# FNF - REGULATION OF ACCESS AND USE

## Article 1 - Definition of the Nanofabrication Facility – FNF

FNF is a nano fabrication facility open to users, aimed at the creation of micro and nano structures for research purposes. The research objectives can be both scientific and commercial/industrial; in the latter case, in general, they will be considered relevant to facility, pre-competitive research efforts directed to the understanding of the processes and the production of prototypes. The use of the facility for other purposes other than the above, including manufacturing operations, will be regulated by specific and separate agreements.

## Article 2 - Management Bodies

The management of FNF is entrusted to a facility manager (FM), appointed by the IOM-CNR Director, who will operate in total autonomy for the ordinary management of the administration. In this regard, the FM will manage the facility running costs using the specific budget generated by the access fees.

For all extraordinary administrative tasks, such as: strategic guidelines, the implementation of the instruments, participation in projects, the FM will be assisted by a management committee appointed by the Director, composed of three members of the IOM plus the director himself.

## Article 3 - Users and access

Four different kind of users and their access modes are identified:

1) Academic Users – UA with direct access: university students in internships, PhD students, researchers from public and nonprofit private institutions for scientific research purposes; researchers from SPIN-OFF of the CNR;
2) Commercial Users - UC with direct access: technical employees and researchers from profit-based private companies ;
3) Commercial service - SC with assisted access: supply of commercial services through the use of operators of the facility;

4) Long term commercial project - PC in a direct and/or indirect access: performance of commercial services for scientific or commercial activities structured within a dedicated project;
The UA and UC will receive a standard training for the use of equipment, for a period wich may last from one week to one month depending on the complexity of the instrumentation. Once enabled passing a written test on the facility regulations and practises, the UA and UC will operate in total autonomy within the facility; at the end of the period of training the staff of the facility will not provide further assistance.

The UA and UC will have to be covered by adequate accident insurance and third party liability, which also includes the damage caused to others' property during their use.

The SC projects will be run by the facility staff on behalf of the commercial partner, who then will not have direct access to the structure and will not be enabled to operate directly on the equipment. The SC projects will be regulated by appropriate agreements. The services will be rated on the basis of working days required to run the project.
Commercial projects - PC - will be of large complexity and on a long term basis, will involve both research and profit activity and will be regulated by specific agreements; these projects will involve either internal staff activity and the direct access of partner's employees temporarily located at the facility.

**Article 4 - Rates and payment methods**

The access to FNF is regulated by the payment of the fees listed below. The rate is individual, it lasts six months, and it grants access to the entire operating equipment in the facility after adequate training and testing, as established in art. 3.
The access rates, the date of the establishment of the facility, shall be as follows:

1) Academic users: € 2,500.00 per semester;
2) Commercial users: € 5,000.00 per semester;
3) Commercial services: € 500,00 per staff-day;
4) Long term commercial projects: as in specific agreements.
Where applicable, VAT will be charged to the user.

Individual entrance fees, or for the Academics Users and Users Commercial, will be paid in advance.

Commercial Services will be invoiced at the end of activities, according to the actual working time, except if otherwise specified in the commercial agreements.

**Article 5 - Operating Rules**
The access rules listed below apply to all staff working at the facility, except for the personnel management of the instrumentation (staff), indicated in art. 9.

• The use of the equipment, specified in art. 8, is strictly individual and is subject to the timely reservation on the facility website (https://fnf.iom.cnr.it/booking)
• The incorrect use of the booking system (e.g. repeated faked reservations, bookings for long periods) may result in the inhibition of access;
• The access to clean rooms is controlled by card, which is strictly personal and not transferable;
• It is strictly forbidden to allow the access to the facility to personnel not authorized;

The Standard supplies (eg: reagents, resist and developments, source for evaporation and sputtering, gas for growth and for the dry etching) will normally be provided to users, limited to what is used in standard processes defined under art. 8.
Wafers, optical masks and consumables nonstandard be at the expense of the users.
In no case the institute shall be liable for any interruptions of service due to force majeure and/or for reasons independent of the management.

**Article 6 – Access restriction.**
The request for access must be accompanied by a brief description of the scientific objectives and the activities under the project. However, the access will not be allocated on the basis of the projects. Proposals will be allocated up to the maximum available number of users, compatible with the capacity of the facility. At least 30% of the available time-machine will still be reserved for maintenance and internal projects.
In case of violations of the rules of use detected by the Head of Facility or by the staff, users may be revoked the right of access without this leading to the return of the already paid fees.

**Article 7 - Protection of "know-how" and confidentiality agreements**
Access to the UA and UC facility does not imply the right to sharing of the technical and scientific knowledge and of the protocols developed by the staff of the facility. The scientific involvement of the staff will be based on side-developed collaboration agreements developed. Users are bond to keep confidential all the information received beyond those included in the standard training.

**The signature of the access contract is valid also as the signature of a full non-disclosure agreement.**

**Article 8 - available tools and standard processes**

**Cleanroom 2**

• PECVD (plasma chemical vapor deposition enanced): growth of silicon, silicon oxide, silicon nitride;
•E-gun evaporator: evaporator and-gun for deposition of metals;
• RIE (reactive ion etching): when equipped with the following gases: CF4, SF6, O2, Ar;

• 3 "mask aligner: K.Suss mask aligner with the possibility of alignment of the sample with respect to the mask;
• 4 "mask aligner: K.Suss mask aligner with the possibility of double exposure (both sides);
• Profilometer;
• Microscope;
• Spincoater;
• ICP: inductively coupled plasma reactive ion etching;
• LEO-ZEISS Cross-Beam XB 1540 system, high-resolution electron microscope column for Focus Ion Beam and gas inlet system (GIS). Special functions integrated for Electron Beam and Ga ion beam lithography
. Scanning Electron Microscope (SEM) with a resolution of 1 nm. SEM operating voltage range: 0.7-30kV; Energy-dispersive X-ray spectroscopy (EDS EDAX) for elemental analysis of samples optimized for use coupled to the FIB.

**Cleanroom 3**

• Magnetron sputtering with various metallic and ceramic targets with scope for expansion;
• Metal evaporator and-gun and heat;
• Chemical hood equipped with systems for the electrolytic and electroless growth of various metals;
• Microscope;
• Vacuum oven;
• Chemical hood;
• Critical point dryer;

**Cleanroom 4**

• Spincoater;
• NIL press;
• Contact angle measure setup;
• Microscope;
• ellipsometer;
• UV-NIL press;
• High temperatures tubular oven;
• to hydrophobic surface treatment Chamber (silanization)

**Article 9 – FNF staff**

• Simone dal Zilio - Director
• Silvio Greco - CR2
• Alessandro Pozzato - CR3
• Enrico Sovernigo - CR4