Executive Summary

2025 WiCyS Talent Study Update

As a Strategic and Research Partner of Women in CyberSecurity (WiCyS), skillrex led the analysis and development of this updated Cyber Talent Study, building on findings from the original 2024 report. This refreshed analysis incorporates data from additional WiCyS members who completed a cybersecurity skills diagnostic provided by N2K Networks. Using its workforce intelligence methodology, skillrex assessed member capabilities against the NICE Cybersecurity Workforce Framework and its own Functional Group taxonomy—delivering new insights into strengths, areas for growth, and overall workforce readiness across the WiCyS community.

This report provides a data-driven look at the cybersecurity capabilities of WiCyS members, revealing their strong performance across every NICE Category and 16 out of 20 NICE Specialty Areas assessed. Through skillrex's analytic approach, the study uncovers areas where WiCyS members outperform industry norms and where there is potential for continued development.

The findings highlight not only the depth of technical and strategic skills across the WiCyS community but also their readiness to lead in a dynamic cybersecurity landscape. These insights help inform the design of future programs, training investments, and partnership opportunities—reinforcing WiCyS's mission to recruit, retain and advance women in cybersecurity.

Key Takeaways

The WiCyS Edge: WiCyS members outperformed peers in 16 of 20 NICE Framework areas, achieving an overall composite score 4 points higher—equivalent to nearly a 10% overall performance advantage—demonstrating standout technical and leadership strength.

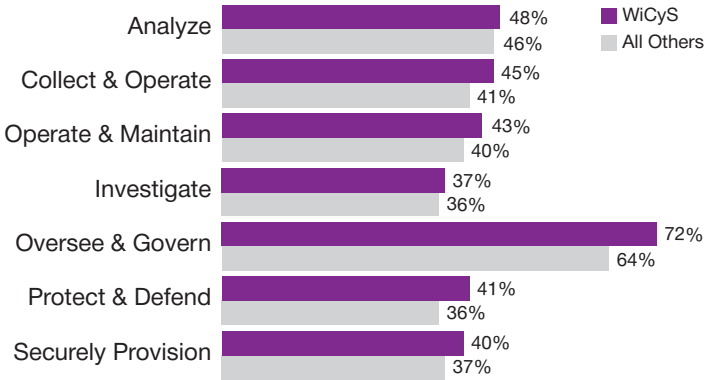
Strategic Insights: Analysis revealed remarkable strengths and areas for development, providing WiCyS with actionable data to tailor future programs and ensure its members remain at the forefront of cybersecurity excellence. Since the initial 2023 cohort, additional WiCyS training programs have produced measurable improvements in two NICE Specialty Areas—demonstrating that targeted efforts to close skills gaps deliver positive results.

Outstanding Performance: WiCyS members have demonstrated exceptional performance across several key areas of the NICE Framework, underscoring the importance of WiCyS's training and development programs.

Leadership Readiness Among WiCyS Members: The study highlights that WiCyS members are highly skilled and uniquely prepared for leadership roles. Their exceptional performance demonstrates their readiness to lead and influence at high levels, and positions WiCyS members as prime candidates for advancing cybersecurity initiatives and shaping future industry standards.

Proven Expertise in Critical Cybersecurity Domains: Excelling in nearly every Specialty Area mapped to the NICE Framework, WiCyS members have shown they not only meet, but exceed the standards in key domains. Their scores illustrate a readiness to tackle complex challenges and lead innovations within the cybersecurity field.

Outperforming in every NICE Category:



Functional Areas of Strength

63.3%
Cyber Workforce, Training & Awareness

64.8%
Cyber/IT Leadership & Management

67.8%
Cyber/IT Policy & Governance

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This Cyber Talent Study began as a joint effort between Women in CyberSecurity (WiCyS) and N2K Networks in 2023, with an initial cohort of 399 participants completing a cybersecurity skills diagnostic designed to assess knowledge and proficiency across the NICE Cybersecurity Workforce Framework. In 2025, the study was expanded to include additional WiCyS members, significantly enhancing the depth and breadth of the dataset.

Building on this foundation, WiCyS formalized a research partnership with skillrex in 2025. As both a Research and Strategic Partner of WiCyS, skillrex led the updated analysis and development of this report. Leveraging its workforce intelligence methodology and proprietary Functional Group taxonomy, skillrex evaluated participant performance across key cybersecurity domains to uncover patterns of excellence and areas for targeted growth.

The skills diagnostic used in this study was provided by N2K Networks and mapped to both the NICE Framework and skillrex's Functional Groups. The resulting analysis highlights high performance across technical and leadership domains and provides actionable insights to guide WiCyS's future programming, training strategies, and member development initiatives.

The Participants

WiCyS members participating in the study represented a broad spectrum of cybersecurity roles and experience levels. A total of 604 members completed the diagnostic. Because some survey fields were optional, 40.4% of participants did not indicate their experience level, and 31.1% did not specify the cybersecurity functional area they represented.

Analyzing & Interpreting results

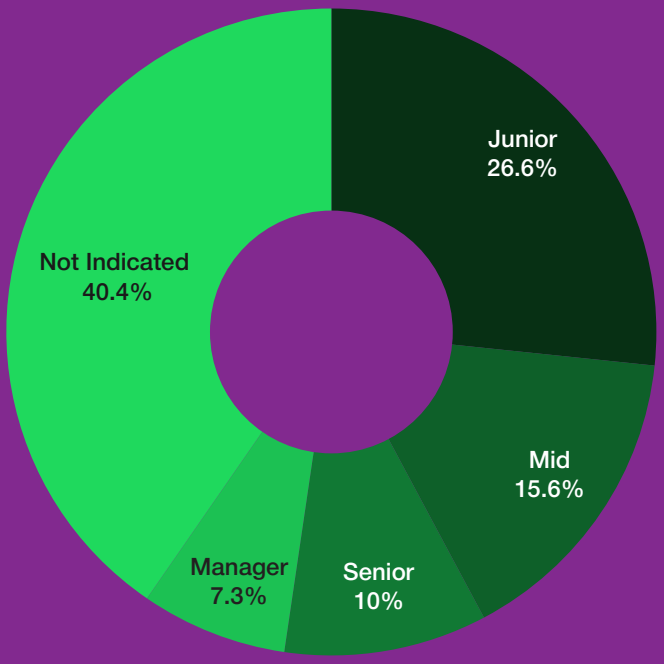
Skillrex's analysis revealed significant strengths among WiCyS members, who consistently demonstrated exceptional proficiency across the NICE Framework. Notably high performance was observed in the Specialty Areas of Executive Cyber Leadership, Cyber Operational Planning, Legal Advice & Advocacy, Cybersecurity Management, and Targets. These findings not only showcase the depth of technical expertise and leadership readiness within the WiCyS community, but also identify targeted opportunities to further enhance workforce impact through continued development.

Total Participants:

604

Experience Levels:

- Junior: 161
- Mid: 94
- Senior: 61
- Manager: 44
- Not Indicated: 244



Skillrex analyzed the results of the diagnostic, using Experience Levels and skillrex's Functional Groupings as key components to interpret results. Because N2K's NICE Workforce Diagnostic tests participants' knowledge and skills across the broad spectrum of the NICE Framework, it's important to analyze the results through the lens of the functions of their work roles and experience. As a result, skillrex can interpret results by Experience Levels, skillrex's Functional Grouping, and NICE Specialty Areas (and combinations thereof).

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About the NIST-NICE Cyber Workforce Framework:

The National Initiative for Cybersecurity Education (NICE) Cyber Workforce Framework, developed by the National Institute of Standards and Technology (NIST), plays a crucial role in addressing cybersecurity education, training, and workforce development needs. By providing a standardized taxonomy and common lexicon, the NIST-NICE Cyber Workforce Framework enables organizations to define and understand the essential tasks, knowledge, and skill (TKS) statements required for cybersecurity roles. This framework not only aids in the development and training of cybersecurity professionals but also helps in workforce planning and management. Additionally, the NICE Framework establishes a taxonomy and common lexicon that describes cybersecurity work and workers irrespective of where or for whom the work is performed. Since the launch of this study, the NICE Framework has had several updates.

About skillrex Functional Groups & Taxonomy

To address industry challenges in translating various elements of the NICE Framework into common job titles and functional teams used for cyber professionals across the commercial sector, skillrex established and defined 14 Functional Groups*. These groups serve as a translation taxonomy, or a “Rosetta Stone.” Utilizing skillrex’s Functional Groups offers a streamlined way to analyze performance and interpret workforce needs, reflecting common cybersecurity team structures.

2017 NICE Cyber Workforce Framework

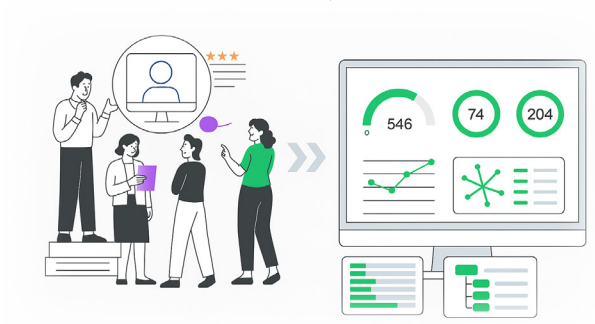
- Oversee & Govern
- Securely Provision
- Operate & Maintain
- Protect & Defend
- Investigate
- Analyze
- Collect & Operate

Skillrex FUNCTIONAL GROUPS

*View skillrex Functional Groups on page 4.

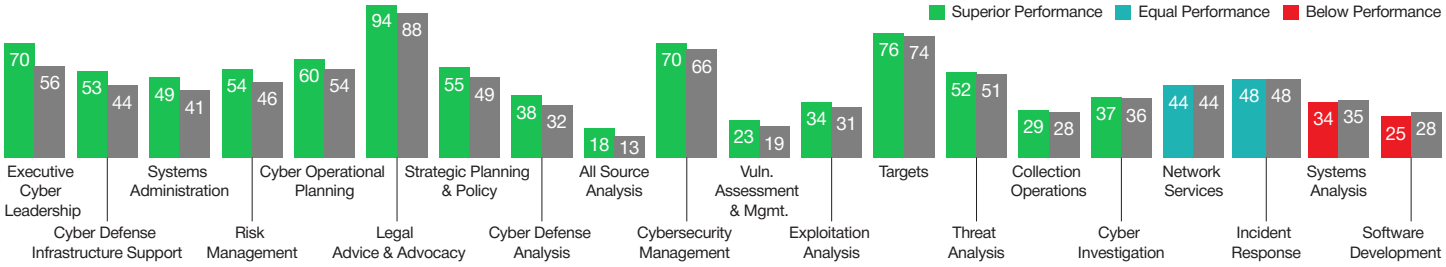
WiCyS EXPERIENCE LEVELS

- Junior
- Mid-Level
- Senior
- Manager
- Not Indicated



Skillrex’s Cyber Talent Intelligence Platform Analyzes & Visualizes Results

NICE Specialty Area Results: WiCyS Performance Compared to Non-WiCyS Peers



Superior performance in NICE Speciality Areas

WiCyS members scored higher in these NICE specialty areas than other participants, underscoring their advanced capabilities and deep understanding of complex cybersecurity disciplines.

These strengths suggest that WiCyS’s programs and initiatives are particularly effective in these domains, providing members with a strong foundation to excel in strategic and operationally critical areas of cybersecurity.

Opportunities for development

While WiCyS members’ overall performance is commendable, the chart highlights specific areas in cyan and red where scores were equal to or slightly lower than those of other participants who took the same diagnostic. These gaps present opportunities for WiCyS to enhance its programs, address skill gaps, and ensure members are well-prepared across all aspects of cybersecurity.

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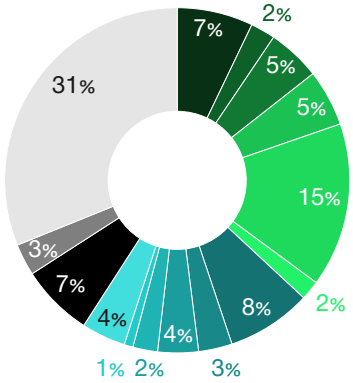
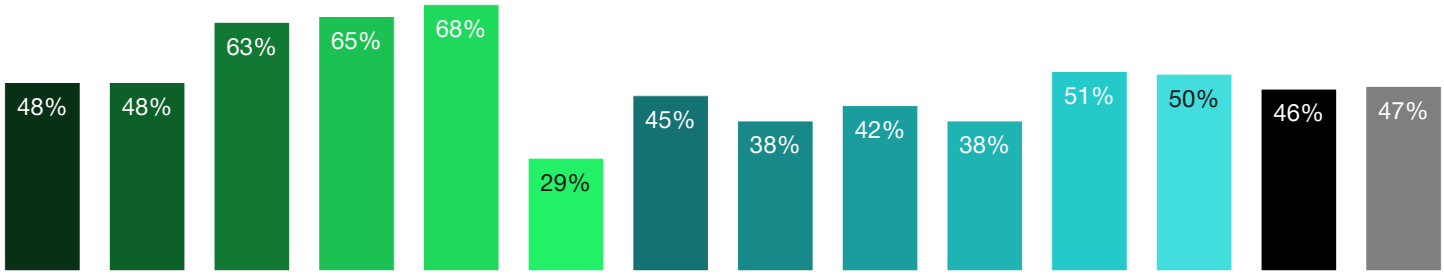
WiCyS Participants Composition by skillrex Functional Groupings:



- Analysis
- Communications & Network Security
- Cyber Workforce
- Cyber/IT Leadership & Management
- Cyber/IT Policy & Governance
- Data Engineering & Analytics
- Defensive Security Operations
- Identity & Access Management
- Incident Response & Forensics
- Offensive Security Operations
- Operational Technology & Engineering
- Security Architecture & Engineering
- Security Assessments & Testing
- Software/App Security & DevSecOps
- Not Indicated

Summary of Participant Relative Performance Score by skillrex Functional Group:



Relative Performance Score (RPS): a skillrex scoring metric that excludes questions that are not relevant to Work Roles or Specialty Areas that align to each skillrex Functional Group, and instead only measures performance on questions that are most-relative to the typical knowledge and competency expectations for each Functional Group or Work Role.

In addition to the NICE Framework Specialty Areas, skillrex has classified the NICE Specialty Areas into broader Functional Groups as part of the methodology for this report. WiCyS members have demonstrated superior performance across three major functional groups:

Cybersecurity Workforce & Awareness, 63.3%

The performance WiCyS members have a strong foundation in training and mentorship, which is critical for the ongoing development of the cybersecurity workforce.

Cybersecurity/IT Leadership & MGMT, 64.8%

WiCyS members demonstrate strong leadership capabilities essential for advancing within the cybersecurity industry.

Cybersecurity/IT Policy & GRC, 67.8%

Members demonstrate a sophisticated grasp of governance, risk, and compliance issues critical to organizational cybersecurity strategies.

WiCyS strategic initiatives

The results of the skillrex and WiCyS collaboration highlight the current strengths and capabilities of WiCyS members and frame the strategic direction for future initiatives. These insights are invaluable in shaping programs that are proactive in addressing the evolving needs of the cybersecurity landscape.

As WiCyS continues to lead in the recruitment, retention and advancement of women in cybersecurity, the data from this study provides a strong foundation for targeted program development. The initiatives poised for implementation include skills development training programs, mentorship expansion, and security training scholarships.

These strategic initiatives are designed to leverage the strengths identified in the study and ensure that WiCyS members are well-equipped to meet and exceed the cybersecurity industry's demands.

About skillrex

Skillrex is a workforce intelligence and strategy firm specializing in cybersecurity talent. As a trusted advisor to enterprises, government agencies, training providers, and member-based organizations, skillrex helps bridge the gap between cybersecurity workforce needs and talent development solutions.

With deep expertise in job role analysis, skills baselining, and career pathway design, skillrex equips organizations with the data and insights needed to optimize cyber workforce planning, development, and readiness. Its proprietary Functional Group taxonomy and Cyber Talent Matrix enable targeted analysis aligned to the NICE Cybersecurity Workforce Framework and evolving industry needs.

As both a Strategic and Research Partner of Women in CyberSecurity (WiCyS), skillrex is proud to support the advancement of a more inclusive, capable, and future-ready cybersecurity workforce.

To learn more, visit: skillrex.io

About WiCyS

Women in CyberSecurity (WiCyS) is a nonprofit organization with international reach dedicated to the recruitment, retention and advancement of women in cybersecurity. Founded by Dr. Ambareen Siraj through a National Science Foundation grant given to Tennessee Tech University in 2013, WiCyS offers opportunities, trainings, events, and resources for its community and members.

WiCyS Tier 1 Strategic Partners include: 3M, Akamai Technologies, Amazon, Bloomberg LP, Cisco, Ford Motor Company, Google LLC, Lockheed Martin, Optum, Palo Alto Networks, Sandia National Laboratories, SANS Institute, SentinelOne.

To partner, visit: www.wicys.org/support/strategic-partnerships

About N2K

From news to knowledge, N2K delivers critical industry insights, strategic intelligence, and performance-driven learning products that keep cyber professionals visible, informed, and ahead as they navigate the complex and ever-changing landscape of technology.

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