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News Release

DSTA'S NETWORK ANALYSIS TOOL FOR CONTACT TRACING

The Defence Science and Technology Agency (DSTA) has been extending engineering expertise and resources to the Singapore Armed Forces (SAF) for COVID-19 operations. DSTA engineers designed tools to facilitate contact tracing efforts, from helping the SAF's health monitoring and contact tracing teams collaborate in real time, to extracting and fusing data automatically for contact tracing operations. In particular, DSTA has developed a network analysis tool to uncover possible links between cases and identify potential clusters.

At the contact tracing centres operated by the SAF, contact tracers compile information for the activity maps of suspected and confirmed cases. These activity maps document the people, locations and related timings for each case, prior to hospital admission for COVID-19. The network analysis tool uses data analytics to help contact tracers map out a visual network representation of the various confirmed cases by linking them through activities, locations and time. Using nodes and arrows to represent cases and their links, contact tracers have a visual representation to examine the commonalities and identify linkages between the cases, be it by location or by contacts, which shortens the contact tracing process.

When the network analysis tool was put on trial in early April, connections were established for several unlinked cases. It also helped in the identification of new clusters in the Ce La Vi rooftop bar and Black Tap restaurant at Marina Bay Sands, and association of cases linked to the Mustafa Centre cluster in Little India. The tool also played a role in helping contact tracers establish the link between the Mustafa Centre cluster to the Project Glory construction site and a number of foreign worker dormitories, including the S11 Dormitory@Punggol.

Mr Poh Chun Siong, Principal Systems Architect in DSTA's C3 Development Programme Centre, said: "With the increasing number of local cases, we realised that there was a need to quickly establish possible links between cases and identify potential new clusters. Working in close partnership with the SAF and the Ministry of Health (MOH), DSTA's developers and data

analysts developed the network analysis tool to fuse data from different sources, and map out linkages visually to facilitate faster contact tracing."

DSTA will continue to work closely with the SAF and MOH to further accelerate contact tracing efforts.

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About the Defence Science and Technology Agency

The Defence Science and Technology Agency (DSTA), a statutory board under Singapore's Ministry of Defence, exploits science and technology, and provides technological and engineering support for Singapore's defence and security. It delivers leading-edge technological solutions to the Singapore Armed Forces (SAF) by tapping the best technologies and fostering an environment of innovation for defence applications. Its role spans the entire spectrum of capability planning, development, and sustainment of weapon systems throughout their life cycle to ensure that the SAF continue to be a formidable fighting force.

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