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## NTU joins force with industry partner to develop cybersecurity solutions for automotive sector



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The NTU-Desay SV partnership aims to make automotive electronics, such as invehicle infotainment and advanced driver assistance systems, more secure.

Today, Nanyang Technological University, Singapore (NTU) signed a Memorandum of Understanding (MoU) to partner leading automotive electronics developer Desay

SV Automotive (Desay SV) to develop innovative solutions for mitigating cyber security threats faced by the automotive industry.

The MoU was signed by Prof Thambipillai Srikanthan, Executive Director of the Cyber Security Research Centre @ NTU (CYSREN), and Mr Azmoon Ahmad, Senior Vice-President and Member of the Executive Management of Desay SV, at the CyberTech Asia Conference 2018.

With increased connectivity and innovation involved in the development of autonomous vehicles, the risk of cyberattacks also rises.

The partnership aims to develop new technologies to make automotive electronics, such as in-vehicle infotainment and advanced driver assistance systems, more secure.

This research and development (R&D) collaboration will be led by NTU's CYSREN which has an extensive knowledge base in the interdisciplinary capabilities of cyber security.

NTU and Desay SV will leverage future technology and innovation to develop robust cyber security and cyber resilience in every stage of product design and development.

Both parties will also develop novel methods in 3 areas, namely:

(1) Secure embedded processing and communication, or the development of additional security measures;

(2) Vulnerability analysis for cyber hardening, which is the removal of inherent weaknesses in a system that could be exploited; and

(3) Security testing for autonomous vehicles (AVs).

NTU Vice President (Research) Prof Lam Khin Yong said, "With the ongoing development of autonomous vehicle technologies on the NTU Smart Campus, we already have a good idea of how it will change our lives in the near future. The growth of autonomous vehicles is set to have a significant impact in the way we travel. But this will also bring new challenges and demands."

"That is why this collaboration with Desay SV is very timely, building on NTU's deep expertise in artificial intelligence (AI), cyber security and smart transportation to develop innovative cyber secure capabilities for the automotive industry," Prof Lam added.



Desay SV's Executive Chairman Tan Choon Lim

According to Desay SV's Executive Chairman Tan Choon Lim, the company is focused in ensuring its future by investing in the R&D of new and upcoming technologies.

"We are aware that we cannot do all by ourselves. Desay SV is ready to open and explore opportunities outside and beyond China. And that is also the secondary reason why we are here today, to forge and explore possibilities to cooperate, collaborate and partner with technology players and institutions," Mr Tan said.

Established in 1986, Desay SV is based in Huizhou, China and listed on the Shenzhen Stock Exchange. It specialises in the development of automotive electronics and has R&D facilities in China, Germany, Japan and Singapore. It has strong partnerships with well-known vehicle manufacturers including Mazda, Nissan, Skoda, Toyota and Volvo.



Prof Tim White's presentation at CyberTech Asia 2018

At the CyberTech Asia Conference, Prof Tim White, Associate Vice President (Infrastructure and Programmes) at NTU, gave a presentation on NTU's efforts in leading collaborative translational research and creating university-private sector partnerships.

According to Prof White, NTU as a research university sees the need and potential in integrating the university's research capabilities with industry needs. He named the pan-universities institute CYSREN as one of the key examples of university-private sector partnerships.

At the same time, the NTU Smart Campus is a living testbed of the latest transportation technologies of the future developed with partners like BMW, Volvo, BlueSG and SMRT.

NTU has also partnered leading industry players in cybersecurity research and development such as BAE Systems, a leading technology-led defence, aerospace and security solutions provider.

NTU is BAE Systems' first academic research partner outside of the UK. The partnership aims to jointly develop next-generation cybersecurity solutions to meet the challenges posed by the increasing prevalence of cybersecurity attacks.