

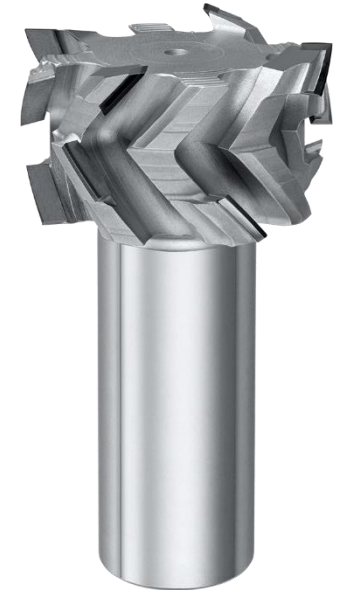
Closed loop – HELISET PLUS

May 2017



Closed loop HELISET PLUS – WALTER EROSION MACHINE - HELICHECK

Affected tools

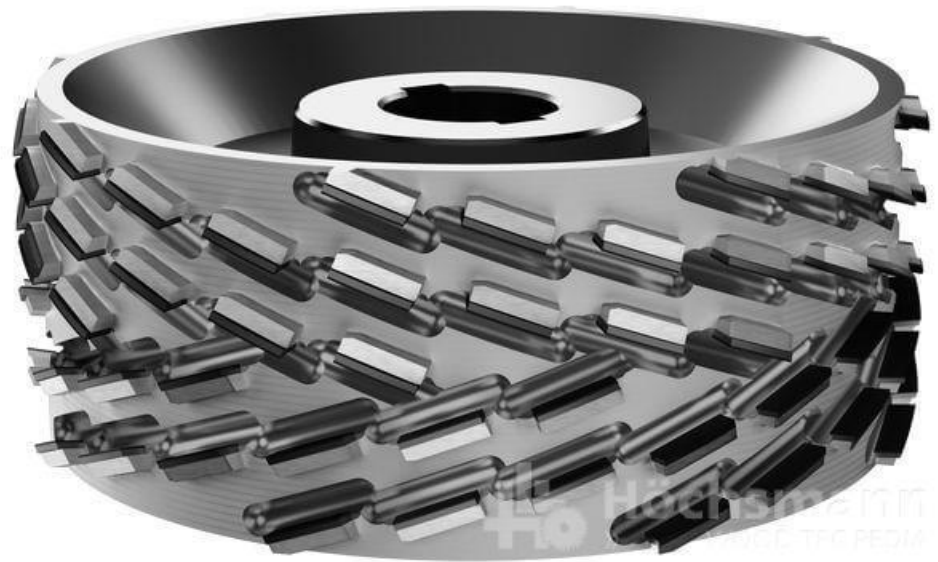


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Example

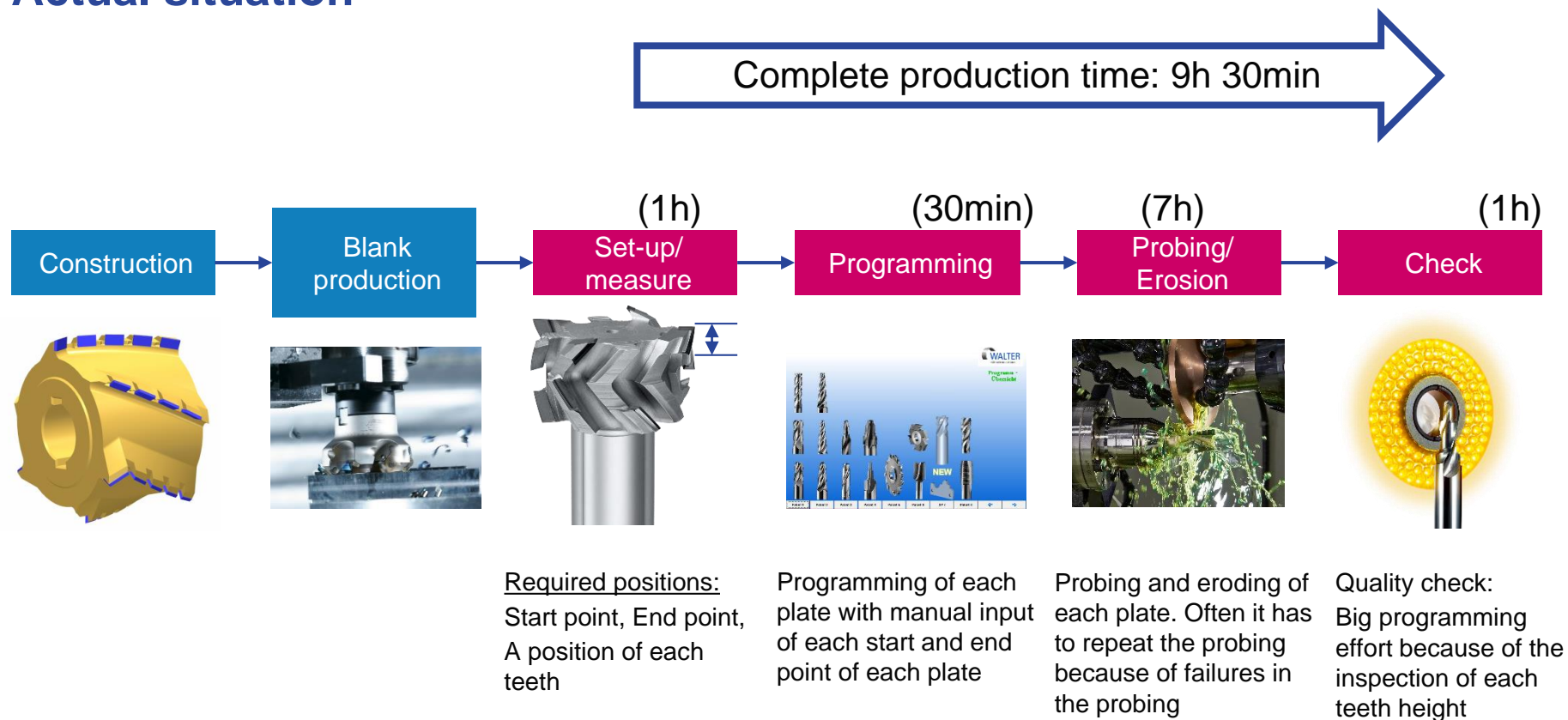
P-System with approx. 104 teeth

- Axial angle 70°
- All start and endpoints of every teeth have to be measured manually by a projector (104 teeth x 2 positions)
- With a projector it is really difficult to see the correct start or end point of the teeth because it shows contrast image
- Enormous probing time in the erosion machine
- Bad probing because of various axial angle
- Quality control is always manual on the projector



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Actual situation



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The requirement



HELISET PLUS

- Measuring of tools with
 - Diameter: 350mm
 - Length: 400mm
- Encoder in the A-Axis
- Fast and manual moving of the axis
- Touch panel
- Software specialized for PCD wood working tools
- Software for wheel measurement



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User interface for measuring of the tool

Easy set-up

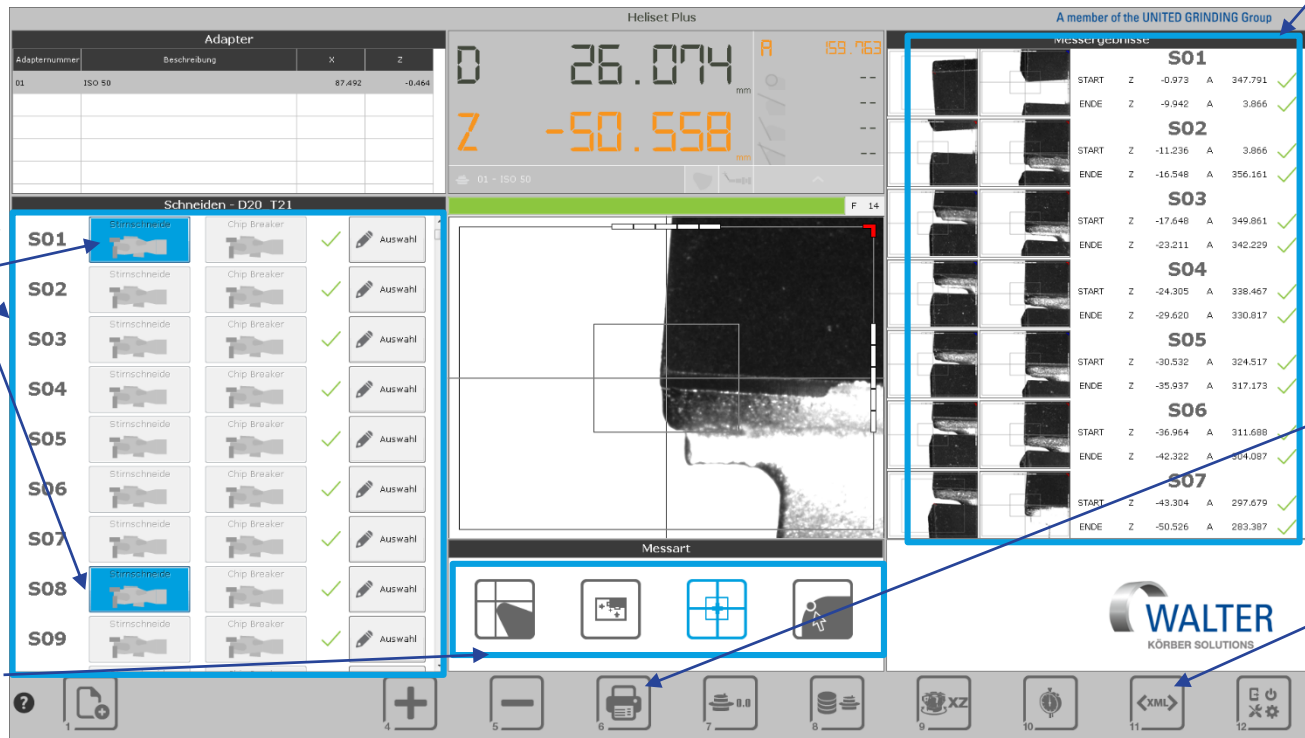
Programming
XML Import

Probing and
erosion

Final Check

Blade history and
screenshots

Blade selection
with chip breaker
and end face



PDF print

XML export

Cursor selection

User interface

- Back light camera with episcopes for perfect position detection
- Chip breaker and End face blade selection
- Chaotic measuring (the operator decided the measuring rule)
- Measuring point selection via touch screen
- XML Export
- Detection and warning of already measured blades
- Screenshots of already measured teeth
- PDF export of measuring results



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Blade probing in the machine

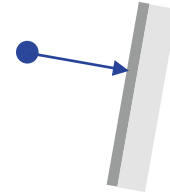
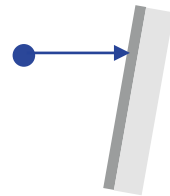


Axial angle

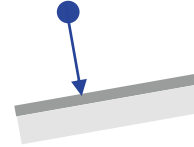
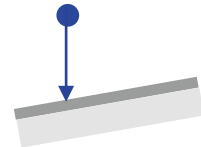
Probing direction
without XML file

Probing direction
with XML file

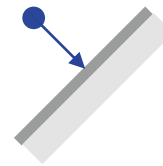
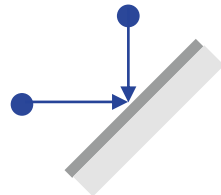
< 45°



> 45°



= 45°

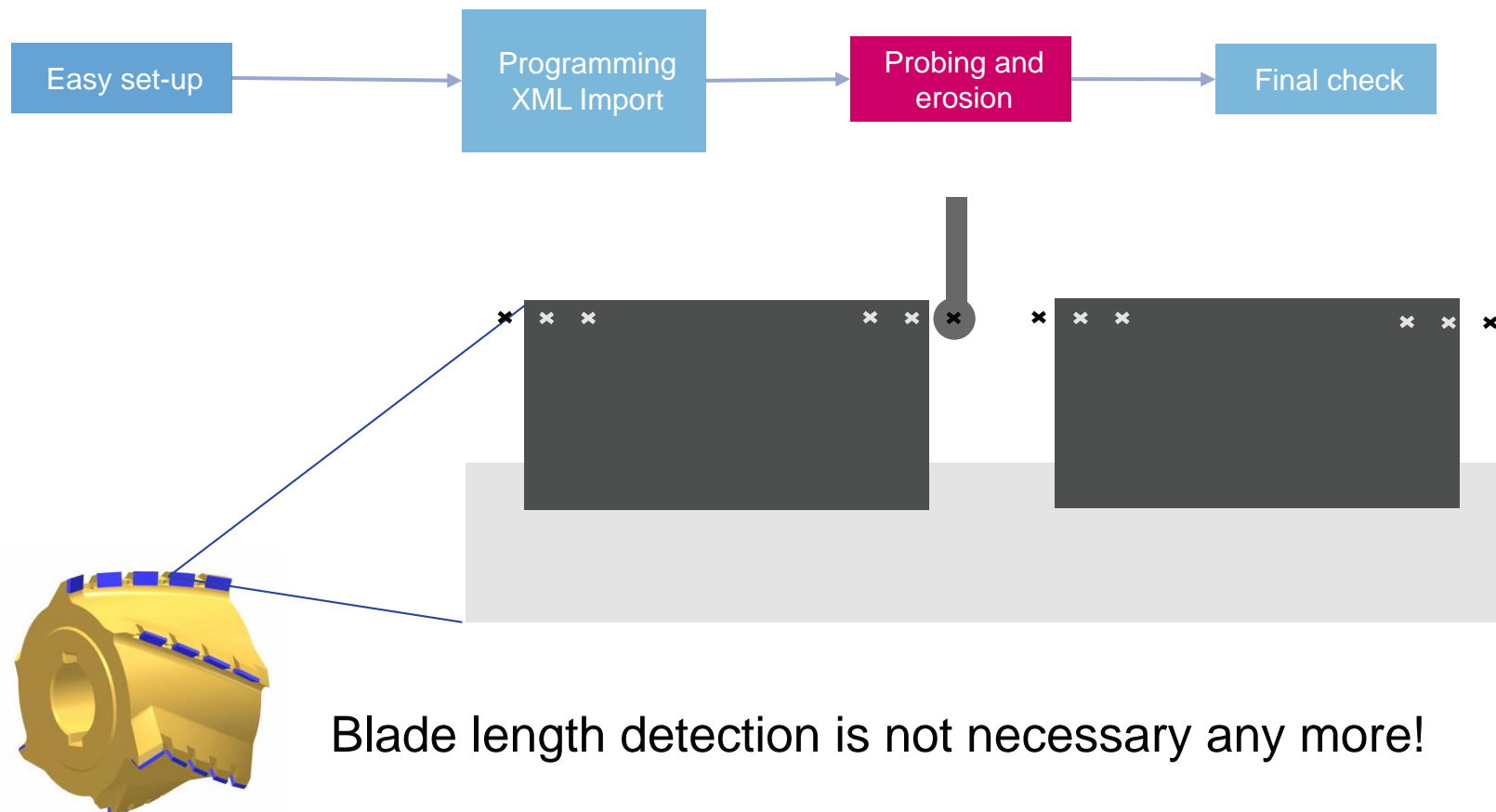


ADVANTAGE

- More precise probing
- Less failure probing
- No angle detection needed
- Faster probing

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Blade length detection in the machine



Blade length detection is not necessary any more!

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Final Tool Check



HELISET PLUS

TDI Data Output

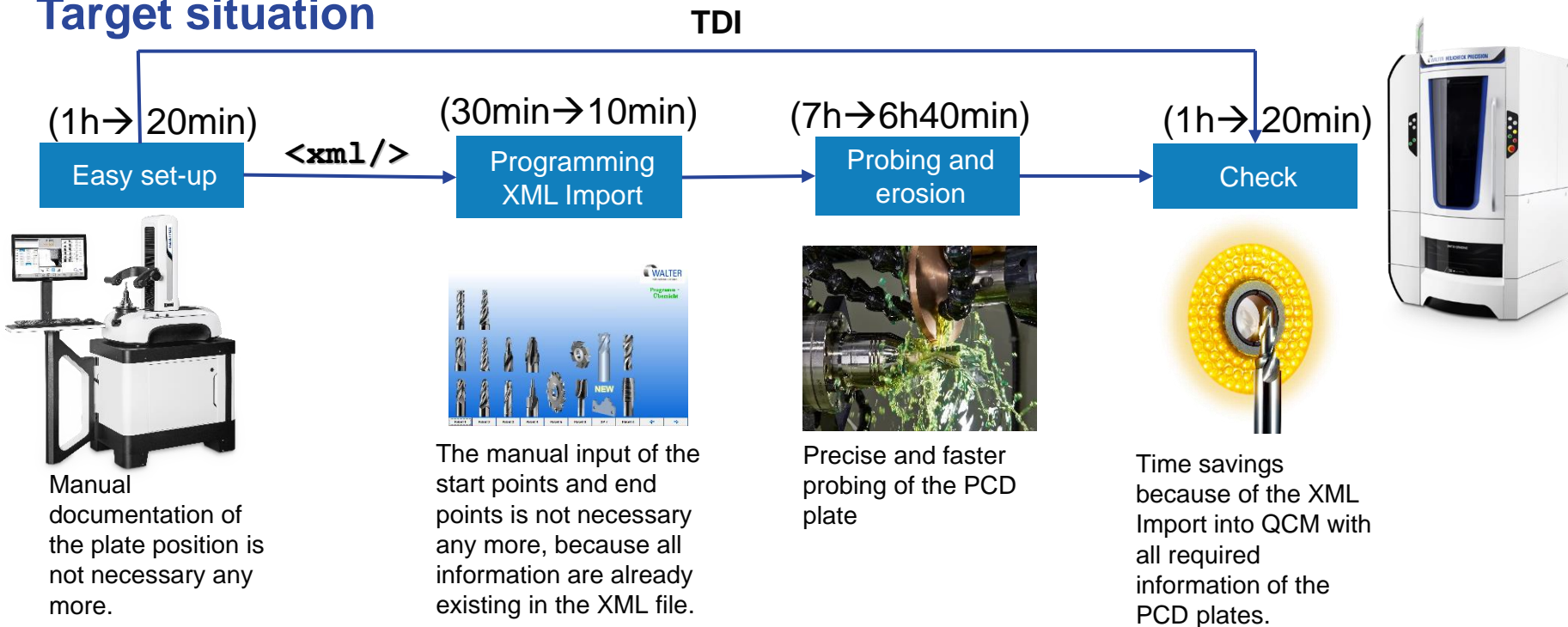


HELICHECK

- Helicheck uses Standard TDI Interface
- QCM creates automatic measuring programm
- Time savings for final Tool checks
- No skilled operators for Helicheck needed

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Target situation



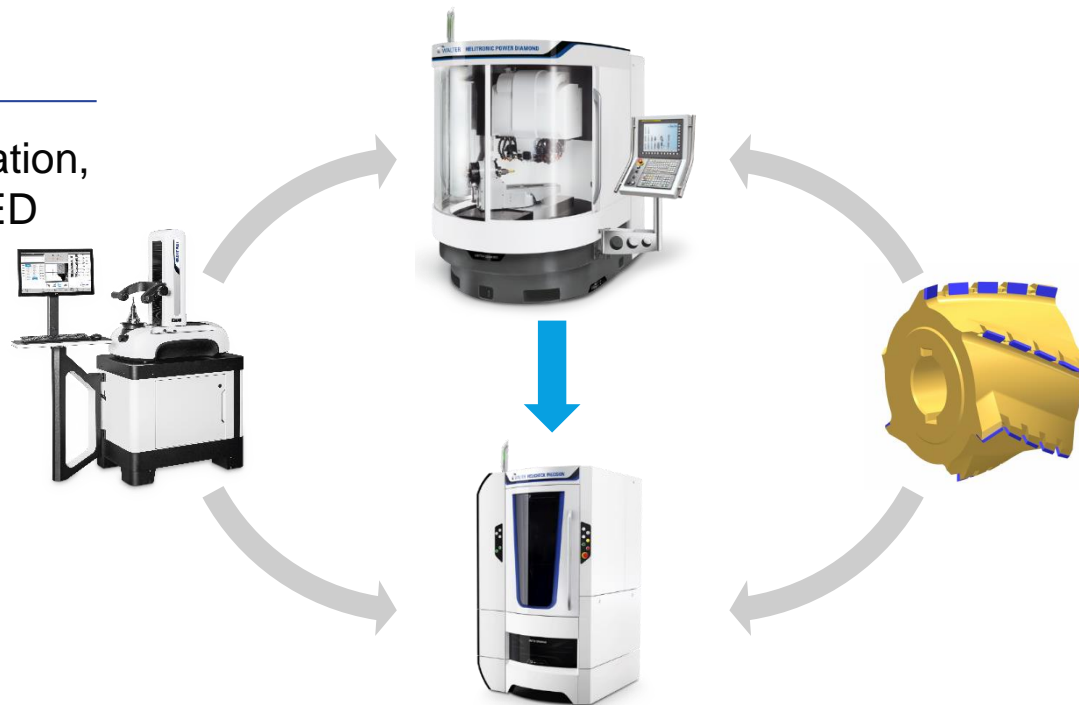
Complete manufacturing time: reduction from 9h30min to 7h30min!

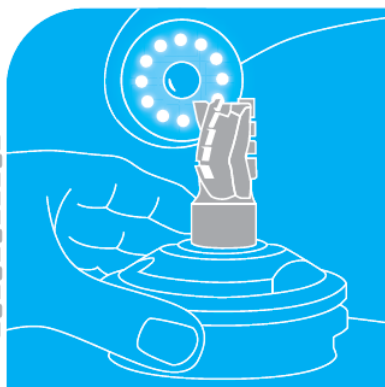
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Summary

Advantages

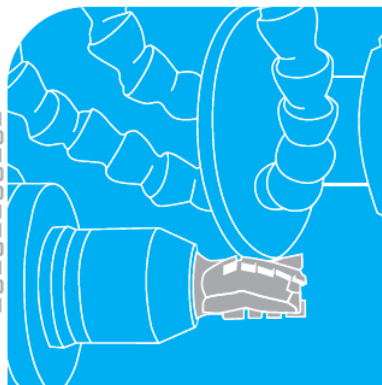
- Manufacturing chain of tool preparation, erosion and quality control (CLOSED LOOP)
- Error prevention by simple data exchange
- Enormous time savings
- Saving of resources
- Efficient usage of the production machine
- Precise and faster probing
- Easy programming





MEASURE

1 0
1011 00 0 000
1100111011011
1111000101010
0100011010100
1001100101011
01100101110001
1001001001100
0110001110011
1000110001100
01110001110011
100011100110
0 110001 0 0
1 0 11 0 1



PRODUCE

1
00 0 001 000
00 110110 111
1100010010000
10011101100111
00000010001000
10111001110101
01000110001010
10110001110100
00001110001010
11011000110101
00100011001010
11011100101100
001000100 00 1
110 110 0 1 0
0 0



CONTROL

1 1 00
0 1 101 0 111
110 010110000
0011101001011
1000000110100
0011110001001
0100001110110
1010110001001
0101001110110
1010000001000
0101011100111
1010100011000
0101011000111
0110000111000
1001101100011
11100100 1100
00011011 0 10
01 0 1