

THE AUSTRALIAN NATIONAL FABRICATION FACILITY

ENABLED BY
NCRIS
National Research
Infrastructure for Australia
An Australian Government Initiative



Semiconductor supply chain

John R Morrison



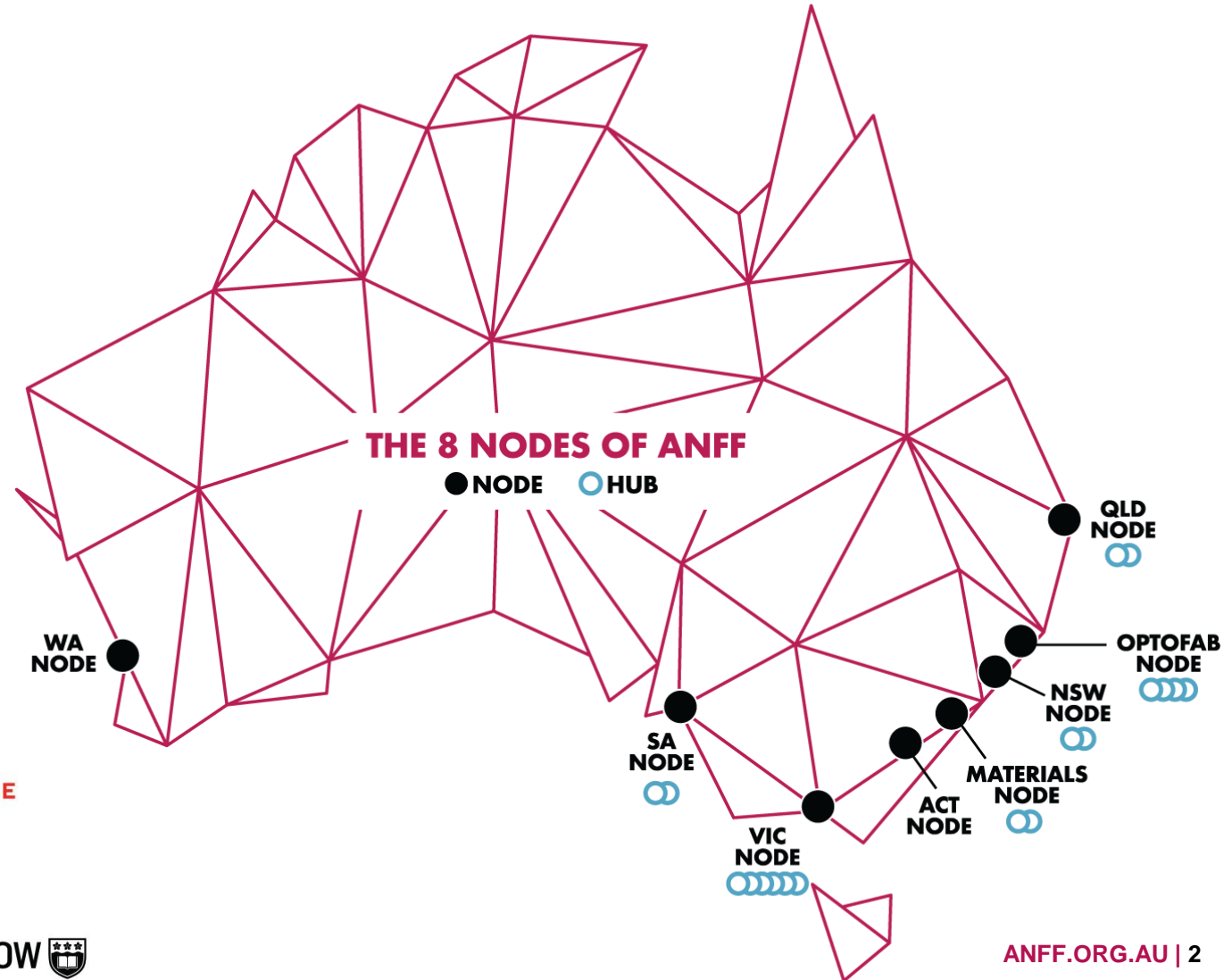
SNAPSHOT OF ANFF



ANFF was established by NCRIS in 2007.

We provide Australia's R&D communities with open access to micro and nano fabrication capabilities.

The network is made of 21 sites organised into 8 specialist Nodes.



Find us at:



ANFF is a member of the Micro-nanotechnology Peer Organisations

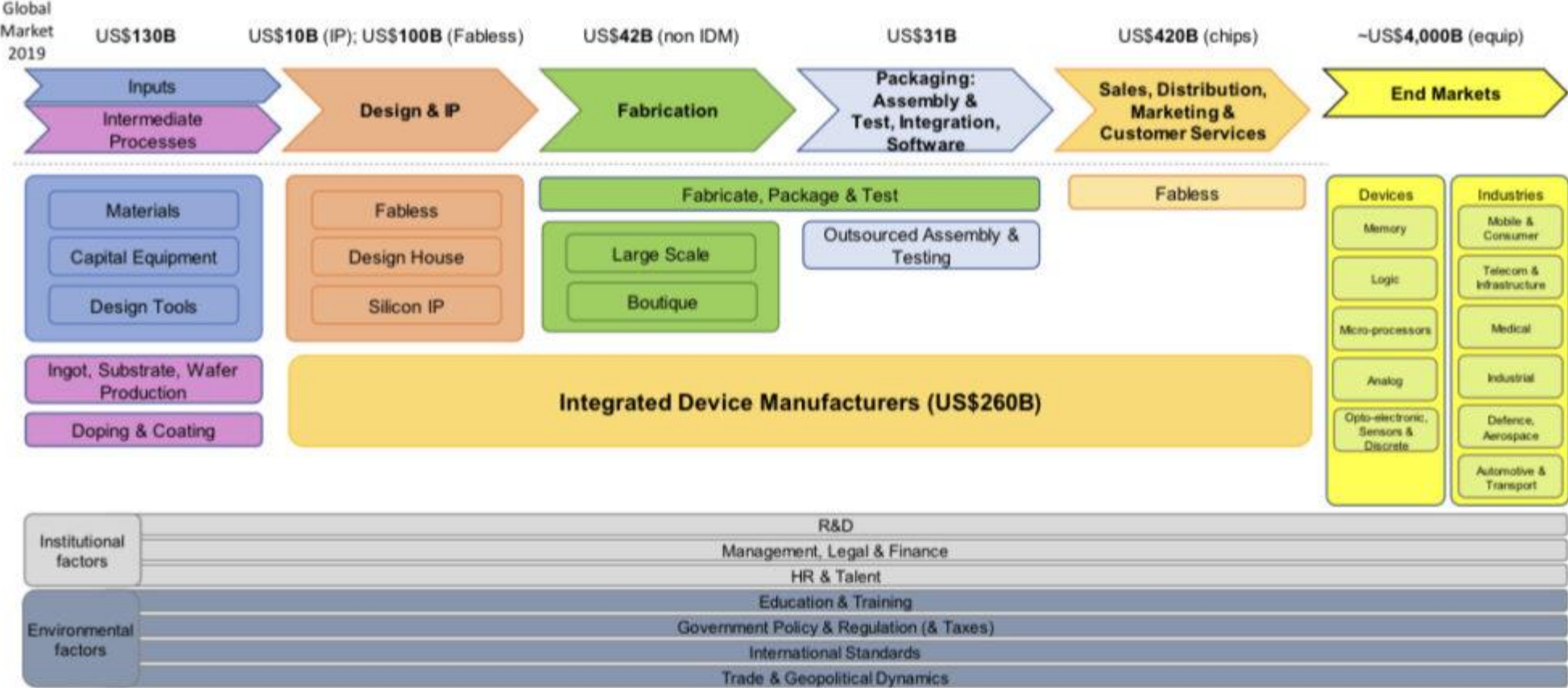


- VDEC [Japan]
- MOSIS [USA]
- Taiwan Semiconductor Research Institute [Taiwan]
- Fraunhofer [Germany]
- CMC Microsystems [Canada]
- Interuniversity Microelectronics Centre (IMEC) [Belgium]
- Others...

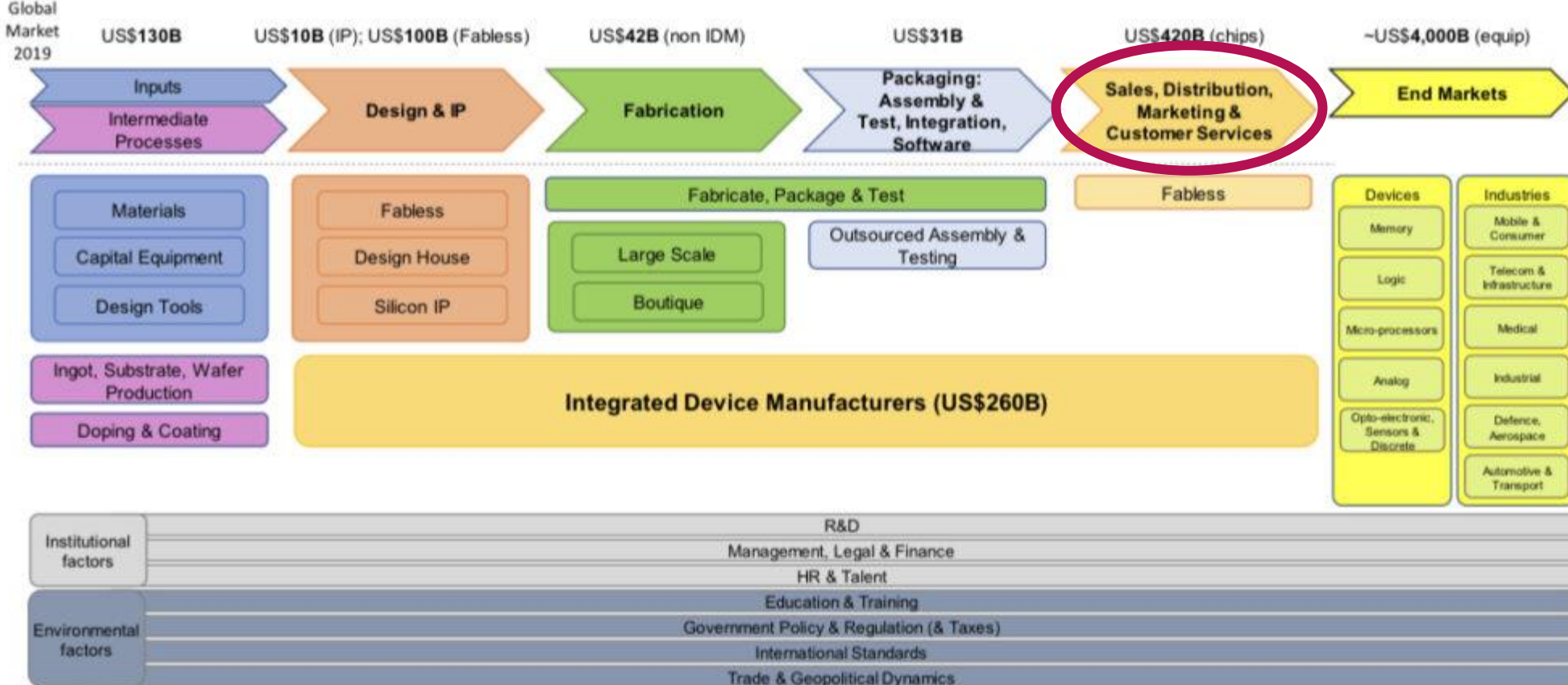


The semiconductor supply chain is broken (never existed) in Australia

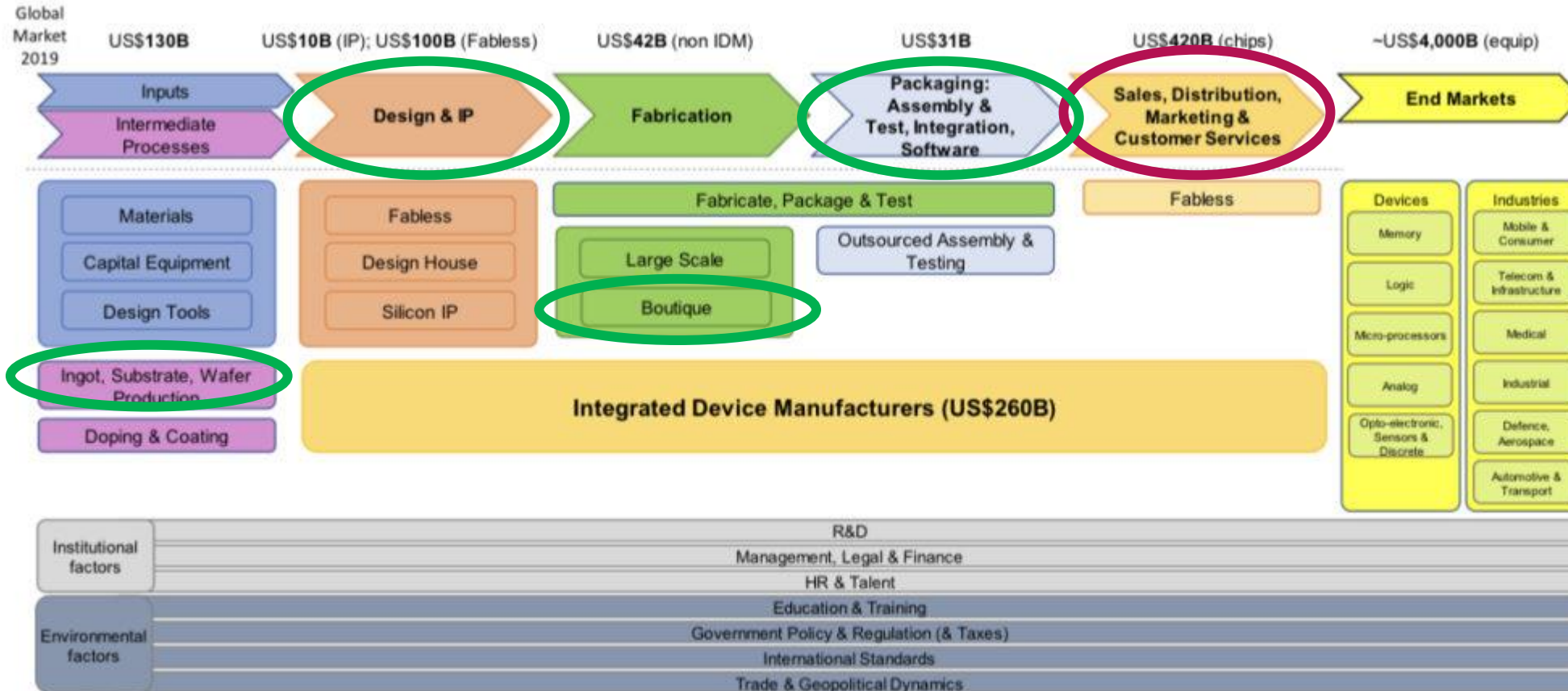
The Global Semiconductor Value Chain



The Australian Semiconductor Value Chain



Where might we operate?



Australian Fab - Silanna



Silanna

Stages

Sourcing

Sapphire Wafers

Manufacturing

Distribution

Market

Epitaxy

Fabrication

Assembly

FedEx

FedEx

FedEx

FedEx

Locations

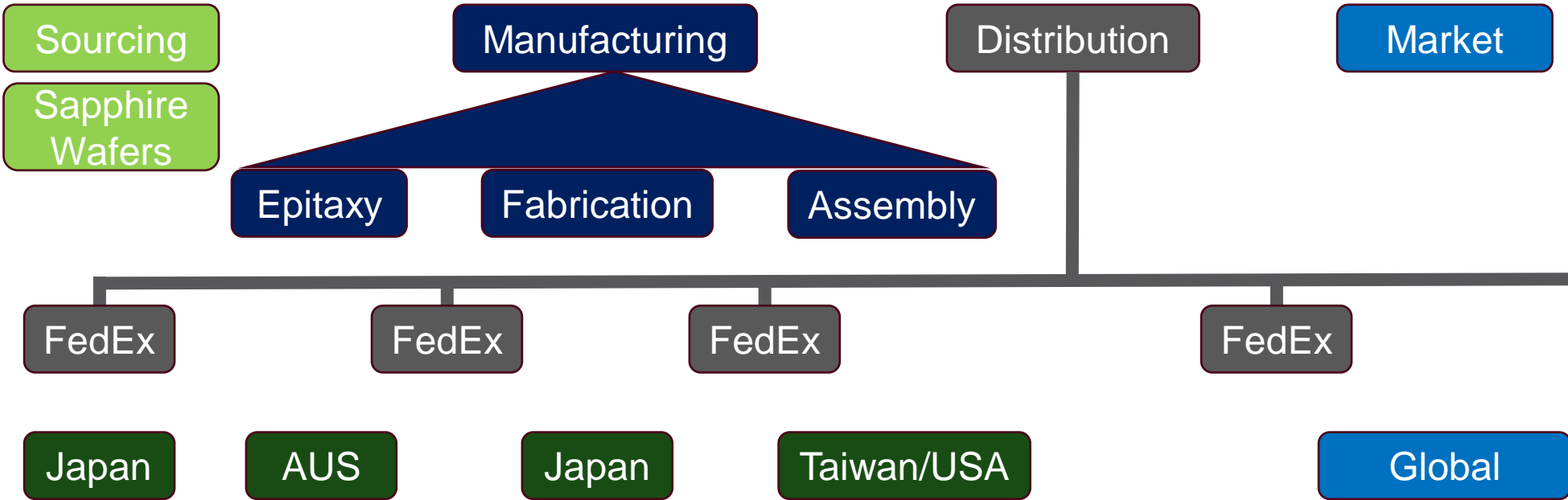
Japan

AUS

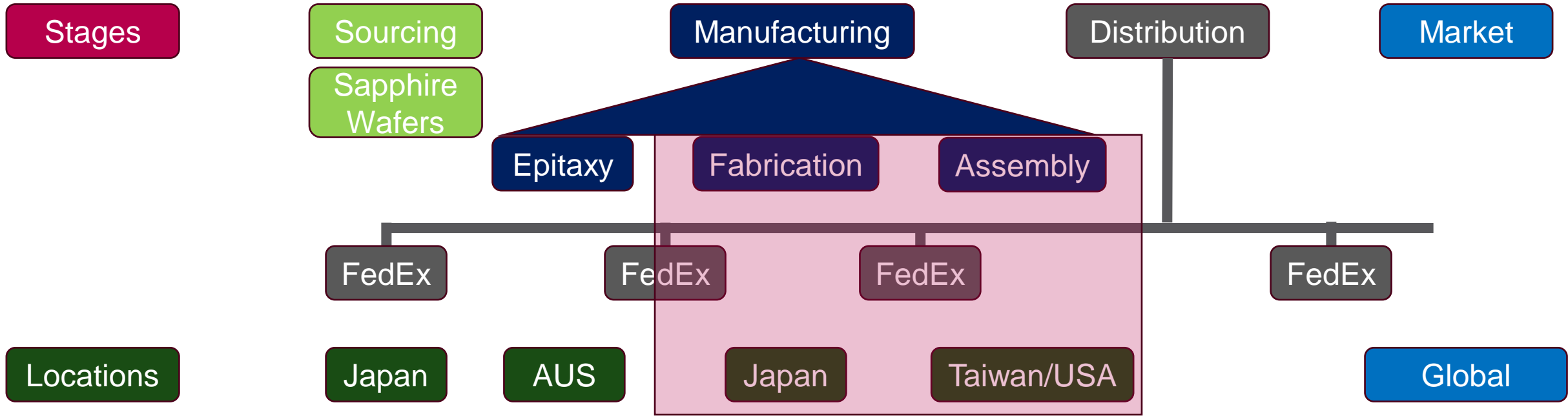
Japan

Taiwan/USA

Global

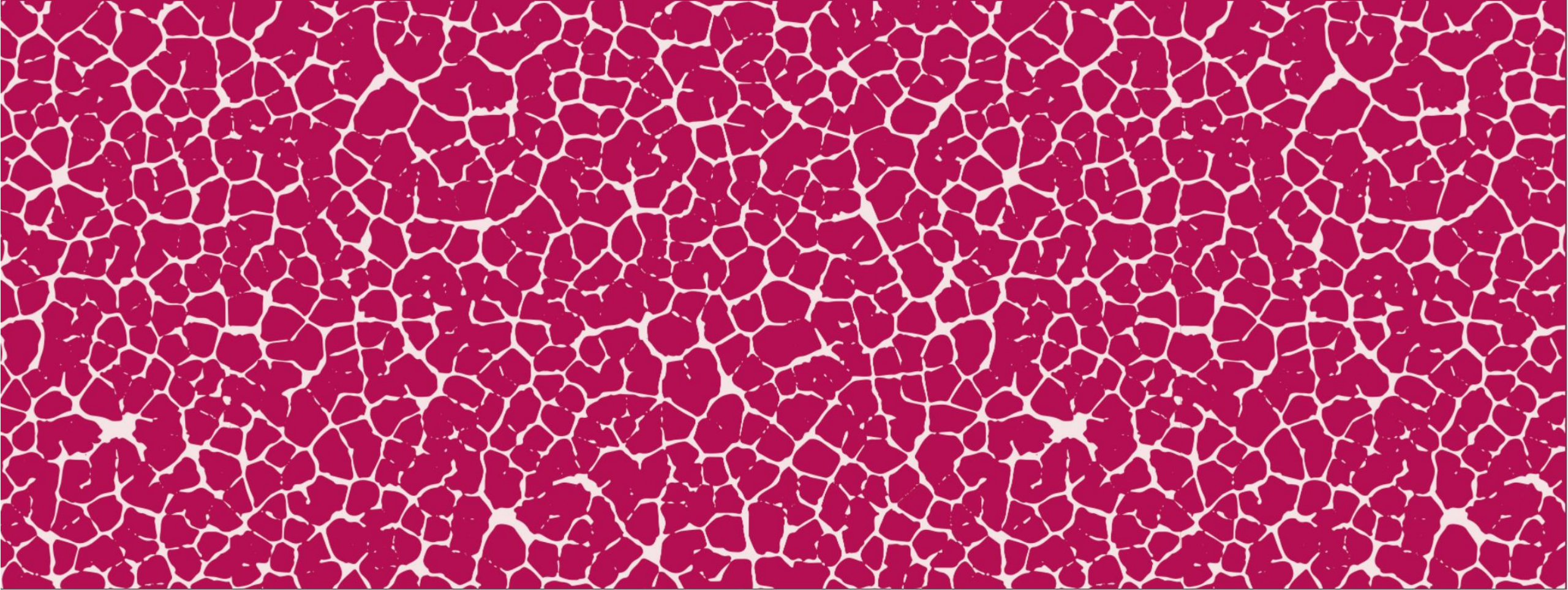


On-shoring Silanna Manufacturing



Opportunity for QATH (QLD)/
Advanced Manufacturing Research Facility (NSW)

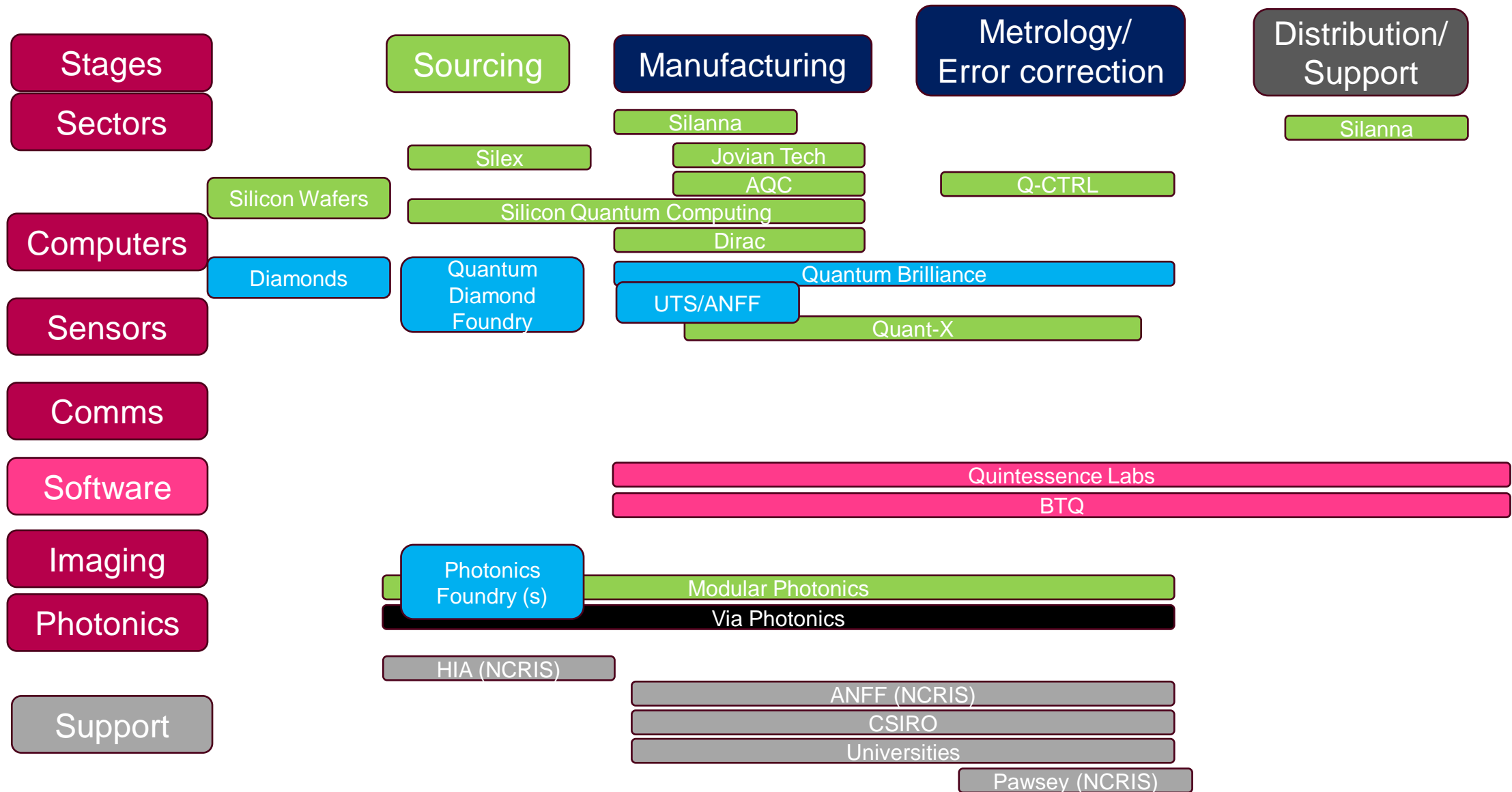
Quantum is a customer of the semiconductor supply chain



Quantum
Technologies
in Australia

Technology	Application	AUS [not AUS]
Spins in Si, diamond, carbon	Computing	Silicon Quantum Computing Diraq Archer Materials Quantum Brilliance
Superconductors	Computing, Communications, Sensors	Analog Quantum Circuits LandTEM [D-Wave] [IBM] [Rigetti] [IQM]
Photonic	Computing, Sensors, Timing	[PsiQuantum] [Xanadu] Modular Photonics Jovian Tech Quant-X Vai Photonics Quantum Link Verification
Neutral atoms	Computing, Sensors	[Infleqtion] Nomad Atomics
Software	Security, Emulators, Control, HPC interoperability	Quintessence Labs [BTQ] PsiQuantum Quantum Brilliance [NEC] [D-Wave] Pawsey Qlimate – JV PsiQuantum and Fortest [Chelpis]

The Quantum Ecosystem



The emerging Quantum Diamond Technology Industry



- Quantum Brilliance
- (Diamond Foundry)
- Chromos
- Phasor Quantum
- FeBI Technologies
- DeteQt
- Melb Uni
- Monash U
- RMIT
- La Trobe
- CSIRO
- Data61



CONTACTING ANFF

Contact info@anff.org.au for general enquiries, or get in touch with any of our staff to start discussing your project.

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OUT MORE