Risk minimization and cost-effective scaling of production

ASSEMBLY TECHNOLOGY FROM AACHEN - AIXEMTEC GMBH -



WHO ARE WE?

Location	Herzogenrath, Germany
Founded	November 2016
Origin	Spin-off Fraunhofer IPT
Ownership	Private, fully independent
Install-base	20+
Headcount	28
CAGR Since 2016 (Link: Financial Times)	147%, organic-growth



ASSEMBLY TECHNOLOGY FROM AACHEN - AIXEMTEC GMBH -

Made
in
Germany






WHO ARE WE?

Core Business Precision Assembly & Testing Machines and Services

Technological Excellence Flexible Precision Machine Platform

Mission Enhance and accelerate our customers' R&D and Production

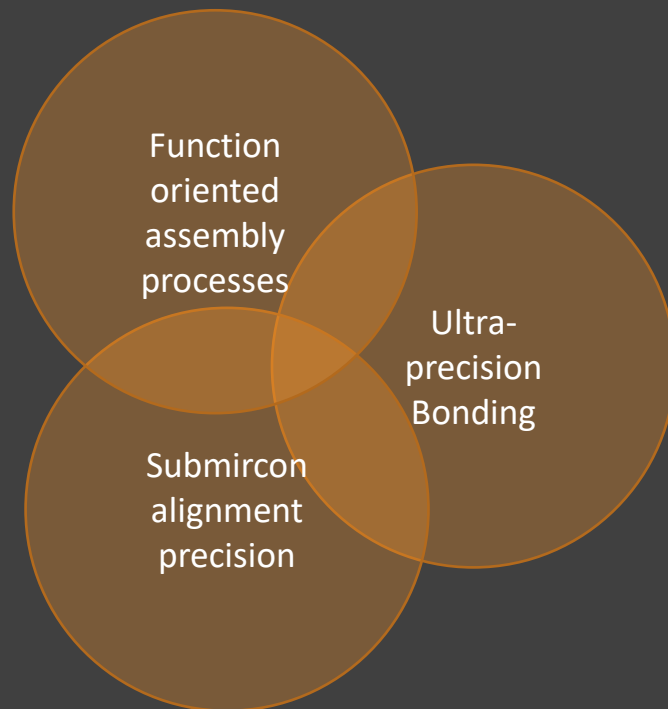
USPs

-  Highly flexible Machine Platform and intelligent Software
-  Open access platform for your own enhancements
-  Combined Business Model of Machines and Services

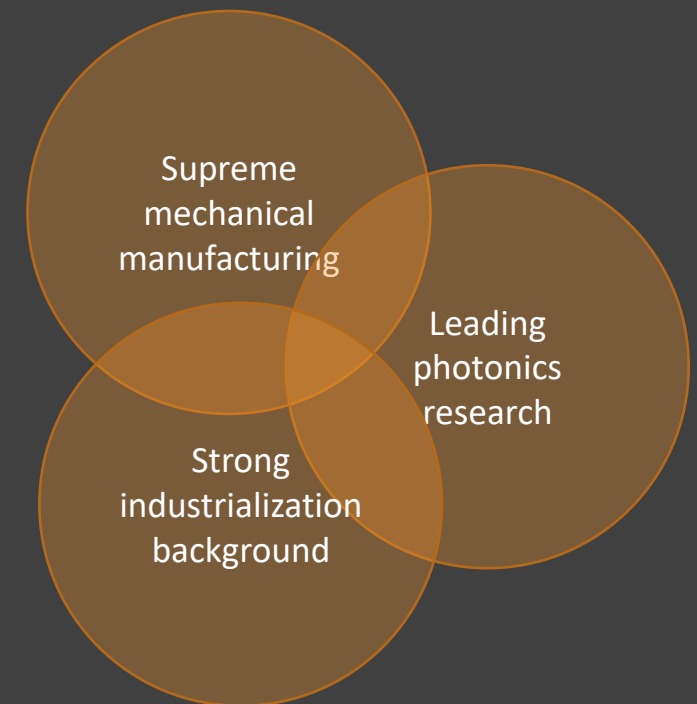
Your Benefits Short time to market with minimal technical and financial risk!

STRATEGIC COLLABORATION OPPORTUNITIES AIXEMTEC AND SWISS INDUSTRY

Requirements of PIC-System Manufacturing



Ressources of Swiss Photonics Industry



AUTOMATED PRECISION ASSEMBLY & TESTING MARKETS AND APPLICATIONS

AUTOMOTIVE

SS-LiDAR systems Assembly
Driving assistance cameras

MICROOPTICS

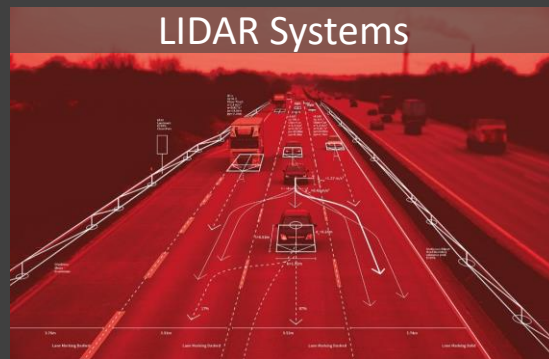
Sorting machines
Inspection machines
FAC / SAC / BT on Tab

LASERSYSTEMS

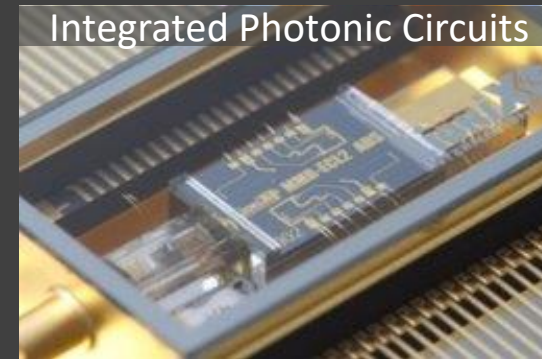
FAC-/SAC-lens to Diode
TO-Can Lens and DOE
Complex Beamshaping Systems

DIE PROCESSES

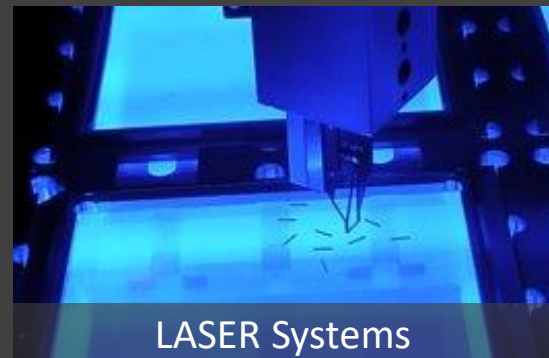
Die-Bonder
Die-Sorter
Die-Inspection



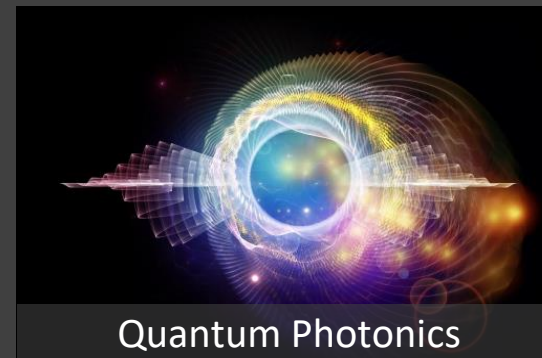
Source: IBEO



Source: Lionix



Source: SRL



Source: EPIC

IMAGING SYSTEMS

Lens-Barrel
MTF-based lens to chip

INSPECTION

Wafer and Surfaces (AI)
Geometry (CV)
Function

CONSUMER ELECTRONICS

Face ID & Gesture recognition

QUANTUM PHOTONICS

Complex individual product

PICS AND FIBER

Fiber Array assembly
Chip testing and fiber attach

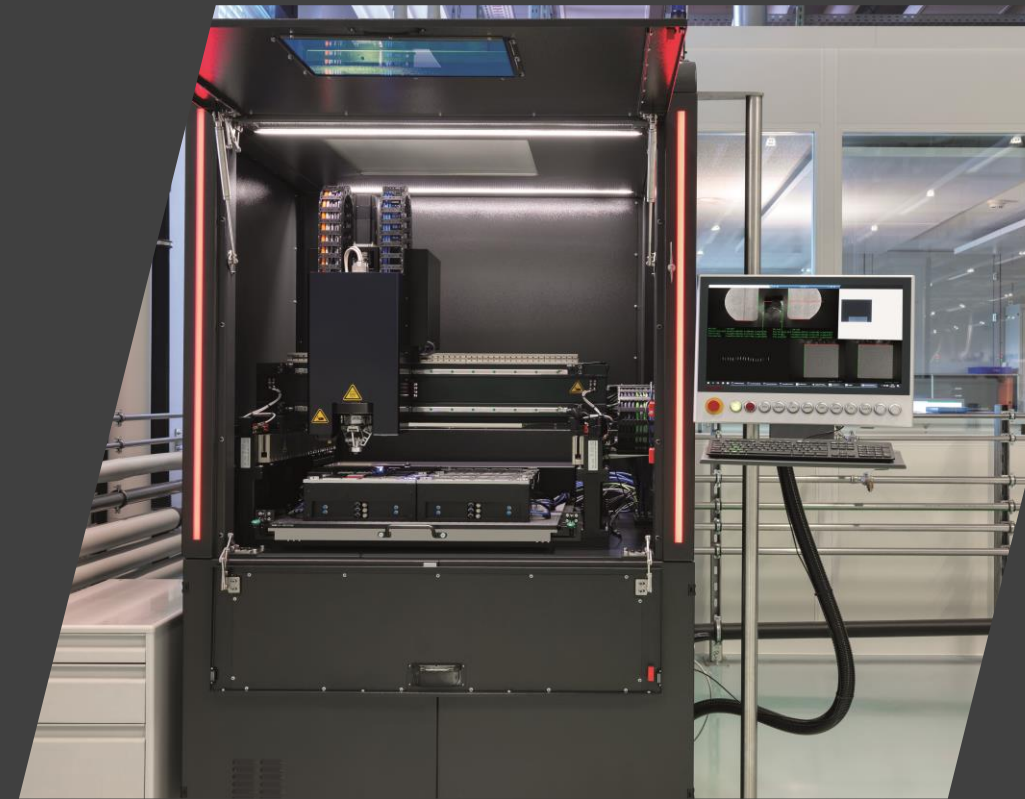
AIXEMTEC IN SWITZERLAND

FISBA Innovators
in Photonics



*Dr. Martin Forrer, Senior VP Business
Development*

*...AIXEMTEC created
user-friendly testing
machines for our shopfloor....*



AIXEMTEC IN SWITZERLAND

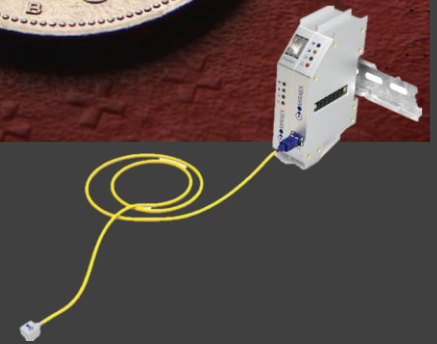
FISBA Innovators
in Photonics



Clément Javerzac-Galy,
Co-CEO at MIRAEX

*...AIXEMTEC is helping us
in the industrialization
Process of our fiber-based Sensors for
harsh environments....*

Industrialization



www.aixemtec.com | info@aixemtec.com

SWISS PHOTONICS

AIXEMTEC

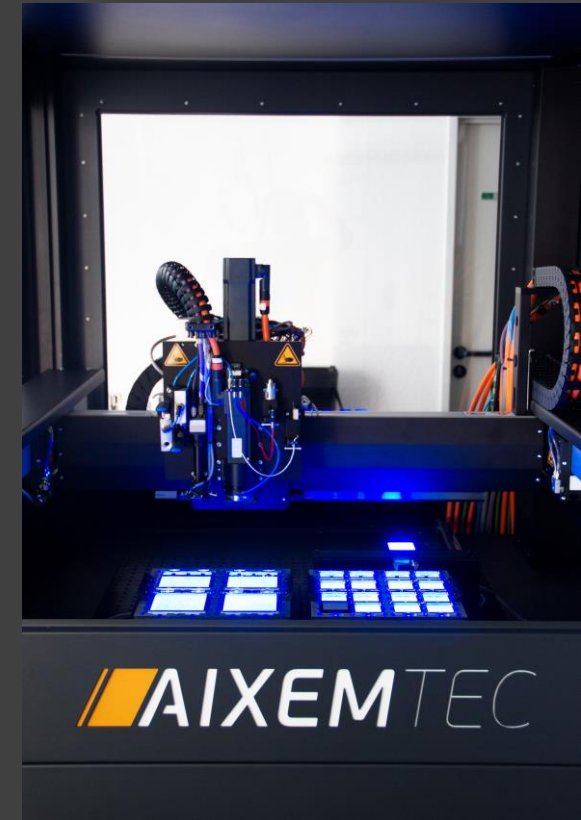
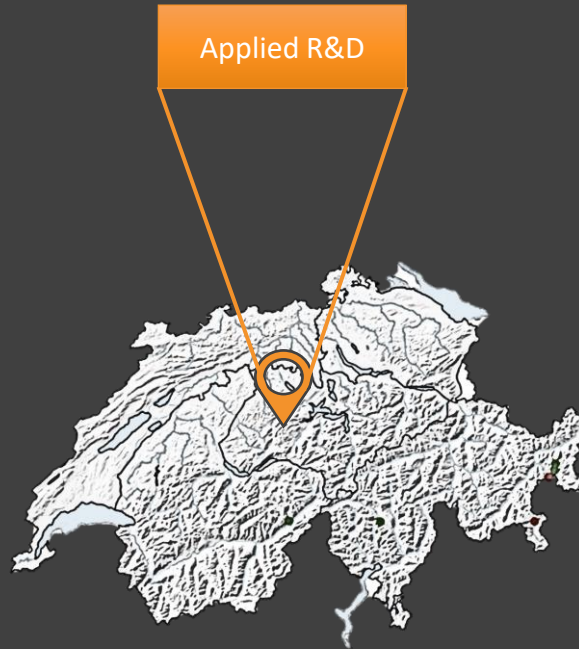
AIXEMTEC IN SWITZERLAND

 **csem**



*Stefan Mohrdiek
Head Functional Packaging at CSEM*

*...We are looking forward to
support customers on our
flexible Aixemtec machine ...*



www.aixemtec.com | info@aixemtec.com

SWISS PHOTONICS

AIXEMTEC

WE COMBINE PROTOTYPING, JOB-SHOP ASSEMBLY AND TURNKEY SOLUTIONS

STAGE 1

Prototype

Use our Process Know-how to get first systems demonstrated



In collaboration with
csem

STAGE 2

Market Entry

Small series manufacturing service



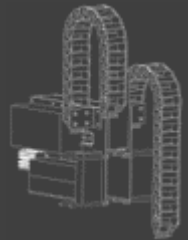
STAGE 3

Scale!

Get your own machine or use contract manufacturers



MODULAR ASSEMBLY MACHINE PLATFORM – THE KEY TO FLEXIBILITY



Toolhead
Basis



Measurement
System
Customized



JET Dispenser
JDU



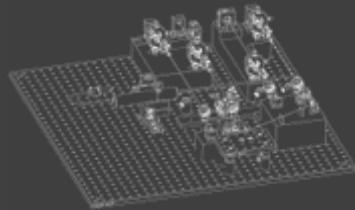
Micro
Manipulator



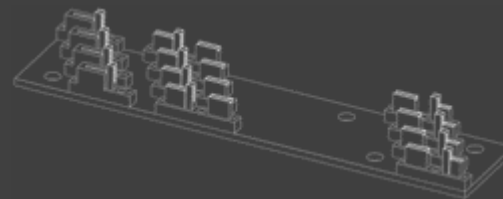
Target Cam



Bottom-Side Cam



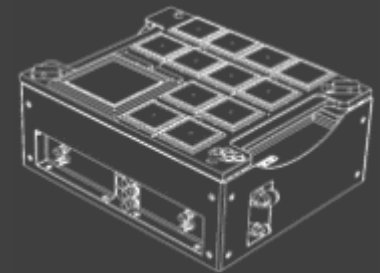
Measurement
System
Customized



Fiber Garage
Customized



Lens Tray
Customized



Tray Holder Unit

KEY COMPONENT MICRO MANIPULATOR UNIT

KEY FACTS ON AIXEMTECS MICROMANIPULATION TECHNOLOGY

3D-Motion in six degrees of freedom, maintenance free!

Step resolution 10 nm and 5 μ rad in cartesian coordinates

Industrial grade: 1.000.000 automotive driving assistance cameras assembled



MACHINE CONFIGURATION PIC PROSCCESSING TOOLS

FIBER COUPLING

State of the art high-speed fiber coupler with integrated quick-exchange for Waferlevel or single chip testing



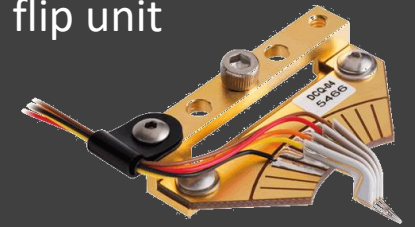
INSTRUMENTATION

High-speed industrial grade Testing equipment fully embedded



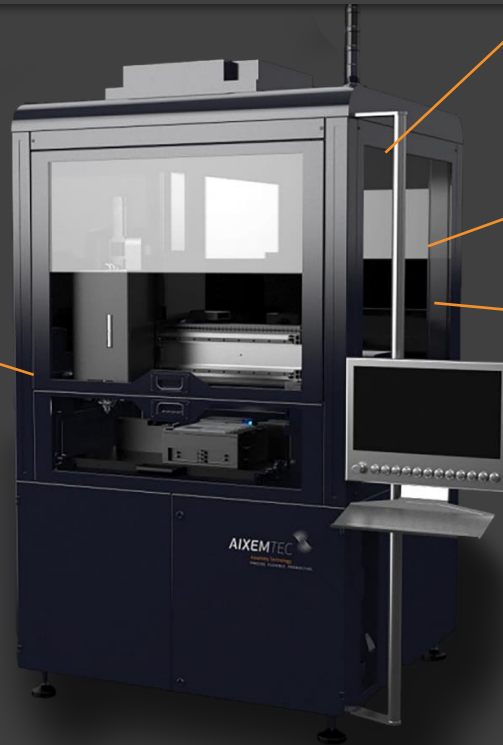
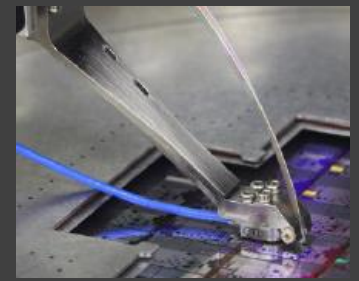
NEEDLE PROBING

State of the art quick exchange needle probing cards on flip unit

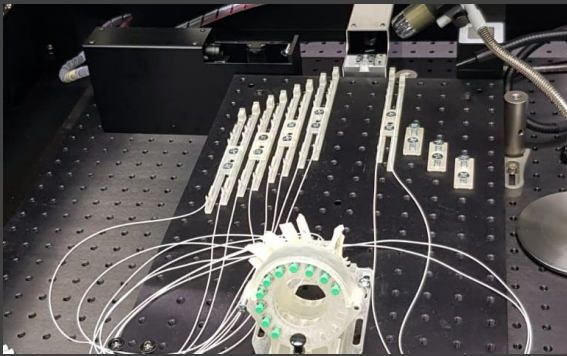


TESTING STATION

Precision TEC-controller including quick exchange component fixture For single PICs

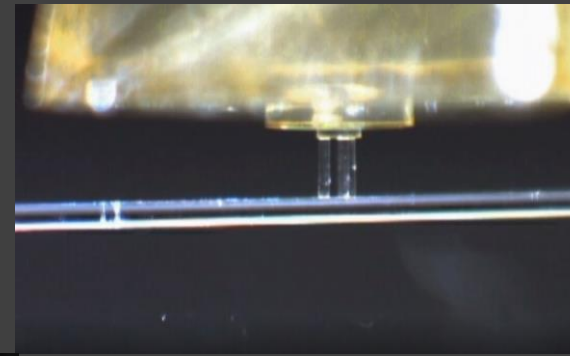


FIBER OPTICS PROCESSING OVERVIEW



FEEDING COMPONENTS

- Tray Feeding of fibers in batches
- Fiber clamps on trays
- Fiber preparation outside machine

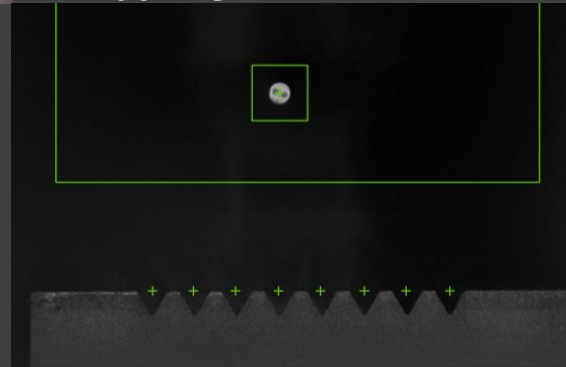


HANDLING OF FIBERS

- Automatic pickup of fibers
- Generic Van-der-Waals force fiber gripper
- Patent pending PM-fiber manipulator

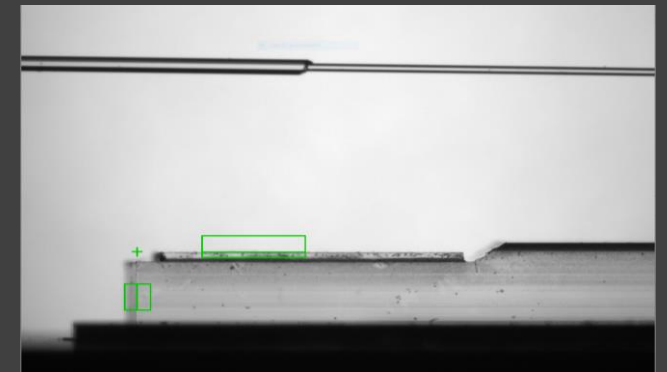
ACTIVE ALIGNMENT

- Computer vision based
- Ultraprecise motion in mrad domain of PM-Fibers
- Generic SM-Fiber tools

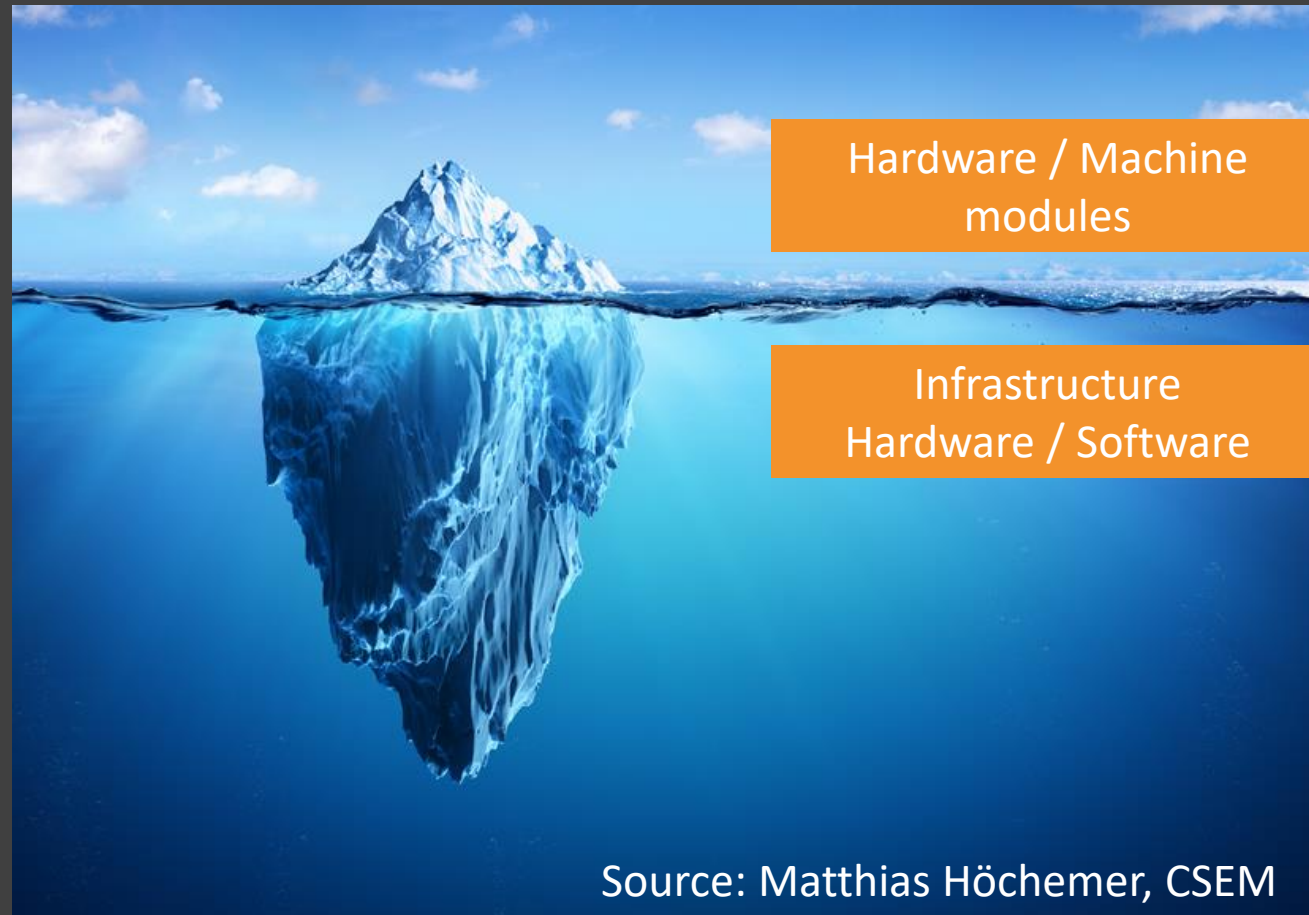


ADHESIVE BONDING

- Ultraprecision dispensing
- Integrated UV-curing
- Vision guided processes
- Shrinkage control



MODULAR MACHINES – YOU SEE ONLY 10% OF WHAT IS NEEDED



MODULAR MACHINE SOFTWARE



OPERATOR :Easy to use!

ENGINEER: Easy to modify!

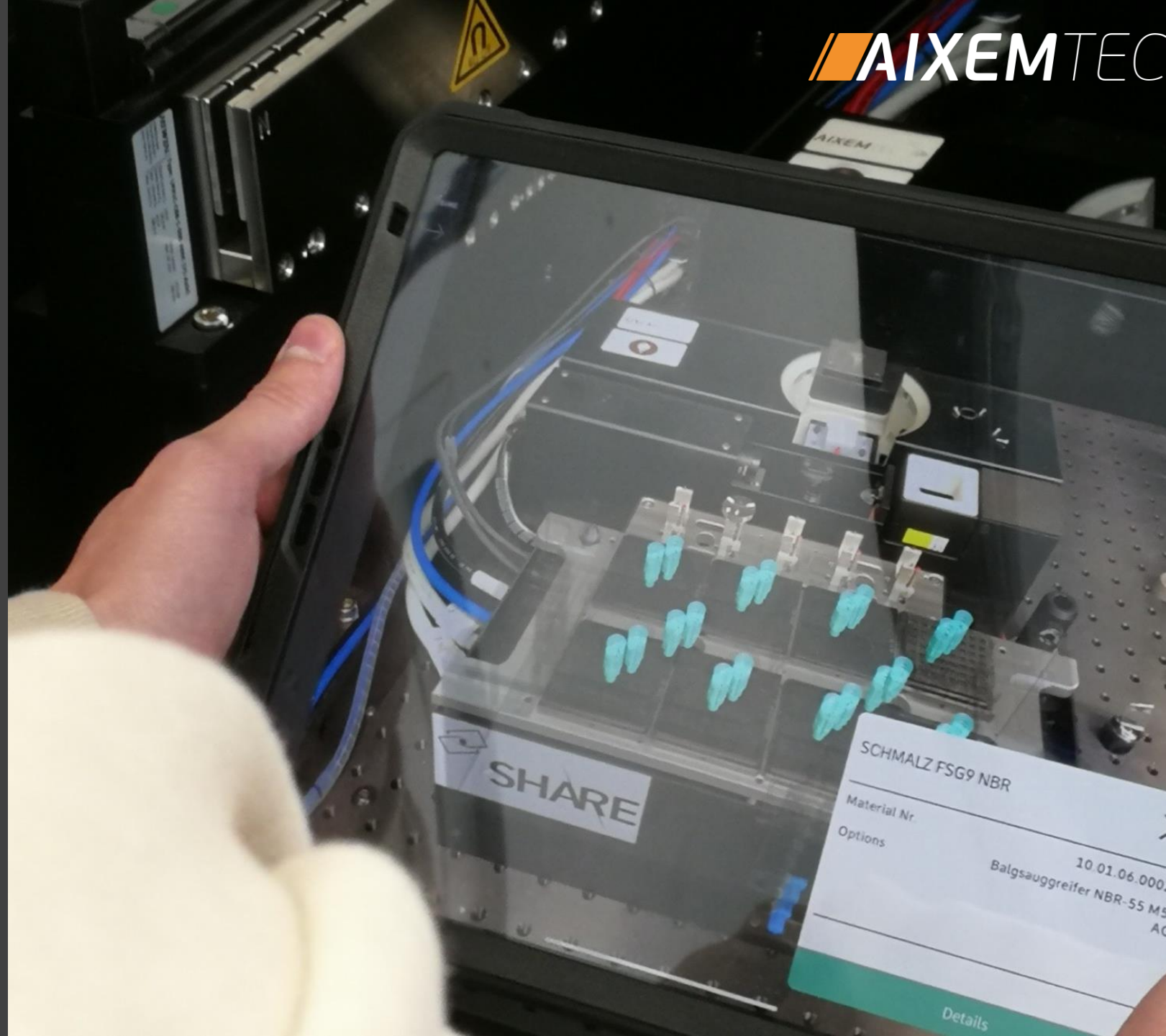
DEVELOPER: Easy to code!



AR AS ENABLER FOR GLOBAL EXPERT SUPPORT IN HIGH- TECH PRODUCTION

Using Augmented Reality for:

- Digital Machine Files
- Remote Expert Assistance
- Self-Service (interactive guides etc.)



WHO'S NEXT...?

