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## **CASE STUDY**

### **FOR IMMEDIATE USE**

17 year old Sam Hadley lights up at the mention of unmanned aerial vehicles. Drones are his passion: building them, refining them, racing them. He's even a member of the Newcastle FPV club – a position he's held since he was 15 years old.

A former Toronto High School student, Sam has been attracted to drone technology since flying and eventually improving on the design of his brother's off-the-shelf model a few years ago.

Enrolling in iSTEM in year nine because it was fun, hands-on and sounded like a break from traditional subjects, which he wasn't interested in, Sam was introduced to the possibilities of working with drones as a career – an absolute dream come true for him.

A component of RDA Hunter's STEM Workforce Initiative that aims to prepare a STEM skilled and job-ready Hunter workforce, iSTEM is a year 9 and 10 subject that contextualises curriculum. It introduces students to real-life problems posed by Hunter industry. Problems like, for example, improving the efficiency of mapping agricultural land through drone technology. Industry like BAE Systems, Boeing Defence, Jetstar Engineering and drone pilot training company, UVAIR, are intrinsic to maintaining iSTEM's relevance and ultimate success. Success that is measured by an improvement in the Hunter's young people studying STEM subjects.

iSTEM challenges students to solve real problems by applying the science, technology, engineering and maths (STEM) skills they learn whilst undertaking problem-based learning.

"I loved iSTEM," says Sam. "It was fun and I genuinely looked forward to the classes every week. It opened my eyes to so many possibilities for the future."

"The industry visits and the practical work in class really cemented my interest in a hands-on, engineering focused career and gave me confidence to pursue further opportunities." he said.

And, not surprisingly, opportunities presented themselves.

Acknowledging that studying wasn't something he loved, he was eager to get a job and prepare himself for a career. Sam was lucky enough to earn a place in RDA Hunter's STEMship program which promised to provide him with formal enterprise skills while immersing him in a real industrial workplace.

Keen as he was to pursue this new and interesting combination of work and study, it meant taking a risk and trying something new. His parents were supportive and backed him to move away from full-time study into a new and innovative pathway to employment.

"Looking back we couldn't have chosen a better path for Sam," said Darryl and Kristen Hadley, Sam's parents.

"We knew that he was destined for a role where he could use his talent for problem solving and his practical skills. We couldn't have imagined that he'd end up in a job that combines these things and his love for drones. That there's long-term career prospects for him as well is just another plus." Mr and Mrs Hadley continued.



The relatively new but opportunity-rich drone industry in the Hunter region is one of several sectors that partner in RDA Hunter's STEMship program. Mayfield West based drone pilot training company, UVAIR, hosted Sam for the 15 week program, during which time he tested, designed, developed prototypes, constructed componentry and flew drones that are used in industrial applications across the country.

He contributed to workplace outcomes and quickly became an invaluable part of the UVAIR team. At the end of the 15 weeks, Sam was offered the first traineeship in Australian UAV industry history with drone deployment company Airsight Australia.

"We are thrilled to be delivering Australia's first ever drone traineeship", said UVAIR's General Manager Ashley Cox, "this is an industry experiencing exponential growth and the demand for this skill set is well and truly evident from employers".

"It's awesome to have a job I love in an industry I love. I'm really invested in what we're doing at UVAIR and Airsight Australia and I look forward to going to work. There are so many opportunities for me and the whole industry and that's pretty exciting." said Sam.

RDA Hunter's STEM Workforce Development Manager Rick Evans, said of STEMship™, created by RDA Hunter in 2016, "We are thrilled that the program we developed to help build the Hunter's workforce has achieved such outstanding success so quickly."

"To have an Australian-first traineeship offered to one of our participants is a huge endorsement of the program and the collaborative efforts of TAFE NSW – Newcastle, Training Services NSW, Defence NSW, NSW Dept of Premier and Cabinet, and RDA Hunter."

"The Program's outcomes reinforce the success of an industry-led model such as this. STEMship has directly contributed to a Hunter workforce with skills and technical smarts that can hit the ground running. We're pretty proud of that!" Rick continued.

Used as a regional case study by the OECD, STEMship is Australia's first VET pre-employment program focusing on the development of STEM skills at a technical level and the creation of a highly-skilled job-ready talent pool. The program was developed by RDA Hunter and the NSW Department of Industry (Training Services NSW), and is distributed through Hunter TAFE (now TAFE NSW).

Pivotaly, the program is industry-led, which provides a VET pathway for students to move into employment, highly technical apprenticeships and traineeships, higher level Certificate IV, diploma qualifications, or university once they complete the Program. The Program was designed to bridge the gap between secondary and university STEM programs and align with industry policy at both State and Federal levels, with TAFE NSW – Newcastle providing and delivering an innovative nationally accredited skillset program.

Despite the program's infancy, and small scale, it has generated overwhelmingly positive outcomes in its pilot stage. The majority of students gained employment at the completion of the course. In 2016, of the 16 to complete the course, eight were successful in gaining apprenticeships and three continued into VET courses, and in 2017 even better results, with 10 out of 15 starting apprenticeships and five VET courses.

Industry is enjoying the benefits of the STEMship acknowledged by increasing participation year to year. The Program is now recognised as a valuable source of suitable, job-ready personnel and a key plank in the Hunter Region's workforce development strategy.

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