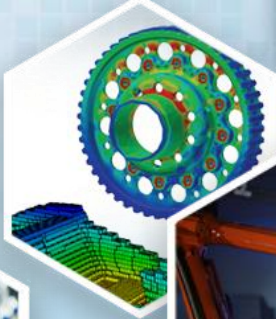


IACMI's Impact: 10 Years in the Making

Joe Fox, FX Consulting, LLC
August 14, 2024



Project Impact: Overview



- ◆ IACMI will celebrate its 10th anniversary in 2025
- ◆ **Objective:** To quantify the impact IACMI has had since its origin in 2015
- ◆ **Project Team:** Mark Morrison, Margaret Slattery, Joe Fox
- ◆ Information is being collected in these 4 categories:



Commercialization of New Products
&
Adoption of New Technology

Workforce Development
&
Job Creation

Leveraging IACMI Resources

Connections, Partnerships
&
Supply Chain Creation

Project Impact: Approach



Collect “**stories and stats**” from various stakeholders

- Industrial members
 - Large companies
 - Small-to-Medium Enterprises (SMEs)
- Technical area directors
- Economic development agencies
- IACMI interns

Mechanisms:

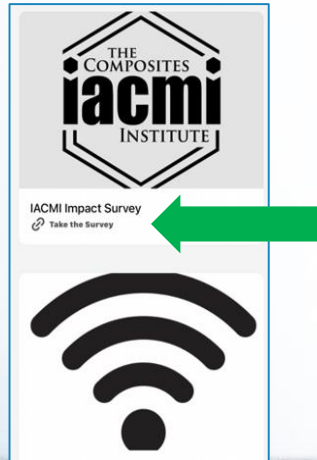
- Interviews
 - In-person
 - Virtual
- Questionnaires
 - SME panelists at annual meetings
 - *Innovation Insights* presenters



Speaking of Questionnaires



- At your table, you will find hard copies of a questionnaire
- Or you can use the app to fill it out
 - Scroll down on the home page....



Members Meeting 2024 - Quantifying the impact of IACMI

We are interested in learning about the impact of your involvement in IACMI. We are looking for impact in these 4 general categories:

- Commercialization of New Products / Adoption of New Technology
- Workforce Development and Job Creation
- Leveraging IACMI Resources
- Connections, Partnerships, and Supply Chain Creation

1. Have you sold any new products as a result of your involvement in IACMI? Please describe them and if possible, include the revenue \$ associated with their sale.

2. Do you have any products in the pipeline that are close to commercialization? Please describe them.

3. Do you have any spin-off success stories that were enabled by IACMI? Please describe them.

4. Have any

Please give us your input !!!

IACMI's Mission



Convene.
Connect.
Catalyze.

12. How effective has IACMI been at Convening? *(5 being very effective, 1 being ineffective)*

5 (very effective) 4 3 2 1 (ineffective)

13. How effective has IACMI been at Connecting? *(5 being very effective, 1 being ineffective)*

5 (very effective) 4 3 2 1 (ineffective)

14. How effective has IACMI been at Catalyzing? *(5 being very effective, 1 being ineffective)*

5 (very effective) 4 3 2 1 (ineffective)

Please fill out the questionnaire !!!

A Preview

.... with an Indiana flair

IACMI's Impact in Indiana



Commercialization of New Products
&
Adoption of New Technology

Workforce Development
&
Job Creation

Leveraging IACMI Resources

Connections, Partnerships
&
Supply Chain Creation

Impact at Purdue



- ◆ New building
 - ◆ 62,000 ft²
 - ◆ Houses the Computer Manufacturing & Simulation Center (CMSC)
 - ◆ Houses Dassault's 3DExperience (3DX)



CMSC

3DEXPERIENCE Purdue Center



- ◆ Creation of LSAM lab
 - ◆ Thermwood equipment for Large Scale Additive Manufacturing



Leveraging IACMI Resources

- ◆ Over \$30M in additional research funding
 - ◆ From NSF, CERN...
- ◆ Formation of the *Composites Additive Manufacturing Industrial Consortium*

Workforce Development & Job Creation

- ◆ Advanced workforce training of students
 - ◆ Simulation & Modeling
 - ◆ Composite fabrication
 - ◆ 15 PhDs and more than 40 undergrads
- ◆ Addition of 6 new faculty

- Enabling and **revolutionizing the 3D printing of tooling** for advanced composites
- Developed ADDITIVE3D software, the **digital twin** of the additive manufacturing process
 - Developed in conjunction with Dassault Systemes
 - Being adopted by members of the Additive Manufacturing Consortium

LSAM

+

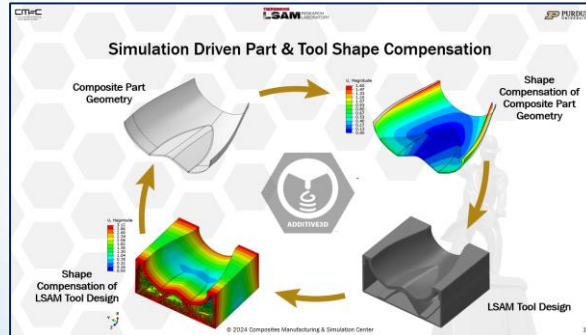
Virtual Twin

=

Tooling printed right
the first time

Shorter production time
Fewer iterations
Lower overall tooling costs

Commercialization of New Products
&
Adoption of New Technology



Connecting & Collaborating



THERMIWOOD

LSAM 1020 used to 3D Print Al Davis Memorial Torch in new Las Vegas Raiders Stadium

LSAM owner Dimensional Innovations developed and built the 93 foot tall, commemorative torch. The world's largest 3D printed structure!



**Connections, Partnerships
&
Supply Chain Creation**



+



+



+



Connecting & Commercializing



- ◆ Collaboration between Vartega and Mito Material Solutions

- ◆ Both SME members of IACMI

- ◆ Development of **Fenix Fiber+**

- ◆ Recycled carbon fiber from Vartega

+

- ◆ Graphene coating from Mito

=

Higher strength thermoplastics
containing **recycled carbon fibers**

- ◆ Winner of ACE award at CAMX 2023



Connections, Partnerships
&
Supply Chain Creation

Commercialization of New Products
&
Adoption of New Technology

Vartega and MITO Material Solutions Receive ACE Award at CAMX 2023

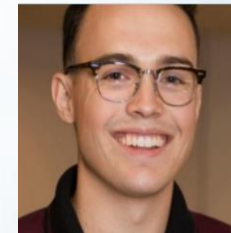
Workforce Development



- ◆ America's Cutting Edge
 - ◆ CNC training for nation-critical industries
 - ◆ For tooling & composite parts
 - ◆ Over **10,500** on-line trainees
 - ◆ **1850** in-person attendees
- ◆ Advanced Composites Career Pathways
 - ◆ More than **600** participants trained
- ◆ IACMI internships
 - ◆ More than **100 interns** placed at member companies
 - ◆ 15 from Purdue
 - ◆ New hires at Volkswagen, TPI, GE Aviation ...



*Will Henken
Volkswagen*



*Darren Foster
TPI Composites*

Economic Development Impact



◆ Indiana:

- ◆ Yajima and Saab have **established new facilities in Indiana** focused on composites

Workforce Development
&
Job Creation

◆ Ohio:

- ◆ “IACMI is an important part of the ‘ecosystem of innovation’ that has **attracted companies like Airbus and Joby to Ohio.**”

Glenn Richardson, Jobs Ohio

IACMI = **ATTRACTION**

Next Steps



- ◆ Please fill out the questionnaire
 - ◆ Indicate if you would like to schedule an interview
- ◆ Share your IACMI story with one of the videographers at this meeting
 - ◆ Elizabeth & Mike McNeese

Commercialization of New Products
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- ◆ Stay tuned





The Project Impact Team
Margaret Slattery, Mark Morrison, Joe Fox