



CMS is part of the SCM Group, technological world leader in processing a wide variety of materials: wood, plastic, glass, stone, metal and composites. Across the globe, the Group's companies act as a solid, reliable partner to the main manufacturing industries in various product sectors: from furniture to construction, the automotive, aerospace and nautical industries to plastic machining. SCM Group supports and coordinates the development of a system of industrial excellence in three large, highly specialised production centers employing more than 4,000 workers and operating in all 5 continents. Globally, SCM Group represents the most advanced skills in the design and construction of machines and components for industrial machining.

CMS SpA produces machinery and systems for machining composites, carbon fibre, aluminium, light alloys, plastic, glass, stone and metal. It was founded in 1969 from an idea by Pietro Aceti with a view to providing custom-designed, state-of-the-art solutions based on an expert knowledge of the customer process. Important technological innovations, generated by significant investments in research and development as well as the purchase of premium companies, has ensured a steady growth in the various reference sectors.



**CMS Plastic Technology** produces numeric controlled machining centers and thermoforming machines to machine plastics and offer technologically advanced solutions. The brand stems from a winning synergy between technical-industrial experience in thermoforming at the historical Villa company, founded in 1973 and CMS' long-standing expertise in routing. Thanks to constant investments in research and innovation, CMS Plastic Technology is recognised as a unique partner for the entire process: from thermoforming to trimming, right up to the production of models and moulds, guaranteeing maximum productivity.

**CMS Plastic Technology** plays a key role in numerous sectors including the automotive, aerospace industries, earth moving machinery, caravans, buses, the railway industry, production of bath tubs, technical items, visual communication, mechanical components and packaging.

eidos

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# APPLICATIONS



mass transport | healthware and wellness | caravan | sanitary ware



marketing and distribution | automotive | refrigeration



# EIDOS

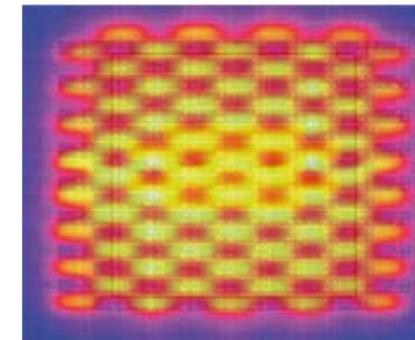
## TECHNOLOGICAL ADVANTAGES

Style and performance in a new product that re-confirms **CMS as the market benchmark for cut sheet vacuum thermoforming**. The new EIDOS encompasses sophisticated mechanical solutions to guarantee the **best performance** and an **innovative software**, for total product usability that is **extremely easy to use**.

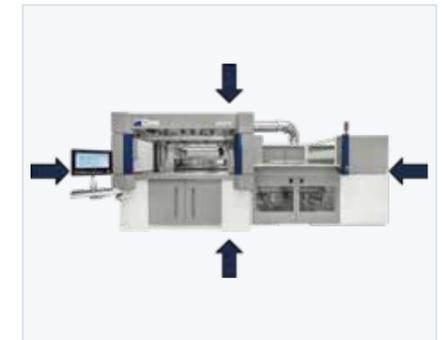
- The frame and plug assist movement with 4 electrically coupled servo motors (gantry) transmission occurs via fixed toothed columns, eliminating moving mechanical parts that protrude from the machine.
- New part cooling system with mobile drawholes installed on the plug assist structure.
- Rapid format change thanks to fully automatic window plate and clamp frame
- Mould-plate has a servo movement managed via PC with stored speed and positioning information. The **patented** movement is achieved thanks to two electronically coupled servo motors (gantry), ensuring a quick and exact positioning of the mould.
- Closed cabin to reduce problems of dust and surrounding climatic variations, to a minimum.



**New CMS HMI Thermo Active software designed specifically for the thermoforming process.**  
The timeline and exclusive dashboard make supervising production and the process control instant and easily understandable.



**CMS's patented Thermo Prophet system** for automatic heating management using thermal vision.



**New machine layout.** Thanks to the new mechanical solutions and closed cabin, the **overall height of the machine** is now **reduced by 25%** compared to previous models.

### KEY BUYER BENEFITS

- + Maximum levels of machining precision: the frame/plug assist structure **offers increased mechanical stability of 151%**, guaranteeing the utmost in terms of machining precision.
- + High productivity: the new fan system, with programmable mobile drawholes, **reduces the time needed to cool the produced piece by up to 31%**. The "tilting" function allows for an even distribution of the coolant effect.
- + Control and simplicity: the new CMS Thermo Active software ensures a simplified, intuitive control of the entire thermoforming process. The new graphic representation of the cycle and dashboard for everyday production reduce the possibility of errors to a minimum, guaranteeing a **53% reduction in learning times** compared to previous solutions.

# EIDOS

## WITH AUTOMATIC LOADER

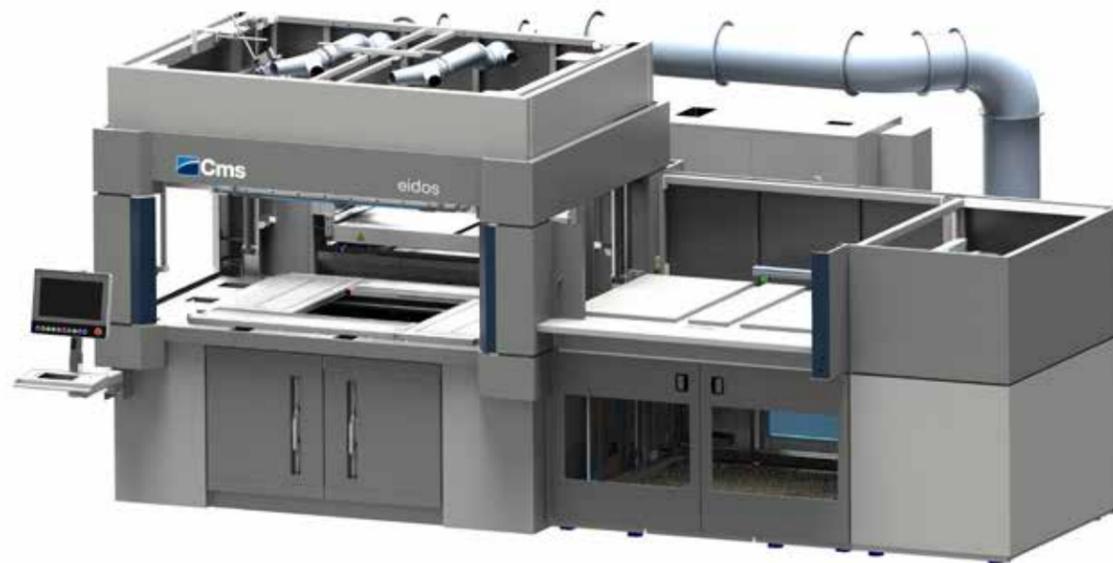
### KEY BUYER BENEFITS:

All the advantages of the new EIDOS thermoforming machine with the **practicality of a system with automatic loading and unloading**

- Sheet position adjustment in terms of X, Y centring and rotation
- Double sheet fault identification via laser sensor with automatic separation system
- Cart movement and full-electric sheet collection system with servo system
- Piece expulsion with servo movement and automatic end stroke management according to the sheet dimensions

### KEY BUYER BENEFITS

- + **Maximum levels of ergonomics:** fully automatic sheet and moulded piece movement. The piece is positioned in the unloading zone so the operator has easy access to it.
- + **Full access to the sheet loading zone:** avoids having to interrupt the thermoforming cycle during the **pallet loading operations with a 55% reduction in the time needed** for this operation.
- + **Productivity without continuity solution:** allows for smooth production avoiding delays, with a **75% reduction in the time needed to move the sheets or bulky pieces** compared to manual loading/unloading.



# EIDOS

## WITH IN LINE UNLOADER

### KEY BUYER BENEFITS

The same benefits as the automatic loader with **in line unloading machine layout**.

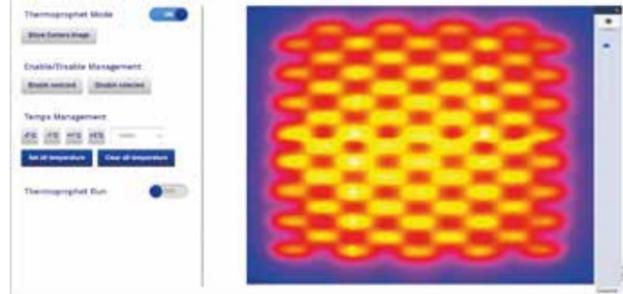
The expulsion occurs via an **ejector installed on the cart** that positions the piece on the unloading table that **swivels to provide the operator with excellent accessibility**.

### KEY BUYER BENEFITS

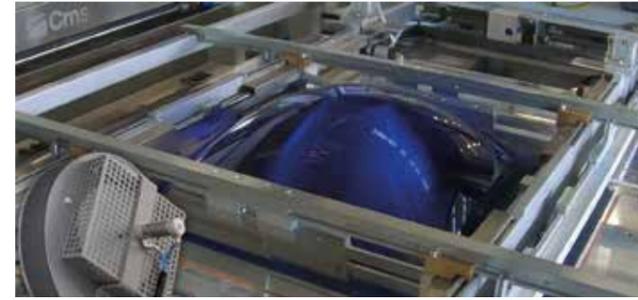
- + **Simplified integration:** allows for **greater integration of the piece into the machining flow** thanks to the separation between sheet loading zone and moulded unloading zone.



# ACCESSORIES

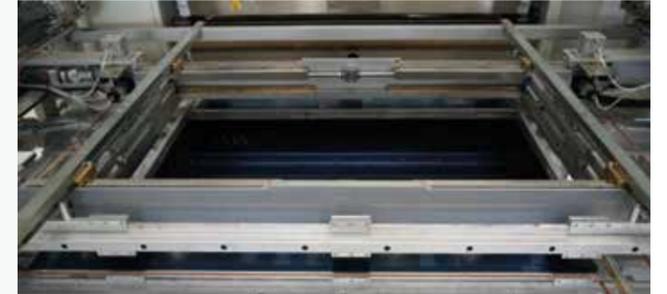


**CMS Thermo Prophet:** intelligent system for programming the heating system based on thermography. Reduces the probability of scraps caused by a variation in the surrounding conditions, to a minimum.



**Sheet bubble electronic system:** the bubble function is created using an electronically controlled fan. The bubble height control is achieved with the laser, infra-red or ultrasound sensor.

**Automatic reduction plate:** diaphragm system to adapt the machine dimension to the mould by reducing scrap material to a minimum without the need for specific equipment



**Quick mould change:** removable mould plate with its own cart. The cart can be fitted with mould lifting device for the utmost in terms of production change speed. Simplifies the centring operations and equipment installation on the outside of the machine.



**Automatic clamp frame:** fully automatic adjustment system with telescopic crossbars. Guarantees cover to all the measurements without the need for manual set up, constantly guaranteeing maximum grip on the sheet.



**Sheet cleaning system with ionized air:** eliminates electrostatic charges from each sheet and from the pallet installed in the loading zone. The utmost in terms of thermoforming quality and safety.

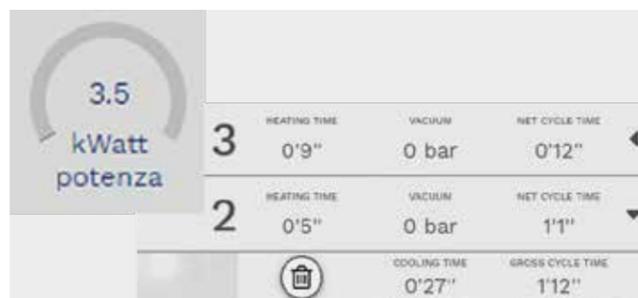
**IP Cam for supervision:** high resolution vision system integrated in to the software to allow for the process to be supervised in real time without the need to arrange platforms in front of the machine



**Optical pyrometers:** the sheet heating cycle and the piece cooling one are controlled in real time with high performance optical pyrometers reader.



**New heating system available with HTS Ceramic, quartz or halogen heaters:** the power control is achieved in real time without continuity solutions for better adaptation to the material's thermal features. The current reading for each channel means faults can be identified quickly.



**Energy reading system:** device for measuring energy with every machine cycle. The energy value is saved in the production control for a quick assessment of the batches produced.

**Centralised ventilation system:** electronically controlled high pressure fan to effectively cool the piece.



# CMS connect the IoT platform perfectly integrated with the latest-generation CMS machines

CMS Connect is able to offer customised micro services through the use of IoT Apps that support the daily activities of industry operators - improving the availability and use of machines or systems. The platform displays, analyses and monitors all data from connected machines. The data collected by the machines in real time become useful information increase machine productivity, reduce operating and maintenance costs and cut energy costs.



## APPLICATIONS

**SMART MACHINE:** Section designed for the continuous monitoring of machine operation, with information on:

**Status:** machine status overviews. The representations provided allow machine availability to be checked - to identify possible bottlenecks in the production flow;

**Monitoring:** instantaneous, live display of the operation of the machine and its components, of currently running programs and potentiometers;

**Production:** list of machine programs run within a given timeframe with best time and average running time;

**Alarms:** active and historical warnings.

### SMART MAINTENANCE

This section provides a first approach to predictive maintenance by sending notifications when machine components indicate a potentially critical state associated with reaching a certain threshold. In this way, it is possible to take action and schedule maintenance services, without any down-time.

### SMART MANAGEMENT

Section designed for KPI presentation for all the machines connected to the platform. The indicators provided assess of the availability, productivity and. The indicators provided assess of the availability,

productivity and efficiency of the machine and the quality of the product.

### MAXIMISED SECURITY

CMS Connect uses the standard OPC-UA communication protocol, which guarantees the encryption of data at Edge interface level. CMS Connect's Cloud and DataLake levels meet all state-of-the-art cyber-security requirements. Customer data are encrypted and authenticated to ensure total protection of sensitive information.

## ADVANTAGES

- ✓ Optimisation of production performance
- ✓ Diagnostics to support components warranty optimisation
- ✓ Productivity increase and downtime reduction
- ✓ Improvement of quality control
- ✓ Maintenance costs down

# CMS Thermo Active a revolutionary interaction with your CMS machine!

Cms Thermo Active is our new interface specifically designed for the thermoforming process



### EASY TO USE

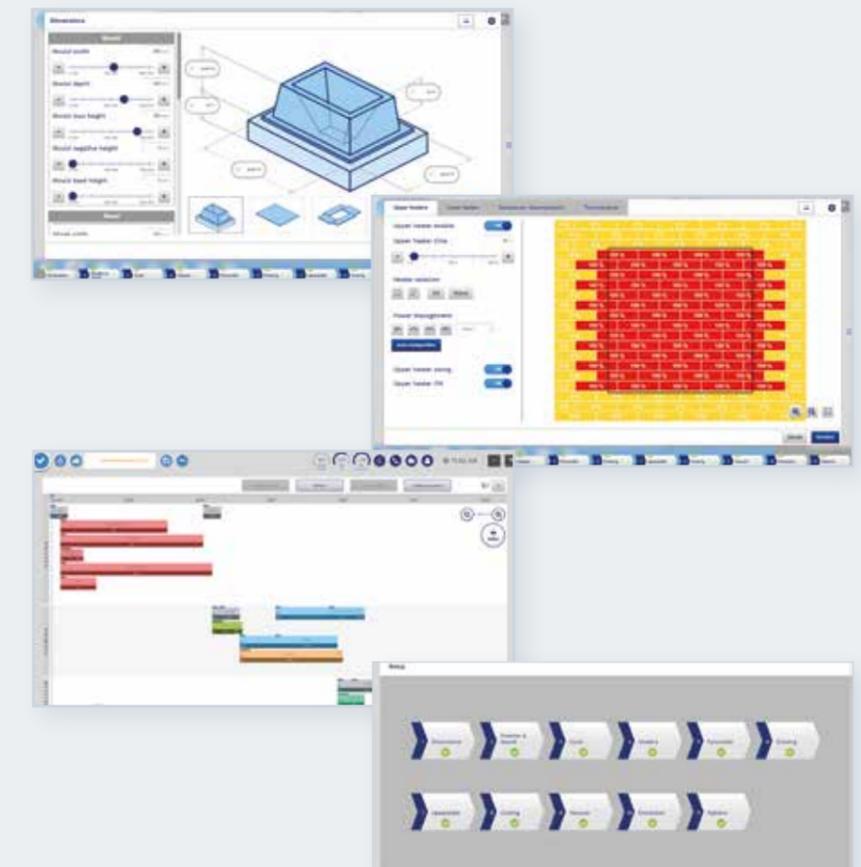
The look&feel, found on all CMS' products guarantees a simpler, more intuitive migration between products.

In CMS Thermo Active the operator is guided through the process set-up operations step-by-step, to avoid the most common mistakes, thanks to a coherence check on the parameters inserted.

### INTUITIVE GRAPHIC REPRESENTATION

The new graphic representation of the machine cycle makes it easier to understand the program, providing an easy demonstration of the interaction between the different cycle functions.

During everyday use, the exclusive dashboard clearly and instantly shows the data relative to the production in progress and the machine state. A complete production control system stores the process data and energy consumption levels making them available for subsequent analyses related to product batch quality.



# THE RANGE OF CMS PLASTIC TECHNOLOGY

# FOR PLASTIC PROCESSING

## 3/5-AXIS CNC MACHINING CENTERS (passage in Z up to 500 mm)



**TRACER**



**TIME**



**EVOTECH**

## BEAM SAWS



**HELIX**

## SAWS



**T-MAXI**

## 5-AXIS CNC MACHINING CENTERS (passage in Z from 500 mm)



**ATHENA**



**ANTARES**



**ARES**



**MX5**

## THERMOFORMING MACHINES



**EIDOS**



**BR5 CS**



**BR5 HP**



**BR5 SPECIAL SPA**



**MASTERFORM**



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