NASA/MARSHALL SPACE FLIGHT CENTER

JOINT COUNSELING SESSION

Insight International Technology (I2T)

December 2, 2020

Background

COMPANY NAME:	Insight International Technology (I2T)	**ADDRESS:**	800 Clinton Ave. E Huntsville, AL 35801
OWNER:	Curtis Strange	**CONTACT NAME:**	Andrew Choat
EMAIL:	choata@iit.com	**YEARS IN BUSINESS:**	7
CAGE CODE:	6ZSW4	**DUNS NUMBER:**	079140656
WEB SITE:	iit.com	**NAICS CODES:**	541330, 423610, 541614, 541690, 541712, 541715
CERTIFICATIONS (e.g., ISO 9001, AS 9100, etc.):			

Business Size & Classifications

EMPLOYEES (range): 10-50	**(0-10, 10-50, 50-100, 100-500, over 500)**
AVERAGE SALES (range):$1-8M	**(<$1M, $1-8M, $8-16.5M, $16.5-$30M, $30-41.5M, over $41.5M)**

CLASSIFICATIONS (select from list below):	Yes/No
SMALL BUSINESS	Yes
SMALL DISADVANTAGED BUSINESS	No
NATIVE AMERICAN-OWNED	No
ALASKAN NATIVE CORPORATION	No
WOMEN OWNED	No
ECONOMICALLY DISADVANTAGED WOMEN OWNED	No
VETERAN-OWNED	Yes
SERVICE DISABLED VETERAN OWNED	Yes
HUBZONE CERTIFIED	No
8(A) CERTIFIED	No
8(A) EXPIRATION DATE (if applicable)	

*Based around NAICS 541330

Primary Capabilities

Expeditionary Power Development/Optimization

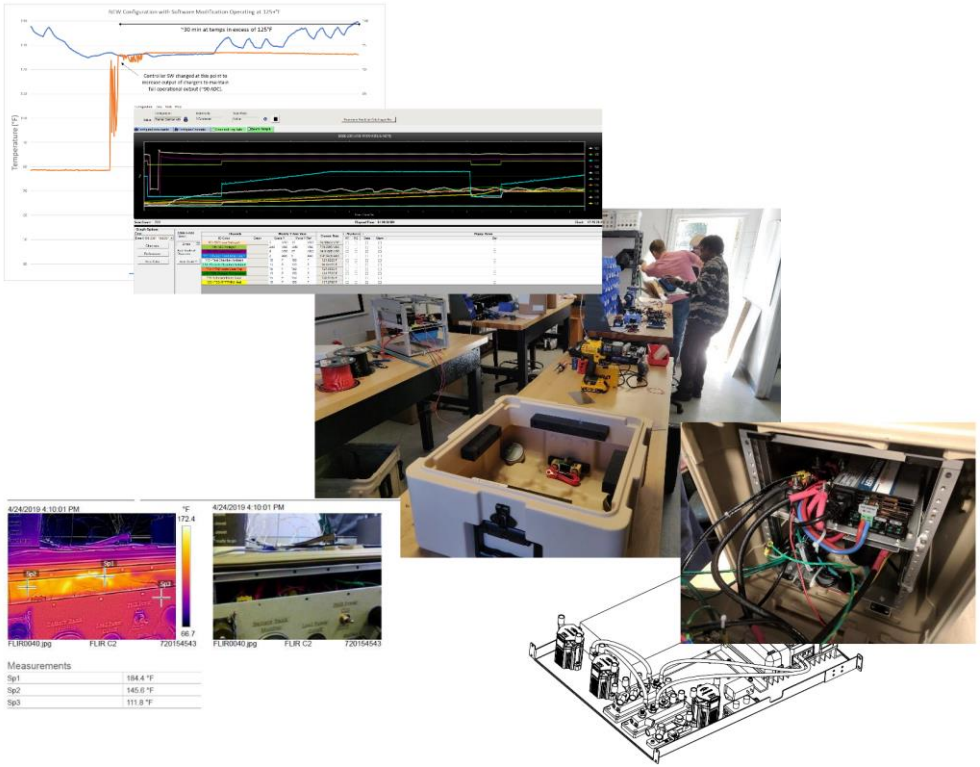
- Power Assessment
- Tactical Microgrid Design
- Hybrid System Design Optimization

Systems Engineering, Integration, and Prototyping

- Requirements Development/Management
- System Design/Analysis
- Test Planning/Execution/Support/Reporting
- System Documentation
- Low-rate Production

Program Support

- Acquisition
- Business Case Analysis
- Market Surveys
- Sustainment Planning
- Risk Analysis



2 Facility Locations

- Headquarters – Huntsville, AL - Prototyping Lab and Thermal/Electrical Test Facilities; Secret Facility Clearance
- Annex Prototyping and Manufacturing Lab – Redstone Arsenal - Outdoor Testing Area; PM Terrestrial Sensors testing area

Current and Recent Contracts/Performance (< 5 years)

Security Surveillance System (SSS)

Leveraging the Army's hybrid power architecture, I2T designed and integrated a hybrid power sub-system for an elevated security and surveillance system. The system meets stringent environmental field standards, soldier carry restraints, and modularity requirements. The scalable, modular, and configurable system is rapidly deployable and lightweight. Because our power sub-system utilizes the Army's hybrid power architecture, it also provides standardized configurations and minimizes requirements for logistical support.

3kW Generator Remote Start Kit

The MEP-831A Tactical Quiet Generator (TQG) Remote Start Kit (RSK) is a U.S. Army Expeditionary Energy & Sustainment Systems (E2S2) system developed by I2T to augment the MEP-831A generator. The RSK enables the MEP-831A to be started remotely and automatically to support hybrid-power system operations. The RSK provides next-level functionality by monitoring and reporting generator health and status, smart starting to maintain generator health and readiness, and is easily integrated into fielded generators.

Terminal High Altitude Area Defense (THAAD)

I2T redesigned the launcher power sub-system while addressing reliability, maintainability, and fuel use issues. It reduced mean time between failure by 67%.

Power Management And Distribution Systems (PMADS)

I2T designed a hybrid power system from the ground up for a rocket launch platform. The system starts automatically as power thresholds are met and can hibernate for long periods of time awaiting launch orders. It leverages cutting-edge power storage, rapid recharge, and innovative thermal management functions to achieve unique and valuable performance.

Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E))

I2T designed a hybrid power system from the ground up for an elevated sensor system. This system complements the current 1kW, 3kW, and 5kW generators. The smart power system meets stringent environmental field standards, soldier carry restraints, and modularity requirements.

NASA Value - Quad Chart

Problem:

Expeditionary and remote operations require power that is:

- Scalable: The system should be able to support a dynamic load
- Flexible: The system should be able to receive a variety of power sources and output specific power type(s)
- Reliable: System should provide clean, consistent power in challenging environments
- Cost-effective: The benefit of implementing the power system must be financially sound

Company Solution:

- I2T uses a broad framework of power design to incorporate renewable energy and advanced power storage to support efficient generators and increase reliability
- Common architecture across systems (SSS, PMADS, G-BOSS(E), THAAD Hybrid Power System) demonstrate a scalable, flexible solution
- Rapid prototyping and integration enables a high-cadence schedule of design, build, test, deliver

Value:

- Renewable, hybrid energy sources improve overall system availability and reliability while easing logistical burdens
- Modern battery chemistries, PV modules, and efficient power converters enable continued power system innovation
- Common architecture, power/data interfaces, and an integrated data bus reduces complexity for operator installation, maintenance, and diagnosis

Status of Solution:

- I2T's hybrid power solutions are supporting DoD Programs of Record. Systems are meeting and exceeding environmental and operational requirements
- I2T's experience developing power systems for challenging and remote environments poises us to develop and innovate to support NASA missions

NASA Value

Reducing Costs but not Quality

A hybrid power system provides less dependence on traditional, fuel-based power generation. I2T has provided solutions that significantly reduce generator runtime while increasing the reliability of the supplied power. With a generator no longer the main power source, a hybrid power system supplies power requiring far less maintenance and downtime.

Flexible Integration

I2T Hybrid Power Systems are built with flexibility of inputs and loads in mind. While intended for specific input power, I2T designs solutions to handle changing input voltage levels and types. The same approach is executed for outputs, finding solutions for different load requirements, regardless if warranted by the current requirement.

Reliable Power in Challenging Environments

I2T Hybrid Power Systems meet the highest levels of Ingress Protection ratings, resulting in a power system capable of providing quality power in harsh military environments.

Modular and Reliable

The architecture of I2T-designed Hybrid Power Systems is built towards a system that is mobile and rapidly deployable. Once deployed, the system is intended to remain operational and requires minimal maintenance indefinitely. I2T Hybrid Power Systems are resilient and robust.

An Interest Beyond Defense

I2T has pursued membership with the Lunar Surface Innovation Consortium and intends to partner with the Surface Power focus group with the desire to contribute to the success of their mission.

Awards/Notable Accomplishments

- Provided input to the Army for the standard Hybrid Power Architecture
  - Process standardizes power systems throughout the Army
- Developed the first intelligent Remote Start Kit for the Army 3kW Tactical Quiet Generator (TQG)
- Developed the Security Surveillance System Hybrid Power System
  - Program of Record and first Army owned hybrid system
- Founding member of the CCDC Energy Lab
  - Supported the Government in developing novel energy solutions for various platforms

Principle Point(s) of Contact

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