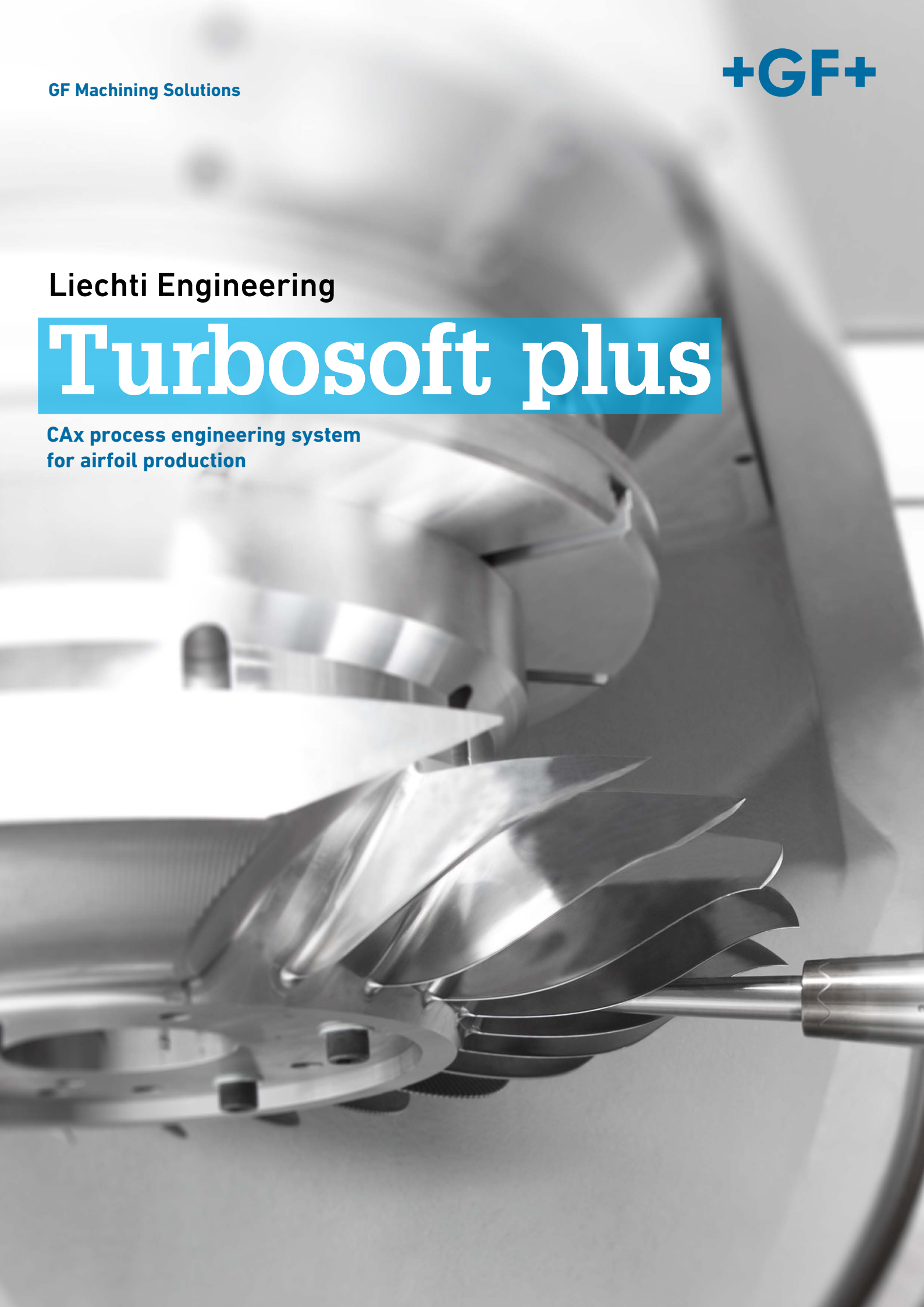


Liechti Engineering

# Turbosoft plus

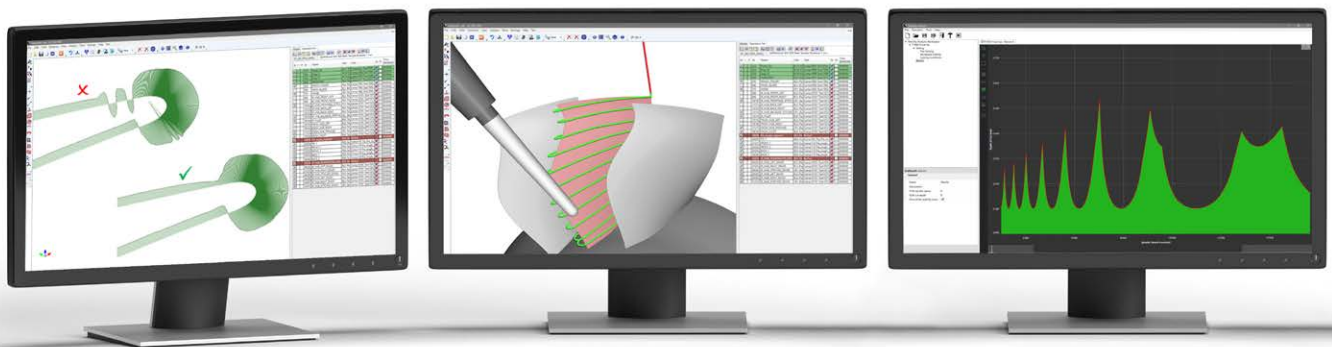
CAX process engineering system  
for airfoil production



Turbosoft plus

# Most powerful CAx package for airfoil production

Over the past 20 years Turbosoft plus has evolved from a CAD/CAM software to a CAx system providing more than 500 airfoil machining centers worldwide with the g-technology tool path for continuous dynamic manufacturing of precision airfoils. Every step of the process engineering chain is covered in one dedicated software solution. Where most CAD/CAM systems stop at generating numerical control toolpaths, Turbosoft plus keeps on offering you solutions with a set of modules giving you control of the complete process. Turbosoft plus supports you on your way to machine the most challenging turbine parts.



## Blade builder and optimization

With tools like Blade builder and Blade optimization, a single face geometry with optimized continuity can be generated. This leads to toolpaths with optimized geometries with less axes reversals, a better surface quality and reduced machining time.

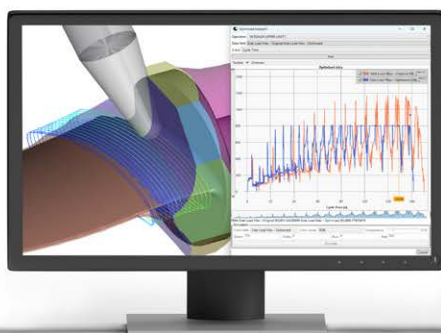
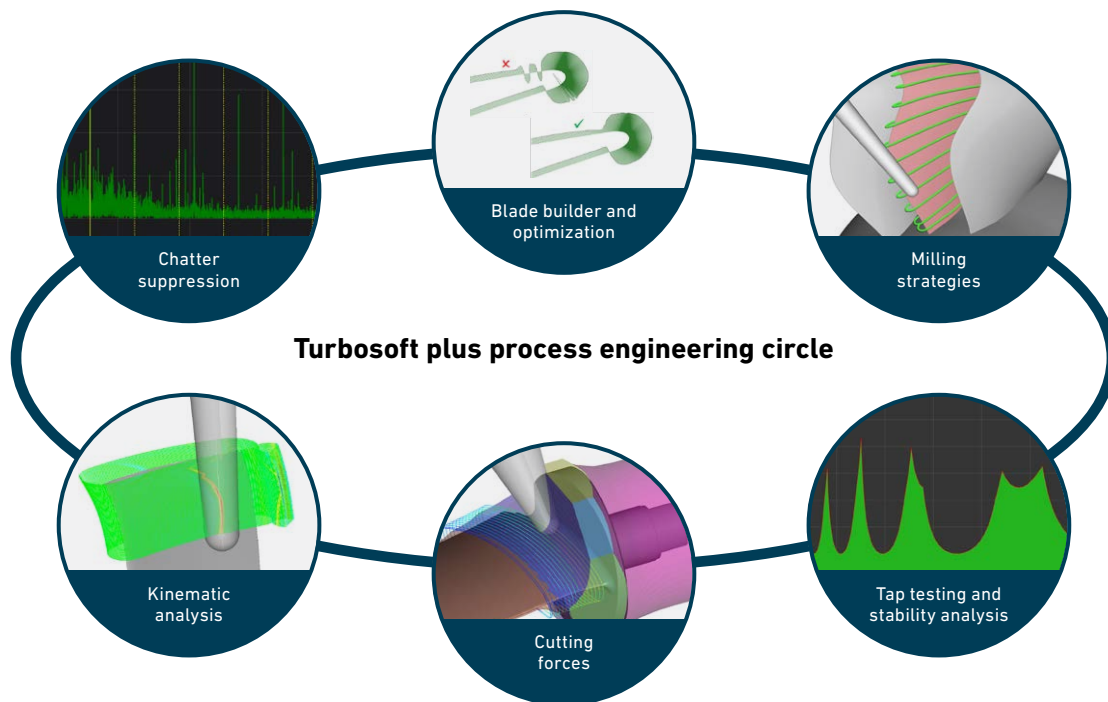
## Milling strategies

With its rich set of milling strategies, Turbosoft plus offers dedicated solutions for all kind of Blades, Blisks/IBR and Blings. With a set of optional parameters, each strategy is able to create your desired toolpath. Automatic communication between machine and Turbosoft plus allows an adaptive tool path generation without operator intervention.

## Tap testing and stability analysis

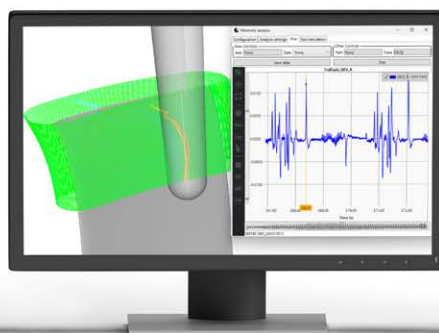
Dynamics is a set of powerful tools to improve the overall milling process. The tap testing and stability analysis modules offer new possibilities to find optimal cutting parameters leading to increased efficiency as well as improved part quality in your machining process.





### Cutting forces

Cutting forces is an integrated module for analyzing the cutting forces and optimizing the feedrate, resulting in higher productivity. The optimization increases the feedrate in areas with low forces and decreases the feedrate in areas with high forces. The resulting cutting forces are much more constant (blue curve). This improves tool life, reduces costs and decreases the machining time.



### Kinematic analysis

Issues with surface quality or accuracy are difficult to determine. With the kinematic analysis function, the traced toolpath can be analyzed directly on the geometry in Turbosoft plus. Axis reversals, abrupt orientation changes of the toolpath or mechanical problems of the machine are made visible and can be revised.



### Chatter suppression

The data acquisition module offers data collection for process diagnosis. If chatter happens during machining, sound can be recorded with a microphone and analyzed. The module offers handy tools to calculate the tooth passing frequency and suggests new spindle speeds to eliminate chatter.



# At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser, Additive Manufacturing, Spindle, Tooling and Automation solutions. A comprehensive package of services completes our proposition.

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