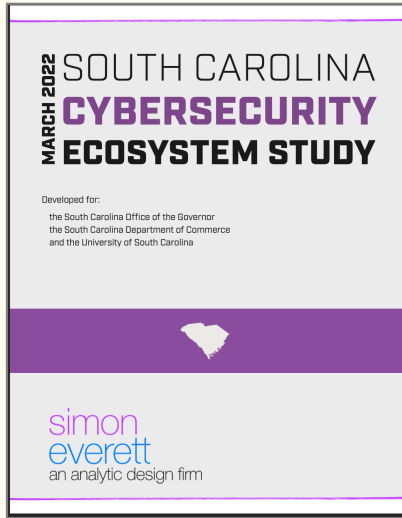


# South Carolina Cyber Ecosystem Coordination Initiative

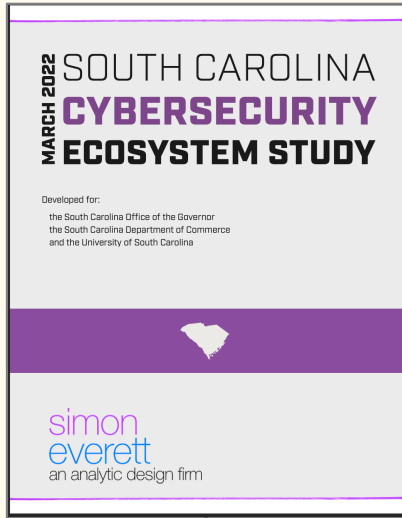
prepared for SCITDA // 6 Mar 2023

# how we got here



- analyzed cyber industry composition, workforce, and economic impact
- evaluated ten pillars of cyber ecosystem (e.g., education, investment, posture & readiness)
- catalogued and characterized enabling assets
- performed comparative assessment against five other states

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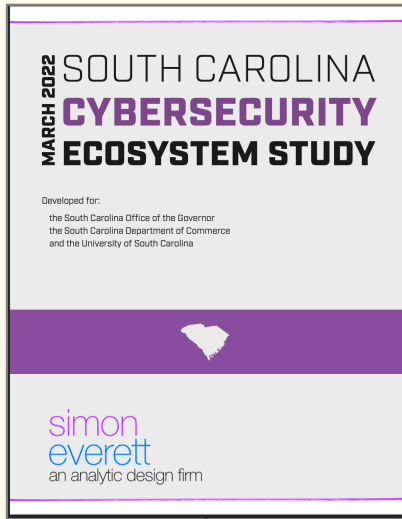


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- developed 18-point action plan based upon study findings
- recommended governance structure to improve coordination across the pillars

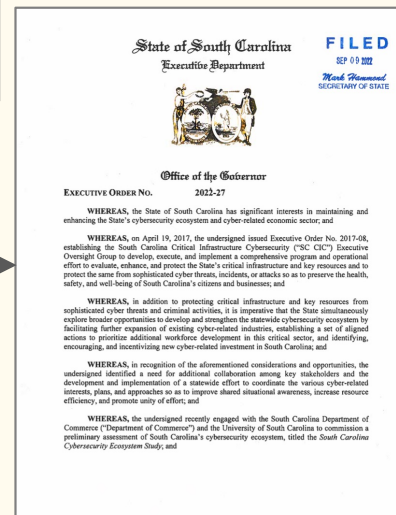
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- formalized statewide initiative to improve coordination and collaboration across all sectors and enhance the state's competitive standing
- directed SC Commerce to develop a comprehensive strategic plan for improved public awareness, resource provision, and unity/efficiency of effort

# overarching goals

align

ecosystem organizations  
to ensure resources and initiatives are optimized

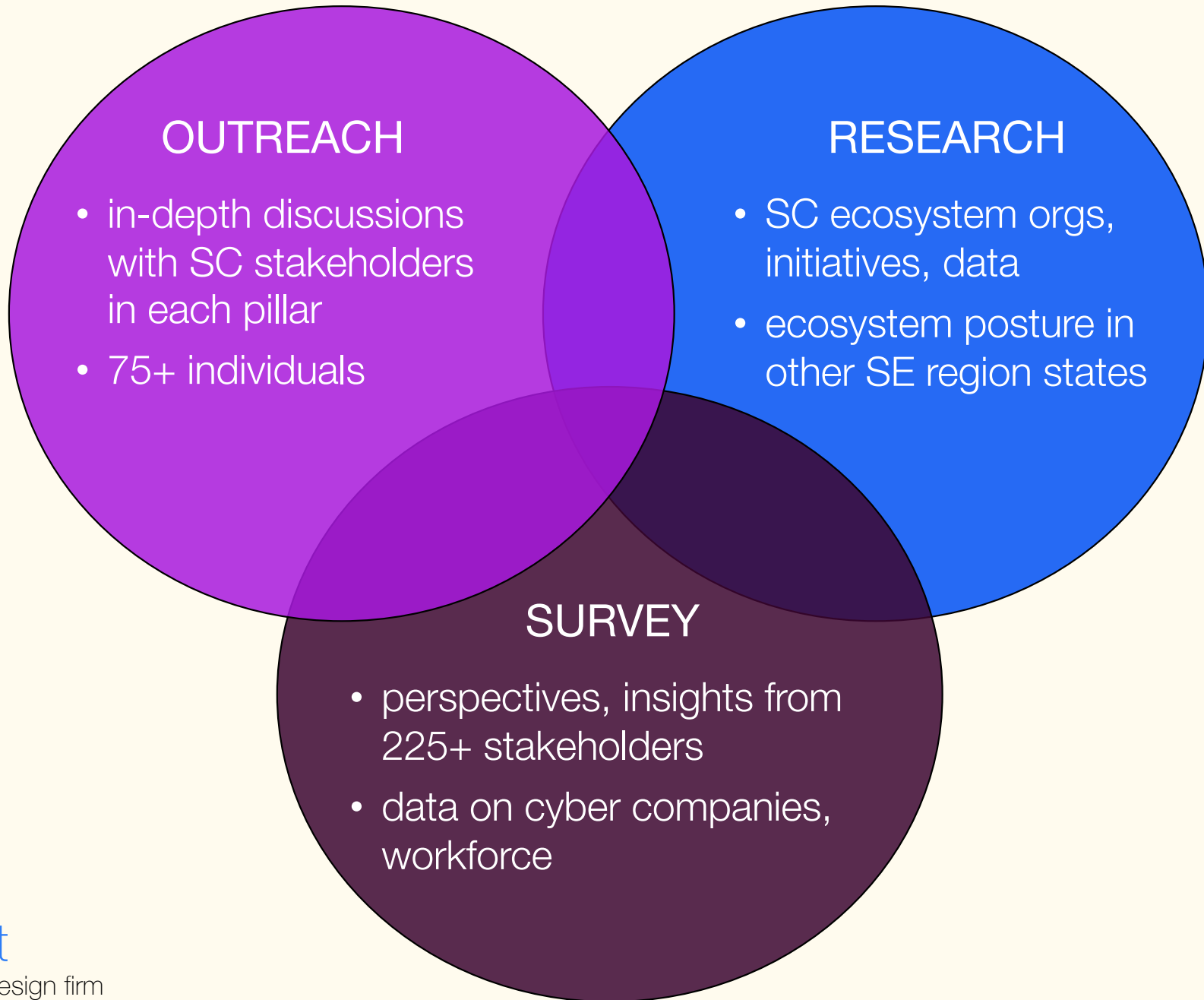
augment

state and regional capacity  
to create a secure and vibrant cyberspace  
for residents, business, and the public sector

attract

investors, executives, and professionals  
to catalyze economic growth and develop a world-class workforce


# study overview // approach



# industry overview // company composition

324 relevant\* companies

{ 47 pure-play (15%)  
277 diversified (85%) }



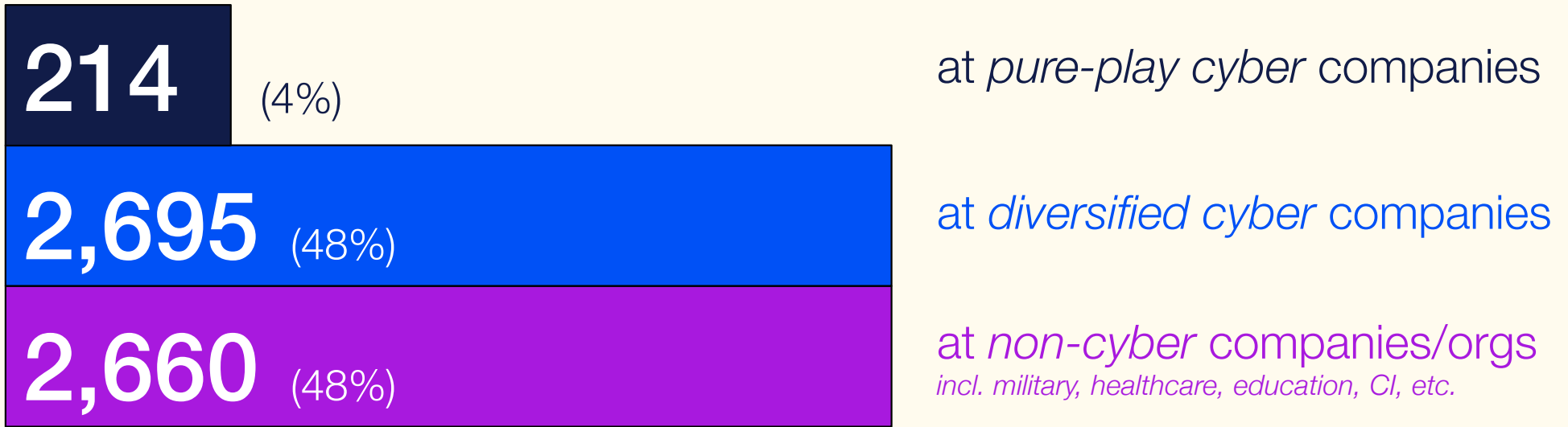
*\*operates within one of 15 cyber-relevant NAICS codes; located in SC and/or performs on an SC-based contract*

*list compiled from data provided by SC Competes (97), survey responses (40), and stakeholders (21), as well as research on LinkedIn (92) and USAspending.gov (75)*

- includes many computer repair shops that happen to offer a cybersecurity service
- heavily reliant on NIWC-driven DoD contracting industry in Charleston (more than 40% of SC cyber companies are in CHS)
- only 8 of the state's pure-play firms appear to employ 10 or more cybersecurity professionals

SC needs more growing, pure-play companies in order to create a vibrant cybersecurity ecosystem and drive growth across the pillars

# industry overview // cybersecurity professionals



total 5,569 total cybersecurity professionals in SC

- considers workers in 13 standard occupational classification (SOC) codes
- 12 of those SOC codes are included at weights of 30% and below
- only 1 SOC (15-1122, Information Security Analyst) is included at 100% (see next slide)

SC's cyber industry is largely embedded within other industries rather than having its own prominence—challenging growth across the pillars and SC's ability to play a leading role within the region



# Industry overview // SC workforce breakdown

**NETWORK AND COMPUTER  
SYSTEMS ADMINISTRATORS**  
**29%**

**ALL OTHER SOC CODES**  
**9%**

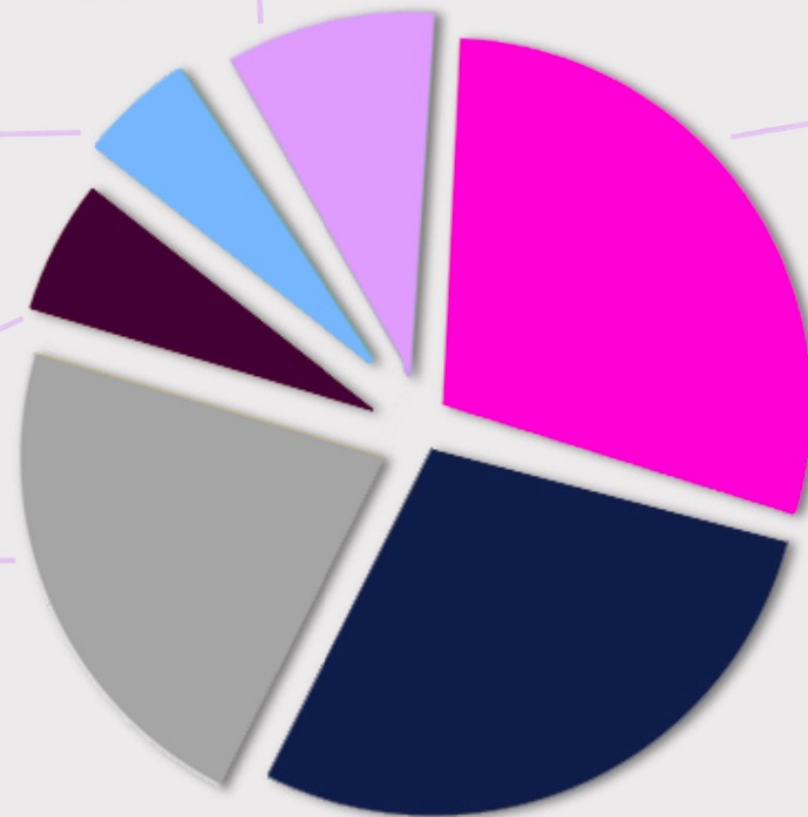
**SOFTWARE DEVELOPERS AND  
SOFTWARE QUALITY ASSURANCE  
ANALYSTS AND TESTERS**  
**5%**

**COMPUTER NETWORK  
ARCHITECTS** **6%**

**COMPUTER AND INFORMATION  
SYSTEMS MANAGERS**  
**22%**

**INFORMATION SECURITY ANALYSTS**  
**29%**

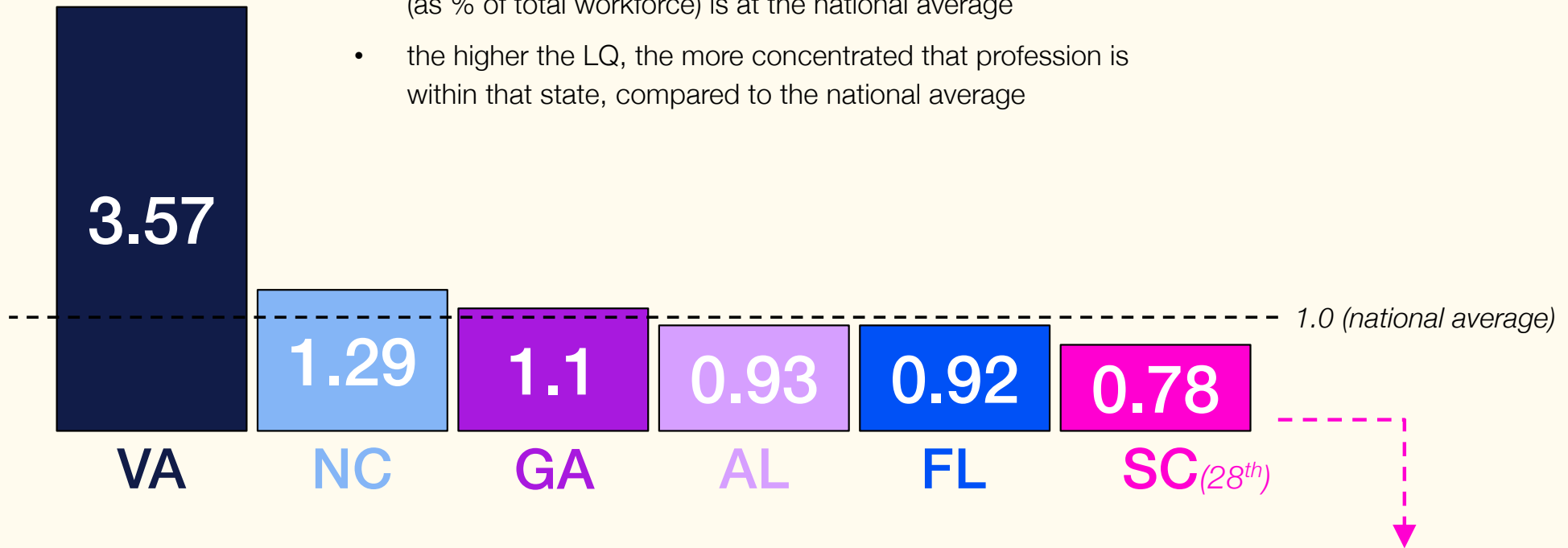
**FIGURE 2: CYBER WORKERS  
BY OCCUPATION**



# industry overview // cyber worker location quotient

the location quotient (LQ) for a SOC shows us the concentration of that profession within a state, relative to the national average

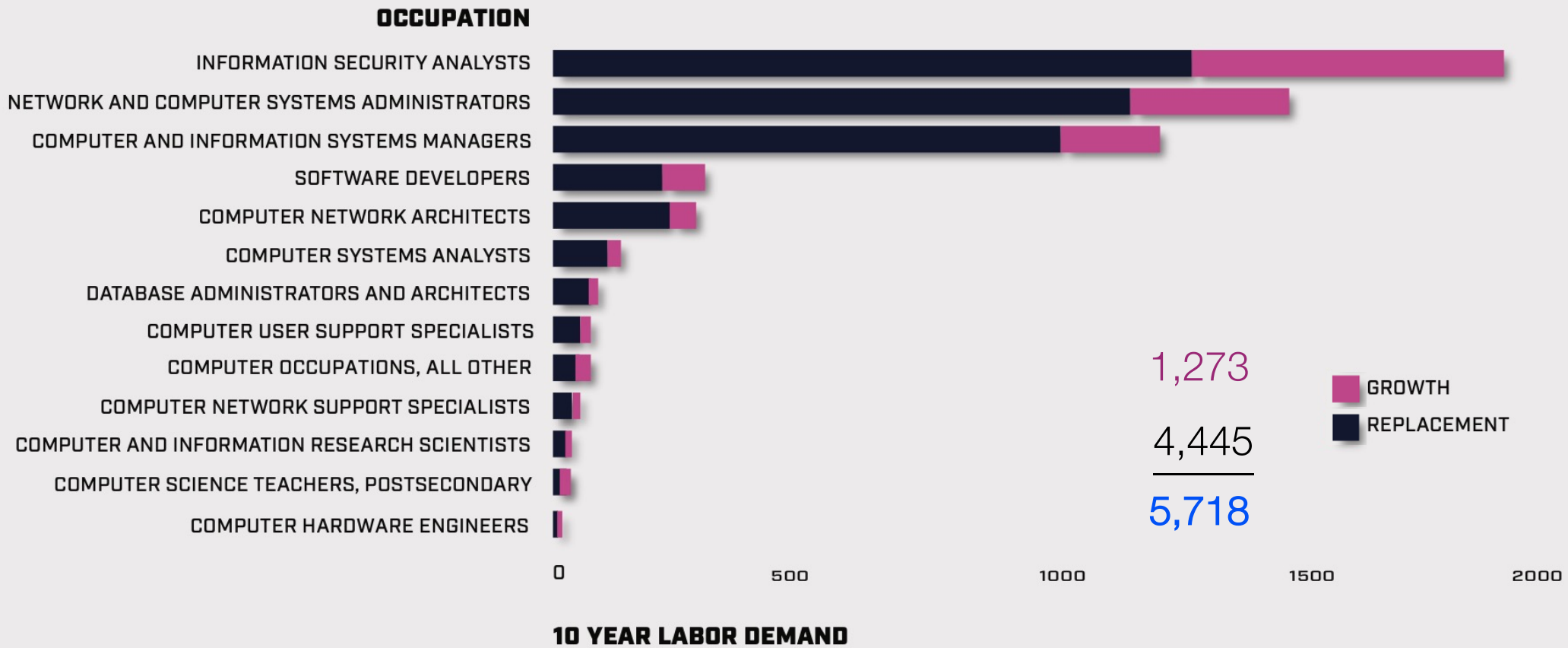
- an LQ of 1 means the state's concentration of that profession (as % of total workforce) is at the national average
- the higher the LQ, the more concentrated that profession is within that state, compared to the national average



in a region rich with DoD assets that drive the cybersecurity industry, SC faces an uphill battle

# SC cyber worker 10-year demand

## FIGURE 5: 10-YEAR DEMAND FOR CYBERSECURITY WORKERS



# SC cyber worker wages

## FIGURE 3: ANNUAL MEDIAN WAGES FOR CYBERSECURITY-RELATED OCCUPATIONS

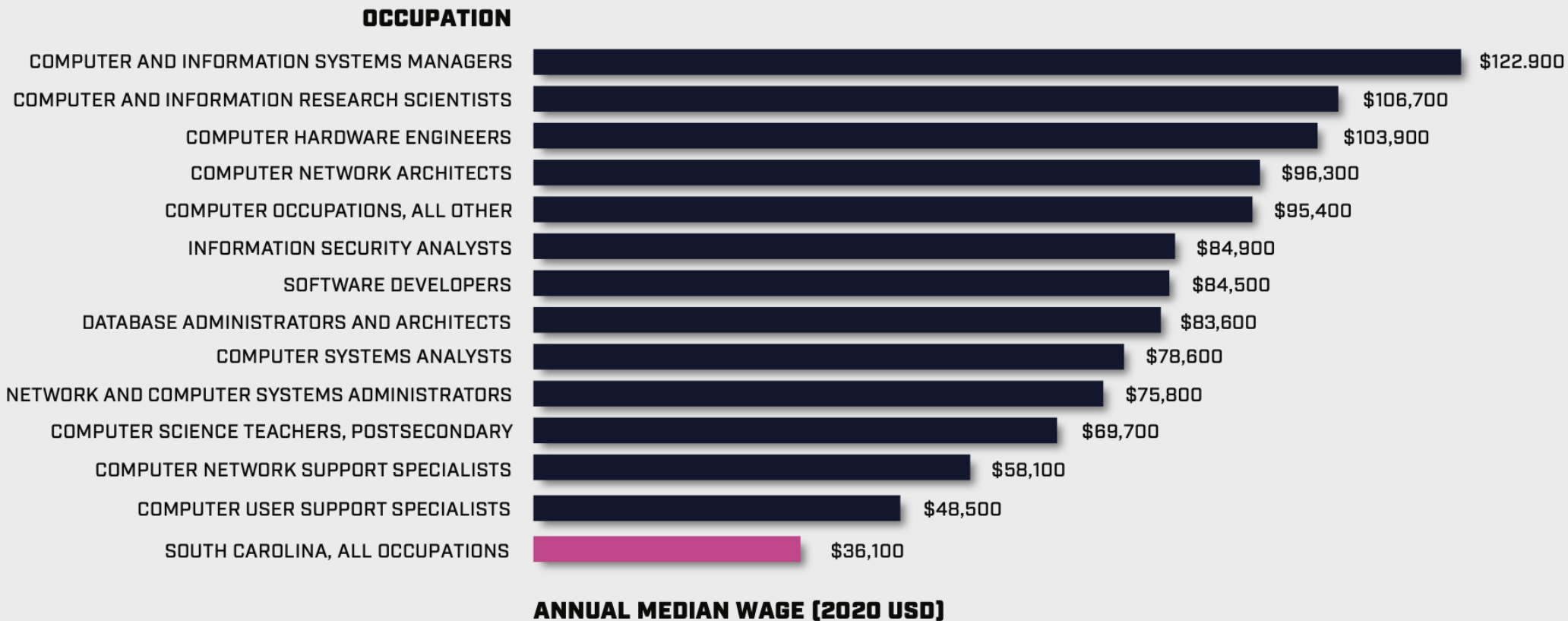
OCCUPATION

SOUTH CAROLINA, ALL OCCUPATIONS  \$36,100

ANNUAL MEDIAN WAGE (2020 USD)

# SC cyber worker wages

## FIGURE 3: ANNUAL MEDIAN WAGES FOR CYBERSECURITY-RELATED OCCUPATIONS

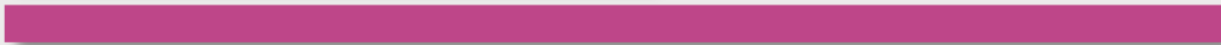


# SC cyber worker unemployment

## FIGURE 4: UNEMPLOYMENT RATES FOR CYBERSECURITY-RELATED OCCUPATIONS

OCCUPATION

SOUTH CAROLINA, ALL OCCUPATIONS

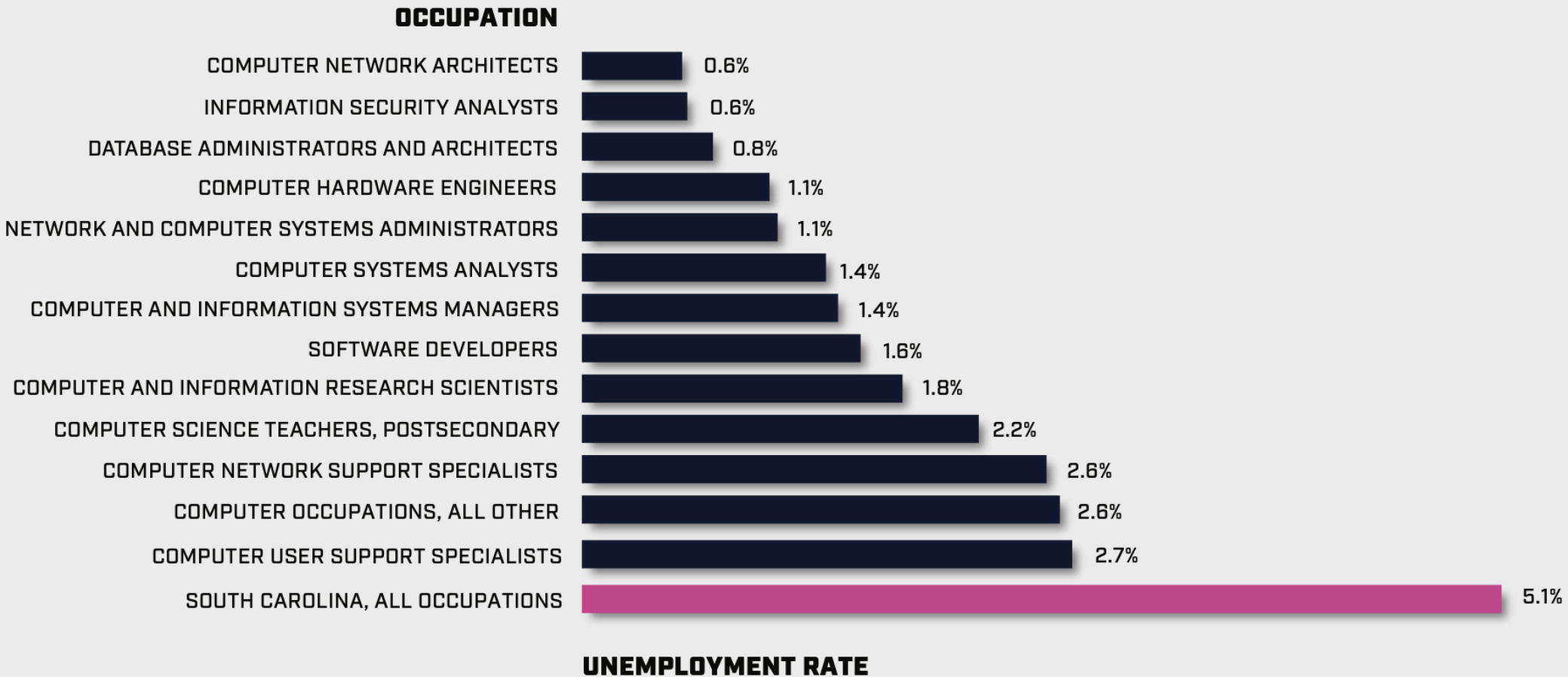


5.1%

UNEMPLOYMENT RATE

# SC cyber worker unemployment

## FIGURE 4: UNEMPLOYMENT RATES FOR CYBERSECURITY-RELATED OCCUPATIONS



# survey results // sample findings

In your opinion, how well developed is the cybersecurity ecosystem across all of South Carolina?



*all respondents*

*extremely well*

*well*

*so-so*

*not well*

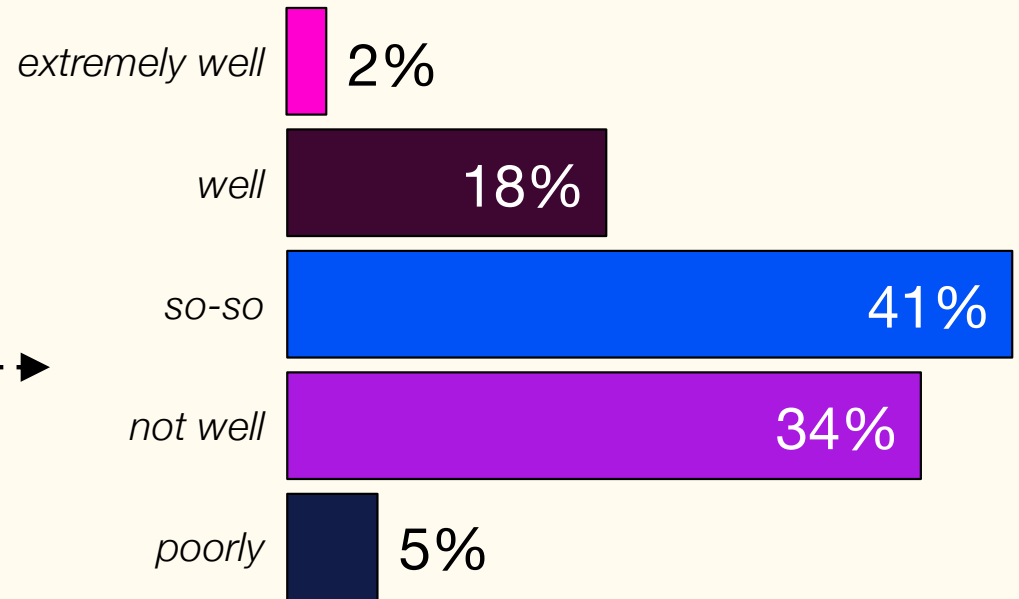
*poorly*



# survey results // sample findings

In your opinion, how well developed is the cybersecurity ecosystem across all of South Carolina?

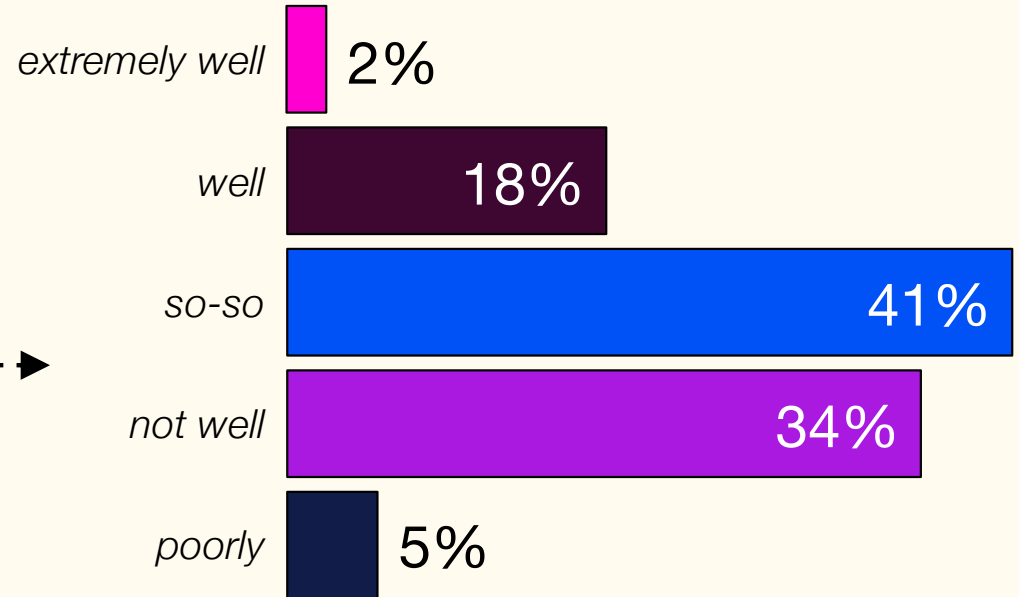
*all respondents*



# survey results // sample findings

In your opinion, how well developed is the cybersecurity ecosystem across all of South Carolina?

*all respondents*



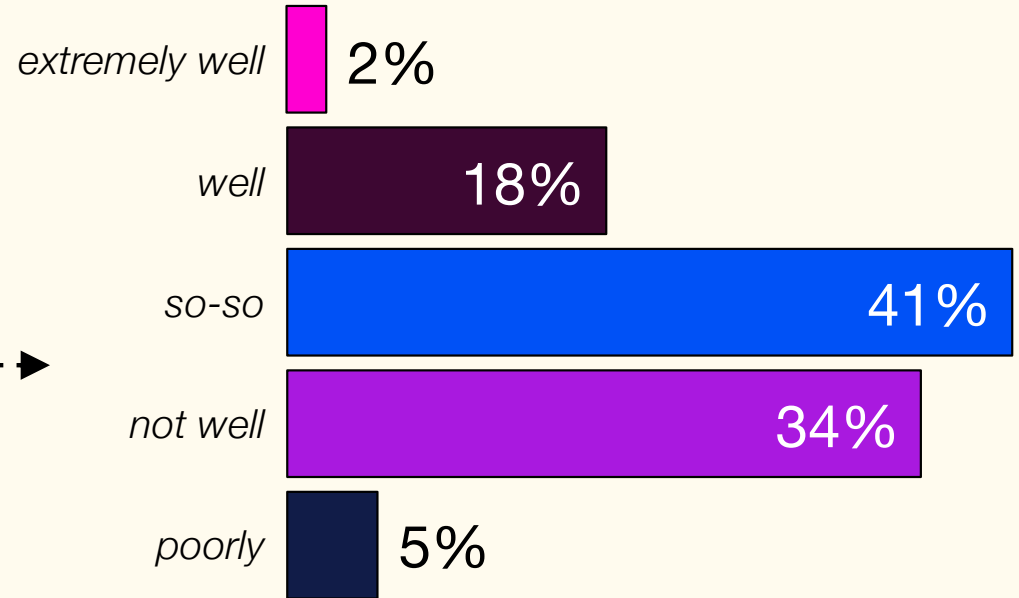
Does your organization face challenges recruiting or retaining cybersecurity professionals?

*respondents representing cybersecurity organizations*

# survey results // sample findings

In your opinion, how well developed is the cybersecurity ecosystem across all of South Carolina?

*all respondents*



Does your organization face challenges recruiting or retaining cybersecurity professionals?

*respondents representing cybersecurity organizations*

**yes (73%)**  
no (27%)

# survey results // sample findings

How important are the following factors when hiring for cybersecurity positions in your organization?

*rank*

*factor*

*factors listed according to their average rank of importance out of 20 total factors*

*the ten factors not shown here are all additional technical certifications*

# survey results // sample findings

How important are the following factors when hiring for cybersecurity positions in your organization?

*factors listed according to their average rank of importance out of 20 total factors*

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*rank*

*factor*

1

high school diploma

2

work experience

3

two-year undergraduate degree

4

four-year undergraduate degree

# survey results // sample findings

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rank	factor
1	high school diploma
2	work experience
3	two-year undergraduate degree
4	four-year undergraduate degree
5	Security+
6	Network+
7	CISSP

# survey results // sample findings

How important are the following factors when hiring for cybersecurity positions in your organization?

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rank	factor
1	high school diploma
2	work experience
3	two-year undergraduate degree
4	four-year undergraduate degree
5	Security+
6	Network+
7	CISSP
8	security clearance
15	graduate degree
20	former military experience

# survey results // sample findings

If you were attempting to advance a cybersecurity-related initiative, which individuals would you seek to engage for assistance?  
(List up to 5.)

*mentions*

*individual / organization*

*names and organizations have been combined where appropriate*

*only names/organizations receiving 3+ mentions are shown here*



# survey results // sample findings

If you were attempting to advance a cybersecurity-related initiative, which individuals would you seek to engage for assistance?  
(List up to 5.)

*names and organizations have been combined where appropriate*

*only names/organizations receiving 3+ mentions are shown here*

*mentions*

*individual / organization*

27

SC CIC / SLED

6

The Citadel

5

Governor McMaster

4

UofSC system

4

SC Competes

3

Clemson University

3

SC Commerce

3

SC Admin

3

NIWC

# key challenges

widespread, shared frustration across the broad stakeholder community

- collaboration impeded by territorialism
- all noise and no signal
- lots of activity... little unity of effort
- judging by activity, not results
- no shared vision for the desired end state
- key actors overestimate public awareness
- discussions get too technical too quickly

stakeholders strongly want a forcing function for collaboration and collective growth across this ecosystem

# working groups

education &  
workforce  
development

economic  
growth

innovation

posture &  
readiness

investment

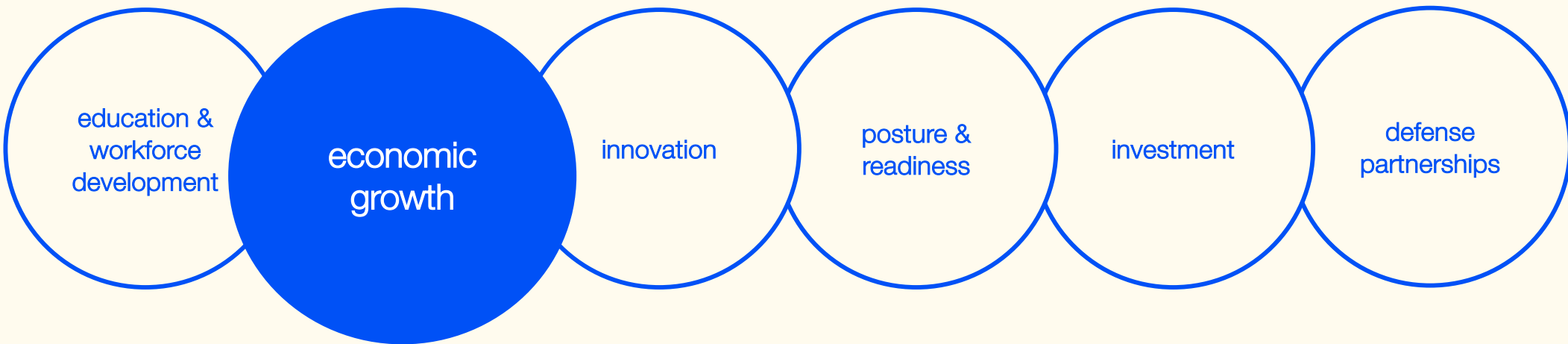
defense  
partnerships

- **SC Department of Employment and Workforce**

- SC Office of the Governor
- SC Technical College System
- SC Commission on Higher Education
- SC Department of Education
- Clemson University
- The Citadel
- USC Columbia
- SC State University
- USC Aiken
- Technical College of the Lowcountry

- Beaufort County School District
- Anderson School District 5
- Apprenticeship Carolina
- Build Carolina (SC Codes and Develop Carolina
- McLeod Information Systems
- Blackbaud
- Check Point Software Technologies
- Mantech
- ISC<sup>2</sup> Chapter, Charleston
- ISC<sup>2</sup> Chapter, Midlands

# working groups

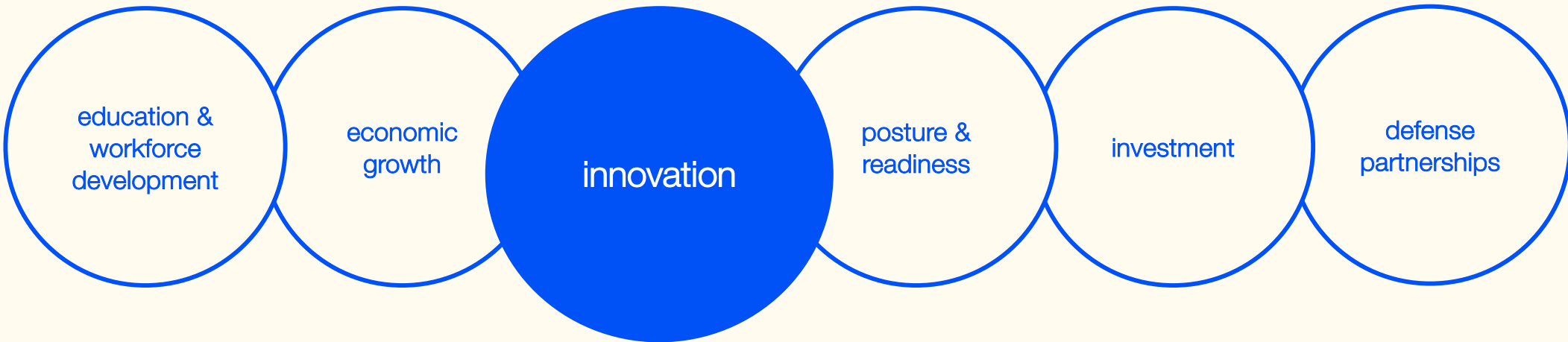


- **SC Council on Competitiveness**

- SC Department of Commerce
- readySC // South Carolina Technical College System
- WesternSC
- Upstate SC Alliance
- Central SC Alliance
- North Eastern Strategic Alliance
- Charleston Regional Development Alliance

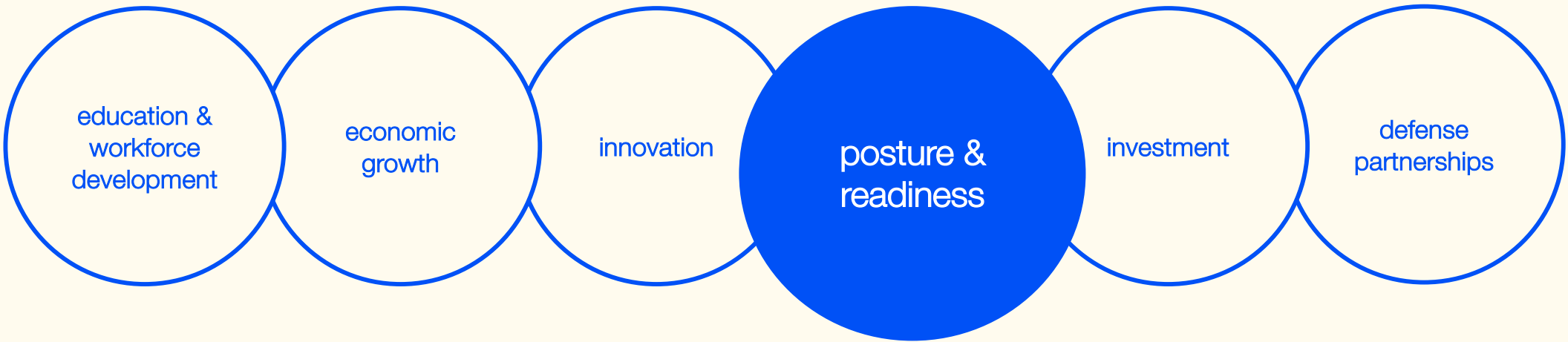
- I-77 Alliance
- Southern Carolina Regional Development Alliance
- The LINK Economic Alliance
- Trident Technical College
- Coastal Carolina University
- SC Economic Developers' Association
- City of North Augusta

# working groups



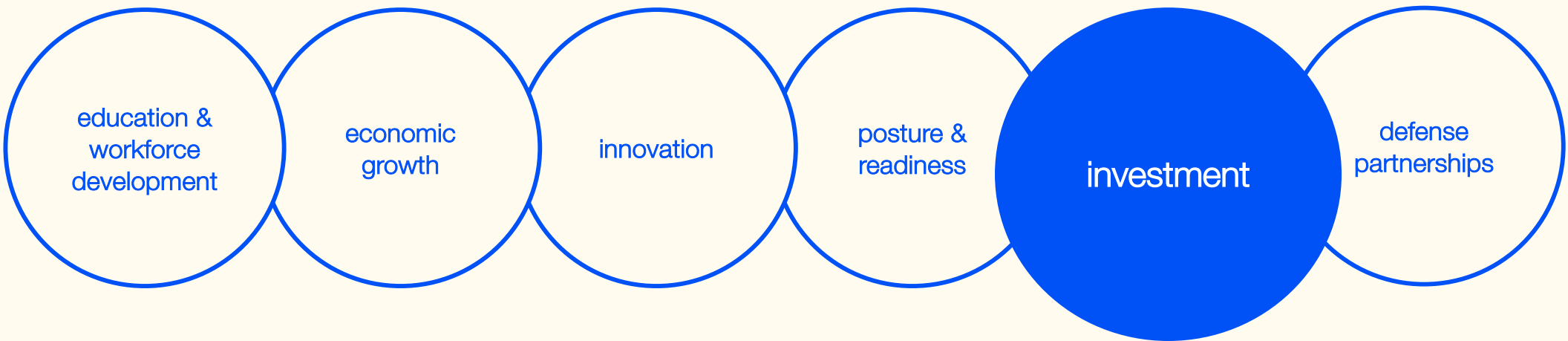
- [SC Research Authority](#)
- College of Charleston
- USC Beaufort
- Clemson University
- Savannah River National Laboratory
- SC Fraunhofer USA Alliance (SC Council on Competitiveness)
- Beaufort Digital Corridor
- Momentum Strategies
- PhishLabs
- HillSouth

# working groups



- SC Office of the Governor
- SC Critical Infrastructure Cybersecurity Program // SLED
- SC Department of Administration
- SC Department of Consumer Affairs
- SC Ports Authority
- SC Department of Social Services
- Municipal Association of SC
- SC Association of Counties
- Small Business Development Center
- Capgemini

# working groups

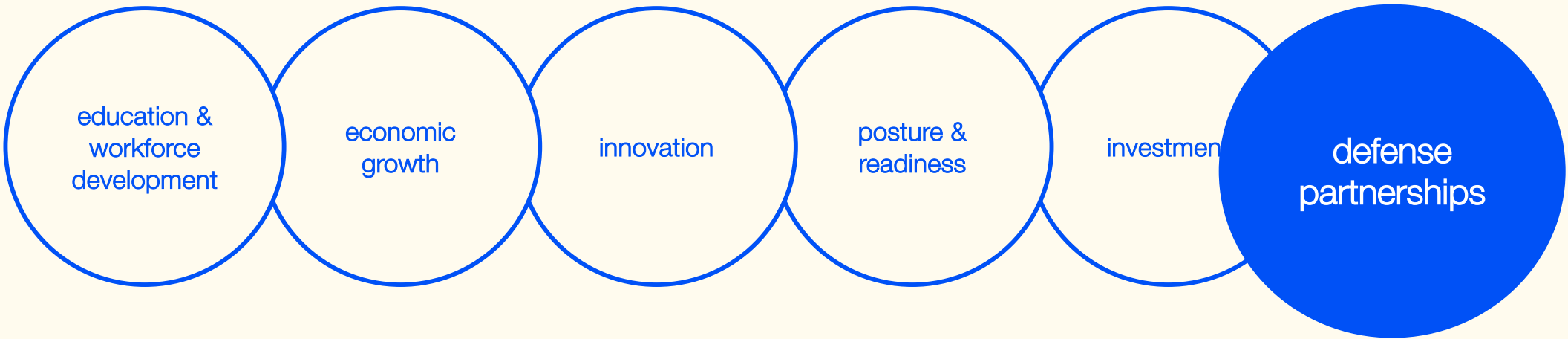


- **Hook Security // Ansuz Capital**

- SC Research Authority
- SC Department of Commerce
- USC Columbia, Office of Economic Engagement
- Charleston Digital Corridor
- SC Community Loan Fund

- Business Development Corporation of SC
- Alerion Ventures
- VentureSouth
- Stewart Family Office
- Deal Strategies

# working groups



- **SC Military Base Task Force**
- SC National Guard
- NIWC Atlantic
- AFCENT/Shaw AFB
- Cyber Center of Excellence, Fort Gordon
- Aiken Technical College
- The Citadel
- South Coast Cyber Center
- Charleston Defense Contractors Association
- Peraton



# what to expect

- dual-track: near-term targets // comprehensive vision and strategy
- establish near-term targets ---> public communications
- working groups reaching out for support and perspectives

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- dual-track: near-term targets // comprehensive vision and strategy
- establish near-term targets ---> public communications
- working groups reaching out for support and perspectives

## *not* superseding existing efforts

- increasing unity of vision & effort, improving “connective tissue”
- facilitating coordinated resource requests
- addressing challenging mindsets and behaviors
- leveraging lessons learned and sources of support

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