Unmanned System Technologies

- Unmanned systems with high levels of autonomy have the potential to provide new capabilities, apart from traditional roles such as surveillance and data collection. There are 4 types of Unmanned systems of interest to us, namely: Unmanned Ground Vehicles (UGV), Unmanned Aerial Vehicles (UAV), Unmanned Surface Vehicles (USV) and Unmanned Underwater Vehicles (UUV).

  - **Unmanned Ground Vehicles.**
    We are interested in technology enablers to allow the autonomous operation of UGVs in adverse weather, urban as well as cross-country terrains. In addition, we are also interested in automatic teaming and cooperation between vehicles that will reduce operators’ workload during the operation of multiple platforms.

  - **Unmanned Aerial Vehicles.**
    We are interested in innovative technologies that allow our air platforms to fly longer, further, improved manoeuvrability and highly controllable in urban environments. Of interest are also platforms that exhibit bio-mimetic behaviour, alternative power source as well as unconventional flight enabling concepts.

  - **Unmanned Surface and Underwater Vehicles.**
    Key challenges for these 2 classes of vehicles include efficient platforms with low drag, wake-less propulsion, localisation without GPS and underwater communications. We are interested in technological solutions for the above problems, as well as unconventional propulsion systems or actuation that are more efficient or improve the manoeuvrability of the platforms.

- Candidates proposing topics for research should address the problems iterated above. The research proposals should provide details on the specific problem that is being addressed, the research approach as well as the expected outcome of the research that can be applied to solve our challenges.

- For more information, contact FSTD’s Programme Manager in charge:

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