Platform "Synthesis via physical route"

NEXT funded the refurbishment of the Plassys UHV sputtering system, located at CEMES. This upgrade, especially the installation of a more user-friendly interface, the refection of electronics and checking of the mechanical parts and temperature calibration, allows us to have again an efficient device.
The Plassys device is a UHV deposition system (7.10^{-9} mbar of base pressure) well adapted for epitaxial growth at controlled temperature (up to 800°C). It allows you to grow thin oxide layers (2 facing targets chambers for RF sputtering) and metals (3 clusters for DC magnetron sputtering) with controlled stoichiometry. It is also equipped with a RHEED.
This set-up complements the NEXT facilities for fabricating nanomaterials by PVD, which also include:
- a combined sputtering -evaporation device connected to a glove box which is suitable for growth of physical and chemical hybrid nanostructures (located at LPCNO).
- two devices located at CERT (CEMES / ONERA team): a multi-process set-up with 3 DC magnetrons (available gas: O2, Ar, and N) which includes an evaporation cell for organic materials in the airlock stage; a RF reactive sputtering with Ar plasma, N, O2 and Ar / Acetylene for carbides.