



APRIL 2020 | NAMC MEMBER SPOTLIGHT

AUTONOMY	<u>Acellent Technologies, Inc.</u> <u>Numurus, LLC.</u>
EXTERNAL SYSTEMS	<u>The City College of New York</u>
MOBILITY	<u>API Heat Transfer</u>
MODELING & SIMULATION	<u>Friedman Research Corporation</u>
POWERTRAIN	<u>W.L. Gore & Associates, Inc.</u>
SURVIVABILITY	<u>Physical Optics Corporation</u> <u>3-Dimensional Services Group</u>
TEST & EVALUATION	<u>Solute, Inc.</u>

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Note:

NAMC will not alter submitted content.
Please make sure all information is correct and signed off on by your organization.



AUTONOMY



ACELLENT TECHNOLOGIES, INC. | Sunnyvale, CA

POC: Amrita Kumar | akumar@acellent.com | www.acellent.com | 

What is something unique about your product or service?

Acellent designs, develops and manufactures SMART Layer technologies based Structural Health Monitoring (SHM) systems for a number of Industrial IOT markets including aerospace, pipeline, mining, heavy equipment. The company's products aim at providing real-time and historical sensor based data on the integrity of any structural platform:

- Increasing availability and enhancing productivity of operation of in-service structures.
- Reducing maintenance and life-cycle costs through easy access to the condition of structures.
- Improving safety and reliability of the structures and extending service life through continued access to knowledge about the integrity of the structure.

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

Global leader in providing Structural Health Monitoring Systems for monitoring and management of structural integrity.

What do you consider your organization's differentiator?

Acellent is a world-wide leader in the design, development, and integration of technologies for advanced structural diagnostic systems. Acellent products and systems are currently considered a "Gold Standard" for SHM. The SHM systems can continuously monitor the health of critical structures without the need for costly disassembly and reassembly. Additionally they can help provide lower false alarms leading to enhanced savings due to false removals of components. Inspection can be performed in minutes using lightweight hardware connected to the sensors.

Capabilities: Acellent provides complete SHM solutions to our customers. This includes an easy to install flexible miniature sensor network, hardware for data acquisition as well as intelligent software to provide information on the damage location and size. The company has several different hardware platforms and a suite of software packages that can be used for different SHM applications. Some of the applications where Acellent's technology can be applied are -

- Composite damage detection (delamination, disbonds, impacts etc.)
- Hot-spot monitoring to detect damages in localized regions of a structure.
- Crack Detection in metal structures and components and their subsequent propagation.
- Corrosion Monitoring in metal structures and components.
- Impact Monitoring structural impact events in real-time.
- State Sensing - monitoring the various states of a structure such as temperature and strain, in addition to monitoring for damage and impact on the structure.

Capabilities:

Materials

Safety & Testing

Sensors

Structural Health Monitoring

Survivability



AUTONOMY



NUMURUS, LLC | Seattle, WA

POC: Jason Seawall | jseawall@numurus.com | www.numurus.com | [in](#)

What are your organizational goals?

Provide an affordable Smart IoT middleware solution to sensor and robotic developers and operators.

What is something unique about your product or service?

Our NEPI Smart IoT platform is both CUI compliant and offered as a license or subscription based solutions.

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

NEPI provides a scalable Edge-to-Cloud interface which is difficult and expensive for many companies to develop and maintain in-house.

Capabilities:

- Affordable Smart IoT Middleware Solution
- Autonomous Navigation & Control
- Cognitive & Collaborative Behaviors
- Communications
- Controllers
- Electronics
- Human Machine Teaming
- Open Architecture & Standards Development
- Payloads Integration
- Perception & Situational Awareness
- Sensors
- System Design & Engineering Services
- Vehicle & Platform System Integration



EXTERNAL SYSTEMS



THE CITY COLLEGE OF NEW YORK | New York, NY

POC: Alan Shih | ashih@ccny.cuny.edu | <https://www.ccny.cuny.edu/research/gsp> | rfcuny.org/RFWebsite/ |

What is something unique about your product or service?

We have ballistic and blast and other dynamic impact testing capabilities that are difficult to replicate at other institutions. Our shock tube used for blast testing simulation is the most powerful in American universities. We are also expert in manufacturing, dynamic testing and analysis of adhesive joints. We have developed a technique to embed sensors such as PZTs in layered composites manufactured via compression molding.

What do you consider your organization's differentiator?

CCNY is a Minority Serving Institution with a diverse population of students and faculty. We have built a first class research and development program with limited resources. We have access to a great pool of student and faculty talent and other facilities that we can draw on for our research.

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

The bulk of our expertise is relevant to DOD agencies, especially the Army (GVSC, ARL, etc.). Our work has also relevance to NASA.

Capabilities:

Aerodynamic Analysis	Ballistic & Blast Testing	Composite Manufacturing	Energy	Finite Element and Numerical Analysis	
Joint Technology	Materials	Mobility	Modeling & Simulation	Payloads Integration	Safety & Testing
Self-Sensing Damage Detection	Sensors	Survivability	System Design & Engineering Services	Validation & Verification	
Vehicle & Platform System Integration					



MOBILITY



API HEAT TRANSFER, INC | Buffalo, NY

POC: Roy C. Bierwirth, COL, USA (Ret.) | roy.bierwirth@apiheattransfer.com | www.apiheattransfer.com | [in](#)

What is something unique about your product or service?

We focus our engineering expertise on the markets you serve. By understanding your customer applications, we're able to offer a broad spectrum of components and complete engine cooling systems designed to fit the needs of engine markets across the world – whether mobile or stationary, on land or in the water, in plant or underground.

What do you consider your organization's differentiator?

Our air cooled designs employ the latest aluminum and copper-brass technologies in an array of fin configurations to deliver the most efficient heat exchange cores in the industry. Our coolers utilize CAB and vacuum brazing, cupro braze, mechanical-bond, and soldered processes to provide the strongest materials for your application.

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

All defense Primes working on modernizing existing platforms, replacing obsolete platforms, and developing advanced capabilities such as AMPV, CATV, MPF, and NGCV (RCV & DMFV). Legacy products from BAE, GDLS, AM General; Oshkosh; Textron; Rheinmetall; Mack Defense; Navistar Defense

Capabilities:

Change Air Coolers

Engine Cooling

Mobility

Plate Heat Exchangers

Powertrain

Remote Cooling Kits

Radiators

Shell & Tube Heat Exchangers



MODELING & SIMULATION



FRIEDMAN RESEARCH CORPORATION | Austin, Tx

POC: Keith Friedman | kfriedman@friedmanresearch.com | www.friedmanresearch.com |

What do you consider your organization's differentiator?

Our modeling and simulation subject matter experts have extensive experience in both the development and use of commercial simulation software provides rapid turnaround times for our partners. We have close ties with national laboratories and private businesses that are on the cutting edge of finite element modeling and numerical simulation development allowing us to stay ahead of the curve. With our virtual modeling and simulation expertise, we have supported a wide range of private, government, and military entities in all manner of research, product design, development, demonstration and evaluation projects. Due to our extensive work in this area we have compiled an internal library of validated material models for metals, composites, concretes, and soils the allow us to quickly produce accurate virtual models of any scenario.

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

We offer modeling and simulation services that can support any prime contractor. We support ground-up development of entire vehicle systems with our rapid prototyping and virtual proving ground capabilities to help the prime contractor quickly move forward with concept designs. Our services provide predictive analytics and machine learning modeling tools that can be used to pinpoint parts and systems prone to failure. Our building block modeling approach can benefit customers that require light weighting, product performance enhancements, or other forms of optimization that will give their product the advantage over the competition. Our virtual testing services are available to any customer looking to reduce the time and cost associated with physical testing.

What are your teaming goals within NAMC?

We aim to support our project partners by applying our expertise in vehicle design, occupant protection, physical testing, and virtual testing to meet their needs. FRC understands the importance of establishing a partnership built on trust and delivery of promised outcomes. We seek continued partnership with our project teams beyond the initial program and invite collaboration in all areas of research and development.

Capabilities:

Blast	Composites	Crashworthiness	Fatigue	Finite Element Simulation	Injury Biomechanics	Occupant Protection
Optimization	Predictive Analytics	Vibration	Virtual Prototyping	Virtual Proving Ground	Virtual Testing	



POWERTRAIN

W.L. GORE & ASSOCIATES, INC. | Newark, NJ

POC: Gregory Powers | gpowers@wlgore.com | <https://www.gore.com/> |

What is something unique about your product or service?

Gore is a materials science company that delivers high performance solutions for extreme environments. Primary focus is on data and power connectivity, including high temperature motor/generator wire for power generation.

What do you consider your organization's differentiator?

Gore works with a variety of materials, but specializes in engineering of expanded PTFE, which is an ideal dielectric and extremely resistant to harsh environments. The material can also be used in gaskets, seals, protective films, low coefficient of friction seals, filters, vents, etc.

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

Gore's products are highly differentiated in quality, longevity and high performance. We excel in high voltage wire, but also in high data rate connectivity (ethernet, HDMI, USB, fiber optics), and utilitarian databuses like CANbus. We are now producing unique motor/generator wire with insulation that is extraordinarily environmentally resistant, thin and high temperature, allowing for smaller generators and motors that can run hotter and output more power, longer.

Capabilities:

Autonomous Navigation & Control	Communications	Connectivity	Electronics	Energy	Fuels & Lubricants
High Temperature Motor/Generator Wire	High Voltage Power Distribution	Materials	Mobility		
Open Architecture & Standards Development	Payloads Integration	Perception & Situational Awareness	Powertrain		
Sensors	Survivability	Vehicle & Platform System Integration			



SURVIVABILITY

PHYSICAL OPTICS CORPORATION | Torrance, CA



POC: Scott Fitzgerald | sfitzgerald@poc.com | <http://www.POC.com> | 

What are your organizational goals?

To provide innovation technology solutions that benefit the war fighter.

What is something unique about your product or service?

High value technology at a competitive price.

What do you consider your organization's differentiator?

Unique and efficient problem solver to meet the mission need.

Capabilities:

Communications

Data Storage

Electronic Warfare

Encryption

Electronics

Life Cycle Management

Materials

Mission Computing

RFI Interface Mitigation

Sensors

Survivability

System Design & Engineering Services

Vehicle Platform System Integration



SURVIVABILITY

3-Dimensional Services Group
PROTOTYPE. PRODUCTION. PROVEN.

3-DIMENSIONAL SERVICES GROUP | Rochester Hills, MI

POC: Daniel Smith | dsmith@3dimensional.com | www.3dimensional.com | 

What is something unique about your product or service?

The 3-Dimensional Services Group is the most capable and agile low volume manufacturer in the world

What do you consider your organization's differentiator?

The scope and scale of our manufacturing capabilities along with tremendous our technical experience is what differentiates us.

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

We want NAMC members to know that we can assist with nearly all of their manufacturing requirements. From advanced high strength steel stampings to plastic injection molding - we do it all!

Capabilities:

Castings	Laser Cutting	Machining	Manufacturing	Plastic Injection Molding	Stamping
Survivability	Weld Assemblies				



TESTING & EVALUATION



SOLUTE, INC. | San Diego, CA

POC: Kim Wiedemeier | bd@solute.us | solute.us | [in](#)

What are your organizational goals?

Leader in DevSecOps.

What is something unique about your product or service?

SOLUTE owns UAV America. We make autonomous UAVs with 100% of the critical components made in U.S..

How did your organization originate?

A single owner started the company.

Capabilities:

Autonomous Navigation & Controls	Communications	DevSecOps	Electronics	Human Machine Teaming	Mobility
Networking	Networks	Open Architecture & Standards Development		Payloads Integration	
Perception & Situational Awareness	Software	Stamping	Systems Engineering	Vehicle & Platform System Integration	