



ECONOMIC DEVELOPMENT
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INDUSTRY 4.0

Supporting Small and Medium Sized Manufacturers

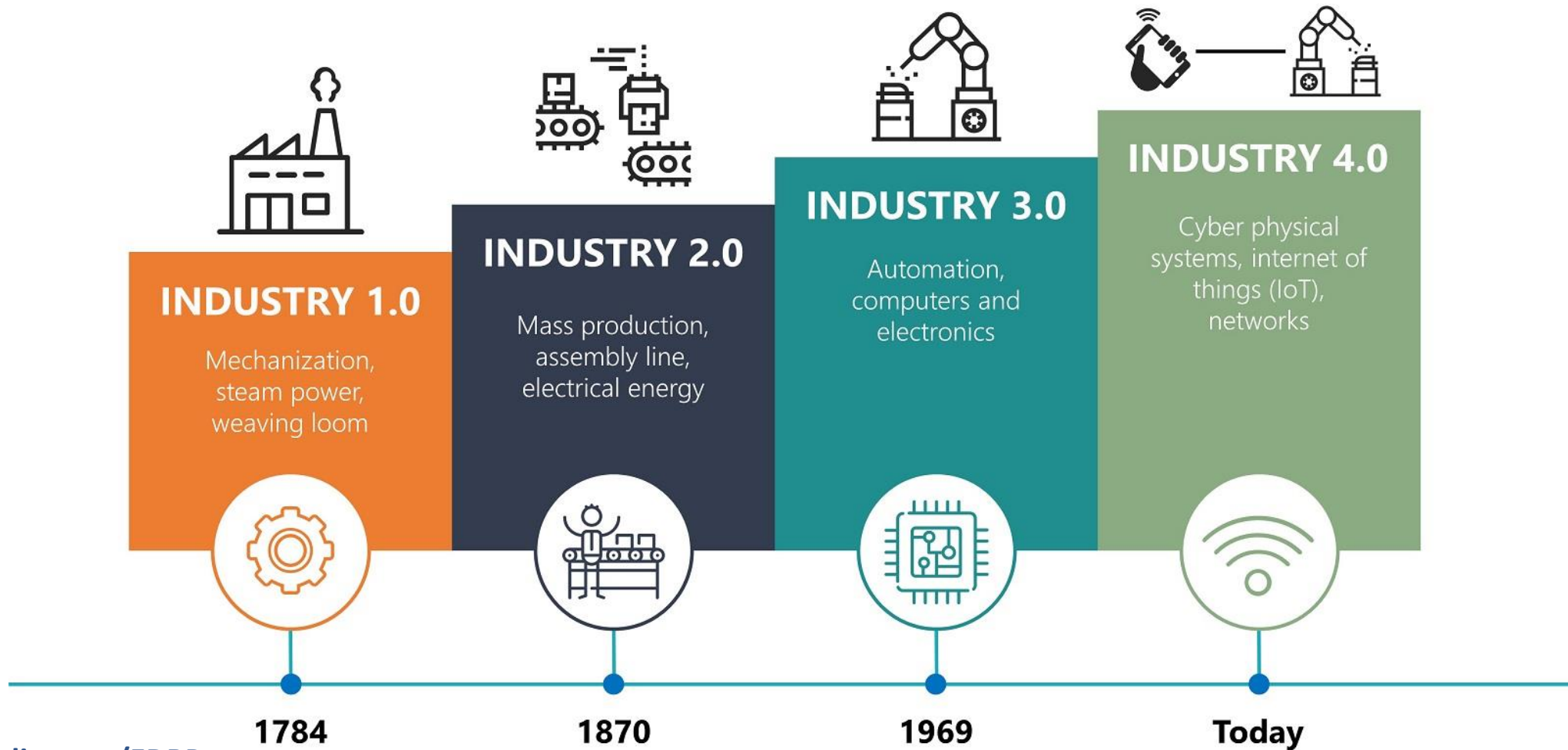


In this session today

- Genesis of the project
- Why its important for EDOs to think about Industry 4.0
- Recommendations from the Report
- Two case studies
 - Wisconsin MEP and Greater Green Bay Chamber
 - London, Canada
- Q&A

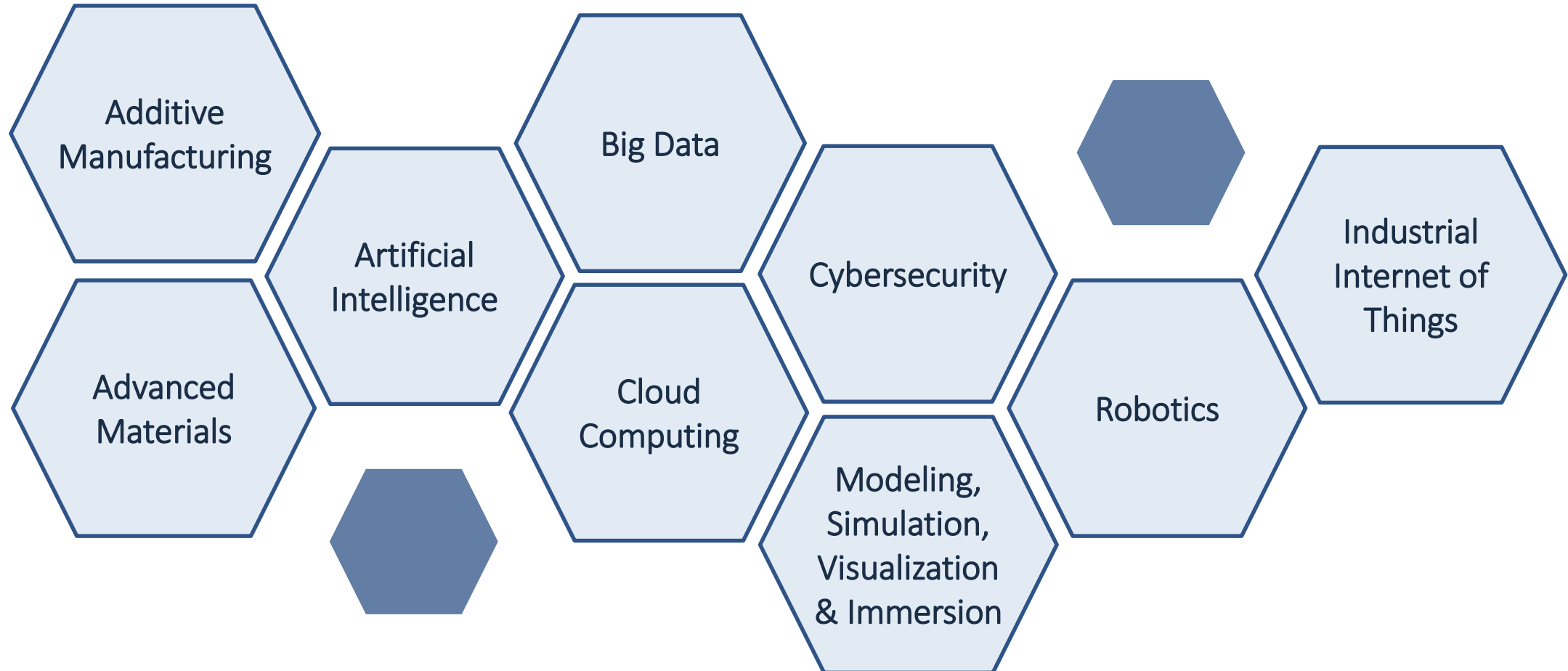


What is Industry 4.0?





Nine Technologies of I4.0





Impact of I4.0 Technologies



Connectivity Technologies (IoT)

- Collect large amounts of data from factories
- Cheap, less effort



Machine Learning and Artificial Intelligence (AI)

- Process large amounts of data
- Gain insights
- Predict outcomes and potential problems



Integration of physical and cyber systems

- Automate end-to-end business processes
- Eliminate errors and costs from doing manually



Challenges to US Competitiveness

- Offshoring of manufacturing has impacted innovation capacity at SME and large manufacturers
 - Concerns for national security and economic competitiveness
 - Other countries are investing heavily in I4.0
- Business culture emphasizes short-term earnings over long-term investments and innovation (quarterly earnings statements)
- US benefits from NIST and Manufacturing USA Institutes



Challenges to US Competitiveness





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Challenges to Community Competitiveness



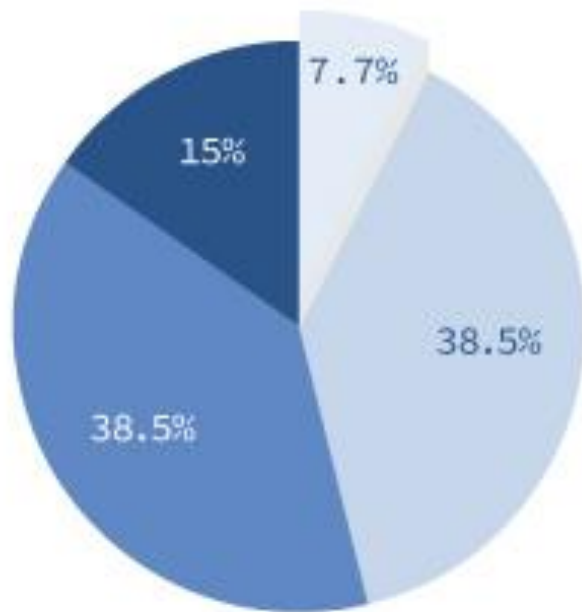
Competitiveness of a community may be determined by the ability of their businesses to innovate and adopt advanced technologies

- Clusters may become stronger where such businesses already exist
- Impacts for rural communities



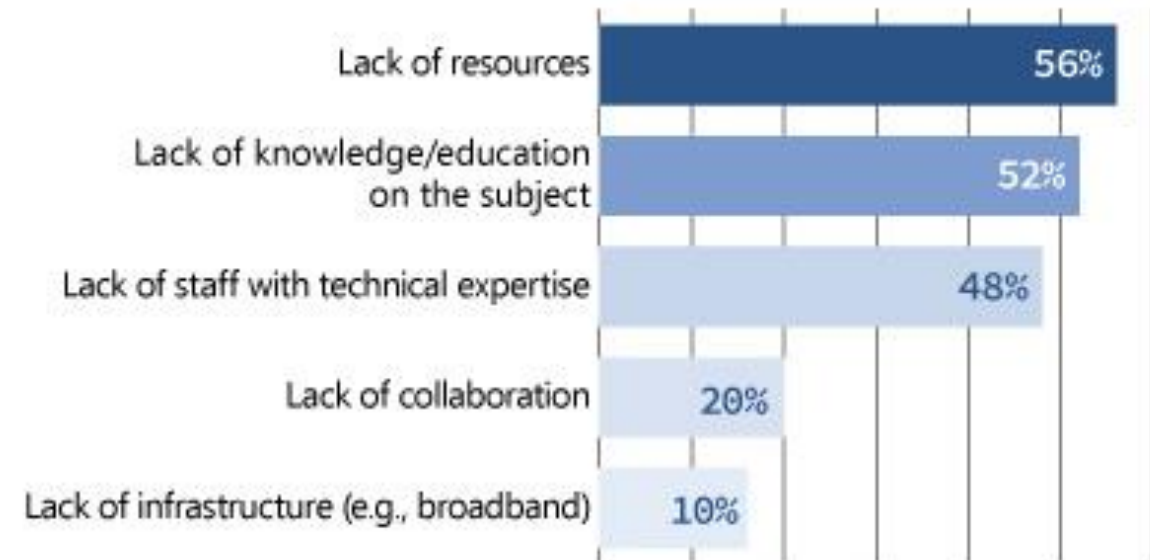
Challenges to Community Competitiveness

How prepared is your EDO to help manufacturers adopt these new technologies?



- Very prepared**
(We have specific programs in place that address this)
- Somewhat prepared**
(We are addressing one facet and would like to do more)
- A little prepared**
(We are learning, planning and getting started)
- Not prepared**
(No time/resources or haven't started thinking/learning about it)

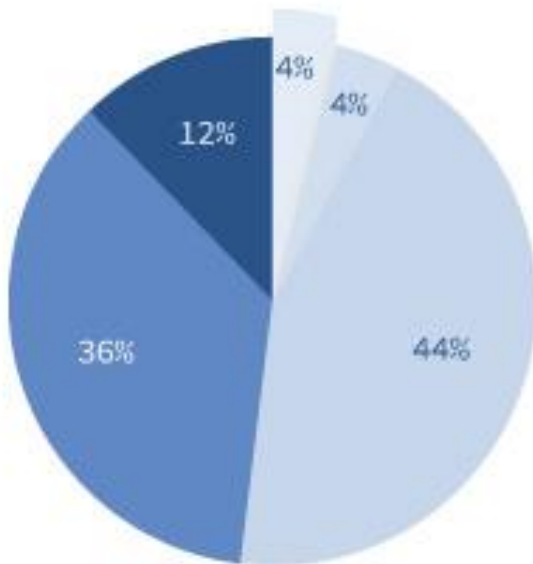
What are the barriers your EDO faces to helping manufacturers adapt to Industry 4.0?





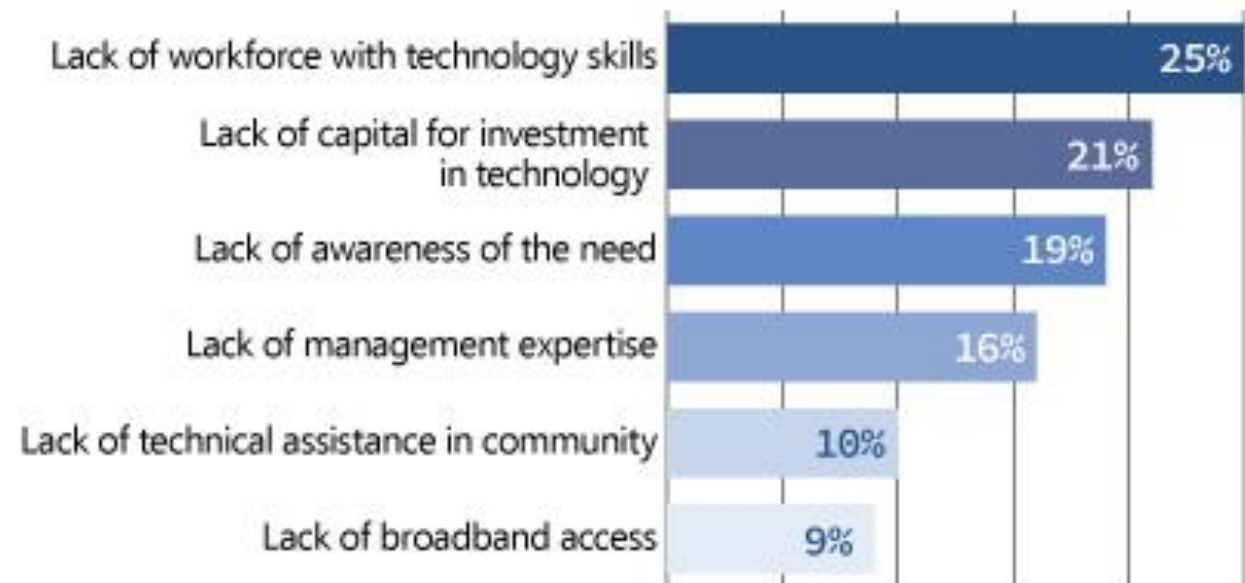
Challenges SMEs Face in I4.0 Adoption

Generally speaking, how prepared are small and medium-sized manufacturers in your community to incorporate Industry 4.0 technologies?



- Very prepared
(Actively using several of these technologies to enhance business)
- Somewhat prepared
(Some have recently begun using one or more of these technologies)
- A little prepared
(They know it is coming and are thinking/learning about it)
- Not prepared
(It is not on their radar)
- Don't Know

What are the barriers your community's manufacturers face to adapting to Industry 4.0?





Case Studies in the Report

- NIST's MEP program (Michigan, California, Tennessee, Illinois, Wisconsin)
- Greater Memphis Medical Device Council and Greater Memphis Alliance for a Competitive Workforce
- Manufacturing Works and Team NEO in northeast Ohio (Cleveland)
- Fayetteville, Arkansas Chamber of Commerce
- Allianz 4.0, Germany
- Innovation Supercluster Initiative, Canada

Recommendations

- 1 Educate yourself about I4.0 technologies
- 2 Educate your companies about I4.0 technologies
- 3 Identify sources of technical assistance and connect your manufacturers to them
- 4 Collaborate with education providers to help build the pipeline of skilled workers
- 5 Advocate for supportive public policies and investments





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Kelly Armstrong
VP, Economic Development
Greater Green Bay Chamber, WI



Larry MacKinnon
Director, Business Development
London EDC, Ontario, Canada



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