

**MOLDINO**



**MOULD INNOVATION on DIE/MOLD**  
**MOLDINO**

**DIE**

**INOVation**

# Our „classical“ product



**Frese integrali**



**Frese fissaggio meccanico**



**Frese CBN e diamantate**



**Frese a filettare**

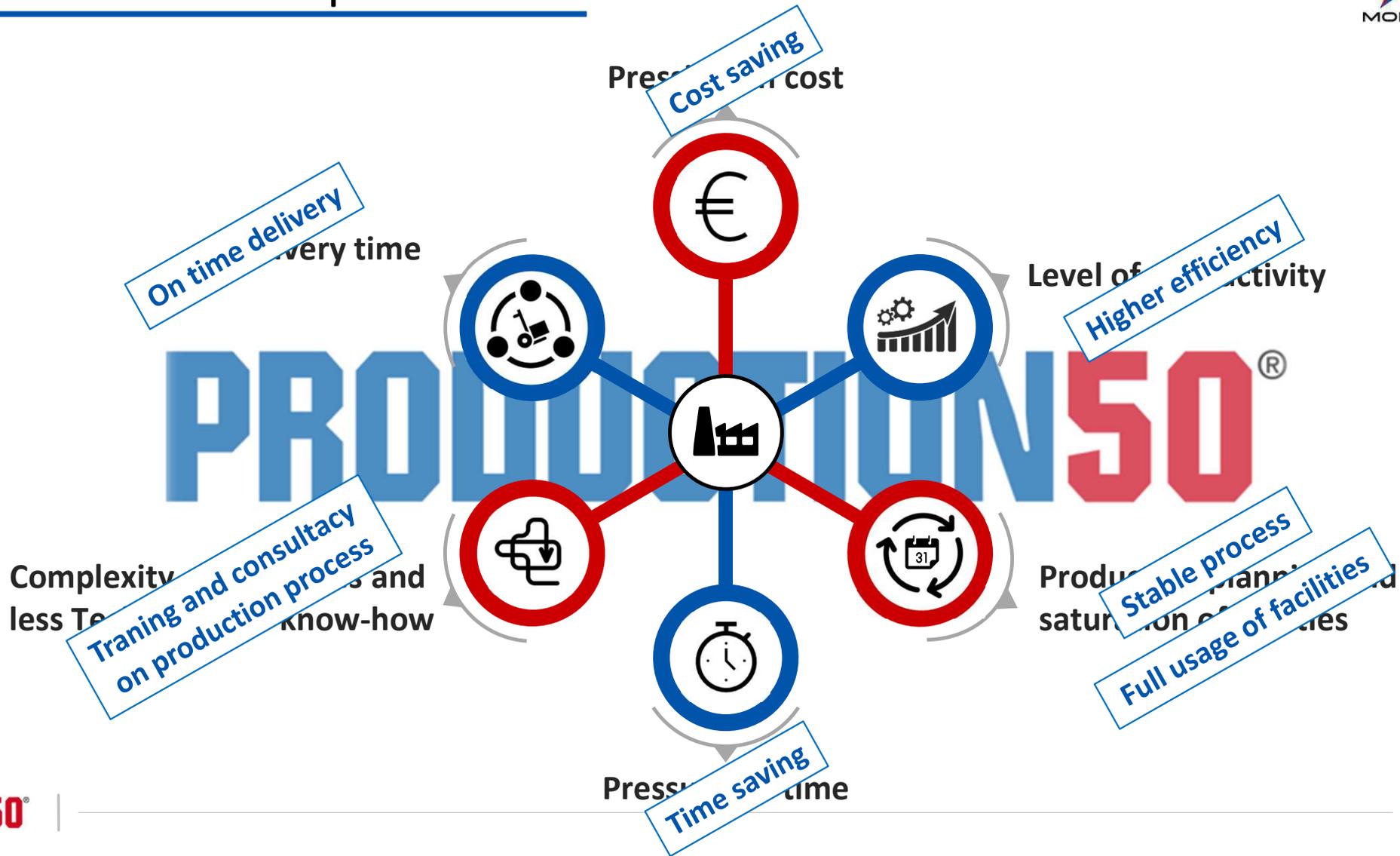


**Punte per foratura profonda**



**Mandrini porta-frese**

# Our distinctive product



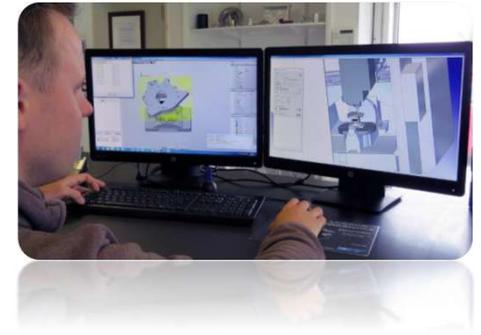


*Globalized competition is leading to increased cost pressure, while customers are demanding higher quality and fast delivery times. In addition to a global focus, German toolmakers are also required to meet deadlines, product quality and cost efficiency. In addition, the shortage of skilled workers has a decisive influence on toolmaking.<sup>1</sup>*

 **Fraunhofer**

<sup>1</sup> Erfolgreich Automatisieren im Werkzeugbau IPT

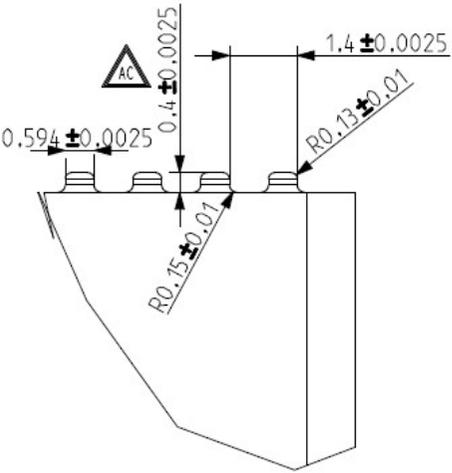
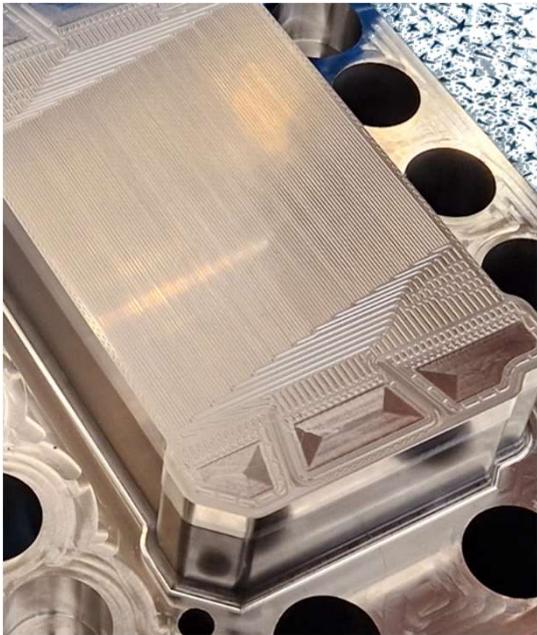
PRODUCTION5<sup>U</sup>



# What are the Challenges?



# What are the Challenges?



## Chemical Composition

\* Chemical Composition (Average %)

C	Si	Mn	Cr	Mo
2.47	0.55	0.40	4.20	3.80
V	W	Co		
9.00	1.00	2.00		

Hardness up to 66HRC







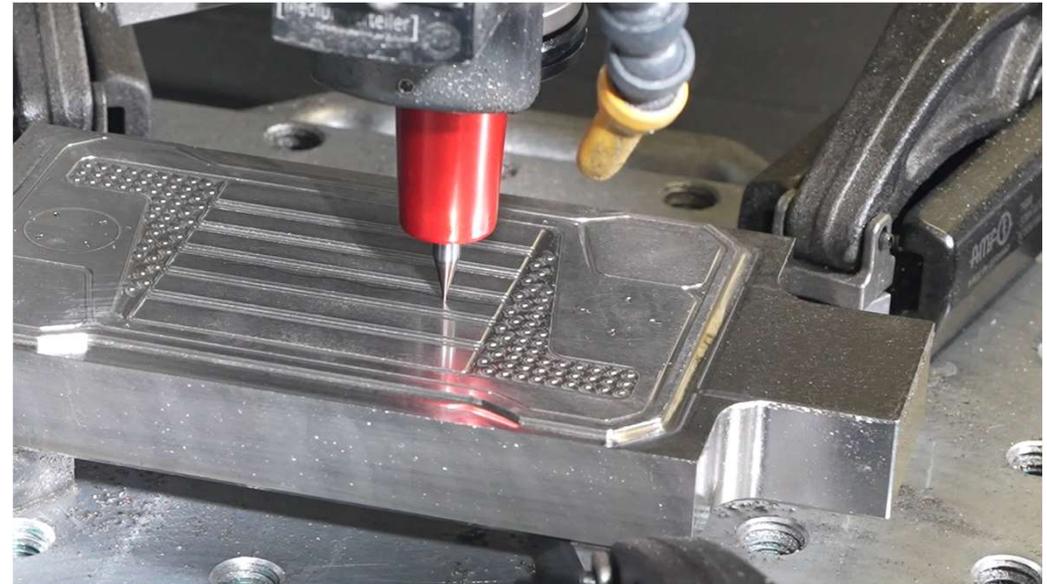
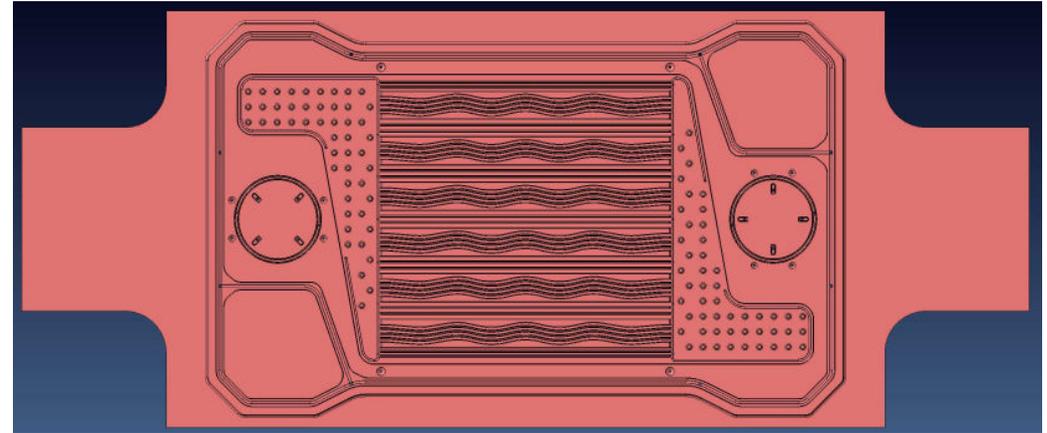
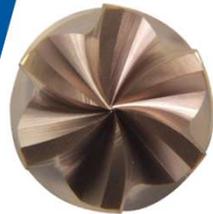
# Tailored tools for bipolar die milling

## Polygon-Tool

Diameter:  
0.5 – 12 mm

Flutes:  
4 & 6

Working material hardness:  
up to 68 HRC



Material: ZAPP Z-3 PM<sup>cold</sup> | 59 HRC

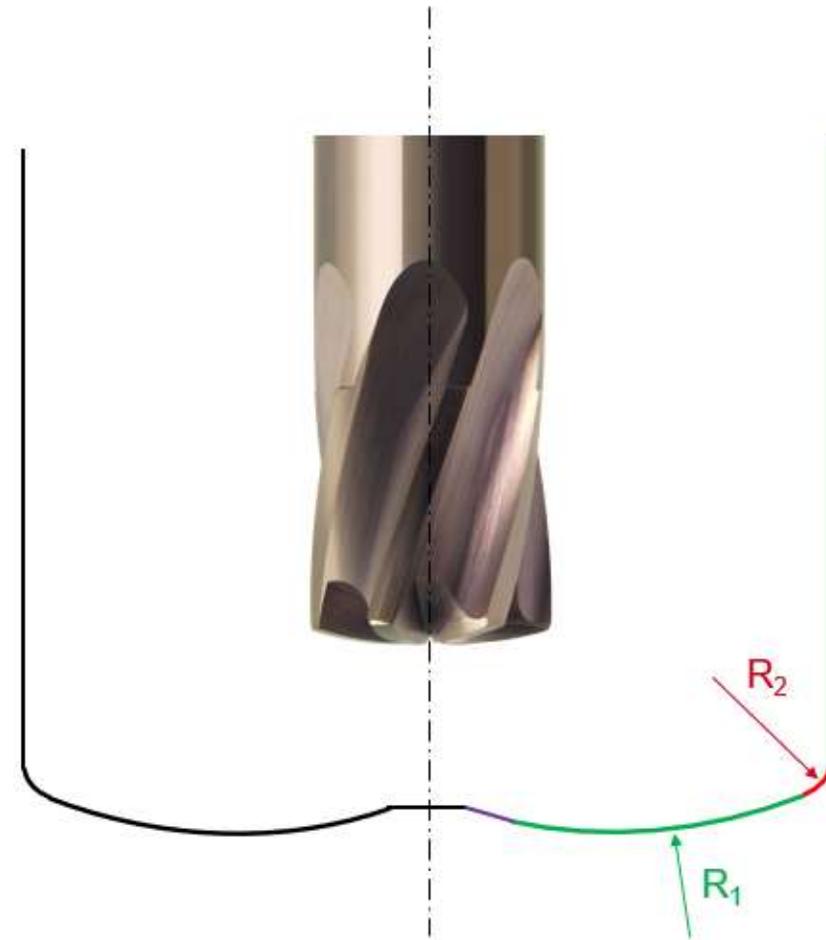
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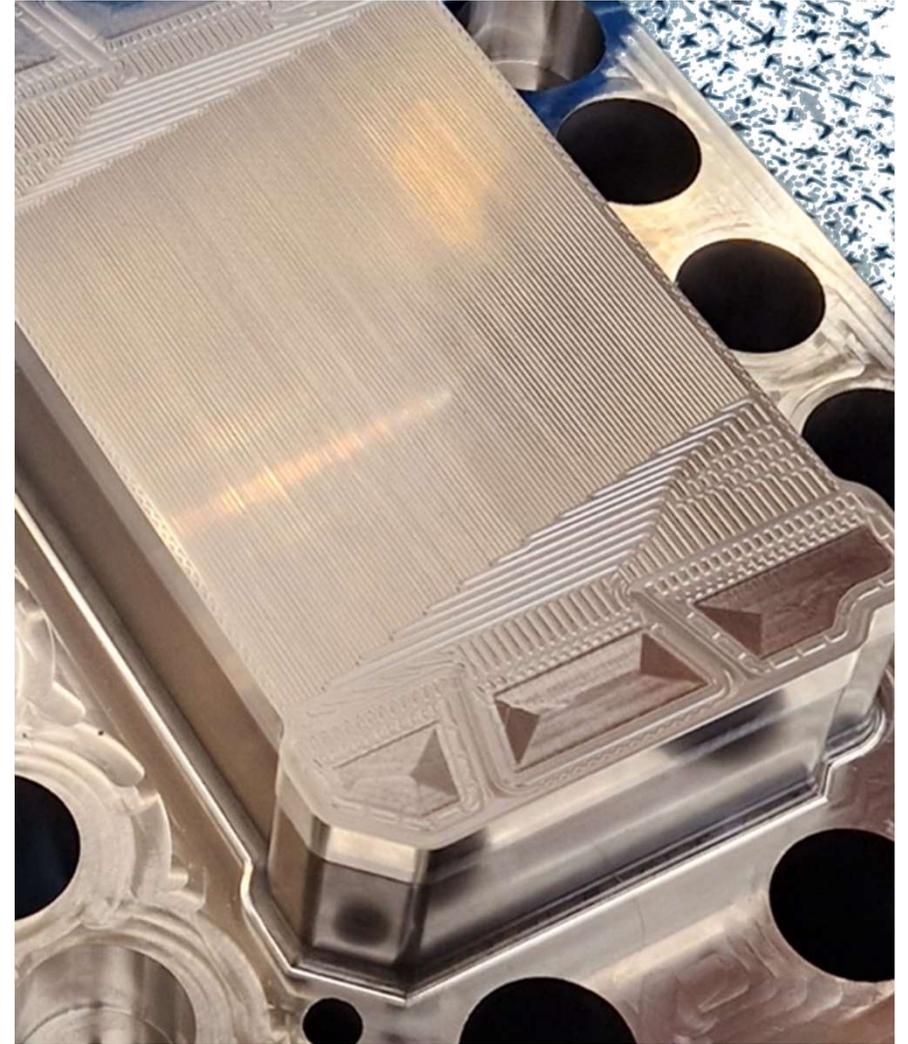
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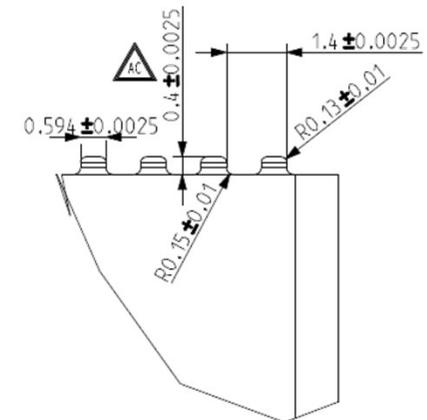
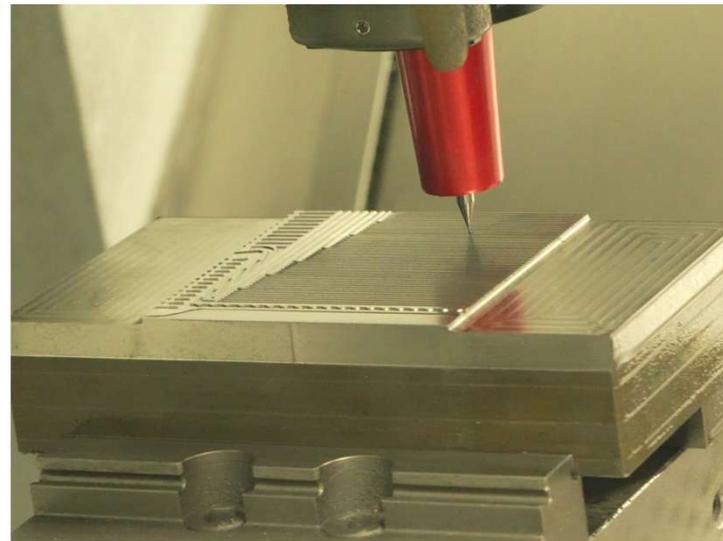
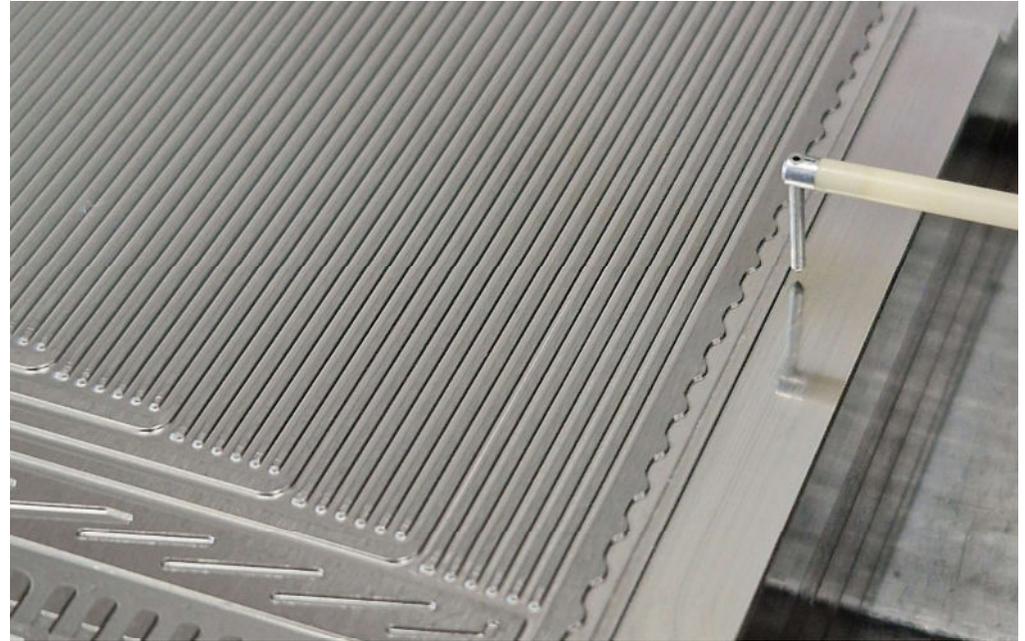
Roughing

Vc	n	fz	Vf	ap	ae
66	42000	0.014	2300	0.015	0.320

# What is important for semi finishing process?



# What is important for finishing process?



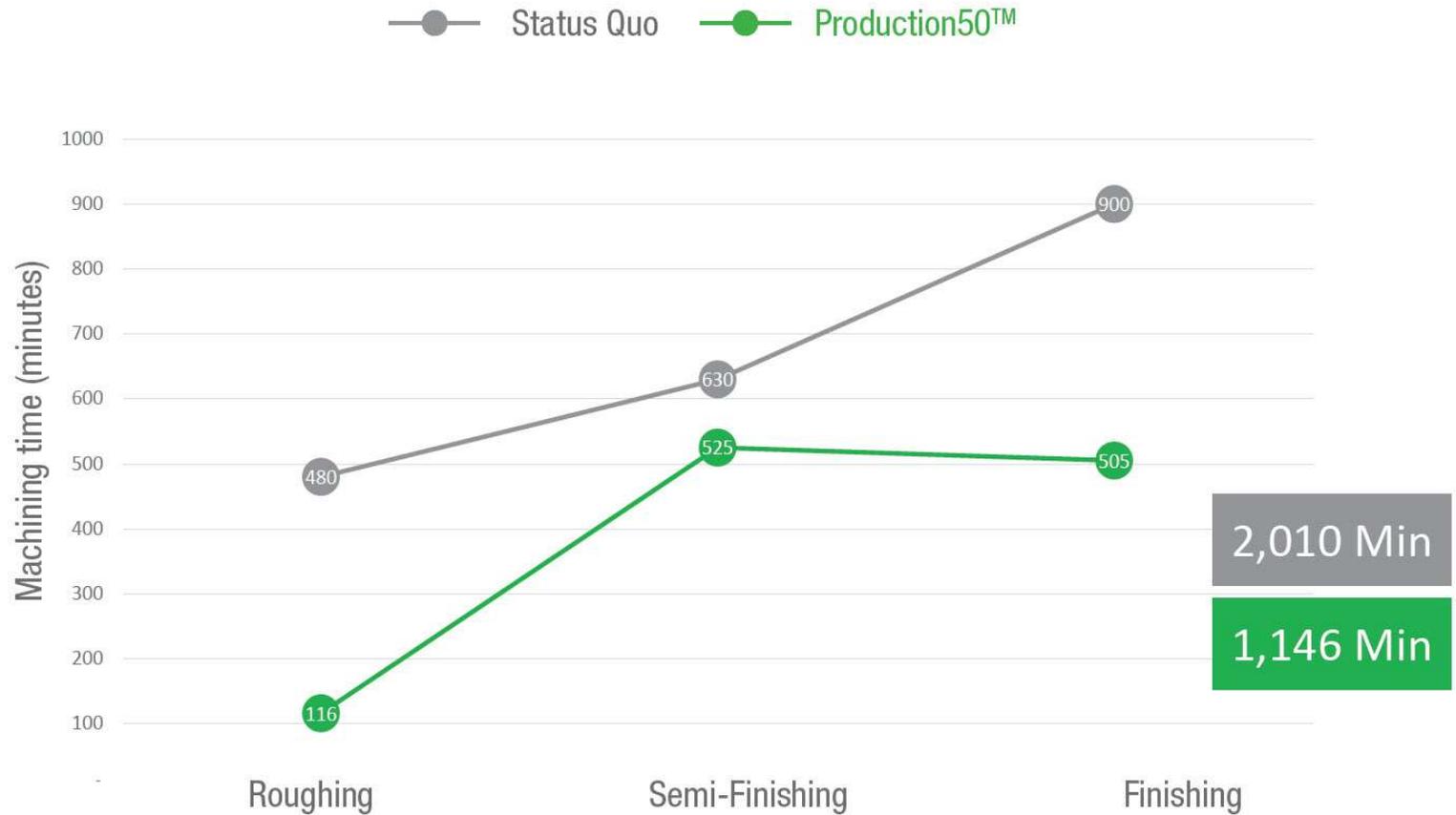
# What is important for machining setup?



# Process optimization

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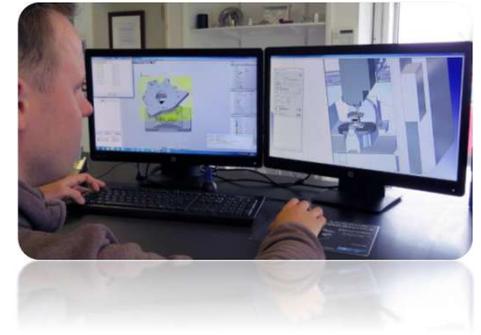
Machining time reduced by **43%**

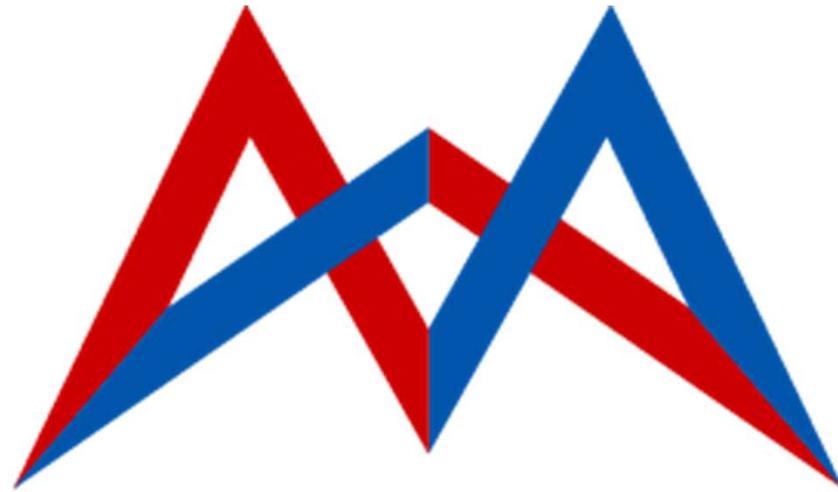






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**THANKS FOR YOUR ATTENTION**