

# ITALIAN MACHINE TOOLS, ROBOTICS & AUTOMATION INDUSTRY ~ NEWS

October 2019

PIATTAFORMA INDIA PROJECT

NEWSLETTER NO. 41



UCIMU-SISTEMI PER PRODURRE

## SPARK 1300 TITANIUM – LET’S RAISE THE BAR ON TITANIUM MACHINING

The machining of tough materials has always been the strong point of Mandelli’s HMCs and this is what characterizes Spark 1300 Titanium too. Providing maximum flexibility and integration of multiprocessing operations - first of all the turning ones - and characterized by the innovative fixed table architecture to make dynamics independent from the workpiece weight and improve ergonomics, accessibility as well as chip removal, Spark adopts double ball screw solutions on the linear axes with roller slide-ways for high dynamics, maintain thrusts barycentric and increase speeds and accelerations, whereas the rotary axes are characterized by direct drives or double pinion kinematics to cancel the reverse backlash. The steel structures offer double stiffness compared to cast iron, the fixed heavy units, like the rotary table, are made of cast iron and the Y axis is presents a staggered guide solution and a closed section at the back to optimize the flexural stiffness. These innovations are particularly appreciated by the aerospace market which, characterized by HRSA components, requires important performances in terms of dynamics, tracking of complex trajectories and chip removal. The largest North American aircraft manufacturer, to list a notable name of the aerospace panorama, has recently purchased an FMS of 6 Spark 1300 Titanium after carrying out experimental campaigns and structural stiffness tests. Spark 1300 has been certified as the machine with the best dynamic stiffness performance available on the market, strict acceptance tests have resulted in the removal of a chip section of 1 inch by 2.5 inches with a cutting edge lifespan of 60' at a cutting speed of 45-50 meters per minute as a simulation of the real production conditions, all at the highest possible height to test the HMC rigidity.

