

Generative Al Adoption in Cybersecurity

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For more information on this and other research published by Everest Group, please contact us:

Vaibhav Bansal, Vice President Kumar Avijit, Practice Director Anish Nath, Practice Director Divya Chandak, Senior Analyst Arjun Chauhan, Senior Analyst

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Overview and cybersecurity value chain

Overview

The foundational objective of cybersecurity is to protect enterprises' data, systems, and networks from unauthorized access and cyber threats. While the initial goal was to prevent breaches and ensure compliance, as threats have grown more sophisticated, cybersecurity has evolved to include continuous monitoring, risk management, and proactive defense strategies to safeguard sensitive information and maintain trust with customers and partners.













Threat detection & response

- Threat intelligence gathering
- Threat monitoring, detection, and response
- Response team training through attack simulations
- Post incident analysis/forensics

Infrastructure security

- Security architecture design
- Infrastructure access control setup
- Disaster recovery planning
- Recovery site setup and business impact analysis
- Data backup procedures and disaster recovery drills

Identity and access management

- Authentication and authorization (RBAC/PBAC/ABAC)
- PIM/PAM
- IGA
- Directory services
- Identity compliance, monitoring, and reporting

Application security

- DevSecOps
- Application vulnerability assessment and penetration testing
- Security-focused code review and code hardening
- Security requirements analysis and SAST/DAST
- API security

Data security

- Data classification and access control
- Data encryption
- Data Loss Prevention (DLP)
- Data security audits
- Data breach retention. response plan, and disposal policies

Risk & vulnerability management and compliance

- Risk assessment
- · Vulnerability scanning and patch management
- End-user security training
- Risk remediation plan and security policy development
- Compliance audits, risk reporting, and analysis



Key business problems and challenges in cybersecurity





Infrastructure security



Identity and access management



Application



Data security



Risk & vulnerability management and compliance

Key objectives

Identify and respond to cyber threats to minimize damage

Secure the IT infrastructure to ensure business continuity and protect critical assets

Ensure secure and efficient access to systems and data

Protect applications from vulnerabilities and threats Safeguard sensitive data from breaches and unauthorized access

Identify, assess, and mitigate risks to ensure compliance and security

problems and challenges

- Key business Difficulty in real-time threat detection and analysis
 - Lack of skilled cybersecurity professionals
 - Delays in incident response and containment

- Dealing with complex infrastructure environments
- Ensuring consistent security policy enforcement
- Managing and mitigating infrastructure vulnerabilities
- Managing identities and access for diverse user groups
- Ensuring compliance with access control policies
- Protecting against identity theft and unauthorized access
- Identifying and mitigating application vulnerabilities
- Integrating security into the software development lifecycle
- Ensuring consistent application security standards
- Ensuring comprehensive data encryption and protection
- Managing data privacy regulations and compliance
- Protecting against data loss and breaches

- Conducting thorough risk assessments
- Keeping up with evolving regulatory requirements
- Managing and patching vulnerabilities effectively

Key results

- Lower time to detect and respond to threats
- Improved incident resolution rates
- Enhanced threat intelligence and awareness

- Increased infrastructure resilience
- Enhanced disaster recovery capabilities
- · Lower risk of infrastructure-related breaches
- Streamlined access management processes
- Lower risk of unauthorized access
- Increased compliance with IAM-specific regulations
- Fewer application vulnerabilities
- Improved security in the development process
- Enhanced protection for sensitive application data
- Improved data protection measures
- Increased compliance with data security regulations
- Fewer data breaches
- Enhanced risk management processes
- Increased regulatory compliance
- Fewer vulnerabilities and associated risks

Gen Al's impact in solving business problems in cybersecurity | gen Al use cases





Infrastructure security



Identity and management



Application



Data security



Risk & vulnerability management and compliance

- Summarize threat intelligence and provide recommendations for SoC analysts
- Automate threat detection and identify emerging threats in large datasets
- Ensure robust threat monitoring by identifying patterns, trends, and suspicious behaviors

- Assess and predict the impact of security incidents on business operations
- Optimize security architectures, identifying gaps and recommending enhancements
- Automate identity governance, ensuring compliance and efficient administration of user identities
- Enhance directory services, improving access control and authentication processes
- Conduct comprehensive code reviews, identifying vulnerabilities and suggesting security enhancements
- Assess applications for vulnerabilities, providing detailed insights and proactive mitigation strategies
- Dynamically manage and enforce data access controls, adapting to evolving security policies
- · Classify data by context and content, enhancing data protection and compliance efforts
- Create personalized security training programs, tailoring content to user behaviors and roles
- Automate policy enforcement and ensure continuous compliance with regulatory standards

Expected impact of gen Al



















Everest Group conducted an assessment of the market maturity of gen Al adoption across key cybersecurity services providers

Generative Al Adoption in cybersecurity services



¹ The participating providers are arranged in alphabetical order

Segment wise adoption in cybersecurity based on the study

Segment	Threat detection & response		Infrastructure security		Identity and access management		Application security		Data security		Risk & vulnerability management and compliance	
Key technology providers leveraged	Dropzone AI, OpenAI, Google, Microsoft, and SparkBeyond		OpenAI, Trellix, SparkBeyond, and Microsoft		CyberArk, Okta, Microsoft, OpenAI, SailPoint, and Saviynt		Microsoft, Qwiet AI, and OpenAI		BigID, Varonis, Lakera, and Securiti		Qualys, Rapid7, Tenable, AlShield, and OpenAl	
Segment progress	Pilot P	roduction	Pilot	Production	Pilot	Production	Pilot	Production	Pilot	Production	Pilot	Production

Stay connected

Dallas (Headquarters) info@everestgrp.com +1-214-451-3000

Website

everestgrp.com

Blog

Bangalore india@everestgrp.com +91-80-61463500

everestgrp.com/blog

Delhi india@everestgrp.com +91-124-496-1000

London unitedkingdom@everestgrp.com +44-207-129-1318

Toronto canada@everestgrp.com +1-214-451-3000

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