

## Bercella's Composites Dispenser Structure successfully in orbit onboard the Vega VV16

CFRP Dispenser Structure realised by Bercella for the innovative Small Spacecraft Mission Service (SSMS) successfully launched by Vega for European Space Agency: new opportunities for European space markets

*Varano de' Melegari (Parma), 3rd September 2020* – Early this morning Bercella shared the thrill of Vega's VV16 successful launch of the innovative Small Spacecraft Mission Service (SSMS) from Kourou Space Center in French Guiana. At 3:51 local time, Vega successfully lifted off carrying into orbit the high-intensive CFRP Dispenser Structure realised by Bercella (Italy) for SAB Aerospace s.r.o. (Czech Republic) loaded with more than 50 microsatellites, the structural parts of one of which were also manufactured by Bercella.

The European Space Agency's Vega programme provides an answer to the increasing commercial demand for small satellites. The flight aims at demonstrating the technical and financial feasibility of "rideshare" opportunities for small satellites being launched at once from a single modular architecture in order to split launch costs.

### JOINT EXPERTISE FOR A EUROPEAN CHALLENGE

The SSMS Dispenser consists of a modular architecture, aimed at hosting multiple combinations of small satellites at once: an hexagonal lower section, with 2 deployers for nanosatellites on each side, for a total amount of 12 deployers and 46 Cubesats in total, and an upper section capable of hosting various configurations of micro, nano and mini satellites, namely 7 microsatellites for this launch.

Made from several large sandwich panels produced with Ultra-high Modulus Carbon Fiber Prepreg, the SSMS Dispenser Structure was designed by SAB Aerospace s.r.o and commissioned to Bercella for AVIO thanks to Bercella's experience on large structures for the Space Industry, besides commitment on optimum performance and lead times.

"We are extremely proud for our contribution to this milestone for European space industry. We welcomed the challenge with enthusiasm, putting at ESA's disposal our solid process expertise and strong materials know-how. We are ready to strengthen Italy's participation to Space market evolution, contributing as a key European player for Composites Structures for Space." said CEO Massimo Bercella. "We praise ESA's willingness to support European SMEs in this important step forward. SAB high professionalism, together with the commitment of all players involved, helped managing such a complex project."

### PROCESS CONTROL AND PERFORMANCE OPTIMIZATION

The ambitious multiplayers project requested significant risk mitigation and process control, that Bercella could provide thanks to its integrated manufacturing efforts and in-house industrialisation capabilities. The challenging size was managed through Bercella's extensive manufacturing facilities, among which a 4m diameter autoclave and large CNC equipment. The project was also the opportunity to upgrade its Internal Lab with state of the art testing equipment, including an ISO 8 Clean Room. Throughout the multi-year project, Bercella produced and tested almost 1.000 samples for materials and processes qualification, built and assembled the Flight Panels introducing significant performance optimization in the 2,5m diameter Main Deck, transforming its initial 4 parts design into a single-piece realisation.



## **ABOUT BERCELLA**

*An innovative Italian company driving since 25 years the design and engineering of cutting-edge solutions using Advanced Composites and Light Alloys, Bercella is specialized in large and demanding systems, providing mission critical industries with tailored solutions through a 360° service, from early design to engineering development to final manufacturing.*

## **PRESS CONTACT**

news@bercella.it

+39 339 28 61 601