

Australian National Fabrication Facility

Access, Pricing and Client Services Policies

Document Name ANFF Access & Pricing Policy

Version March 2025

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Approved by Chris Gourlay

Date 7 May 2025

Date for review 30 September 2025

ANFF Facility Access

Introduction

The Australian National Fabrication Facility (ANFF) provides access to nano and microfabrication facilities to all Australian researchers. The ANFF seeks to encourage collaboration in research. The Access and Pricing Policy is intended to ensure that there are as few barriers as possible to accessing major infrastructure for those undertaking meritorious research.

All Fabrication Nodes will have **Access Committees** charged with overseeing access to the facilities, including implementing the Policy, prioritising use of facilities, and monitoring operating costs and access income.

In the early stage of operations, access to ANFF facilities will be managed by **Facility Managers**, as it is anticipated that Nodes will have excess capacity and that access will be provided on a liberal basis. The full ANFF Access & Pricing Policy will come into operation at the point that each Node is in the position of needing to ration access.

The Policy has been developed to ensure open and transparent access to the facility for all Australian researchers. The Policy will be reviewed by the Nodes on an annual basis to ensure it meets the needs of the growing user base and maximises use of the infrastructure.

Definitions

Facility Manager: The first point of contact at the Node for a new user.

External users: Users external to the host institution.

Assisted access: A Node staff member operates the equipment, is in attendance or must remain nearby to monitor operation.

Unassisted access: A user operates the instrumentation without the assistance of a Node staff member. Users must be preauthorised by the Node.

Core time: The working day in which assisted access can be booked.

Access Committee: Group responsible for prioritising allocation of instrument bookings.

Oversubscribed: A booking on the instrument required is not available within one month.

Accessing a Node

The Access & Pricing Policy outlines the process for allocating available hours if the facilities are oversubscribed, and the rates for using the facilities under the NCRIS program. Once time has been allocated in the facility, the procedure for all users accessing a Node will be the same, regardless of whether the access is funded by the NCRIS program or otherwise. Users must follow the local Node's policies including OH&S and after-hours access.

Access Committees

Access to ANFF Nodes will be managed by an Access Committee for each Node. The role of the committees is to ensure that the ANFF Access and Pricing policy is implemented at the Node. Typically, the committee at each Node is composed of the Node Director, Facility Manager, and representatives from the major user groups. The ANFF CEO may also attend a Node's Access Committee meetings.

It is anticipated that initially the groups will meet at least quarterly. Additional reviews may take place electronically or by sub-committee. The frequency of meetings is driven by the need to advise potential users of the outcome of their application within one month of submission.

Access Committees membership for each Node is given below.

Application Procedures

It is expected that the first contact with a potential user will be a discussion to determine the feasibility of the project. This will establish the techniques required and enable the user to submit a detailed application.

Initial contact for new users may be:

- direct application to a Node's Facility Manager (telephone / email); or
- via ANFF (website, email, telephone). ANFF will then contact the relevant Node or Nodes to determine availability of instrumentation.

Following initial discussions, the formal application process for accessing the instrumentation will be to complete a short project proposal (less than two pages) describing the work and the expected outcomes. Users will be asked to note any factors influencing the timing of the work, e.g., international travel, commercial production implications or grant / thesis submission dates.

In the first instance, the Facility Manager will review the application, in consultation with the Node Director, if necessary, to allocate a booking. In the event that the instrument is oversubscribed, the Facility Manager will submit the application to the Access Committee for review. Copies of all applications will be lodged with the committee.

Criteria for identifying successful applicants.

When demand for the facility exceeds capacity, access committees will review applications on a regular basis. Priority will be given to meritorious research from the following three groups and the committees will work to balance their needs:

- Early career researchers;
- Other public sector researchers of merit; and
- Researchers from SMEs who are able to pay commercial prices for access.

Meritorious research will include, but is not limited to, those awarded nationally competitive grants. The committee will not duplicate existing review processes. It is anticipated that up to 50% of the NCRIS allocation will be prioritised for commercial users. Spare capacity at a Node may be used to meet overflow in other Nodes.

Each application will be considered by the committee based on the following criteria:

- the suitability of the techniques and facilities available at the Node to contribute to the research outcomes sought;
- the potential outcomes of the research, including knowledge and wealth creation via collaborations, papers, and patents;
- significance and innovation of the program;
- commercial urgency or research submission deadlines;
- travel arrangements for interstate or international users; and

- experience of the applicant in the use of the facility and the requirement for technical support.

Reporting

Users are asked to acknowledge the program in papers as follows:

“This work was performed in part at the [insert name] Node of the Australian National Fabrication Facility. A company established under the National Collaborative Research Infrastructure Strategy to provide nano and microfabrication facilities for Australia’s researchers.”

The ANFF logo (available from the website) should be included on the acknowledgements slide of a presentation. In addition, users funded by travel grants will need to meet the requirements of the grant.

The Access Committee will report the number and type of users and the access income to the ANFF on a quarterly basis. These metrics will form part of the Node’s key performance indicators.

Pricing structure

The ANFF recognises three classes of user:

- PhD students;
- publicly funded researchers, including University researchers; and
- industry users.

Pricing for public sector researchers is based on marginal costs only. A full listing of costs for each Node, including consumables, is given in below.

International researchers will be charged at industry rates.

All prices in this document are exclusive of GST.

Grievances

In the first instance, grievances should be reported to the Node Director for discussion at the Node’s Access Committee meeting. In the event that a resolution is not reached, the grievance should be reported to the ANFF.

Jane Fitzpatrick 0439 778 766

jane.fitzpatrick@anff.org.au

Access Committee Membership

The *ANFF CEO* or *ANFF COO* may attend access committee meetings at each Node. The committees may also be augmented by other local experts.

ACT & WA (combined committee)

- Prof. Hoe Tan, Chair, ACT Node Director (ANU – Research School of Physics)
- Dr Horst Punzmann, ACT Node Manager (ANU - Research School of Physics)
- Prof. Laurie Faraone, WA Node Director (UWA – School of Engineering)
- Prof. Mariusz Martyniuk, WA Node Manager (UWA – School of Engineering)
- Prof. Tim Senden (ANU - Director, Research School of Physics)
- Dr Tom Ratcliff (ANU - Research School of Physics)
- A/Prof. Duk-Yong Choi (ANU - Research School of Physics)
- Prof. Larry Lu (ANU - College of Engineering, Computing and Cybernetics)
- Prof. Dragomir Neshev (ANU - Director, TMOS Centre of Excellence - Research School of Physics)
- Prof. Steve Madden (ANU- Hub Director OptoFab ACT - Research School of Physics)

Materials

- Prof Peter Innis (Node Director)
- Dr Daniel Lawrence (Facility Manager - UoW, IPRI)
- Prof Paul Dastoor (UoN)
- Ben Vaughan (UoN)

NSW

- Prof. François Ladouceur (Node Director)
- Dr Matt Boreland (Facility Manager)
- Dr Nadia Court
- Prof Andrew Dzurak
- Prof Justin Gooding (UNSW - Chemistry)
- Prof Sven Rogge
- Prof Chee Yee Kwok (UNSW - Electrical Engineering and Telecommunications)
- Prof Nigel Lovell (UNSW - Biomedical Engineering)
- Prof Adam Micolich (UNSW - Physics)
- Prof Grainne Moran
- Prof Andrea Morello (UNSW - Electrical Engineering and Telecommunications)
- Prof David Reilly (University of Sydney - Physics)
- Prof Bram Hoex (UNSW - Photovoltaics and Renewable Energy Engineering)
- Prof Michelle Simmons (UNSW - Physics)
- Prof Nagarajan Valanoor (UNSW - Materials Science and Engineering)
- Dr Toby Shanley (UTS)
- Prof Igor Aharonovich (UTS)
- Prof Darren Bagnall
- A/Prof Niels Quack (USyd RPF)

OptoFab

- Prof Michael Withford (MQ, Chair)
- Dr Ben Johnston (MQ)
- Dr Martin Ams (MQ)
- Dr Richard Lwin (USYD)
- Prof Heike Ebendorff-Heidepriem (UoA)
- Mr Luis Lima-Marques (UoA)
- Prof Steve Madden (ANU, PO)

Qld

- Associate Prof Idriss Blakey (Node Director)
- Associate Prof Paul Shaw (Deputy Director)
- Associate Prof Erik Streed (Deputy Director Griffith)
- Mr Ethan Aung (Facility Manager)
- Mr Glenn Walker
- Elle Gardner (Administration Officer)

SA

- Prof Craig Priest, Node Director (UniSA)
- Prof Benjamin Thierry (UniSA)
- Prof David Lewis (Flinders)
- Dr Jason Gascooke (Flinders)
- Prof Karen Reynolds (Flinders MDPP)
- Mr Stephen Blakeney (Flinders MDPP)
- A/Prof Said Al-Sarawi (Adelaide Uni)
- Prof Marta Krasowska (UniSA)
- Mr Shyam Mehta (DST Group)
- Mark Sherrill, Interim Facility Manager (UniSA)

VIC

- Prof Nicolas Voelcker (MCN)
- Dr Sean Langelier (MCN) - Chair
- Mr Michael Imsic (MCN)
- Dr Grant van Riessen (La Trobe)
- Prof Victor Cadarso (Monash)
- Dr Desmond Lau & Huajun Shen (RMIT)
- Dr Mark Bown (CSIRO)
- Dr Karyn Jarvis (Swinburne)
- Dr Dylan Hegh (Deakin)
- Dr Elena Taran (UMelb)
- Prof Daniel Lai (Vic Uni)

ANFF Pricing Structure

The pricing structure for the facility is given below. Note that standard consumables are included in cost price; however, specialised consumables or retooling will be charged to the user at cost. For further details, refer to the Node.

Charges are subject to annual review and may be changed without notice.

ACT Node

<i>Tool/Equipment/Service</i>	<i>University or PFRA¹ unassisted/ assisted</i>	<i>Australian Industry (International User²) unassisted / assisted</i>
Flagship Tools: FIB3 and MOCVD (all InP, GaN, GaAs systems)	\$60/\$110 per hour	\$150/\$250 per hour (\$250/\$350 per hour)
Major Tools: (EBL3, SEM-CL, EBeam Evap, ICP-CL, ICP-F, Suss MA, NIL/HE, P-ALD, PECVD, Thermal Evaporator, Sputter4)	\$50/\$100 per hour	\$150/\$250 per hour
Small Processing Tools: (e.g. Barrel Etcher, Ellipsometer, Rapid Thermal Annealer, Surface Profiler, Vacuum Oven, Wire Bonder, Flip-chip Bonder)	\$20/\$70 per hour	\$70/\$170 per hour
General assistance	\$50 per hour	\$100 per hour
General consumables: wafers, sample boxes, etc	At cost	At cost
Precious metals: EBeam Evaporator or Sputter Gold (Au): Thermal Evaporator Gold (Au): Platinum (Pt), Palladium (Pd)	\$4.50 per nm \$2.00 per nm \$2.00 per nm	\$4.50 per nm \$2.00 per nm \$2.00 per nm
Precious metals in Focused Ion Beam (FIB): Platinum (Pt)	< 20 mins: no charge ≥ 20 mins: \$90 per hour ⁵	< 20 mins: no charge ≥ 20 mins: \$90 per hour ⁵
Materials in P-ALD	\$10/hour	\$10/hour

PFRA are Publicly Funded Research Agencies: CSIRO, ANSTO, AIMS and DSTO.

International users can apply to the node manager for a discount on prepayment of bulk access time. The discount only applies to 'unassisted access' time.

The FIB and EBL are tools have a minimum booking of 1 hour. If only 0.5 hour is booked, then 1 hour will be charged.

The hourly rate is charged pro rata in 1 min increments. Example 45min costs \$67.50
 $45/60 \times \$90.00$.

AFM consumables (each) 'Normal' Cantilever \$50; 'special' cantilever \$80; cantilever Gel-box \$15.

Materials Node

Pricing structure for NCRIS-supported equipment or staff time, excluding consumables.

University of Wollongong

	Publicly funded per hour	Industry per hour
All NCRIS supported units	\$75	\$275

University of Newcastle

Academic & PFRA (CRC/MRFF/ANSTO/CSIRO/Hospitals & Medical Research Institutes) Rates:

Internal Unsupported user Rate/Billable Booking Time Block	\$25.00
Internal Supported* User Rate/Billable Booking Time Block	\$75.00

*Note: Supported User Rates accounts for Staff support time only. An additional equipment access will be charged at the unsupported user rate.

Commercial and International Rates:

External Unsupported user Rate/Billable Booking Time Block	\$150.00
External Supported* User Rate/Billable Booking Time Block	\$125.00

*Note: Supported User Rates accounts for ANFF Staff support time only. An additional equipment access will be charged at the unsupported user rate.

Consumable charges are applicable.

Access subscriptions can be arranged for long term projects.

Consultancy to be negotiated by each Node member independently, costing of any consultancy is to follow each Node member's institutional costing/overhead structure.

Material Supply & Device Supply Node members to provide a quotation as required utilising each Node member's institutional costing/overhead structure.

NSW Node

University of New South Wales

The current pricing structure is summarized in Table 1 below.

More detailed tool specifications along with details of the extensive wet chemical processing capability offered at ANFF-NSW are available from the ANFF NSW website (www.anff-nsw.org) or by direct enquiry with ANFF-NSW@UNSW's staff.

Table 1 Access Hourly Charges at ANFF-NSW@UNSW*

	<i>Publicly-funded</i>		<i>Privately-funded</i>
	<i>UNSW Students or Research Staff</i>	<i>Non-UNSW Students or Research Staff/start-up</i>	<i>Industry Users (R&D work)**</i>
Tier-1 (Fume Cupboard, Microscope, etc..)	\$0	\$0	\$0
Tier-2 (PDMS station, etc..)	\$10	\$10	\$30
Tier-3 (Thermal evaporator, Plasma Asher, Furnace, etc..)	\$30	\$30	\$90
Tier-4 (Mask Aligner, Reactive Ion Etcher, PECVD, E-beam Evaporator, etc..)	\$50	\$50	\$150
Tier-5 (Ion Implanter, EBL, etc..)	\$70	\$70	\$210
ANFF Staff Support (in addition to any applicable tool charges)	\$50	\$50	\$150

* Hourly rates all cover basic costs including clean-room garments, standard chemicals, standard metals and standard resists. Specialty materials (including precious metals, selected specialty gases) will be charged at cost plus a 10% surcharge to partially offset administrative/ordering costs.

** Work completed by or on behalf of industry users which cannot be classified as industry R&D will be charged at commercial rates as agreed with the ANFF-NSW Node Director.

*** 50% discount applies for the first year. 25% discount applies for the second year as an early career incentive

For more details Click [here for access fees per hour and conditions as of 31 March 2025](#).

University of Sydney Research & Prototype Foundry

Instrumentation funded by the NCRIS program will be available to external users at the ANFF rate for 50% of the core time or as detailed below:

- Access to the Direct Write Lithography at the Sydney Nanoscience Hub will be up to 16 hours per week.
- Access rates are available via the USyd Access and Pricing Policy link on the ANFF NSW node Access page [Click here for more details](#)

University of Technology Sydney

Access Fees – Hourly rates

	<i>Academic host/external per hour</i>	<i>Industry per hour</i>	<i>Staff member assistance – Academic user per hour</i>	<i>Staff member assistance – Industry user per hour</i>
ICP-RIE with Chlorine (TRION Minilock)	\$60	\$120	\$90	\$180
Ion Beam Etcher (IntIVac Nanoquest I)	\$60	\$120	\$90	\$180
PE-CVD (Astex or SEKI)	\$30	\$60	\$90	\$180
Tube furnace 1700C (Labec x 2, 60mm OD tubes)	\$30	\$60	\$90	\$180
Tube furnace 1200 C (Across)	\$30	\$60	\$90	\$180

Minimum usage: 1 hour

Estimated minimum training: ~ 2 hours, based on user assessment.

Cap per user per resource: \$1000 per year

Cap per group per resource: \$3000 per year

Tool availability:

ICP-RIE with Chlorine (TRION Minilock) – 80%

Ion Beam Etcher (IntIVac Nanoquest I) – 60%

PE-CVD (Astex or SEKI) – 90%

Tube furnace 1700C (Labec x 2, 60mm OD tubes) – 20%

Tube furnace 1200 C (Across) – 60%

Access subscriptions can be arranged for long term projects.

Consultancy To be negotiated independently, costing of any consultancy is to follow UTS's costing/overhead structure.

Material Supply to be negotiated independently to follow UTS's institutional costing/overhead structure.

Tool availability:

- Diamond CVD – 80% (4 full days/week)
- Cathodoluminescence – on request. Preference to external users.
- Reactive Ion Etching – 20% (1 full day/week)

Enquires: Prof. Igor Aharonovich igor.aharonovich@uts.edu.au

OptoFab Node

University of Sydney fibre facilities

Please refer to the pricing tabled under the NSW node section above.

Macquarie University

The Macquarie facilities in the table below are now based on *half day (4-hour blocks)*.
Equivalent hourly rates may be negotiated where appropriate.

	<i>PhD</i>	<i>Publicly funded</i>	<i>Industry</i>
Precision laser fabrication* Micromachining or photonic inscription facilities (per system basis). Chaperoned access only.	\$400 per 4 hours	\$400 per 4 hours	\$800 per 4 hours
Photonic characterisation facilities* Competent trained user	\$25 per 4 hours	\$25 per 4 hours	\$50 per 4 hours
CVD Facility* By Arrangement with James Downes	\$120 per 4 hours (\$30 per hour) Cap \$2000 per quarter (3 months)	\$120 per 4 hours (\$30 per hour) Cap at \$2000 per quarter (3 months)	\$60 per hour Cap at \$4000 / quarter (3 months)
Design / Preparation / Characterisation ANFF Staff / Assisted	\$60 per hour	\$60 per hour	\$120 per hour

**Materials costs may be added if sourced/supplied by the facility. Custom tooling/jigging may also require for some jobs, and users may be required to cover workshop costs for custom fixtures.*

The Macquarie Facilities in the table below are available on *6-month subscription fee for unassisted use after training*. Hourly rates may be negotiated for small, assisted access projects where appropriate.

	<i>PhD Subscription</i>	<i>Publicly funded</i>	<i>Industry</i>
Chameleon laser facility	\$250 per 6 months	\$250 per 6 months	\$100 per hour
Ball Milling Facility** unassisted	\$250 per 6 months	\$250 per 6 months	\$60 per hour
Sample preparation/Microscopy – unassisted	\$250 per 6 months	\$250 per 6 months	\$60 per hour
JEOL Cross-section Polisher and Bench SEM – unassisted	\$300 per 6 months	\$300 per 6 months	\$60 per hour
JEOL Cross-section Polisher and Bench SEM – ANFF staff assisted	\$300 per 6 months	\$300 per 6 months	\$120 per hour
JEOL CP shield plate - one-off expense may apply for frequent users	\$1000	\$1200	\$1200
FESEM and Kleindiek - unassisted	\$60 per hour	\$60 / hr	Please enquire
FESEM and Kleindiek – ANFF staff assisted	\$900 per 6 months	\$900 per 6 months	Please enquire

***Milling balls may be additional for specific projects or frequent users.*

The FESEM and Nano Assembly facility is housed at Macquarie Microscopy and is available on a subscription basis after training, or at an hourly rate for assisted users.

Enquiries: Dr Ben Johnson benjamin.johnston@mq.edu.au

University of Adelaide

Fabrication services:

Given the diversity of requests for specific products (glass, preform, fibre) of differing materials and structures, we will provide individual quotes for each specific request. These quotes will be based on the anticipated requirement for operator time, equipment, custom tooling and consumables. For the operator time, the labour costs in the table below apply.

	PhD per hour	Publicly funded per hour	Industry per hour
Fabrication services	\$90	\$90	\$180

Pricing structure for access to the EIF funded SNOM Housed at Adelaide Microscopy.

	<i>PhD per hour</i>	<i>Publicly funded per hour</i>	<i>Industry per hour</i>
SNOM* - unassisted	\$100	\$100	\$260
SNOM* - ANFF staff assisted	\$150	\$150	\$350
SNOM* - training	\$150	\$150	\$150

**Please note that a \$30 charge will apply per tip.*

Enquiries: Luis Lima-Marques luis.lima-marques@adelaide.edu.au

Australian National University – Precision Optics

Price listing TBC.

Enquires: Prof Stephen Madden. stephen.madden@anu.edu.au

QLD Node

Objectives

The ANFF-Qld Node Facilities are committed to providing open access to all researchers while minimizing cost impacts and ensuring accessibility for the research community. Our pricing structure is designed to maintain affordable rates while delivering world-class, cutting-edge capabilities and technical support for research projects, ensuring both financial and operational sustainability. The ANFF-Qld Node Facilities are located at the Australian Institute for Bioengineering and Nanotechnology (AIBN) at The University of Queensland (UQ), St Lucia Campus, and the Queensland Micro and Nanotechnology Centre at Griffith University.

Access Policy and Compliance

All facility users at The University of Queensland and Griffith University must complete the mandatory building access process, safety and laboratory training, and cleanroom safety inductions before being trained and certified to use the equipment at their respective institutions. All users and customers at our facilities are bound by the compliance policies and guidelines of each university, as well as state and federal legal requirements.

ANFF-Qld Administration team will provide onboarding support to facilitate access to UQ's [Research Infrastructure Management System \(RIMS\) Booking systems](#).

Access and Usage Type

The following table outlines four types of usage, which can be applied through consultation with our staff and the booking system.

	Type of Usage	Description
1	Training- Equipment Operations and Process Development	Training is provided, covering both equipment usage and process development.
2	Independent Equipment Operation	User is trained and operates the equipment independently without staff support.
3	Staff-Assisted Equipment Usage	User is trained but requires staff guidance and assistance for certain tasks.
4	Project- Quoted Tasks	ANFF staff fully manages and executes all operations and project activities based agreed project scope and deliverables.

Equipment Tier Definition and Booking Requirements

Our tools are categorized into three Tiers based on base cost, complexity, and ongoing operation and maintenance requirements.

Group	Description	Charge Rate	Booking Required
Tier 1	High value, high complexity, high maintenance & operational cost, high demand, and longer processing time.	Tier 1	Yes
Tier 2	Moderate value, moderate complexity, and moderate maintenance and operational cost.	Tier 2	Yes
Others	Basic instruments and auxiliary systems (e.g., Basic Microscope).	Tier 3	No

Pricing Policy and Service Fee

The pricing for different tiers of equipment across various user groups is outlined in the table below.

	User Group	Hourly Service Fee			
		Tier 1 Equipment	Tier 2 Equipment	Tier3 Equipment	Staff
1	Host University (University of Queensland and Griffith University)	\$40.00	\$30.00	No Fee	\$75.00
2	Other Australian Universities				
3	Australian Publicly Funded Research Agency				
4	Australian and International Industry	\$85.00	\$75.00		\$150.00

Note:

- The minimum booking time for equipment and/or staff assistance is 30 minutes.
- Consumables are charged at base cost plus a 10% administrative fee.
- Project Work (Quoted Projects): A 10% surcharge will be applied to the total quoted amount for projects fully executed by ANFF professional staff. This covers project management and administrative costs.
- Host University users are strongly encouraged to complete training and operate instruments independently. Staff-assisted usage is available upon request.
- Initial equipment training sessions are provided free of charge until users are certified for the relevant equipment. However, refresher sessions and additional training requests will incur a fee once equipment access rights have been granted.

Example:

Tier1 equipment usage (e.g. ALD deposition tool or AFM Microscope etc.)

- A publicly funded researcher wants to use independent equipment operation for 2 hours:
Equipment $\$40 \times 2 = \80 ; Total = \$80
- A UQ PhD student wants to use 2 hours of equipment + 2 hours of staff assistance:
Equipment $\$40 \times 2 = \80 + Staff time $\$75 \times 2 = \150 ; Total = \$230
- An industry user wants to do a research project – quoted as 2 hours of Tier 1 equipment, staff time and consumables: (a) equipment (2 hours) = $\$85 \times 2 = \170 , (b) Staff time (2 hours) = $\$150 \times 2 = \300 , (c) 10% admin = \$47, (d) Consumable \$50; Total Project Cost (a+b+c+d) = \$577

Tier 1 Equipment

Resource	Resource Group	Location	Tier
AJA RF/DC Sputterer	Deposition	UQ	Tier 1
ALD Picosun R-200 Advanced	Deposition	UQ	Tier 1
E-Beam Evaporator	Deposition	UQ	Tier 1
ACCRETECH SS20 Dicing Saw	Etching	UQ	Tier 1
ADT 7100 Dicing Saw	Etching	UQ	Tier 1
DRIE	Etching	UQ	Tier 1
HF VPE (dry etching)	Etching	UQ	Tier 1
KOH Tank	Etching	UQ	Tier 1
Oxford ICP RIE	Etching	UQ	Tier 1
Oxford RIE	Etching	UQ	Tier 1
Tepla Microwave Ashing system	Etching	UQ	Tier 1
XeF2 Etcher	Etching	UQ	Tier 1
Mask Aligner EVG620	Lithography	UQ	Tier 1
Maskless Aligner MLA150	Lithography	UQ	Tier 1
MPO100 Nano 3D Printer	Lithography	UQ	Tier 1
Nanoscribe	Lithography	UQ	Tier 1
EVG Hot Embosser	Lithography	UQ	Tier 1
Sawatec spin coater	Lithography	UQ	Tier 1
Bruker Dimension XR AFM	Imaging and Surface Characterisation	UQ	Tier 1
Cypher AFM	Imaging and Surface Characterisation	UQ	Tier 1
Jeol IT-300 SEM	Imaging and Surface Characterisation	UQ	Tier 1
JPK Biological AFM	Imaging and Surface Characterisation	UQ	Tier 1
Leica SP8 confocal LSM	Imaging and Surface Characterisation	UQ	Tier 1
NIKON Microscope	Imaging and Surface Characterisation	UQ	Tier 1
Olympus OLS5100 Confocal Microscope	Imaging and Surface Characterisation	UQ	Tier 1
RC2 Spectroscopic Ellipsometer	Imaging and Surface Characterisation	UQ	Tier 1
Witec Raman AFM	Imaging and Surface Characterisation	UQ	Tier 1
Zeiss 710 Confocal LSM	Imaging and Surface Characterisation	UQ	Tier 1
COPE Evaporator 2 - Angstrom	Deposition	UQ	Tier 1
COPE_Chembox_Angstrom	Deposition	UQ	Tier 1
COPE_Evaporator 1 - Angstrom	Deposition	UQ	Tier 1
3C silicon carbide epitaxial furnace, SPT Micro EpiFlx	Deposition	GU	Tier 1
Furnace, Hitech LPCVD	Deposition	GU	Tier 1
ICPCVD - Oxford Instruments PlasmaPro 100 ICPCVD	Deposition	GU	Tier 1
Magnetron Sputterer SNS Gamma	Deposition	GU	Tier 1
e-Beam evaporator HHV ATS500	Deposition	GU	Tier 1
ICP Plasma Etcher, STS Multiplex	Etching	GU	Tier 1
HF Vapour Etcher, SPTS uEtch	Etching	GU	Tier 1
Plasma Asher, Gasonics L3510	Lithography	GU	Tier 1
Lithography Suite	Lithography	GU	Tier 1
Furnace, Hitech Oxidation	Materials synthesis and modification	GU	Tier 1
Ellipsometer, JA Woollam VUV-VASE Ellipsometer	Imaging and Surface Characterisation	GU	Tier 1
AFM with 200mm mapping stage, Park Systems NX20	Imaging and Surface Characterisation	GU	Tier 1

Tier 2 Equipment

Resource	Resource Group	Location	Tier
Agilent B1500A Semi Device Analyzer	Device Testing	UQ	Tier 2
Agilent B1500A Semi Device Analyzer and Probe station	Device Testing	UQ	Tier 2
Agilent B1500A Semi Device Analyzer and Probe station	Device Testing	UQ	Tier 2
Encapsulation Glove Box	Device Testing	UQ	Tier 2
Four-point probe - COPE	Device Testing	UQ	Tier 2
Solar Cell QE/IPCE/I-V measure	Device Testing	UQ	Tier 2
Wire Bonder - HB16	Device Testing	UQ	Tier 2
Laser Cutter - Trotec Speedy 360	Etching	UQ	Tier 2
JEOL Desktop Sputterer	Imaging and Surface Characterisation	UQ	Tier 2
KLA P7 - Stylus Profiler	Imaging and Surface Characterisation	UQ	Tier 2
Olympus DSX1000 Digital Microscope	Imaging and Surface Characterisation	UQ	Tier 2
SurPASS	Imaging and Surface Characterisation	UQ	Tier 2
Zeiss Microscope - Long Pocket	Imaging and Surface Characterisation	UQ	Tier 2
Zeta 300 Optical profiler/Film thickness system	Imaging and Surface Characterisation	UQ	Tier 2
3D Printer - Ultimaker 2	Lithography	UQ	Tier 2
COPE - UV / Ozone Cleaner	Lithography	UQ	Tier 2
Fumehood - corrosives	Lithography	UQ	Tier 2
Fumehood - flammables	Lithography	UQ	Tier 2
HMDS Oven	Lithography	UQ	Tier 2
Oxygen plasma cleaner - Long Pocket	Lithography	UQ	Tier 2
PC CAD1 Solidworks (L-Edit)	Lithography/Software	UQ	Tier 2
PC CAD2 L-Edit SW LinkCAD	Lithography/Software	UQ	Tier 2
PC CAD3 L-Edit VASE (Comsol- Simulaiton)	Lithography/Software	UQ	Tier 2
Planetary mixer	Lithography	UQ	Tier 2
Silanisation dessicator - Long Pocket	Lithography	UQ	Tier 2
Soft lithography station	Lithography	UQ	Tier 2
Spin Coater (PDMS) - Long Pocket	Lithography	UQ	Tier 2
Tergeo plasma cleaner	Lithography	UQ	Tier 2
UV Exposure-masking system (UV-KUB2)	Lithography	UQ	Tier 2
ATR-FTIR Spectrometer	Material Characterisation	UQ	Tier 2
GPC-DMF	Material Characterisation	UQ	Tier 2
GPC-THF	Material Characterisation	UQ	Tier 2
GPC Aqueous	Material Characterisation	UQ	Tier 2
LC-MS/MS	Material Characterisation	UQ	Tier 2
Litesizer	Material Characterisation	UQ	Tier 2
Mettler Toledo DSC	Material Characterisation	UQ	Tier 2
Mettler Toledo TGA	Material Characterisation	UQ	Tier 2
Plate Reader	Material Characterisation	UQ	Tier 2
Glovebox #1	Synthesis	UQ	Tier 2
Glovebox #2	Synthesis	UQ	Tier 2
Fume Cupboard	Etching	GU	Tier 2
Wetbench, Weslan	Etching	GU	Tier 2
Dicing Saw, Disco 2H/6T	Etching	GU	Tier 2
Rapid Thermal Processing/Annealing System	Materials synthesis and modification	GU	Tier 2
Surface Profiler, DEKTA 150	Imaging and Surface Characterisation	GU	Tier 2
Stress Measurement System, KLA-Tencor Flexus F2320	Imaging and Surface Characterisation	GU	Tier 2
Reflectometer, Filmetrics	Imaging and Surface Characterisation	GU	Tier 2

Note: Any equipment not listed under Tier 1 or Tier 2 is classified as Tier 3. Booking is not required, and no fee will be charged for the usage of Tier 3 equipment.

Payment Process

- **Host Universities (UQ or GU):** Users from the University of Queensland (UQ) or Griffith University (GU) shall obtain Chart string approval from their supervisor or budget holder when submitting project requests within ANFF-Qld. For UQ users, this approval process is managed through the Research Infrastructure Management System (RIMS)
- **External Universities:** Users from other Australian universities shall provide written approval or authorization from their supervisor or manager. Payment shall be arranged through account prepayment, a purchase order from their institution, or a university credit card authorization form. Invoices shall be processed by the finance department of the host university (UQ or GU). This requirement applies to both University Associate Account users and Project Quote customers.
- **Industry and Private Sector Users:** Users shall provide written approval or authorization from their supervisor or manager and arrange payment via account prepayment, a purchase order, or a corporate/university credit card authorization form. Invoices shall be handled through the relevant corporate or university finance department.
- **International Customers (Commercial or Academic):** International users shall submit a valid purchase order from their institution for any Project Quote work to ensure proper invoicing and payment processing through the ANFF-Qld Node Facilities.

SA Node

University of South Australia

Access Costs

<i>ANFF-SA Labour</i>	<i>Students and Publicly Funded Researchers</i>	<i>Industry</i>
For desktop work or additional fee for "Assisted Access" to equipment.	\$80/h	\$170/h

<i>Microfabrication Suite*</i>	<i>Students and Publicly Funded Researchers (Unassisted)</i>	<i>Industry (Unassisted)</i>
Photolithography, Etching, PVD, Dicer, Injection Moulder	\$60/h	\$120/h
Embossing & Bonding (Vacuum Furnaces, Hot Embossing)	\$140/run	\$280/run

**Capped at \$6000 per calendar year per academic user for unassisted access.*

<i>Precision Engineering Centre^{&}</i>	<i>Students and Publicly Funded Researchers (Unassisted)</i>	<i>Industry (Unassisted)</i>
CNC Mills (Willemin Macodel, Fanuc Robodrill, Kira, Precitech, DUI)	\$60/h up to 8 consecutive hours	\$120/h

[&]Hourly rate reduces to \$30/h after 8 consecutive hours of use.

<i>Test Lab & Additive Manufacturing[#]</i>	<i>Students and Publicly Funded Researchers (Unassisted)</i>	<i>Industry (Unassisted)</i>
TPP UpNano	\$60/h	\$120/h
Tier 1: eg Fortus 450, J735, Desktop metal	\$30/h	\$60/h
Tier 2: eg Profluidics, Markforged, Form 3+, Testers	\$20/h	\$40/h
Tier 3: eg Taz, Bambu lab, Scanners	\$10/h	\$20/h

[#]Capped usage applies for high run times. Please contact the Facility Manager for details.

<i>Characterisation</i>	<i>Students and Publicly Funded Researchers (Unassisted)</i>	<i>Industry (Unassisted)</i>
3D Optical Scanning, SEM, Optical Microscopy, Profilometry, Contact Angle, Mechanical Testing	\$15/h	\$60/h
Atomic Force Microscopy	\$35/h	\$140/h
X-Ray Tomography [^]	\$40/h up to 8 consecutive hours	\$80/h

[^]Hourly rate reduces to \$10/h after 8 consecutive hours of use.

Training & Consumables

All training shall be at a flat rate of \$100 per item of equipment (eg SEM) or process (eg lithography). Consumables for lithography, deposition, and printers are charged based on usage.

Flinders

Access Costs

<i>Suite</i>	<i>Instruments</i>	<i>Students and Publicly Funded Researchers (Unassisted use)</i>	<i>Industry (Unassisted Use)</i>
Nano Characterisation suite	Raman Microscopy	\$20/h	\$120/h
	Stylus Profilometer	\$20/h	
	Metastable Induced Electron Spectroscopy (MIES)	\$50/h	\$180/h
Prototyping – Fabrication Suite	Glove Boxes	\$40/4h session	\$80/h
	Tube Furnace / Chemical Vapour Deposition (CVD)	\$20/h	
	Atomic Layer Deposition (ALD)	\$20/h	
	Electrospinner	\$20 first hour, \$10 per hour thereafter	
	Langmuir Trough	\$10 per hour	
Renewable Energy Characterisation Suite	Solar Simulator	< 24 hrs: \$2.50/h > 24hrs: \$8/day	< 24 hrs: \$40/h > 24 hrs: \$50/day
	Solar Testing Suite (EQE + Pico)	\$20/h	\$80/h
	Electrochemical Suite	\$20/h	
Prototyping – Electronics Suite	Manual pick and place	\$20/h	\$60/h
	Reflow Oven	\$20/run	\$40/run
	Inspection Tools	\$20/h	\$60/h
Prototyping – Machining Suite	Laser Cutter	\$80/h	\$160/h
	5-axis CNC	\$80/h	\$160/h
Prototyping – Medical device Suite	MD Prototyping Tools	\$20/h	\$60/h
	Automated Pick & Place	\$80/h	\$160/h
	Aerosol generator and Sizer (SMPS)	\$100/h	\$200/h
	Torsion Testing Stage®	\$30/h	\$80/h
	MicroCT Tensile Testing Stage	\$20/h	\$60/h + MicroCT cost if required

®Capped usage applies for high run times. Please contact the Hub Manager for details.

Victorian Node

1. INTRODUCTION

The purpose of this policy is to provide guidance and pricing information for accessing the Melbourne Centre for Nanofabrication (MCN) and other NCRIS-funded facilities which comprise the Victorian Node of ANFF (ANFF-Vic).

2. ORGANISATIONAL MATTERS AND POLICIES

The ANFF-Vic is one of 8 collaborative nodes of the Australian National Fabrication Facility (ANFF), a national network of micro- and nano-fabrication laboratories established through the National Collaborative Research Infrastructure Strategy (NCRIS).

As a condition of its funding support through NCRIS, the external user access to the node must be consistent with the general principles laid out in the national ANFF access and pricing policy.

The MCN is operated by Monash University and as a result, all users must satisfy all Monash University policies and procedures including OH&S, out-of-hours and any other specific procedures of the MCN.

3. ACCESS FOR NEW USERS OR PROCESSING REQUESTS

- The MCN Client Services Manager is the first point of contact for all potential users of this node. Process engineers at MCN can also be contacted directly by phone or by email (<http://nanomelbourne.com/access>), or a general request can be submitted to the process engineers at mcn-enquiries@nanomelbourne.com. Users may be directed to the process engineers via ANFF headquarters or via other nodes of the ANFF.
- The most relevant process engineer (depending on nature of the project) will be assigned to assist each new user, and will liaise with other process experts at MCN to assess the scope and viability of the project(s) that is (are) proposed.
- Once feasibility of the project has been established with a process engineer, a new user registration form (<http://bookings.mcn.monash.edu>) should be completed as a formal application for accessing the node (less than two pages). This form allows the user to briefly describe the work, the expected outcomes, funding source if applicable, the equipment and staff resources required (including estimated training time). The process engineer can assist the user in the preparation of this form if needed.
- Submitted proposals from a new user will be processed by the Client Services Manager, by checking the completeness of contact and billing details, arranging for site induction if necessary, and provision of an account and password to the user for access to the online booking system.
- If the work cannot be scheduled within a reasonable period due to other commitments at MCN, the application may be referred to the Access & Pricing Committee, chaired by the General Manager.
- If the job proposal does not involve work in the MCN by a new user, the work will be undertaken by MCN staff at a price as set out in section C below.

- In the case of a User Proposal for a new user, the user will be required to attend and pass the standard MCN OH&S induction procedure before they begin any work in the MCN.
- In addition to other requirements, the user must make themselves aware of all MCN operational policies, as provided in the MCN User Manual or published online at <http://nanomelbourne.com/access>.
- The MCN reserves the right to revoke job/user approvals with seven days written notice.
- The MCN Access and Pricing Committee is responsible for ensuring that access to the node is in accordance with guidelines set out in the national ANFF access and pricing policy and as requested by the Department of Industry.
- The MCN Access and Pricing Committee is composed of the ANFF-Vic/MCN Scientific Director, the General Manager, the ANFF CEO, the MCN Operations Manager (Chair) and representatives from the major stakeholder groups.

The MCN Access and Pricing Committee will review and advise the MCN Collaboration Committee on all pricing and access matters.

PRICING STRUCTURE

ANFF-VIC: MELBOURNE CENTRE FOR NANOFABRICATION (MCN)

<i>Flagship Equipment</i>		
	Academic/public funded	Industry
Vistec Electron Beam Lithography**	\$123 / hour (\$984 cap per 24hrs)	\$308 / hour (\$2460 cap per 24hrs)
Direct Write Photolithography Heidelberg MLA-150	\$123 / hour	\$308 / hour
Seki Diamond Deposition Systems	\$92 / hour (\$738 cap per 24hrs)	\$231 / hour (\$1845 cap per 24hrs)
Nanofrazor: Thermal Scanning Probe Lithography; direct laser sublimation**	\$92 / hour	\$231 / hour

Tier 1 Equipment (Sorted by capability area)		
	Academic/Public funded	Industry
PRICING	\$92 / hour	\$231 / hour
Characterisation	Atomic Force Microscope (Bruker Dimension Icon)	
	Atomic Force Microscope (Bruker Dimension Icon-PFTUNA)	
	Bio Atomic Force Microscope (JPK Nanowizard II)	
	FEG-SEM (FEI NovaNano SEM 430)	
	FEG-SEM (FEI Apreo)	
	FIB-SEM (FEI Helios Nanolab600 Dual Beam FIB-SEM)	
Etching	Etcher 1 (Oxford DRIE – Bosch)	
	Etcher 2 (Oxford RIE – General)	
	Etcher 3 (Oxford PlasmaPro Estrelas DRIE – Bosch) <<coming soon>>	
	Etcher 4 (ULVAC NLD-570 DRIE)	
	Etcher 5 (SAMCO ICP-RIE 400iP) <<coming soon>>	
Lithography	Mask Aligners (SUSS MA6 and EVG6200)	
	Laser cutting/ablation system (3D-MICROMAC) <<coming soon>>	
	Nano Imprint System (EVG 520 IS)	
	Talbot Lithography System (PhableR-100C)	
	Nanoscribe (GT2)	
	Direct Write UV (IMP SF-100)	
Thin Film Deposition	ALD Systems (Cambridge Nanotech ALD FijiF200 & Savannah S100)	
	Electron Beam Evap (Intlvac Nanochrome II e-beam) **	
	Electron Beam Evap (Angstrom) **	
	Electron Beam Evap (ULVAC ei-5 dual source) <<coming soon>>	
	Furnace Stack Tube #4 (Silicon Nitride LPCVD)	
	Furnace Stack Tube #1 & #2 (Phosphorus/Boron Bubbler Doping)	
	Nickel Electroplating (Digital Matrix SA1000)	
	PECVD (Oxford PlasmaPro 100 PECVD System) <<coming soon>>	
	Sputter Systems (Intlvac Nanochrome & Anatech Hummer BC-20) **	
	Sputter System (AJA Combinatorial)	

Tier 2 Equipment (Sorted by capability area)		
PRICING	Academic/Public funded	Industry
	\$62 / hour	\$154 / hour
Bio Capabilities	3D Printer (Stratasys J826)**	
Characterisation	Hyperspectral Imaging (Cytoviva Hyperspectral Imaging System)	
	Laser Doppler Vibrometers (Polytec MSA-400 & UHF-120)	
	Laser Confocal Scanning Microscope (Leica Stellaris 5)	
	MALDI imaging (Bruker Ultra-flexreme)	
	Microspectrometer (Nikon Instrument with Ti-U and Princeton Lightfield)	
	Near-field scanning optical microscope (NeaSNOM)	
	Optical Profilometer (Bruker Contour GT-I)	
	Spectroscopic Ellipsometer (J.A.Woolam M-2000DI)	
	Tabletop SEM (Hitachi TM3030 SEM with Oxford EDX)	
	Confocal Raman Microscope (Witec Alpha300 M+)	
	Profiler Stylus (Bruker Dektak XT-A)	
	FTIR (Perkin Elmer Spectrum 3)	
Etching	Anodic HF Etcher	
Packaging	Dicing Saw (Disco DAD3350)**	
	Wire Bonders (F&S Bondtec 5832 Ball/Wedge)	
Thin Film Deposition	Hitech Oxidation Furnace (\$492 Academic / \$1230 Industry 24hr capped)	
	Furnace Stack Tube #1 & 2 (Phosphorus/Boron solid source doping)	
	Furnace Stack Tube #3 (general purpose)	

Tier 3 Equipment (Sorted by capability area)		
PRICING	Academic/Public funded	Industry
	\$41 / hour	\$103 / hour
Characterisation	Zetasizer (Malvern Zeta Sizer Nano)	
	3D Scanner	
	DSA Mass Spectrometer (Perkin Elmer DSA-TOF)	
	Four-point probe station (Signatone WL- 1160)	
	Mapping Stage Filmetrics System	
	Keithley (4200A Parameter Analyzer)	
	Thin Film Stress Measurement System (FLX-2320-R)	
Etching	Metal Wet Etching Station (KOH, Cr, Au)	
	Plasma Asher System (Alpha Q235)	
	Fumehood for HF Etch	
	Fumehood for Piranha Etch	
Lithography	Flood Exposure Unit (ABM UV Flood Light Source)	
	Dual Track Robotic spin/bake/developer	
	Automated spin developer**	
	Critical Point Dryer (Quorum)	
	Robotic wet bench and IPA dryer	
Thin Film Deposition	Cr Sputter Coating (Quorum Q300TT)	
	Furnace MTI General Purpose	
	Sputtering and Carbon Thread Coater (Leica EM ACE600)	

Tier 4 Equipment (Sorted by capability area)		
PRICING	Academic/Public funded	Industry
	\$26 / hour	\$65 / hour
Lithography	Fumehood for Photo-Lithography Processing**	
	Spinner SUSS 6-inch wafer**	
	Spinner/Hotplate SUSS Delta 90**	
	HG programmable hotplates	
Characterisation	UV-VIS Spectrophotometer (Agilent Cary 60)	
General Lab Equipment	HG Programmable Hotplate	
	UV/Ozone Cleaner Samco UV	
	PC for EBL Data Preparation	
Laboratories	General laboratories	
	PC2 Laboratory (10k annual recoveries cap per supervisor)	
	PDMS Laboratory	
	Cleanroom Laboratory (bespoke arrangements)	

** Denotes that linked consumables surcharges may apply, see Table 1 below

Please note: (1) ALL tools require BOOKING in ACLS in order to schedule all users effectively. (2) Academic/public funded rate is only available to Australian academics. Users from academic institutions outside of Australia will be subject to industry pricing.

Other Charges		
	Academic/Public Funded	Industry
MCN Staff Time – Assisted Work	\$82 / hour	\$205 / hour
MCN Staff Time – Training	\$51 / hour	\$128 / hour
General Residency (by arrangement) see details below*	\$659 / month	\$1648 / month
Full Access Residency (by arrangement) see details below*	\$2634 / month	\$6586 / month
Private Industry Laboratory (by arrangement) see details below	\$5125 / month	\$5125 / month

General Residency includes allocation of dedicated desk and laboratory space at MCN and access to all tier 3 equipment and laboratory use. It does NOT include use of any tier 2, tier 1 or flagship equipment. All residencies must be for a minimum of 3 months at each interval and paid in advance.

Full Access Residency includes: general residency plus access to all Tier 1-3 Equipment. It does NOT include use of any Flagship equipment. All residencies must be for a minimum of 3 months at each interval and paid in advance.

Private Industry Laboratory: 30sqm, FOB-accessible laboratory with dedicated fume cupboard, essential services, bench space for 3-6 staff and ample storage. Prospective tenants commit to a minimum 12-month lease and must maintain at least one Full Access Residency for term of lease. Additional charges related to facility modifications and/or consumables may apply depending on nature of proposed activity. Contact MCN's [Infrastructure and OHS Manager](#) for further details.

** Prospective commercial residents must be adequately insured for liability/indemnity. Dedicated laboratory bench space allocations —within shared a shared lab— for Residency package holders is subject to availability. Limited private office space may also be available for Full Access Residency clients at a 10% premium (minimum of 12-month commitment required)*

Linked consumables charges associated with certain MCN equipment.

<i>Linked Consumables Charges</i>	
PVD precious metals (Au, Ag, Pt, Pd)	Market rate per \$/nm (see staff or ACLS for details)
Photoresist (per sample)	AZ series (\$7.5), SU8 series (\$12.5)
Standard EBL resist (per sample)	PMMA/MMA (\$1 per 1" wafer; \$3 per 1 inch wafer; \$6 per 2" wafer; \$9 per 3" wafer \$12 per 4" wafer; \$18 per 6" wafer)
Specialty EBL resist (per ml)	ZEP (\$50), HSQ (\$18); see staff for purchase
Nanofrazor TSPL resist (per ml)	PPA (\$113); see staff for purchase
Stratasys J826 3D printer (per g)	Full Cure 706 (\$0.20/g), Vero Clear/Colour (\$0.68/g), Vero Contact Clear (\$0.75/g)
Nanoscribe Consumables (pc)	30mm dia PPGT2 (\$2.60), 25x25mm PPGT2 (\$18.50), 25x25mm Silicon (\$24.60), 25x25mm ITO coated glass (\$12.80), IP-Q Resin PPGT2 10x (\$13.30), IP-S Resin PPGT2 25x(\$11.80), IP-PDMS PPGT2 25x(\$35.90), IPDip2 resin PPGT2 63x (\$10.80), IP-L resin PPGT2 63x (\$10.30), IP-Visio Resin (\$43.1)
ALD precursors	\$1/nm

Mask Fabrication Charges.

<i>Mask Fabrication Charges</i>			
*Plate Size	Min Feature Size	Academic/Public Funded	Industry
5"	>1.5 um	\$360	\$720
	<1.5 um	\$520	\$1040
7"	>1.5 um	\$760	\$1120
	<1.5 um	\$920	\$1440

*Standard for plates will be Soda Lime Glass; surcharge will be added for Quartz or other material.

Variations to published access rates MCN reserves the right to periodically modify tier pricing from

those listed in this policy. In these instances, and for a defined period of time, an updated pricing schedule will be advertised with advanced notice (e.g. seasonal sale).

ANFF-VIC: BIOINTERFACE ENGINEERING HUB (SWINBURNE) — see [here](#)

Capability	Academic/Public Funded	Industry
Variable Angle Spectroscopic Ellipsometer (JA Woollam 2000XI)	\$90 / hour	\$225 / hour
Quartz Crystal Microbalance with Dissipation (QSense E4) [#]	\$90 / hour	\$225 / hour
Plasma Polymer Reactors (Custom)	\$40 / hour	\$100 / hour
Multivessel Dip Coater (KSV-NIMA)	\$40 / hour	\$100 / hour
Biointerface Staff Assistance	\$60 / hour	\$150 / hour
Doppler Velocimetry	Quote on request	Quote on request
Mask Aligner (AOI)	\$90 / hour	\$225 / hour
Swinburne NanoLab Facilities Electron Beam Lithography (Raith 150two) Ion Beam Lithography (Raith IonLiNE) Reactive Ion Etching (Samco RIE-101iPH) Physical Vapour Deposition (K.J. Lesker AXXIS) Nano-imprint Lithography (Nanonex NXB200)	\$50 / hour internal \$100 / hour external	\$125 / hour
Swinburne Biological Facilities Confocal Microscopy Cell culture biocabinets Epi-Fluorescence Plate Reader Spectrophotometer	Quote on request	Quote on request

[#]Additional consumables costs will apply

ANFF-VIC: CENTRE FOR MATERIALS & SURFACE SCIENCE (LA TROBE) — see [here](#)

<i>La Trobe Flagship Equipment (Sorted by capability area)</i>		
<i>PRICING</i>	<i>Academic/Public funded</i>	<i>Industry</i>
	<i>\$150 / hour</i>	<i>Quote on request</i>
Surface Analysis	ToF-SIMS (DSC/GCIS)	
	XPS Nova/Ultra	
	Scanning Auger Nanoprobe (PHI 710 Auger Nanoprobe)	

<i>La Trobe Tier 1 Equipment (Sorted by capability area)</i>		
<i>PRICING</i>	<i>Academic/Public funded</i>	<i>Industry</i>
	<i>\$50 / hour</i>	<i>Quote on request</i>
Surface Analysis	Scanning Probe Microscopy (Asylum Research MFP-3D-SA and BIO)	
	SEM (Zeiss Leo 1455)	
Characterisation	Contact Angle Meter (DataPhysics OCA20)	
	XRD D2 Phaser	
	pXRF	

<i>La Trobe Other Instruments and Charges</i>		
<i>Instrument</i>	<i>Academic/Public funded</i>	<i>Industry</i>
X-ray μ CT (Xradia XCT200)	\$250 / hour (\$1200 cap >5 hours)	Quote on request
X-ray μ CT – scan > 5hr	\$1000/scan	Quote on request
La Trobe Staff Assistance	\$65 / hour	Quote on request

ANFF-VIC: LTCC & MICRO NANO RESEARCH FACILITY (RMIT) — see [here](#)

LTCC (Low Temperature Co-Fired Ceramics)		
PRICING	Academic/Public funded	Industry
	\$35 / hour	Quote on request
Custom Green Tape Ceramics Production	Ball Mill (micro powder)	
	Ball Mill (nano powder)	
	Polymer Binder Preparation	
	Tape Caster	
	Laser Machining System	
	Silk Screening	
	Green Tape Stacker/Aligner/Trimmer	
	Isostatic Press	
	Firing Furnace	

Micro Nano Research Facility (MNRF) Capabilities		
PRICING	Academic/Public funded	Industry
	\$50 / hour	Quote on request
Lithography/Thin Film Deposition	Heidelberg MLA 150 – direct write laser lithography	
	Suss RC8 Gyrosett Spinner	
	Lesker Electron Beam Evaporator	
	Lesker Sputterers	

OTHER CHARGES		
	Academic/Public Funded	Industry
MNRF Staff Assistance	\$60 / hour	\$60 / hour
Training	\$60 / hour	\$60 / hour

ANFF-VIC: MATERIALS CHARACTERISATION & FABRICATION PLATFORM (UNIV of MELBOURNE) — see [here](#)

<i>MCFP Capabilities</i>		
<i>Instrument</i>	<i>Academic/Public funded</i>	<i>Industry</i>
Contact Angle Measurement	\$30 / hour	Quote on request
Cypher AFM	\$25 / hour	Quote on request
MFP3D AFM – Acoustic Hood	\$25 / hour	Quote on request
NanoSight NS300	\$50 / hour	Quote on request
Nikon A1R+ Confocal Microscope	\$50 / hour	Quote on request
Reinshaw RM 1000	\$30 / hour	Quote on request
He Ion Microscope	\$80 / hour	Quote on request
Hitachi FlexSEM	\$30 / hour	Quote on request

ANFF-VIC: INSTITUTE FOR FRONTIER MATERIALS HUB (DEAKIN) — see [here](#)

<i>IFM Advanced Fibres and Textiles Capabilities</i>		
<i>Instrument</i>	<i>Academic/Public funded</i>	<i>Industry</i>
2-Meter Electrospinning Line	\$50 / hour	\$100 / hour
Holmark Electrospinning Rig	\$10 / hour	\$20 / hour
Dissol Wet Spinning Line (Large)	\$20 / hour	\$20 / hour
Dissol Wet Spinning Line (Small)	\$10 / hour	\$20 / hour
Lab Designed Spinning Rig	\$10 / hour	\$20 / hour
Porometer 3GZH Quantachrome	\$25 / hour	\$50 / hour
Wayne Single-Screw Extruder	\$20 / hour	\$40 / hour
Uster Tensorapid-4	\$20 / hour	\$40 / hour
Aglient UTM150 Fibre Tensile Tester	\$30 / hour	\$60 / hour
Favimat – Fiber Tester	\$30 / hour	\$60 / hour
Sifan 4 – Fibre Analyser	\$20 / hour	\$40 / hour
Ahiba IR Pro	\$20 / hour	\$40 / hour
Burst Tester; Direct Cover/Twist	\$20 / hour	\$40 / hour
Lab Miniextruder	\$10 / hour	\$20 / hour
OFDA	\$20 / hour	\$40 / hour
Sweating Guarded Hotplate	\$20 / hour	\$40 / hour
30kN Instron	\$20 / hour	\$40 / hour

ANFF-VIC: Biomedical Materials Translation Facility Hub (CSIRO) — see [here](#)

<i>BMTF Capabilities</i>		
<i>Instrument</i>	<i>Academic/Public funded</i>	<i>Industry</i>
Parylene Coater	\$500/run*	Quote on request
Aerosol Spray Coater	\$50 / hour	Quote on request
X-ray μ CT Scanner (ZEISS Xradia 515 Versa)	\$250 / hour (\$1200 cap >5hours)	Quote on request
X-ray μ CT Scanner (ZEISS Xradia 515 Versa) scan > 5hr	\$1000/scan	Quote on request
Staff Support	\$250 / hour	Quote on request

*Consumables charges will apply

ANFF-VIC: GENERAL POLICIES

All training requests are conducted at the sum cost of ANFF-Vic staff assistance plus the relevant tool costs.

All job requests for independent completion by a process are conducted at the sum cost of staff assistance plus the relevant tool costs.

Small volumes of basic consumables are included in the price for major and minor equipment; however, large volumes or specialised consumables (e.g. substrate materials) will be at full cost to the user and must be arranged with a process engineer. Any retooling will be charged to the user at cost.

In addition to all other induction, operational health and safety and training requirements, researchers who wish to gain unassisted status must complete (and be assessed for competency against) application-specific training provided by the ANFF-Vic process engineers.

Discounts are available at MCN through setup of non-refundable pre-paid accounts for instrument utilisation. Discounts do not apply to residencies, consumables or staff assistance.

<i>PRE-PAID PURCHASE</i>	<i>DISCOUNT</i>
\$2,000 pre-paid account	15%
\$5,000 pre-paid account	20%
\$10,000 pre-paid account	25%
\$25,000 pre-paid account	30%

WA Node

All users (academic, industry, internal or external to MRG or UWA) of the facility are being charged for the use of the facility and equipment therein. WACSOM forms part of the Western Australian Node of the Australian National Fabrication Facility (ANFF-WA) and access to the facility is available at the ANFF-WA rates (Table 1)

Table 1. Pricing (\$/hour) for use of WACSOM facilities via the ANFF-WA initiative.

Facility	Access type	PhD student, University or other publicly funded researcher	Industry user
UWA	unassisted	\$50	\$250
UWA	assisted	\$100	\$300

Alternatively, an annual rate for unlimited hours access can be negotiated on a case-by-case basis, based on the level of facility usage (Table 2).

Table 2. Annual subscription pricing structure (\$/year) for unlimited hours use of WACSOM facilities via the ANFF-WA initiative.

Facility	Access type	PhD student, University or other publicly funded researcher	Industry user
UWA	minimal use	\$5,000	\$15,000
UWA	minor use	\$10,000	\$30,000
UWA	major use	\$30,000	\$90,000
UWA	intensive use	\$50,000	\$150,000

ANFF Client Service Charter

1. INTRODUCTION

The Australian National Fabrication Facility (ANFF) was founded in 2007 to overcome hurdles to R&D success by providing open access to micro and nanofabrication equipment, essential to Australia's scientific and economic future. It was one of nine original research infrastructure facilities established under the Commonwealth's National Collaborative Research Infrastructure Strategy (NCRIS).

The ANFF network provides access to more than 500 individual pieces of equipment across 21 sites and is home to more than 130 experts employed under the ANFF banner who assist approximately 3,000 clients a year.

ANFF's primary value proposition is providing clients open access to world class research infrastructure and the staff that enable its use. Customer service that delights and allows clients to focus on their research, development and commercialisation programs will only enhance their engagement with ANFF resulting in novel products, services and jobs of the future.

Regardless of which Hub is engaged, ANFF is committed to providing the highest form of customer service to all its clients. This commitment is expressed through this publicly available service charter, is attached to ANFF's [Access and Pricing Policy](#).

2. PURPOSE AND AIM

The *ANFF Client Service Charter* sets the expected standards for all staff, across all Nodes, Hubs and headquarters who engage with internal/external clients. Policies outlined in this document are designed to provide clients with a uniform and high-quality level of customer service regardless of which node/Hub(s) they engage.

Specifically, adherence to the ANFF Client Service Charter will result in:

- Increased client retention and return business;
- New client recruitment with indirect marketing (word-of-mouth amongst satisfied users);
- New client recruitment from direct marketing and Client Engagement Facilitator engagement; and
- Increased engagement with client base which can lead to stronger justifications for future investment in novel research infrastructure.

3. HIERARCHY OF CLIENT VALUE

At ANFF, and through a culture of continuous improvement, there are four levels of customer service providing a hierarchical structure of client value and expectation. These are as follows:

- **Basic Customer Service:** Provision of elements that are fundamental to providing value to the client.
- **Expected Customer Service:** Provision of elements that a client has come to take for granted.

- **Desired Customer Service:** Provision of elements that the client does not necessarily expect but values highly and appreciates.
- **Remarkable Customer Service:** Provision of a service with elements that exceed the expectation and desire of the client, a “going above and beyond” mentality.

ANFF aims to understand and exceed client expectations to ensure current and past clients will serve as fully active references for the organisation. As opposed to the typical hierarchy of client value and expectation, and embedded with staff individual performance plans, ANFF will provide at least a desired customer service.

Below is an example of the ANFF standard for creating optimal customer value:

Basic Service	Expected Service	Desired Service	Unanticipated Service
Complete client project and return deliverable.	Return completed deliverable with a report on process. Recommendations are provided for possible improvements in future runs.	Return completed deliverable with a report on process. Recommendations are provided for possible improvements in future runs. A meeting is held to obtain feedback on the just completed project and discuss how to be of assistance to the client.	Return completed deliverable with a report on process. Recommendations for possible improvements are provided in future runs. A meeting is held to obtain feedback on the just completed project and discuss how to be of assistance to the client. Introductions are provided to collaborators and/or other organisations who may also be able to add value.

4. ANFF STAFF EXPECTATIONS FOR CLIENT CARE

4.1. Principles of Client Care

1. To external clients, all ANFF staff represent the organisation.

At every engagement with an external client, any employee of ANFF and its Nodes/Hubs represents the organisation. We ensure ANFF’s culture, mission and vision can be easily identifiable from our conduct.

2. We show clients the value they bring to ANFF.

We take a direct approach when dealing with clients and present information in a manner that is appropriate to the audience. We make it clear that we are delighted to be assisting them with their research, development and commercialisation activities.

3. Internal collaborative relationships are as important as external customers.

There is a direct link between our organisation’s internal relationships between Nodes/Hubs and its external relationships. Open collaboration between our Nodes and Hubs reflects on the customer service provided by the organisation as a whole.

4. Employee satisfaction directly impacts client care.

ANFF understands that having satisfied and motivated employees results in optimal customer service. From 2023, employee satisfaction surveys will be conducted for all ANFF employees at least once a year. This will not only be an opportunity to address employee concerns but obtain a clear understanding of how we can improve on our internal and external client engagement.

5. Continuous skills development in customer service and accountability

Written into each employee's individual performance plan is the expectation of delivering excellent customer service. Regular training will be provided to all ANFF staff to ensure that the highest levels of customer service are adhered to, best practise is shared, and a consistent approach is undertaken across all Nodes and Hubs.

4.2. Client Engagement Process

Each client engagement is unique. It may be with an existing or prospective client, an academic or start-up or multinational, a simple request or one that pushes the limits of what's possible, etc. Regardless of the nature of the request, each engagement should be professional and reflect positively on ANFF.

Enquiries, whether coming from outside or within ANFF, should be dealt with as a priority. Phone calls and emails should be responded to within 24 hours. There may be circumstances that prevent a full and timely response. At those times, a *timely* response should be sent that:

- Acknowledges receipt of the enquiry;
- Apologises that a full response is not currently possible; and
- Commits to a specific date by which a full response will be sent; that date should be as soon as possible.

If a full response is not possible within a week, then an attempt will be made to escalate or transfer the request to another individual within the ANFF network to respond. A warm introduction will then be made for the client.

The above process and response time expectations apply to all client enquiries – regardless of the stage of engagement.

Any ongoing large projects will have an appointed project manager, responsible for delegation of tasks between Process Engineers and quality management after each critical step to maintain overall functionality of the project.

If a staff member is unable to answer an enquiry, every effort will be made to refer the client to the person best capable of helping them. This direction will involve complete handover and briefing of the new staff with pertinent details about the customer/enquiry. The initial staff member is expected to follow up with the customer of the new changes and provide contact details of the delegated staff member. In the event of any information transfer within the organisation; customer privacy, data protection and confidentiality policies should be adhered to.

Staff are also expected to seek solutions within their network to solve any complex customer enquiry, if and when applicable. Capabilities from outside ANFF should also be considered and offered if in the client's best interest. This is to provide the "unanticipated" customer value for increased customer satisfaction.

ANFF exists to help researchers and companies innovate. Clients should come away from their interactions with ANFF feeling that it did all it could reasonably do to help them achieve their objective.

4.3. Client Communication

By the nature of its operations and the services it offers, ANFF is involved at the very cutting edge of research, development, and commercialisation activities.

As such, ANFF commits to communicating with its clients in simple, easy to understand language whether verbally, email or in its written reports. We present information in a manner that is appropriate to the audience.

When engaging with clients ANFF staff aim to be active listeners, ask thoughtful and well considered questions in order to obtain an intimate understanding of what the core opportunity is and how it fits into the client's overall strategy. Staff should ask questions as needed to clarify requirements and repeat their understanding for confirmation.

ANFF staff are well presented and will conduct themselves professionally at all times. Telephone, video call and email client engagements will mirror the same professionalism expected in a face-to-face meeting.

ANFF has in place a post engagement survey system for all clients, this is in addition to the annual customer satisfaction survey. The Account Manager in charge will contact the client within three weeks of project completion.

4.4. Dealing with Client Complaints

When raised, ANFF welcomes the opportunity to engage with clients about their complaints and concerns. Not only is this an opportunity to identify opportunities for improvement but to re-establish the relationship.

To make sure client complaints and constructive criticisms are managed in a healthy manner ANFF staff members will utilise the **H.E.A.T** principles to assist in settling any disputes they may face with customers:

Hear: Hear the client out, and actively listen to their concerns

Empathise: Empathise with their situation via reiterating your understanding of the key issue or concern

Apologise: Apologise for their current predicament.

Take action: Advise the client on what action you will be taking to address/investigate their concern.

If a client has a complaint or constructive criticism to provide, they can do so via the contact form found at <https://www.anff.org.au/contact>.

Where the client is in the process of being supported in their engagement by a Client Engagement Facilitator, the complaint will be escalated to the Chief Executive Officer.

Where the client is in the process of undertaking work at one of ANFF's Nodes or Hubs, their complaint will be escalated to the relevant Facility or Hub Manager.

4.5. Other

Minimal tool downtime and staff availability

ANFF aims to have the instruments available with <1% downtime. All equipment undergoes proactive and routine maintenance/service to minimise any unexpected tool downtime.

This is to optimise and cater for all users' needs. If equipment is under maintenance or repair, all the certificate holders for that specific equipment will be contacted, informing steps taken to rectify the problem and expected completion date.

ANFF's Refund Process

Across all of ANFF's Nodes/Hubs our intent is to provide the highest calibre fabrication services and technical assistance available in the market at an affordable price. Initial customer quotations will encapsulate specifications of the designs and margins for error due to the experimental nature of the research conducted in our laboratories and cleanrooms.

However, in an event of any dissatisfaction from the provided service, clients will be asked to:

1. Discuss the issue with staff; and
2. Upon discussion, fill out the Customer complaint/suggestion form on the ANFF website.

To ensure consistency, any refund credit, or non-charge should be discussed and approved by the relevant Facility Manager or Node Director. In addition, ANFF HQ should be notified.