



JANUARY 2020 | NAMC MEMBER SPOTLIGHT

ARCHITECTURE, SECURITY & MODULARITY
AUTONOMY
EXTERNAL SYSTEMS
MOBILITY
MODELING & SIMULATION
PETROLEUM & WATER SYSTEMS
PLATFORMS
POWERTRAIN
SURVIVABILITY

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ARCHITECTURE, SECURITY & MODULARITY

REAL-TIME INNOVATIONS, INC. | Sunnyvale, CA

POC: Chip Downing | Chip@rti.com | www.rti.com |     Visit our blog



What is something unique about your product or service?

Our software allows hundreds of thousands of edge devices or applications to share data peer to peer in millisecond/microsecond real-time over any communications media reliably, securely, and efficiently without any broker, daemon, central server or other single point of failure. There is nothing else like it.

What do you consider your organization's differentiator?

Our core competency is building trust. Our customers typically are staking folks' life and limb on the performance of our software. We have to deliver on what we commit to our customers, because we have to live with the results we enable..

What are you most proud of?

Our bright, caring and driven people. They make our software accomplish everything from launching rockets into space to controlling massive hydroelectric dams to missile defense to surgical robots that can work on a beating heart.

Capabilities:



AUTONOMY



NEAR EARTH AUTONOMY | Pittsburgh, PA

POC: Barry Rabkin | barry.rabkin@nearearth.aero | www.nearearth.aero |   

What are your organizational goals?

Develop and satisfy demands for aerial mobility and inspection within commercial and military markets by demonstrating platform agnostic autonomy packages that can be seamlessly integrated into various UAVs. In 2017, Near Earth developed autonomy for the world's first autonomous full-size helicopter. Today, we work to minimize and scale our technology to enable safe unmanned flight operations beyond visual line-of-sight and in complex, low altitude, GPS-denied environments for a wide range of aircraft and applications.

What is something unique about your product or service?

Complex, low-altitude environments require unmanned aircraft systems (sUAS) to operate beyond a visual line of sight therefore needing small, low-cost sensing and computing packages for safe guidance and navigation. Near Earth utilizes advances in hardware systems to develop a payload that guides such UAVs in autonomous flight in low-altitude environments. The technologies are modular therefore interchangeable by electrical engineering which enables a variety of air vehicles to fly safely. Vehicles equipped with our system can choose safe landing points on the ground free from obstructions, and avoid unanticipated obstacles during cruise and descent, even if GPS is degraded or unavailable. Often troops need additional supplies after deployment, such as medicine, food, generators, or munitions. This technology eliminates the burden of carrying excessive supplies and is suitable for a variety of missions such as Humanitarian Assistance and Disaster Relief (HADR) operations. Autonomous technologies equip vehicles to mitigate contingencies safely while flying beyond a visual line of sight. It can enable a wide variety of missions including urban air mobility, package delivery, and transport to and from ships, contributing to economic advancements.

How did your organization originate?

In 2006 Near Earth performed the world's first demonstration of a small, autonomous helicopter, capable of flying at relatively high speeds at a low altitude among obstacles such as wires, buildings, and trees. Program sponsor, DARPA, wanted to help Future Combat Systems (FCS) develop surveillance capabilities for flying at low altitudes. The 10-foot UAV had a very sophisticated positioning system and laser that weighed 40lbs complemented by a 1 gigahertz processor on a single board. A final demonstration was held in Fort Benning, Georgia, yet testing took place in Phoenix, Arizona where about 1,400 test sorties were performed in the field, birthing the phrase, "Fly Early, Fly Often", which continuously serves as a mantra for Near Earth. Testing continued, eventually resulting in a government sponsored program named ACCUS, or Autonomous Aerial Cargo Utility System, which was the first autonomous straight in, standardized fast approach landing on an unknown territory in a full-scale helicopter. This program awarded Near Earth the ability to establish themselves as a recognizable company and has been growing in size since.

Capabilities:

Collision Avoidance

Lidar Sensing

Obstacle Detection

Mission Planning

Onboarding Computing

Modular

Mapping

Navigation

Landing Zone Evaluation

Payload Components

Contact Inspections

EXTERNAL SYSTEMS



POLARIS SENSOR TECHNOLOGIES, INC. | Huntsville, AL

POC: Amy Kransteuber | amy.kransteuber@polarissensor.com | www.PolarisSensor.com

What is something unique about your product or service?

Polaris specializes in electro-optical sensor systems. A unique capability of our sensors is their ability to sense polarization in addition to visible and infrared imagery. Polarization sensing adds another mode of detection and offers additional information about a scene unattainable by traditional sensors. Polaris analyzes both the standard and polarization imagery with our custom algorithms providing enhanced target detection, tracking and identification.

What do you want other NAMC Members to know about you?

Polaris designs and develops custom sensor systems for each of our customers' applications. We welcome the opportunity to team with system integrators or with primes to provide sensor systems to meet their specific requirements. We provide services from initial concept design through prototype creation and evaluation.

What are you most proud of?

One of Polaris' most noteworthy achievements is its Pyxis system. The Pyxis is the industry's first camera to combine the power of polarization with standard long-wave thermal imaging at a fraction of the size, weight, power and cost of existing polarization imagers. Long-wave infrared thermal imagers are used in a variety of commercial and military applications, but they often fall short in situations involving high clutter and low thermal contrast. This is when Pyxis prevails. Its additional sensing modality provides improved detection, recognition and identification.

Capabilities:

Electronics

Autonomous Navigation & Controls

Sensors

Modeling & Simulation

System Design & Engineering Services

Human Machine Teaming

Vehicle & Platform System Integration

Validation & Verification

Perception & Situational Awareness

MOBILITY



AMERICAN WARRIOR ENTERPRISES, INC. | Sioux Falls, SD

POC: Terry Graves | terry@americanwarriorenterprises.com | www.americanwarriorenterprises.com

What are your organizational goals?

In 2020, our goal is to launch our government contract practice and for us to make strategic collaborations with NAMC companies that complement our products.

Which Government Customer would you like to pitch your organization to?

Department of Defense.

What are your teaming goals within NAMC?

We are metal fabrication company with extremely flexible capabilities meaning, we can do "just in time" manufacturing. As a SDVOSB with our capabilities, we'd like to partner with NAMC companies that share our vision.

Capabilities:

System Design and Engineering Services

Metal Fabrication

Suspensions

Manipulation

Sensors

Vehicle & Platform Integration

Controllers

MODELING & SIMULATION



CZERO, INC. | Fort Collins, CO

POC: Lyle Shuey | lyle.shuey@czero-solutions.com | www.czero-solutions.com

What are your organizational goals?

Czero is committed to enabling pioneering clients around the world solve energy transformation challenges through innovation. Working across industries, Czero takes ideas and designs for energy conversion, use and storage technologies and makes them more efficient, more effective, longer lasting, simpler, lower cost, more easily manufactured, less polluting and safer. This is the True North of Czero's vision..

What do you consider your organization's differentiator?

Czero has a strong combination of skills and experience that enables us to look at a problem with depth and insight to solve very complex problems. We bring breadth and depth diversity and can apply the right capability to deliver exceptional results.

What are your teaming goals within NAMC?

Czero seeks to enable NAMC partners to deliver exceptional capable solutions to the US Military by providing engineering skills and experience to rapidly expand team capabilities, achieving much more as a team than on their own.

Capabilities:

Dynamic Modeling

MATLAB/Simulink

Architecture Trade Studies

Multiphysics Simulation

Magnetic Modeling

Thermodynamic Analysis

GT Suite, Machine Learning

Computational Fluid Dynamics

Algorithms

Powertrain Systems

Finite Element Analysis

Data Reduction and Analysis

System Analysis

PETROLEUM AND WATER SYSTEMS



J.G.B. ENTERPRISES, INC. | Liverpool, NY

POC: Kenneth E. Dawe | kdawe@jgbhose.com | militarysupplier.com |   

What is something unique about your product or service?

JGB Enterprises, Inc. is a leading military and industrial specialty products and services business operating throughout the USA and abroad. With over 100,000 NSNs and over 1,600 manufacturers represented in our extensive database, military agencies are finding it extremely easy to find history on sought after products.

What do you consider your organization's differentiator?

JGB's has a long history of providing engineering, development, production, assembly integration and testing of products ranging from traditional hose assemblies and parts to electromechanical and hydraulic specialty system requirements.

What capability gaps are you able to fill and which industry colleagues would you like to know about them?

Over 5,000 military contracts pass through our doors annually from mil-spec packaging requirements, to engineering support, to quality compliance. In addition to contract management and fulfillment, we specialize in project kitting, sourcing, manufacturing and acquiring kitting components, assembling those components, packing them and shipping them out the door on time are part of the reason JGB Enterprises, Inc. is your one stop shop for all kitting needs.

Capabilities:      

PLATFORMS



LOC PERFORMANCE PRODUCTS, INC. | Plymouth, MI

POC: Anthony Militello | amilitello@locper.com | locperformance.com/ |  

What is something unique about your product or service?

Loc is a diversified full service provider of complex mechanical systems, fabricated structures and armor products for both commercial and defense market segments.

What do you consider your organization's differentiator?

Loc offers its customers Best Value.

What are you most proud of?

Loc provides content to nearly two dozen military platforms that are supporting our warfighters.

Capabilities:

     
 

POWERTRAIN



MAHLE INDUSTRIAL THERMAL SYSTEMS AMERICA | Belmont, MI

POC: Ken Rossol | ken.rossol@us.mahle.com | us.mahle.com | 

What do you consider your organization's differentiator?

MAHLE Industrial focuses on engine (power pack) cooling. MAHLE is the industry leader in engine cooling. MAHLE can help design, develop, and manufacture all aspects of engine cooling. Our proprietary CAD/Modeling software which has been developed over decades and uses real world data to help develop a system or component that will work as designed.

Which Government Customer would you like to pitch your organization to?

MAHLE would like to pitch our capabilities to TEXTRON (Howe & Howe), GDLS RCV, HDT, QinetiQ, OSHKOSH, and any of the other RCV manufacturers.

What do you want other NAMC Members to know about you?

MAHLE Industrial has approx. 80% of market share in Europe and overseas. Our expertise is now a focus for the US market.

Capabilities:

Heat Exchangers

Engine Cooling

Thermal Management

Powertrain

Charge Air Coolers

Radiators

SURVIVABILITY



FLIR SYSTEMS, INC. | Grosse Pointe Woods, MI

POC: Mark Rupersburg | mark.rupersburg@FLIR.com | www.FLIR.com

What are your organizational goals?

At FLIR, we have a simple but ambitious mission: to develop market-leading thermal and sensing technologies which enhance everyday life. From saving energy, to saving lives FLIR is making a real difference in our world.

What is something unique about your product or service?

FLIR had 63% of the uncooled LWIR market in 2018. Technology leadership provides best overall value and lowest supply chain risk.

What do you consider your organization's differentiator?

FLIR leverages its capabilities in the Industrial and Commercial markets to create Government and Defense products at commercial scale. Additionally, FLIR invests 9.5% of Government and Defense sales into R&D.

Capabilities:

Surveillance

AiDTR

ADAS

Infrared

Thermal

Sights

Camera

AI

ATT

Autonomy

SWIR

MWIR

306 SA

LWIR

Radar

Mission Package Integration