THE UNIVERSITY of ADELAIDE

HIGH-PERFORMANCE PROTOTYPING

ThincLab 3D Studio capabilities

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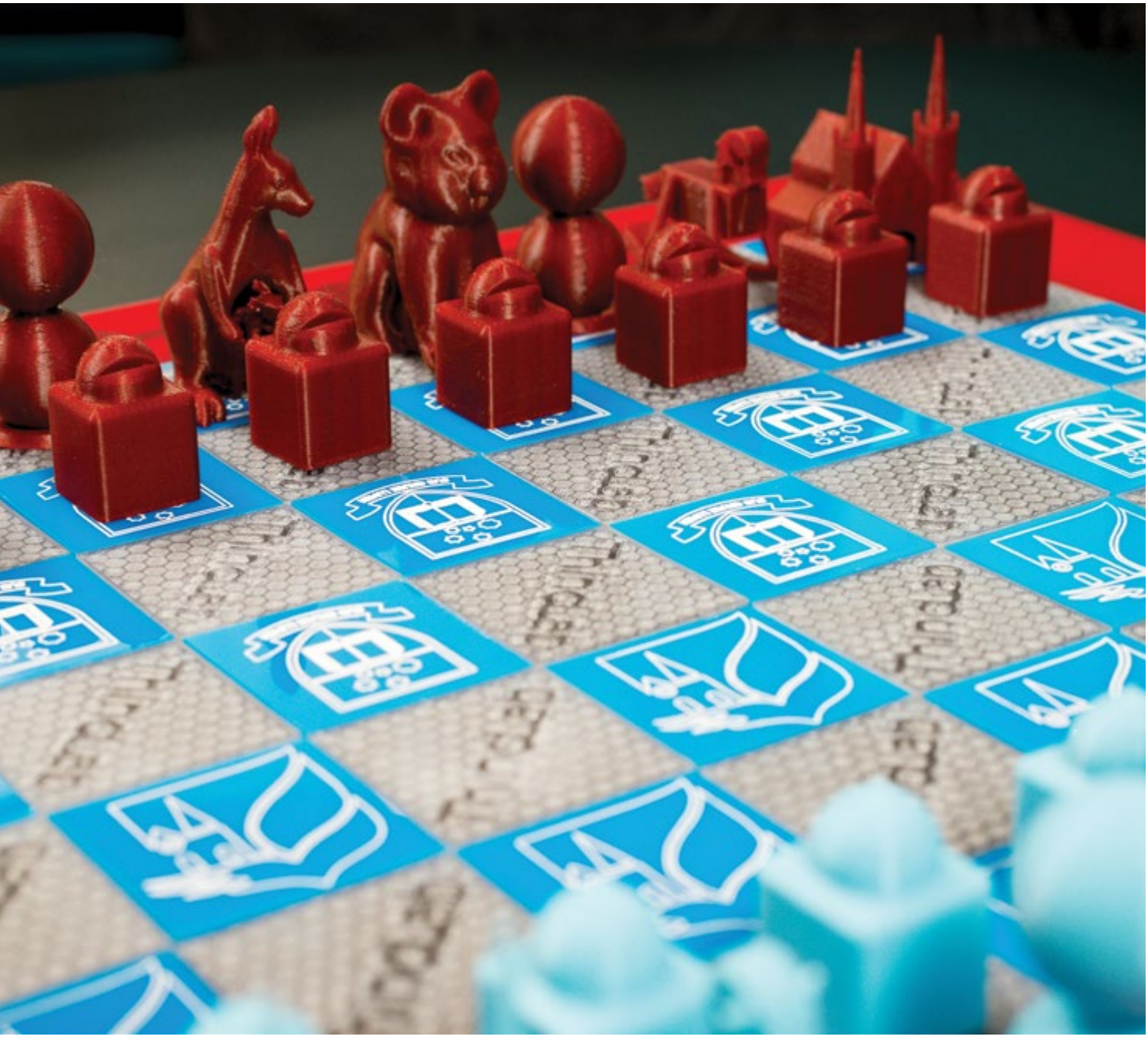
GET READY-FOR-MARKET IN RAPID TIME



The accelerating change of today's global business environment presents both opportunity and threat. New doors are opening at an unprecedented rate. Yet competitors' ability to take advantage of them—from virtually anywhere in the world—is also increasing. ThincLab's 3D Studio puts you a step ahead.

Our state-of-the-art prototyping lab and design studio provides access to an impressive array of latest-release 3D printers and fabrication technology, cutting-edge software and advanced materials.

Operated by highly skilled specialist technicians, and supported by the University of Adelaide's outstanding entrepreneurial environment, it's the perfect resource to enable the rapid development of your innovative product or concept.

Supporting industry, inventors and innovative small business

The ThincLab 3D prototyping studio facilitates advanced product conception and design of all kinds—from trade and industrial applications, to retail, lifestyle, health and medical.

Our experienced lab technicians are available to assist engineers, architects, manufacturers and independent designers wanting to produce anything from first-iteration prototypes to market-ready finished parts.

Some examples of items we can produce include:

- custom dental prostheses
- orthopaedic implants
- architectural and engineering models
- retail product models
- aircraft and automotive parts
- tooling inserts
- watch parts.

KEY TECHNOLOGY & SERVICES

- **CAD design**
- **3D scanning**
  - NextEngine Ultra HD 3D Scanner
- **3D printing**
  - Zortrax M200
  - ProJet MJP 2500
  - Markforged X7
- **Laser cutting**
  - plastics
  - wood
  - leather
  - card
  - rubber
- **Prototype design and build**

ZORTRAX M200

This 3D printing 'jack of all trades' enables a wide range of aesthetic and functional qualities—a reliable choice when form and fit are essential.

Tiny, huge, tough or delicate

The Zortrax M200 is an incredibly versatile, high-quality industrial 3D printer. It can produce a vast range of functional items with a broad suite of material characteristics.

Printing directly from your CAD drawings, the Zortrax carefully reproduces the dimensions of every model with excellent accuracy. It's also able to print thin wall structures; working threads; and parts with great strength and robustness.

This enables you to print even highly detailed, performance-critical parts, such as turbines, and duplicate intricate models at varying sizes and heights with no warping or loss of appearance.

CASE STUDY: HIGH-SPEED, LOW-COST IRRIGATION INNOVATION

ThincLab is helping Adelaide-based builder–plumber Scott Perry take an innovative irrigation valve to market significantly faster—and at far lower cost—than via traditional manufacturing.

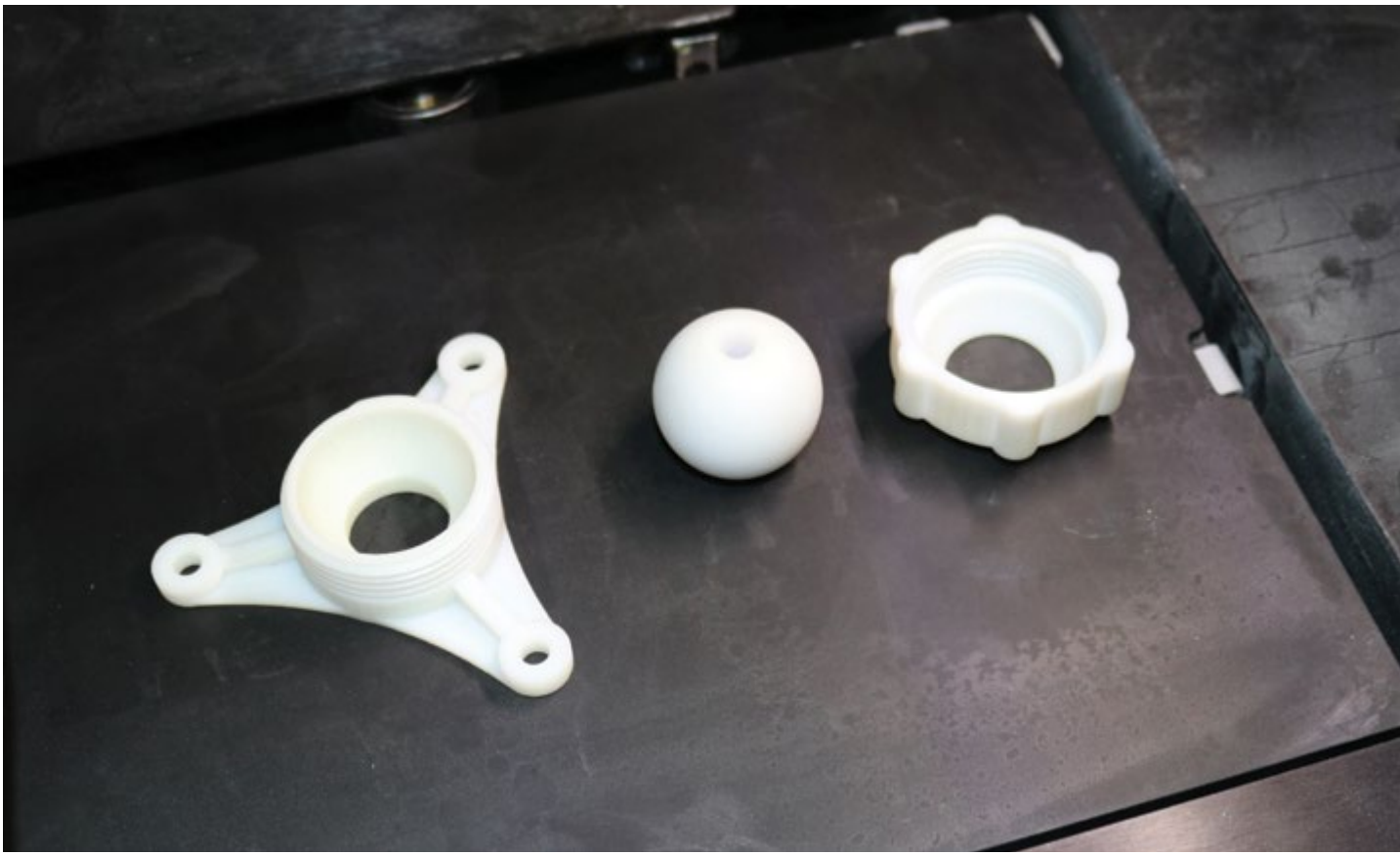
Scott saw the opportunity to produce a higher-performance irrigation valve in mid 2017. He developed his own design, and invested around $7000 and two weeks in the traditional production of a solid-brass prototype.

It failed. Scott then revised his design and approached us at ThincLab to 3D print a second iteration. This time, his watertight prototype cost just $900 and was ready in under 48 hours. The valve performed far better, but still failed under high pressure.

Scott worked with us to optimise his design for the 3D printing process and material, and achieve greater product strength. It worked. When retested, the third-iteration prototype—produced at a still-low cost of $1200—outperformed all competitive valves currently on the market.

Capitalising on this progress, in early 2018 we created multiple low-cost PLA models for Scott, from which he could easily and cost-effectively sand-cast finished brass parts for final field testing. This is now well underway. And Scott's vision is about to become reality.

PROJET MJP 2500



Create exceptionally accurate, finely detailed and watertight prototype parts and products—at class-leading speed.

Fast, strong and micron-perfect

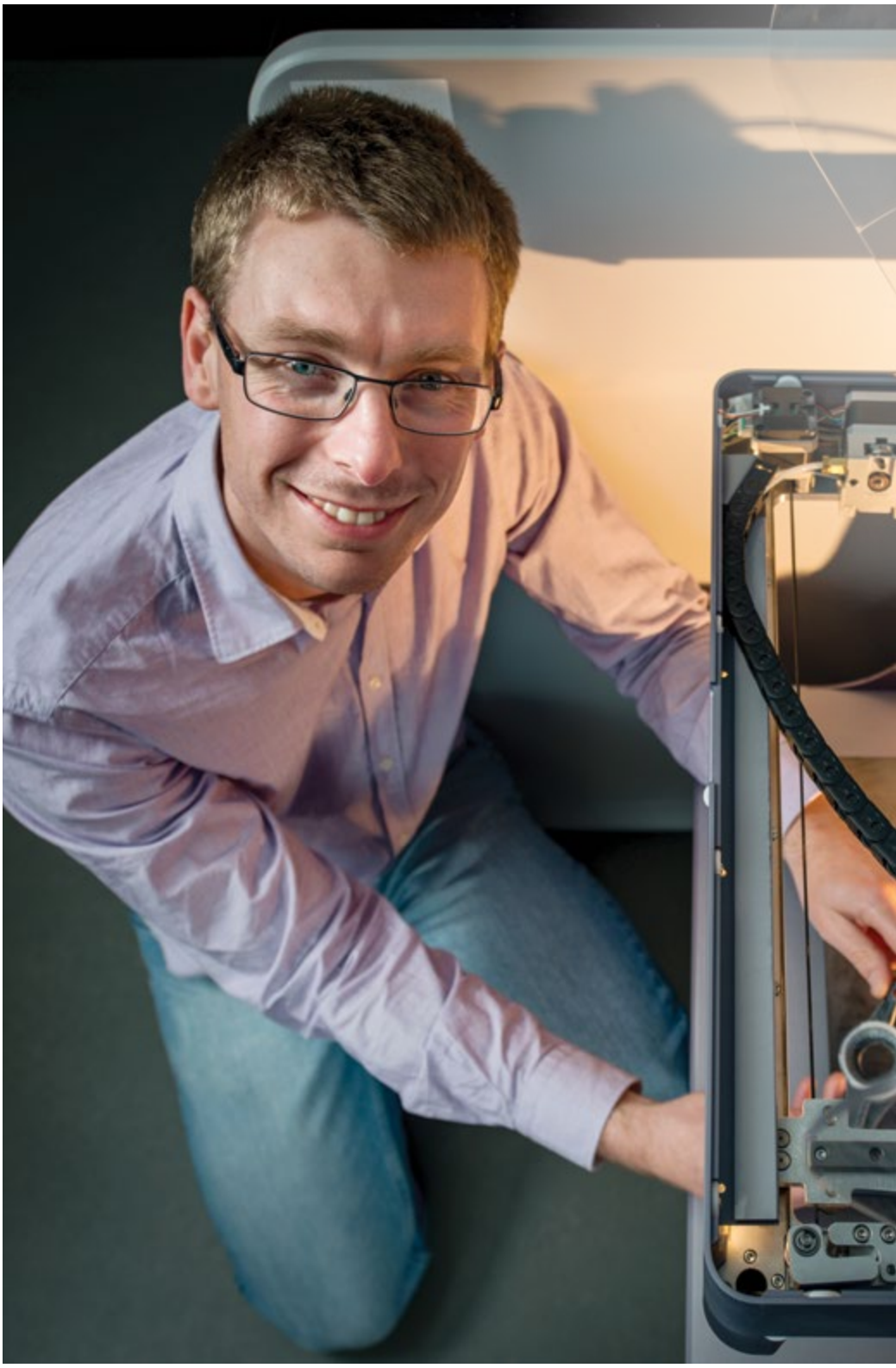
The ProJet MJP 2500, by 3D Systems, is a high-quality industrial 3D printer employing Stereolithography (SLA) technology to print at three times the speed of similar-class printers.

The SLA process enables printing—direct from CAD drawings—of very thin walls, sharp edges and well-defined features.

A wide variety of materials can be used, offering an impressive breadth of strength and flexibility. What's more, parts produced by the ProJet MJP 2500 are watertight, making it an ideal choice for fluid-flow visualisation, submersible items or external testing.

MARKFORGED X7

A high-end industrial machine ideally suited to the rapid manufacture of strong, functional parts at end-use quality and finish.



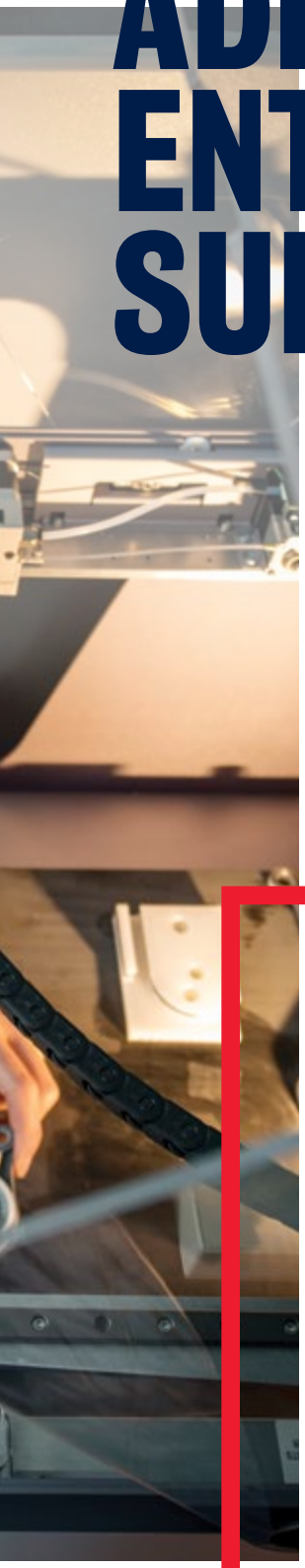
Market-ready functional parts delivered at speed

The Markforged X7 offers everything you'd expect of a 3D printer, but with two important additions: superior material strength, and outstanding aesthetic finish.

This advanced machine enables you to print directly from your CAD drawings using a unique composite material called Onyx. Parts printed with Onyx are 1.4 times stronger and stiffer than those printed with ABS, and retain their structural integrity in high temperatures.

Onyx can also be further reinforced with layers of carbon fibre, Kevlar or glass fibre. And it delivers a smooth, matte-black finish that requires little, if any, post-processing.

ACCESS VAST ADDITIONAL ENTREPRENEURIAL SUPPORT



The 3D Studio is just one small part of the comprehensive business education and development assistance ThincLab offers emerging entrepreneurs.

Working closely with all University of Adelaide faculties, ThincLab provides access to:

- A leading business incubator. Around 50 new ventures are housed at ThincLab in a mix of permanent and 'hot desk' office space, with state-of-the-art facilities. They span a wide range of sectors, including: health, exercise, agriculture, aerospace, engineering, environment, energy, gaming, science communications, and food and drink.
- The Australian eChallenge. Established and run by the University's ECIC, the eChallenge is Australia's biggest investor-ready program for start-ups. It's an intensive 12-week competition-based learning experience that develops strategic business thinking, and gives participants the opportunity to pitch their concepts to potential investors.
- Outstanding mentors and connections. ThincLab tenants enjoy ongoing guidance from the University's brightest business minds. They're able to connect, and possibly do business with, dozens of likeminded entrepreneurs. And those eyeing European and Asian markets can connect staff and tenants in our sister ThincLab sites in France and Singapore.

INTRODUCING OUR STUDIO MANAGER, MORGAN HUNTER

Morgan has the broad expertise and experience to assist you with prototyping or fabrication of any kind.

A hands-on engineer with a passion for innovation and clean energy, he has worked on numerous exciting commercial projects. These include developing: innovative nut-extraction techniques; a jet-engine-powered take-off system for gliders; and a fully containerised low-power biodiesel manufacturing system for farmers.

Morgan holds a Graduate Diploma in Science and Technology Commercialisation from the University of Adelaide, and a Bachelor of Engineering (Mechatronics) from Deakin University. He's a former research engineer at the University of Adelaide, and combat engineer with the Australian Army. And he also currently serves as Engineering Manager for SA Biofuels.

LET'S GET TO WORK

Contact our ThincLab 3D Printing Studio at any time to discuss your specific prototyping or fabrication needs, or request a quote.

FOR FURTHER ENQUIRIES

Morgan Hunter, 3D Studio Manager
ThincLab Adelaide
North Terrace Campus
The University of Adelaide SA 5005 Australia

EMAIL morgan.hunter@adelaide.edu.au

TELEPHONE +61 8 8313 6941

adelaide.edu.au/thinclab

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