Augmenting Emergency Department operations with autonomous mobility technology

A. Problem Statement (Current State)
Nursing staff in the Emergency Department (ED) work long hours and often face resourcing challenges, such as the need to work with a leaner overhead while catering to an overcrowded ED.

To improve operations in the ED, the nursing team is seeking innovative solutions to automate the transport of patients partially or fully from nursing triage to other parts of the ED (i.e., radiology). This will reduce the manpower requirements for what is undoubtedly a manual and labour-intensive process that occurs daily.

B. Challenge Statement
How might we safely, autonomously and efficiently transport suitably triaged patients in the Emergency Department from triage to radiology, and then to consult rooms promptly?

C. What Are We Looking For? (To-Be State)

1. Join us in the search for technology-enabled solutions to achieve the desired state of:

  a. **Enhanced productivity and efficiency** – reduced involvement of ED staff to move patients from triage to radiology, and then to consult rooms, freeing them to practice at the top of their license.

  b. **Time savings** – through cutting down unnecessary movement, i,e., motion waste, by staff.

2. Overall performance requirements:

  a. **Intuitive user experience:** All nurses and hospital operational staff must be able to quickly self-help with the solution(s) with minimal guidance.

  b. **Scalable:** The proposed solutions must be easily scaled across Singapore's healthcare clusters and with potential roll-out to nursing homes within one to two years, following successful trials and refinements.

  c. **Well-secured:** Any recommended solutions must undergo regular risk assessment and adhere to the cybersecurity standards to secure private health data/protected health information.

  d. **Cost-effective:** The proposed solutions must be cost-effective to support the solution in scaling across hospitals and other potential healthcare settings.