



METALS
INNOVATION
INITIATIVE

OPEN | COLLABORATIVE | PRE-COMPETITIVE | DE-RISKED | INNOVATION

FOCUSING ON COMPARATIVE ADVANTAGES



Figure 1: the 'System' for innovation-driven entrepreneurship



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KY METALS INDUSTRY GUIDE

KENTUCKY MADE METALS

Since 2019, more than 80 metals-related announcements have contributed to over **\$4 billion** in investments and approximately **4,000 full-time jobs** in Kentucky.

Kentucky has a skilled workforce experienced in metals production, with more than **14%** of the state's manufacturing workforce employed in the metals sector.

Kentucky's metals industry includes more than **250 facilities**, employing more than **36,000 people statewide**.

Kentucky metals companies play a vital role in the supply chain of several key industries, such as automotive/EV, aerospace, agritech and food & beverage. A few examples of the commonwealth's diverse metals base include:

- **Logan Aluminum**, a joint venture of **Novelis** and **Tri-Arrows Aluminum**, operates in Russellville and produces more than **2 billion pounds of aluminum annually**. Nearly half of the aluminum cans in North America are made from can sheet out of this Kentucky operation.
- **Bowling Green Metalforming** employs more than **1,400 people** at a **1 million-square-foot facility** in Bowling Green, producing truck frame assemblies, engine cradles and suspension links for parent company Magna International.
- **Stephens Pipe & Steel** in Russell Springs has grown from a small service shop to the largest American-owned fence distributor and manufacturer, with **16 locations** servicing more than **5,000 customers worldwide**.
- **Reynolds Consumer Products** produces its iconic aluminum foil in Louisville. The company has a presence in **95% of U.S. households**.

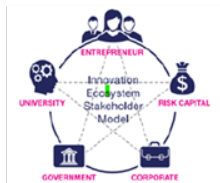
METALS INVESTMENT IN KENTUCKY





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FOCUSING ON COMPARATIVE ADVANTAGES



2018

KY Joins MIT
REAP

KY Innovation
Focus Groups

2019

2020

AccelerateKY

KY Innovation -
Metals Cluster
White Paper

2021
Jul

2022
Mar

MI2 Summit

MI2 Inc

2022
Sep

TIME OF PROFOUND CHANGE FOR US INDUSTRY



Persistent talent shortage



Supply chain reshoring



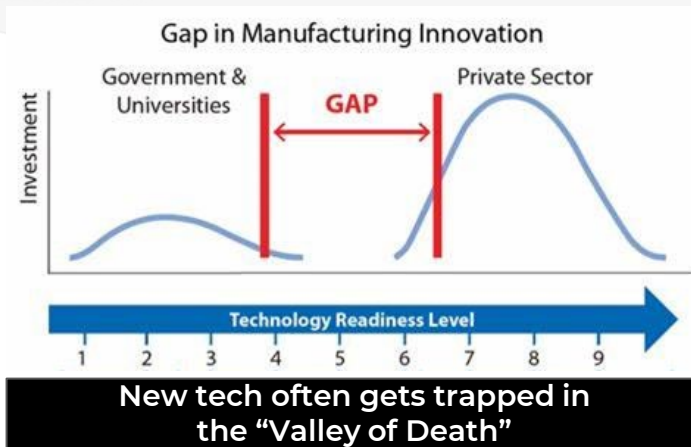
Emerging technologies
will transform
manufacturing



New industries need
new solutions



Sustainability requirements
increasing





THE METALS INNOVATION INITIATIVE



OPEN | COLLABORATIVE | PRE-COMPETITIVE
DE-RISKED | INNOVATION

**TOGETHER, MAKING
KENTUCKY THE DESTINATION
FOR METALS INNOVATION.**



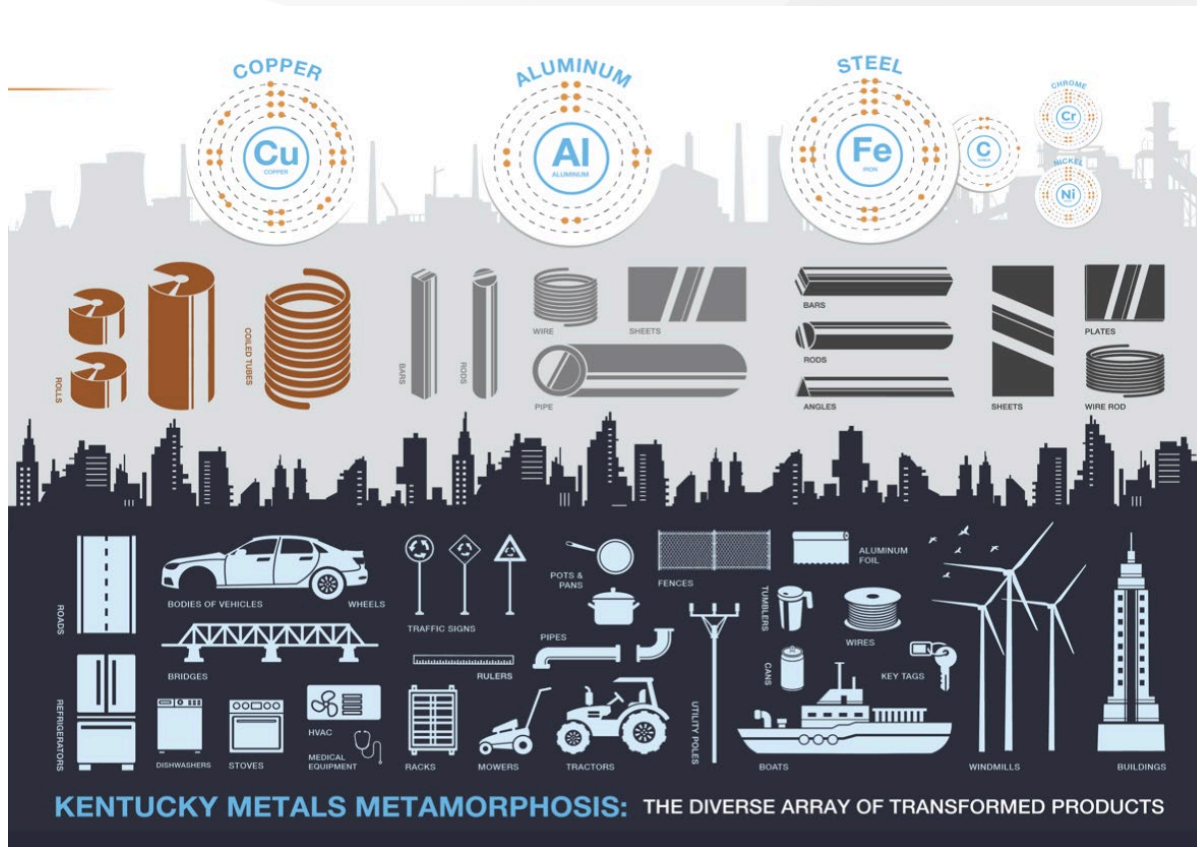
STRATEGIC FOCUS AREAS

MI2 YEAR ONE



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KENTUCKY METALS LIFE CYCLE

This graphic illustrates how KY metals move through a circular economy driven by recycling.

While it references specific companies that contribute to each step of the process, many of KY's innovative metals companies work across multiple stages of the cycle.

KY recycling companies collect scrap/discarded metals products from B2B clients and consumers, including discarded metals from metals product formation and final product creation, and help separate the scrap into different metals types, removing non-metals materials.



Various KY factories use high heat to transform that shredded scrap into molten metal, which can easily form new products. An electrolysis system is used to remove further contaminants or impurities.



Ingots from recycled metals are used alongside ingots from first-use metals that have been mined outside Kentucky and brought into the supply chain.

Across KY metals, roughly 2/3 of metals supply comes from recycled metals

When a product has reached the end of its life cycle, the company or customer looks at how to recycle it. Some KY companies provide technologies that assist in that process.



STEP 9:
END USER READY TO
RECYCLE A PRODUCT



STEP 8:
INTO THE HANDS
OF THE END
CUSTOMERS

STEP 7:
FINAL B2B/
B2C PRODUCT



STEP 6:
END PRODUCT
FORMATION

These products are ultimately sold to a customer, who puts these products in use. All of us can look around us and see how metals shape every facet of our lives—many likely having come through KY at some point in their formation.

Many KY companies take these readied components and create finalized products, ready for market.



Many KY facilities turn these primary metals products into ready-to-use components—for instance, automotive parts for a range of American automakers.



STRATEGIC FOCUS AREAS

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TALENT/WORKFORCE



GRANTS & FUNDING



SUSTAINABILITY



BRANDING



METALS INNOVATION INITIATIVE MEMBERS





METALS INNOVATION INITIATIVE PARTNERS





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MI2 CONFERENCE: THE FACTORY OF THE FUTURE





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METALS INNOVATION SEARCH

Join us in driving the future
of the metals industry!



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METALS INNOVATION SEARCH 2023

SUBMISSION PERIOD:

JUNE 13 - AUGUST 15, 2023

PITCH FOR FINALISTS:

SEPTEMBER 5, 2023

<https://mi2.konexons.com>

<https://mi2ky.org>



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NSF REGIONAL INNOVATION ENGINES



Ky-based additive manufacturing cluster project a finalist for major federal funding

Partners include higher education, nonprofit organizations and industry leaders

🕒 August 3, 2023 👁 685 Views



KENTUCKY SCIENCE & TECHNOLOGY CORPORATION



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USDOL: JOB QUALITY ACADEMY

JOB QUALITY ACADEMY



Collaborating on Kentucky Job Quality Academy, One of 16 National Teams in US Labor Department Program

Mi2's participation in Job Quality Academy provides our organization the opportunity to see efforts taking place around the U.S. on job quality and to learn from subject matter experts. With Kentucky's team focused on advanced manufacturing, our participation gives us a voice in defining job quality for manufacturing across the state and nationally and early access to what we learn for our members.



**TALENT/
WORKFORCE**



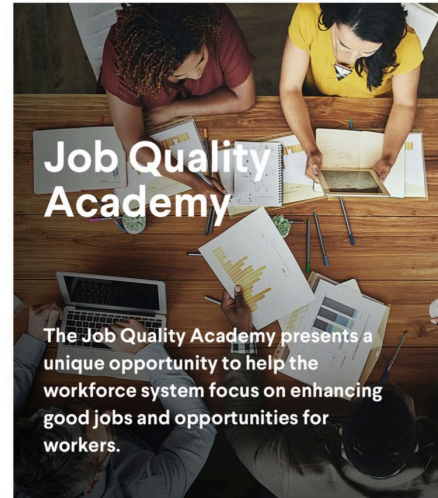
BRANDING



GRANTS & FUNDING



Jobs for
the Future



Job Quality Academy

The Job Quality Academy presents a unique opportunity to help the workforce system focus on enhancing good jobs and opportunities for workers.



BlueOval SK



TIME HORIZON: March 2023 - December 2023

COST: < \$10K

STATUS: Active





MI2 YEAR TWO



UKNOW | UNIVERSITY OF KENTUCKY NEWS

Sections

Research

Kentucky team seeks federal designation
for metals and advanced manufacturing
tech hub



**Kentucky's Southwest Industrial
Technology Commercialization Hub**

STRATEGIC FOCUS AREAS

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BRANDING



SUSTAINABILITY



GRANTS & FUNDING



TECH INNOVATION



TALENT/WORKFORCE



ENGAGEMENT



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BUS *to*
BUSINESS



[GLI] GREATER LOUISVILLE INC.
IN THE BUSINESS OF BUSINESS
Advanced Manufacturing & Logistics Network
An Initiative of Greater Louisville Inc.



Zaczek hired to lead workforce participation

By DON SERGENT dsergent@bgdailynews.com Nov 10, 2022 Updated Nov 11, 2022



 / New Center For Organizational Readiness Will Help Companies Prepare For Smart Technologies

NEW CENTER FOR ORGANIZATIONAL READINESS WILL HELP COMPANIES PREPARE FOR SMART TECHNOLOGIES



MATERIALS SCIENCE
RESEARCH PRIORITY AREA

Grants and Funding



EXPLORE GRANTS &
FUNDING OPPORTUNITIES



APPLICATION
ASSISTANCE



EXPLANATION OF
GRANTS DATABASE



COLLABORATION
& NETWORKING



Setting the bar

"What's your pain point?"

- **What positions are you having trouble filling?**
- **What skills are you having a hard time finding?**



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TALENT/WORKFORCE



IF
BOWLING GREEN
Just imagine.





- **Expansion of Metals Jobs Awareness**
- **Talent Pipeline Management**
- **Metals Industry Certification Program**
- **Job Quality Initiative**
- **Workforce Participation**
- **Workforce Demand Reduction**
- **First-Time Work Programs in Metals**



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Open :: Collaborative :: Pre-competitive :: De-risked ::
Innovation

AccelerateKY
Powered by MIT REAP

**Building Locally Distributed Organizations ::
a solution to Kentucky's workforce imbalance**



#MI2Conference



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