

Managing Cyber Risk

Cybersecurity - Threats and Impact

\$6 Trillion
Estimated global cost of cybercrime by 2021¹

78%
of organisations were victims of payment fraud²

KEY TRENDS

- ✓ Multi-vector attacks
- ✓ Targeted victims
- ✓ Sophisticated tools
- ✓ Persistence and long-term outlook
- ✓ Impersonation

THREAT ACTORS

- Perpetrators: organized syndicates, criminal enterprises, nation states
- Actions are COORDINATED and WELL FUNDED
- Perpetrators are driven by opportunities for geopolitical and financial gain
- Acting with increasing focus on disruption and destruction

IMPACT

- Fraud Losses
- Business Disruption
- Reputational Impact
- Data Loss

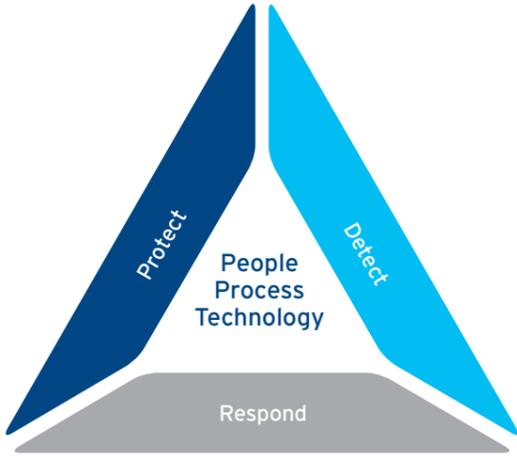
Holistic Approach
You are only as strong as your weakest link.



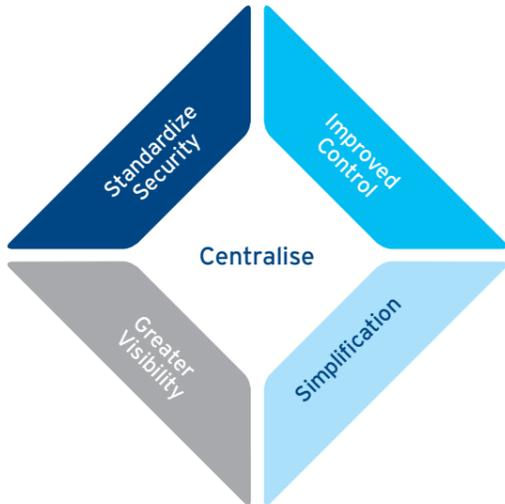
Staying a Step Ahead



Layered Security



Centralise



Digitise



¹ Cybersecurity Ventures, "2017 Cybercrime Report".
² 2018 AFP Payments Fraud and Control Survey.

How can Citi help the fight against Cyber Crime?

Advisory. Insights. Solutions.

The Power of Citi's network working to help combat fraud and cybercrime.

 **LAYERED SECURITY**

	People	Process	Technology
Protect	<ul style="list-style-type: none"> Entitlements and maker/checker Background Verifications 	<ul style="list-style-type: none"> Vendor Management Data Protection 	<ul style="list-style-type: none"> Device/Software Controls Perimeter/ Network Security
Detect	<ul style="list-style-type: none"> Staff Training 	<ul style="list-style-type: none"> Audits Reconciliations 	<ul style="list-style-type: none"> Network Monitoring Vulnerability Assessment
Respond	<ul style="list-style-type: none"> Response and Escalation 	<ul style="list-style-type: none"> Security Incident Management Investigation and Insurance 	<ul style="list-style-type: none"> Contingency Testing

 **HOLISTIC APPROACH**

- Citi Network: In-depth knowledge of local regulations across the globe
- Citi Cyber Security Fusion Center (CSFC)
- Citi Security and Investigative Services (CSIS)
- Citi Security Operations Center (SOC)
- Citi Cyber Intelligence Center (CIC)
- Member of Financial Services Information Sharing & Analysis Center (FS-ISAC)

 **STAYING A STEP AHEAD**

- Citi runs Smart Experiments through Citi Ventures and Citi's Innovation Labs
- Biometrics
- Intelligent Risk Assessment
- Out of Band Security
- Transaction Security
- Device Security

 **CENTRALIZED**

- Reduce entry points for fraud with a banking partner that can help:**
- Centralize Banking Structures
 - Bank Rationalization
 - Cash Aggregation & Centralized Liquidity and Payment Structures
 - Centralize Treasury Processes
 - Shared Service Centers
 - Centralize Operational Risk Management

 **DIGITIZED**

- Online Banking (CitiDirect BE®)**
- Session Controls (Time outs)
 - Tiered Login Capabilities
 - Audits and Alarms
 - User Entitlement and Authorization Flows
 - Authentication (MobilePASS, Safe Word)
 - Data Encryption

- File/Message Exchange (CitiConnect®)**
- Message Integrity, Authenticity and Nonrepudiation
 - Monitoring of File Delivery and Processing
 - Data Integrity of Messages and Files
 - Data Encryption

For more information visit Citi's Fraud Prevention and Training Toolkit: www.citi.com/treasuryandtradesolutions/fraudpreventionresources

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