



ASR&D Corporation: Passive wireless SAW sensor-tags with enhanced range

BASIC INFORMATION

Project Classification:

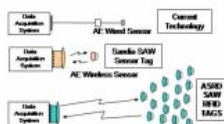
Sponsoring CANEUS Work

Program Board:

Tracking Number: ASRD R1012

POC Email: jhines@asrdcorp.com

POC Phone: 410-544-4664



PROJECT DESCRIPTION

Problem Statement: Elimination of wiring harnesses for sensors used in:

Structural health monitoring - exploration vehicles

Diagnosis of airframe aging and damage

Distributed wireless sensor monitoring (T, P, etc.)

Ability to utilize existing flight qualified sensors wirelessly with qualification of a single interface

Approach/Solution: SAW sensor-RFID tag devices:

Passive wireless link to external sensors

Work with a wide variety of sensors

Unique device identification code

High data density (> 32 bits)

Link to AE sensors - structural health monitoring

High processing gain and S/N

Range 10x that of conventional SAW RFID tags

Required Technologies/Facilities: ASR&D SAW tag and electronics prototyping

Need: Antenna development

Application engineering/system integration

Affected Applications:

Required Stake Holders/Experts: End users interested in eliminating wiring

Application engineering

BACKGROUND

Milestone	TRL	Risk	Measure of Success	TRL Date

Deliverables: Current Phase I NASA SBOR program:

Demonstrate sensor-RFID tag technical feasibility

Analyze external sensors

Evaluate impedance transformation techniques

Design, fabricate and test SAW sensor-RFID tags

Demonstrate wired and wireless operation

Evaluate performance and range

Follow-on work - TBD

Outreach/Organizational Interfaces:

Academic Contribution/Work Force Needs:

Business Development and Regulatory Compliance:

PROJECT EXECUTION

ROM Cost

TOTAL
0 0 0 0 0 0

Team Members and Roles:

Potential Funding Sources:

Business Case:

Business Impact: