



Utah's Advanced Materials Industry

Brent Strong
Chief Scientist
UAMMI

uammi.org

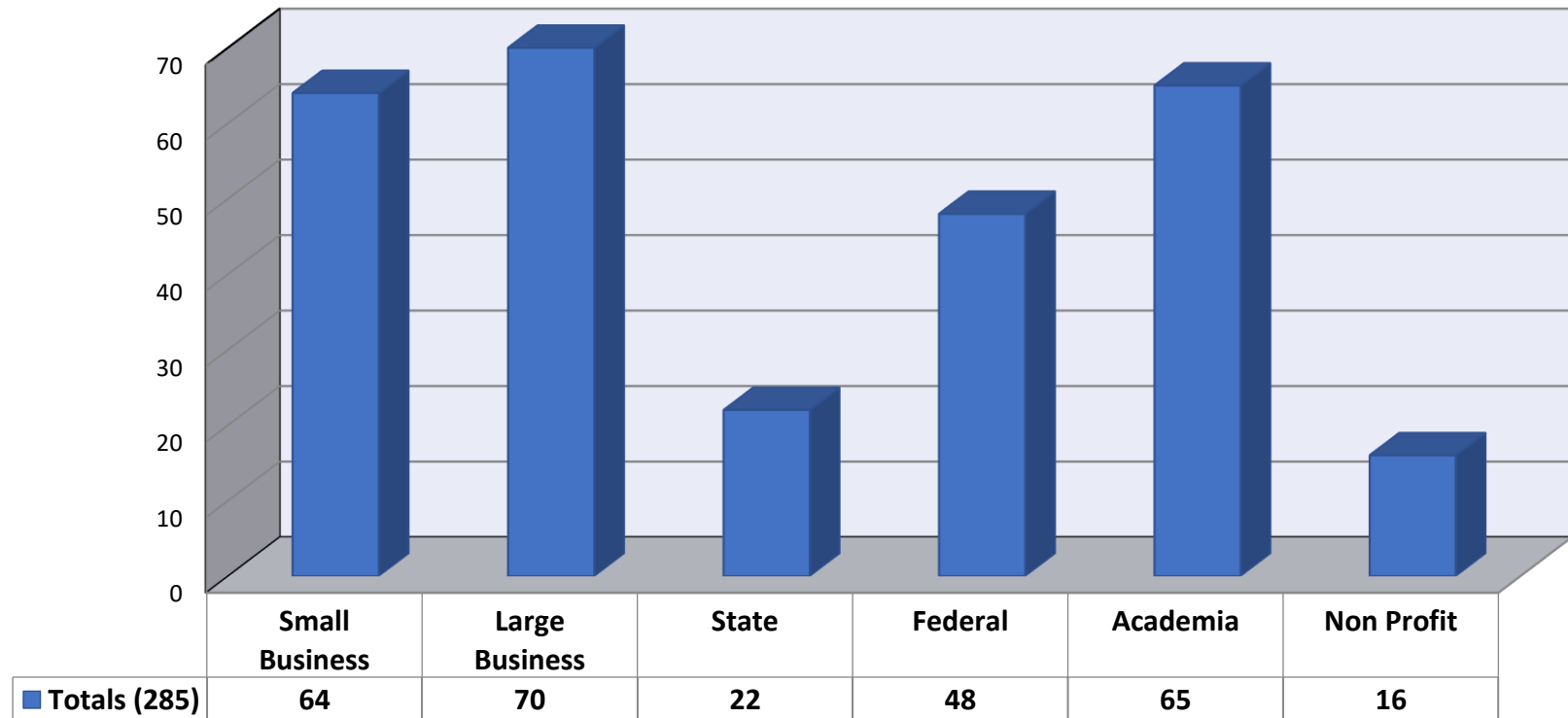
Utah's Advanced Materials Industry

- Advanced materials are essential to some of Utah's most important economic clusters
 - Aerospace/Defense—Aircraft, Missiles, Spacecraft
 - Outdoor Products—Archery, Skis, Snowboards, Bicycles, Snowshoes
 - Medical Devices—Prosthetics, Implants, Equipment
- Carbon Composites is largest sector, also fiberglass, ceramics, titanium, and other non-ferrous metals
- Utah has a worldwide reputation in carbon composites development
 - Processes developed in Utah include filament winding, automatic tape laying, and fiber placement

UAMMI Origins—How to support the Advanced Materials sector?

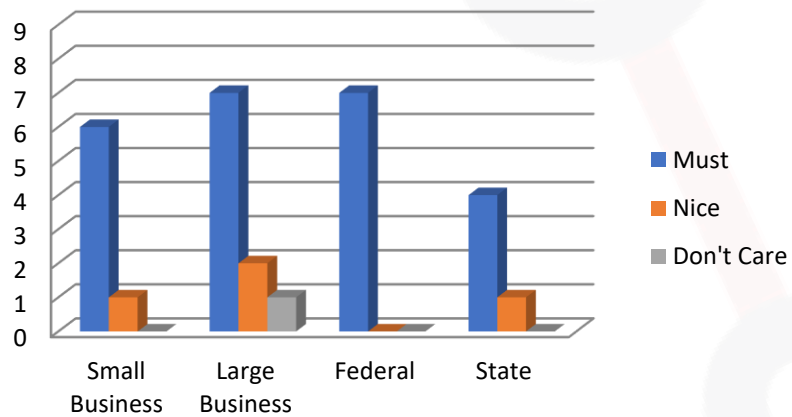
- Governor's Office survey of Advanced Materials companies
- Survey

UAMMI Interviews Customer Segments

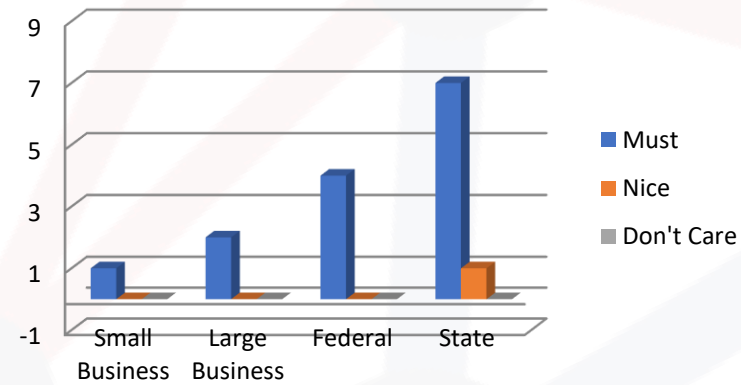


What We Learned

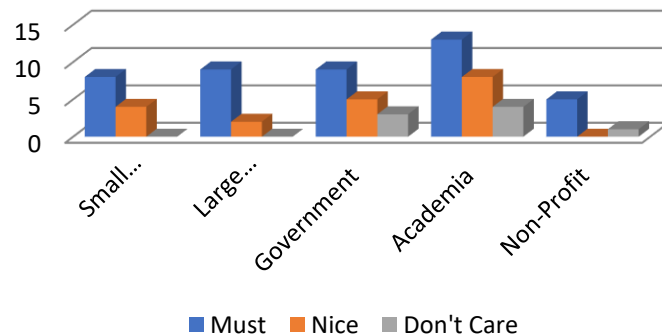
Supply Chain/Ecosystem Mapping



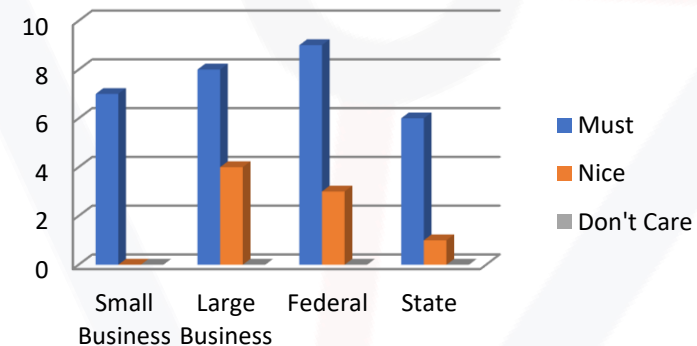
Grant Funding Integrator



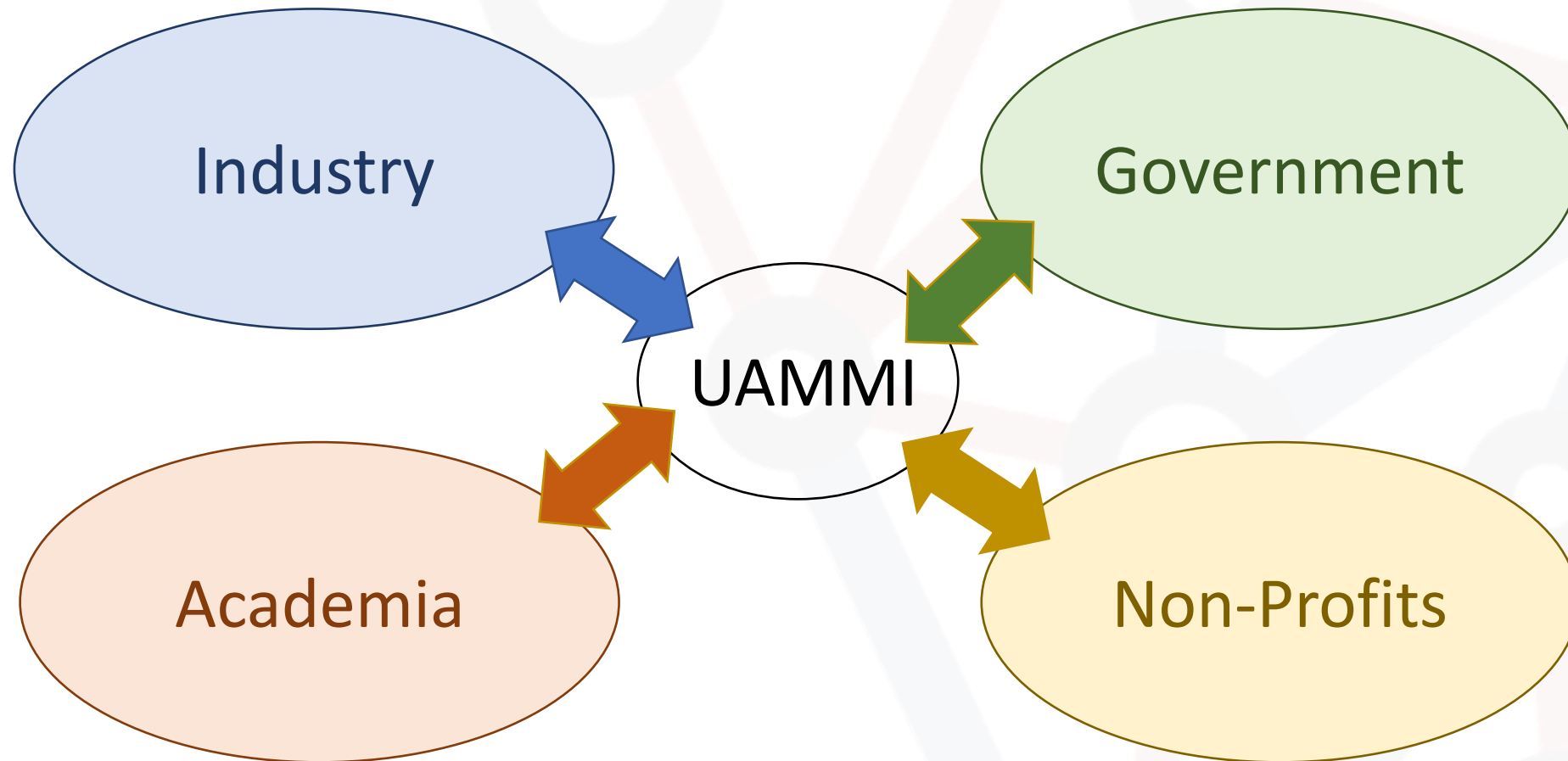
Employability Skills - Professional, Life, Technical



Single Industry Integrator



UAMMI Structure and Interactions



Industry Partners (selected out of ~100)



Black Diamond

NORTHROP GRUMMAN



LOCKHEED MARTIN



Academic Partners



Government Partners/Contractors



Utah Governor's Office of
Economic Development

BUSINESS • TOURISM • FILM



Department of
Workforce Services



U.S. ECONOMIC DEVELOPMENT ADMINISTRATION



CARBON
County
UTAH



Non-Profit Partners



Mission of UAMMI

- Utah's Advanced Materials "Think Tank"
 - Promote advanced materials and manufacturing processes in Utah
 - Convener of industry, academia, government, education, non-profits
 - Provide state of the art information and connections
 - Access to both academic and industrial research to solve problems industry has in common
 - Advocate for workforce issues that impact the advanced materials industry
 - Assist Utah economic development efforts to expand the industry
 - Work with innovation centers to address advanced materials issues

CONNEX Manufacturing Database



- Database designed by UAMMI especially for Advanced Materials
- Implemented in Utah
- Now in 5 other states and National Association of Manufacturers
- Adopted by several Federal Agencies
- Rapidly becoming the national standard
- Hill AFB tool for legacy aircraft parts
- Northrop Grumman tool for identifying small business suppliers

RAMP Business Accelerator



ACCELERATE UTAH ADVANCED MATERIALS & 3D PRINT INNOVATIONS

- Sponsored and supported by UAMMI
- Cohorts of 5-7 companies with new products
- Entrepreneurial instruction
- Mentoring from experts (several from UAMMI)
- About 75% successful product launches

CROSSTALK

- Semi-annual conference sponsored by UAMMI
- Typically ~300 attendees (no entry fee)
- National and local speakers on selected topics
 - New innovations in Advanced Materials
 - Government programs and how to negotiate them
 - Additive Manufacturing
 - Advanced Air Mobility



Workforce Programs

- IACMI/Davis Tech joint program with IACMI for the Navy
- Utah Aerospace Pathways
 - Development of High School curriculum and lab on composites
- Masters' Program in Composite Engineering
 - Utah State University and Weber State University Joint Program
- Surplus Materials Clearinghouse (Connex)



SBIR • STTR Funding



- ElectraFly/Weber State Univ./UAMMMI—Adv. Air Mobility parts
- ElectraFly/Brigham Young Univ./Hexcel—Adv. Air Mobility propellers
- AnalySwift/Weber State Univ./UAMMMI—Design of propellers
- Impossible Objects/Hill AFB/UAMMMI—Legacy aircraft with carbon fiber

Revenue Creation

- UAMMI helped obtain license from BYU
- UAMMI helped define production system
- UAMMI introduced companies for manufacturing
- Later investment
- Adhesive issue help



ADVANCED TECHNOLOGY
COMPLIANT SOLUTIONS



Revenue Creation

- University of Utah grant from EDA for making carbon fiber from coal
- Advisory group formed by UAMMI to assist in market plan
- Testing organized by UAMMI



United together to help Utah Manufacturers Grow and Thrive



Grants to support UAMMI

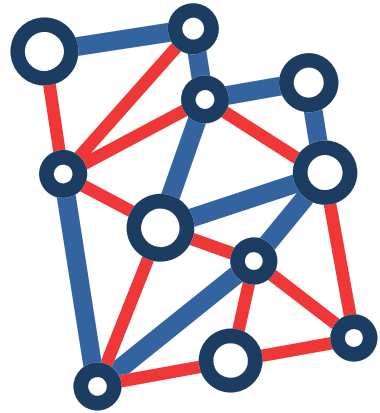
- Small Business Administration (SBA)—\$5MM/5 years
- Utah Defense Manufacturing Center—\$5MM/5 years
- Utah State Legislature—\$300K/5 years
- CARES & ARPA funding

Utah Welcomes IACMI in 2022!

- Utah is the home to:
 - Hexcel composites manufacturing
 - HAFB composites programs to support the Nuclear Weapons System and the Ground Based Strategic Deterrent Program
 - Industry leading Workforce Programs

Let UAMMI know how we can help with
IACMI in 2022!





uammi

UTAH ADVANCED MATERIALS
+ MANUFACTURING INITIATIVE

Thank you

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