



**NATIONAL
SKILLS
COALITION**

Every worker. Every industry.
A strong economy.

Closing the Digital **Skill** Divide:

The Payoff for Illinois Workers, Business, and the Economy

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Today's conversation

- **What we learned** about the demand for digital skills
- **What our findings mean** for Illinois WIOA partners
- **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 pandemic brought home the urgency of digital access for WIOA program participants.



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



People often enroll in digital skills classes to get a job or **get a better job**





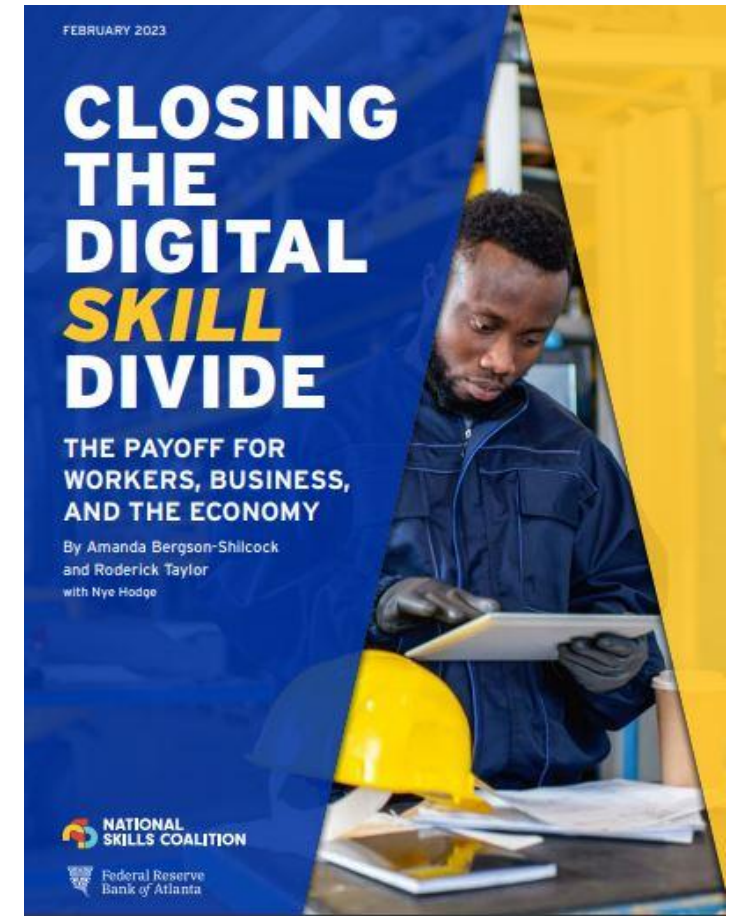
**So we decided
to research
employers'
demand for
digital skills.**





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.



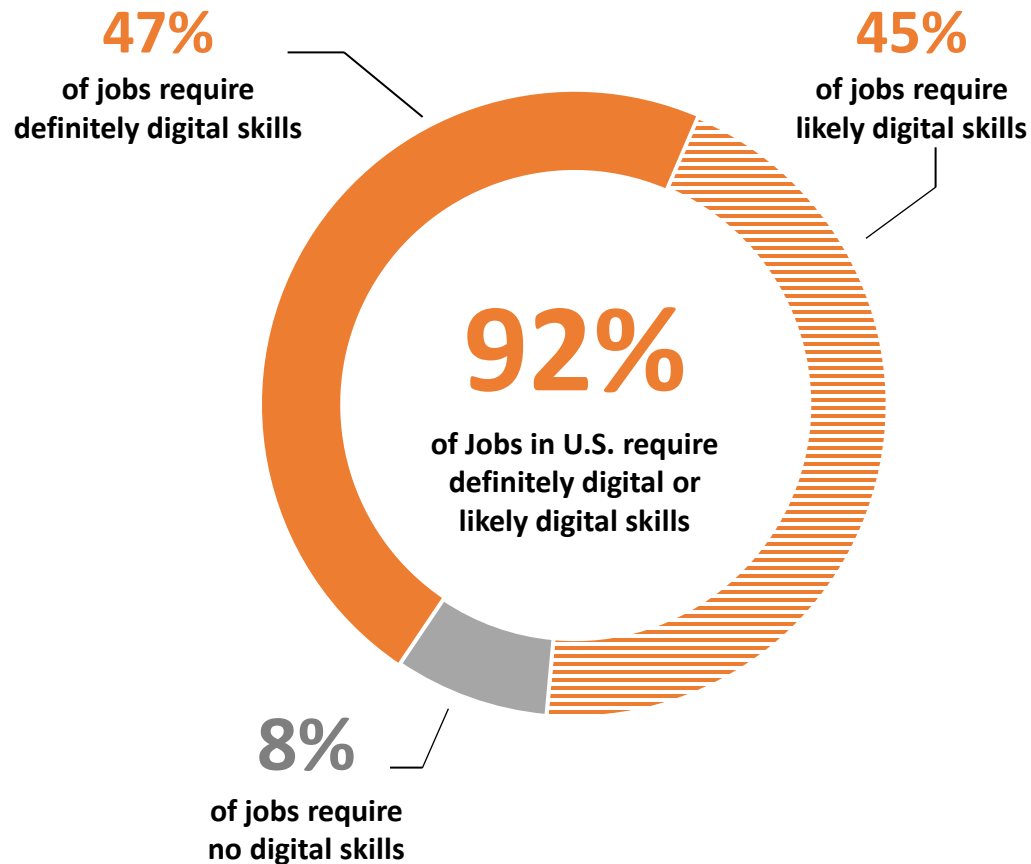
We analyzed 43 million job ads

- 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





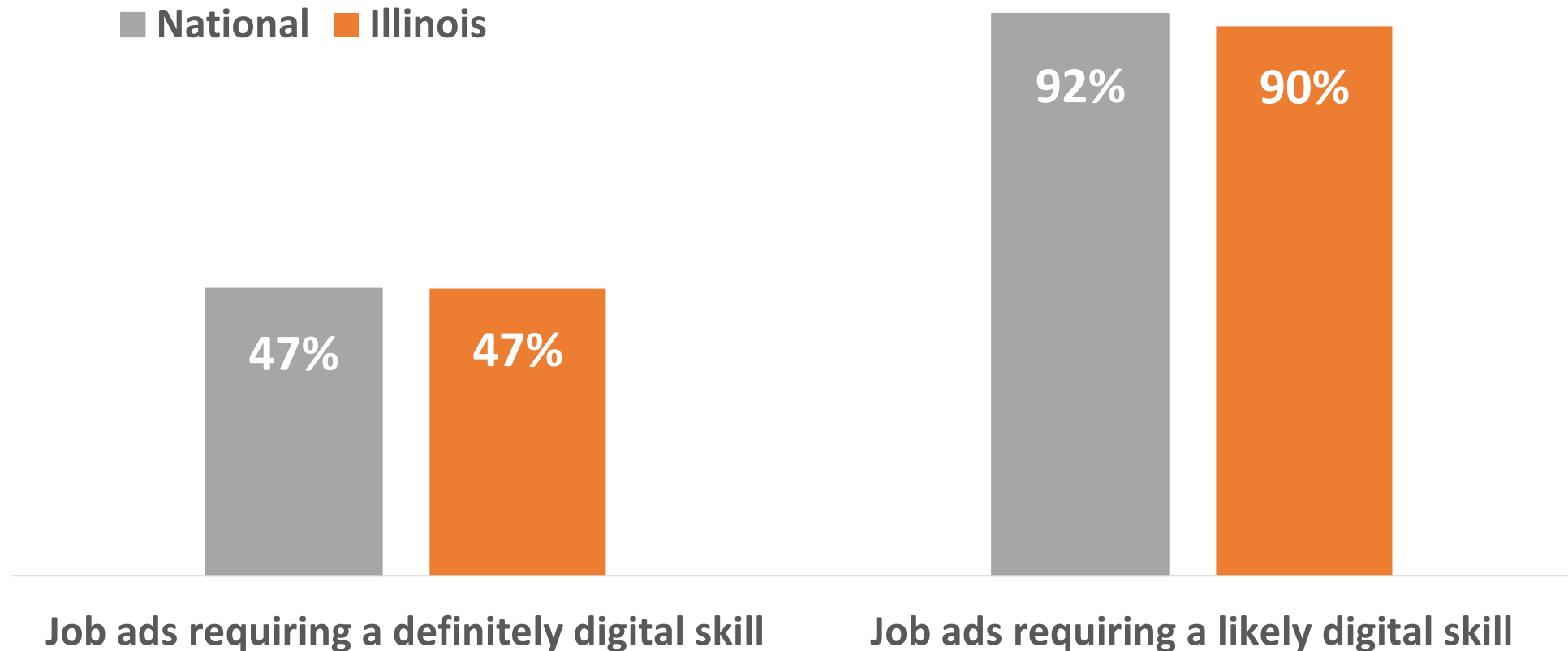
Virtually all of today's jobs require digital skills



- **Definitely** digital: Microsoft Excel; Python language
- **Likely** digital: Bookkeeping; survey design
- **Not** digital: Ironing; changing diapers



Illinois employers are close to the national average in requiring digital skills





Many jobs that employ WIOA participants already require digital skills

- This isn't the *future* of work; it's the *now* of work
- Many WIOA program participants are *already* working in jobs that require digital skills, spending significant time and energy ***upskilling themselves*** OR compensating for their skill gaps
- Others are in danger of ***losing their jobs*** (or have already done so) because of digital skill demands

Let's look at some examples...



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



Restaurant workers using online ordering and delivery software





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



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

Photo credit: Smooth Robotics



Medical office staff supporting telehealth patients.



Food processing plant workers using inventory control technologies.



Florist using inventory tracking software to track incoming inventory and sales



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



Benefits Navigator using case management software to help people navigate the complex array of public benefits and services.



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% |



Jobs that require limited education nevertheless need digital skills

| Educational credential required | Percentage of job ads requiring <u>likely</u> digital skill | Percentage of job ads requiring <u>definitely</u> 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% |

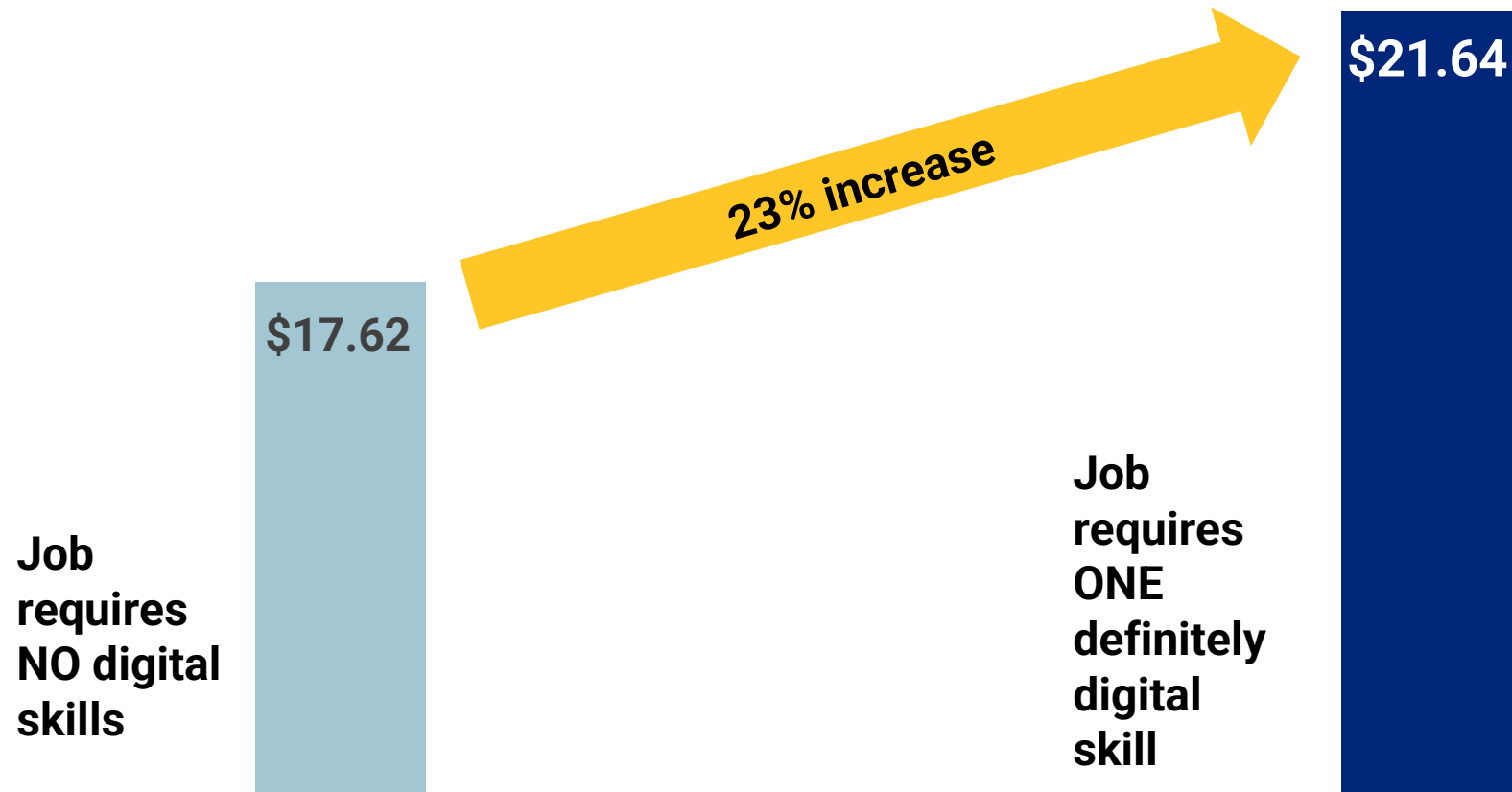
Counter-intuitive but true:

Younger workers need to develop digital skills too!





Jobs that require digital skills pay more



*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.)*



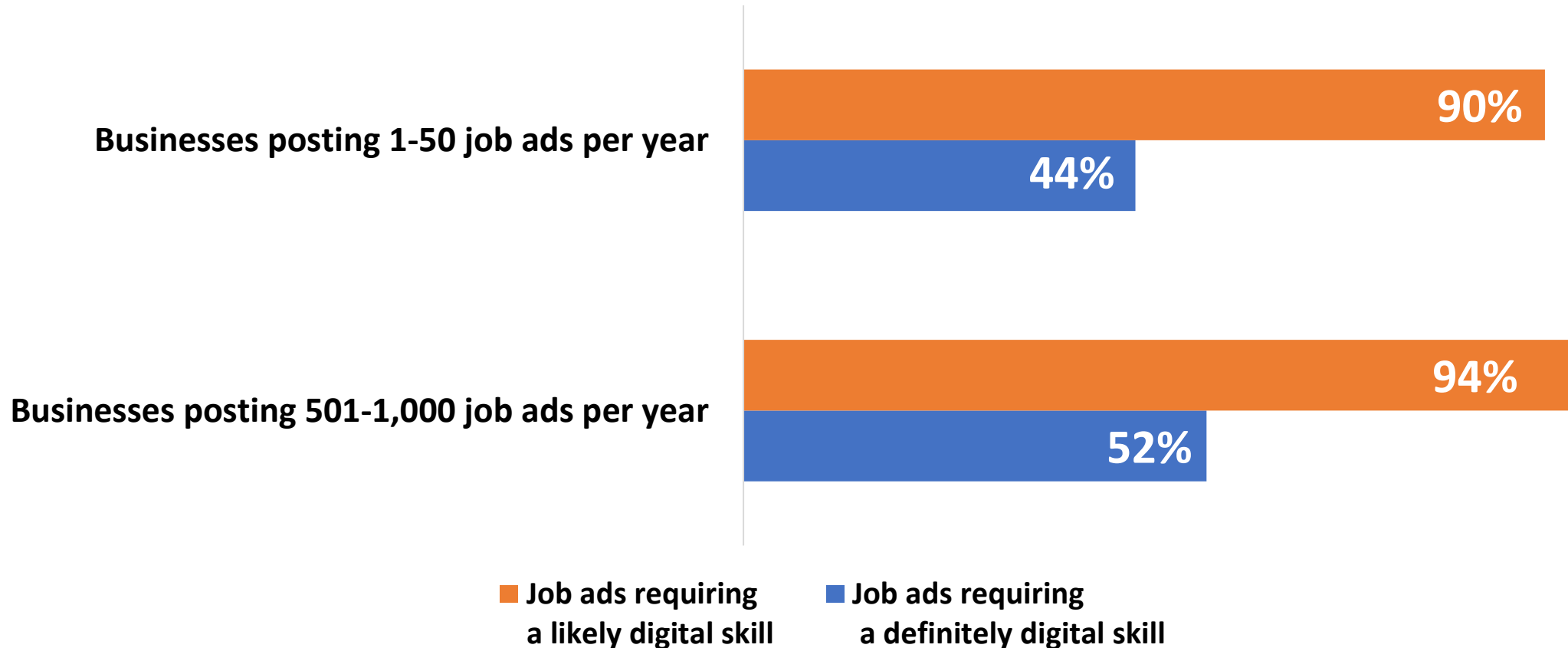
Higher pay leads to greater economic vitality for Illinois

- 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 **\$1,363** to **\$2,879** per year.

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



Small businesses also need workers with digital skills



*Note: National data. For details, see full report: **Closing the Digital Skill Divide** (National Skills Coalition, 2023.) The dataset used for this analysis does not directly measure the size of a company, so we inferred firm size based on the volume of job ads posted by the company in a year.*



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



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









Illinois' most in-demand *foundational* digital skills

- Typing
- Data entry
- Word processing
- “Computer literacy”
- Microsoft Excel
- Microsoft PowerPoint



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

-  **Finance and insurance:** Nationwide Mortgage Licensing System
-  **Healthcare:** Electronic medical records; radiologic technology
-  **Manufacturing:** Enterprise Resource Planning (ERP) software; Computer Numerical Control (CNC)
-  **Retail:** SAS retail analytics and consumer goods software; robotics; Market Trend
-  **Real estate and rental & leasing:** Yardi software
-  **Accommodation and food services:** Empower human resources software



What can Illinois WIOA system partners do with this data?



Illinois educators and workforce leaders can use these findings to ensure that WIOA *and* new federal investments pay off for workers and learners:





1. Explicitly embed digital skills throughout industry-specific training programs.



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



3. Ensure that WIOA-funded programs equip workers with the supportive services they need to succeed.



4. Expand financial aid for high-quality short-term upskilling programs.



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



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

Census data show which industries are more likely to employ covered populations, such as low-income workers...



FIGURE 11: Percent of Illinoisans aged 16-64 living in low income households, by Industry of Employment



Data source: Census Bureau American Community Survey, 2016-2020 five-year estimates. Excerpted results; does not show all industries. See complete data in *Closing the Digital Skill Divide* (National Skills Coalition, 2023).

...and veterans...



FIGURE 13: Percent of veterans among all Illinois workers 16-64, by Industry of Employment



Data source: Census Bureau American Community Survey, 2016-2020 five-year estimates. Excerpted results; does not show all industries. See complete data in *Closing the Digital Skill Divide* (National Skills Coalition, 2023).



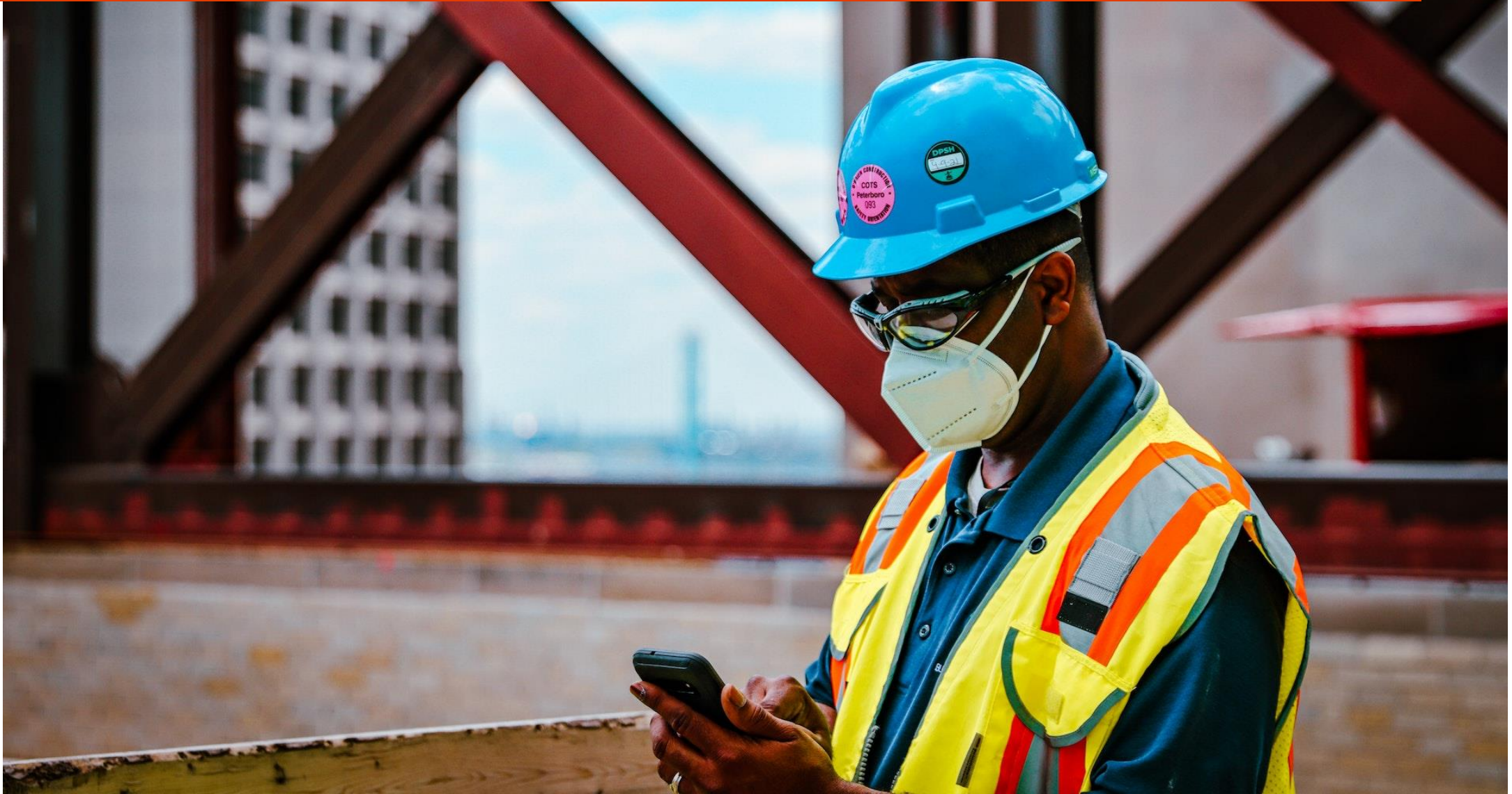
...and people with English language barriers.

FIGURE 15: Percent of Illinoisans aged 16-64 with English language barriers, by Industry of Employment



Data source: Census Bureau American Community Survey, 2016-2020 five-year estimates. Excerpted results; does not show all industries. See complete data in *Closing the Digital Skill Divide* (National Skills Coalition, 2023).

Knowing which industries disproportionately employ covered populations can help to target skills training.





This data can also help align State Digital Equity Plans with other public workforce and education investments.



7. Collaborate with trusted community organizations to develop inclusive broadband workforce career pathways.





**Time for your
questions!**



Contact information

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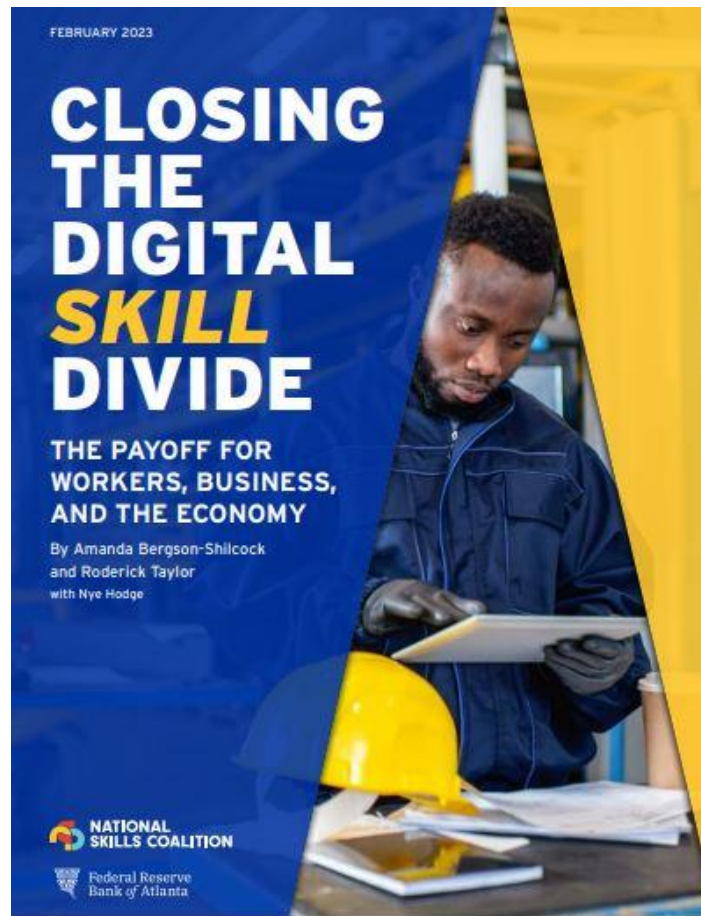
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Full report: *Closing the Digital Skill Divide*

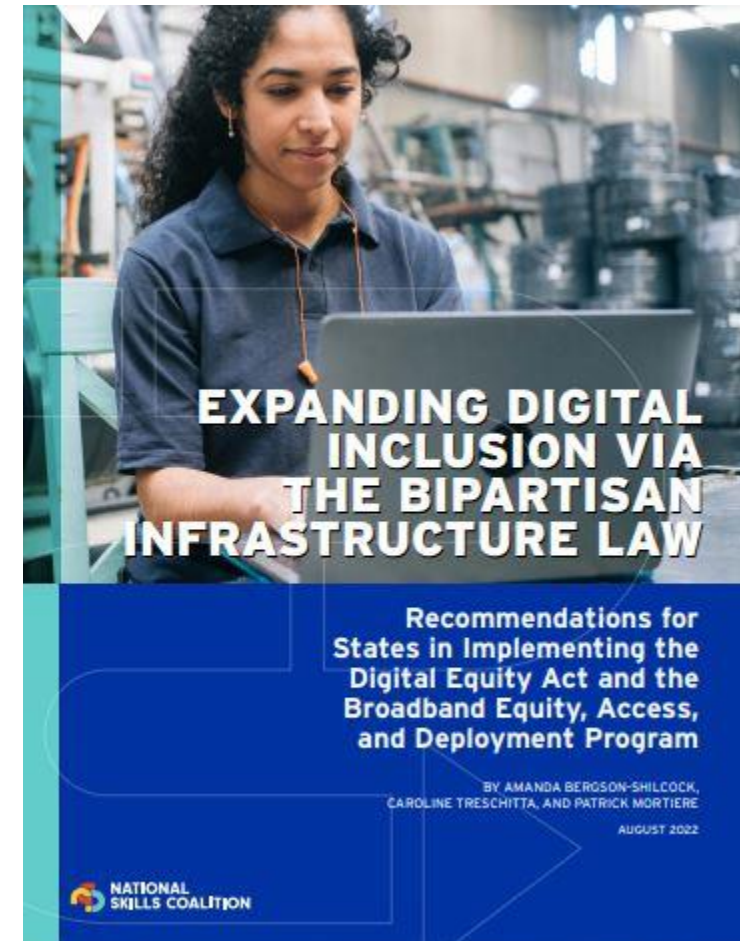


<https://tinyurl.com/DigitalSkillDivide>



Knowledge to action: Additional resources

- Check out NSC's [Digital Equity Act 101 fact sheet](#)
- NSC's experienced policy staff can help Illinois 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





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



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