NATIONAL SKILLS COALITION
Every worker. Every industry.
A strong economy.

Closing the Digital **Skill** Divide:
The Payoff for Ohio Workers, Business, and the Economy

Amanda Bergson-Shilcock

Ohio Workforce Coalition webinar
March 22, 2023

Today's conversation

➢ **What we learned** about the demand for digital skills

➢ **What our findings mean** for Ohio workforce, education, and broadband leaders

➢ **What's next** in taking action on digital skills

About National Skills Coalition: Our vision

▶ Jobs that require skills training are the backbone of our economy.

▶ National Skills Coalition fights for a national commitment to inclusive, high-quality skills training so that more people have access to a better life, and more local businesses see sustained growth.

The **digital divide** isn't just about broadband or hardware – it's also about **skills**.

New research report:
Closing the Digital Skill Divide

- Our project looked at **millions of online job ads** posted during calendar year 2021

- Data was initially collected and standardized by Lightcast *(formerly Emsi Burning Glass)*

- Further analysis was carried out by NSC in collaboration with the Federal Reserve Bank of Atlanta (FRBA)

The opinions expressed in the report reflect those of the authors and do not necessarily reflect those of the Federal Reserve System or the Federal Reserve Bank of Atlanta.

We analyzed 43 million job ads

- Ads were posted online in 2021

- The average ad sought **8 skills**

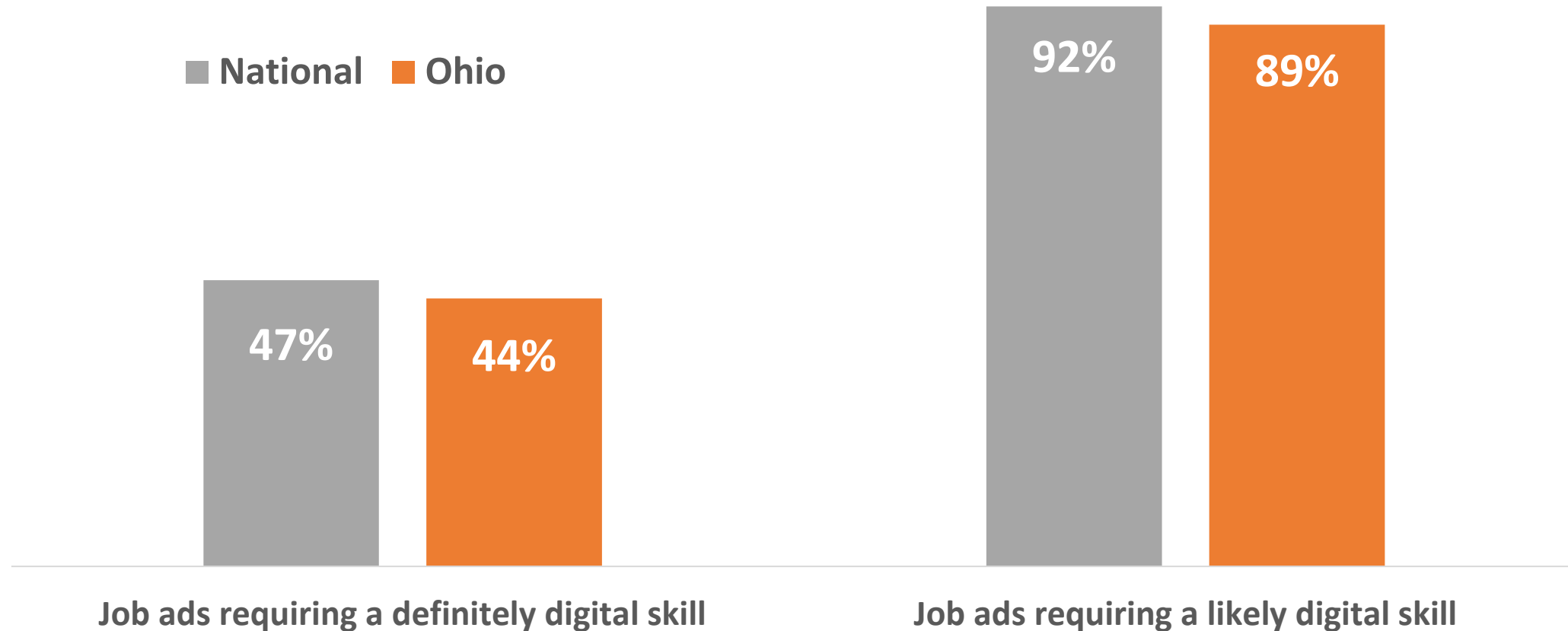- We hand-coded skills to understand which ones were definitely digital, likely digital, or not digital

HELP WANTED

Virtually all of today's jobs require digital skills

47%
of jobs require definitely digital skills

45%
of jobs require likely digital skills

92%
of Jobs in U.S. require definitely digital or likely digital skills

8%
of jobs require no digital skills
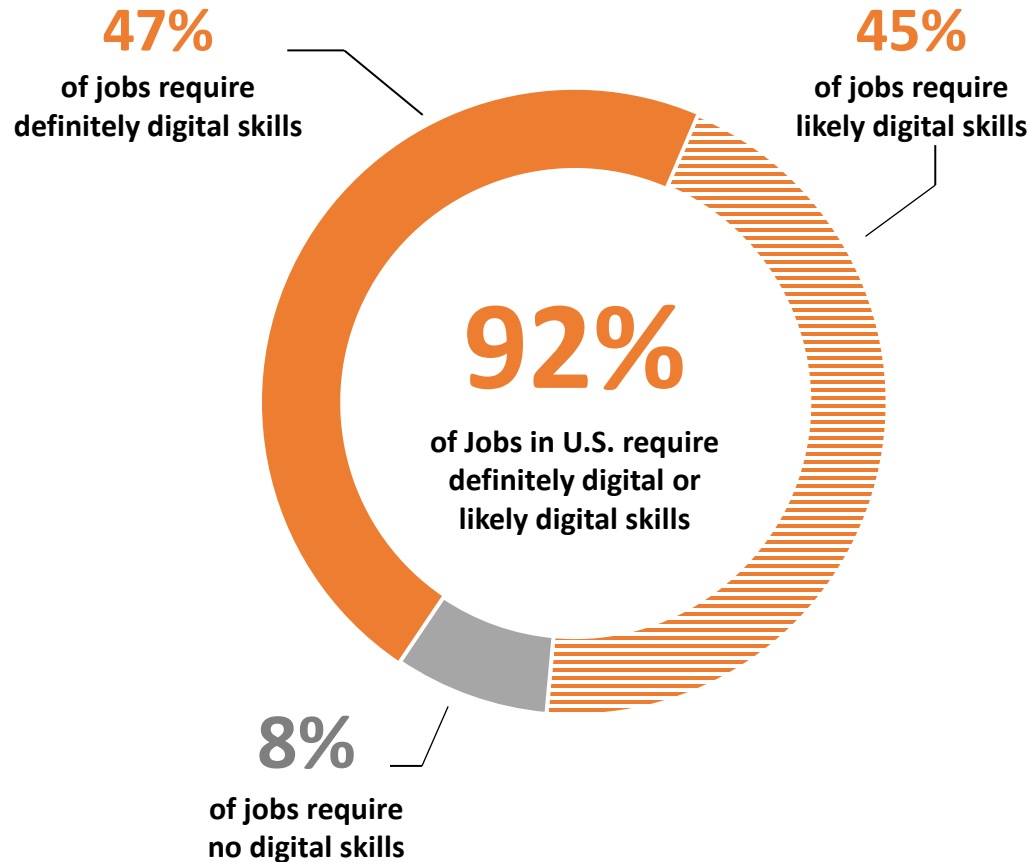
- *Definitely* digital: Microsoft Excel; Python language

- *Likely* digital: Bookkeeping; survey design

- *Not* digital: Ironing; changing diapers

Ohio employers are slightly below the national average in requiring digital skills

■ National ■ Ohio

47% (National) **44%** (Ohio)
Job ads requiring a definitely digital skill

92% (National) **89%** (Ohio)
Job ads requiring a likely digital skill

We're about to throw a lot of data at you

➢ But before we do, let's talk about what *digital skills** look like

*Also referred to in our report as **technology skills.**

Construction workers using mobile apps to submit work-order changes.

Welders using collaborative robots ("cobots") in advanced manufacturing

Photo credit: Smooth Robotics

Medical office staff supporting telehealth patients.

Agriculture workers using in-cab tractor technology for efficient tractor operation

Food processing plant workers using inventory control technologies.

Warehouse/logistics workers using digital order-picking and shipment tools

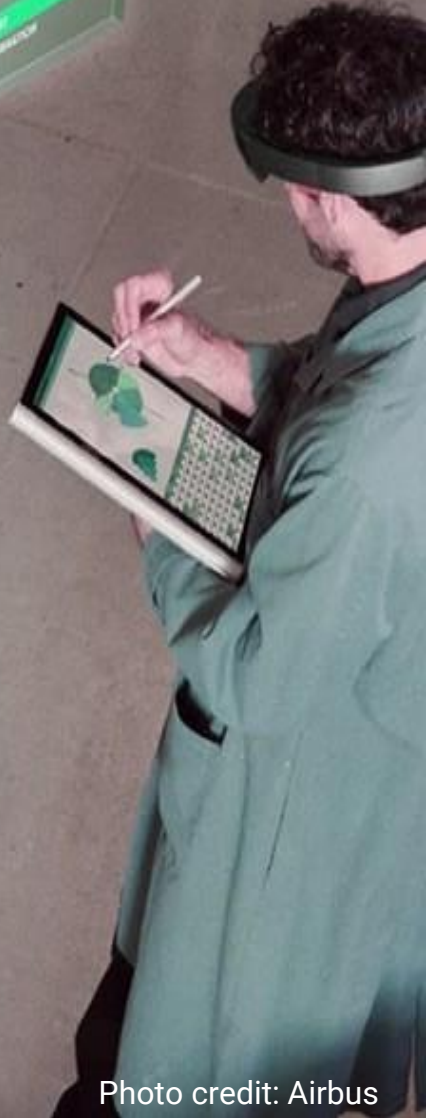# Aerospace workers using augmented reality.

Photo credit: Airbus

The bottom line:
Even entry-level positions now require digital skills.

Jobs that require very little work experience still need digital skills

Amount of work experience required	Percentage of job ads requiring <u>likely</u> digital skill	Percentage of job ads requiring <u>definitely</u> digital skill
0-2 years	95%	49%
3-5 years	98%	71%
6-8 years	99%	81%
9+ years	98%	75%

National data. For details, see full report: **Closing the Digital Skill Divide** *(National Skills Coalition, 2023.)*

Jobs that require limited education nevertheless need digital skills

Educational credential required	Percentage of job ads requiring likely digital skill	Percentage of job ads requiring definitely digital skill
High school diploma	94%	46%
Associate's degree	97%	47%
Bachelor's degree	99%	74%
Master's degree	97%	46%
Ph.D.	97%	39%

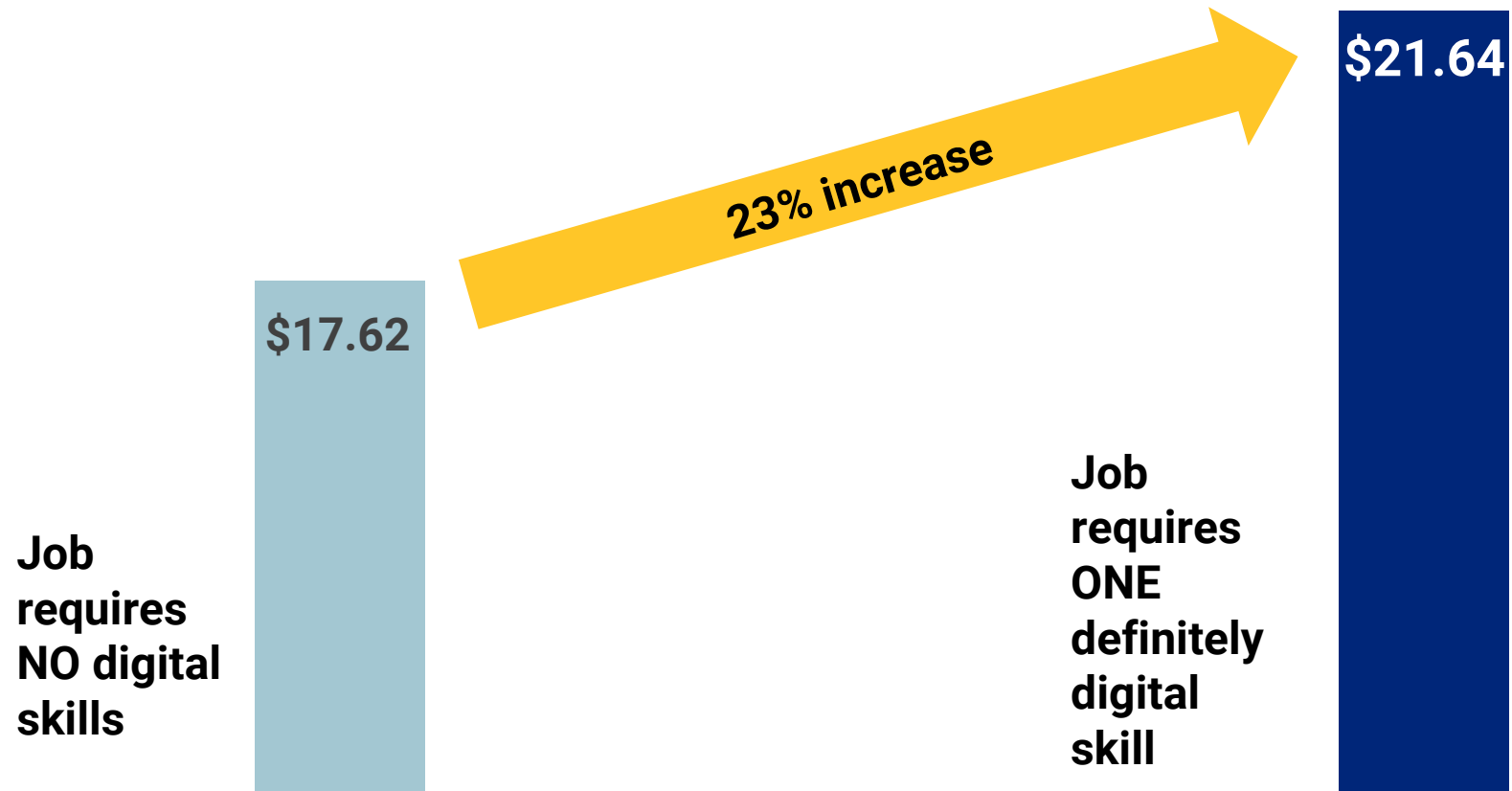*National data. For details, see full report:* **Closing the Digital Skill Divide** *(National Skills Coalition, 2023.)*

Counter-intuitive but true:
Younger workers need to develop digital skills too!

Jobs that require digital skills pay more

$17.62

Job requires NO digital skills

23% increase

$21.64

Job requires ONE definitely digital skill

*Note: Numbers shown are median hourly wages. People who qualify for jobs that require even one digital skill can earn an average of 23 percent more than those working in jobs requiring no digital skills — an increase of $8,000 per year for an individual full-time worker. Data shown are national data. For details, see full report: **Closing the Digital Skill Divide** (National Skills Coalition, 2023.)*
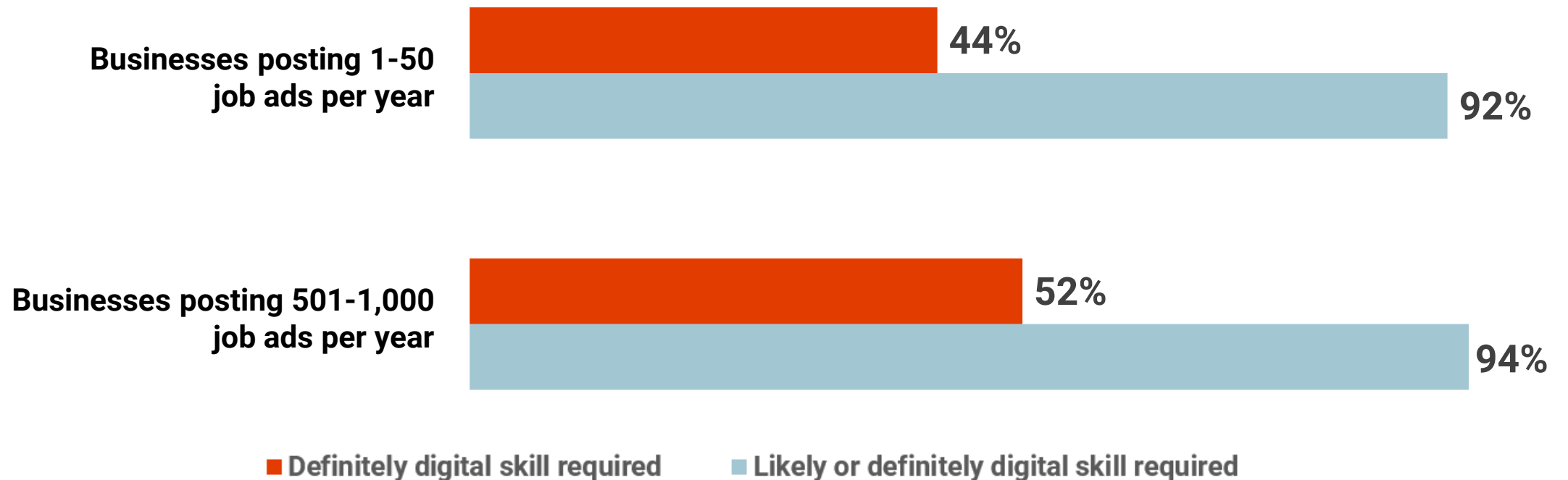
Higher pay leads to greater economic vitality for Ohio

- Workers who earn higher wages by moving to a job that requires one digital skill will typically **contribute more** in federal and state tax revenue

- Depending on the household size and composition, this amount could range from **$1,809** to **$3,712** per year.

Note: Example calculated via [taxsim.app: an interactive US Individual Income Tax simulator](taxsim.app), using Ohio as the reference state.

Small businesses also need workers with digital skills

Businesses posting 1-50 job ads per year
- 44%
- 92%

Businesses posting 501-1,000 job ads per year
- 52%
- 94%

■ Definitely digital skill required   ■ Likely or definitely digital skill required

Every industry needs digital skills

- Nationally, the percent of job ads requiring digital skills ranges from **77%** to **99%** depending on industry sector

- This includes industries that are a priority for Ohio, such as *manufacturing* (93%), *finance and insurance* (99%), *healthcare* (95%), and *transportation and warehousing* (77%).

Workers need both foundational and industry-specific digital skills

🟨 **Job ads requiring industry-specific digital skills** *(either alone or in combination with foundational skills)*

43%	68%	80%
HS diploma	Associate degree	Bachelor degree or above
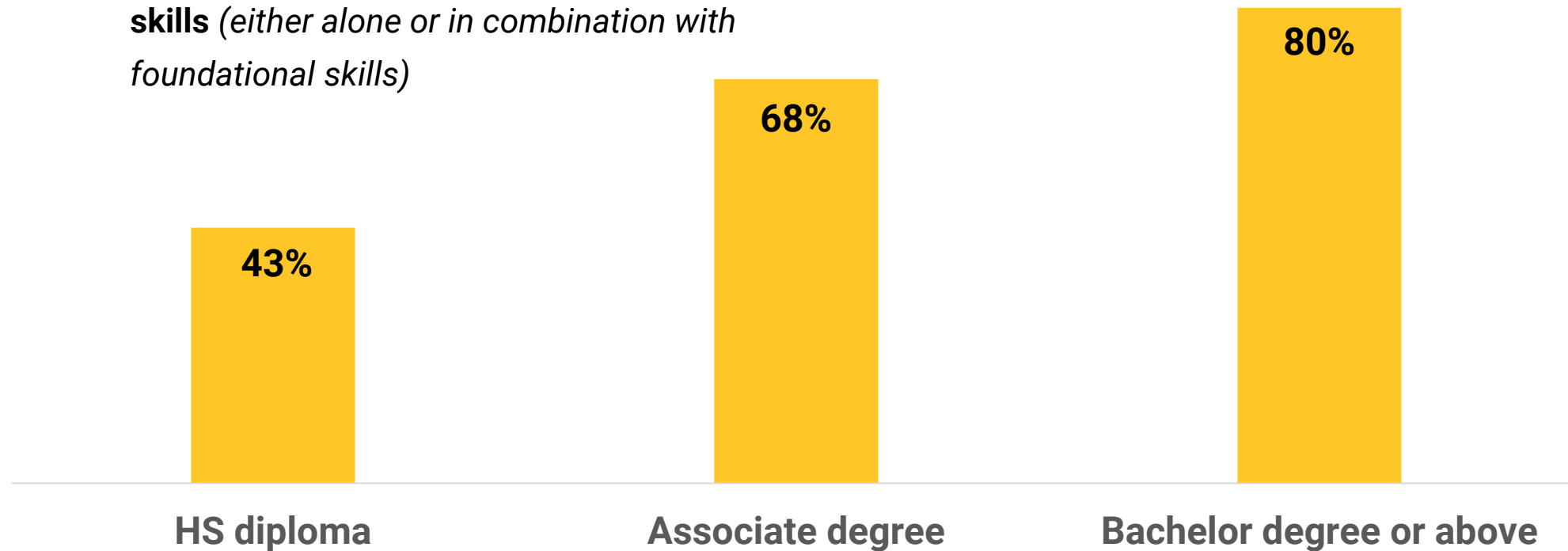
Note: National data. Numbers reflect percentage of jobs requiring an industry-specific digital <u>skill within the subset of jobs that require at least one definitely digital skill</u>. Percentages would be even higher if including jobs with only <u>likely</u> digital skills.

Let's zero in on Ohio's demand for digital skills

Ohio businesses want workers with a strong base of foundational digital skills....

Ohio's most in-demand *foundational* digital skills

- Typing
- Data entry
- Word processing
- "Computer literacy"
- Microsoft Excel
- Microsoft Outlook

Select *industry-specific* skills with strong demand in Ohio:

- **Finance and insurance:** Nationwide Mortgage Licensing System

- **Healthcare**: Electronic medical records; radiologic technology; telehealth

- **Manufacturing**: Enterprise Resource Planning (ERP) software; robotics; Programmable Logic Controller (PLC)

- **Retail**: SAS retail analytics and consumer goods software

- **Real estate and rental & leasing**: Yardi software

- **Accommodation and food services**: Empower human resources software

*Ohio-specific data from unpublished NSC analysis conducted as part of **Closing the Digital Skill Divide** report.*

Some *occupations* have especially high demand for digital skills in Ohio

Occupation	Percent of job postings requiring *definitely digital* skills
CNC Operator	99%
Data Entry Clerk	97%
Software Developer / Engineer	95%
Computer Support Specialist	94%
Bookkeeper / Accounting Clerk	89%
Office / Administrative Assistant	86%
Machinist	84%
Recruiter	82%
Human Resources / Labor Relations Specialist	82%
Scheduler / Operations Coordinator	81%
All occupations (Ohio)	*44%*

*Ohio-specific data from unpublished NSC analysis conducted as part of **Closing the Digital Skill Divide** report.*

What can Ohio leaders do with this data?

Ohio leaders can use these findings to ensure that new federal investments pay off for workers and small businesses:

1. Use Digital Equity Act and BEAD funding to expand digital skills training.

2. Combine these findings with Census data to target services and close equity gaps for covered populations.

3. Collaborate with state labor and education officials to align and amplify digital skills investments.

4. Explicitly embed digital skills throughout other state workforce development investments.

5. Invest in industry sector partnerships that bring employers together with education and training providers to create upskilling programs.

Time for your questions!

Contact information
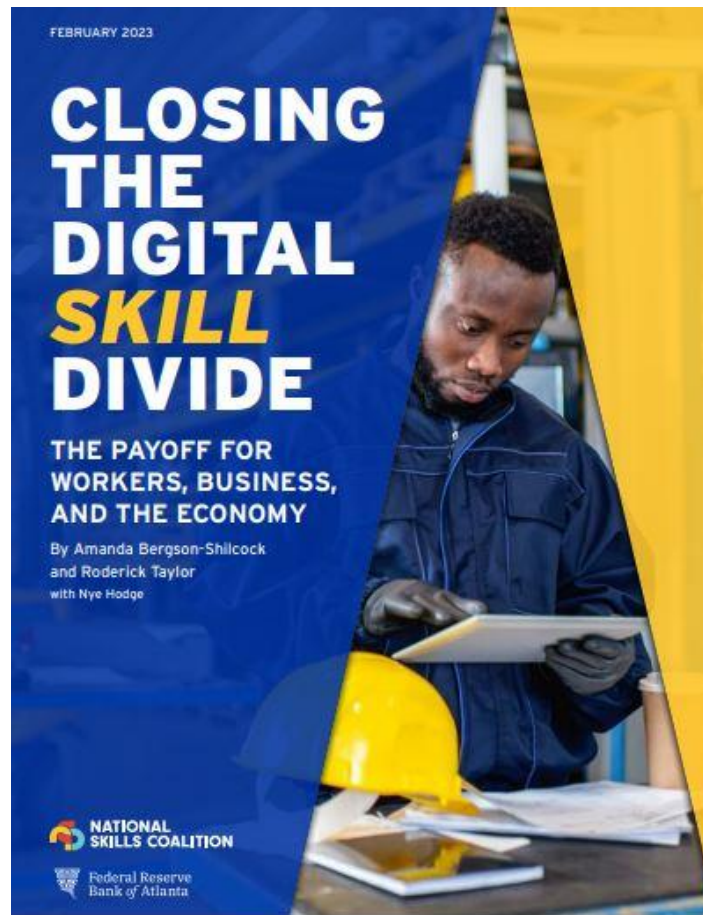
Amanda Bergson-Shilcock

Senior Fellow
215-285-2860 (mobile)

amandabs@nationalskillscoalition.org

Full report:
Closing the Digital Skill Divide
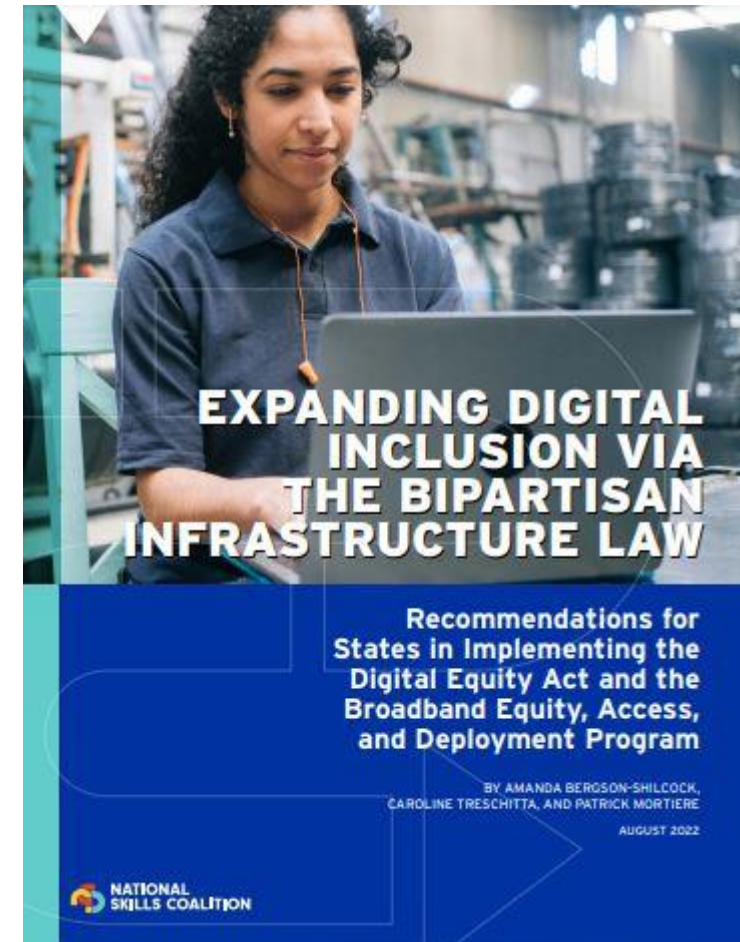
https://tinyurl.com/DigitalSkillDivide

Knowledge to action: Additional resources

- Check out NSC's **Digital Equity Act 101 fact sheet**

- NSC's experienced policy staff can help Ohio leaders identify other specific administrative or legislative policy possibilities

- NSC's previously-published Digital Equity Act and BEAD **recommendations** *(see right)* may also be helpful

EXPANDING DIGITAL INCLUSION VIA THE BIPARTISAN INFRASTRUCTURE LAW

Recommendations for States in Implementing the Digital Equity Act and the Broadband Equity, Access, and Deployment Program

BY AMANDA BERGSON-SHILCOCK, CAROLINE TRESCHITTA, AND PATRICK MORTIERE

AUGUST 2022

NATIONAL SKILLS COALITION

Sign on to our principles!

A digital skill foundation for all.

All workers need the opportunity to develop broad-based, flexible digital problem-solving skills for current technologies and ongoing technological shifts.

Ongoing upskilling for every worker in every workplace.

Workers in every industry need the opportunity to develop industry- and occupation-specific digital skills to adapt and advance in their careers.

Rapid re-skilling for rapid re-employment.

We need to be ready for sudden disruptions to the labor market or specific industries. Policies should support rapid reskilling so workers can move from one industry to another.

Sign on to our principles: tinyurl.com/DigitalEquityAtWork

Other NSC digital skills data resources

BOOSTING DIGITAL LITERACY IN THE WORKPLACE

HOW RAPID PROTOTYPING IS HELPING BUSINESSES TO UPSKILL WORKERS AND WHAT POLICYMAKERS CAN DO TO HELP

Cognizant U.S. Foundation   NATIONAL SKILLS COALITION *Every worker. Every industry. A strong economy.*

Full report:
www.tinyurl.com/BoostingDL

➢ ***Applying a Racial Equity Lens to Digital Literacy*** *(fact sheet)*

➢ Digital skills fact sheets by industry:
   ➢ **Manufacturing**
   ➢ **Retail & hospitality**
   ➢ **Health & social work**
   ➢ **Construction, transportation & storage**

The New Landscape of Digital Literacy

How workers' uneven digital skills affect economic mobility and business competitiveness, and what policymakers can do about it.

Full charts and graphs in this data report:
tinyurl.com/NewLandsDL

Speak up for digital skills in Washington DC at NSC's 2023 Skills Summit!

The **Skills Summit** is our largest event of the year. Join education and workforce advocates from across the country as we:

- **Learn** about critical federal skills policy.
- **Meet** with legislators on Capitol Hill and members of the Biden Administration.
- Leave equipped to **fight** for investments in inclusive, high-quality skills training.

SKILLS SUMMIT

MAY 1-3, 2023
Omni Shoreham Hotel
Washington, D.C.

Register:
https://www.nationalskillssummit.com/