



# COMERIO ERCOLE

MECHANICAL CONSTRUCTIONS SINCE 1885 ITALY



## COMERIO ERCOLE CONTRIBUTED TO THE RECENT ITALIAN AEROSPACE GROUP AVIO SPA SUCCESS OF THE EXPENDABLE LAUNCH SYSTEM "VEGA"

Special high precision rubber calenderline and innovative mixing plant according to Industry 4.0 concept



On September 3<sup>rd</sup>, 2020 at 03.51 AM Italian time from the European base of Kourou (French Guyana), it has been successfully launched VEGA, the launcher designed and manufactured in Italy by the company AVIO S.p.A. in Colferro. 30 meters high by 3 meters diameter and over 100 tons of pure Italian technology.

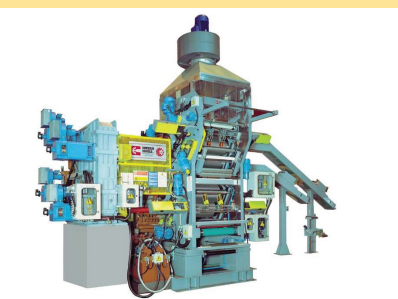
On the 3 stages solid motor (called P80, Zefiro 33 and Zefiro 9) of the Italian carrier VEGA, there is a wide use of "REINFORCED RUBBER" for special thermal protection produced by AVIO, using a special mixing-calendering system designed and manufactured by COMERIO ERCOLE in Busto Arsizio. COMERIO ERCOLE, for the required purpose, supplied a special calendering plant, turnkey configuration, with micrometric high precision calender.

The high precision calender is equipped with several peripherally drilled rolls based on patented ROLLBLOCK PLUS® arrangement and innovative fully hydraulic gap position control HYDROGAP®. Precision accuracy of each bearing block less than +/- 5 microns. Operative adjustment speed of 1 mm/sec. The supply includes also a rubber mixing plant consisting of a 100 lt internal mixer having special rotors geometry and a two-roll mixing mill equipped with hydraulic positioning device HYDROFIT® granting 10 mm per second gap adjustment. Connection through serial link to PLC and industrial PC for data transmission. Web interface for proper remote service and monitoring according to Industry 4.0 concept.

"We are very proud to have contributed to the success of this important European project: a mix of high technology, passion, perseverance and dedication" comments Riccardo Comerio - CEO of COMERIO ERCOLE - and remembers with pleasure that this is not the first time: "COMERIO ERCOLE in 1969 contributed to launch into orbit his proper technology with the mission APOLLO 11, having supplied embroidery machines to an American group linked to NASA, to produce the famous emblems for the astronauts spacesuits showed to all the world during their first steps onto the lunar surface".

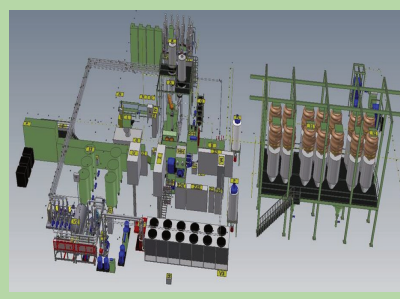
COMERIO ERCOLE promotes quality & technology since 1885 and manufacture complete high precision calendering plants with constant technological innovations and international patents running in rubber processing field (in particular for tires and conveyor belts – with over 1000 references all over the world for the production of rubberized textile fabric and steel cord for cars, trucks and OTR), in plastic materials (pharmaceutical and advertisement sectors) and nonwovens (medical sector with giant calenders for the production of thermo-bonded fabrics for protective suit and surgical masks).

*What was never considered possible is now possible!*



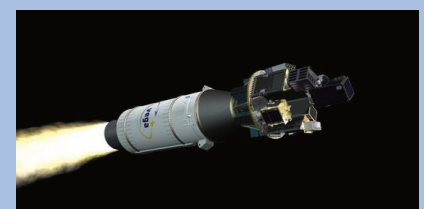
### 4 ROLL CALENDERLINE

COMERIO ERCOLE provides "tailor made" engineering for all the plant including a pre calender section for net unwinding, 2+2 roll calender equipped for 2 different rubber compounds to be processed, automatic lamination unit and post calender section including automatic cutting unit and wind up unit. The scope include TCU, electrical cabinet and thickness device.



### MIXING PLANT

COMERIO ERCOLE provides a complete mixing plant to properly feed the rubber compound required into the calendering process. Automatic dosing system to feed 100 liter internal mixer having innovative rotors geometry and automatic two roll mixing mill based and cooling equipment. Including AGV devices for internal goods movement from mixing plant to calendering plant.



### "VEGA" PROJECT

Vega is an expendable launch system in use by Arianespace jointly developed by the Italian Space Agency (ASI) and the European Space Agency (ESA). Development began in 1998 and the first launch took place from the Centre Spatial Guyanais on 13 February 2012. It is designed to launch small payloads 300 to 2500 kg satellites for scientific and Earth observation missions to polar and low Earth orbits. The reference Vega mission is a polar orbit.