**Smart Information Flow Technologies, d/b/a SIFT**

Minneapolis, MN

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**SINCE ITS FOUNDING IN**

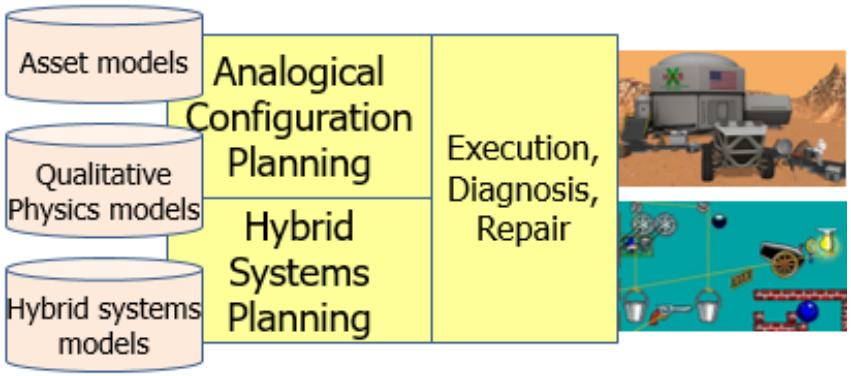
**1999**

**52 SBIR Awards**

**45 Employees**

**N/A Socioeconomic Category**

**11 Patents from SBIR/STTR**




**Solicitation:**

*Methods for Actionable Measures of Absolute Cognitive Workload*

**DARPA SBIR Sponsor**

**N16A-T002 Topic Number**

**Improved Performance Primary Innovation**

**Cost Savings Secondary Innovation**

## CPS: Creative Problem Solver

Autonomous systems are increasingly available, but have brittle intelligence and narrow applications, with no ability to operate in ways not originally "engineered in".

SIFT developed the Creative Problem Solver (CPS), an autonomous decision-making tool to intuitively and qualitatively solve real-world problems in novel ways by reusing or reconfiguring components. CPS uses analogical reasoning, configuration planning over qualitative physics, hybrid systems planning, and active experimentation. Advantages to CPS includes avoiding over-precise models and resulting instability of existing autonomous planning solutions.

### IMPACT TO THE MISSION

CPS will enable broader uses and more robust operations, with autonomous systems operating with imprecise models, fighting through failure, and intelligently reconfiguring themselves and their assets to pursue mission goals.

### BEYOND PHASE II

SIFT's CPS ideas and implementation are being used in DARPA's SAIL-ON program, funded amount of $2.4M. In addition, CPS group modeling ideas have transitioned into additional DARPA and Army SBIR efforts. SIFT's sales from beginning to the end of Phase II have increased by $4M.

This research was developed with funding from the Defense Advanced Research Projects Agency (DARPA). The views, opinions and/or findings expressed are those of the author(s) and should not be interpreted as representing the official views or policies of the Department of Defense or the U.S. Government." (Approved for Public Release. Distribution Unlimited 6/23/21 )