# TAKUMI

TAKUTROL

Powering Precision with Intelligent Control

TAKUTROL Making It Easier for Everyone!

TAKUTROL, developed by Takumi, is a CNC control system designed to meet the needs of modern factories striving for high efficiency, precision, and intelligent automation. Unlock the full potential of your factory with our advanced network solution. Gain complete visibility of your entire production line. By collecting and analyzing utilization data, you can reduce machine downtime, boost productivity, and maintain a consistently high-performance production environment.

Office network

TAKUTROL

Factory network
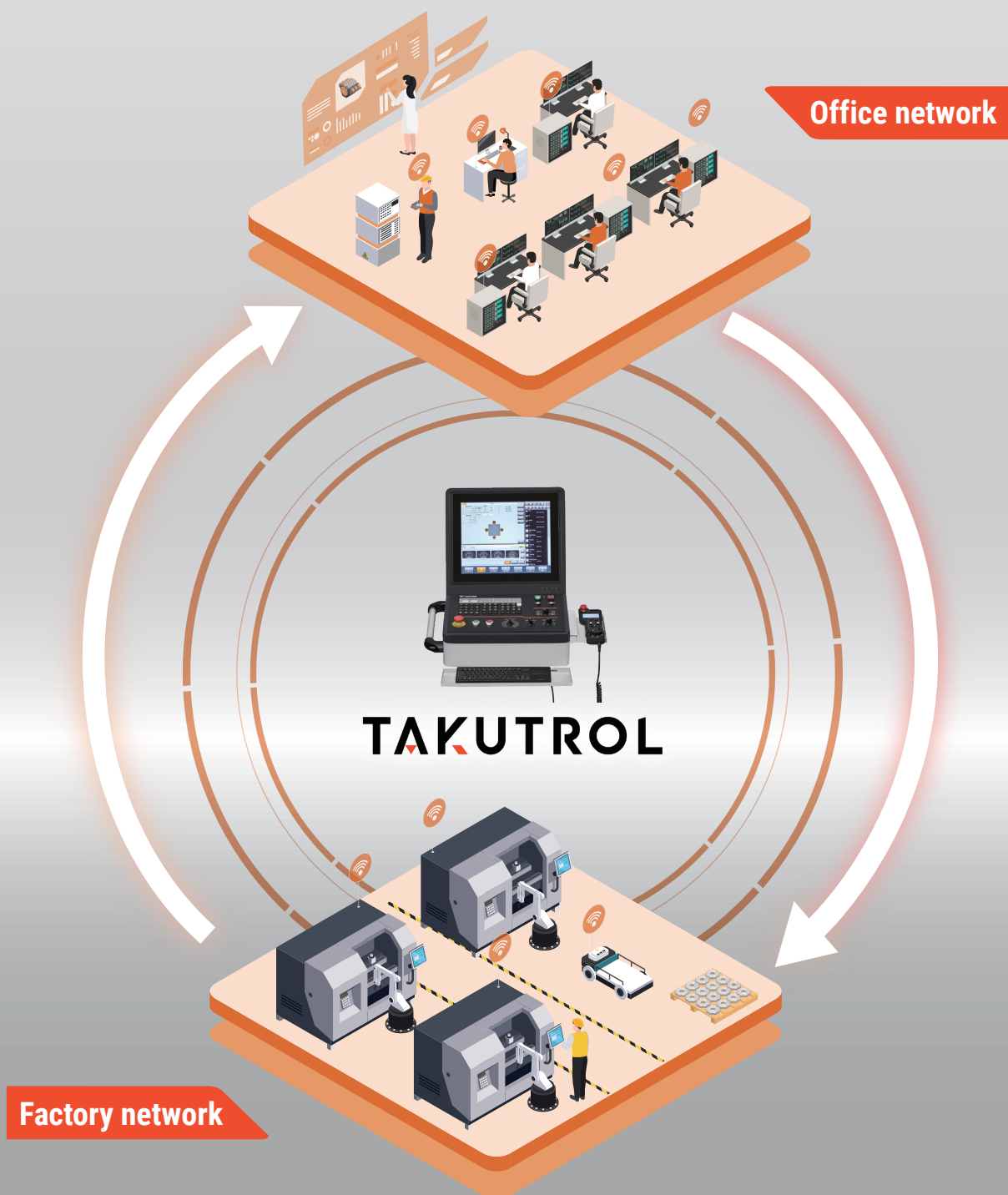
Hardware

- High Performance PC front-end with Intel-i7 CPU running Microsoft Windows 10 OS with UWF feature
- FANUC 0i-MF Plus CNC controller
- Renishaw LTS tool setter and OMP-40 spindle probe
- Rugged 19" industrial resistive LCD touch screen
- Standard keyboard and touchpad
- Handwheel
- USB and network ports for file transfer, bar code scanner, and external devices

Software & function

- Standard CNC control operation
  - FANUC compatible operation UI
  - POS, PROG, OFFSET, SYS, MSG screens
- User friendly work and tool set up
  - Rectangular and circular center find functions
  - Automatic tool change and tool length measurement
  - Simple probing setup
  - Measure the dimension of workpiece
- Programming
  - Conversational editor
- Intelligent machine
  - Advanced motion path planning with smooth toolpath generation and simulation
  - Machine monitor (spindle vibration monitor)
- Digital twin
  - Online/offline solid model simulation
  - Remote diagnostics
- Factory connectivity
  - Friendly connectivity with shop floor/ factory controller
- Utility
  - VNC/FTP/browser/operator log
  - iCal-Assist
  - Machine maintenance (operation log)

01 EASY*AI*

Digital Twins / Advanced Path Planning / High Speed and High Accuracy Machining
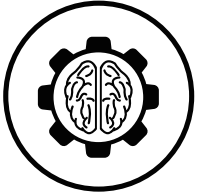
Digital twins

Digital Twin enables online/offline solid model simulation, supporting machining simulation, collision detection, and program verification to prevent setup and machining errors.

Online /offline Simulation

Machining simulation
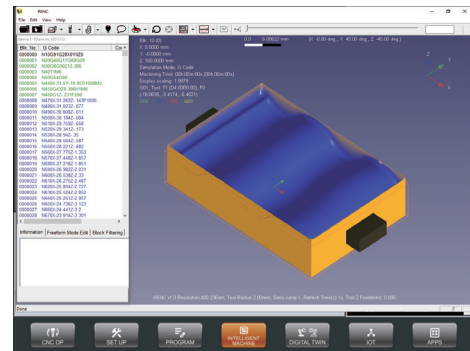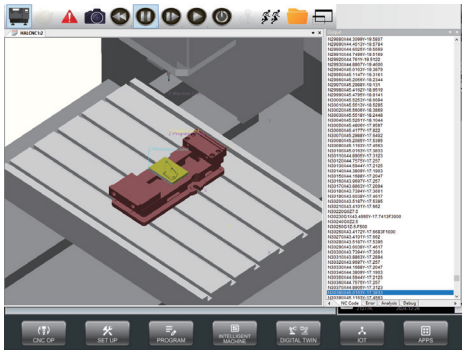
AI path smoothing

Advanced digital control optimizes axis movement and tool paths for high-speed, high-precision machining. It improves surface quality, reduces machining time, and enhances motion with AI Path Smoothing for smoother, more accurate results.

The small radius corner has poor surface finish with noticeable tool marks.

Surface finish at the small radius corner has improved, while edge accuracy is maintained.

Corner radius improved

Without AI path smoothing

With AI path smoothing

High speed and high precision setting

Provide simplified parameters and quickly setting for different machining conditionend.

Friendly Work and Tool Set Up

Set work offset

The friendly work and tool setup features allow users to get started quickly, reduce setup time, and minimize errors caused by manual settings.


One-button tool change and tool length measurement

Effortless operation that reduces training time, enhances efficiency, and is compatible with a wide range of tool length measurement systems.
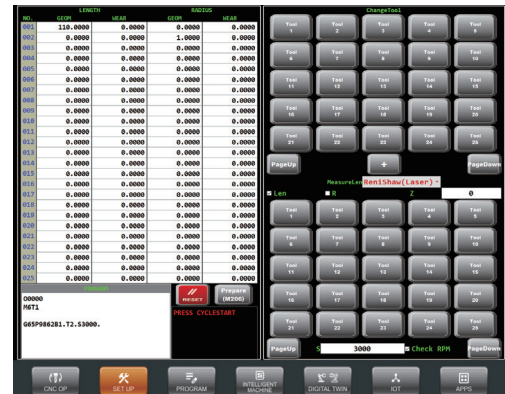

Simple probing setup

Easily create measurement programs with step-by-step graphical guidance—no coding needed. From tool length to workpiece probing, everything is streamlined for quick setup. Upload via MDI mode and run instantly for a faster, smarter workflow.
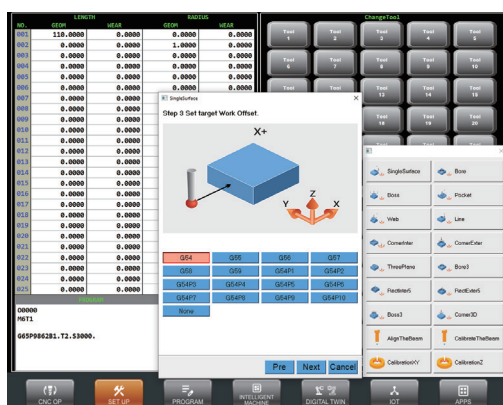
Advanced spindle monitoring

Real-time vibration detection and intelligent thermal elongation compensation for enhanced machining stability.

03 EASY*MANUFACTURING MANAGEMENT*
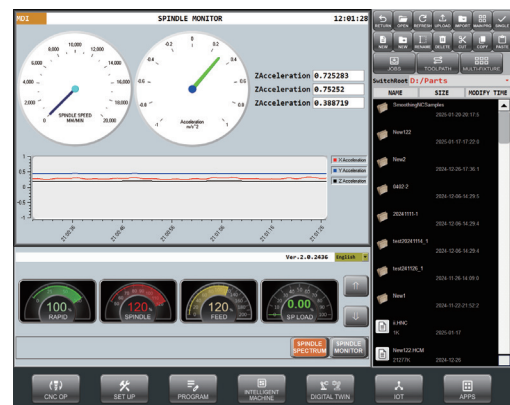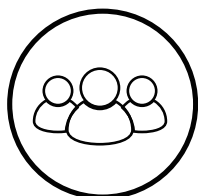
Monitor Machine Performace

Machine utilization rate

The system provides comprehensive visualization of historical utilization data, alarm logs, and operation records.

Individual machine display

It enhances utilization by linking machine tools and offering visual insights into factory operations and machining processes through analytics.

Visualize the factory

Leverage real-time and historical data to minimize machine downtime and maximize operational efficiency. Instant alarm notifications enable swift intervention, reducing the risk of prolonged stoppages. Comprehensive tracking of utilization rates, alarm logs, and operation history supports data-driven diagnostics and continuous improvement.
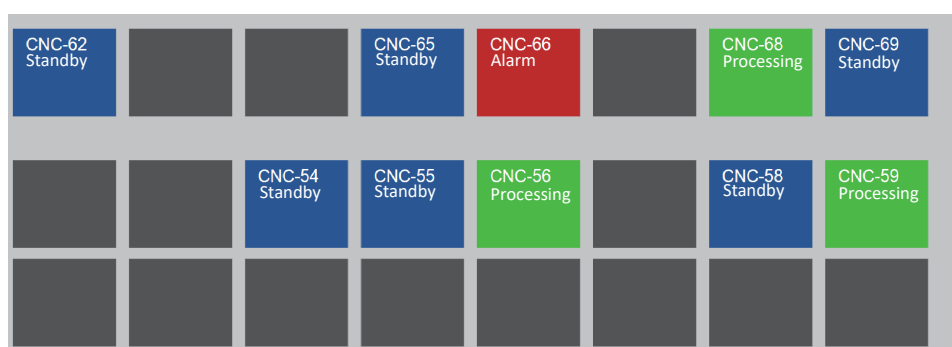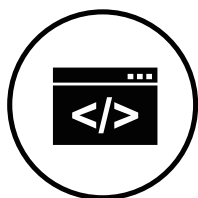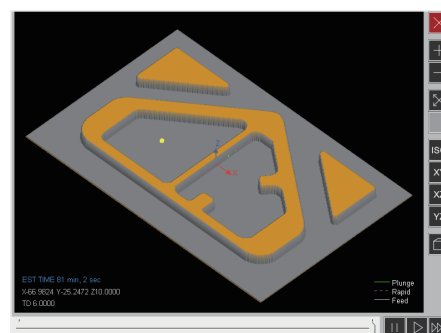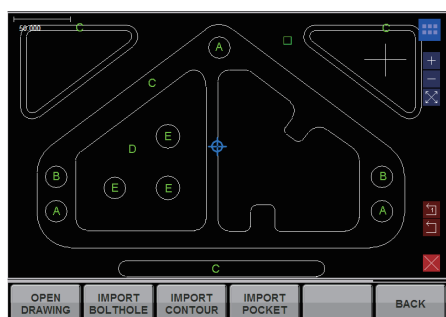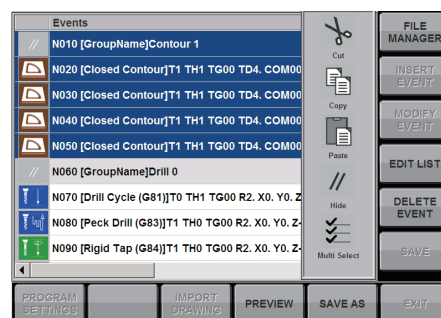
Conversational Programming

Smart and intuitive programming

Conversational Event Based Programming allows making part programs by simply choosing machining events and configuring its parameters, without having to write G-Code.

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