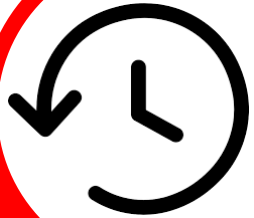


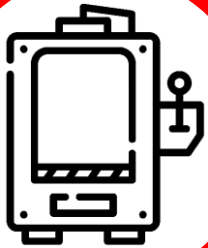
„Laziness is the mother of
innovation“

Agatha Christie



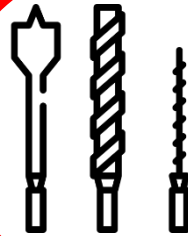
1.

History



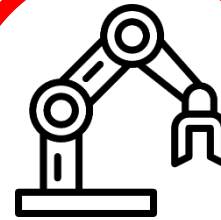
2.

Technology



3.

Examples



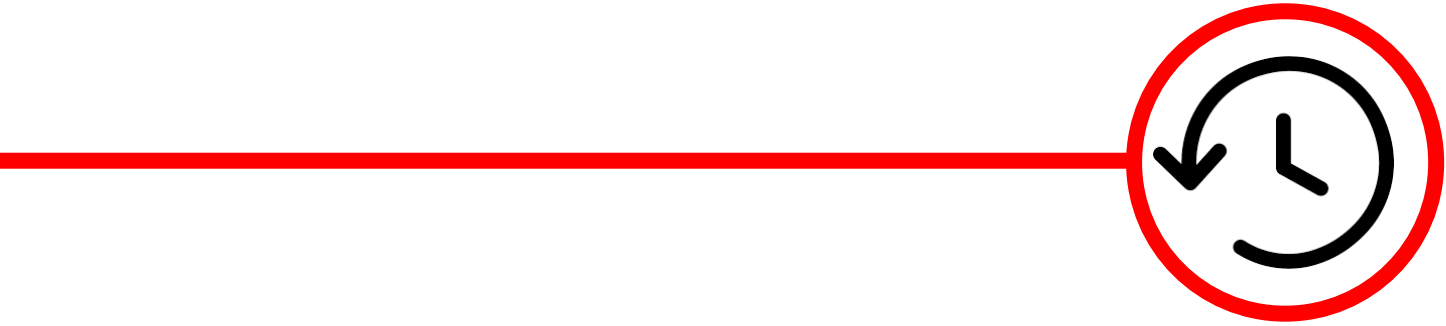
4.

Automation



5.

Sustainability





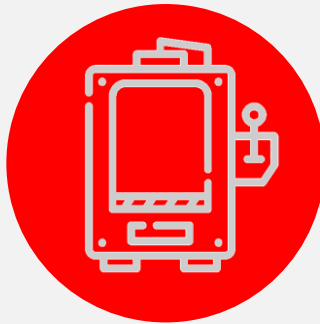
2018

Internship Jonas Münz
Project: "Jugend forscht"*



May 2019

Founding ultraTEC
Winner: "Jugend forscht"*



Oct. 2019

Introduction of first
prototype



Jul. 2020

First machine delivery

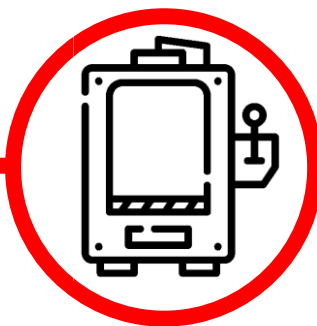


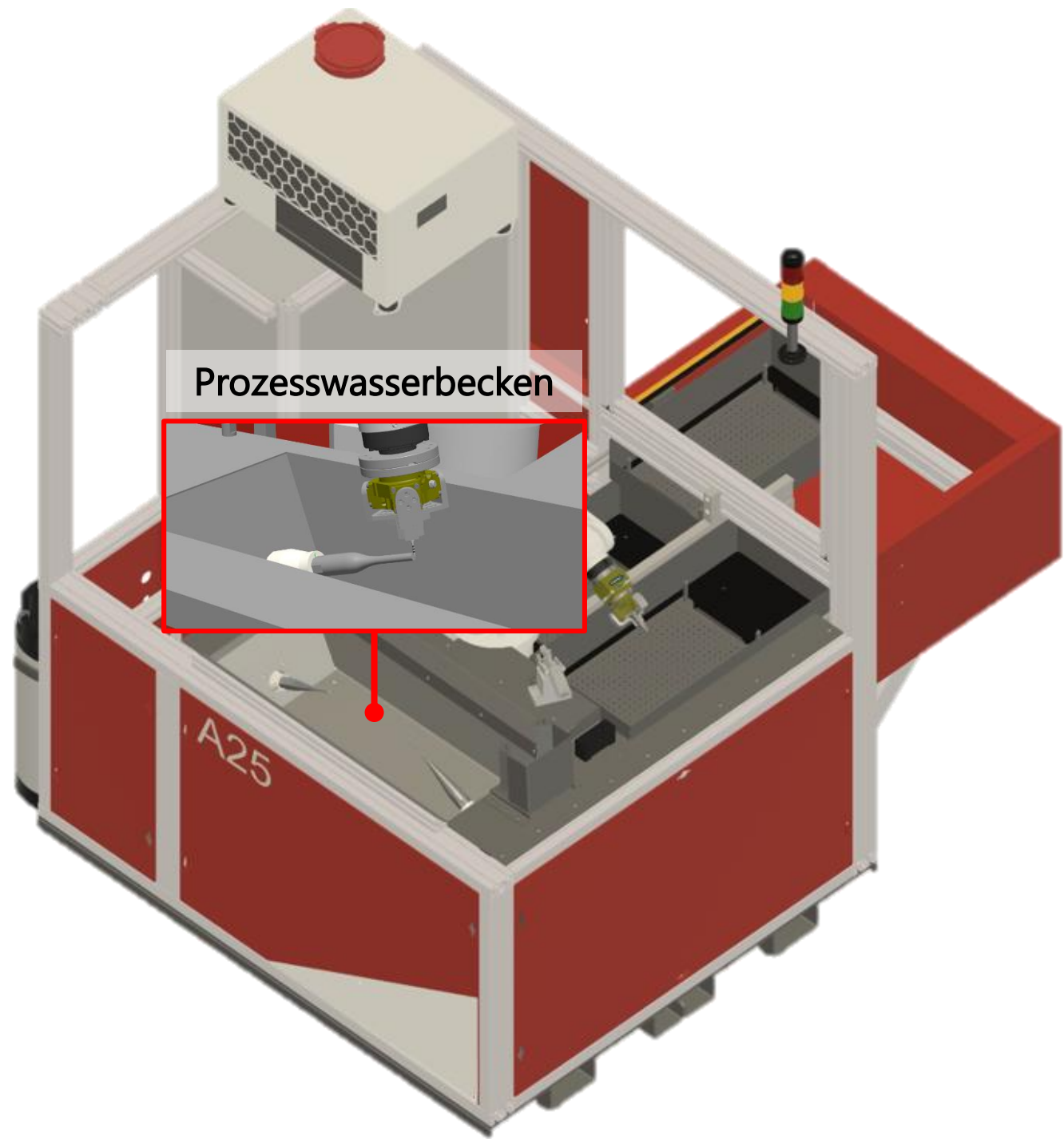
Jul. 2022

ultraTEC becomes parts of
the VOLLMER-Group

*"Jugend forscht" = National competition for young researcher







Prozesswasserbecken

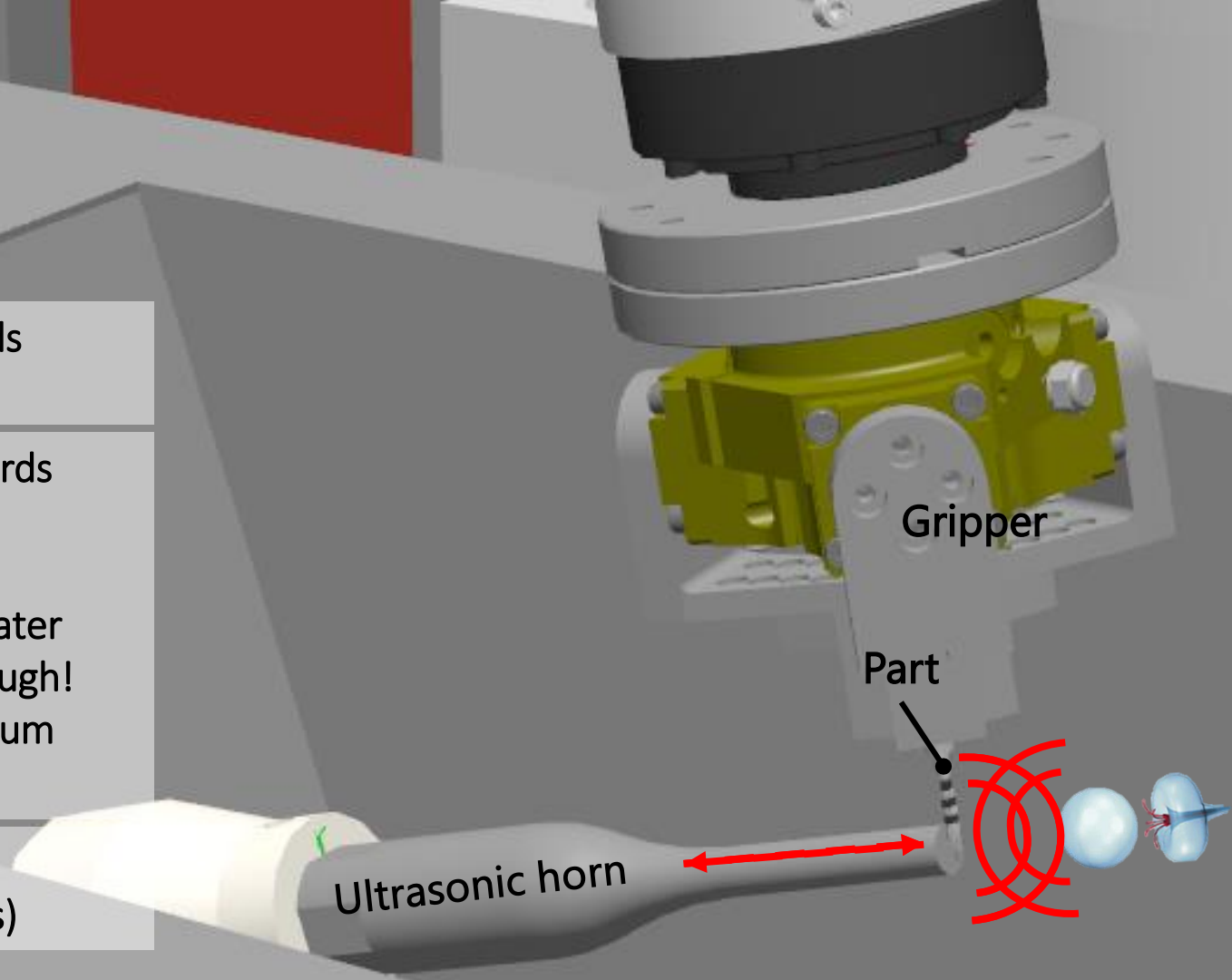
A25

1. Ultrasonic horn swings forwards
→ Over pressure phase

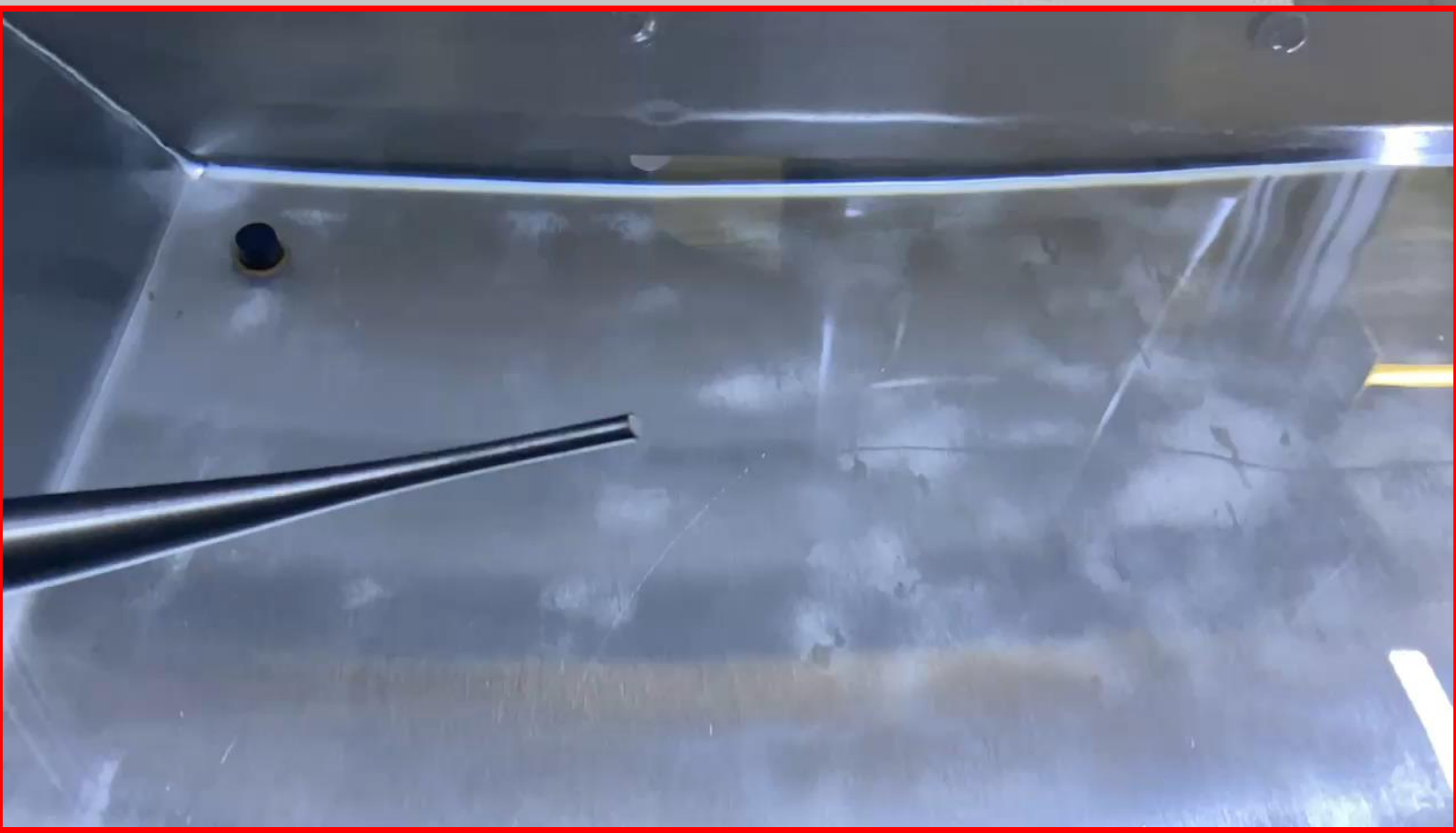
2. Ultrasonic horn swings backwards
→ Under pressure phase

Due to its physical inactivity, the water can't swing backwards quickly enough!
This creates a cold cavitation (vacuum bubbles)

3. Implosion of cavitation bubbles
→ Cavitation-jet (250 – 270 m/s)

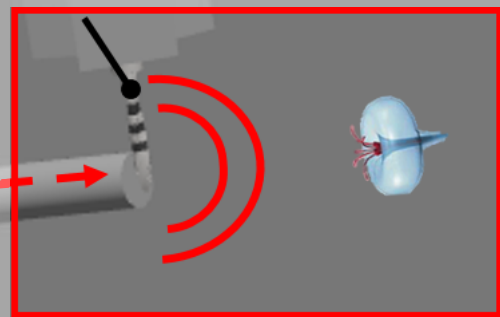


- 1.
- 2.
- 3. In

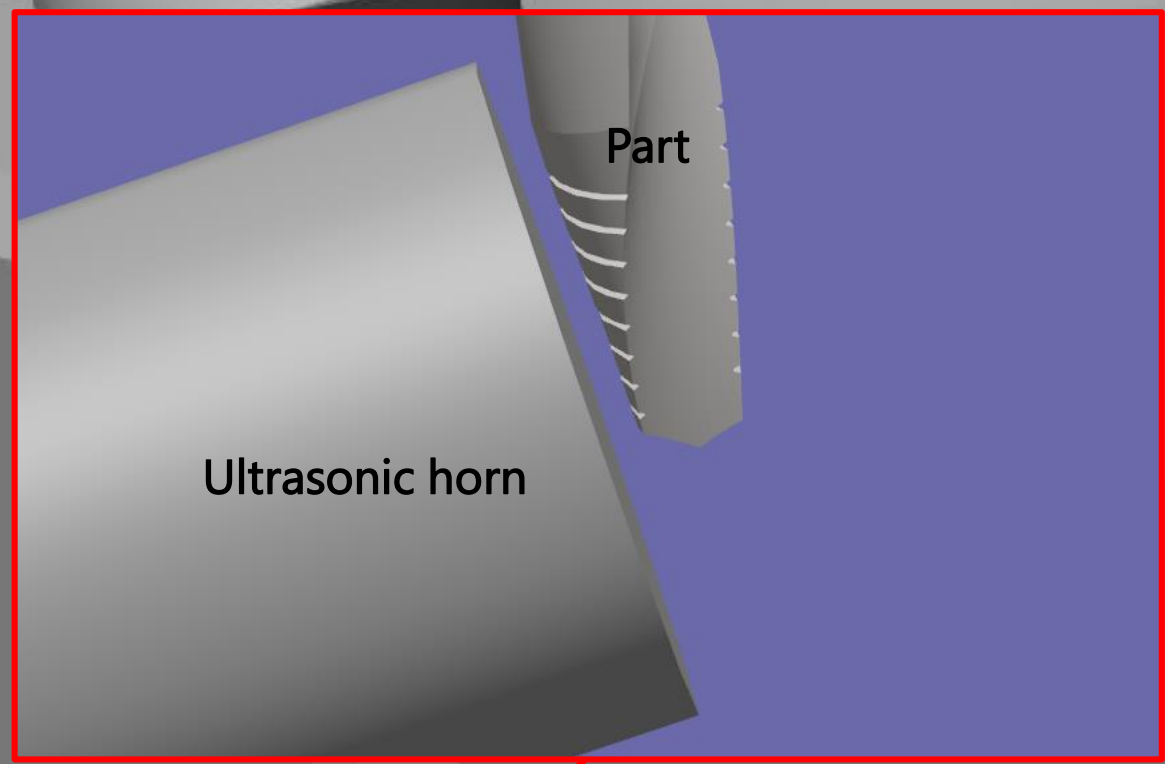


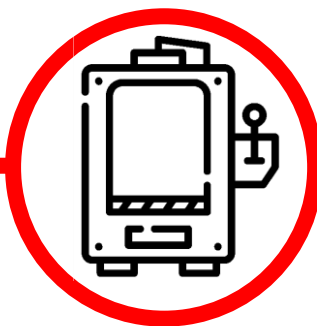
Gripper

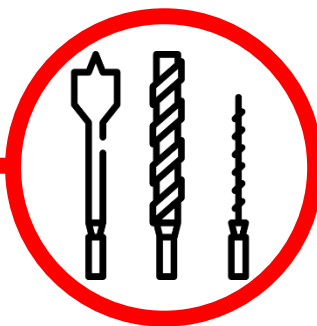
Part



1. Part is guided along the ultrasonic horn:
 - Very short distance (0.3 – 0.7 mm)
 - Defined angle
2. Due to this discontinues jet / current the burrs is starting to oscillate / swing
3. Burr breaks off from the part
→ sharp but burr free edge







// Before

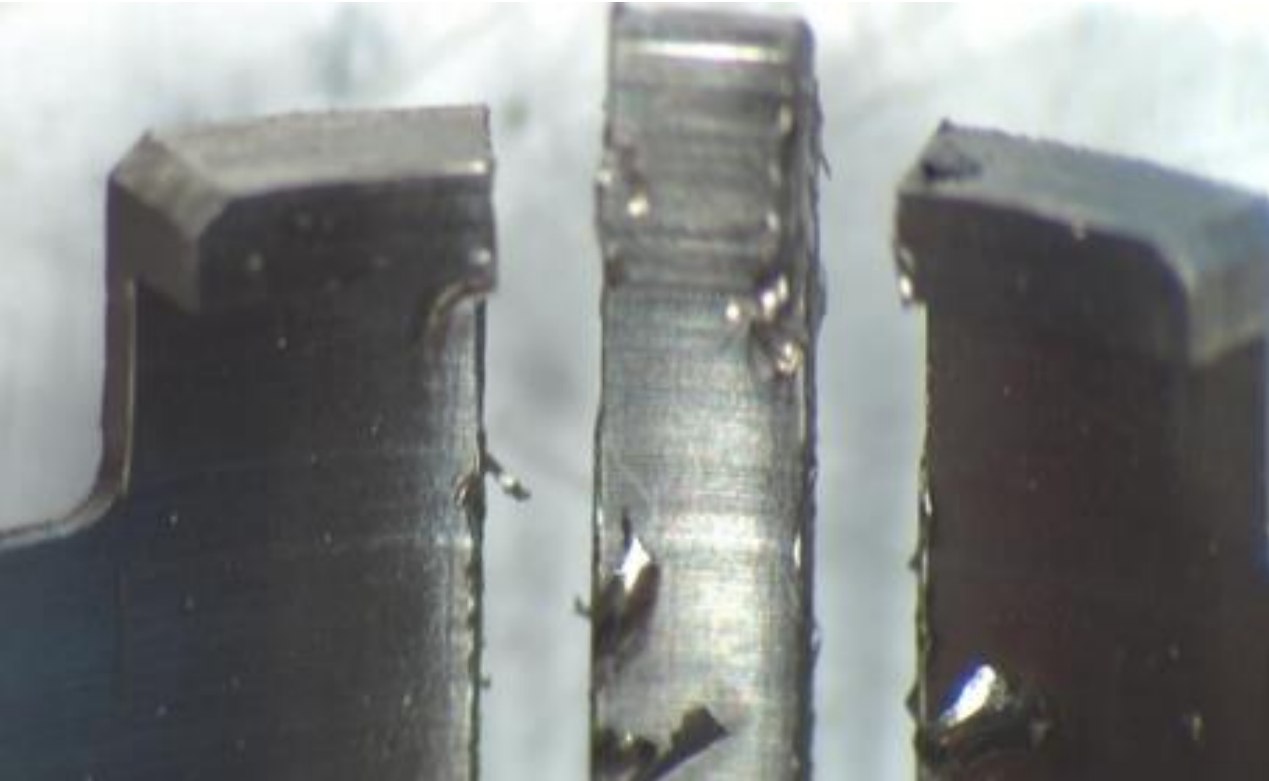


// After

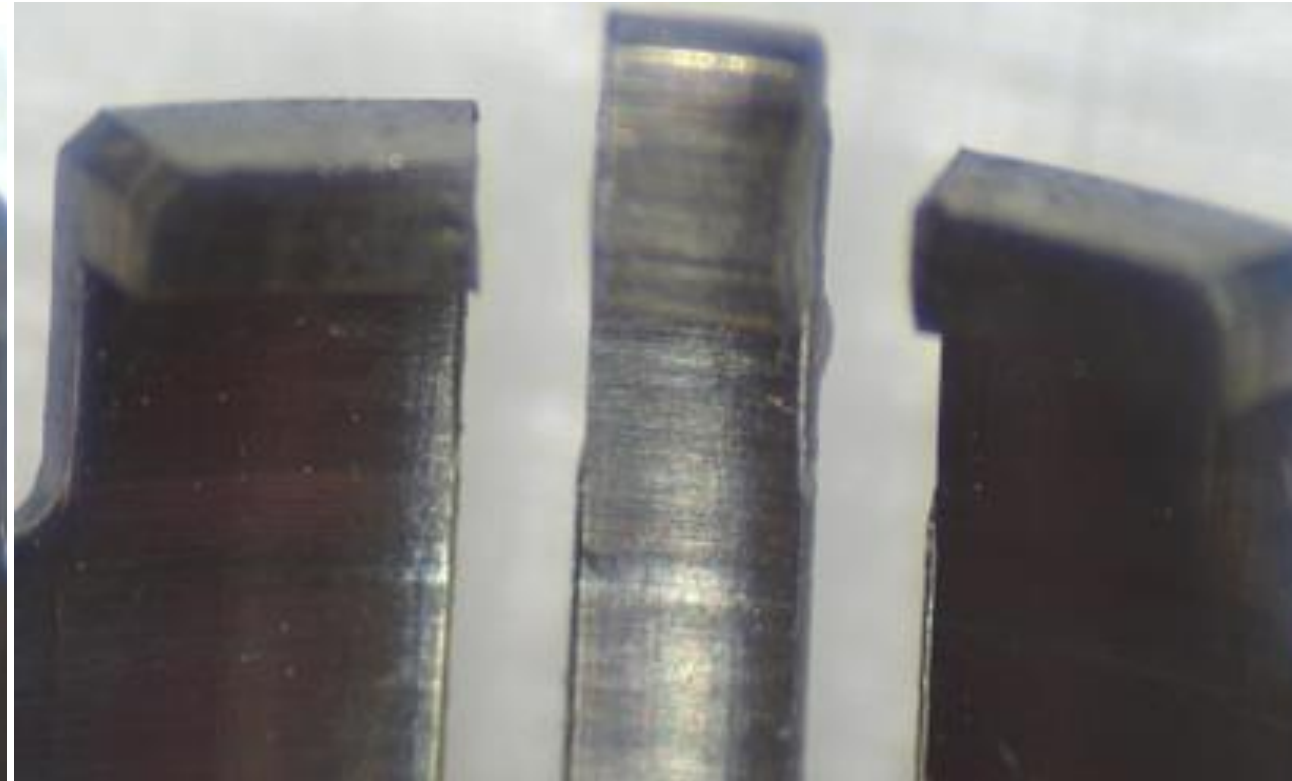


Part:	Medical implant screw made of TiAl6V4 (titanium grade 5)
To deburr:	Cross bores $\varnothing 1,2\text{mm}$ and the cutting edges
Others:	“Jugend forscht” project from Jonas Münz / Jakob Rehberger

// Before



// After



Part:	Medical instrument made of TiAl6V4 (Titan Grade 5)
To deburr:	Edges
Others:	-

// Before

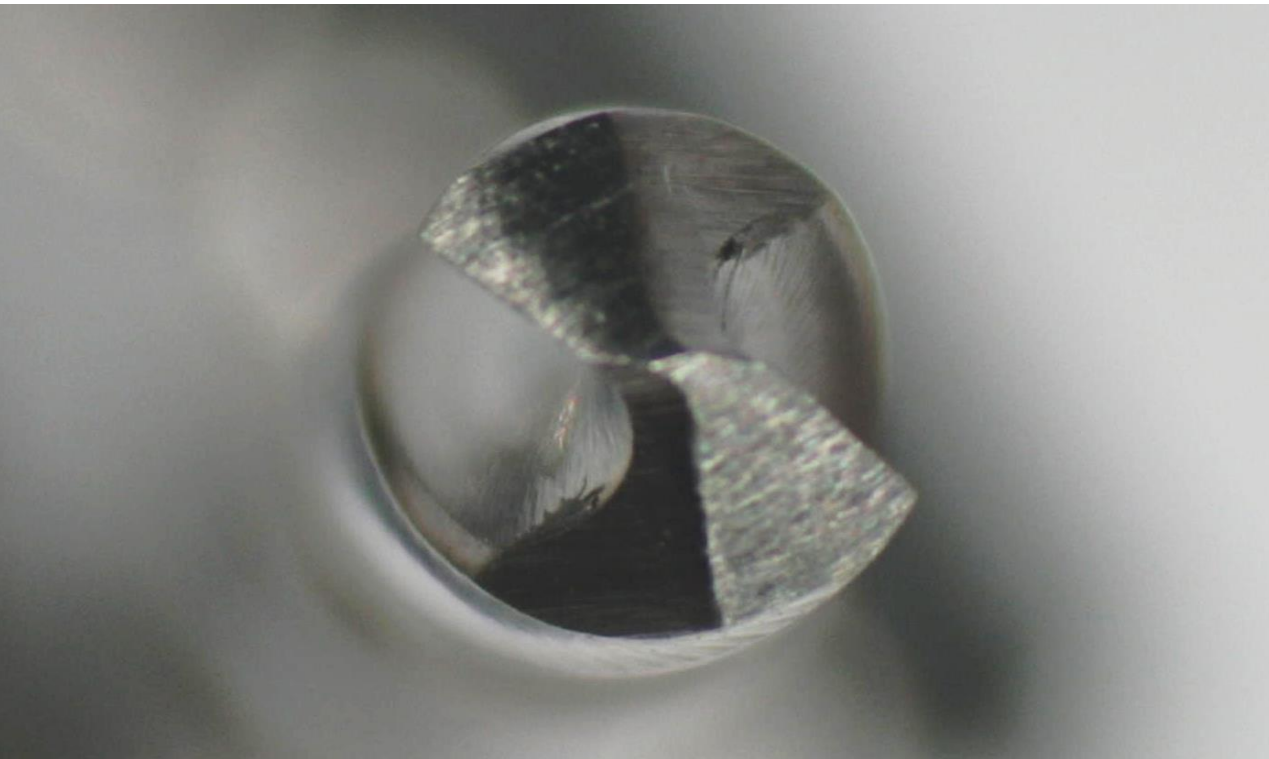


// After



Part:	Body of a PCD radius cutter
To deburr:	Inner cooling bores (cross-bores)
Others:	This process can be seen in our machine at the Vdays!

// Before

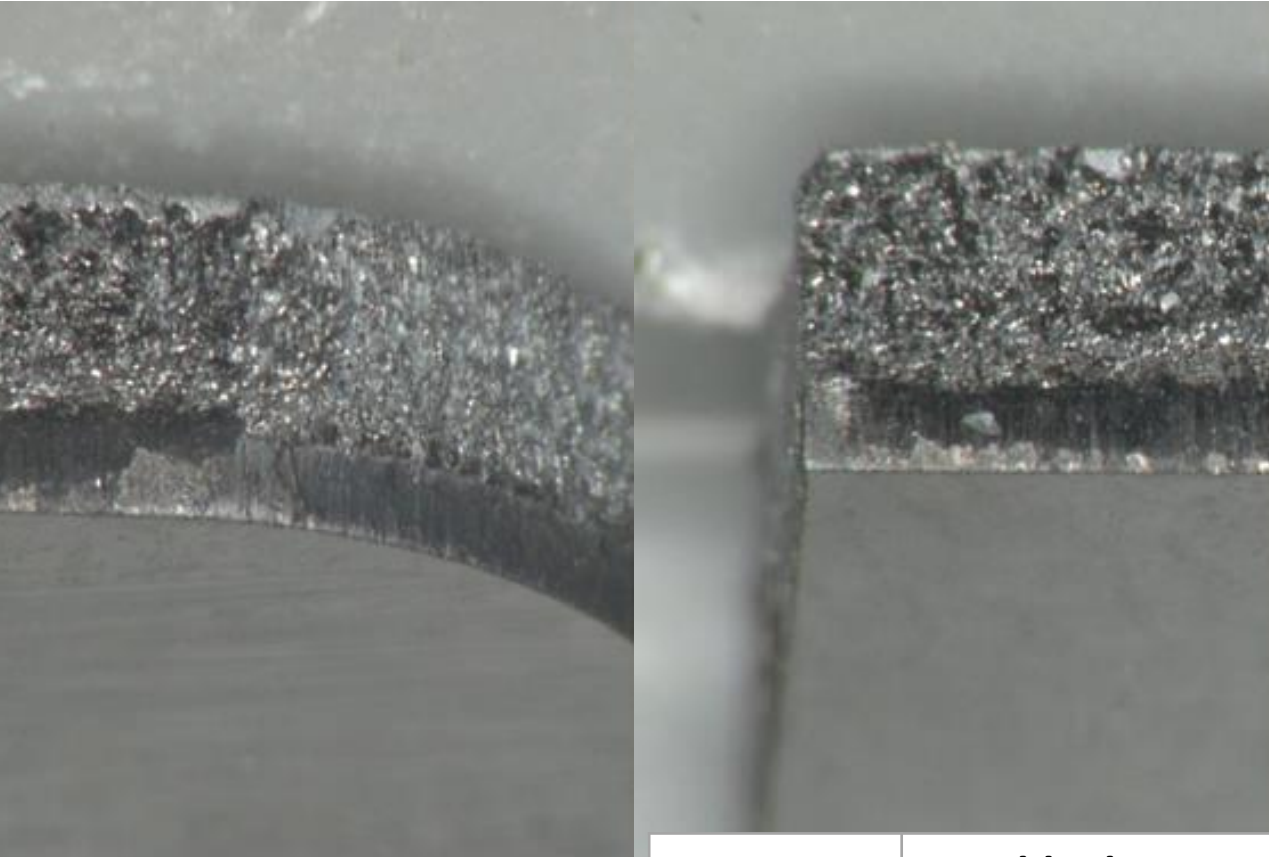


// After

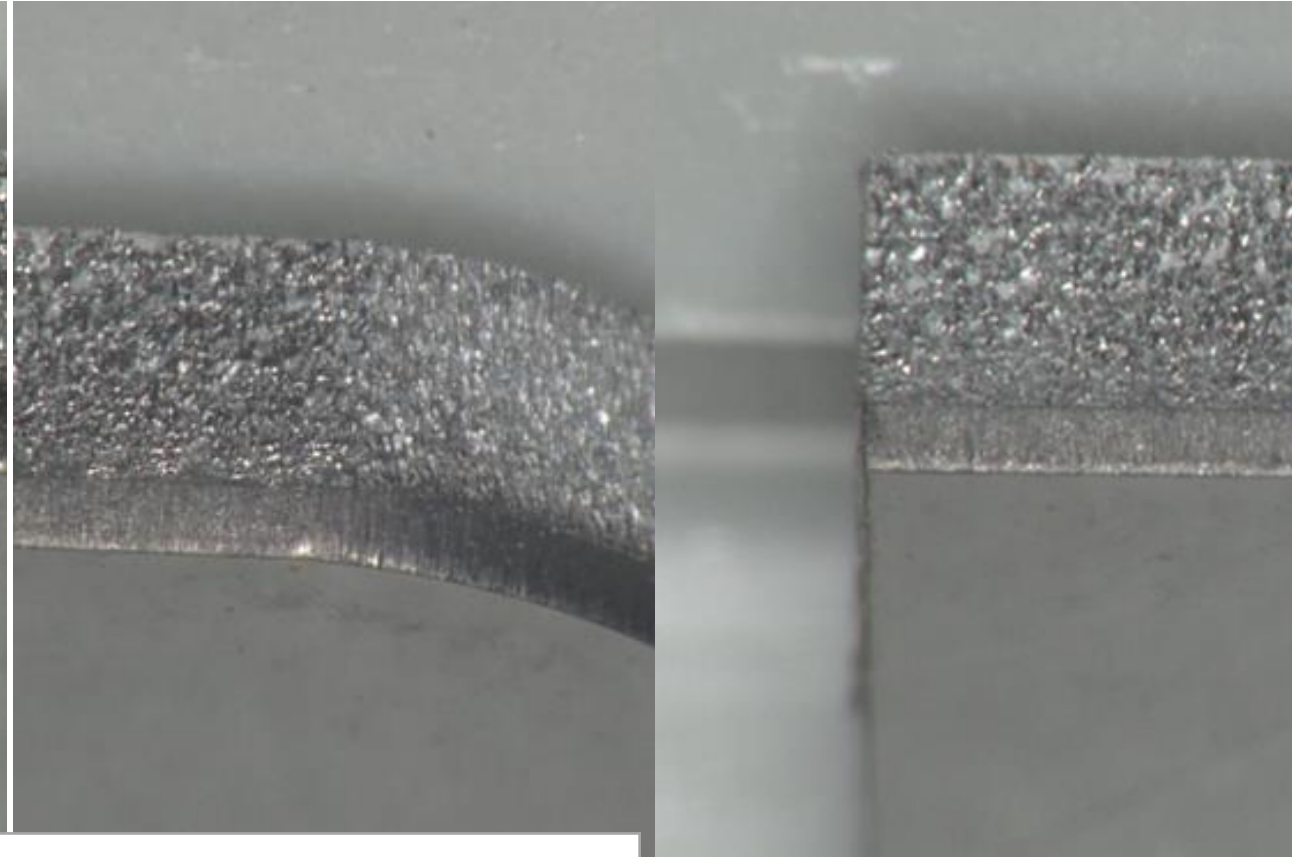


Part:	HSS drill Ø 3,5mm
To deburr:	Cutting edges on top / side
Others:	-

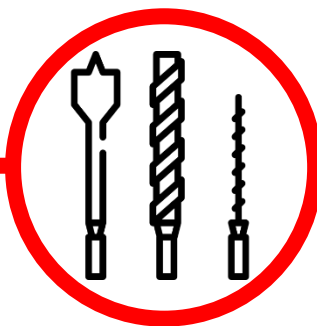
// Before

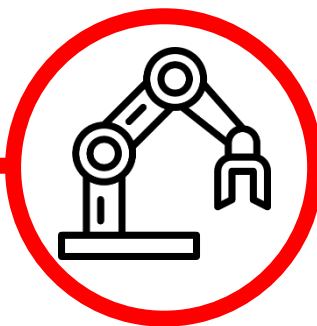


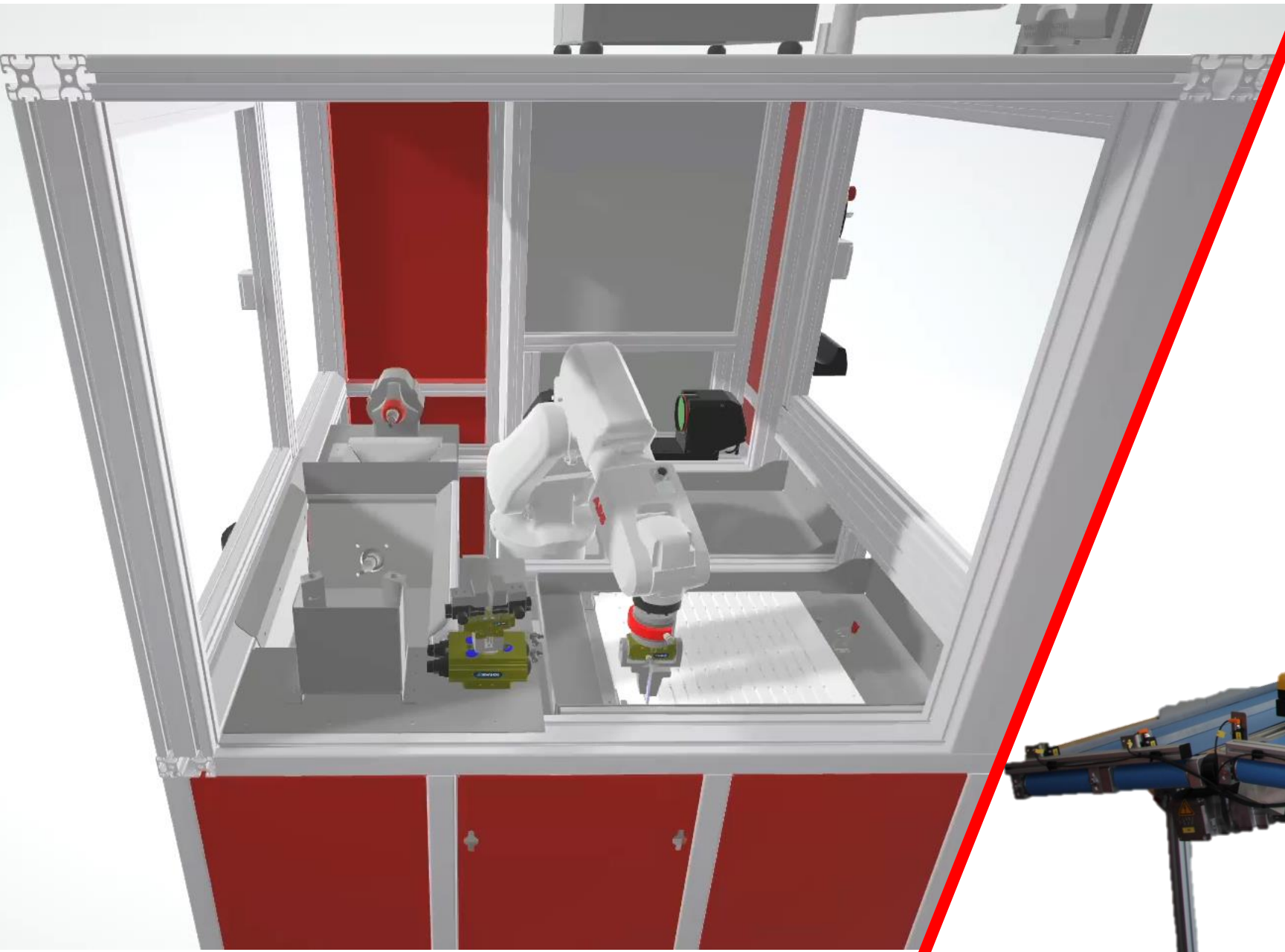
// After

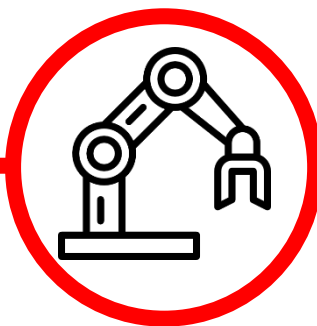


Part:	PCD-blanks
To deburr:	Cleaning PCD-blanks after laser cutting
Others:	autom. alternative to manual glass bead blasting





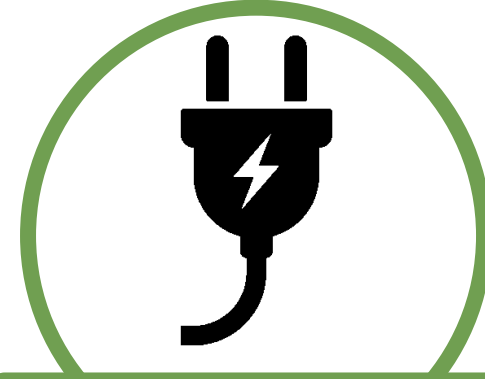








No chemicals



5,8 kVA

ultra**TEC**
innovation



Local supplier



Digital service





**Thanks
for your
attention!**