Renishaw plc
New Mills, Wotton-under-Edge,
Gloucestershire, GL12 8JR
United Kingdom

T +44 (0)1453 524524
F +44 (0)1453 524901
E uk@renishaw.com
www.renishaw.com

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Blade Toolkit – Renishaw tools for blade inspection and analysis

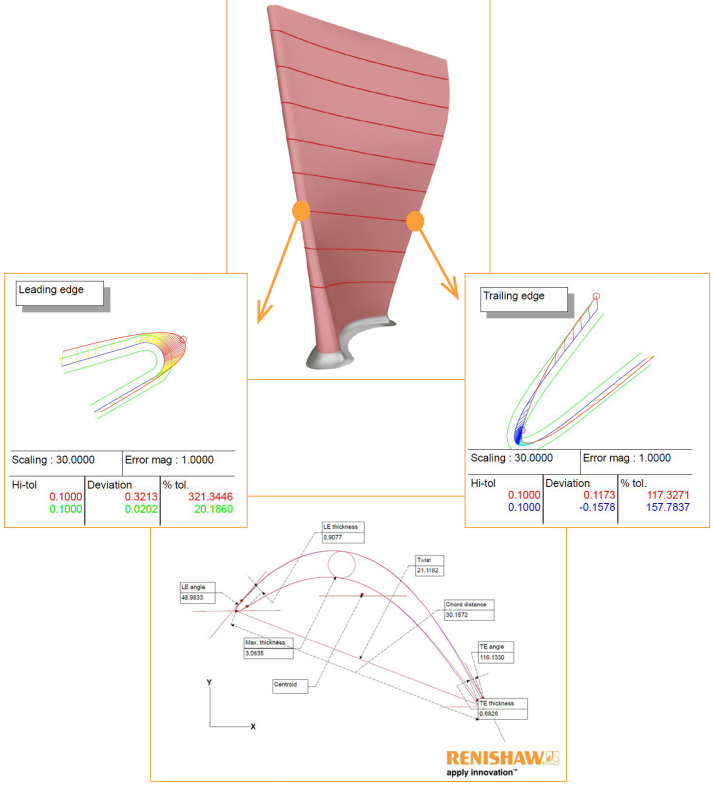
Renishaw is introducing a step change in the way the aerospace industry measures airfoil components.

The new Blade Toolkit comprising APEXBlade, SurfitBlade and MODUS metrology software breaks through the limitations of standard measurement techniques.

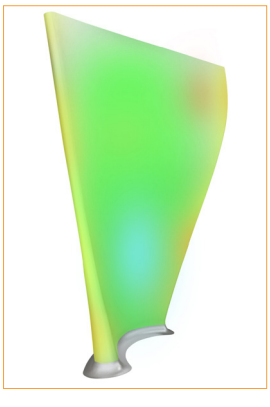
Traditional methods have determined that blades have been inspected in a limited number of cross sections. REVO's sweep scanning technology however, enables you to, accurately and quickly, measure and evaluate the whole blade.

Now, an unlimited number of sections or full surface analysis from high precision tactile probing data is possible.

Measure the whole blade quickly and accurately; unlimited sections or full surface analysis is possible from high precision tactile probing data.



Airfoil evaluation



Full surface analysis

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The Blade Toolkit process

The Blade Toolkit process starts with the use of APEXBlade to automatically generate a collision free sweep scan program for REVO, which is then run on the CMM through MODUS.

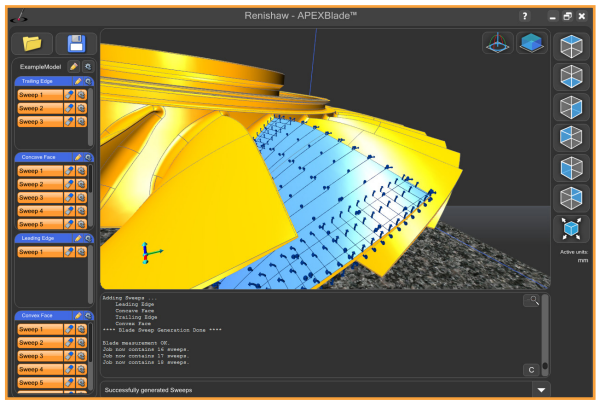
The sweep scan operation produces an accurate 'point cloud' that covers the complete airfoil surface. Using MODUS point cloud sectioning functionality it is possible to generate sections wherever they are required.

As the complete data set is stored, additional sections can be created, should the need arise, without having to re-measure.

The data can then be processed in two ways:

Inspection – the data is sectioned by MODUS and compared to the nominal CAD model requirements. The analysis results are presented through MODUS reporter, which also produces a defined PDF document for archiving.

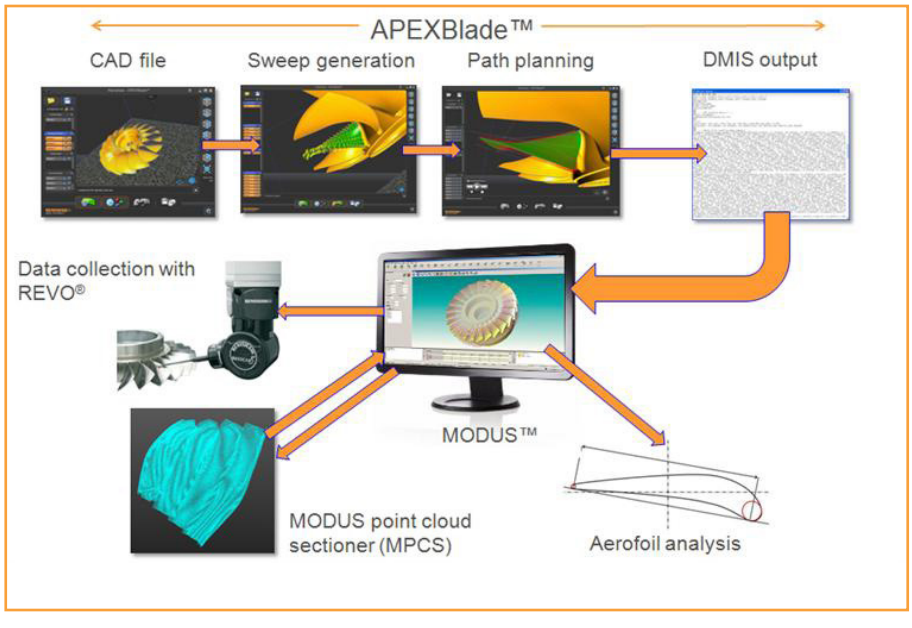
Engineering – the data is processed by SurfitBlade to produce a full NURBS surface for use in aerodynamic and stress analysis, etc.



APEXBlade™ –
Ultra fast 5-axis sweep scan preparation and DMIS programming tool

MODUS™ airfoil analysis –
Engineering analysis of airfoil sections

SurfitBlade™ –
Reverse engineering of the complete airfoil surface.



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