The TeNeT Project: Leading Edge 300mm and 200mm Silicon Wafers Manufacturing in Italy to Strengthen the Europe's Microelectronic Ecosystem

Emanuele CORSI – *MEMC-GlobalWafers*

MEMC Electronic Materials SpA is part of GlobalWafers Group. GlobalWafers is a global leader in semiconductor technology, capable of providing innovative and advanced solutions to leading chip manufacturers for transforming lives around the world. With R&D facilities in Europe, USA and Asia, and, through a fully integrated manufacturing strategy, the company focuses on innovation for delivering exceptionally pure silicon to meet any specific customer requirement.
"More Moore", "More than Moore" and "Beyond Moore" they all rely on the use of Silicon as a platform for further development. Silicon wafers continue to be the most important and diffused material for any advanced Microelectronic device development and then industrial fabrication.
Silicon wafers are far from being a commodity. They have unique characteristics that make them irreplaceable and necessary for the production of advanced devices, such as those with 200mm or 300mm diameters.
In addition, silicon wafer technology has become increasingly more sophisticated over time due to advances in materials science research and development processes used by manufacturers around the world. The resulting products are highly specialized pieces of equipment which require precise engineering specifications for optimal performance within any given application environment (products are assigned to a specific application already while growing the crystal).
Now moving to the content of TèNeT project, let's analyze its key objective:
- to strengthen Europe's Microelectronic Ecosystem by reducing the dependence on Asian advanced silicon delivery in Europe on this key and strategic Hi-Tech material while increasing the EU manufacturing footprint.
- In addition to this, allow the Faster Local Development of the smallest nodes and innovative applications in the power, communication and sensor fields, by mean of a fully European advanced and reliable supply chain.
Main MEMC-GWC project contribution to IPCEI-ME/CT initiative it is to develop, produce and supply leading edge 300mm, and for some advanced applications also 200mm, silicon wafers in Europe by mean of a Leading edge newly installed 300mm line and of an upgraded 200mm manufacturing line in its existing Novara Site.
This production site is and it will be capable of developing leading edge silicon wafers for the key European Microelectronic IDMs (e.g. STM, IFX, BOSCH, GF and others). This project will provide contribution to all four identified Workstreams (ACT, THINK, SENSE and COMMUNICATE).