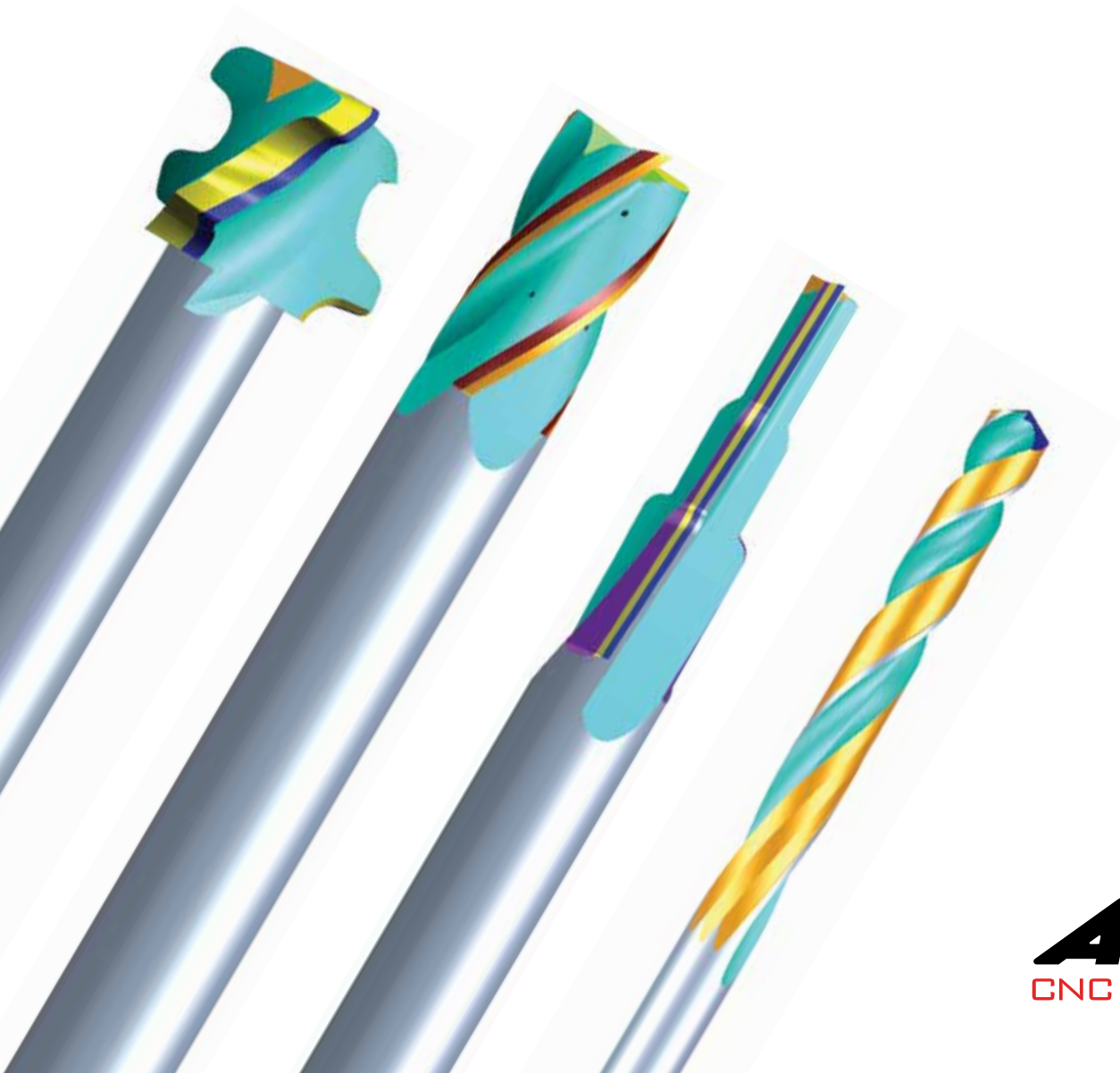


# TOOL ROOM

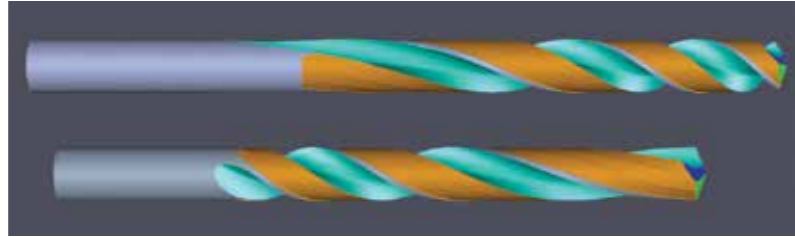
2016



**ANCA**  
CNC MACHINES

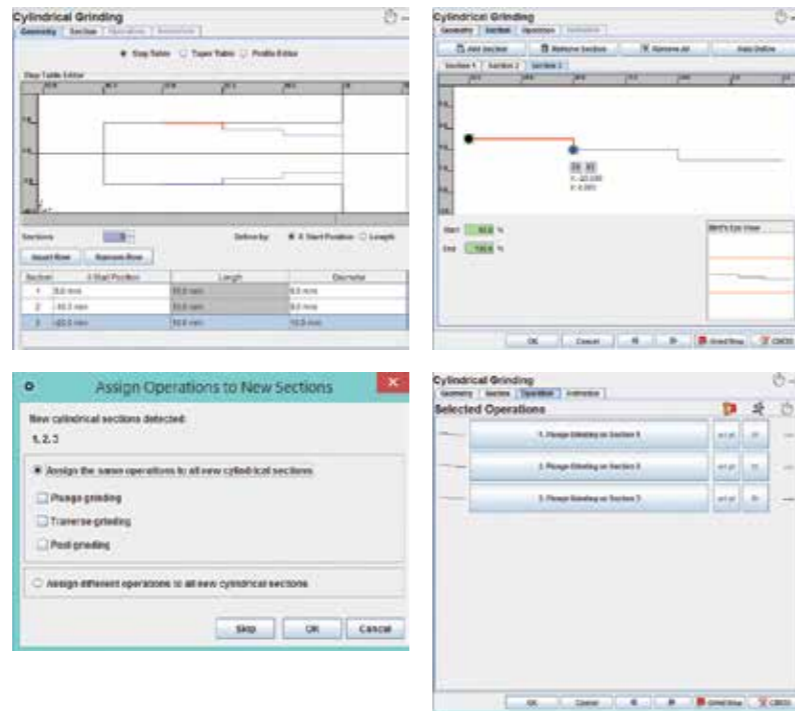
## Formed flute from solid and formed flute polish

- Supports variable helix
- New operations for Formed Flute from Solid and Formed Flute Polish
- Old operations will be made legacy
- Dress per pass and also for roughing and finishing
- Coolant holes - correct offset from hole to edge
- Correct diameter when Y offset is non-zero
- Correct helix with core taper - no tapering radial margin



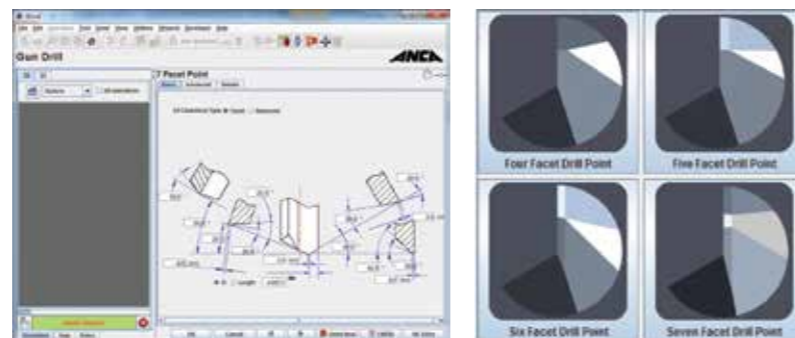
## Cylindrical grinding

- Replacement of the existing cylindrical grinding operation with old operations made legacy
- Focus on ease of use and integrates with the Endmill and Drill Wizards
- Geometry and grinding operations separated
- Multiple geometry definition modes: step table, taper table, profile
- Intelligent stock removal, cascading from operation to operation and arcs are supported Shows no of passes depending on stock removal
- Oscillations on both grinding spindle and headstock spindle to avoid the grinding patterns
- Dress after rough and finish control
- Includes support for peel grinding and no more profile software required



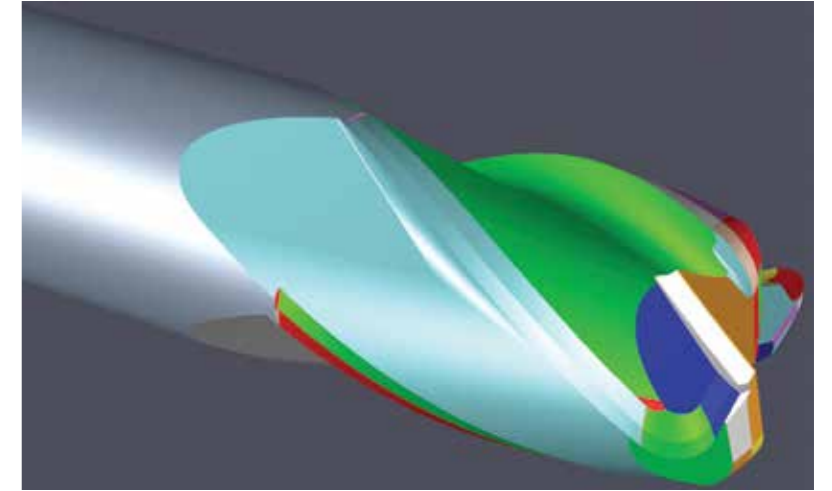
## New ToolType in iGrind - Gun drill

- Gun Drill ToolType has been added to iGrind
- Wizard based design for ease of use



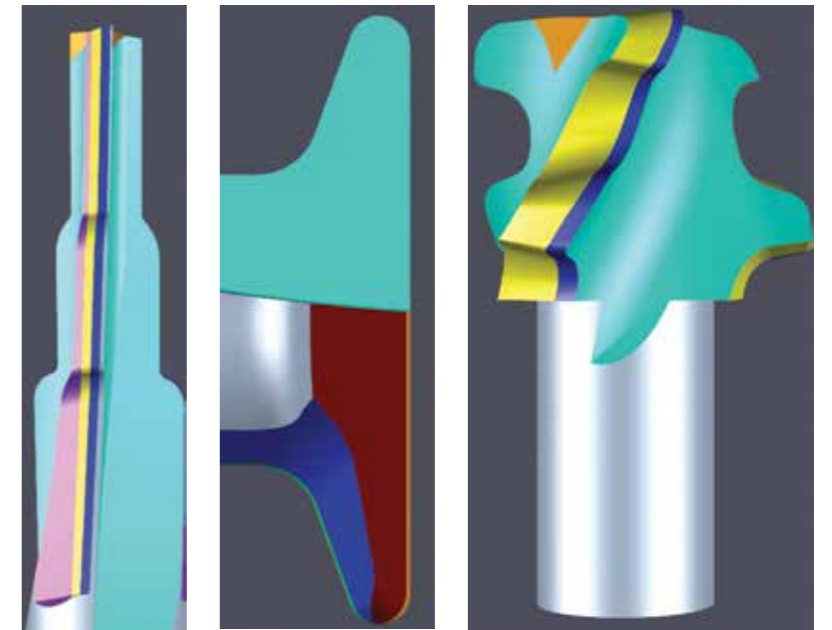
## Corner radius

- OD-Corner-End and gash operations have been completely redesigned. Old operations will be made legacy
- OD-Corner-End operation features:
  - Eccentric OD relief blending to facet around corner
  - Complex values for relief and land parameters
  - 4 axis grinding & fixed grind point grinding
  - Unlimited reliefs
- Gash operation features:
  - Plane or curvature gash face
  - Classic or convex core profile
  - Continuous or separate grinding for corner and end



## Profile editor

- Linear change of relief over profile
- Changing relief per element, variable land and relief angles
- Loop around sharp corners
- Dished sections at 12 o'clock grinding with dished cup wheel
- Addition of ellipse to the menu list
- Introduction of pivot style face grinding with wheel contact distance
- Federate control per relief or global
- Roughing with wheel toroid larger than concave radii in profile
- Automatically choose both sides of 1A1 wheel when choosing 12 o'clock grinding with zero shear
- Variable Clearance + Oblique editor with animation
- Link profile sections for eccentric after facet grinding. Also option to trim profile
- Error messages are clear and actions recommended
- Profile Editor dimensioning



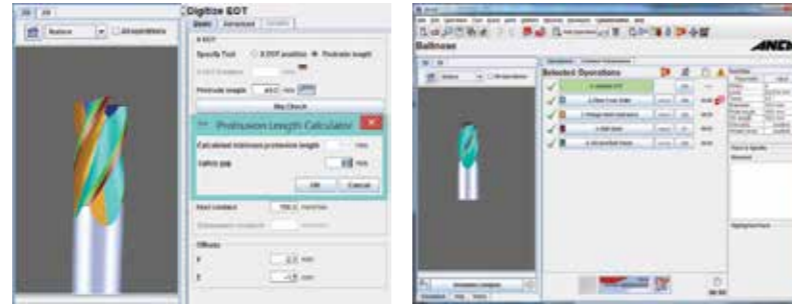
Location	Radial	Axial	Width
1	10.0 °	5.0 °	0.5 mm
2	20.0 °	10.0 °	0.5 mm
3	30.0 °	15.0 °	

Location	Radial	Axial	Width
1	10.0 °	5.0 °	0.5 mm
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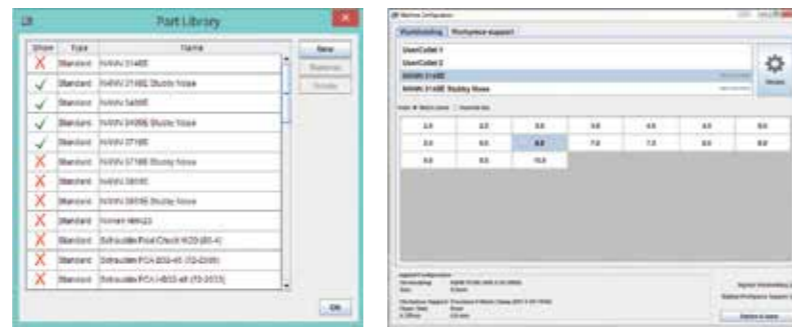
## Collet protection

- Dig EOT has a button next to the protrusion length field to calculate the minimum protrusion length prior to grinding
- Check will be made after in-process digitising to prevent wheel collet collisions
- Error message will inform the user of the minimum protrusion length required to avoid collision
- I3DG simulation will indicate which operations will have collision with the collet or top clamp
- When running Loadermate tools with detected collisions will be returned to pallet unground



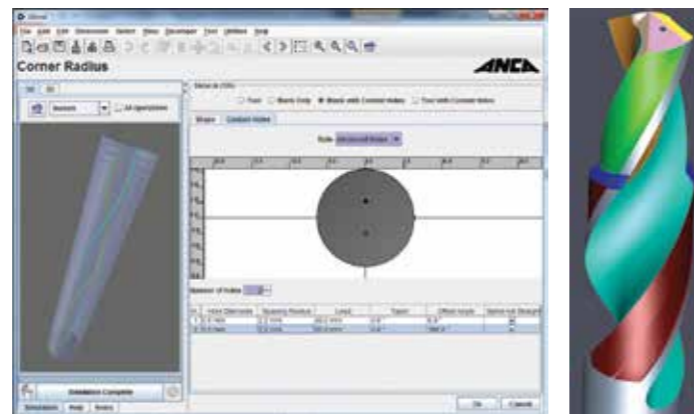
## Machine configurator

- Machine configurator is a utility provided to configure collet, adaptor and top clamp
- A library of all the ANCA supplied collet adaptors and collets are available for the user
- An option is provided to import special collet adaptors the user may have



## Coolant hole editor

- Blank editor used to define helical, straight or branched coolant holes in the CIM3D blank



## Coolant hole analysis in CIM3D to support ToolRoom

- Automatically detect coolant hole breaches and colour coding of breaches.
- Analysis tool that provides minimum wall thickness and wall thickness tolerance



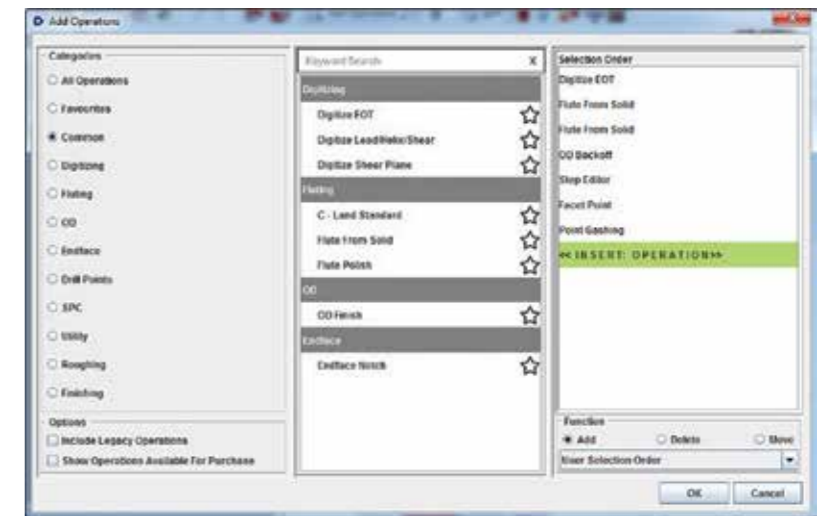
## Weldon flat operation

- A new operation Weldon flat is available under Add Operations/Utility section
- This operation is typically used to grind one or more flat sections and has the option to grind wings



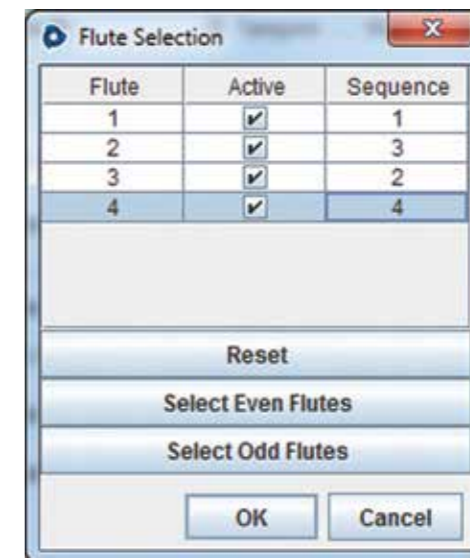
## Add/Delete operations dialog

- Complete redesign featuring single list of available operations
- Supports user defined favourite operations
- Keyword search support and displays legacy operations



## Flute selection and sequencing

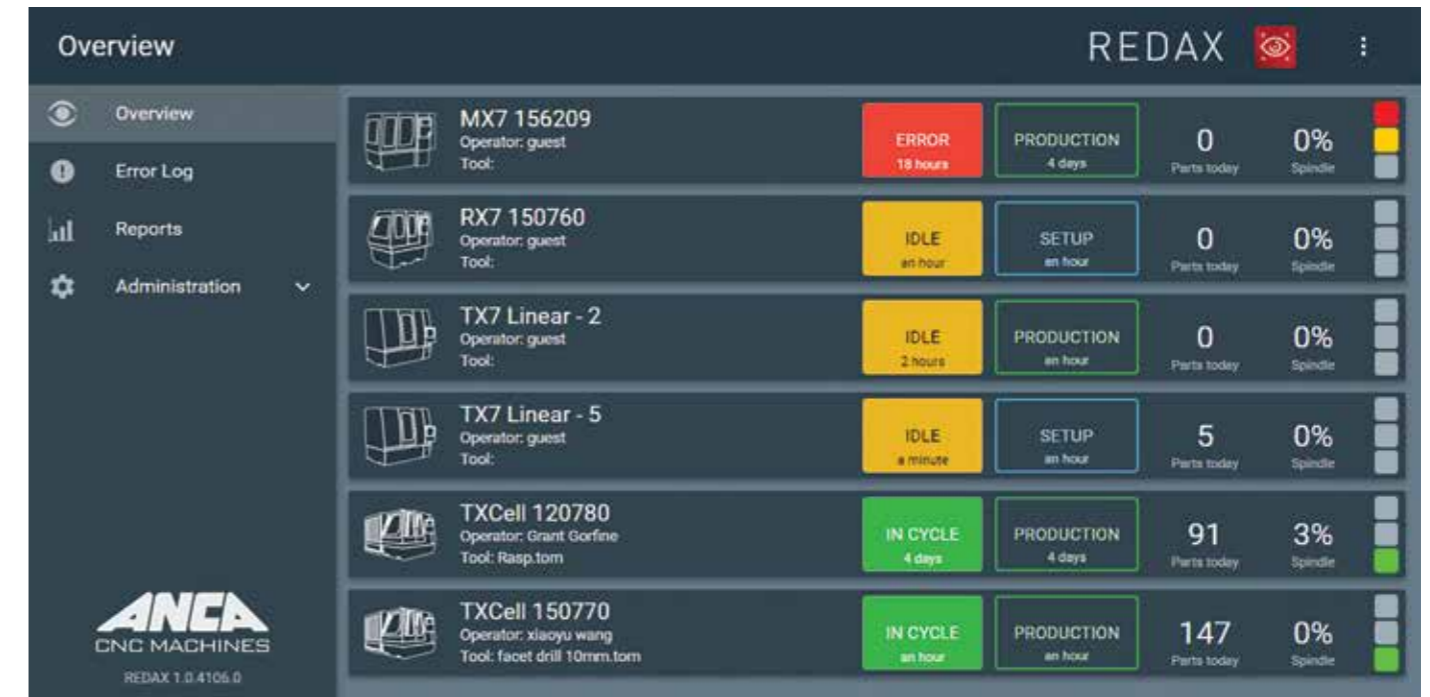
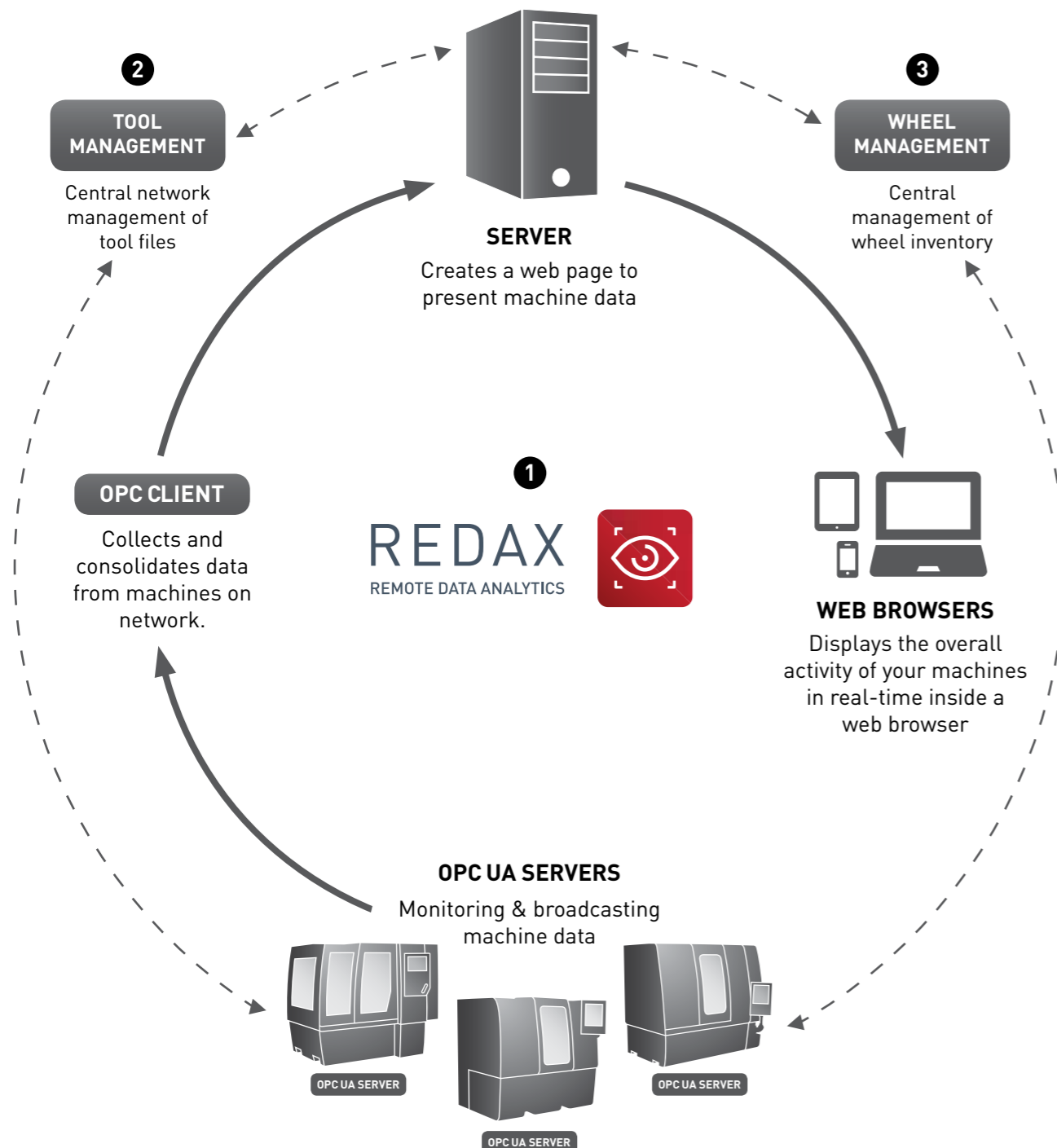
- Controls the order in which flutes will be ground
- Fluting can be performed on opposing flutes to balance grinding force
- Controls the operations on a flute by flute basis



# MANAGEMENT SUITE



- 1 **RedaX** - Data collection from machines to display on a web browser
- 2 **Tool Management** - Central network management of tool files
- 3 **Wheel Management** - Central management of wheels and wheel packs inventory



Overview displaying the activity & status of all machines in the factory



## RedaX functionality

- RedaX monitors production in real time and delivers up to date information, greatly enhancing visibility and control in the manufacturing operation.
- Overview page displaying the activity and status of all machines in the factory.
- Dashboard with in-depth details of individual production machines.

## Customer benefits

- Reducing machine downtime by immediate notification of a machine ceasing production with reasons for stoppage as an email or SMS to the relevant personnel. This will allow the user to respond rapidly to stoppages and production disturbances.
- Provides analytics to enable the business to understand reasons for regular downtime leading to reduced productivity.
- Complete visibility of the machine status and activity from your office PC or from anywhere in the world if you are logged into the company's server.



Dashboard with in-depth details of individual production machines

## Wheel management

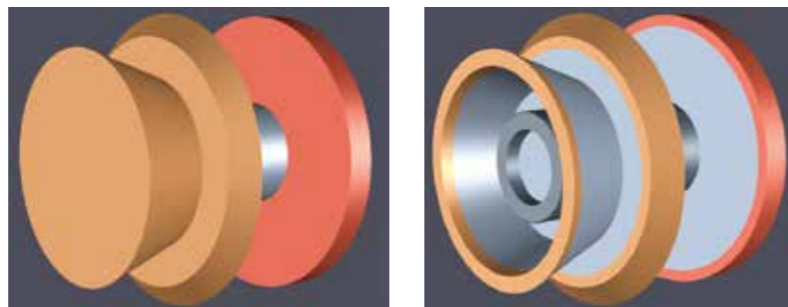
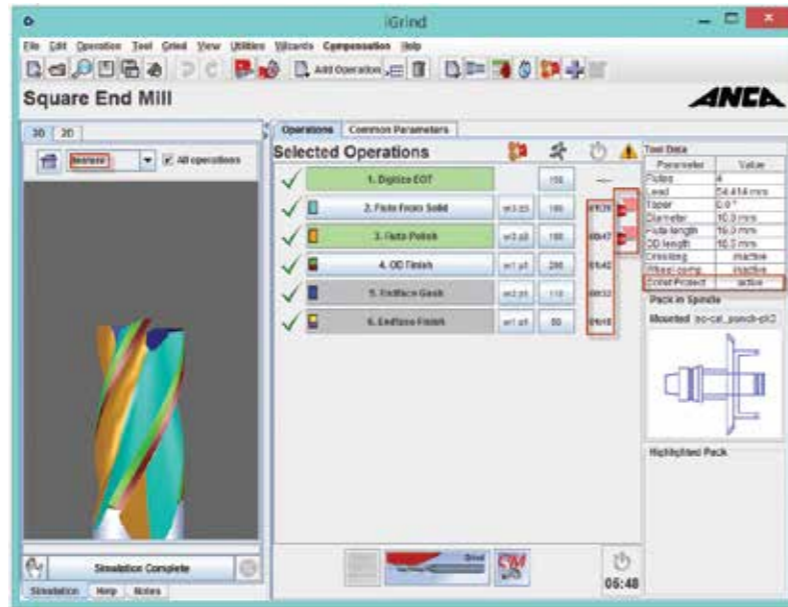
- Central management of wheel inventory.
- Provides a means to easily share wheel packs and qualification data between machines.
- Search/Filter facility.
- Simulation/Machine qualification state where by protection is provided to prevent wheel packs qualified on simulator from being used on a machine.

## Tool Management

- Central network management of tool files.
- Revision control and comparator viewer tool.
- Different access levels depending on engineer skills etc.

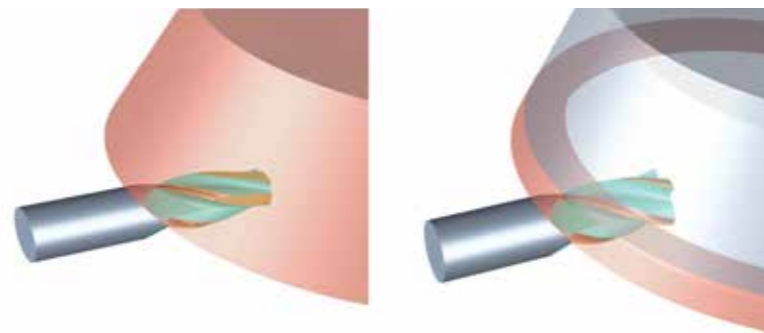
## I3DG and Simulation enhancements

- CIM3D v8 quality improvements
- Anti-aliasing is now active (hardware dependant) with Windows 8
- User preference to control 3D optimisation or cycle time estimation has been removed. Cycle time will now automatically be generated for all optimised operations in a subsequent pass
- Timeouts and memory limits can be increased for the current tool only via a button on the error window
- Feature colour mapping implemented and is default option
- Streaming between TPD generation and CIM3D/I3DG. Both processes now run in parallel for better performance
- Collision images displayed on the main page along with the collet protect status
- Simulate-Now button will automatically enable CIM3D mode regrind behaviour, simulating only one operation



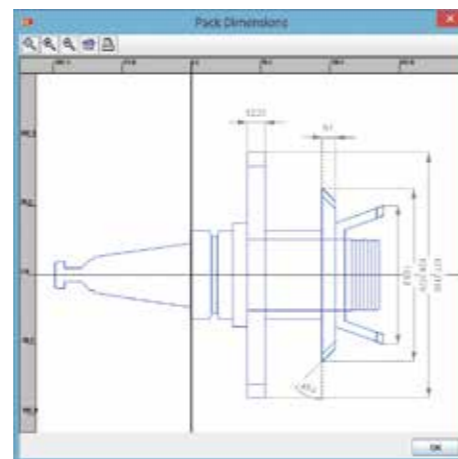
## Improved wheel models

- More realistic looking wheels
- Model wheel grit and core independently



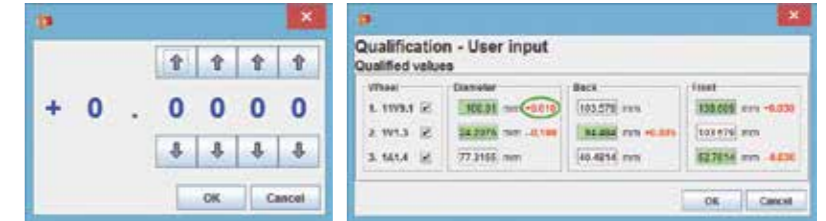
## Wheel Dimensioning

- A new function is now available in the file menu to display the current wheel pack with wheel width and diameter
- This information can also be printed



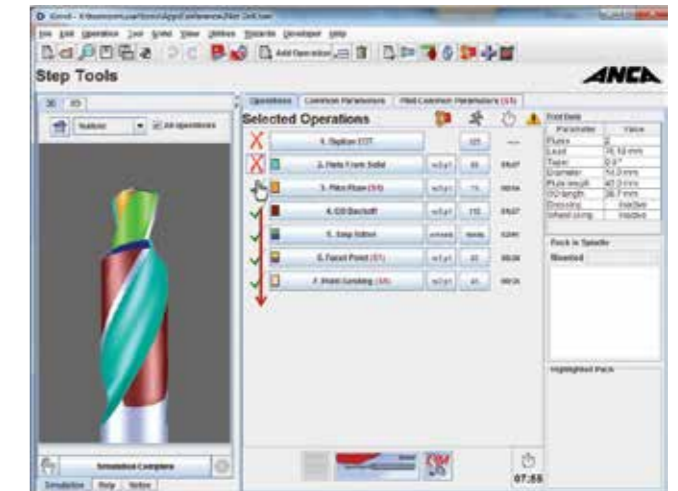
## User input wheel qualification

- A column for the diameter has been added to the Qualify User Input dialogue
- A label has also been added to show the modified values



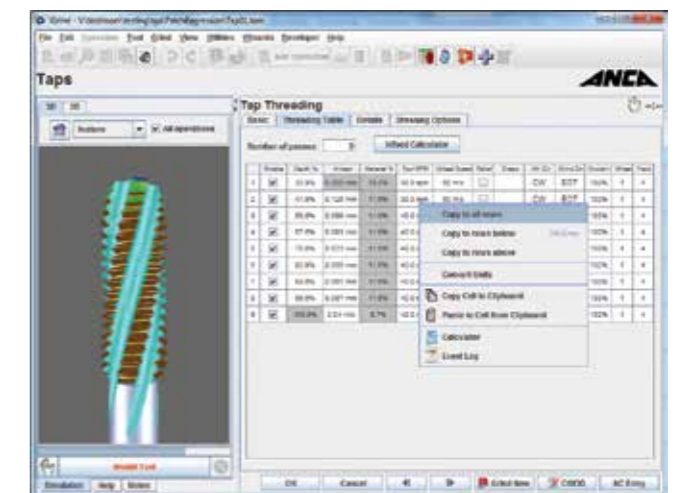
## Swipe to enable/disable

- It is now possible to disable/enable multiple operations by swiping over multiple operations on the touch screen



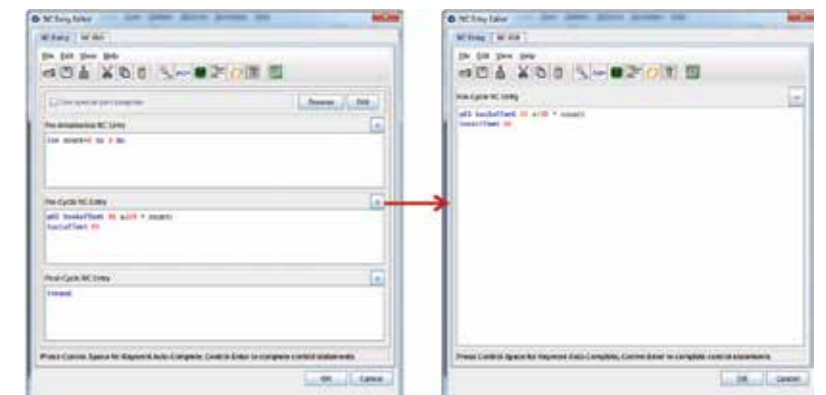
## Table editing functions

- Right click menu for tables
- CTRL-Enter to fill down all rows below
- Prevents repetitive data entry for large tables tap threading-land compensation etc



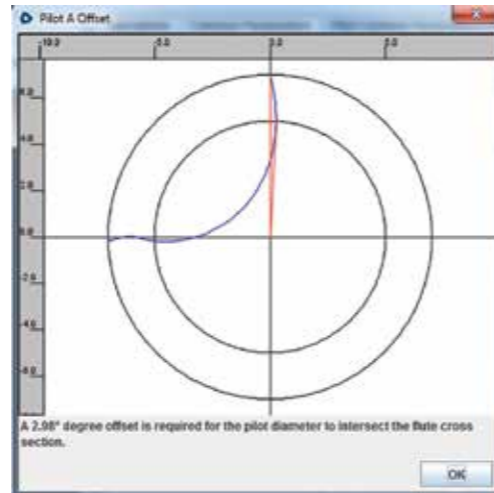
## Expandable NC entry fields

- Buttons now appear to expand a field to the entire window and can be restored back to normal window
- View more NC codes without needing to scroll



## Pilot tool segment A-offset calculator

- Button appears on the pilot tool segment page next to offset field
- Calculates the intersection between major flute cross section and the pilot diameter



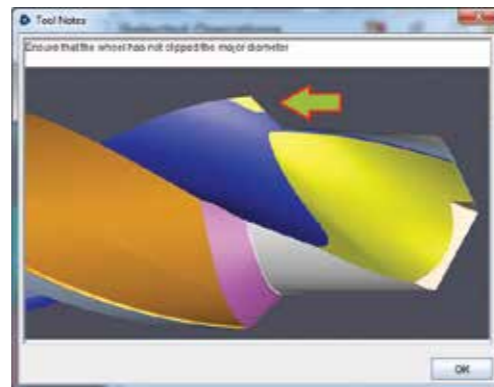
## Windows 7 & 8 Compatible

- RN33 is compatible with Windows 7 & 8 Professional 32 and 64 bit versions



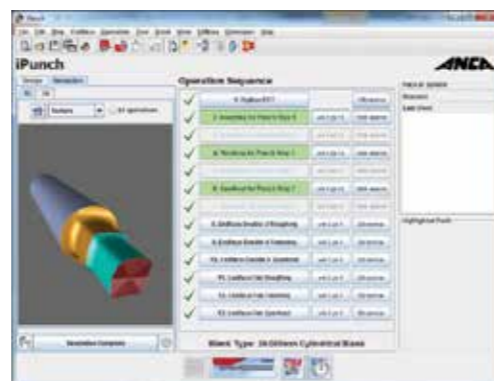
## Notes & attachments

- Drag and drop to add attachments
- Images can be embedded in notes (!photo.jpg!)



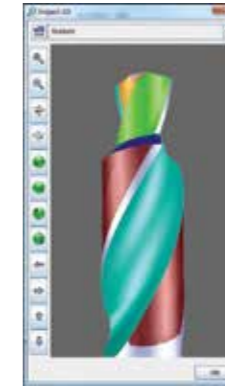
## I3DG for punch

- Integrated simulation graphics has been added to iPunch. Every time a change is made to the tool a simulation will be performed in the background and displayed in a tab



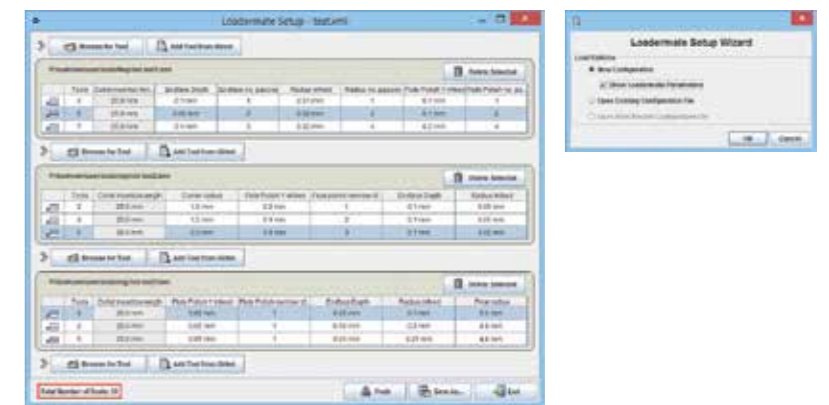
## 3D file view

- I3DG simulation is now embedded within TOM file
- Available from tool preview browser and file browser
- Available when loading tools in LoaderMate/Robomate
- Does not simulate but just loads the 3D geometry and is very quick



## Loadermate setup

- Loadermate setup has been enhanced in RN33 with a setup wizard
- Has an option to display Loadermate parameters such as insertion length and shank diameter
- Displays the number of tools to control the tool numbers in pallet
- Browse for template TOM files for easy adjustment of parameters between tools
- Option to add any number of tools or ToolType to the toolgroup
- Option to add tool from iGrind which will add the current open tool from iGrind
- Push button provided to push the toolgroup direct to Loadermate which will add them to the current job



## Other new features of ToolRoom 2016 include:

- Tool preview browser has a filter field where you can type a search phrase only to display wheel files that contain the search phrase in their file names
- An option has been added to Windows Explorer and select the bundle after it has been created
- The wheel selection tool has been changed for wheel exchangers which is now presented with a scrollable panel
- A filter has been added to the wheel selection table to filter out the disabled operations, so you can see the actual wheel change sequence performed during grinding
- A new function has been added to the right click menu that will list why a parameter is disabled
- An option for C-probe at -90 has been added to ATM for Centre flute for left cut left helix tools
- Anti-aliasing is now used in integrated 3D simulation for better image quality
- A button has been provided to "increase timeout" when I3DG simulation exceeds the limit
- A new command is available from the k-land menu to delete previously digitised or calculated points that make the lip geometry
- Help images are now scaled so that they occupy the entire window
- A filter field has been added for parameter links and hidden parameters
- New functionality has been added to highlight parameters that will be enabled due to enabling another parameter in a different tab

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