



## Overview

Emergent Space Technologies, Inc. leverages its IT experience to provide ground system solutions that reduce cost and enable the next generation of missions to fly. Emergent identifies proven technologies from other domains and applies them to challenges with which space missions struggle. Emergent's experience has earned them a critical role in NASA Goddard's GMSEC program, a mission services evolution program.

## Fleet-capable Ground Systems

Emergent is currently collaborating with the NASA Goddard Space Flight Center and commercial partners to support development and integration of a fleet-capable ground system. Next-generation science missions are planning coordinated fleets of satellites to accomplish their science objectives. These fleets will require new techniques and tools for managing the volume of information obtained. The goal is to develop new technologies while consolidating both hardware and software systems into a highly automated fleet system that allows satellites to be readily inserted into the MOC. This system will help reduce operations costs while allowing operators to focus on the critical needs of the fleet instead of focusing on routine operations.

## Voice-Over-IP

Most missions communicate with the ground stations over 24/7 conference calls using NASA Goddard's SCAMA communication network and custom voice terminals. Emergent is evaluating software to replace the hardware-based terminals in order to reduce cost and expand availability beyond the physical operations center.

## Telescience Operations

Emergent is helping to extend ground operations beyond the mission operations center by evaluating telescience tools. These tools will allow scientists to directly monitor and command their own instruments, removing the responsibility from the mission operators.

## Operations by Exception

Using new internet paging protocols and Goddard's GMSEC standard, Emergent has built a paging system for operations centers that can work out of the box and helps to reduce 24/7 staffing within the operations center, relying instead that operators will be paged with an anomaly.

