

# PMS

## MACHINING SOLUTIONS

### Professionalism and Competence at Your Service

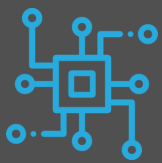
PMS of Parisotto Paolo is an individual company founded in the 2023.

PMS's main focus is to support, train and assist machine tool users both on the programming part using CAD-CAM software and on the numerical control part on board the machine.

Thanks to the experience gained over the years, PMS guarantees professionalism and competence in the development of turnkey solutions aimed at the production of even highly complex parts for the general mechanics, automotive, energy and aerospace sectors.

Working closely with CNC, tooling, equipment and software suppliers dedicated to programming, PMS can always provide the support the customer needs.

#### PMS provide:



CNC Applications



Support



Training

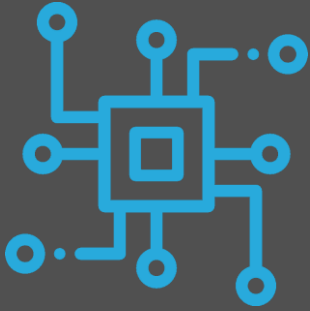


Service



Turnkey Projects

# CNC Application Packages



PMS provides and realises special functions for your machine tool; functions for Siemens Sinumerik numerical controls, which aim to simplify and speed up the way the machine is used while increasing safety and precision.

Our functions cover all known topics of the production process and are all associated with graphical interfaces to simplify their use by operators and programmers.

## Machining Application Packages:

- ❖ Management and analysis machine status before machining.
- ❖ Management and analysis tool stores before machining.
- ❖ Management and analysis tools status before machining.
- ❖ Measuring management of standard and special tools.
- ❖ Management and verify cutting data used during machining.
- ❖ Piece measuring management using Hexagon and Renishaw probes.
- ❖ Piece temperature management using dedicated Hexagon probe.
- ❖ Piece thickness measuring management using dedicated Hexagon probe.
- ❖ Online Spindle torque, power and cutting force monitoring management.
- ❖ Management and verify of 4/5 axis kinematics machine main offsets.
- ❖ Pallet change and piece change Management.
- ❖ Data Interchange management between machine and external devices.
- ❖ Spindle speed oscillation management.
- ❖ Periodic maintenance monitoring and management.
- ❖ Machining time and machining part monitoring and management.

Starting from the standard application code, each individual function can be adapted to any specific customer requirements.

## Dedicated Application Packages:

- ❖ Programs Manage Package.  
Customised and optimisation management of the programs sequence.
- ❖ Gears Package.  
Machining management for any type of gears.
- ❖ Gears Measuring Package.  
Managing and measuring gears directly in the machine.
- ❖ Power Skiving Package (\*).  
Machining management of parts using Power Skiving technology.
- ❖ Impeller & Blisk Package.  
Machining management of impellers and multiblade parts.

- ❖ Adaptive Feed Package.  
Automatic tool feed adaption management during machining.
- ❖ Probing Package.  
3D measurement and reporting management with all type of probes.
- ❖ Tool CAM Package.  
Tool management, control and measurement according to CAM Software presetting points.
- ❖ Retract Package (\*).  
Management of tool retract from part event of the machine alarms or line voltage failure.

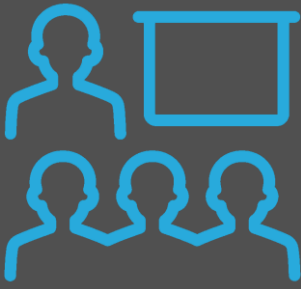
Starting from standard application code, each individual package can be adapted to any specific customer requirements.

### Specific Application Packages:

- ❖ Specific functions and graphical interfaces are also realised at the customer's request.

(\*) Necessary exchange of information with the machine tool manufacturer.

# Training



PMS offers training on Siemens Sinumerik numerical controls. Training will be tailored to the knowledge of the end user.

Trainings can be carried out in the office, in the preliminary phase, then on board the machine in the operational phase.

Trainings are also intended for the CAD-CAM programming department, where the algorithms to be taken into account when creating tool paths are explained.

## Training Level 1:

- ❖ Level 1 training is aimed at those who have never operated in a Siemens Sinumerik CNC machine tool.
- ❖ At the end of training, the user will be able to use tools, workpiece references and machining programs independently, managing the plant in safely and efficiently mode.

## Training Level 2:

(Training level 1 needed)

- ❖ La Level 2 training is aimed at those who are already familiar with the Siemens Sinumerik numerical control and want to expand their knowledge by aiming to increase productivity through the use of specific functions inherent in the numerical control.
- ❖ At the end of training, the user will be able to manage parametric logic concept and the realisation of functions and multilevel structured programs autonomously, resulting in increased plant efficiency.

## Training Level 3:

(Training level 2 needed)

- ❖ Level 3 training is aimed at those who wish to manage their machine tool optimally, managing and handling high-level functions without compromise. Creating graphic interfaces, calling up sub-programmes, using synchronous actions and dynamic and static variables will enable the operator to make the machine tool easier to use and more efficient when producing parts. This training includes the involvement of CAD-CAM programmers in order to manage and implement the new functions and rules developed on the machine.
- ❖ At the end of the training, by also involving other company bodies, such as maintenance departments, you will be able to take an increasingly dedicated view of your production system, limiting downtime and exponentially increasing plant efficiency and productivity.

# Support



In addition to the training inherent to Siemens numerical control, PMS offers various types of support, always with the aim of satisfying all customer requirements.

PMS can draw on the support of various suppliers of both CAD-CAM software and hardware products such as tools, fixtures, tool measuring systems and workpiece measuring systems.

## Machining Support:

- ❖ Programming Support even complex parts using some of the most prestigious CAD-CAM software on the market.
- ❖ Simulation support of tool paths and determination of process goodness.
- ❖ Machine-side support in order to improve and optimise the current work process by decreasing the current cycle time and consequently production costs.
- ❖ Support in the selection of tools, tooling systems and machining strategies for any type of part.
- ❖ Support in defining cutting parameters dependent on the material to be machined, the machining strategies, the tool used and the required workpiece tolerances.

## Fixture Systems Support:

- ❖ Analysis, study and design of fixture systems, keeping machining strategies, tooling, geometric tolerances, form tolerances as guidelines and limiting part lead times as much as possible.
- ❖ Release of 3D models of fastening systems and information for their correct use.

## Tools Support:

- ❖ Analysis, study and verification with CAD-CAM tools of the correct tool holders and tools for individual machining.
- ❖ Evaluation and definition of the correct cutting parameters to be used in machining.
- ❖ Release of 3D models of all recommended tools and cutting parameters for each individual machining operation.

## Post Processor Development Support:

- ❖ Support and validation for post-processor development on Siemens Sinumerik CNC-oriented CAD-CAM software.
- ❖ Determination of user elements to be implemented in post processors according to machine tool configuration and accessories installed in it.
- ❖ Support in post-processor configuration of PMSF machining application packages, dedicated application packages or specific application packages.
- ❖ Support in post-processor configuration of functions provided by third parties.

### Virtual Machine Development Support:

- ❖ Simplified 3D models of the machinery are produced, respecting the layout and the original 3D model provided by the machine tool manufacturer.
- ❖ Simplified 3D models can be used either for internal CAD-CAM software simulations or for external simulation software.
- ❖ For external simulation software, once the complete NC backup of the machine tool has been provided, ad hoc functions will be created and prepared to guarantee the correct and true simulation of machine movements.

### New Machine Tools Purchase Support:

- ❖ Support is provided on choosing the correct machine tool for your production.
- ❖ Support is provided on the choice of the most suitable accessories to be installed in the machine tool while keeping the end customer's production specifications as a guide.
- ❖ Advice is provided on the determination, development and realisation of final acceptance parts. PMS provide support for pre-acceptance phase at the machine tool supplier's factory and for the final acceptance on customer's factory.

## Service



PMS offers quotation services and support to the after-sales departments of machine tool manufacturers:

Part quotations include studies of machining strategies and definition of tools, fixtures and cutting parameters, in order to provide realistic part production times.

Machine tool manufacturers after-sales departments supporting for inspections and checks the geometric condition of the Machine Tool.

### Quotations Service

- ❖ PMS offers part manufacture quotation service where, once the analysis is complete, the customer will receive lead times, tools to be used and schematic models of the possible fixtures for clamping the part in the various stages. If virtual machine tool available, PMS will provide also the videos of the 3D simulation, showing all the steps of the machining process.

### Machine Tool manufacturers Service

- ❖ Machine tool manufacturers after-sales services on Siemens Sinumerik control. If required PMS, either by remote connection or going directly to the final customer, evaluates and handles any special requests.
- ❖ Machine tool manufacturers after-sales services or directly after final customer's request, PMS is able to using its own mapping application to perform geometric analysis of the machine tool and check its degree of accuracy. (\*)

(\*) Workpiece measuring probe accessory installed on the machine required.  
Only for machine tools with Siemens Sinumerik control.

## Turnkey Projects



Starting from the 3D model of the part to be manufactured including all information regarding geometric tolerances, shape and raw supply status, PMS guarantees the end customer the delivery of a turnkey project. Our solution allows the customer to go straight into production with a new part.

Also included in the turnkey package is on-board machine support with operators and programmers for process start-up and optimisation.

- ❖ Study, analysis and definition of suitable fixture systems for producing the part.
- ❖ Study, analysis and definition of all the tooling required to produce the part. Including any measuring probes.
- ❖ Definition and development of the entire machining process and realisation of all tool paths using advanced CAD-CAM software systems. Part measurements and tool measurements directly on the machine are included.
- ❖ Implementation, where necessary, of dedicated functions and graphical interfaces to be installed in the numerical control to ensure the correct and safe execution of the turnkey process.
- ❖ Development of measuring programs on the machine using dedicated software to ensure the goodness of the part before the second measurement on the CMM.
- ❖ Assisting CNC machine operators during the production and optimisation of the first prototype part.
- ❖ Assisting CNC machine operators during the production of the complete and optimised part.
- ❖ Release of completed documentation of the turnkey project.



# PMS of Parisotto Paolo is proud to collaborate with



DueZero



MMC Italia S.r.l.  
A Sales Company of MITSUBISHI MATERIALS



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