OPERATIONAL AI IN EDUCATION:

Readiness, Realities, and the Road Ahead

A CoSN 2025 MEMBER SURVEY

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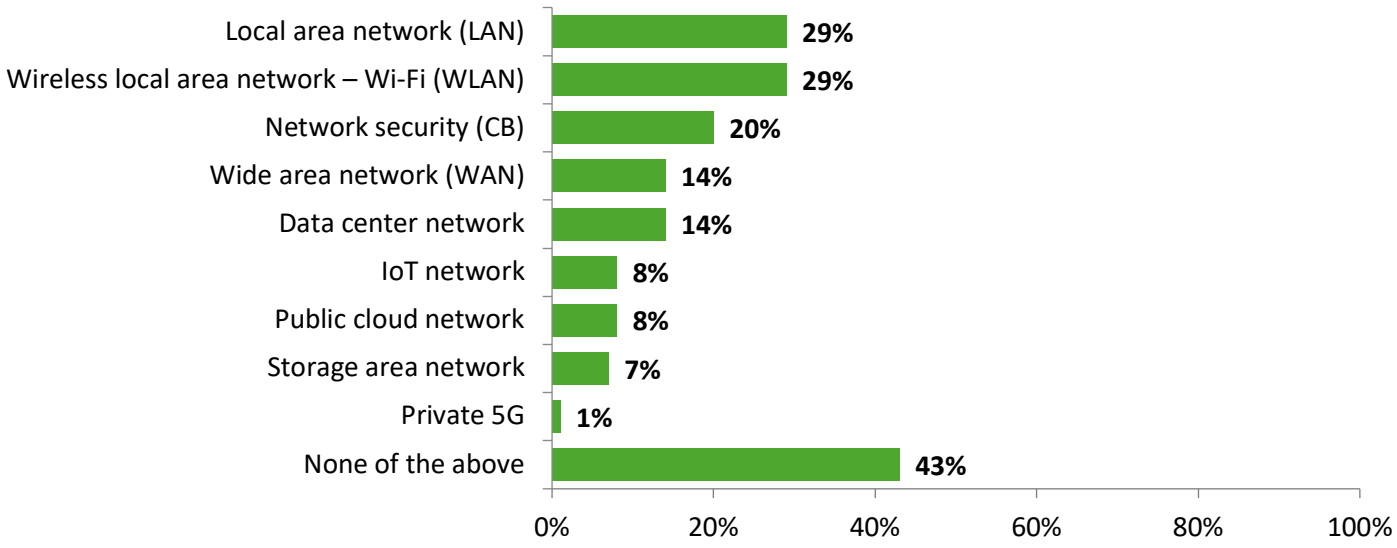
Reports on Artificial Intelligence (AI) usage in K-12 tend to focus on strategies to leverage AI for teaching and learning, students' and teachers' academic readiness to effectively use AI, or the challenges AI poses in evaluating students' homework. Based on survey responses from 281 CoSN members, this report addresses AI use in operational areas of education such as HR, finance, facilities, and transportation. The short, 15-question survey was conducted from June 19 to July 18, 2025. Responses provide important insight into how CoSN members are using AI in their districts' network environments.

Special thanks to our partner, HPE, in making this report possible; their support helps us understand and champion the needs of school districts.

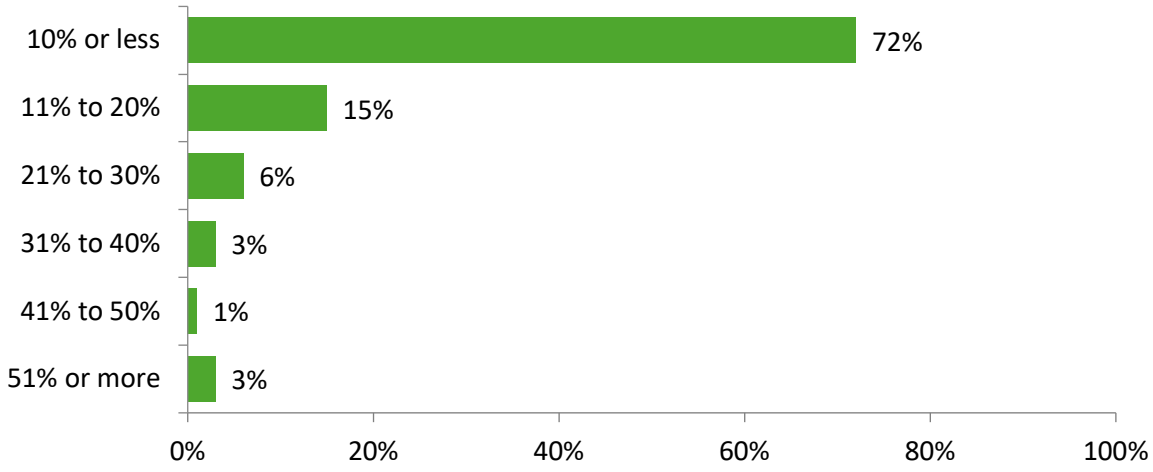
Network Environments

The majority (57%) of respondents are using AI in their network environments. The most common usage is in Local Area Networks (LANs) and Wireless Local Area Networks (WLANs), each at 29%, followed by network security (20%). Wide Area Networks (WANs) and Data Center Networks each account for 14%. Less common are IoT and public cloud networks, both at 8%. Use in storage area networks is at 7% and private 5G is at 1%.



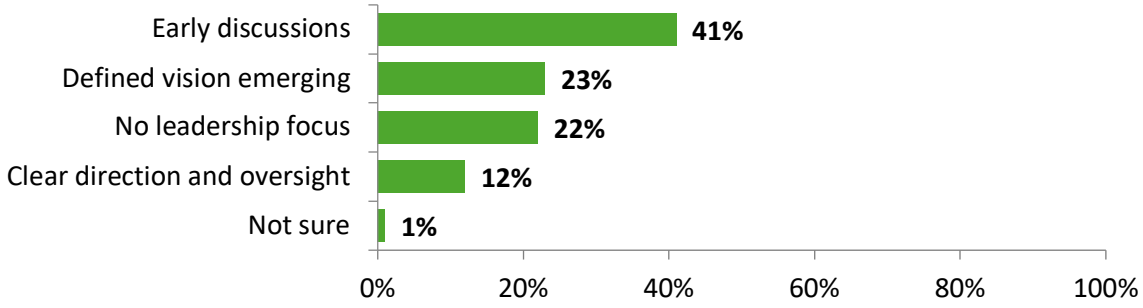
AI Technology Usage

While most districts are using AI in their networks, the percentage of network processes currently leveraging AI technologies is extremely low; the vast majority (72%) cited 10% or less. Districts using AI on 11%-20% of their network processes account for 15%. The next three usage brackets reporting 21%- 50% usage comprise a total of 10%. Only 3% of respondents have implemented AI technologies in more than 50% of their districts' network processes.



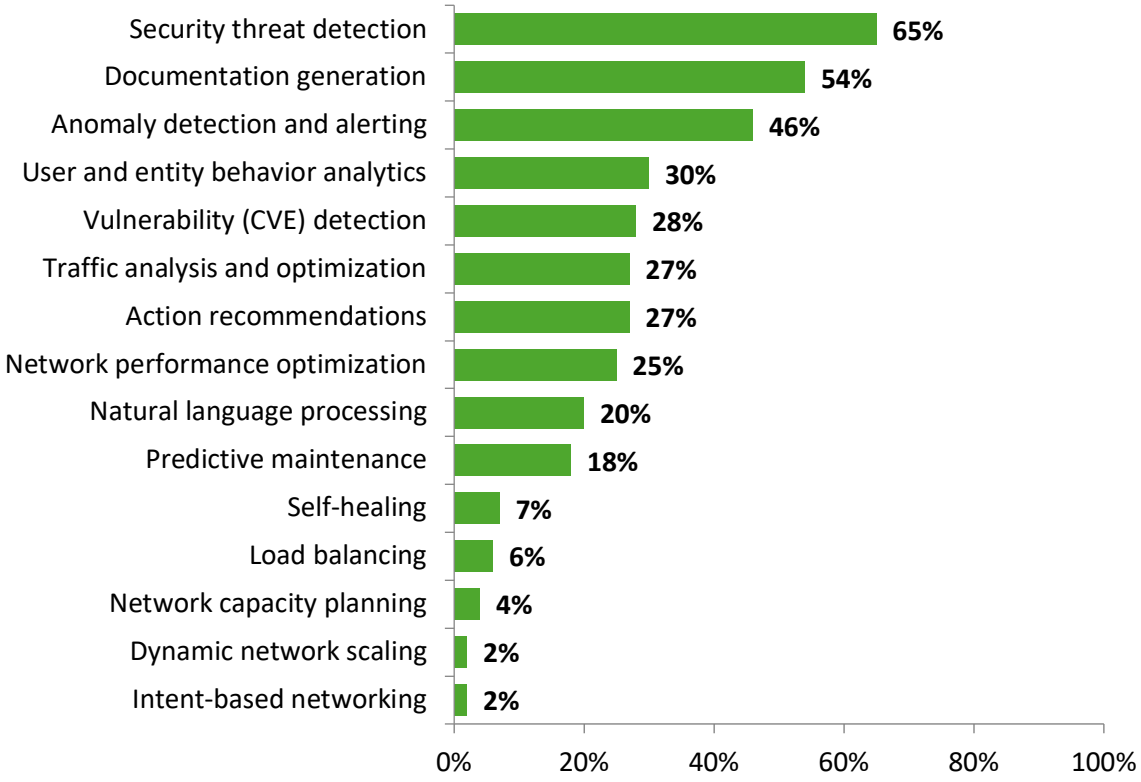
District Leadership

More than three-quarters (76%) of respondents report that their district leaders are involved in setting direction for AI use in operational areas. Of those, most (41%) are still in the early discussion stage and 23% have started to define their vision for AI. Only 12% have established clear direction on oversight. More than one-fifth (22%) of respondents indicate that their district leadership is not focused on operational AI. Given the early and evolving state of leadership, considerable opportunities exist to increase district leaders' understanding of AI's potential to improve operations.



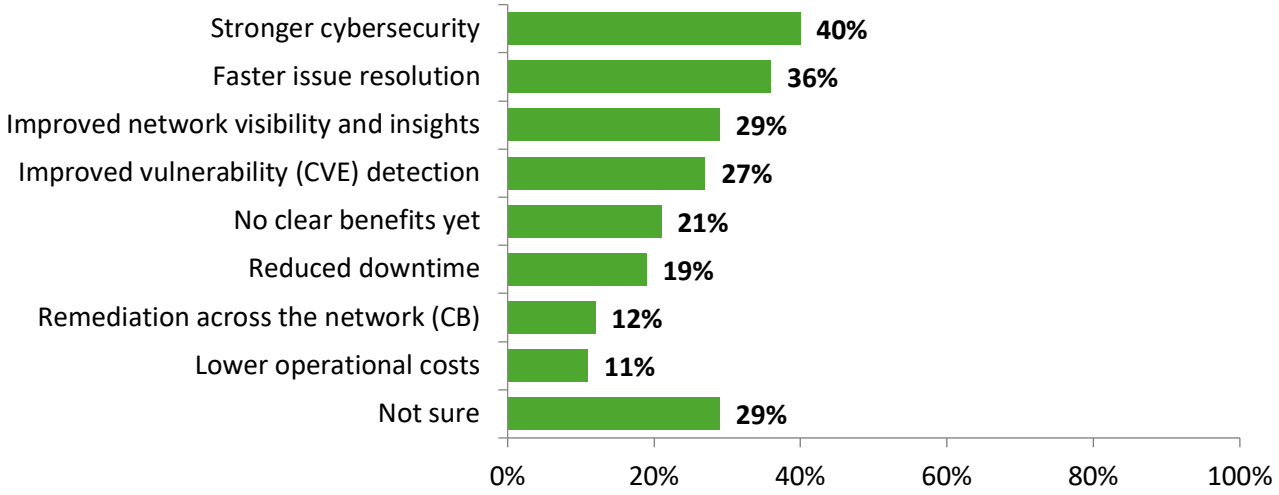
Top Use Cases

Three use cases emerged as top drivers for districts. Network security is the primary reason districts are looking to implement AI in their network environments, with a majority (65%) citing security threat detection as a top use case. Documentation generation—which automatically creates reports from user data/instruction—ranked second (54%), followed by detection and alerts for anomalies third (46%). Other use cases were cited by less than one-third of respondents. Of those, behavior analytics was the most popular at 30%. The least common, at 2%, was intent-based networking—a network management approach that allows users to describe desired network outcomes.



AI Benefits

Aligning with the top use case of security threat detection, stronger cybersecurity was the top benefit as cited by 40% of respondents. More than one-third (36%) experience faster issue resolution such as swift problem diagnosis and expedited troubleshooting, 29% improved network insights, 27% improved vulnerability detection, and 19% reduced downtime. Significantly fewer respondents were seeing the benefit of remediation across their network (12%) or lower operational costs (11%). About one-fifth (21%) of respondents were not yet seeing any clear benefits. Surprisingly, more than one-quarter (29%) of respondents were "not sure" of the benefits realized. It's unknown if that response is driven by a lack of measures in place to gauge improvements, or by respondents' lack of access to that information.



Top Challenges

Implementing new automation solutions presents a range of challenges for districts, with the major issue being a lack expertise (60%). In the 2024 State of EdTech District Leadership report, CoSN previously documented that K-12 districts lack technical capacity, especially around cybersecurity. Only one in three districts have even one FTE dedicated to cybersecurity.

This has implications for leveraging AI for operations. Nearly half (49%) of respondents had concerns about increased security risks. This data point highlights the "double-edged sword" aspect of AI, as the top use case for adoption was security threat detection. One-third (33%) had concerns regarding the return on investment (ROI). For another third (33%), configuration complexity was a top challenge. Less frequently cited were the challenges of legacy system support (27%), cultural resistance (26%), ensuring data quality (25%), and

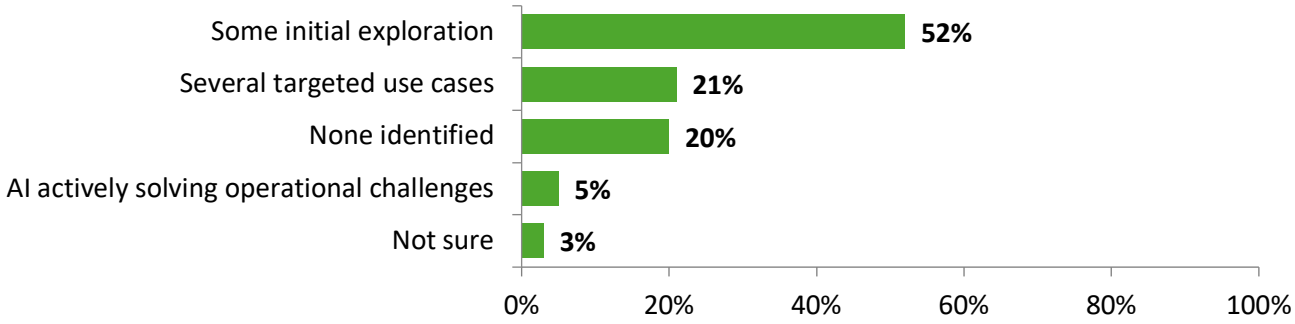
interoperability (25%). Of the fifteen answer options provided on the survey for "top challenges," seven were rated a top challenge by less than one-fifth of respondents: explainability and transparency (19%), regulatory compliance support (18%), ensuring data availability (9%), data labeling/annotation (8%), and support for cloud-native applications (5%). The least-challenging aspects of network automation were coverage area and poor performance, each at only 3%.

AI MATURITY

Respondents were asked to indicate their district's readiness across seven integration factors. Overall, districts are in the early stages of AI implementation for their back-end systems. Only a small minority characterized their district's use of AI as "fully ready" or "actively using" in any of the categories.

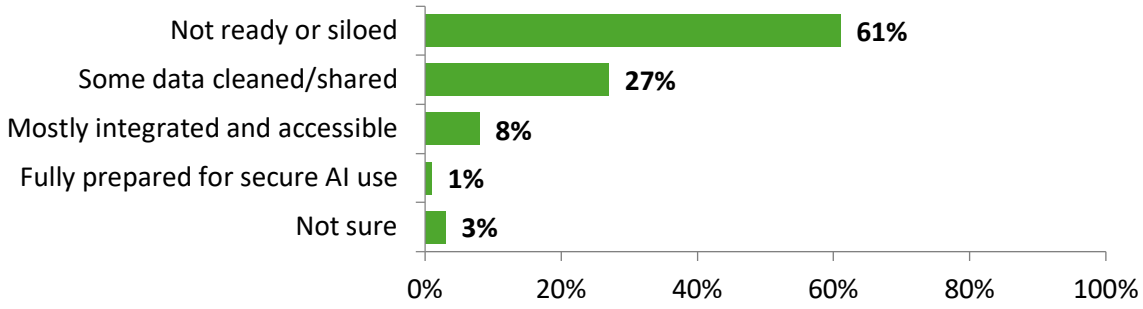
Operational Readiness

The majority (52%) of respondents have started to explore what operational problems AI could help solve for their districts. Though 20% have yet to identify specific areas, 21% have targeted several use cases, and 5% have already implemented AI for solving operational challenges.



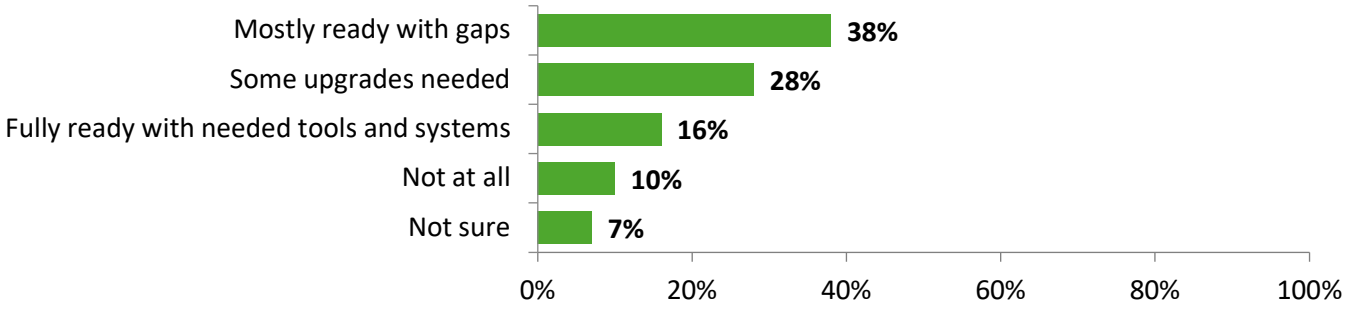
Data Readiness

While more than one-quarter (27%) report that some of their data has been cleaned and shared, a large majority (61%) still have dirty and/or siloed data. Only 8% report that data has been integrated, and only 1% state that their data is fully prepared and secure for AI use.



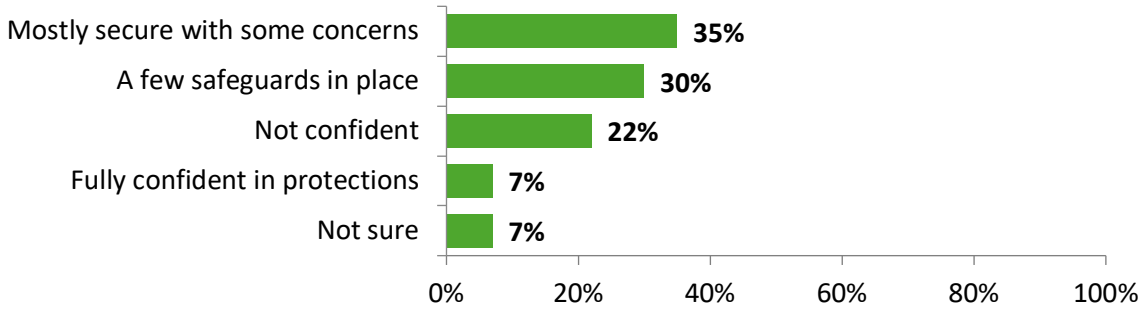
Technical Readiness

Districts appear to be in the best shape with regards to the technology infrastructures that are needed to support AI use in operations. The vast majority (82%) indicated a level of technical readiness, including 16% who are "fully ready with needed tools and systems." Another 38% are mostly ready and 28% indicated that their systems needed some upgrades. Only 10% are not at all ready and 7% were not sure about the degree of readiness.



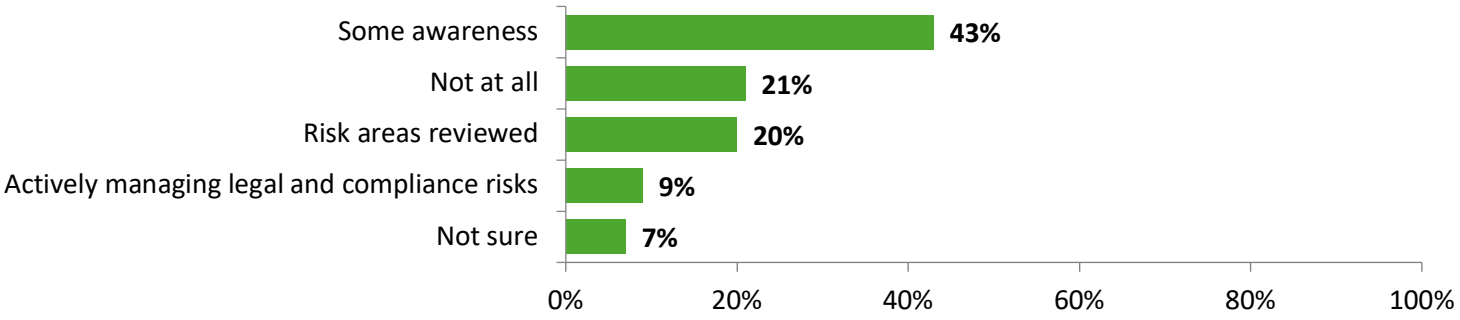
Security Readiness

Only 7% of respondents are fully confident their district's operational use of AI is aligned with cybersecurity best practices. More than one-third (35%) assessed their AI implementation as mostly secure with some concerns, and 30% indicated that some safeguards were in place. More than one-fifth (22%) of respondents did not have any confidence in the security of their operational AI. Another 7% said they were not sure, which might be another way of indicating a lack of confidence in security readiness.


Mostly secure with some concerns
35%
A few safeguards in place
30%
Not confident
22%
Fully confident in protections
7%
Not sure
7%
0%
20%
40%
60%
80%
100%

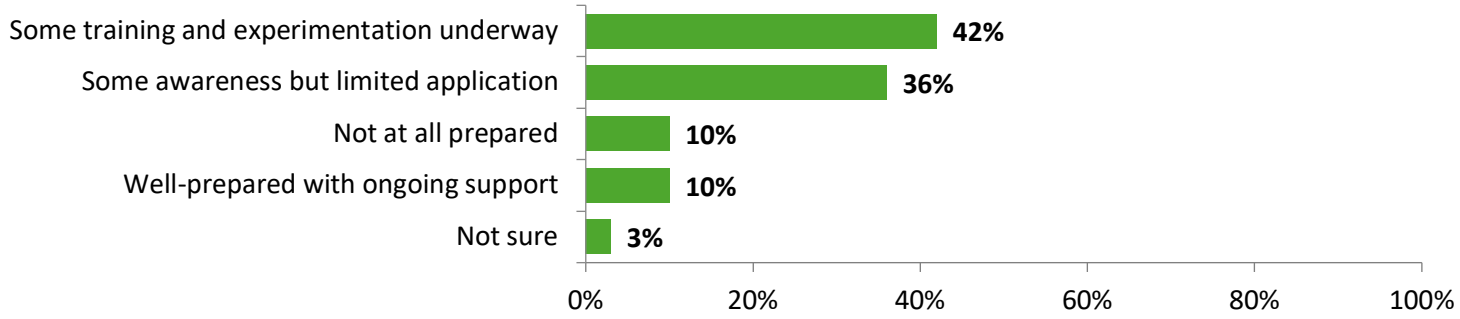
Legal Readiness

When asked if their district had considered legal or compliance risks related to AI use in operations (such as contracts and procurement), the most common response (43%) was that there was some awareness of the issues. One-fifth (20%) had conducted reviews of risk areas, but 21% have not addressed this aspect of AI operations at all. Just 9% are actively managing the legal and compliance risks, with another 7% unsure of their district's legal/risk readiness.



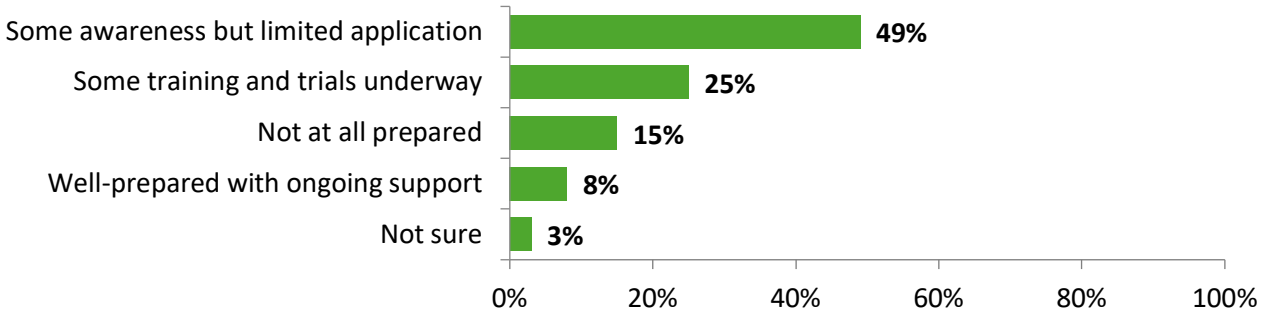
Academic AI Literacy Readiness

Only 10% of respondents consider themselves well prepared and provided with ongoing AI literacy support. The large marjority (78%) of respondents reported limited readiness regarding their district's operational goals for integrating AI into classroom instruction. Some training and experimentation are underway in 42% of districts, and 36% cite awareness but limited application. Another 10% are "not at all prepared;" 3% were unsure how to characterize their readiness.



IT AI Literacy Readiness

Respondents who considered their IT workforce completely unprepared comprise 15%, nearly double the 8% who identified as well prepared. Responses indicated that the IT workforce is somewhat less prepared for operational AI implementation than those on the academic side, where 10% cited being unprepreprepared and 10% as prepared. Nearly half (49%) are in the earliest stage of awareness with limited application, and only 25% have some training underway



Key Takeaways

Overall, districts are in the early stages of using AI for network operations. While most districts have implemented operational AI to some degree, they have done so only to a limited extent. A large majority (72%) of districts report that AI is applied to just 10% or less of their network processes, and just 3% of districts use AI for more than half of their network operations.

The top barrier to greater implementation is lack of technical expertise. One respondent explained that their "biggest challenge is time to research and identify the best measures for our environment." Another commented about the need for "PD opportunities to learn more about how to leverage AI outside of the edu[cation] environment." Given EdTech Leaders' already-full plates and the rapidly evolving capabilities of AI, closing the K-12 AI skills gap will remain an ongoing challenge.

Although network security is the primary use case for operational AI, nearly half (49%) of respondents cited increased risks of using AI as a main barrier to adoption. This underscores the dual nature of AI—it has significant benefits but can also introduce potential risks. Generally, district readiness across all integration factors is in the emerging stages. Until districts can address these readiness gaps, the potential of AI to streamline operations will remain largely unrealized.

About CoSN

CoSN, the world-class professional association for K-12 EdTech leaders, is driven by a mission to equip current and aspiring K-12 education technology leaders, their teams, and school districts with the community, knowledge, and professional development they need to cultivate engaging learning environments. Visit cosn.org or email membership@cosn.org to find out more about CoSN's focus areas, annual conference and events, advocacy and policy, membership, and the CETL® certification exam.

About HPE

HPE is a leader in essential enterprise technology, bringing together the power of AI, cloud and networking to help organizations achieve more. As pioneers of possibility, our innovation and expertise advance the way people live and work. We empower our customers across industries to optimize operational performance, transform data into foresight, and maximize their impact. Unlock your boldest ambitions, with HPE. Discover more at HPE.com.

This survey report was authored by Paula Maylahn, a CoSN project director and education industry consultant with 40 years' experience across the K-20 spectrum.