



OPEN *control*

New generation of CNC



New Generation of CNC

This new generation of OPENcontrol CNC perfectly matches the former product line, increasing computational power and reliability, together with a very competitive price/performance ratio.

The OSAI NC solution is highly flexible and scalable, simplifying the installation and maintenance, thanks to the new hardware design. Moreover, the intuitive HMI makes the NC programming and machine commissioning easy. The OSAI CNC software have been specifically designed for 2D and 3D machines operating in different markets such as:



WOOD
& COMPOSITES



ALUMINUM
& SHEET METAL



GLASS
& STONE



LEATHER

KEY FEATURES:

- Industry 4.0 ready
- Up to 24 processes
- Up to 64 controlled axes
- Coordinated, spindle, auxiliary, linear, rotary and rollover axes
- Gantry and dual axes
- Axis migration
- Advanced Tool Center Point (TCP), planes roto-translation, TCP with splines (High Speed Cutting) for machining centers with rotary heads
- Look-ahead with high number of pre-calculated blocks
- Velocity and Acceleration Feed Forward (VFF, AFF)
- Jerk control using advanced algorithms
- Management of tool magazine, tool life, random tool, multi-pocket tool
- Multi-axis Electronic CAM
- Bidirectional lead screw compensation
- Cross Compensation
- Volumetric Compensation

OPENsmart entry level

UP TO 16 INTERP. AXES
UP TO 24 TOTAL AXES
UP TO 4 PROCESSES
MIN TICK 1 ms



OPENkey advanced applications

UP TO 16 INTERP. AXES
UP TO 24 TOTAL AXES
UP TO 4 PROCESSES
MIN TICK 1 ms



OPENprime heavy applications

UP TO 64 INTERP. AXES
UP TO 64 TOTAL AXES
UP TO 24 PROCESSES
MIN TICK 500 μ s



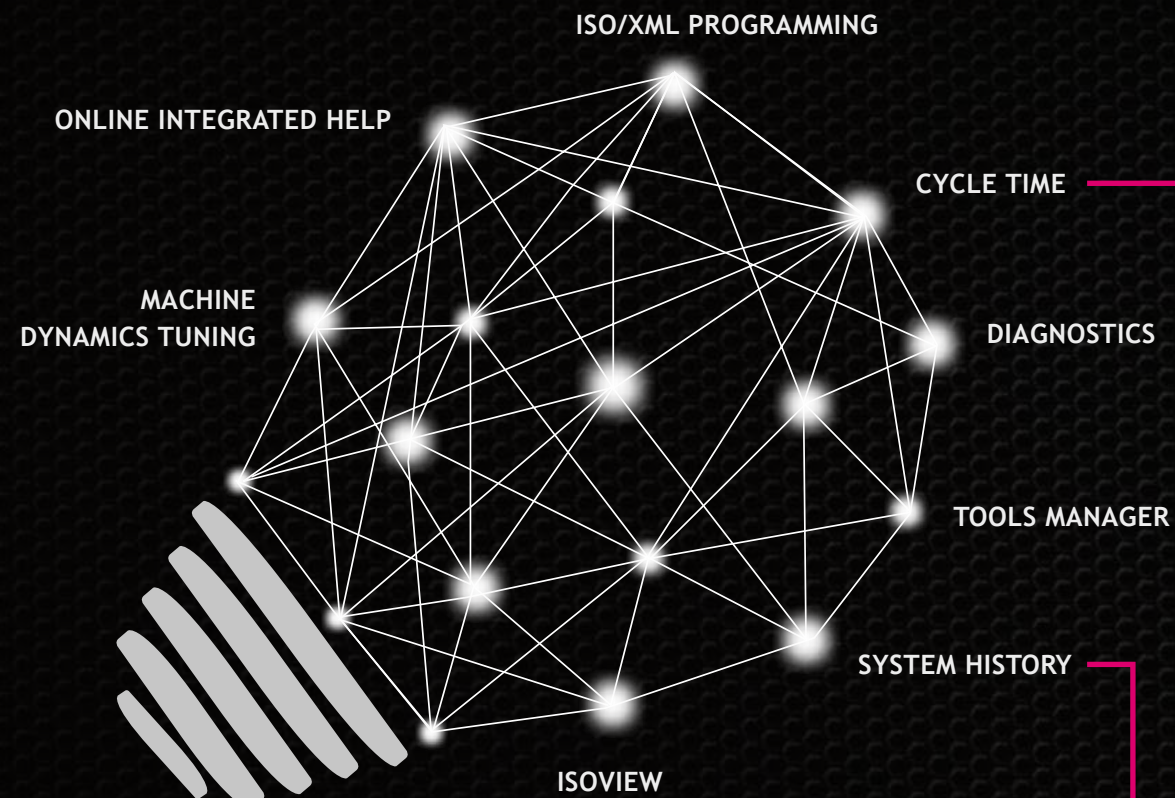
OPENprime-i time critical applications

UP TO 64 INTERP. AXES
UP TO 64 TOTAL AXES
UP TO 24 PROCESSES
MIN TICK 500 μ s



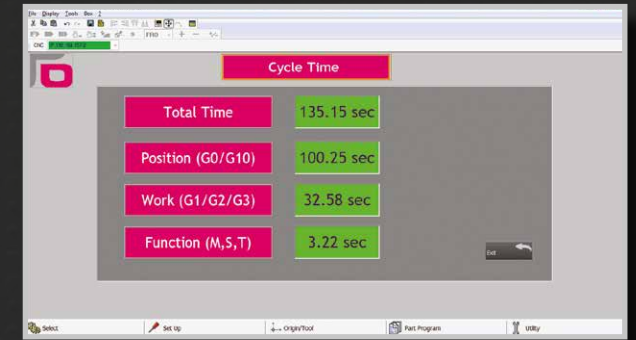
Higher and higher performances
Computational power - Flexibility - Fieldbus range - Features

Advanced Software Tools and Functionalities



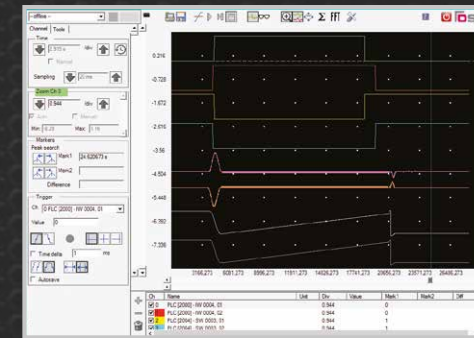
Cycle time evaluation

- Total time
- Rapid movement (G0/G10)
- Working movement (G1/G2/G3)
- Function time (M, S, T)



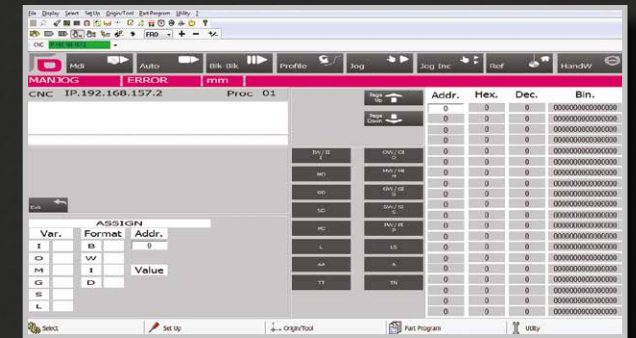
O-SCOPE:

- Simultaneous display of axis trace
- Simultaneous display of CNC and PLC variables
- Multiple selection of different traces
- Horizontal and vertical axis slider

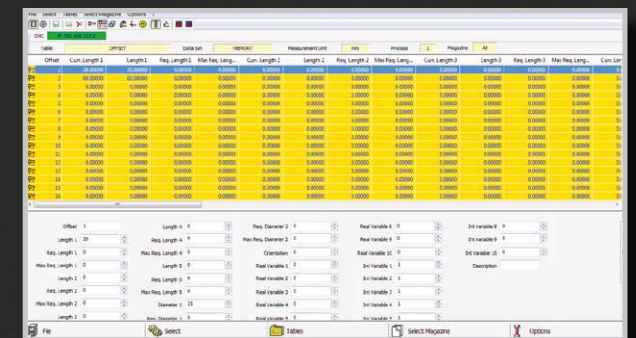


DEBUG HMI PAGES:

- CNC status
- PLC and CNC Variables view
- Part program line view



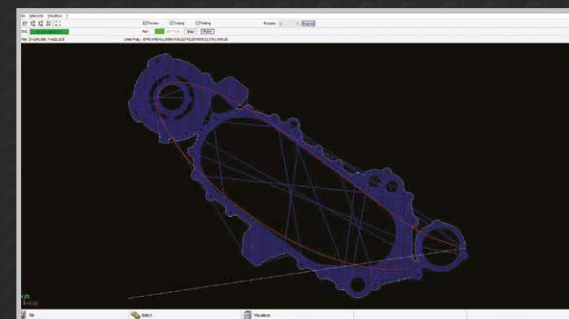
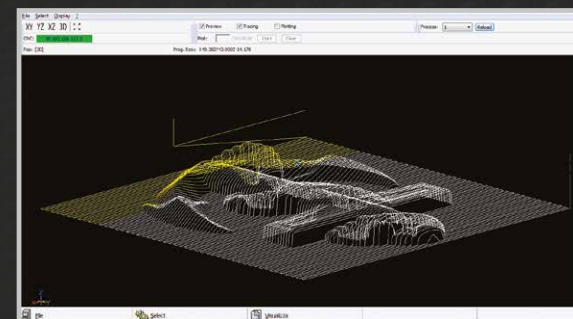
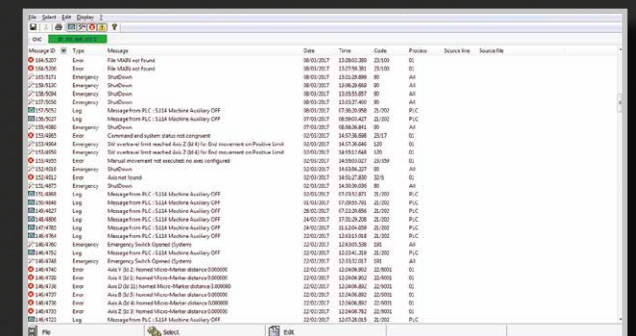
- 300 tools with magazine (option)
- 300 tools offset
- 100 origins
- 100 user variables



List of all messages from System and PLC

Four classes of messages:

- Plc messages
- Emergency messages
- Part program and system messages
- System Anomaly messages



ON/OFF ongoing machining 2D/3D preview

Preview of the working program in 2D and 3D.

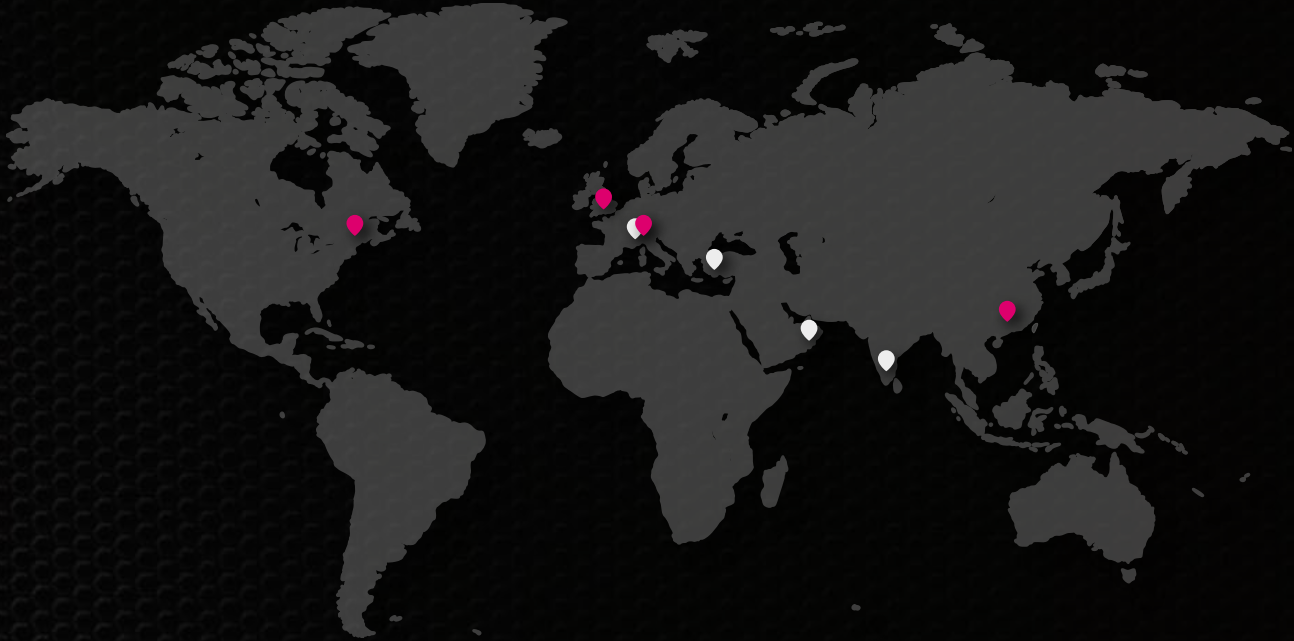
Two levels of IsoView:

- Integrated HMI Isoview (On-Line)
- External IsoView useful for the simulation in On-Line and Off-line.

Technical Specifications



	OPENsmart	OPENkey		OPENprime	OPENprime-i		
NUMERICAL CONTROL							
Interpolator Tick	1 ms				500 μs		
Max interpolated axes	16				64		
Max axis number	24				64		
Processes	4				24		
Retentive memory	Hardware						
OPERATING SYSTEM							
Dual OS	Available						
PERIPHERALS							
LAN	1	2					
RS232	1						
RS232/422/485	1						
USB	1 x 3.0 3 x 2.0	1 x 3.0 3 x 2.0		2 x 3.0 2 x 2.0			
Video	DVI-I			DVI-D + VGA			
FIELDBUS							
Fieldbus 1	EtherCAT	EtherCAT	Mechatrolink III	Mechatrolink II	EtherCAT	Mechatrolink III	Mechatrolink II
Fieldbus 2	CAN	CAN	EtherCAT		EtherCAT		
Fieldbus 3	-	-	CAN	CAN/Profibus	CAN		
Fieldbus 4	-	-			CAN/Profibus		
INTEGRATED I/O							
Power ON enabling Out	YES						
Fast I/O	1 In	3 Out, 4 In					
Analog In 1	-	12 bit res. / +10V÷-10V or 4÷20 mA					
Analog In 2	-	12 bit res. / +10V÷-10V					
Analog Out	-	1 x 16 bit res.					
Encoder In	-	1 x ABZ Inc.					



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