

Labor Market Data and CAV Social Network Analysis



MICHELE ECONOMOU URESTE, WIN EXECUTIVE DIRECTOR BIOGRAPHY

- TWO 4-YEAR TERMS AS WEST BLOOMFIELD TOWNSHIP SUPERVISOR
- VICE PRESIDENT OF A STATISTICAL QUALITY SYSTEM TRAINING AND CONSULTING FIRM
- QUALITY PROGRAM MANAGER, AUTOMOTIVE INDUSTRY ACTION GROUP (AIAG) – QS-9000/TS 16949
- ASQ CERTIFIED SIX SIGMA BLACK BELT
- FORD MOTOR COMPANY - LAUNCHED CONTRACT PERSONNEL SYSTEM, PEOPLENET, TO MANUFACTURING AND VEHICLE OPERATIONS
- MASTERS IN PUBLIC ADMINISTRATION (M.P.A.)

WIN Mission and Goals

To cultivate a cohesive talent system by facilitating data-driven workforce solutions to ensure responsiveness to labor market demands.



Data



**Employer
Engagement**

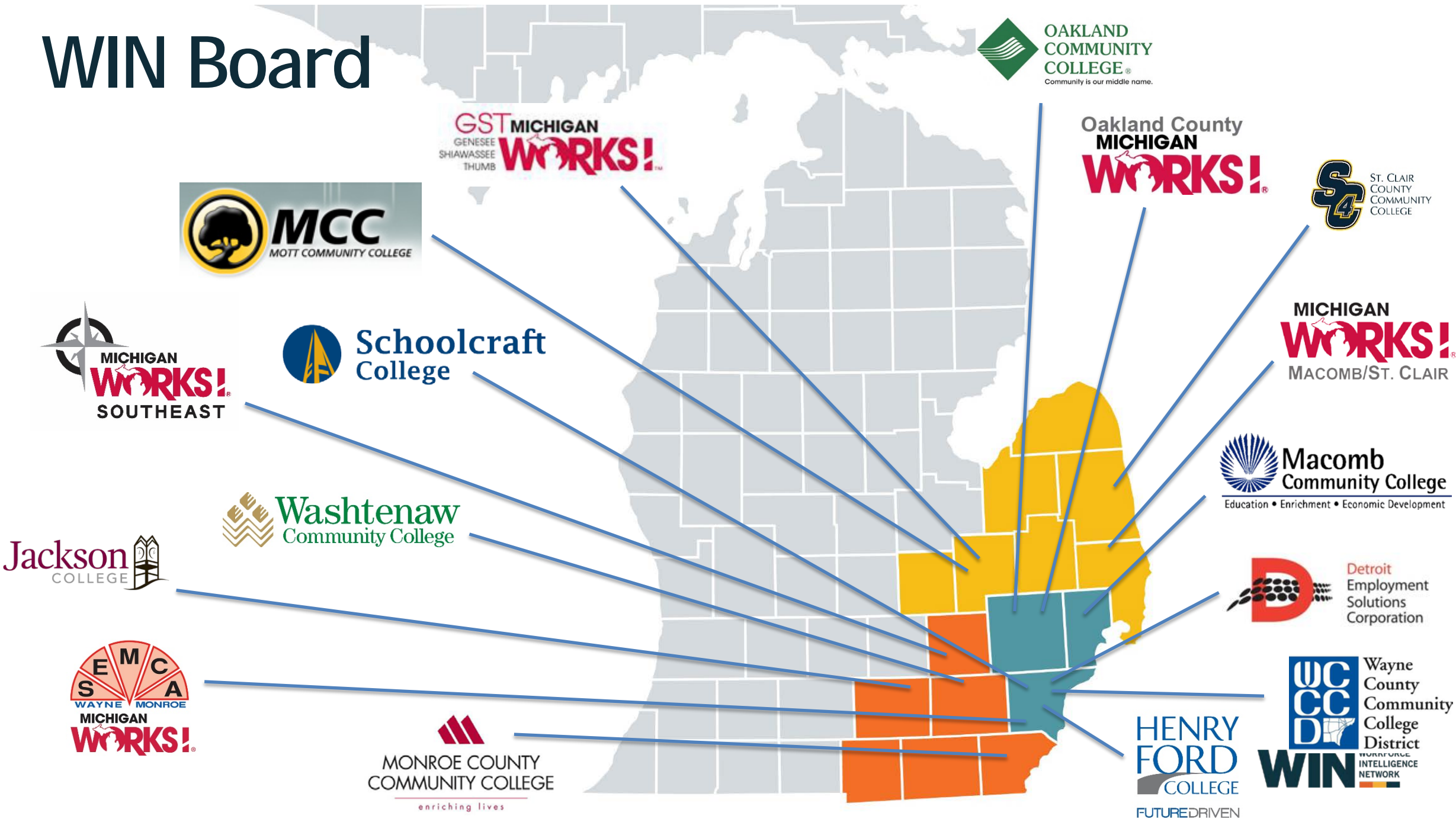


**Workforce
Solutions**



**Outreach &
Communication**

WIN Board





HIGH-DEMAND CAREER OPENINGS THROUGH 2024

811,055



INFORMATION TECHNOLOGY
COMPUTER SCIENCE

270,690*



MANUFACTURING

109,410



HEALTHCARE

212,247



OTHER PROFESSIONAL TRADES

56,287



BUSINESS AND OTHER

162,421

Source: DTMB, Bureau of Labor Market Information and Strategic Initiatives | *Based on Workforce Intelligence Network data

POTENTIAL EARNINGS IN 2024

\$49,094,842,059*

Average salary for these careers: \$60,532*



INFORMATION TECHNOLOGY
COMPUTER SCIENCE

\$20.8 BILLION*



MANUFACTURING

\$6.1 BILLION



HEALTHCARE

\$7.5 BILLION



OTHER PROFESSIONAL TRADES

\$2.8 BILLION



BUSINESS AND OTHER

\$11.9 BILLION

Top Jobs 4Q17

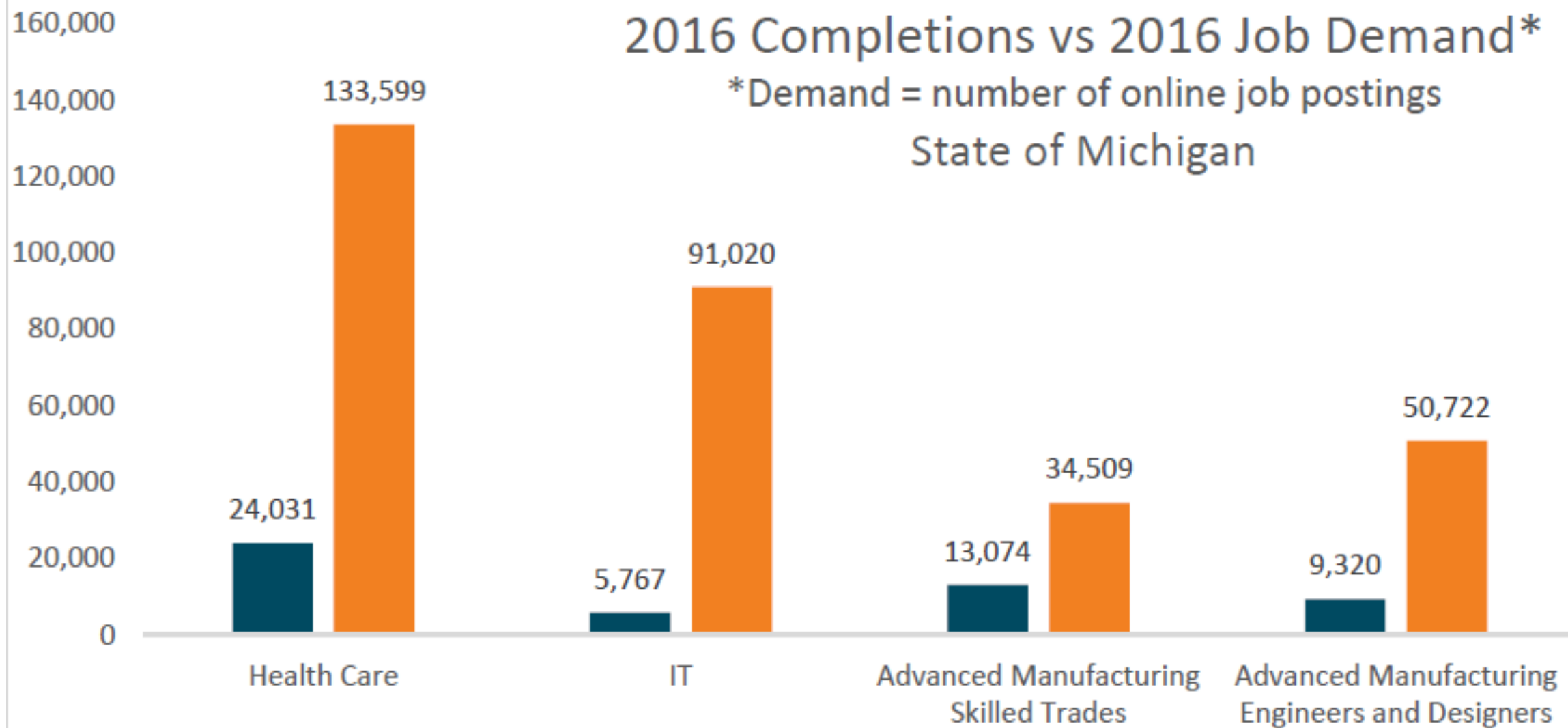
IT

Skilled
Trades

2016 Completions vs 2016 Job Demand*

*Demand = number of online job postings

State of Michigan



Sources: EMSI, Burning Glass Technologies
Analysis: Workforce Intelligence Network

■ 2016 Completions

■ 2016 Postings

LABOR MARKET INFORMATION FOR ENGINEERING & ADVANCED MANUFACTURING

	2017 Jobs	2027 Jobs	# Jobs Change	% Jobs Change	Annual Openings	Average Hourly Earnings
Information Technology	112,889	128,347	15,458	14%	9,578	\$38.71
Adv. Manufacturing Skilled Trades	203,491	209,757	6,266	3%	22,333	\$22.79
Adv. Manufacturing Engineers and Designers	127,047	140,895	13,848	11%	10,449	\$42.45

- Each sub-group has an average hourly salary above the overall 2017 average hourly salary in Michigan (\$22.69)
- All sub-groups see positive growth through 2027, with the most growth seen in Information Technology jobs.
- Annual openings includes openings related to replacement

CAV SOCIAL NETWORK ANALYSIS

- A study developed under contract with the Macomb/St. Clair Workforce Development Board, and **OEA/DOD** financial support.
- AMDC conducted a study of regional defense and defense adjacent stakeholders.
- Last year WIN presented another DOD, OEA **CAV Skills Gap Analysis**.
- Social network analysis turns information about relationships into **visual maps that reveal the dimensions of relationships (shape, depth, and concentration)**.
- Well-connected ecosystems have a history of learning and innovation that outperform poorly connected regions/participants.

SOCIAL NETWORK ANALYSIS

SNA

Awareness:

- How likely is it that information will spread throughout the network?

Influencers and Connectors:

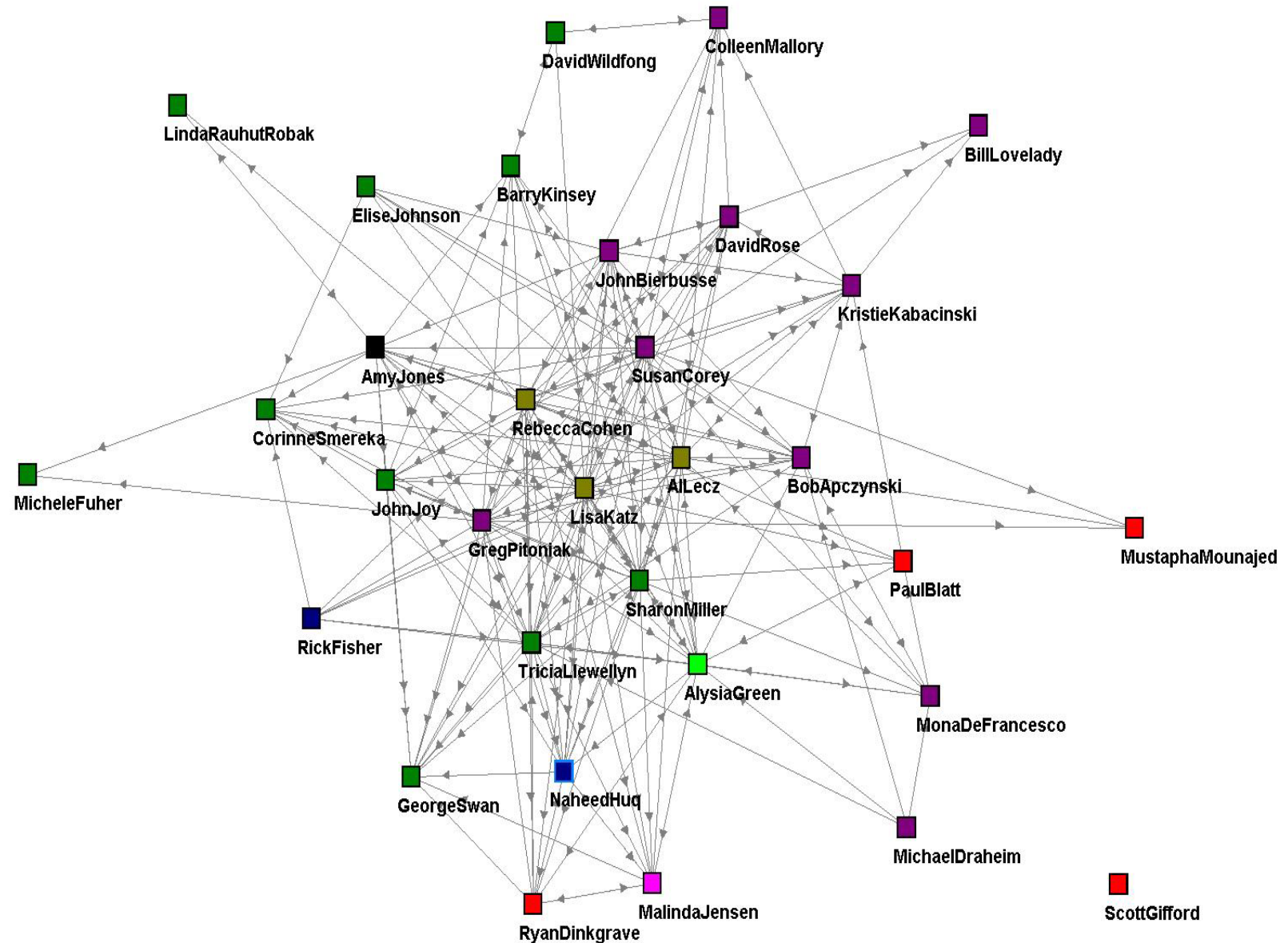
- Who do people look to?
- How connected are parts of the network?

Integration:

- What is the overall network health?
- Who are network leaders?

Resilience:

- How dependent is the network on a few individuals?



CAV SOCIAL NETWORK ANALYSIS

- **Several organizations (nodes)** have connections with organizations that are not replicated by other nodes.
- WIN researchers revealed a total of **351 nodes** within the Southeast Michigan ecosystem.
- These nodes demonstrated **1,399 total connections**.
- Increased **communication can improve programs, projects and services, spread innovation**, and create momentum around collaboration.

TOP 15 CONNECTED CAV ORGANIZATIONS

- Center for Automotive Research (CAR)
- University of Michigan Mobility Transportation Center (UM MTC)
- Michigan Alliance for Greater Mobility Advancement (MAGMA)
- GENIVI Alliance
- Ford
- 5G Automotive Association
- Michigan Department of Transportation (MDOT)
- MICH Auto
- Planet M
- American Center for Mobility (ACM)
- University of Michigan (UM)
- MCity
- Michigan Economic Development Corporation (MEDC)
- Ypsilanti Township

CAV SOCIAL NETWORK ANALYSIS

- The greatest demand for workers with CAV skills was for those in **IT, security, and computer systems.**
- Talent development should occur through a **common set of worker requirements.**
- Autonomous mobility involves public-private partnerships for proper inclusion and training of the public, first responders, the disabled community, and other stakeholders.
- A draft of the **SNA map** was shared with **CAR** which led to the **development of the connected and autonomous vehicles regional planning effort** identifying an additional **21 nodes and 139 connections.**