



**NATIONAL  
SKILLS  
COALITION**

Every worker. Every industry.  
A strong economy.

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

Webinar for the Virginia Departments of Education  
(VDOE) and Aging & Rehabilitative Services (DARS)

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**February 23, 2023**



# Today's conversation

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- **What we learned** about the demand for digital skills
- **What our findings mean** for Virginia Career Pathways advocates, educators, and other stakeholders
- **Your questions!**



# About National Skills Coalition:

## Our vision

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- ▶ 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**.







# We analyzed 43 million job ads from 2021

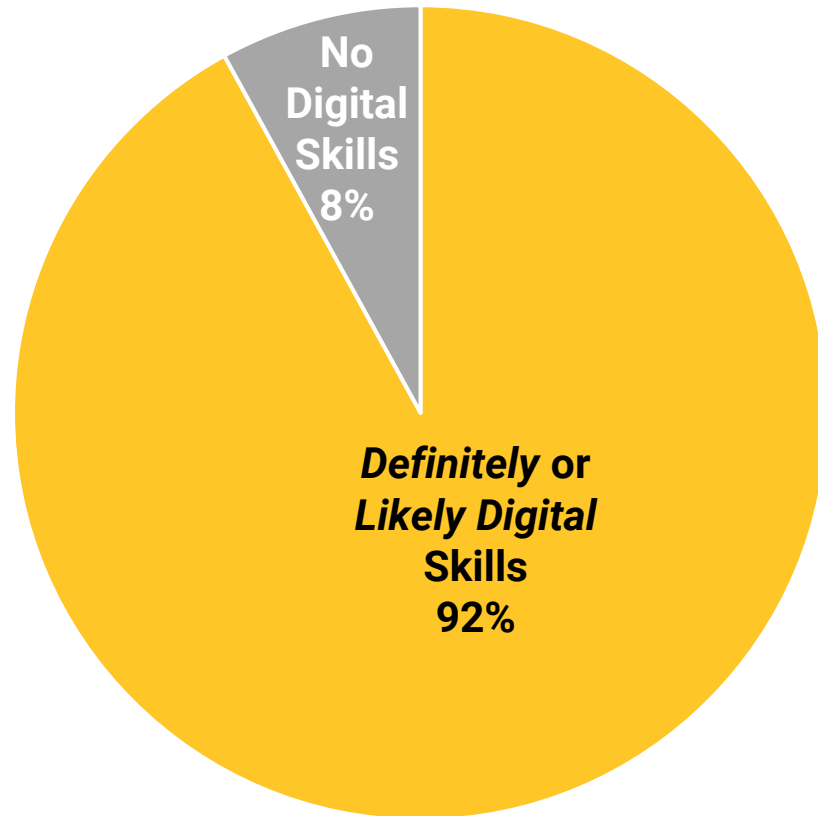
- The average ad sought **8 skills**
- Data was initially collected and standardized by Lightcast
- Further analysis was carried out by NSC in collaboration with the Federal Reserve Bank of Atlanta



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



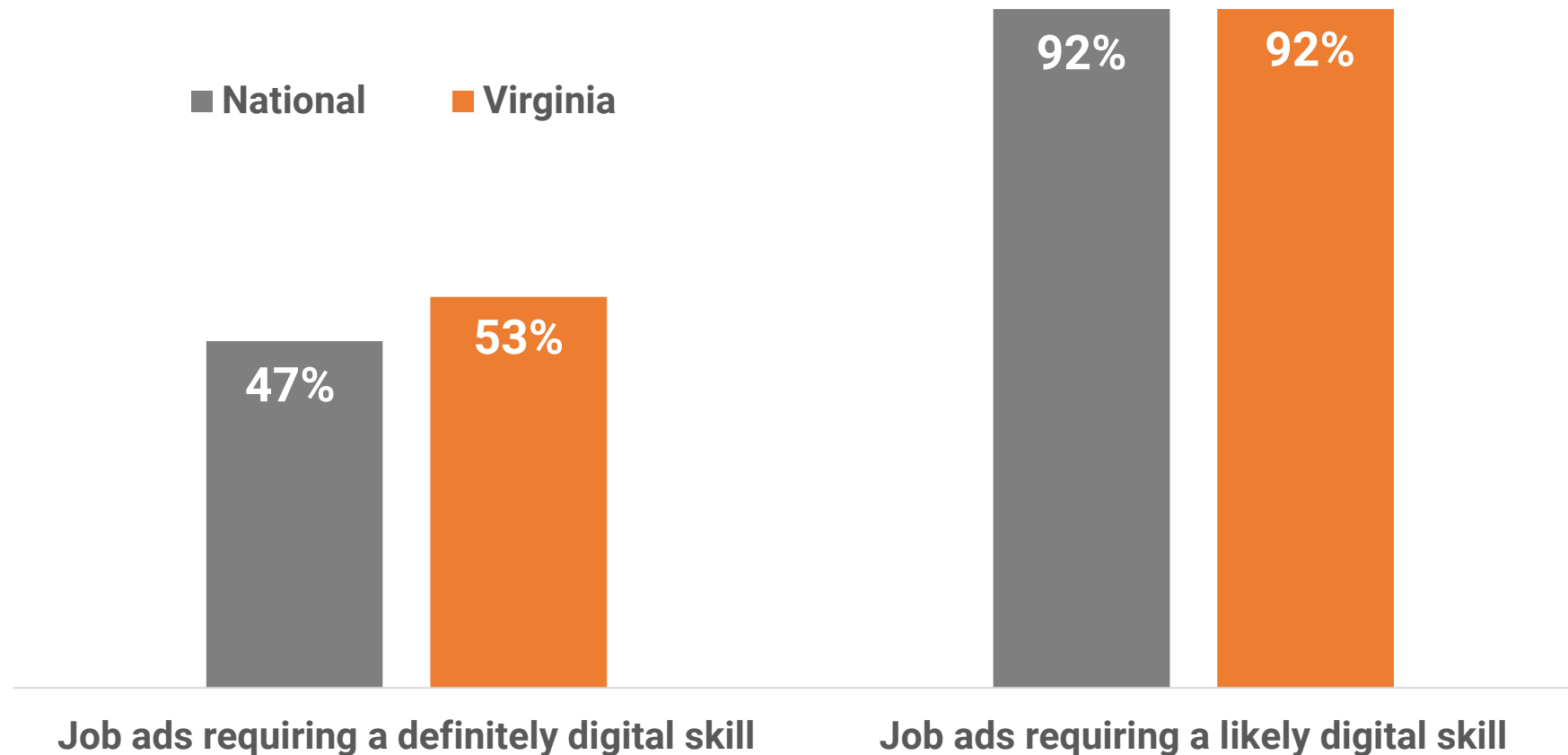
# Virtually all of today's jobs require digital skills



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



# Virginia employers are more likely than average to require definitely digital skills





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

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

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





**Agriculture worker using in-cab tractor technology (e.g., AutoTrac) for efficient tractor operation**





**Food processing plant workers using inventory control technologies**





**Wind turbine service technicians  
using industrial control software.**



# Restaurant workers using online ordering and delivery software







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

*Photo credit: Smooth Robotics*





**Realtors using Canva software  
to market properties**



**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:**

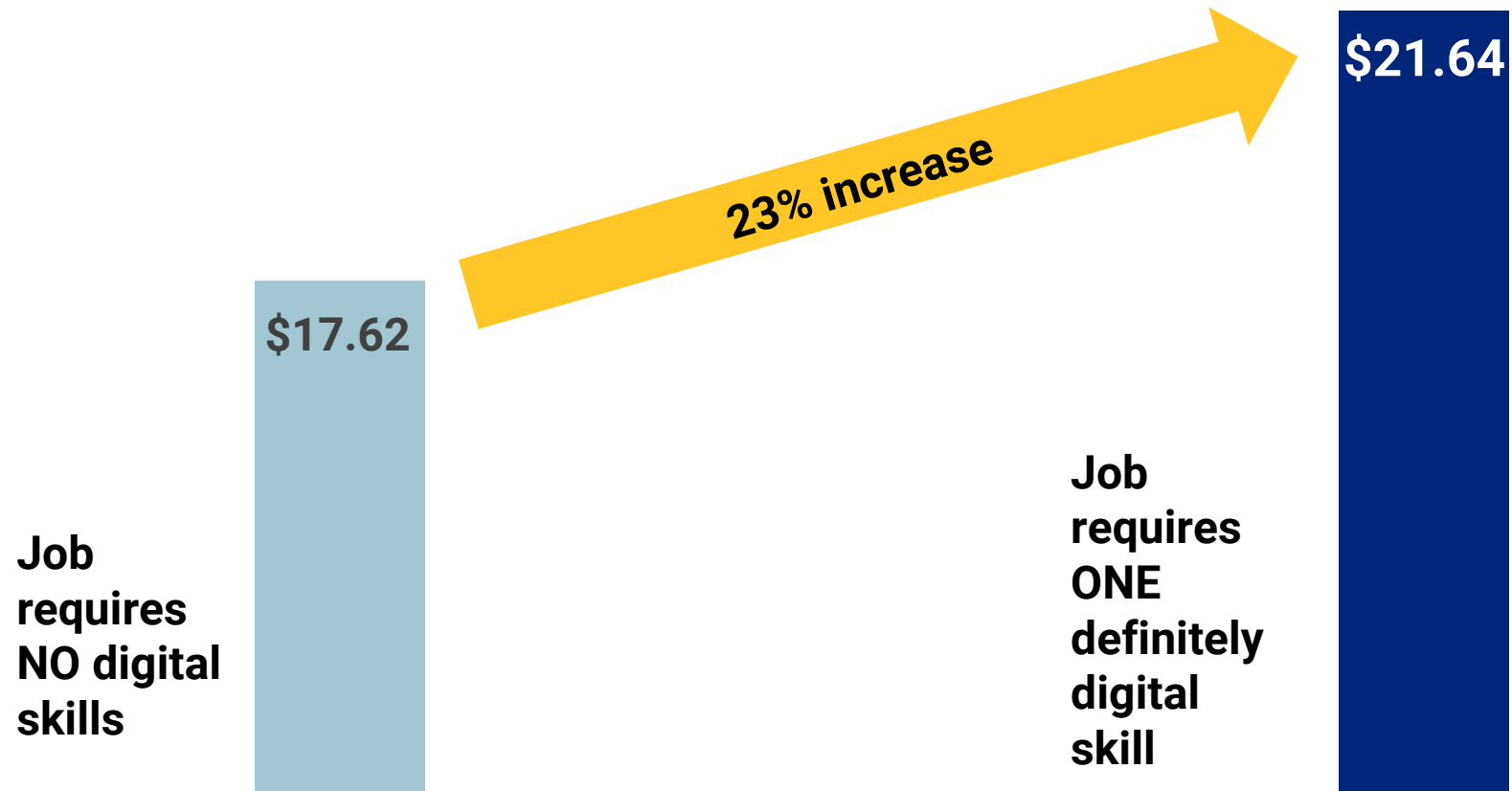
**Younger workers need to develop digital skills too!**







# 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.)*



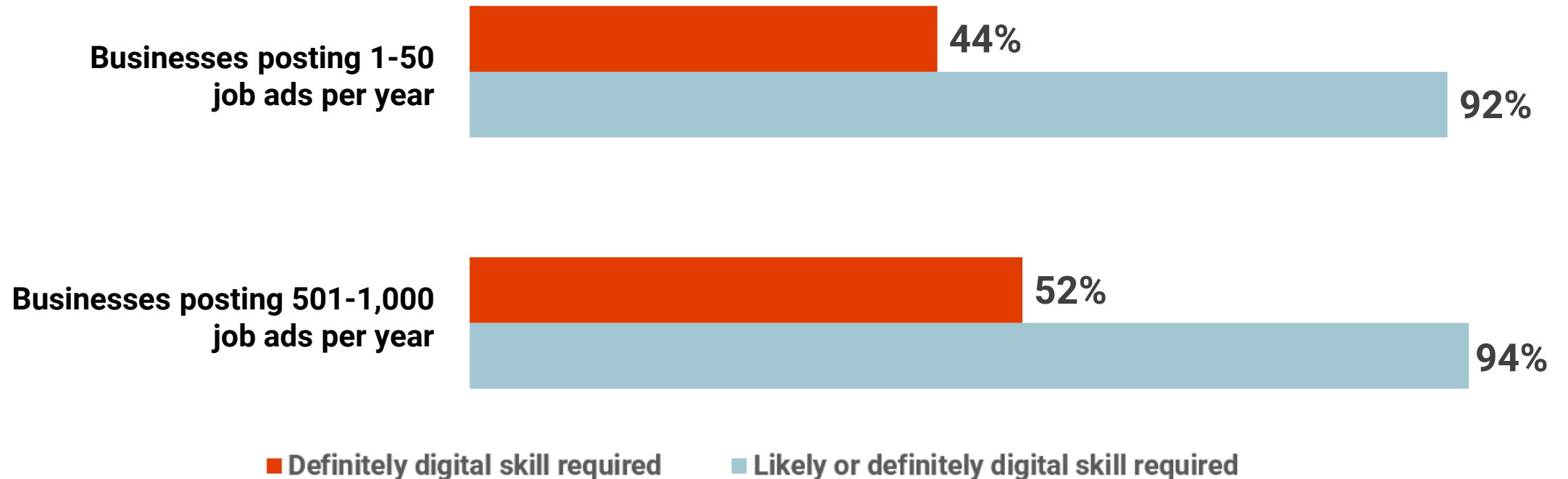
# Higher pay leads to greater economic vitality for Virginia

- 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 **\$2,043** to **\$4,085** per year.

*Note: Example calculated via [taxsim.app: an interactive US Individual Income Tax simulator](https://taxsim.app), using Virginia 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.*



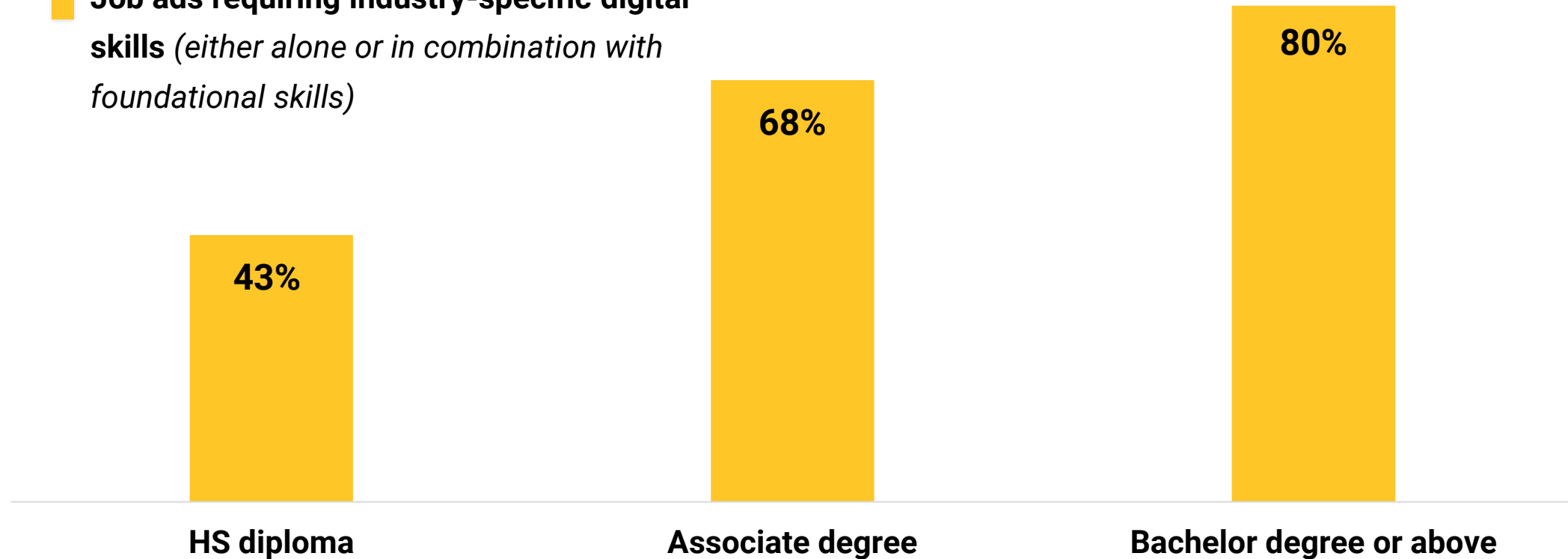
# Every industry needs digital skills

- 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 Virginia, such as ***manufacturing*** (93%), ***utilities*** (91%), ***transportation and warehousing*** (77%) and ***healthcare*** (95%).



# Virginia workers need both foundational and industry-specific skills

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



*Note: National data. Numbers reflect percentage of jobs requiring an industry-specific digital skill within the subset of jobs that require at least one definitely digital skill. Percentages would be even higher if including jobs with only likely digital skills. For details, see **Closing the Digital Skill Divide** report.*



# Let's zero in on Virginia's demand for digital skills







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








# Virginia's most in-demand *foundational* digital skills

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- Microsoft Office suite
- Social media
- Data entry
- Computer literacy
- Typing



# Select *industry-specific* skills with strong demand in Virginia:

-  **Healthcare:** Electronic medical record software
-  **Manufacturing:** SAP; Computer Numerical Control (CNC)
-  **Retail:** Robotics; SAS statistical software
-  **Real estate and rental & leasing:** Yardi software
-  **Finance and insurance:** Nationwide Mortgage Licensing System



# Some occupations have especially high demand for digital skills in Virginia

Occupation	Percent of job postings requiring <i>definitely digital skills</i>
Network / Systems Administrator	100%
Software Developer / Engineer	95%
Computer Support Specialist	95%
Cyber / Information Security Engineer / Analyst	93%
Bookkeeper / Accounting Clerk	90%
Office / Administrative Assistant	87%
Human Resources / Labor Relations Specialist	81%
Personal Banker / Banking Sales Staff	80%
Scheduler / Operations Coordinator	80%
Recruiter	80%
<b>All occupations (Virginia)</b>	<b>53%</b>

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





**What can Virginia leaders do with this data?**



**Virginia educators and policymakers can use these findings to ensure that new federal investments pay off for workers and learners:**








**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. Explicitly embed digital skills throughout industry-specific career pathways programs.**





**4. Ensure that career pathways equip workers with the supportive services they need to succeed.**





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



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







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





**Time for your  
questions!**



# Contact information

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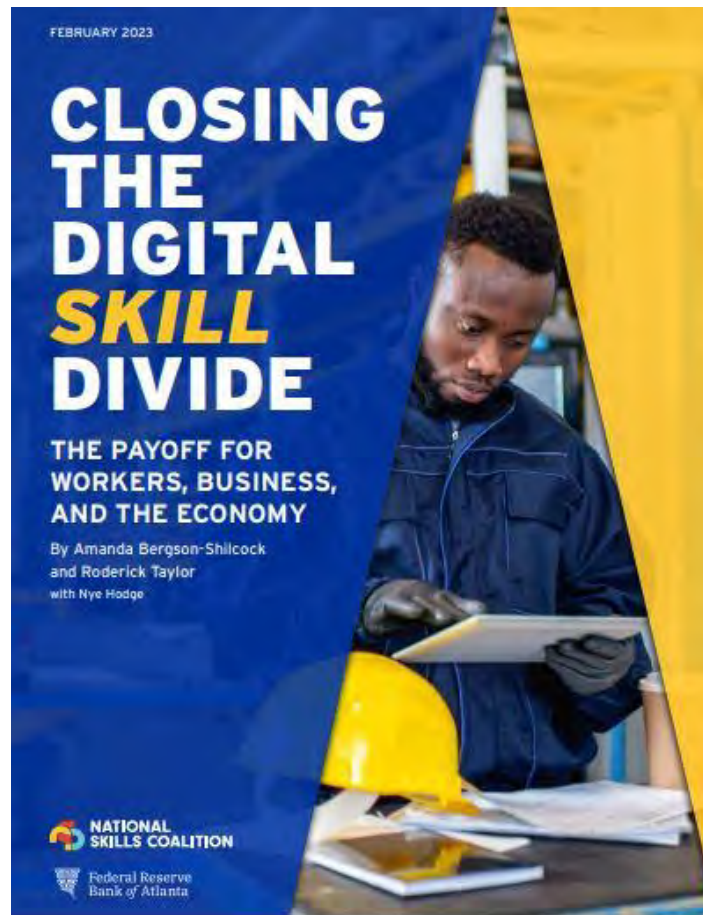
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# Full report: *Closing the Digital Skill Divide*

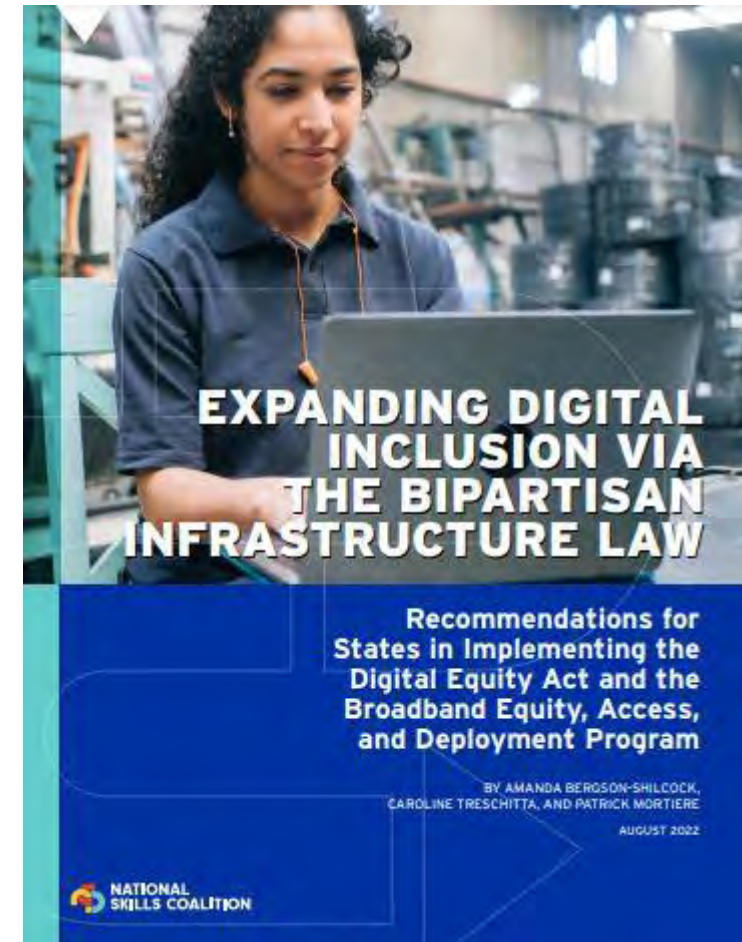


<https://tinyurl.com/DigitalSkillDivide>



# Knowledge to action: Additional resources

- NSC's experienced policy staff can help Virginia 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



# Other NSC digital skills data resources



Full report:  
[www.tinyurl.com/BoostingDL](http://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](https://tinyurl.com/NewLandsDL)

# Additional digital skills data resources

The US Department of Education is currently funding the [Digital Resilience in the American Workforce \(DRAW\)](#) research project, which has produced several great resources:

- This blog post, with an [excellent synopsis of the various Digital Skills frameworks](#).
- Another blog post [for educators](#) and other direct-service practitioners. It provides links to the incredibly useful [Digital Skills Library](#) of 2,000 free resources for learning digital skills
- A lengthy [landscape scan](#) for the project, covering a huge range of important findings related to digital skills and resilience.