

# Grand Traverse Region's Evolving Ecosystem



## MANUFACTURING and TECHNOLOGY

*Software eats manufacturing  
(and manufacturing gains)*

**EXCERPTS FROM  
JUNE 14<sup>th</sup> EVENT**

Dennis Arouca

[dennis.arouca@gmail.com](mailto:dennis.arouca@gmail.com)



**Northern Michigan Angels**

Capital Solutions for Emerging Companies

# Summary

- ▶ Industrial and Technology clusters are the leading creators of wealth and high paying jobs.
  - ▶ Nationally
  - ▶ Regionally
- ▶ The “Digital Thread” presents both an opportunity and a challenge for these clusters.
- ▶ A robust dialogue between “manufacturers” and “techsters” can lead to increased competitiveness, higher paying jobs, and new business creation for the region.



**Northern Michigan Angels**

Capital Solutions for Emerging Companies

Brookings Institution:

## USA's Advanced Industries\* Drive Growth

- ▶ 17% of GDP / 90% of R&D / 25% of jobs
- ▶ High Paying Jobs
  - ▶ Average \$90k/yr. (2x other workers)
  - ▶ Pay grew 63%, after inflation (1975-2013)
- ▶ Deep STEM and R&D links
- ▶ 1 M jobs added in these clusters since 2010
- ▶ Cluster productivity up 5.4%/yr. (30% faster than rest of the economy)

\* Advanced Industries encompass the “Tech Sector” at its broadest and most consequential. Includes Manufacturing, Oil & Gas, High Tech Services (software & system design).



**Northern Michigan Angels**

Capital Solutions for Emerging Companies

# Like Nationally, the Region's Industrial Sector\* is the Top Creator of Economic Wealth

- ▶ Best blend of GRP and higher paying jobs
- ▶ Tech sector is rising (Professional, Scientific, Info. Technologies)

Cluster	GRP		Jobs	Avg. Earnings	Ratio Avg. Earn (\$36K avg. all sectors)
	Rank	Percent			
Industrial	1	22%	16k	\$58k	1.6k
Health	2	12%	16k	\$45k	1.2k
Tech	3	8%	5k	\$49k	1.4k

\*Industrial Sector: Manufacturing (60%), Oil and Gas, Mining, Utility  
Source: Networks Northwest



## Northern Michigan Angels

Capital Solutions for Emerging Companies

zoom

12  
TECH TOOLS



20  
NONPROFITS



32  
ADVERTISING &  
PROMOTION

# Silicon BAY?

COULD TC BECOME  
A TECH HOT SPOT?

TECH TOOLS

FIVE ESSENTIAL  
SKILLS FOR  
IT PROS

SEE PG. 10

# Regional Tech Sector

- ▶ *In part a “place-based” story...*
  - ▶ TC NewTech
  - ▶ Silicon Bay
  - ▶ Dark Fiber
  - ▶ Venture North
- ▶ *And in part a Global story...*
  - ▶ Writing software, system design, and digital manufacturing can happen anywhere



**Northern Michigan Angels**

Capital Solutions for Emerging Companies



# Digital Manufacturing

Digital Manufacturing is the seamless flow of data across the entire value chain, linking every phase of the product life cycle. Think of a “digital thread”, from product design, to sourcing, testing, production, distribution, point of sale, product use.

# Digital Manufacturing Examples

- ▶ **Big Data/Yield-** Mining company found way to capture more data from sensors, showing heretofore undetected fluctuations. Fixing this increased yield by 3.7%, \$20m/yr.
- ▶ **Big Data/New Product Development/IoT-**local infrastructure products manufacturer and tech company collaborate on adding "smart/sensor" to base product, which leads to end-customer demand for two additional products, all remote monitoring/ measurement/cloud incl. third party stakeholder communications
- ▶ **Advanced Analytics-** Auto mfg. combined online configurator with purchasing data to identify options customers pay premium for, improving gross margins by 30%.
- ▶ **Human Machine Interface-** Logistics company developed "picking" technology w augmented reality headsets on see through display, reducing error rate by 40%.
- ▶ **Digital to Physical Transfer-** Manufacturer builds new product through 3-D printing, with design crowdsourced from on-line community, reducing new model development time from 6 years to 1.

Digital Manufacturing can help drive lower costs, improve quality, speed the process, and thereby improve profits and competitiveness.



# 5 Questions CEOs/Business Owners Should Ask About Digital Manufacturing:

- ▶ 1. How will digital disrupt my industry in next 5 years? [not "if", but "how"]
- ▶ 2. Where is the value for my company? and how can we maximize it?
- ▶ 3. How close is the Digital Revolution to my factory doors? and where should we make investments?
- ▶ 4. What new capabilities/skills/mindsets will we need in our company? How will we identify and attract this talent?
- ▶ 5. What should we pilot now to start this journey?

# Brookings Call to Action

- ▶ *“In the end, it was clear that both Silicon Valley and other regions can benefit if their advanced industry communities can become meet-ups of software and hardware competency. Given U.S. software dominance, digitization looks to revolutionize more industries and give them a new shot at competitiveness. Shouldn’t ensuring that happens rapidly and successfully be part of US and local strategies for advanced industry leadership?”*
- ▶ **Siemens: “You need to have a software culture now to be a manufacturer”.**



**Northern Michigan Angels**

Capital Solutions for Emerging Companies

## Panelists:

Mike Groleau	<i>RJG, Inc.</i>
Bradley Matson	<i>BetaBatch &amp; The Kitchen Digital</i>
Veronica Moyer	<i>iOmni, LLC</i>
Russel Schindler	<i>SampleServe and TC NewTech</i>
Kevin Schlueter	<i>Kalkaska Screw</i>
Gary Walker	<i>EJ Group</i>

## Moderator:

Rachel Johnson	<i>Cherryland Electric Cooperative</i>
----------------	--

## Discussion Questions:

1. What do we think about Brookings' call to action?
2. How can we spark/enhance dialogue between Industrial and Tech clusters?
3. How can we stimulate business creation in these clusters?



**Northern Michigan Angels**

Capital Solutions for Emerging Companies

# NORTHERN MICHIGAN ANGELS DINNER PROGRAM

JUNE 14TH, 2016 | NORTHERNMICHIGANANGELS.COM

## PANELIST INFORMATION

### Veronica Moyer

Veronica Moyer is Founder and CEO of iOmni, LLC, a leader in same day, nationwide delivery solutions and technology platforms for the health care industry. Previously Ms. Moyer served in leadership positions with Distribution Solutions International, including Chief Operating Officer and VP Business Development. She also managed network operations for a Ford Motor Company subsidiary and served as Technical Services Director for Kelly Services Corp.

### Kevin Schlueter

Kevin Schlueter is President & CEO of Kalkaska Screw Products, a manufacturer of highly engineered components for the automotive, aerospace, oil & gas and truck markets. Mr. Schlueter previously served in several engineering and operating leadership positions with Skilled Manufacturing, Inc, and Delphi Chassis Systems. Mr. Schlueter is also a member of the Board of Directors for Grand Traverse Area Chamber of Commerce.

### Russell Schindler

Russell Schindler, P.G., is the founder and host of TCNewTech, a monthly technology meet up group. Mr. Schindler is a serial entrepreneur, holder of 5 patents, and a Certified Professional Geologist. His most recent startup is SampleServe.com, which specializes in environmental data collection, automation and reporting. Mr. Schindler also is known for Compliance, Inc. a TC-based environmental engineering company, and the Nauti-Cat charter sailing vessel.

### William (Gary) Walker

William (Gary) Walker is part of the executive leadership team at EJ Group, which designs, manufactures and distributes metal and composite infrastructure products on five continents. He currently serves as Director of the Composite & Water Products Divisions, after positions in Marketing, R&D and Product Development. Mr. Walker served as a Technology Consultant with the Small Business Development Center of the SBA, where he developed a technology resource center at Lake Superior State University for small manufacturing startups.

### Bradley Matson

Bradley Matson is a serial entrepreneur with a technology focus. He specializes in lean start up and business development. Recent projects include BetaBatch, a startup accelerator; Chompler, a food delivery firm; The Kitchen Digital mobile development and design studio; and Start Up Tuscon.

### Mike Groleau

Mike Groleau is Co-Owner and Project Director for RJG, Inc, a global developer and supplier of sensors and software used in injection molding, with operations on three continents. RJG serves the automotive, aerospace, and medical equipment industries among others. Mr. Groleau is also active in leading STEM educational reform efforts in the region, to better prepare the next generation of workers, one part of which includes RJG donating 3-D printers to local schools.

## PRESENTER

### Dennis Arouca

Dennis Arouca [Presenter] spent his career in executive leadership roles in Industrial America, chiefly with steel manufacturing (ArcelorMittal), freight railroads (Conrail) and mining. He currently serves on the workforce development and education committees for two institutes of the National Network for Manufacturing Innovation, focused on digital manufacturing and lightweight metals. Mr. Arouca is a strategic advisor to Manufacturing Renaissance, and serves on the board of Zenith Education Group. Mr. Arouca is also a member of Northern Michigan Angels.

## MODERATOR

### Rachel Johnson

Rachel Johnson [Moderator] is Director of Communications, Member & Community Engagement, for Cherryland Electric Cooperative, a utility serving thousands of homes and businesses in NW Lower Michigan. She hosts the podcast "Coop Energy Talk". Ms. Johnson formerly taught at Penn State University and Northwestern Michigan College, and is also a member of the Board of Directors for Networks Northwest and the Zonta Club of Traverse City.

## EVENT SPONSORS

Cherry Capital Foods

Durandal, Inc

Wells Fargo Advisors- James R. Julian

Northern Michigan Angels Sponsors:  
Dennis, Gartland & Niergarth CPAs, Ferris State University,  
Front Street Foundation, Huntington Bank,,  
NMC Foundation, Raymond James - Robert Fenton, Traverse  
City Business News

# Recommendations for GT Manufacturing Council:

- ▶ *1. schedule deeper dive into Digital Manufacturing for Council members (eg, next Summit?)*
- ▶ *2. form small group to explore with Russ Schindler his invitation for a "Manufacturing Night" at TCNewTech.*



**Northern Michigan Angels**

Capital Solutions for Emerging Companies