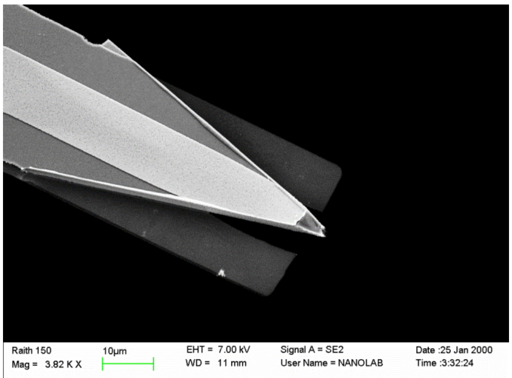
Micro and Nanofabrication Clean Room

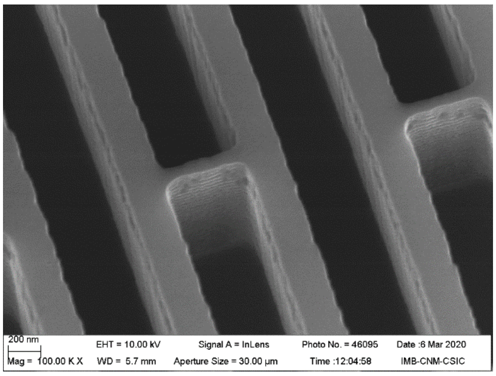
Techniques and equipment

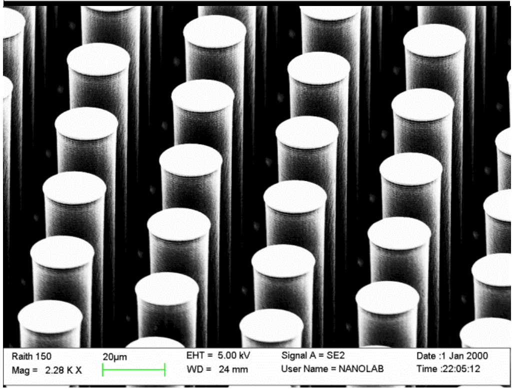
DRY ETCHING

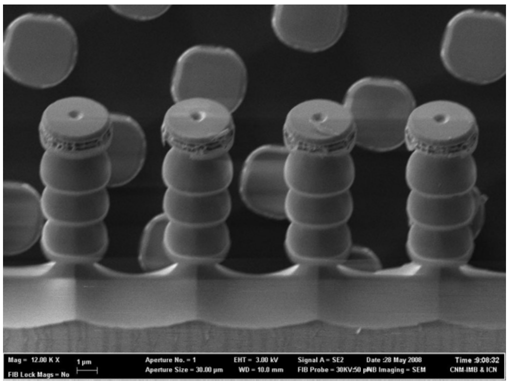
Surface: 120 m^2.
Class 1000

- Silicon Etching (Si, Doped Poly) Anisotropic and isotropic dry etch
- Chemistry: Cl_2, HBr, SF6, C_4F_8
- Metal Etching (Al,W,Ti,TiN,Cr)
- Chemistry: Cl_2, BCl_3
- Dielectric Etching (SiO_2, Si_3N_4)
- Contact (Poly C/T, Metal C/T, Via)
- Chemistry : fluoro-compounds(CF_4, C_4F_8, CHF_3, C_2F_6, CH_4)
- ALD thin films (HfO_2,Al_2O_3 and TiO_2)
- Chemistry: Cl_2, BCl_3









Equipment

- Five high-density plasma-etching devices (RIE-ICP) suitable for 4 and 6-inch wafers.
- Two CCP, one of them MERIE

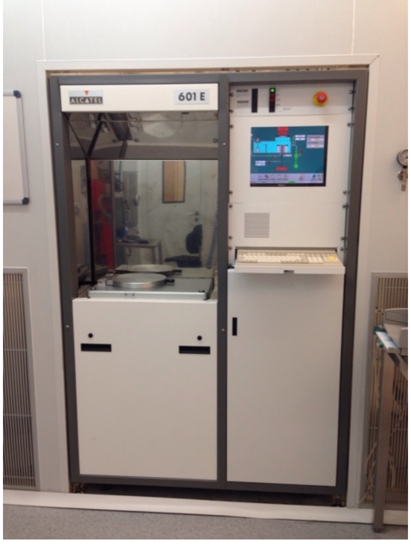
ALCATEL GIR-160

- Parallel plate RIE reactor, 13.56 MHz
- Manual single chamber for 4’’ and 6’’ wafers
- SF_6, CHF_3, CF_4, O_2, He, N_2
- Etching SiO_2, Si_3N_4, Si, poly-Si and SiC

APPLIED MATERIALS PRECISION 5000MARK II

- M.E.R.I.E., 13.56 MHz
- Automatic cluster 3 chambers
- 25 wafers 4’’ and 6’’
- Optical EPD
- HBr, Cl_2, O_2, He, CHF_3, Ar,CF_4, C_2F_6, C_4F_8
- Etching poly-Si, oxinitride and ALD thin films (Al_2O_3, HfO_2 and TiO_2)

ALCATEL 601 E



- DRIE –ICP
- Automatic single chamber 4’’ wafers
- SF_6, C_4F_8, He, O_2
- Bosch process system for deep-vertical etching of silicon
- Cryogenic process at -110ºC
- etching , poly-Si, and Deep Si

ALCATEL AMS 110 DE

- DRIE - ICP
- Automatic single chamber 4’’ wafers
- Working in self-service mode
- Bosch process system for deep-vertical etching of silicon
- OpticalEPD
- SF_6, C_4F_8, He, O_2, CH_4, Ar
- Etching: Silicon, dielectrics, polymers, ALD thin films (Al2O3, HfO2 and TiO2)dry etch for wafers with contaminant metals

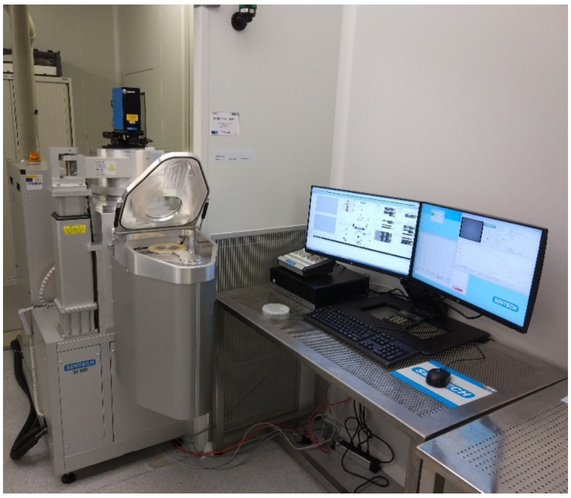
OXFORD S-100

- DRIE-ICP
- Automatic multichamber 4’’ wafers
- N_2, O_2, He, SF_6, Cl_2, HBr, BCl_3
- Etching: aluminum, SiC, diamond and photoresist stripping

SENTECH SI 500 I

- DRIE-ICP
- Automatic chamber 4’’ and 6’’ wafers
- Cl_2, BCl_3, Ar, N_2, O_2, He
- Etching: aluminum, Al_2O_3, HfO_2, TiO_2, TiN and AlN

SENTECH SI 500 II



- DRIE-ICP
- Automatic chamber 4’’ and 6’’ wafers
- SF6, C4F8, He, Ar, O2
- Etching: Si and SiC

STAFF: Roser Mas