

A CASE STUDY: RAF FYLINGDALES

Solution | Space Situational Awareness

Challenge:

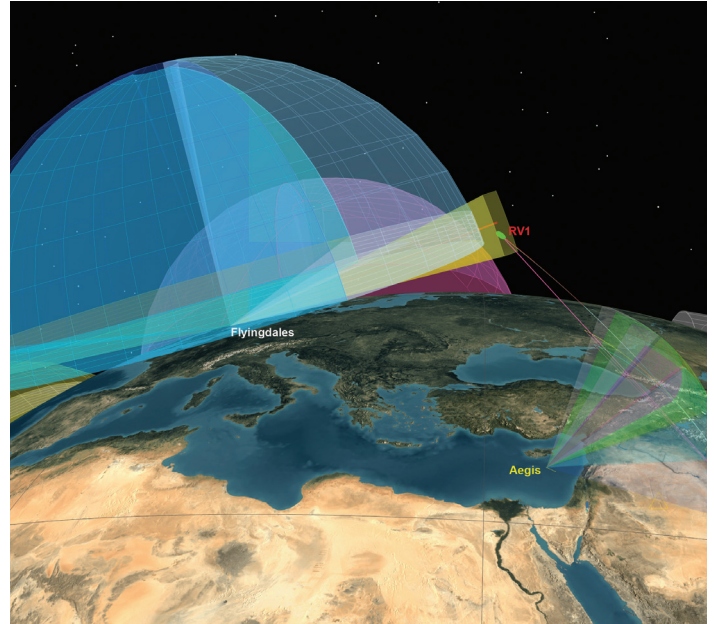
RAF Fylingdales needed to cost-effectively upgrade its 30-year-old satellite-position system to speed data retrieval, analysis, and dissemination with little transition and training time.

Solution:

Operators and engineers used AGI's commercial off-the-shelf software STK Engine to integrate AGI's physics-based geometry engine with the RAF's legacy hardware system to mitigate cost and increase productivity.

Results:

Operators now produce and disseminate results in two hours rather than two days—a 95% time reduction; training took 30 minutes on average; and the center became operational in six months at 90% less cost than previously attempted solutions.



3-D depiction of radar field-of-view for RAF Fylingdales location.

The Royal Air Force (RAF) facility—located in Fylingdales, United Kingdom (UK), and Site III of the Ballistic Missile Early Warning Center—functions as a continuous missile detection and space surveillance operation. The satellite position information interpreted by the RAF's software is distributed to the Missile Warning Center (MWC) in the UK and USSPACECOM's MWC in the United States.

The 30-year-old legacy software system used at RAF Fylingdales for analysis was outdated, requiring two days of information-gathering before disseminating results. The operators needed an efficient system capable of importing satellite position data in a legacy file format for further analysis. Because this work is time-critical, they required an easy-to-use software interface that minimized operator training time and expedited implementation.

Using AGI's STK Engine software, RAF engineers built and fielded a new system that seamlessly integrates their legacy hardware and software with AGI's commercially available, physics-based geometry engine. Additionally, STK Engine allowed them to develop an interface customized for RAF workflows. Now they output their calculations in an interactive, 3-D environment for fast, accurate discernment and then produce analytical reports for distribution. AGI technology met RAF's goals by:

- Providing a step-by-step, task-based software design. This new system produced results in two hours rather than two days, equivalent to a 95% time reduction.
- Reducing transition time between the two systems. Royal Air Force engineers were able to operate AGI's application and generate required data with less than 30 minutes of orientation and training on average.
- Cost cutting. AGI's commercial off-the-shelf software and custom integration cost a fraction of prior-attempted custom solutions.

By integrating its legacy system with AGI's analysis and visualization engine, the Royal Air Force quickly, effectively, and cost-efficiently transitioned to an updated, state-of-the-art tracking system. AGI's STK Engine met RAF needs; passed preliminary functionality tests; and enabled personnel to easily adapt to the solution.



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