EY Cyber Security and Data Privacy

Facilitating trust and shaping the future of cyber security
EY Cybersecurity enables trust in systems, design and data, so that organizations can take more risks, make transformational changes and enable innovation with confidence.

We accomplish our mission by developing solutions that can be used to assure security and resilience of key business transformation initiatives and/or business functions.

These solutions are built using talent, experience and capabilities which reside within our 5 competencies.

We deliver solutions to our customers as part of a design, implementation or run phase of an engagement.
EY Cybersecurity enables trust in systems, design and data, so that organizations can take more risks, make transformational changes and enable innovation with confidence.

Cybersecurity and business resilience overview

**Cyber strategy, risk, compliance and resilience**

These solutions help organizations evaluate the effectiveness and efficiencies of their program in the context of business growth and operations strategies. The solutions apply consistently, regardless of where they are applied (IT, IoT, OT, Cloud), provide clear measurement of risks and capture current risks to the organization and demonstrate how cyber risks will be managed going forward.

**Data protection and privacy**

These solutions are designed to help organizations protect their information over the full data lifecycle – from acquisition to disposal. Our service offering helps companies and organizations stay up to date with data security and data privacy good practices, as well as compliance with regulations, in a constantly evolving threat environment and regulatory landscape.

**Identity and access management**

These solutions are designed to help organizations with their definition of access management strategy, governance, access transformation, and ongoing operations. The solutions help organizations ensure that the right users validate who they are and get access to the right organization resources.

**Architecture, engineering and emerging technology**

These solutions are designed to help organizations protect themselves from adversaries that would seek to exploit weaknesses in the design, implementation, and operation of their technical security controls, including disruptive technologies in the marketplace.

**Next generation security operations and response**

These solutions help organizations proactively identify and manage risks, monitor threats, and investigate the effects of real-world attacks. These rapidly integrate cybersecurity functions and technologies to adapt to demands.
EY cyber strategy, risk, compliance and resilience services at a glance

Benefits

- Provide a clear picture of current cyber risk posture and capabilities, giving management and directors a view of how, where and why to invest in managing cyber risks.
- Implement and execute a strategy and overarching cyber program that allows for rigorous, structured decision making and financial analysis of cyber risks.
- Achieve and sustain regulatory compliance requirements as the outcome of a well-designed and executed cyber function.
- Build a more risk aware culture through education and awareness to minimize the impact of human behaviours.
- Operate a program that is resilient in the face of ever evolving cyber threats and digital business strategies.

EY security strategy, risk, compliance and resilience portfolio

This set of solutions help organizations evaluate the effectiveness and efficiencies of their cybersecurity and resiliency programs in the context of business growth and operations strategies. The solutions apply consistently regardless of where they are applied (IT, IoT, OT, Cloud), provide clear measurement of risks and capture current risks to the organization and demonstrate how cyber risks will be managed going forward. Each service can be combined to form a larger program or transformation effort.
### EY cyber strategy, risk, compliance and resilience services

<table>
<thead>
<tr>
<th>Cyber strategy services</th>
<th>Cyber risk services</th>
<th>Cyber compliance services</th>
<th>Cyber resilience services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides organizations with industry perspective on security capabilities, supports development of cost optimized operating models, and supports diligence and integration through M&amp;A lifecycle.</td>
<td>Quantify cyber risks to the enterprise in financial terms, perform analysis driving business decisions on cyber risk treatment and educate key stakeholders on roles and responsibilities.</td>
<td>Helps organizations achieve, maintain and report on compliance with an ever-evolving, global cyber regulatory landscape.</td>
<td>Programmatic approach to identification, evaluation and implementation of cyber resilience measures.</td>
</tr>
<tr>
<td>▶ Cyber program accelerator (CPA)</td>
<td>▶ Cyber risk management</td>
<td>▶ Policies, standards, processes and guidelines</td>
<td>▶ Secure business continuity management assessment, strategy and planning</td>
</tr>
<tr>
<td>▶ Cyber benchmarking and performance analysis</td>
<td>▶ Cyber risk quantification</td>
<td>▶ Compliance program readiness and remediation</td>
<td>▶ Secure business continuity Management exercises, simulations and testing</td>
</tr>
<tr>
<td>▶ Cyber strategy and roadmap</td>
<td>▶ Cyber metrics program</td>
<td>▶ Compliance-as-a-service</td>
<td>▶ Physical security and safety</td>
</tr>
<tr>
<td>▶ Cyber operating model and organizational design</td>
<td>▶ Cyber performance dashboarding</td>
<td>▶ Cyber certification</td>
<td>▶ Cyber disaster recovery assessment, strategy and planning</td>
</tr>
<tr>
<td>▶ Cyber cost optimization</td>
<td>▶ Cyber board reporting</td>
<td>▶ Cyber attestation</td>
<td>▶ Cyber disaster recovery and restoration exercises, simulations and testing</td>
</tr>
<tr>
<td>▶ Cyber transformation and co-sourcing</td>
<td>▶ Cyber academy</td>
<td></td>
<td>▶ Global cyber disaster business restoration and recovery surge support</td>
</tr>
<tr>
<td>▶ Pre-Transaction Cyber Assessment and due diligence</td>
<td>▶ Security awareness-as-a-service</td>
<td>▶ Evidence-based resilience</td>
<td>▶ Crisis management program design and implementation</td>
</tr>
<tr>
<td>▶ Transaction cyber program strategy</td>
<td>▶ Cyber marketing hub</td>
<td>▶ Crisis operations command and control support</td>
<td>▶ Crisis communications and public relations management</td>
</tr>
<tr>
<td>▶ Post-transaction cyber program stand-up</td>
<td>▶ “Nth”-party security risk management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**EY data protection and privacy capabilities at a glance**

<table>
<thead>
<tr>
<th>Data protection and privacy assessment, strategy and transformation</th>
<th>Data governance and data ethics</th>
<th>High value asset (HVA) protection</th>
<th>Data protection and privacy technology enablement</th>
<th>Managed services</th>
<th>Data protection and privacy awareness and training</th>
</tr>
</thead>
</table>

**EY data protection and privacy portfolio**

EY’s data protection and privacy services and solutions are designed to help organizations protect their information over the full data lifecycle – from acquisition to disposal. Our service offering helps organizations stay up to date with data security and data privacy good practices, as well as compliance with regulation, in a constantly evolving threat environment and regulatory landscape. In the event of misuse or breach of personal information, our services can help companies forensically identify the scope and nature of the misuse or breach, and take steps to remediate and report on the event.

**Benefits**

- Our portfolio of services support a more effective, maintainable data protection and compliance management posture, helping reduce associated costs. Moreover, it assists in protecting brand reputation through the protection of business, customer and other sensitive or regulated information. It empowers organizations to more effectively avert costly data breaches, and reduces risks of non-compliance that might lead to fines from regulators. If a breach should occur, our services will help companies remediate the breach and meet reporting obligations timely.
## EY data protection and privacy services

### Data protection and privacy assessment, strategy and transformation

Services to measure, design and improve the overall data protection and privacy strategy program and its governance.

- Maturity assessments and benchmarking
- Personal data compliance assessment through data analytics
- Assessment and remediation services related to regional, national, industry data protection and privacy regulations
- Strategy, roadmap and architecture design
- Policies, procedures, notices, and consent management
- Program governance and business alignment
- Program risk assessment and remediation
- Program design, build and operate
- Privacy audit
- Incident response planning and design
- Operating model design
- Metrics and program reporting
- Cloud strategy
- PCI compliance services

### Data governance and data ethics

Services to measure, design and improve the data governance program. Support of data ethics strategy.

- Data governance
- Data governance strategy
- Data ethics assessment
- Data ethics strategy
- Policies and procedures
- Program design, build and operate
- Data exposure assessment
- Access monitoring
- Data ownership
- Data management

### High Value Asset (HVA) Protection

Services to design and implement HVA protection programs, including identifying, classifying, governing and securing high value information.

- Data classification models and strategies
- Data labelling and tagging methods and approaches
- Data handling methods and approaches
- High value information asset identification, crown jewels identification across business units and functions
- Trade secret and intellectual property protection
- Insider threat assessment and protection
- Application and system data assessments
- Data discovery scanning
# EY data protection and privacy services

## Data protection and privacy technology enablement

Services to measure, design and improve the overall data protection and privacy strategy program and its governance.

- End to end system selection and implementation services for key data protection and privacy solutions
- **Data protection:**
  - Data loss prevention
  - CASB (Cloud Access Security Broker)
  - Encryption and tokenization
  - Information rights management
  - Data tagging and labelling
- **Privacy:**
  - Consumer rights process automation
  - Governance
  - PIAs, ROPAs, data flows
  - Privacy enhancing technologies
  - Data deletion

## Managed services

Services to measure, design and improve the data governance program. Support of data ethics strategy.

- Data protection technology maintenance and support
- Data protection technology rule management and improvement
- Data protection technology event management and response
- IPA/DPO one platform IT maintenance and support
- End to end data subject rights process management
- Data privacy impact assessment execution support
- Record of processing activity and data mapping maintenance support
- Data breach support
- Data protection officer outsourcing
- Contract lifecycle management for vendor processing agreements

## Data protection and privacy awareness and training

Services to design and implement HVA protection programs, including identifying, classifying, governing and securing high value information.

- Data protection and privacy awareness strategy design
- Data protection and privacy awareness and training content development
- Data protection and privacy training delivery
- Data protection and privacy workshops design and delivery
- Data protection and privacy wargame delivery
Benefits

- Enables digital initiatives at organizations by connecting technologies in use.
- Reduces cyber risks by giving management and directors a clear, granular view of who has access to what resource in the company and a framework for managing that access securely.
- Improves the efficiency of existing tools and processes and identifies opportunities to reduce costs associated with maintaining identities.
- Enables compliance with technical standards, laws, and regulations.
- Enhances user experiences in the access and use of critical systems and data.
# EY identity and access management services

<table>
<thead>
<tr>
<th>Digital identity strategy and assessment</th>
<th>Business integration and intelligence</th>
<th>Identity and access management, privileged and multifactor solution engineering</th>
<th>Managed identity</th>
<th>Digital identity innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services to assess, design, and implement a digital identity strategy</td>
<td>Services to measure, design and improve access management models</td>
<td>Services to design and implement architecture and technology to enable a digital identity strategy</td>
<td>Service designed to transform, run, and, maintain Identity-as-a-service</td>
<td>Services designed to develop and test new identity models and methods</td>
</tr>
<tr>
<td>▶ Business requirement analysis</td>
<td>▶ Identity data analytics and remediation</td>
<td>▶ Identity and access architecture and design</td>
<td>▶ IAM transformation services</td>
<td>▶ Application onboarding factory</td>
</tr>
<tr>
<td>▶ Strategy and roadmap definition - cloud, hybrid and on-premise</td>
<td>▶ Identity and access management operation optimisation</td>
<td>▶ System integration and implementation</td>
<td>▶ Digital identity as a service, solution management</td>
<td>▶ Rapid prototyping</td>
</tr>
<tr>
<td>▶ Business case development</td>
<td>▶ Access model enhancement (ABAC, RBAC, ERBAC, SoD)</td>
<td>▶ Service deployment and transition</td>
<td>▶ Automated testing</td>
<td>▶ Visualization</td>
</tr>
<tr>
<td>▶ Tools and technology rationalisation, evaluation and selection</td>
<td>▶ Reporting and metrics improvement</td>
<td>▶ Solution migration and optimisation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EY architecture, engineering and emerging technology capabilities at a glance

**Benefits**

► Our extensive portfolio of services and offerings enables EY to more comprehensively serve our organizations across multiple aspects of their cybersecurity portfolio.

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**EY security architecture, security engineering, and emerging technologies portfolio**

EY’s security architecture, security engineering, and emerging technologies services and solutions are designed to help companies protect their organizations from adversaries that would seek to exploit weaknesses in the design, implementation, and operation of their technical security controls, including disruptive technologies in the marketplace (e.g., cloud computing, blockchain, internet of things (IoT)/industrial control systems (ICS) devices, connected automotive, robotic process automation (RPA), etc.)
## Security architecture services

<table>
<thead>
<tr>
<th>Security architecture transformation</th>
<th>Architectural assessments</th>
<th>Technical control design</th>
<th>Secure integrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services to measure, design and improve the overall security architecture program and its governance.</td>
<td>Services to measure the effectiveness of an organization's security architecture, as well as frameworks they have adopted.</td>
<td>Services to design technical security solutions for our organizations, as well as processes to help them do so themselves.</td>
<td>Services to enable our organizations to securely integrate their various corporate entities (e.g., mergers &amp; acquisitions)</td>
</tr>
<tr>
<td>Security architecture strategy</td>
<td>Technical architecture assessments</td>
<td>Secure Systems and Software Development Lifecycle (SDLC) process design and implementation</td>
<td>Secure integration approach design and implementation</td>
</tr>
<tr>
<td>Security architecture assessment and design pattern development</td>
<td>Technical control assessments</td>
<td>DevSecOps process design and implementation</td>
<td>Current state security posture assessments before integration</td>
</tr>
<tr>
<td>Policies and procedures</td>
<td>Technology effectiveness assessment</td>
<td>Proof of value facilitation</td>
<td>Integration fabric program design/build/operate</td>
</tr>
<tr>
<td>Program governance and business alignment</td>
<td>Application security architecture review and assessment</td>
<td>Technology strategy and requirements analysis</td>
<td>Security technology portfolio rationalization for integrated entities</td>
</tr>
<tr>
<td>Program risk assessment and remediation</td>
<td>SABSA (Sherwood Applied Business Security Architecture)</td>
<td>Technology solution selection and evaluation</td>
<td>DevSecOps pipeline integration</td>
</tr>
<tr>
<td>Program design/build/operate</td>
<td>TOGAF (The Open Group Architecture Framework)</td>
<td>Technology design and implementation</td>
<td>Integration fabric risk assessment and remediation</td>
</tr>
<tr>
<td>Program strategy and roadmap design</td>
<td>OSA (Open Security Architecture)</td>
<td>Application security controls design</td>
<td>Metrics and program reporting</td>
</tr>
<tr>
<td>Operating model design</td>
<td>O-ESA (Open Enterprise Security Architecture)</td>
<td>Cloud security control design</td>
<td></td>
</tr>
</tbody>
</table>
# Security engineering services

## Security engineering transformation

Services to measure, design and improve the overall security engineering program and its governance.

- Security engineering strategy
- Policies and procedures
- Program governance and business alignment
- Program risk assessment and remediation
- Program design, build and operate
- Program strategy and roadmap design
- Operating model design
- Metrics and program reporting

## Technical implementation

Services to implement technical security solutions for our organizations, as well as processes to help them do so themselves.

- Use case workshops/definition
- Technology requirements analysis
- Technology solution selection and evaluation
- Technology design and implementation
- Technology deployment planning
- Technology operational processes creation
- Engineering documentation creation (e.g., schematics, diagrams, processes, procedures)
- Technology migration [SIEM]
- Technology uplift [Follow-up to prescriptive value path assessment]
- Application security controls implementation
- Secure SDLC
- Cloud security solution design and implementation

## Security technology portfolio management

Services to continuously right size our client’s security technology portfolio to maximize value to cost.

- Current state security technology assessment
- Use case analysis
- Scope of deployment analysis
- Utilization analysis
- Cost analysis
- Future state recommendations based on analysis

## Secure engineering managed services

Services to continuously manage the security infrastructure for our organizations.

- Security technology product management
- Security technology product deployments
- Security technology product upgrades
- Security technology product configuration changes
- Security technology product decommissions
- Cloud security monitoring
### Emerging technology services

#### Security solution development

Services to measure, design and improve the overall state of security for emerging technologies.

- Point of view creation
- Alliance potential validation
- Security solution creation
- Go to market materials
- Policies and procedures
- Program risk assessment and remediation
- Program design, build and operate
- Program strategy and roadmap design
- Operating model design
- Metrics and program reporting

#### Technical assessment, implementation and integration

Services to assess the security of an emerging technology, implement changes to improve its security, and integrate the technology.

- Use case workshops and definition
- Technology requirements analysis
- Technology solution selection and evaluation
- Proof of concept/pilot
- Technology design and implementation
- Technology deployment planning
- Engineering documentation creation (e.g., schematics, diagrams, processes, procedures)
- Network segmentation
- Infrastructure configuration analysis

#### Security analytics for resilience

Services to apply advanced analytics to technical, network and systems configuration data to develop sustainable, data driven dependency mapping to effectuate resilience capabilities.

- Data source assessment
- Data driven asset mapping
- Use case workshop design and implementation
- Program strategy and roadmap

#### Security analytics and architecture

Design and implementation of bespoke analytics use cases and big data services to support client’s security and business strategy.

- Custom analytical models
- Data centralization
- Architecture design
- Metrics and reporting
## Emerging technology services (OT/ICS, IoT, Cloud)

### Emerging technologies transformation

- Security transformation programs driven by OT, IoT, cloud, and “smart” technologies

### OT/IoT security by design

- Secure design and implementation of OT, IoT, cloud and other “smart” technologies.

### OT/IoT implementation and integration

- Services to implement technical security for OT/IoT

### OT/IoT operations and governance

- Integration, convergence, standardization and harmonization across the organization to achieve successful management of cyber security with embedded OT/ICS and IoT technologies

| OT/IoT cyber transformation programs | OT/IoT security strategy | OT/IoT transformational roadmap | OT/IoT-specific processes and standards development | OT/IoT security project and program management | Smart buildings and city protection | Smart factory and industry 4.0 protection | Protection services (security assessments and penetration tests of emerging technologies with specific threat assessment [e.g., IoT, cloud impact]) | Smart sensors and actuators, cloud and IoT platform, connectivity assessment and protection | Process safety (e.g., SIS/ESD systems) | IT/OT network segmentation architecture | OT asset management | IoT architecture | Cloud architecture | SDLC and product security/connected products | Regulatory requirements (EU NIS Directive, NIST CSF) | OT/IoT environment detection and monitoring, OT SOC, incident response | IT/OT network segmentation | OT extension of cyber security services (e.g., backup management, anti malware, active directory, asset management, vulnerability management, remote access) | OT/IoT laboratory services (design, use, setup and implementation support) | OT/IoT managed services | OT/ICS and IT security integration and convergence. | IT/OT operating model design - security operations to prevent, detect, respond and recover from attacks | OT organization structure definition of security roles, responsibilities and services to achieve risk management objectives | OT security service operations | OT security sourcing, insourcing, outsourcing | OT security service catalogue | OT/IoT security dashboards and KPIs |
EY Next generation security operations and response capabilities at a glance

EY next generation security operations and response portfolio

EY’s next generation security operations and response services along with a deep portfolio of advisory, implementation and managed services, can help organizations build a transformation strategy and roadmap to implement the next generation of security operations, and provide the right amount of support to help you manage world-class security operations in a programmatic way.

Benefits
► Helps plan, design, build and optimize a world-class security operations center (SOC).
► Identifies and prioritizes capital and operational investments to help organizations apply effective defenses to cyber threats.
► Delivers just in time on-site support and remote incident response support to help quickly contain, eradicate an intruder that has compromised a client’s digital assets and implement enhanced defenses to reduce risk going forward.
► Accelerates and sustains threat and vulnerability management effectiveness.
► Identifies vulnerable systems and networks through controlled penetration tests, dynamic and static application testing and helps organizations remediate to their acceptable risk tolerance.
► Monitors and responds to advanced threats via market leading technology and intelligence.
► Discover and manage critical system vulnerabilities which can act as points of entry into the environment.
The EY advantage

- **Speed to maturity**: Ability to move your program up the maturity curve rapidly with proven methodologies, processes and technology.
- **Lower start-up costs**: No need for investment into significant staff and up-front capital to increase maturity and capabilities.
- **Balanced investments**: Helps organizations assure that a program is optimized to address risk within the context of the organization’s risk appetite.
- **Access to sector-specific innovation**: Resources offer sector-specific knowledge and multidisciplinary experience and access to latest innovations.
- **Improved trust**: Facilitates cybersecurity trust into every business initiative from the beginning.
- **Business aligned**: Delivers integrated solutions aligned to business needs, not point solutions which add complexity and cost over time.
- **Faster response time**: Optimize processes and efficient operations to speed up response to crises.

Page 17 | An overview of our EY Advisory Cybersecurity services
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