ISF 2020

INFORMATION SECURITY FORUM FOR TEXAS GOVERNMENT

Cybersecurity Workforce:
The Current Landscape and What's on the Horizon

NASCIO
Representing Chief Information Officers of the States

Speakers

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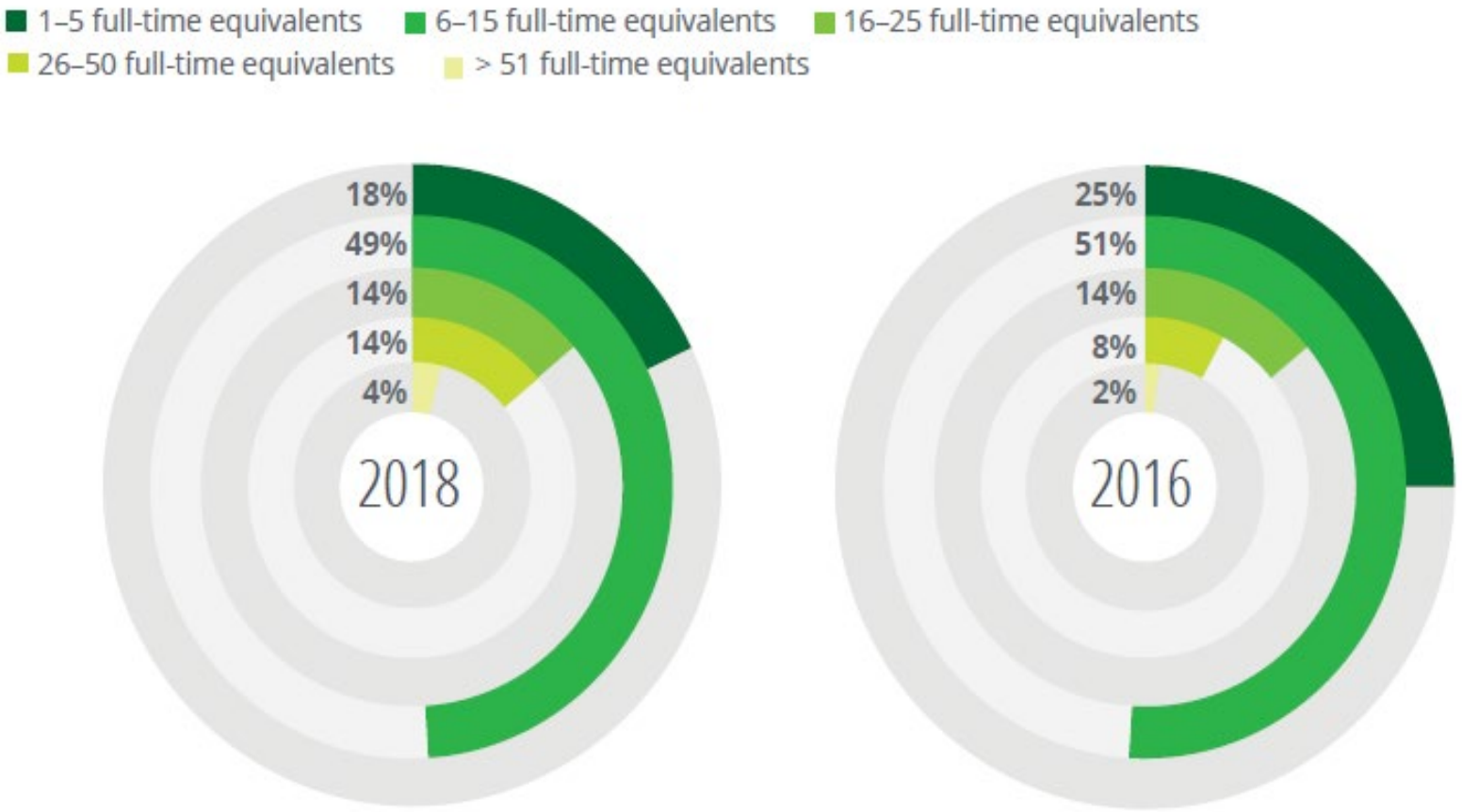
The National Picture

Talent crisis

Most enterprise cybersecurity team consists of only 6-15 FTEs



1–5
FTE average
2010 state cyber FTE professionals

6–15
FTE average
2018 state cyber FTE professionals

Compared to

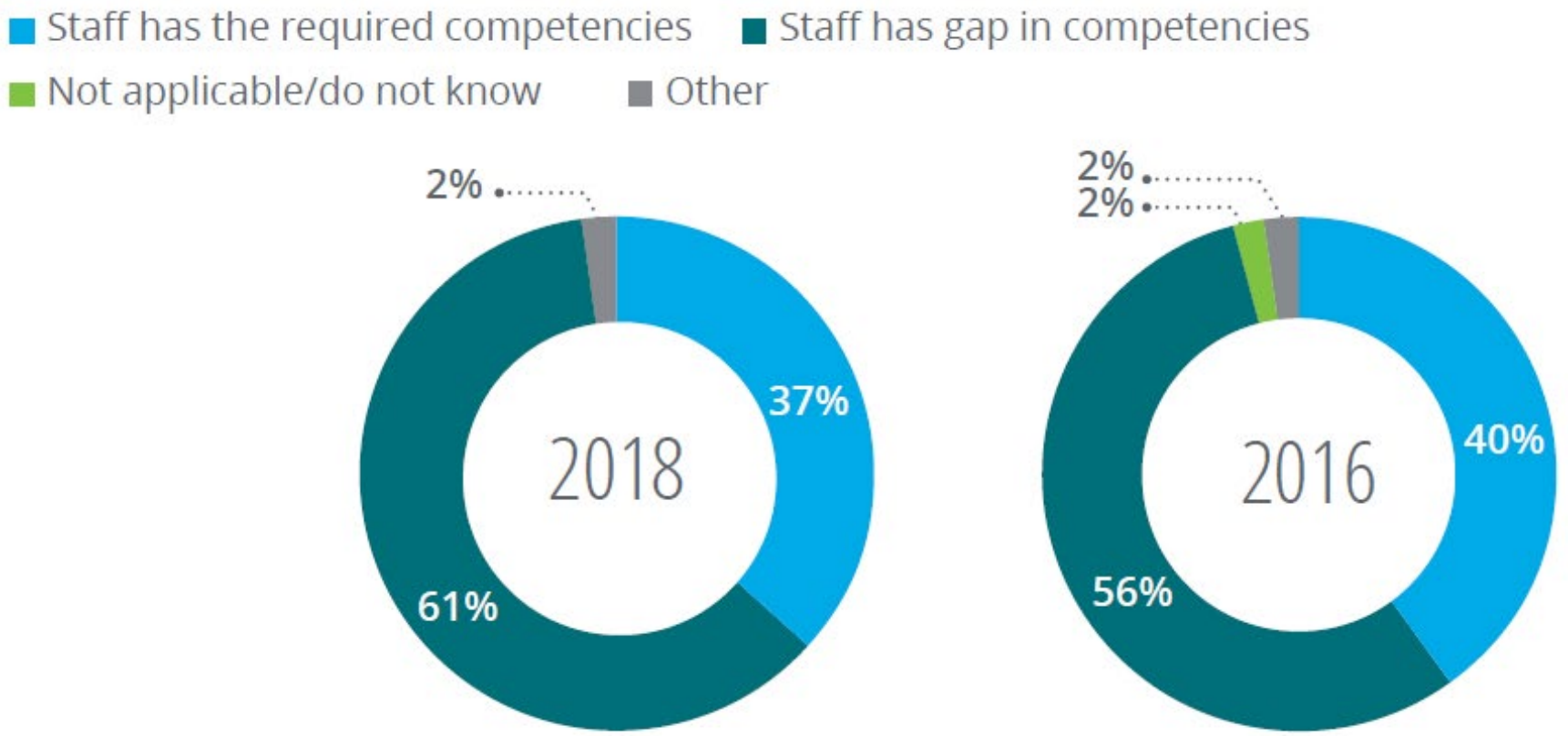
>100
FTE average
2010 financial services* cyber FTE professionals

Survey question: How many dedicated cybersecurity professionals does your enterprise security office employ? (49 respondents)

* Financial services institutions similar in size to an average state.

Talent crisis

Thirty state CISOs acknowledge they face a cyber competency gap



Survey question: Do your internal cybersecurity professionals have the required competencies (i.e., knowledge, skills, and behaviors) to handle existing and foreseeable cybersecurity requirements? (49 respondents)

Talent crisis

Top barriers to hiring, developing and retaining cyber talent

94% State's salary rates and paygrade structures

51% Workforce leaving for private sector careers

47% Lack of qualified candidates due to demand from federal agencies and private sector

24% Work location—lack of qualified cyber workforce in the state capital

18% Outdated classifications and job descriptions for cybersecurity positions

12% Lack of a defined career path and opportunities in cybersecurity

12% Lengthy hiring process

Survey question: What are the top three human resource factors that negatively impact your ability to develop, support, and maintain the cybersecurity workforce within your state? (49 respondents)

Montana's Story

The NICE Framework (NIST SP 800-181)

- Describes cybersecurity work and workers
- Establishes a common lexicon
- Sector and Industry agnostic
- Components:
  - Categories (7) – A high-level grouping of common cybersecurity functions.
  - Specialty Areas (33) – Distinct areas of cybersecurity work.
  - Work Roles (52) – The most detailed groupings cybersecurity work comprised of specific KSAs required to perform tasks in a work role.

NICE Framework in the State of Montana

- The State of Montana uses the NICE Framework to:
  - Assess cybersecurity workforce
  - Assess cybersecurity program
  - Develop workforce (retention and) training plans
  - Develop workforce hiring plans

How did Montana do it?

- Highlighted which functions in NICE appendix each existing staffer performs then did a SWOT and gap analysis to see what they were missing
- No in-state cyber pipeline, attracted out of state
- Compared national job descriptions and looked for unfilled jobs that matched
- Ranked positions on salary to see how to attract out of state employees
- Creating an apprentice program
- Creating an internship program

How did Montana do it?

- Had off the record sessions with the legislative committee members, built relationships and established buy-in
- Received $6.3 million, the money will be in the Montana cybersecurity budget permanently
- Showed the data, made it a process, and communicated the need
- Revised current team member salaries and used higher salaries for new positions
- Created flexible work schedules and encouraged training and certifications (and paid for them!)
- Emphasized state service and work life balance and provided relocation assistance

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