Hubs of Innovation

The Chaoul Center for Nanoscale Systems

The Center for the Manufacturing and Characterization of Nanoscale Systems at Tel Aviv University, first opened in 2007 and recently re-inaugurated as the Chaoul Center for Nanoscale Systems, is Israel's leading facility of its kind. The Center provides the country's nanotechnology community, in both academia and industry, with access to the field's most advanced R&D services, knowledge and equipment. TAU's new Nanotechnology building, presently under construction and scheduled to open in 2021, designates a special, substantial space for the Chaoul Center and its state-of-the-art devices.

More than 50 academic groups and over 40 companies – from large Israeli corporations to small startups in their earliest stages, currently use the Chaoul Center's professionally managed laboratories, which offer outstanding infrastructures (thanks to a multimillion-dollar investment by both the Israeli government and TAU). The labs' process engineers offer researchers and corporations comprehensive prototype development services, from small-scale predefined runs to large R&D projects and full-process development, conducted jointly with the customer. Services – including characterization, device design, mask preparation, sample fabrication and backend – are continually improved and expanded, as we add standard operating procedures for more systems, and offer them online.

The Chaoul Center's equipment is among the most advanced and comprehensive in Israel, spanning many types of fabrication methods, and enabling the development of full-process prototypes. Capabilities and technologies at the labs include mask design and fabrication, optical lithography and e-beam lithography, as well as backend techniques such as wire bonding and dicing. Our new laser-cutting and machining system is the first of its kind in Israel. Other novel devices include: an E-beam Evaporator and a Magnetron Sputter, both from Vinci Tech, France, a RAITH150 Two – a state-of-the-art Ultra High Resolution Electron Beam Lithography system, which helps realize structures at 5 nm and works with sample sizes from a few mm to 8-inch wafers. A new operational system, BookitLab, was incorporated in 2018 in order to efficiently manage the scheduling, monitoring and financing of the Chaoul Center's services.