

Aeronautical innovation

Engineer Owyong Heng joined the Defence Science and Technology Agency for an exciting career and has not looked back

As an air systems engineer, Mr Owyong works in a team to manage the acquisition and delivery of air platforms.

PHOTO: DSTA



by teo kuan yee

AFTER completing his mechanical and aerospace engineering degree at Nanyang Technological University (NTU) in 2010, Mr Owyong Heng decided to expand his learning horizons by trying out a non-engineering job, while keeping in touch with the engineering industry.

He joined Defence Science and Technology Agency (DSTA) as a procurement executive and was involved in contract tendering, negotiations, establishment and management to acquire medical services for the Singapore Armed Forces (SAF).

It turned out to be a fruitful experience – learning different contracting approaches, strategies and techniques, and understanding the broad spectrum of engineering expertise and projects within DSTA.

After a year, Mr Owyong, 29, was transferred to be an engineer in the Air Systems Programme Centre where he could pursue his childhood passion for aeroplanes.

“I remember being fascinated at how

aircraft are able to defy gravity and rise to the skies despite being such huge and heavy machines. It fired my curiosity about aerodynamics and the science behind these engineering marvels. This was also why I chose to specialise in aeronautical engineering during my final year of studies in NTU,” he says.

Possessing an adventurous streak, Mr Owyong adds that he loves trying out new things – in life or work. “Things I have not experienced before excite me, which in turn helps me to think out of the box,” he adds.

The most critical part of Mr Owyong’s work involves managing flight and system tests outdoors – he has to ensure that the test scope is designed fairly and comprehensively to meet the SAF’s stringent requirements.

As a technical consultant, he also provides advice on engineering-related matters to SAF partners, and works closely with the defence contractors to deliver effective systems for Singapore’s defence.

“The opportunity to work with many different parties is enriching and interesting as it exposes me to a variety of perspectives and domain knowledge, and hones my communication and interpersonal skills,” he adds.

As an air systems engineer, he works in a team to manage the acquisition and delivery of air platforms. One of his key projects involves the Hermes 450 Unmanned Aerial Vehicle (H-450 UAV).

“The H-450 and other UAVs give the SAF the information superiority edge to assess the battlefield situation in an accurate and timely manner. As there is a need to integrate it with other defence systems used by the SAF, my teammates and I oversee rigorous tests to ensure that the H-450 fulfils the specific requirements of the SAF,” explains Mr Owyong.

Work culture

Describing his workplace as vibrant with a knowledge-sharing culture, Mr Owyong says his colleagues and superiors are “patient, approachable and ever ready to share their experiences and insights”.

“There is a lot of wisdom accumulated throughout the years and it definitely helps the young engineers to learn on the job. This strong learning culture

cuts across different teams and programme centres, where lessons and best practices are exchanged regularly,” says Mr Owyong.

“In DSTA, there is a lot of emphasis on innovation to generate fresh ideas and approaches to remain a progressive organisation,” he says.

Taking busy periods and project difficulties as valuable learning opportunities, another factor that fuels his passion is the sense of mission and achievement that he shares with many colleagues in engineering Singapore’s defence.

“We are proud that our work has contributed to Singapore’s defence. Seeing the capabilities we delivered on display at the recent Singapore Airshow was also a satisfying experience,” he says.

His advice to those considering a job at DSTA: “How much value and satisfaction you derive from working as a DSTA engineer depends on how involved you are. Adopt a positive mindset and seek out opportunities to learn in every task. Most of all, you must have a passion for the world of defence and technology.”

Structured training

DSTA engineers have the opportunity to attend milestone courses that develop their engineering and business competencies in a structured and holistic manner. Last year, Mr Owyong attended the Unmanned Systems Conference in the United States, where he learnt about current trends in the field of UAVs and networked with UAV experts.

There are also specialised training programmes to develop their respective areas of expertise. For instance, air system engineers attend an introductory course focusing on avionics and aircraft components. Mr Owyong also had the chance to attend a Flying Appreciation Programme, where he learnt how to fly an aircraft.

“The programme provides air system engineers first-hand insights into the workload of a pilot. From the course, I fully appreciate the heavy workload and multitasking skills required of a pilot during flights, which is very useful when working on aircraft acquisitions and modifications,” he says.