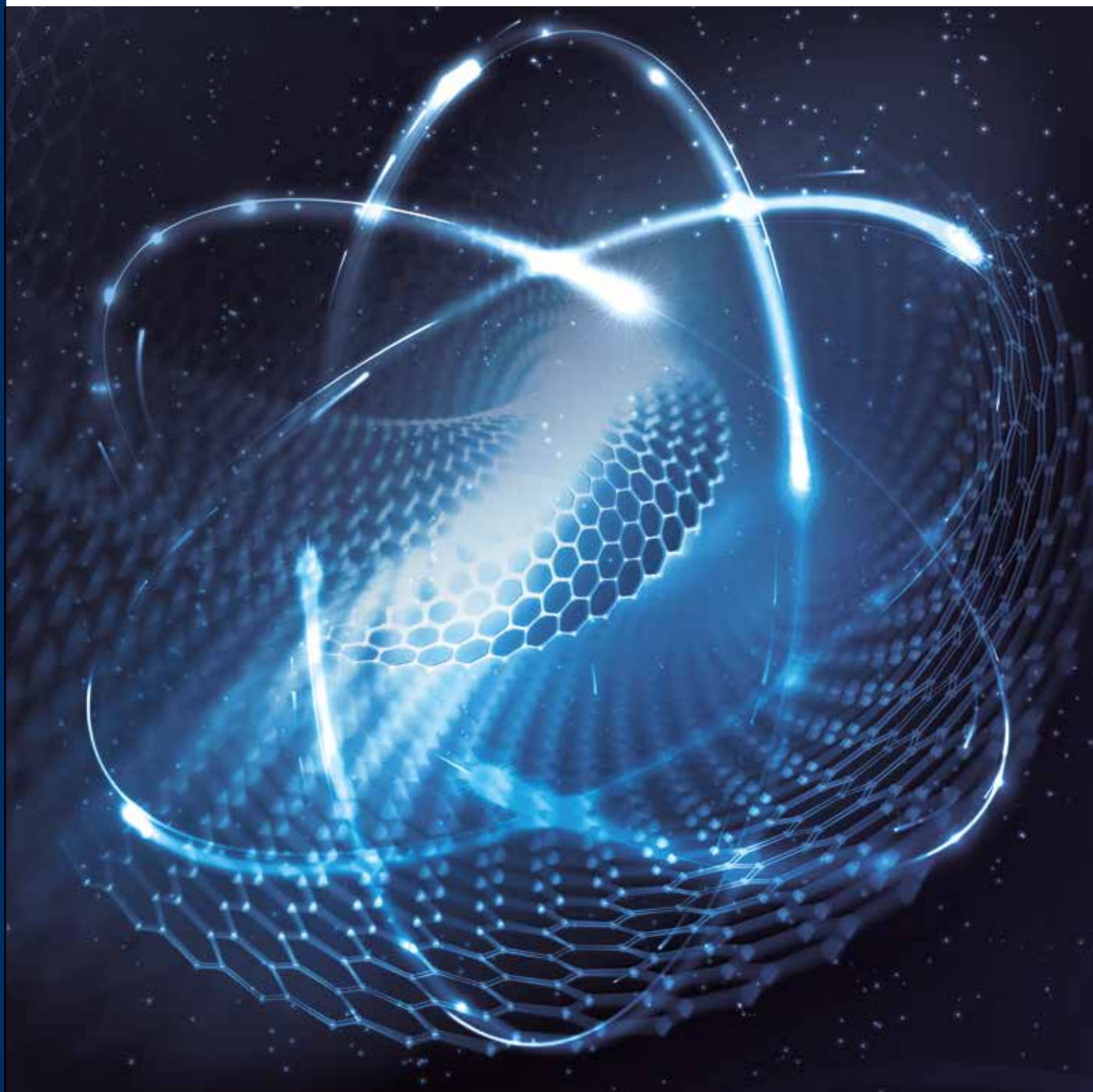


kreator

solutions for additive manufacturing



CMS is part of SCM Group, a technological world leader in processing a wide range of materials: wood, plastic, glass, stone, metal, and composites. The Group companies, operating throughout the world, are reliable partners of leading manufacturing industries in various market sectors, including the furniture, construction, automotive, aerospace, ship-building, and plastic processing industries. SCM Group coordinates, supports, and develops a system of industrial excellence in three large, highly specialized production centers employing more than 4,000 workers and operating in five continents. SCM Group: the most advanced skills and know-how in the fields of industrial machinery and components.

CMS SpA manufactures machinery and systems for the machining of composite materials, carbon fiber, aluminum, light alloys, plastic, glass, stone, and metals. It was established in 1969 by Mr Pietro Aceti with a vision of offering customized and state-of-the-art solutions, based on the in-depth understanding of the customer's production needs. Significant technological innovations, originating from substantial investments in research and development and take-overs of premium companies, have enabled constant growth in the various sectors of reference.



CMS Advanced Materials Technology is a leader in the field of numerically controlled machining centers for the working of advanced materials: composites, carbon fiber, aluminum, and light alloys. Substantial investments in research and development have allowed the brand to always be on the forefront of cutting-edge design, with machines that ensure best-in-class performance in terms of accuracy, speed of execution, and reliability; meeting the needs of customers operating in the most demanding divisions.

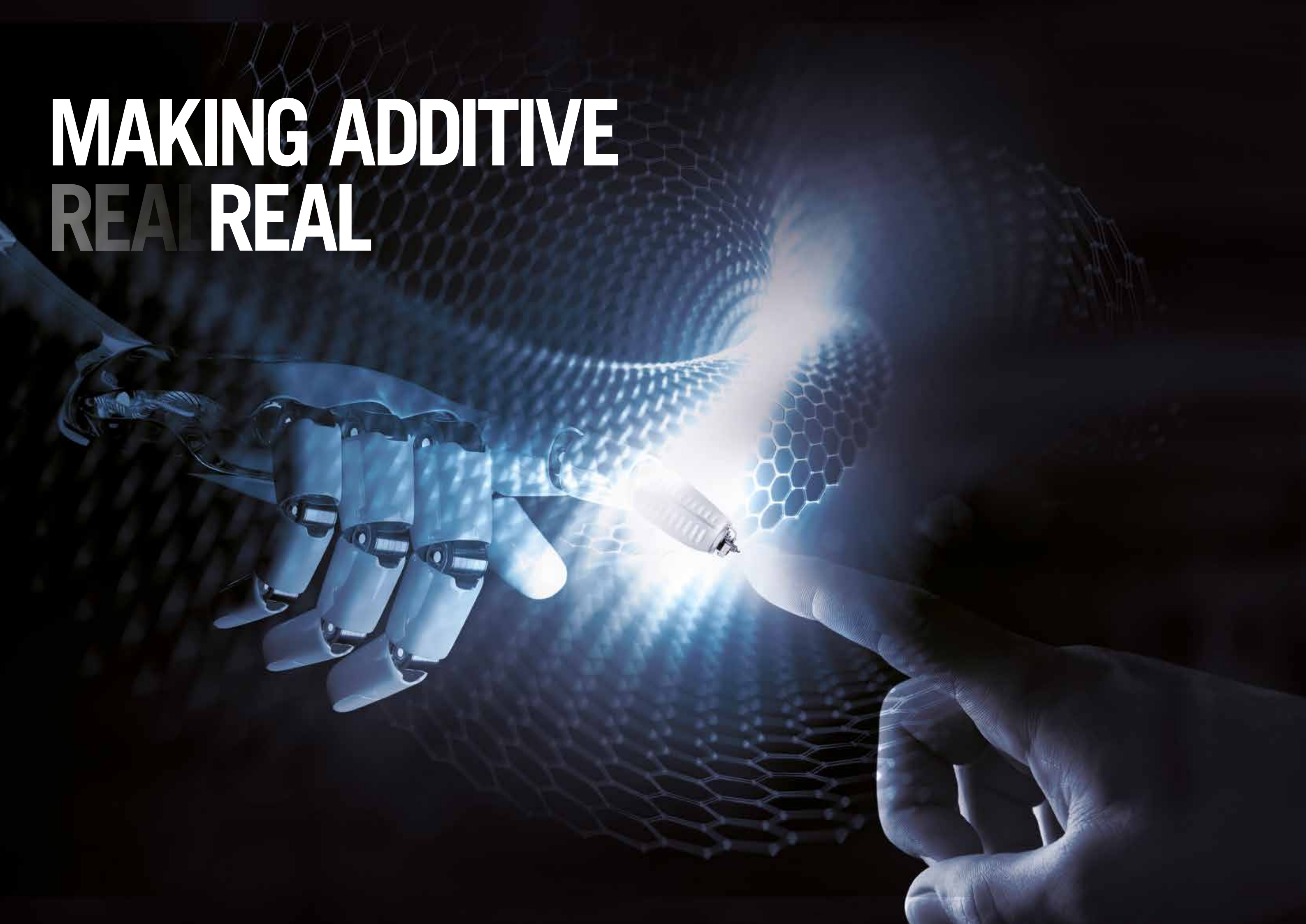
Since the early 2000s, **CMS Advanced Materials Technology** has established itself as a technology partner in areas of excellence such as aerospace, aviation, automotive, race boating, Formula 1, and the most advanced railway industry.



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APPLICATIONS	6-7
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MAKING ADDITIVE REAL REAL





Large format 3D printed tooling

Revolutionary.
Efficient.
Accurate.
Largely sustainable.



Making Additive REAL.

solutions for additive manufacturing

CMS KREATOR

CMS, a pioneer in CNC machines for materials processing, began developing innovative Large Format Additive Manufacturing (LFAM) solutions in 2018 to enhance the competitiveness of the composite and tooling industries.

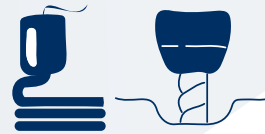
Large Format Additive Manufacturing

Large Format Additive manufacturing (LFAM) using screw extrusion of thermoplastic pellets is a rapidly growing technology for producing composite tooling. Applications include CFRP autoclave layup molds, master molds, trimming jigs, and machining vacuum fixtures. Reduced lead times, material savings, and recyclability make LFAM a competitive alternative to conventional technologies for tool manufacturing.



KEY BUYERS BENEFITS

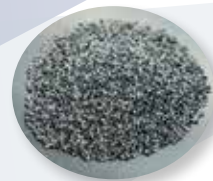
1 TAILORED SOLUTION: CMS PROVIDE SPECIALIZED LFAM SOLUTIONS EXCLUSIVELY FOR 3D PRINTING, AS WELL AS ADVANCED HYBRID SYSTEMS THAT SEAMLESSLY INTEGRATE 3D PRINTING AND MILLING TECHNOLOGIES.



2 HIGHLY FLEXIBLE: CMS LARGE FORMAT ADDITIVE MANUFACTURING TECHNOLOGY ENABLES VERTICAL (0°), INCLINED (45°) AND HORIZONTAL (90°) 3D PRINTING ALL ON A SINGLE MACHINE.



3 MATERIAL SAVING: NEAR NET SHAPE TOOL MANUFACTURING, UP TO 80% MATERIAL AND WEIGHT SAVING COMPARED TO CONVENTIONAL TECHNOLOGIES.



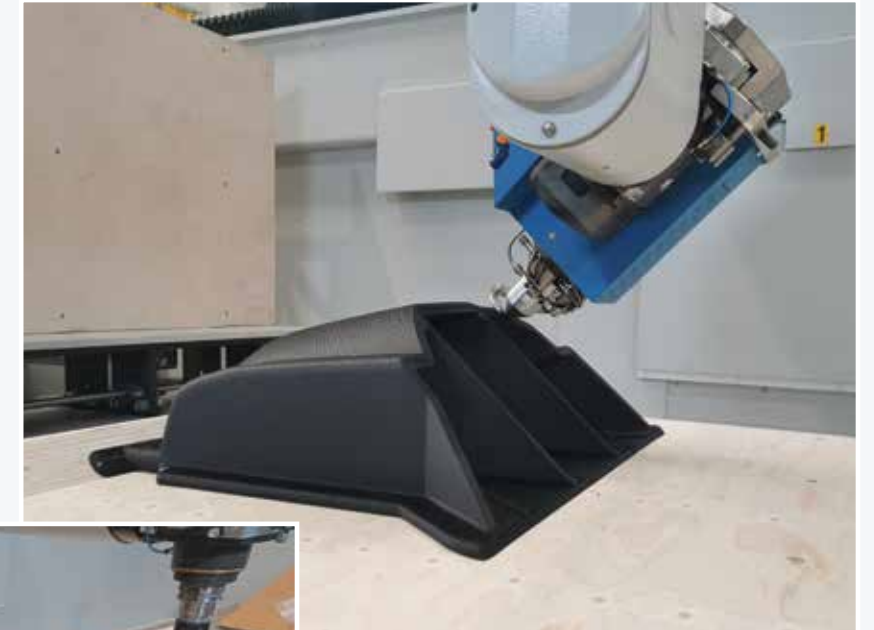
4 SUSTAINABLE SOLUTION: 60% REDUCTION IN GREEN GASES EMISSIONS COMPARED TO TRADITIONAL TOOL MANUFACTURING PROCESS (LIFE CYCLE ASSESSMENT).



5 EASE OF USE: ICARUS SLICING SOFTWARE AND PRINT HMI SIMPLIFY PROCESS AND TEMPERATURE CONTROL, THEREBY REDUCING PROGRAMMING AND PRINTING TIMES AND IMPROVING PRODUCTION WORKFLOW.



3D PRINTING



MILLING



BUMPER LAMINATION MASTER MOLD AUTOMOTIVE

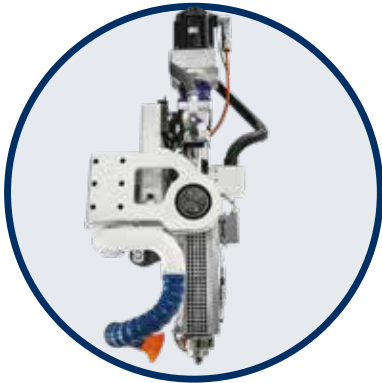
Material: ABS + 20% carbon fiber
Size: 900 x 1000 x 400 mm
Weight: 50 kg
Autoclave curing temperature: 60 °C
Printing time: 9 hours
Wall thickness: 16 mm
Machining time: 18 hours
Material saving: 50%

EXTRUSION UNITS

With its comprehensive range of extrusion units, CMS can provide the solution that best suits the customer's application. The extrusion units are engineered for optimal processing of a wide range of thermoplastic polymers used in large-scale 3D printing, including carbon and glass fiber reinforced PLA, PETG, ABS, PA6, PC, PEI, and more. The material loading system integrates granule drying and dust filtration to ensure a high-quality product.



EXTRUDER E1



EXTRUDER E3



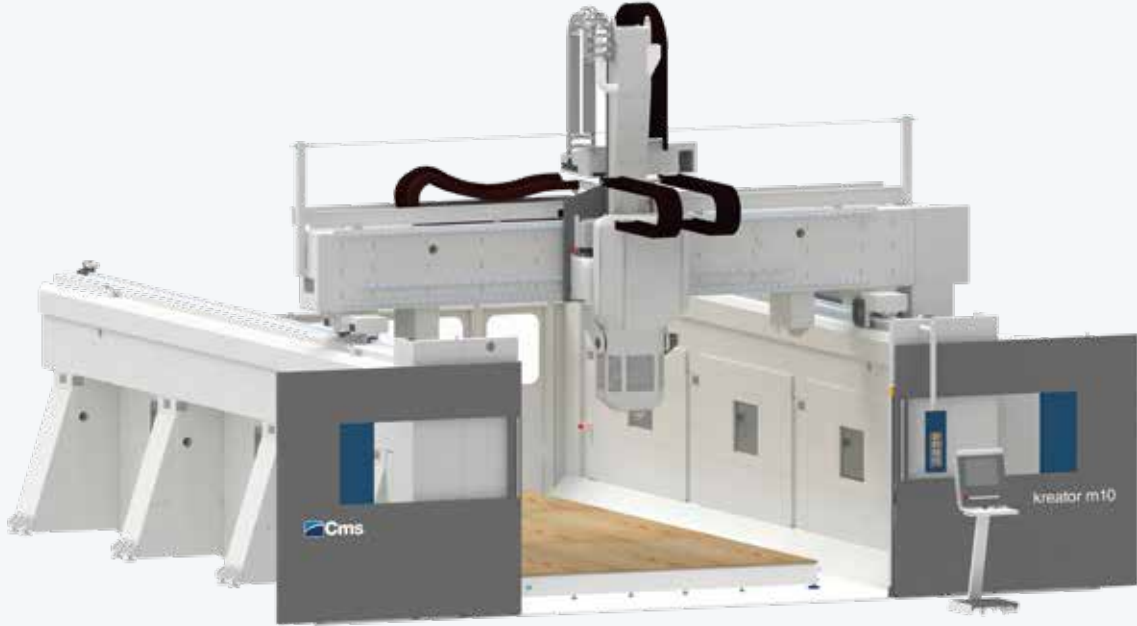
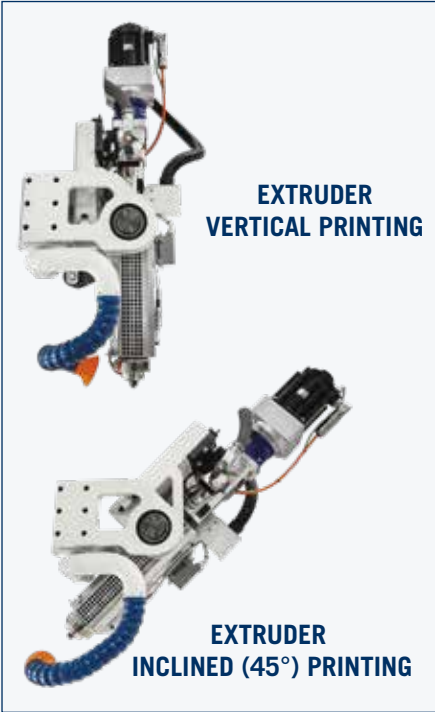
EXTRUDER E10

	EXTRUDER E1	EXTRUDER E3	EXTRUDER E10
SCREW DIAMETER	20 mm	25 mm	35 mm
MAX FLOW RATE	10 kg/h	30 kg/h	100 kg/h
HEATING ZONES	5	5	6
MAX TEMPERATURE	450 °C	450°C	430 °C
COOLING	Forced air	Liquid	Liquid
NOZZLE SIZES	8 – 13 mm	10 – 15 mm	12 – 20 mm
MELT SENSORS	Temperature and pressure	Temperature and pressure	Temperature and pressure
DRYER CAPACITY	80 l	120 l	600 l

PRINT SOLUTIONS



KREATOR A3



KREATOR M10

	KREATOR A3	KREATOR M10
PROCESS	Additive Manufacturing	Additive Manufacturing
EXTRUDER UNIT	E3 (30 kg/h)	E10 (100 kg/h)
PRINT STRATEGIES	Vertical and 45°	Vertical and 45°
X AXIS	2.500 – 9.800 mm	3000 – 10.500 mm
Y AXIS	2.500 mm	4.000 mm
Z AXIS	1.300 mm	1.600 mm

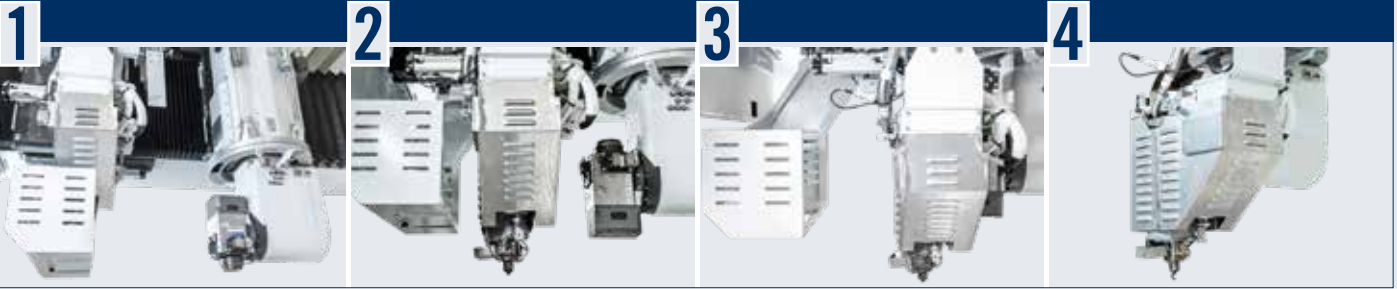
HYBRID SOLUTIONS



KREATOR ARES



KREATOR POSEIDON



AUTOMATIC SWITCH FROM MILLING TO PRINTING WITHOUT MANUAL INTERVENTION

	KREATOR ARES	KREATOR POSEIDON
PROCESS	5-axis milling + Additive Manufacturing	5-axis milling + Additive Manufacturing
EXTRUDER UNIT	E1 (10 kg/h)	E1 (10 kg/h)
EXTRUDER ENGAGEMENT	Automatic head change	Automatic head change
PRINT STRATEGIES	Vertical, 45° and horizontal	Vertical and 45°
X AXIS	3.400 - 5.800 mm	4.000 - 10.000 mm
Y AXIS	2.000 mm	3.400 mm
Z AXIS	1.100 mm	1.300 mm
SPINDLE	20 kW	20 kW

HYBRID DOUBLE BRIDGE SOLUTIONS



KREATOR MX5 10, POSEIDON 10 and ETHOS 10

	KREATOR MX5 10	KREATOR POSEIDON 10	KREATOR ETHOS 10
PROCESS	5-axis milling + Additive Manufacturing	5-axis milling + Additive Manufacturing	5-axis milling + Additive Manufacturing
EXTRUDER UNIT	E10 (100 kg/h)	E10 (100 kg/h)	E10 (100 kg/h)
EXTRUDER ENGAGEMENT	Second bridge	Second bridge	Second bridge
PRINT STRATEGIES	Vertical and 45°	Vertical and 45°	Vertical and 45°
X AXIS	3.000 - 12.500 mm	4.000 - 13.000 mm	4.000 - 13.000 mm
Y AXIS	4.250 mm	4.000 mm	4.000 mm
Z AXIS (MILL)	2.000 mm	2.000 mm	2.000 mm
Z AXIS (PRINT)	1.600 mm	1.600 mm	1.600 mm
SPINDLE	12 - 32 kW	12 - 32 kW	18 - 32 kW

NEW!

DISCOVER ICARUS !



EASE OF USE

GENERATE PRINTING PARAMETERS AUTOMATICALLY

The software analyzes the part geometry, properties of the printed strand and selected material, and automatically suggests the best printing parameters.

CREATE PROJECTS WITH SIMPLIFIED 3D MODELS

Projects can be developed and modified using elementary geometric shapes..

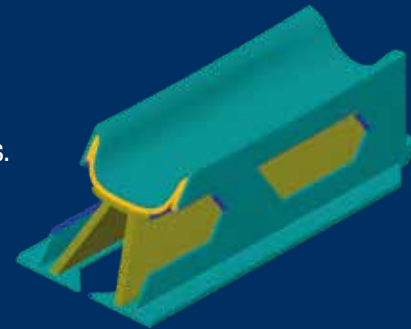
PRODUCT-ORIENTED SOFTWARE

CREATE PARAMETRIC MODELS

Templates can be created for various materials, printing strategies and applications.

EXCLUSIVE FEATURES

Create internal reinforcement structures, reduction zones and supports for critical areas.



PROCESS SIMULATION

AS 3D PRINTED MODEL

Export the 3D model generated, which exactly represents the final printed result.

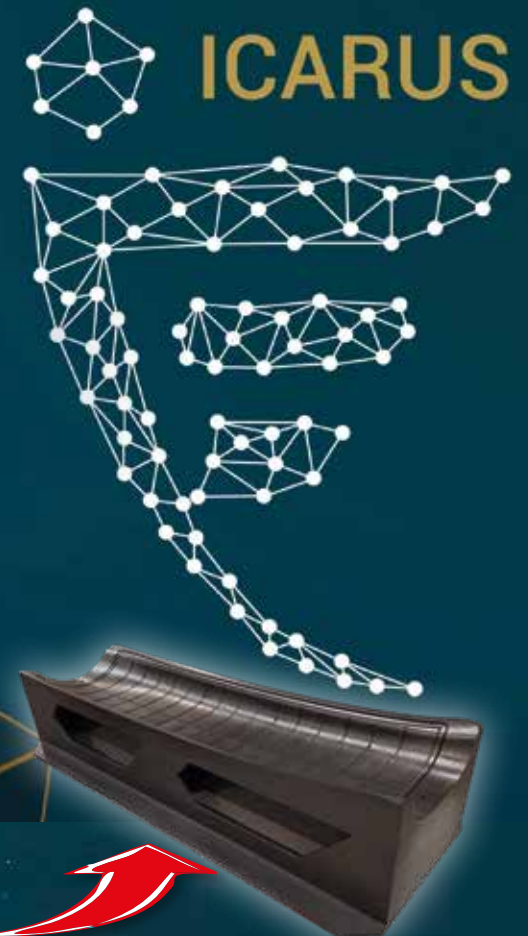
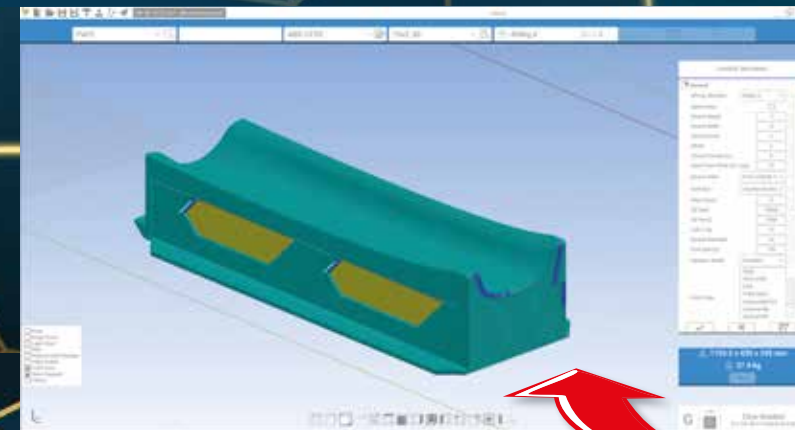
CONTINUOUS ANALYSIS

The 3D model can be used to analyze printed thicknesses and, with the aid of specific software, perform structural analysis.

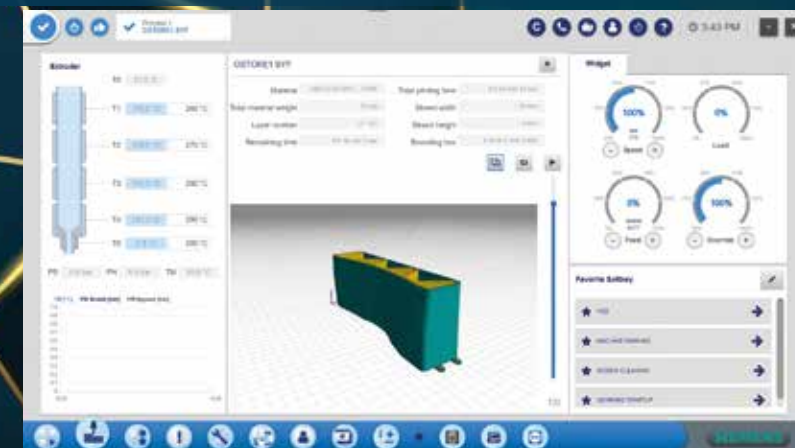
DEDICATED PRINT INTERFACE HMI PROCESS MONITORING AND MANAGEMENT LIVE PRINT PREVIEW

EASE OF USE

ICARUS: INNOVATIVE PRODUCT ORIENTED SLICING SOFTWARE



DEDICATED PRINT HMI FOR PROCESS MONITORING AND MANAGEMENT



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Egalware

Exclusively for

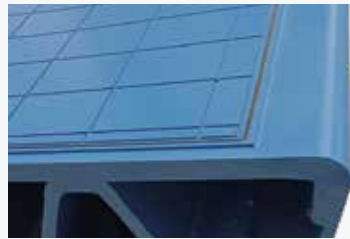
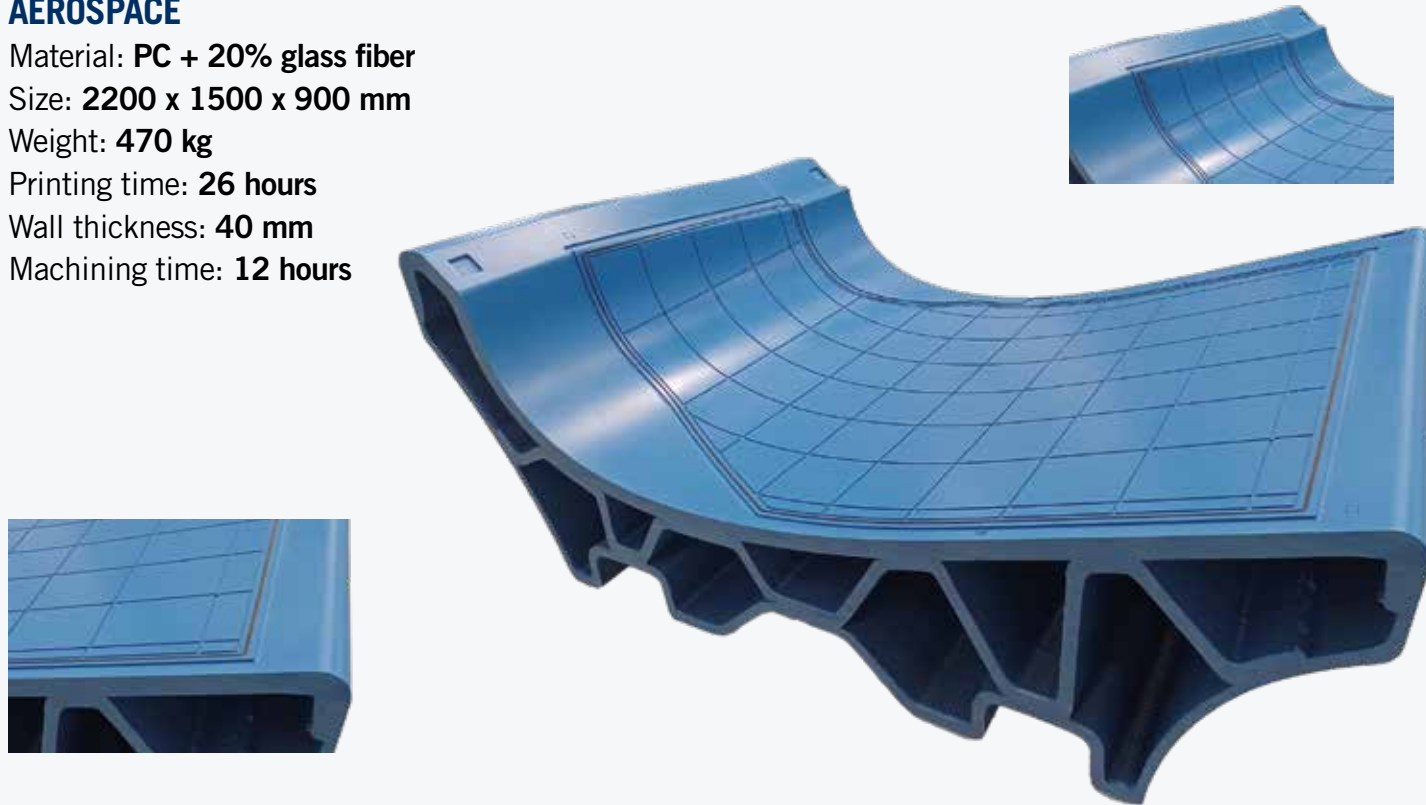
Cms
advanced materials technology

CASE STUDIES

CFRP MACHINING VACUUM FIXTURE

AEROSPACE

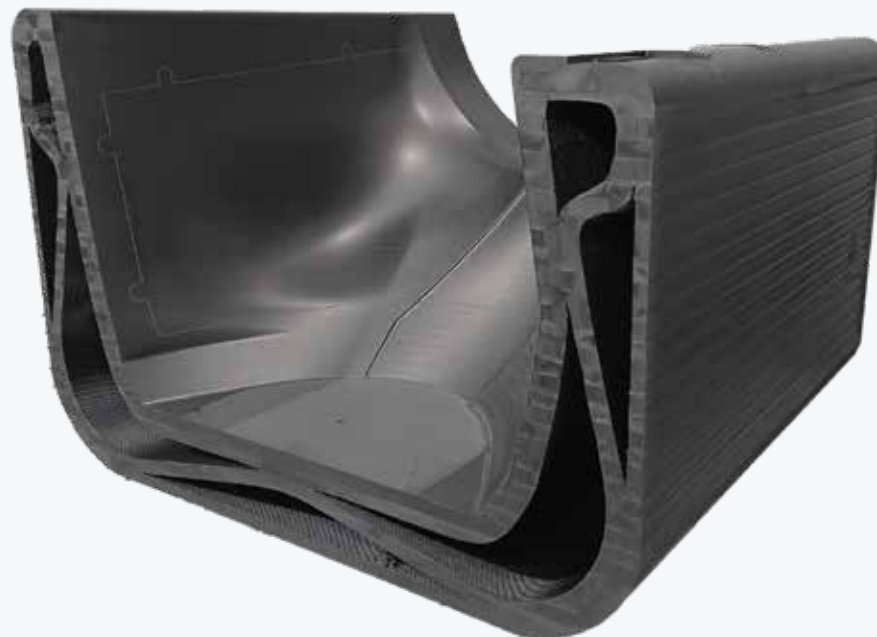
Material: **PC + 20% glass fiber**
 Size: **2200 x 1500 x 900 mm**
 Weight: **470 kg**
 Printing time: **26 hours**
 Wall thickness: **40 mm**
 Machining time: **12 hours**



HIGH TEMPERATURE LAMINATION MOLD

AEROSPACE

Material: **PEI + 20% carbon fiber**
 Size: **1200 x 900 x 1000 mm**
 Weight: **190 kg**
 Autoclave curing temperature: **170 °C**
 Printing time: **8 hours**
 Wall thickness: **36 mm**
 Machining time: **24 hours**



CFRP ANTENNA REFLECTOR FOR DEFENSE SYSTEM



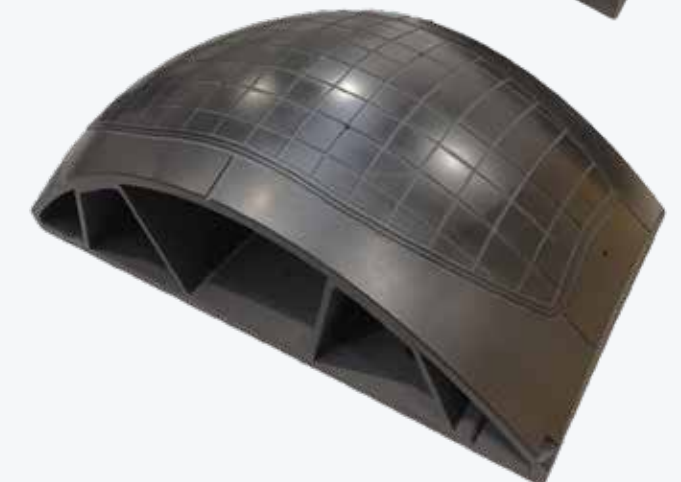
AUTOClave LAMINATION MOLD

Material: **PC + 20% carbon fiber**
 Size: **1400 x 800 x 800 mm**
 Weight: **135 kg**
 Autoclave curing temperature: **120 °C**
 Printing time: **20 hours**
 Wall thickness: **20 mm**
 Machining time: **8 hours**



MACHINING VACUUM FIXTURE

Material: **ABS + 20% carbon fiber**
 Size: **1400 x 750 x 500 mm**
 Weight: **110 kg**
 Printing time: **12 hours**
 Wall thickness: **20 mm**
 Machining time: **9 hours**



CMS ADVANCED MATERIALS TECHNOLOGY RANGE OF MACHINES

FOR COMPOSITE MATERIALS, ALUMINUM AND METAL PROCESSING

MONOBLOC CNC MACHINING CENTERS FOR VERTICAL MILLING



ATHENA



ANTARES MK3



ANTARES MK3 FLOOD



ARES



VM 30



ETHOS K

GANTRY CNC MACHINING CENTERS FOR LARGE-SIZE WORK AREAS



MX5



ETHOS



POSEIDON



CONCEPT

HYBRID ADDITIVE MANUFACTURING AND MILLING SYSTEMS



KREATOR ARES

MONOBLOC CNC MACHINING CENTERS FOR HORIZONTAL MILLING

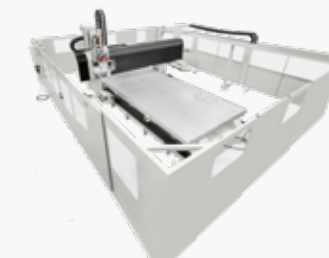


IKON

FIXED AND MOBILE BRIDGE CNC MACHINING CENTERS



FXB



MBB



AVANT CARAVAN

CNC MACHINING CENTER FOR THE EYEWEAR INDUSTRY



MONOFAST EVO



EOS

CNC MACHINING CENTERS FOR GUNSTOCKS PROCESSING



MULTILATHE



MONOFAST GUNSTOCKS



KARAT

WATERJET CUTTING SYSTEMS



TECNOCUT PROLINE



TECNOCUT SMARTLINE



C.M.S. SPA

via A. Locatelli, 123 - 24019 Zogno (BG) - IT

Tel. +39 0345 64111

info@cms.it

cms.it

a company of **scm**group