ISLAND WORKSHOP TEAM.

Matthew Gee | Director, Designer, Process, BIM + Innovator
Ryan Tubby | Graduate Architect + CAD/ CAM + CNC Operator
Adam Holstrom | Graduate Architect + CAD/ CAM + CNC Operator
Carly McMahon | Graduate Architect
Bee Newman | Studio Manager
Mark Johnston | Project Manager
Luke Eiszele | Project Manager
Ann Jones | Finance + Office Manager

KEY INDUSTRY COLLABORATORS.

Robert Morris-Nunn| Circa Morris-Nunn | Architect
James Morrison| Morrison Breytenbach | Architect
JAWS | Architect
Jack Birrelli | Birrelli | Architect
David Travalla | Architect
Pete Booth | Booth + Watts | Architect
Stuart McKenzie Hall | Architect, Process, BIM + Innovator
Paul Kleywegt | Building Evaluate
Aldanmark | Consulting Engineers
Jon Shanks | UTAS Engineering + CSAW
Robyn Green | UTAS Architecture School

Pilgrim Cafe fitout, CNC furniture.
Our TEKCELL Enduro CNC machine with flatbed capacity of 1800x3600mm. Prefab Lab 2013.

COMPANY OVERVIEW.

Island Workshop is a Tasmanian company that specialises in the whole package of design and construction. Within our team we have carpenters, builders, graduate architects and logistics experts. Through small steps over the last three years we have been working towards merging our skills in design, computers, manufacturing and site building under one roof. Through our innovation we can offer to manufacture buildings in most part, in our factory, the Prefab Lab, directly from our three dimensional computer model. The process of doing this is a success achieved through the intelligence and enthusiasm of graduate architects and experienced builders working closely together.

Island Workshop produced digital framing model used to package, export and prefabricate formwork, wall frames, trusses, roof beams, box beams and internal lining layout components. Construction for Matt Williams Architects, Southport 2013.

The control room of the CNC machine in our Prefab lab. Our operator converts the digital framing model to tool paths and oversees the fabrication of panels through the CNC machine. Image of Adam Holmstrom, Island Workshop 2012.
PROCESS.

Building design and construction in the contemporary world experiences a high degree of separation between the designer, consultant and maker. Island Workshop has created a unique position where the designer and maker work concurrently. Island Workshop is a diverse team of designers, graduate architects and builders who together perform the practice of designer-making.

Utilising advances in digital technology and fabrication, Island Workshop is working solidly to increase our capacity to prefabricate buildings that would traditionally be constructed on site. Our approach is component based, rather than modular. The outcome is a mass-customised, prefabricated building. Our developing process draws on a Tasmanian scaled adaption of larger European and North American approaches to ‘manufacturing’ buildings.

Island Workshop’s two year intensive process of research and development has included: prototyping, smaller project analysis and in-house programming and adaptation of readily available low cost software packages. The process of producing buildings is one that is continually evolving within the company and we have a solid program of projects booked well into 2014.

Island Workshop uses a combination of Building Information Modelling (BIM), Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Computer Numerical Control (CNC) cutting and milling, and traditional joinery to produce prefabricated components. A purpose built workshop at Electrona called the Prefab Lab produces high tolerance building components integrated into our site works. Our design and construct model allows for full exploration of the final product in preproduction, ensuring that designers and clients fully understand the construction of the building and specifications, prior to production.
1:1 Prototype of custom roof beams in our Prefab lab to test and inspect loading points. Collaborative structural design by Island Workshop and Aldanmark Consulting Engineers, Construction for Matt Williams Architects, Southport 2013.

Daniel Gardener from Aldanmark Consulting Engineers, inspecting the prefabricated steel frame of a glass pavilion in the Prefab lab before it is craned into site. Construction for Beachouse Architecture, Sayer Crescent 2013.

Each production item is made with precision according to strict tolerances developed through our ongoing construction and fabrication research. Photo of Adam Holmstrom and John-Paul Ibbot, Island Workshop 2012.
RESEARCH.

In 2011 Island Workshop began formal research and market analysis of prefabricated, residential manufacturing in Australia. The research indicated that the majority of companies producing prefabricated buildings are offering a modular product, with an intention to replicate multiple modules on the housing market with fixed price terms.

As a site orientated, design and construction company, Island Workshop prides itself on designing for a specific client brief and direct functional response to site. The limited precedents in Australia for the customised, prefabricated approach Island Workshop is undertaking, resulted in our research focusing further afield. Further investigation revealed that there is significant modular production in North America and customised production in Europe. The European manufacturers Hauf Haus and Baufritz were identified as leading manufacturers with many years of experience. Island Workshop analysed and adapted the approach of these manufacturers to fit a model for the Tasmanian environment and economy.
Cellulose insulation is pumped into the wall cavity with a specially designed reverse-vacuum machine. Construction for Stuart McKenzie Hall Architects, Lauderdale 2013.

Our Prefab lab has the ability to drive a semi-trailer inside, shown here with our first container of construction materials being unloaded. Prefab Lab, Electrona 2012.

Our Prefab lab gantry has the capacity to lift up to 2 tonne, shown here lifting the two parapet beams for Lauderdale Asante, Construction for Stuart McKenzie Hall Architects, Lauderdale 2013. Photo of Josh Anderson, Apprentice Carpenter, Island Workshop 2013.
COLLABORATION.

With our desire to expand into the export market aside, Island Workshop believes maintaining our small scale in Tasmania is important.

The ‘Island’ is our ‘Workshop’. As the name suggests, our company collaborates with other small Tasmanian manufacturers to co-ordinate a final built product. This scaled down approach to the Tasmanian environment and economy was adopted, and has grown to include a clear ‘on time’ relationship with suppliers warehousing our factory’s material requirements.

Prefab lab made and clad roof parapet beams being craned into place. Construction for Stuart McKenzie Hall Architects, 'Asante' Lauderdale 2013.


Precast concrete chimney being craned into position around the CNC cut millimetre perfect slab form work. Construction for Stuart McKenzie Hall Architect, Lauderdale 2013.
INNOVATION.

Island Workshop's innovation in digital fabrication and timber began through our initial learnings at the UTAS School of Architecture’s workshop, and our own process of BIM to the built form, of which there are few precedents that are not Intellectual Property protected. Our access to ideas exists through the innovations of Universities worldwide, and reviewing open source innovations. Island Workshop is essentially exploring the application of digital technologies to traditional construction practices.

The application of these technologies has resulted in a process that reduces waste and creates a greater understanding of the building in preproduction. Our building cost is on par to site construction with highly significant advances in accuracy, production time and logistics. Island Workshop-built buildings benefit from a significant focus on durability, thermal modelling and airtightness. Our approach adopts European strategies to managing condensation in a thermally improved building.

Our Tasmanian market is established and we now employ 25-30 employees and sub-contractors in the building business. In the background we are developing our potential to move into more complex commercial projects as a timber technology specialist in Australia and Asia.

The immediate future for our development is to advance our BIM cutting system in generative modelling using the Rhino and Grasshopper software packages from the USA.
Vitrabond cladding, cut, bent and shaped to mm perfection on our CNC router. Construction for Dock 4 Architecture, Raymont Terrace 2013.

DEVELOPMENT in 2014.

In 2014 we have continued to offer highly skilled, manufactured solutions to local building projects. As we develop the ‘Prefab Lab’ we are conscious of the interplay between traditional trades and digital/robotic opportunities in manufacturing - neither can exist effectively without the other.

The first half of 2014 has been intensive. The ‘prefab lab’ has delivered on fitouts of two new Hobart hospitality businesses (‘The Standard’ and ‘Brat Time’), the co-ordination of a complete cassette based solution based on ply components for a complex building in Falmouth, and the construction of the first prototype for the ‘Three Capes Huts’ in close collaboration with Parks & Wildlife and Jaw Architects.