

SBIR Topic Number:

AF01-092

Title:

Automated Cost and Risk Tools for Satellite Electro-optical Sensors

Contract Number:

F30602-02-C-0090

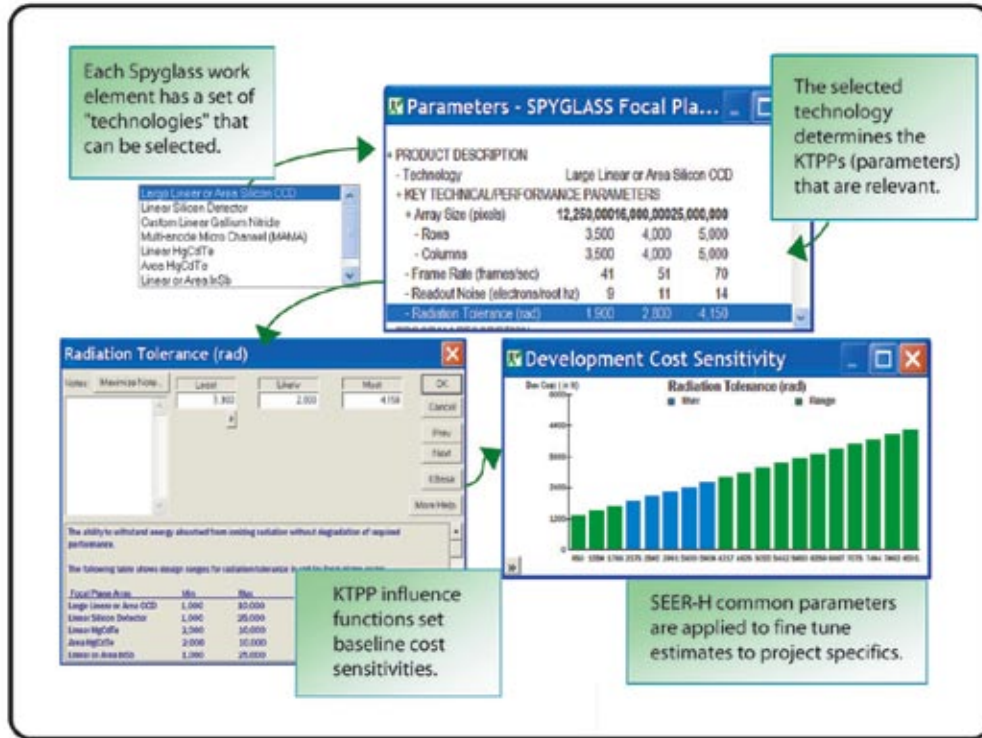
Company Name:

Galorath Incorporated,
El Segundo, CA

Technical Project Office:

AFRL Information Directorate

An example of Air Force supported SBIR technology that has been transitioned into an Air Force or other DoD system or subsystem or used by Air Force test ranges and facilities or maintenance depots.



Automated Cost and Risk Tools Developed for Satellite Electro-optical Sensors

- A method was needed to estimate production costs for expensive satellite based electro-optical sensors.
- Galorath Inc. used SBIR Phase I and Phase II contracts to develop "Spyglass", a plug-in for its existing estimating hardware.
- The SBIR sponsored product exceeded the original requirements. The product is now available for use by a number of Air Force organizations.

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Air Force Requirements

Electro-optical sensors are critical components in satellite detection systems. These sensors are used to identify a target such as a tank, missile or building from the observation point of an aircraft or satellite. While critical components, they are also extremely expensive.

Space and Missile Systems Center (AFMC/SMC) needed a methodology to estimate the production cost of satellite based electro-optical sensors. The effort was sponsored by the Space-Based Infrared Radar Systems SBIRS-Low (near earth orbit) office, but the resultant product, Spyglass, is applicable to a multitude of space programs being managed by AFMC/SMC and the Missile Defense Agency.

SBIR Technology

Galorath Inc. won Phase I and Phase II contracts to develop a plug-in for the company's existing SEER Hardware (SEER-H), a cost estimating model already being successfully marketed by Galorath Incorporated. Galorath developed a set of cost estimating relationships (CERs) for electro-optical sensors from historical sensor cost data and from interviews with subject matter experts. Use of a plug-in allowed Galorath to use the existing SEER framework in developing and incorporating Spyglass. The plug-in makes it easier for current SEER-H users to use Spyglass and use the current features of SEER-H.

Air Force Technology Payoff

Galorath exceeded the original Spyglass requirements in that Spyglass estimates both development and production costs of electro-optical sensors, and addresses the airborne environment as well as the space environment. Spyglass is now available to any Air Force agency that uses SEER-H. For example, AFMC has a site license with Galorath Incorporated for the SEER model suite. Agencies such as AFMC/SMC will be able to use Spyglass for a myriad of space programs as will Missile Defense Agency.

Company Impact

The electro-optical (EO) sensor market is a niche market with specialized requirements. Using the SBIR grant, Galorath Incorporated was able to develop a powerful estimating solution for that market, building SEER-Spyglass, a plug-in to its already successful SEER-H estimating model.

"Without the SBIR, SEER-Spyglass would still be a dream. It helped us develop an idea that we had wanted to address, but didn't necessarily have the means to do so," said Karen McRitchie, vice president of product development. She adds, "SBIR has opened the EO sensor market to us, allowing us the potential for growth and success."

During the development process, Galorath developed an Influence Function cost modeling methodology, an innovative and resourceful method of dealing with small data sets. This has proved so useful the company is now expanding it to other domains.



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