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## Fujitsu, A\*STAR & SMU To Tackle Urban Challenges

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The new Center of Excellence aims to turn Singapore into a “living lab”, using analytics and computational social sciences to develop solutions that address urban challenges

AsianScientist (Oct. 21, 2014) – Fujitsu Limited, the Agency for Science, Technology and Research (A\*STAR) and the Singapore Management University (SMU) have signed a Master Research Collaboration Agreement (MRCA).

Under the MRCA, a five-year partnership which builds on the Fujitsu-A\*STAR MoU signed in Japan in March 2013, the parties will invest S\$54 million (~US\$43.2 million) in an Urban Computing and Engineering Center of Excellence in Singapore to work together in addressing the multitude of challenges highly urbanized cities frequently face. The Center is also supported by the National Research Foundation (NRF).

With the world’s urban population expected to grow to 70 percent of the global population by 2050, cities increasingly face challenges related to high-density living, such as efficient resource usage and traffic congestion.

Given these issues, the Center’s objective is to harness high performance computing capabilities to develop solutions for sustainable urban operations such as crowd mobility and transport engineering, with researchers using Singapore as a “living lab” to test-bed next generation solutions to real urban issues. Increasingly, technologies based on the convergence of data analytics, complex system simulation, computational social science, and behavioral science will play game changing roles in addressing urban challenges.

The Center will initially focus on dynamic mobility management and maritime and port optimization, with further themes to be explored over the course of the partnership. A\*STAR’s Institute of High

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Performance Computing and Institute for Infocomm Research will contribute capabilities in big data including visualization and analytics, complex systems, modelling and behavioral science, capabilities in urban data exchange and machine learning for urban challenges like transport and supply chain management.

Fujitsu will contribute to the development of social innovation solutions, using big data analysis and high performance computing for integrating big data analytics and simulation. Fujitsu will also leverage its leading-edge R&D capabilities from Fujitsu Laboratories to contribute to the Center's various research themes.

SMU's expertise includes methods and software systems for planning, scheduling and decision making that combine artificial intelligence agent-based modelling and simulation, large-scale optimization, mechanism design, behavioral economics and computational social science.

Research will be carried out across all three organisations on real urban challenges faced in Singapore. In addition to the team of engineers and researchers from Singapore and Japan, certain research projects will include SMU graduate and doctorate students.

Dr. Raj Thampuran, Managing Director of A\*STAR, said, "This collaboration with Fujitsu, A\*STAR and SMU pushes the leading edge of public-private partnerships to solve major urban challenges confronting Singapore and many other modern cities today. Such issues are complex and dynamic in nature and so a strongly multidisciplinary, multi-organization approach is imperative where know-how and talent from public institutions and companies are needed to address the problems facing the future of societies."