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INDIAN CYBERSECURITY PRODUCT LANDSCAPE

Scripting a promising story

PROMOTING DATA PROTECTION
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Printing & Publishing
MKM CREATIVE

Dr. Gulshan Rai
National Cyber Security Coordinator
Government of India

Cybersecurity being a critical sector from the perspective of national security, it is imperative to give due focus on nurturing the ecosystem for innovation and technology development. The threat surface is continuously expanding with rapid adoption of digital technologies, at the same time, the increased sophistication of attacks is continuously raising the bar for India's Cyber Preparedness.

It is highly encouraging that a vibrant Security Product ecosystem is emerging in India, and many of them are innovating with cutting edge technologies, to solve cyber security problems and are successfully foraying into global markets. India's Cyber Defence demands that security entrepreneurship is nurtured both by Government and Academia to address National Security demands. DSCI's the 'Indian Cybersecurity Product Landscape' report will help Government understand the evolving security product landscape in India, and provide input into Government's Cyber Security and R&D plans for future. I urge all Government departments and CISOs in India to evaluate and adopt the technologies developed by these young Startups and Product companies."

Shri Ajay Prakash Sawhney
Secretary, Ministry of Electronics
& Information Technology,
Government of India

It is quite an impressive story that Indian product companies and startups have created, especially the pace of growth witnessed in the last decade. Indian product companies are marking their footprints, not only in domestic market but also globally, with many emerging companies showing steep growth, which is quite remarkable.

DSCI's research report 'Indian Security Product Landscape' showcases the emerging success story of Security Products Industry in India, its growing footprint, and offers many deeper insights of the ecosystem. Cybersecurity is a strategic sector for country's defence and it is reassuring to see many young companies building next-gen security solutions using AI/ML, Big Data/Analytics, Blockchain, Encryption, Forensics etc.

Though a promising story is being created, yet a lot more needs to be accomplished. Ministry of Electronics and IT, in partnership with DSCI and all stakeholders, will make concerted efforts in creating a conducive environment to nurture Indian product companies and take them to the next orbit of growth. I compliment DSCI team, in bringing out this timely research report to support Government in its future Cyber Security Strategies.

Foreword

Rama Vedashree
CEO, DSCI

Digitisation is driving India's growth and we are slated to become a USD 1 trillion digital economy by 2025. Several digital products spanning fintech, healthtech, edtech, retailtech is expected to contribute to this. However, it is pertinent to note that the success of this digital economy hinges on security and privacy. One segment, in this overall product story, that is deemed as a strategic sector by the Government of India and is also steadily drawing spotlight is Cybersecurity. With a base of 175+ companies, the Indian Cybersecurity Product Landscape has begun to create a promising story.

DSCI, since its inception, has had a special focus in nurturing and growing cybersecurity start-ups, and our 'Innovation Box' Initiative has helped in discovering many security product companies who are now successfully expanding to global markets. It is fascinating to observe that some of the new-age cybersecurity product companies, incorporated in the last 5 years are growing more than 100% y-o-y, with diverse go-to-market strategies. 6 out of every 10 companies are driving a partnership strategy to foray across geographies. It is the steadfastness and the maturity of the founder base that the landscape is strongly moving forward, despite being mostly bootstrapped.

The landscape has a fine blend of pure-play cybersecurity product companies and those offering both products and services. It also has both traditional solution providers and those focussing on new age technologies such as AI/ML, Automation, Big Data/Analytics, Encryption, Blockchain, Quantum Cryptography, Deception, Advanced Authentication, to name a few. Another reassuring trend is that 33% of the companies have applied for patents, indicating the rising innovation quotient of the ecosystem.

The funding environment is beginning to improve, with Technology Development Board, VC and Angel Investor community finally giving cybersecurity its due attention. We are also beginning to see global tech companies nurturing cybersecurity start-ups in their incubation centres in India. User enterprises are also working with product companies to help them identify niche use cases and white spaces. However, the ecosystem has a long way to go, to be able to significantly scale and get traction, and needs all the necessary support from the Government, Industry, Academia, Incubators/Accelerators, and the Investor Community, to be able to make India a Global Hub for security innovation and product development.

As part of DSCI's cyber security industry development initiative, it is imperative for us to put spotlight on the technological capabilities, go-to-market strategies, achievements, evolution and progress of these companies. With this objective, we are delighted to present the report titled, 'Indian Cyber Security Product Landscape – scripting a promising story'. This research report has endeavoured to study the landscape, and chronicle the emerging success story of technology innovation, and the potential they hold for the future.

The report offers a fine blend of data, insights, caselets, success stories, and can provide insights to various stakeholders in the ecosystem. We do hope the report will showcase the emerging but nascent security product ecosystem, and forge opportunities to renew collaboration and partnerships. We invite your feedback and comments at industry@dsci.in. Let us nurture and grow the ecosystem together!

Executive Summary

1 Indian Cyber Security Product Landscape - A promising ecosystem in the making...

175+
Indian security product companies

70%
incorporated in the last decade

Generated a cumulative revenue of **USD 450+ Mn** in FY2018

60% Y-o-Y
growth for several new-age start-ups

2 Sharpening technological prowess for market advantage...

>1/3rd of the companies offering AI/ML-enabled products

patent conversion (116 patents filed, 44 granted, several in process) **40%**

~20% collaborating with various academic institutions

Core technologies being used for next-gen security solutions

AI/ML
Analytics
Deception
CASB
Quantum Cryptography
Threat Intelligence
IoT Security
Encryption
Orchestration security
Automation
Blockchain

3 Supported by self-sustainable businesses, and a mature founder base...

~70%
product companies are bootstrapped

65%
offer both products & services

45+
pure-play cybersecurity product companies

80%
founders have
10+
years of experience

Note: Sample size may vary between data points as per information availability
Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI; Expert Discussions

Executive Summary

4 Made in India, made for the world, with evolving go-to-market strategies...

India, US, UAE, Singapore, and UK – top geographies of focus

BFSI, IT/ITeS, Govt & Defence – top verticals of focus

~60% engaging with partners for market access

>80% cybersecurity product companies are cloud ready

Collaboration among **start-ups** for **joint GTM** for complementary products

5 With product offerings across segments

Threat Intelligence & Security Analytics, IAM, Network Security and Data Security – top segments of focus

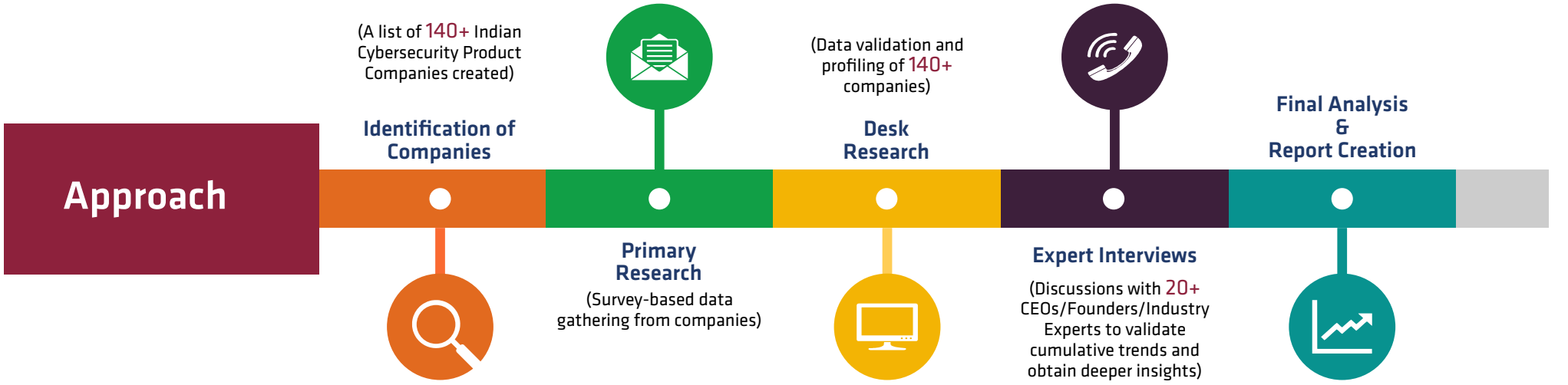
6 Steady traction in funding in the last 5 years, yet more needs to be done to achieve scale

USD 250-300 Mn
total funds raised so far

Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI; Expert Discussions

Methodology and Team

As part of DSCI's industry development initiative, the report titled 'Indian Cybersecurity Product Landscape - scripting a promising story' was developed through a four-month comprehensive study. The report aims to put spotlight on Indian companies - their product offerings, technological capabilities, geographical presence, go-to-market strategies, funding landscape, and the way forward.



DSCI Team

Atul Kumar
Senior Consultant
DSCI

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DSCI

Acknowledgement

Our sincere thanks to the cybersecurity product companies, who participated in the study, and provided valuable insights. DSCI appreciates and values the support of the ecosystem. It is through this combined effort that we can take the ecosystem forward.

We would also like to thank Steeple Research for their support in data gathering and desk research.

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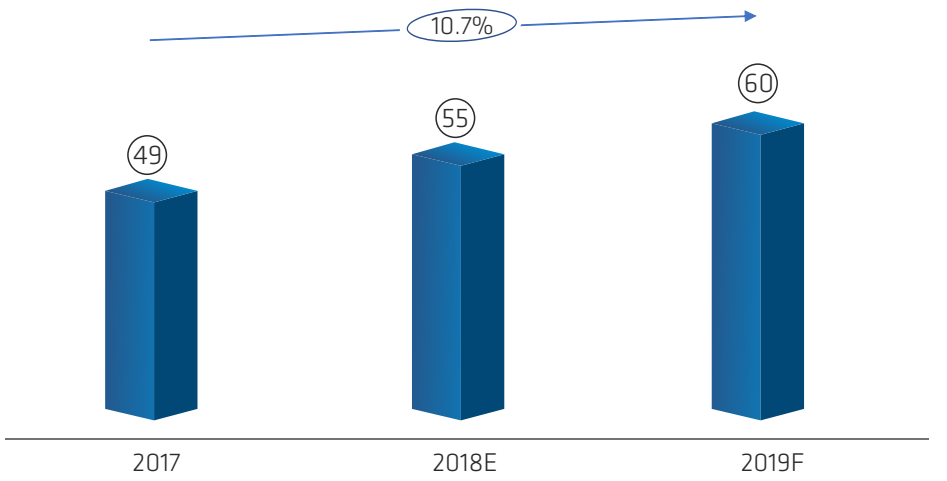
1 Global Cybersecurity Product Landscape

Market Size and Growth

According to Gartner, global cybersecurity market to reach USD 124 billion by 2019, with products accounting for ~50%

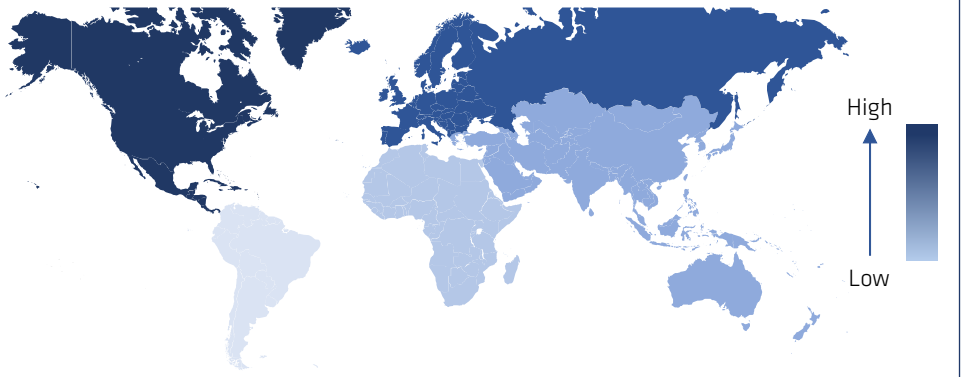
Network security is the largest product segment; data security is the fastest growing

Cybersecurity Product Market Size (in USD Bn)



US leads cybersecurity demand; Asia expected to have fastest growth

Cybersecurity Product Market Size by Region (2017)

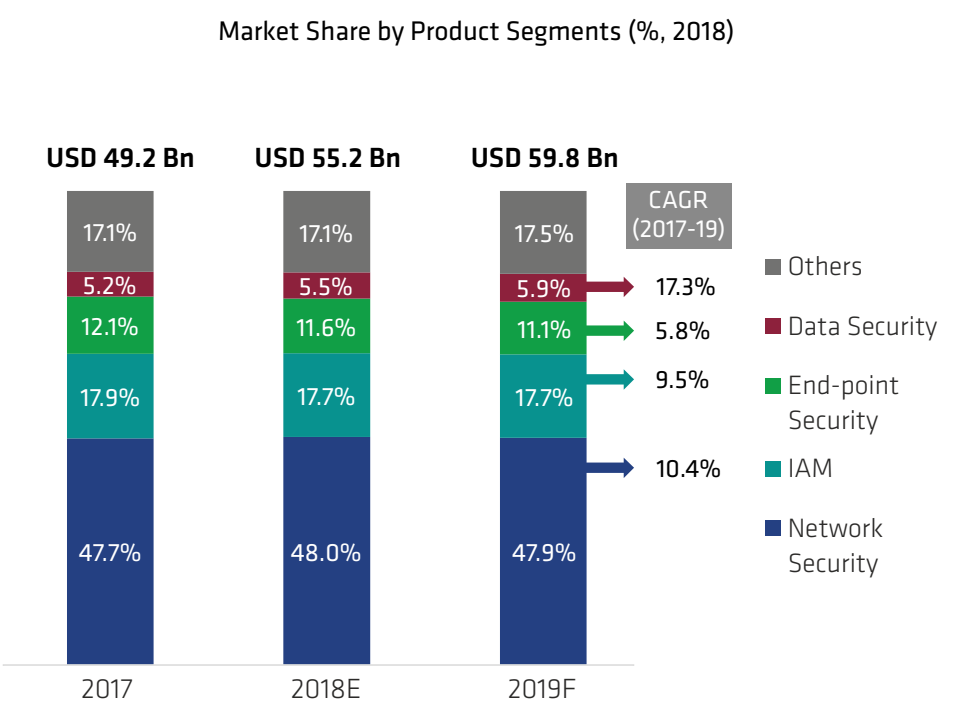


- Global cybersecurity market is driven by rising incidence of cyber attacks, sophistication of cyber-crimes, rapid adoption of cloud computing and IoT, and the rising threats around state-sponsored attacks making Governments across the globe proactive.
  - As per Center for Strategic and International Studies (CSIS) estimates, cyber crimes cost a maximum of ~USD 575 billion per year.
- The US followed by Europe are the largest cybersecurity product markets, with Asia growing fastest due to rising internet penetration and focus on digitisation.
- Government sector is the dominant end-user, with BFSI, telecom and healthcare experiencing fastest growth in deploying cybersecurity solutions.
- Cybersecurity product segment is expected to grow at a CAGR of 10.7% from 2017 to 2019, to reach USD 60 billion by 2019.

Source: Gartner Press Releases, World Economic Forum, The Global Risks Report 2018, Promexico: Cyber Security Market Analysis, PRWeb, Center for Strategic and International Studies (CSIS)

Network security continues to be the largest product segment

Network security is the largest product segment; data security is the fastest growing



- Growth in network security will be driven by adoption of next-gen firewalls, next-gen email security, need for integrated products and solutions, rise in DDoS attacks etc.
- Growth in the IAM category will continue as 'zero trust' security becomes mainstream, and the fear of insider threat rises, with increase in IoT devices and BYOD.
- Rising concerns around data and privacy will also propel the market in the upcoming years.

Global security product players (Illustrative list)

- There are also several emerging companies and start-ups working in niche areas and next-gen technologies, across the globe.

Source: Gartner Press Releases, Annual Reports

Key Trends

Sophistication of technologies to combat cyber threats; proportionally increasing demand for security professionals

Technology Adoption

Analytics and AI/ML

- For monitoring of endpoint, AI/ML will be increasingly used, particularly to examine traffic and identify threats, as going forward it will become difficult for humans to tackle ever increasing endpoints and growing BYOD adoption.
- Improvements in advanced analytics and AI, will result in the development of analytics-led authentication tools that support a continuous adaptive risk and trust assessment (CARTA) approach across multiple authentication use cases.
- As cyber attacks get sophisticated, vendors will continue to build products and solutions, powered by ML/AI, that can predict threats, adapt to attacks in real time and deploy customized defence strategies.

Cloud Security

- As organizations transition to cloud infrastructure, industry will witness more number of cloud-ready security solutions.

Blockchain

- The robustness of blockchain technology will continue to create several uses cases in security. Blockchain is being evaluated by technology providers for its usage in data security, identity and access management, and in preventing DDoS attacks, among others.

IoT

- IoT proliferation will increase demand for tools aimed at improving discovery, asset management, and security of IoT devices.

Mergers and Acquisitions

- In 2018, major tech-players, PE and pure-play security players spent nearly USD 5 billion in cybersecurity-related M&A transactions. Companies have placed big bets on securing the cloud, endpoint and application security segments.
- High industry growth, coupled with majority players being start-ups, is forcing PE firms to lower their minimum investment criteria to avoid missing opportunities (average of USD 80 million in cybersecurity deals vs. USD 100 million in general).

Demand for Skilled Professionals

- Global demand for security professionals will increase due to the unprecedented rise in the number of cyberattacks.
- According to Cybersecurity Ventures, unfilled cybersecurity positions is expected to reach 3.5 million by 2021.
- In 2017, the US employed nearly 780,000 people in cybersecurity, with approximately 350,000 more cybersecurity openings.

Source: Gartner Press Release, LinkedIn, Cyber Security Ventures, WEBROOT, YourTechDiet, G2Crowd, Forbes, CSO Online, MarketWatch, Steelkiwi

2 Indian Cybersecurity Product Landscape

Scope of the Study

The study is focussed on
‘Indian Cybersecurity Product Companies’

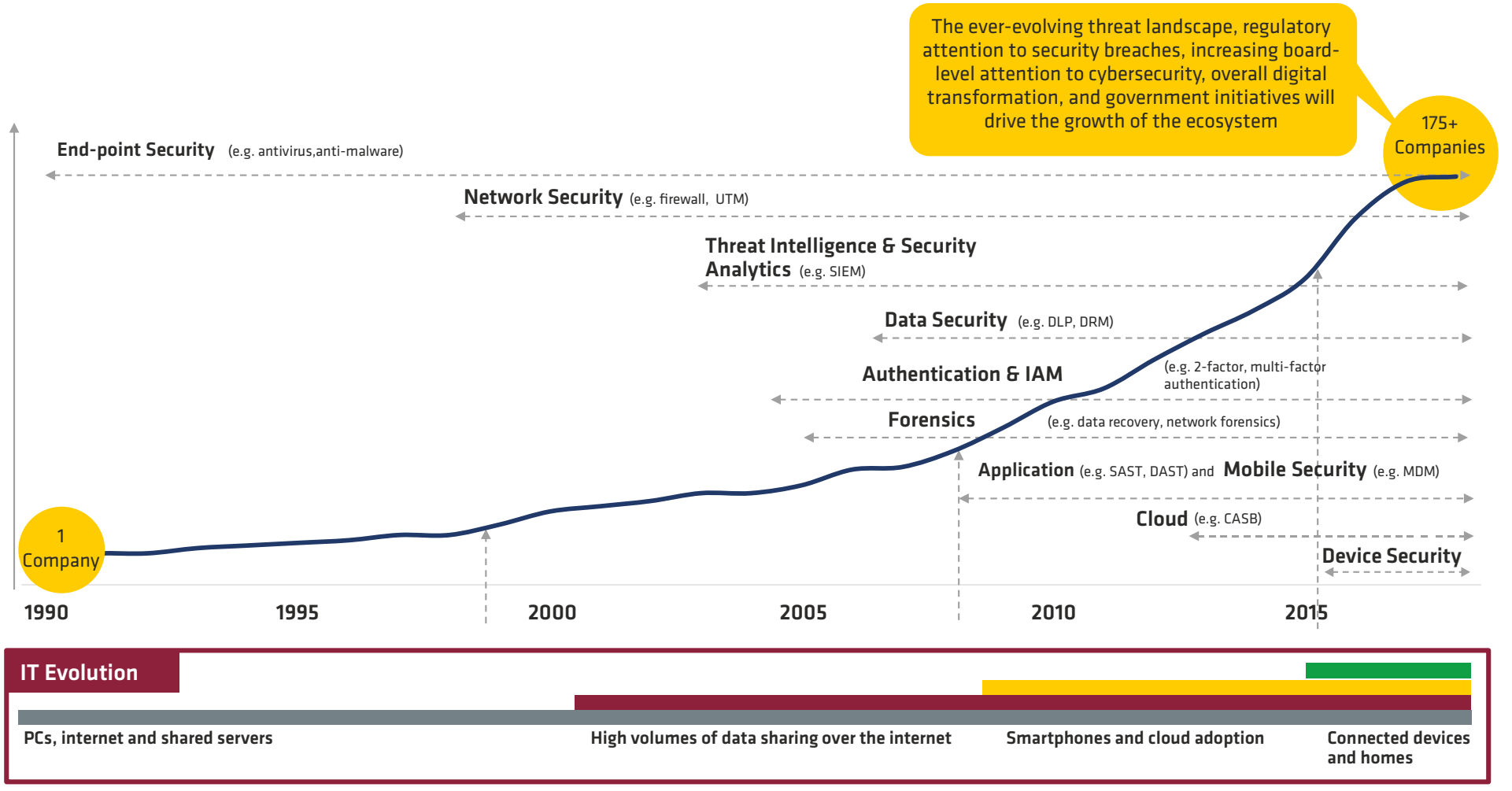
DEFINITION

Registered Cybersecurity Product Companies + **Company headquartered in India or outside, with product development centre largely in India** + **Founders of Indian Origin**

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

70% of the companies incorporated in the last decade

Evolution of Cybersecurity Product Companies in India – 1990 to 2018[1]



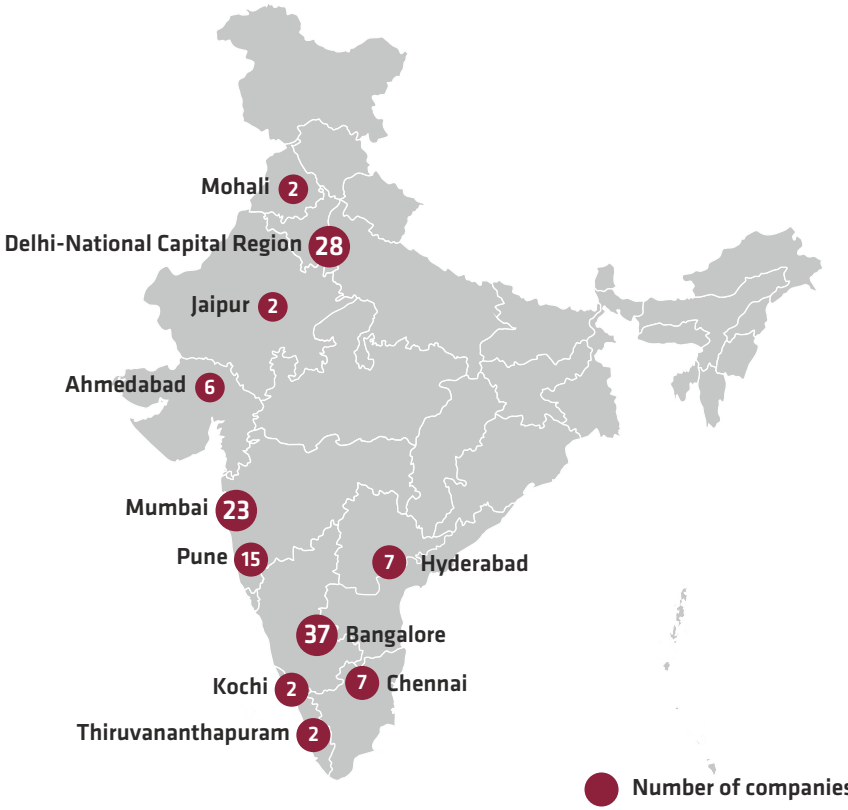
Note: 1. The graph is representative of the total base of companies in each year

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

Bengaluru, Mumbai, Delhi-NCR harbour 60% of cybersecurity companies; Pune, Hyderabad, Chennai, and Ahmedabad are emerging locations

80% of companies headquartered in Tier 1 cities[1], driven by strong customer base, availability of skilled work-force, and conducive ecosystem

Concentration of Cybersecurity Product Companies – by city (as of September 2018)[1]



The US is the most preferred location for HQ outside India, driven by improved valuation, funding, and access to market

9% of the companies are headquartered in the US

Key product segments: Data security, GRC, IAM

Companies Headquartered in the US - Illustrative

druva · cloudneeti · vaultize · FIXNIX · StegoSOC · PALADION BETTER SECURITY OUTCOMES · PARABLU

Key factors impacting emergence of cybersecurity hubs in India

- Location of Incubators/Accelerators
- Proximity to Customers
- Proximity to IT Industry
- Availability of Skilled Employees

Note 1: Tier 1 cities include Mumbai, Delhi-NCR, Chennai, Bangalore, Pune and Hyderabad

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

Indian Cybersecurity Product Landscape Map[1]

Not Exhaustive

Network Security (40)

Data Security (37)

Application Security (26)

Threat Intelligence & Security Analytics (41)

IAM (40)

End-point Security (26)

Governance, Risk and Compliance (19)

Device Security (5)

Mobile Security (18)

Cloud Security (4)

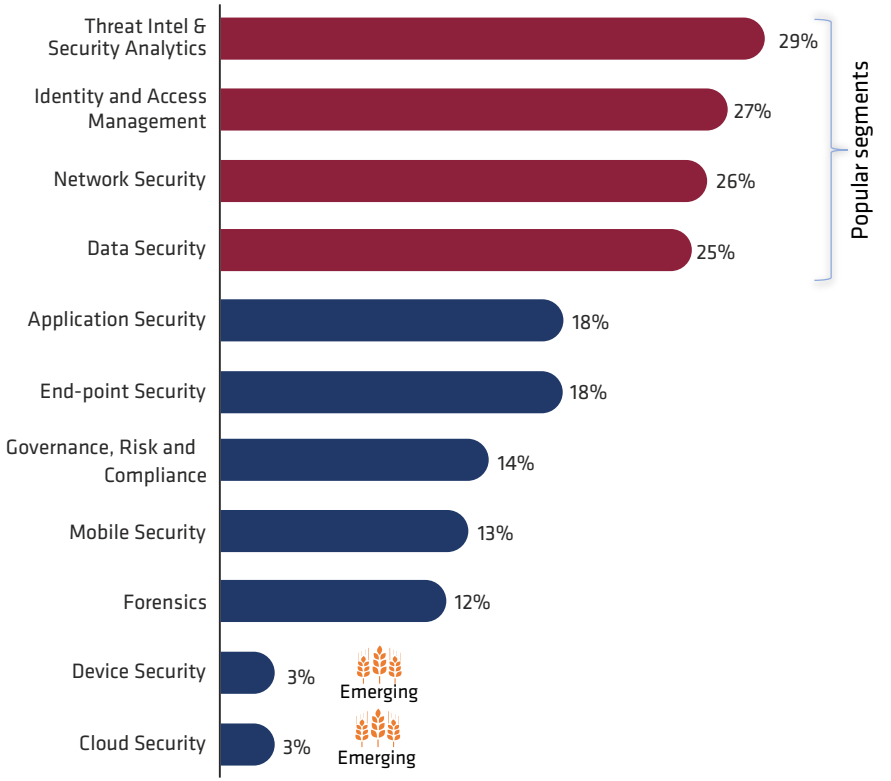
Forensics (17)

Note: 1. Overlaps exist between categories

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI

Top segments of focus – Identity & Access Management, Network Security, Threat Intelligence & Security Analytics, and Data Security

Product Segment[1] Focus – by Number of Companies



Sub-segment Analysis, based on Market Adoption

Network Security

Near saturation: *Firewall,* UTM, IDS, IPS, vulnerability assessment

Peak adoption: *WAF, secure email*

Early-mid market adoption: *Next-gen firewall, next-gen email security, next-gen proxy, sandboxing,* deception, encryption, masking, network behaviour analysis and anomaly detection

IAM

Peak adoption: *User provisioning*, Identity governance, *authorization*

Early-mid market adoption: *Advanced authentication*, federated identity management

Data Security

Peak adoption: *DLP, database security*

Early-mid market adoption: *Digital data classification*, masking, digital rights management, data discovery, cryptography

Threat Intelligence & Security Analytics:

Adoption phase: Automated machine learning, next-gen *SIEM* platforms, *UEBA*

Astute combination of big data, analytics, and machine learning to be the game-changer

Medium-large addressable market sizes

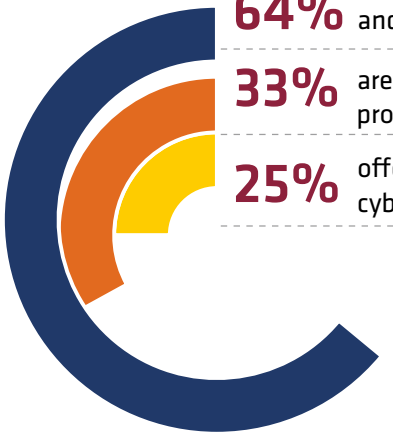
Note: 1. Please refer to 'Appendix' for definitions of product segments

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

Pure-play vs. Diversified

Market is dominated by integrated players offering both products and services; however, 33% are pure-play cybersecurity product providers

Close to 65% of companies offer both cybersecurity products and services



64% offer both products and services

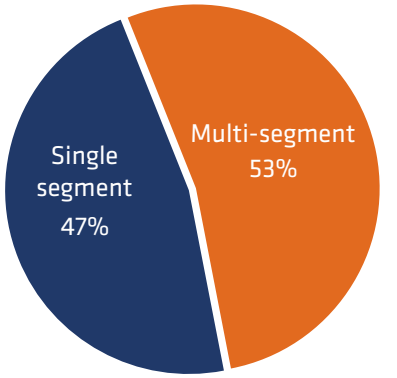
33% are pure-play product providers

25% offer products beyond cybersecurity

- The integrated portfolio enable the self-sustainability of the ecosystem, which proudly harbours ~70% bootstrapped companies
- Companies offering products beyond cybersecurity, operate in the areas of mobility, IoT, automation, digital payments, data management, communication and collaboration, and other enterprise products, which enable them to offer solutions, which are secured by design

Close to 50% companies operate in single product segment

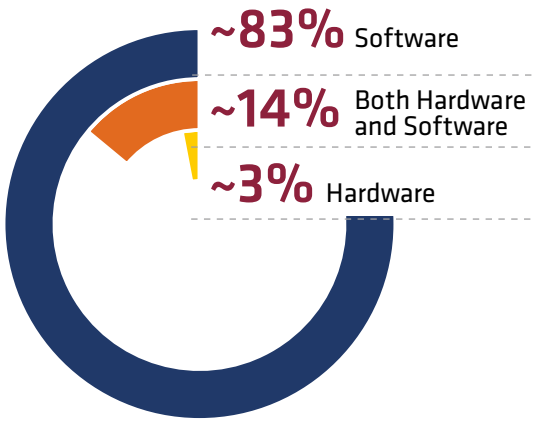
Company Focus (Single-Segment vs. Multi-Segment)



- During inception, focussing on a particular segment helps in better R&D
- Go-to-market strategy – Experts highlight the need for collaboration among single-segment start-ups to create technology stack and showcase an integrated holistic offering, while bidding for larger RFPs

~83% of Indian cybersecurity product companies offer software products

Company Focus (Hardware vs. Software)



~83% Software

~14% Both Hardware and Software

~3% Hardware

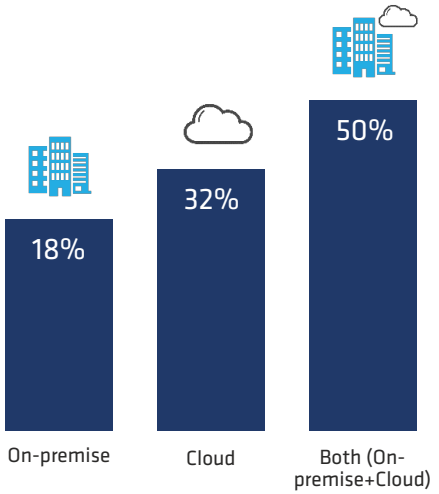
- India, predominantly being the software powerhouse, is able to produce more companies in the software space
- Those operative in the hardware segment are primarily targeting the local market for outreach

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

80% of cybersecurity product companies are cloud-ready

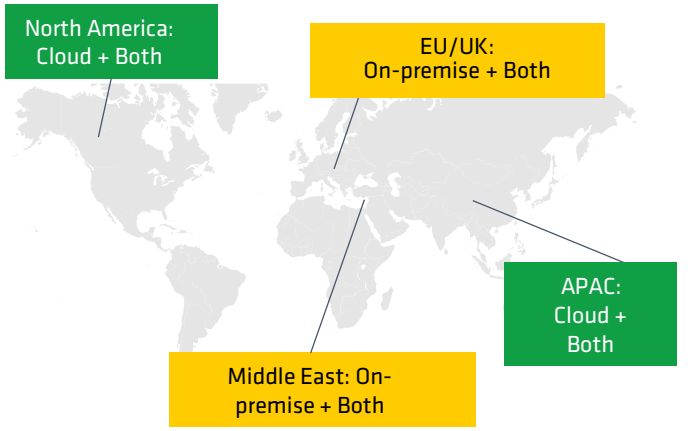
Cloud is emerging as a preferred option for deployment, across geographies

Mode of Deployment offered (2018)



- Nearly 50% of the companies offer both on-premise and cloud deployments for their products

Mode of Deployment offered – by Geographies (2018)



- The companies offering cloud-only products sell mostly in North America and APAC regions
- The companies offering on-premise only products sell mostly in the Middle East, EU, and UK
- The companies offering both the deployments have acceptance across the globe

Mode of Deployment offered - by Product Segments (2018)

Segment	On - premise	Cloud	Both
IAM			
Network Security			
Security Analytics			
Data Security			
Application Security			
End-point Security			
GRC			
Mobile Security			

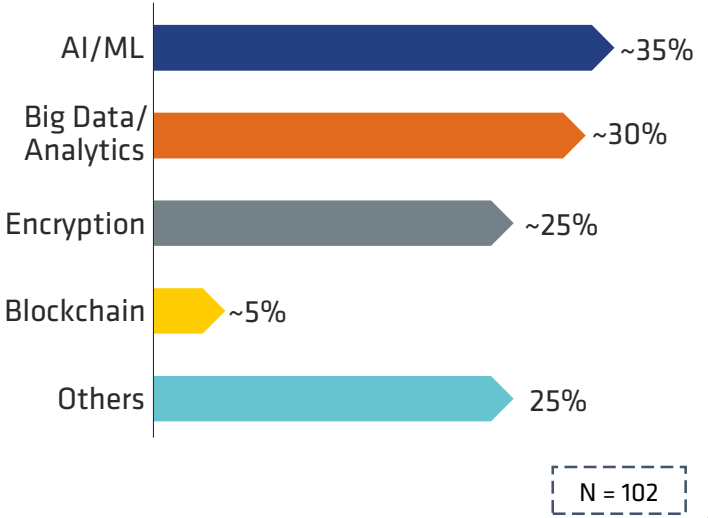
Number of Companies	High	Medium	Low

Source: Based on of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

More than 1/3rd of the companies offering AI/ML-enabled products

Global buzz, need to differentiate and add-value, driving companies to evaluate newer technologies

Company Focus – by Technology (%, 2018)



- Artificial intelligence and machine learning is being used to provide value-adds in network security and security analytics products
- Encryption is mostly used in endpoint security products
- Blockchain is being leveraged by companies in providing IAM and data security products

Companies Offering AI-Driven Products (Representative List)

Clari5
Using AI/ML to identify transactional fraud and money laundering

Orkash
Using AI/ML to provide strategic and tactical intelligence to Govt. Intelligence agencies

Prophecy
AI/ML based predictive analytics, object identification

ESOF
AI-algorithm driven product to calculate enterprise's cybersecurity score

Companies Leveraging Big Data/Analytics (Representative List)

Khika SIEM
Next generation SIEM which uses big data to enable historical correlation to identify threats

DNIF
Big Data platform to analyze threat feeds from large volumes of data

eVigil Pro
Leverages big data in offering insights on security events in real-time

BlueScope
Single platform capable of offering vulnerability assessment and compliance status

Companies Offering Blockchain-based Products (Representative List)

Using deep data intelligence, ML and blockchain, provides data security solution

Zebi Chain
Uses blockchain-based ledger to provide tamperproof protection

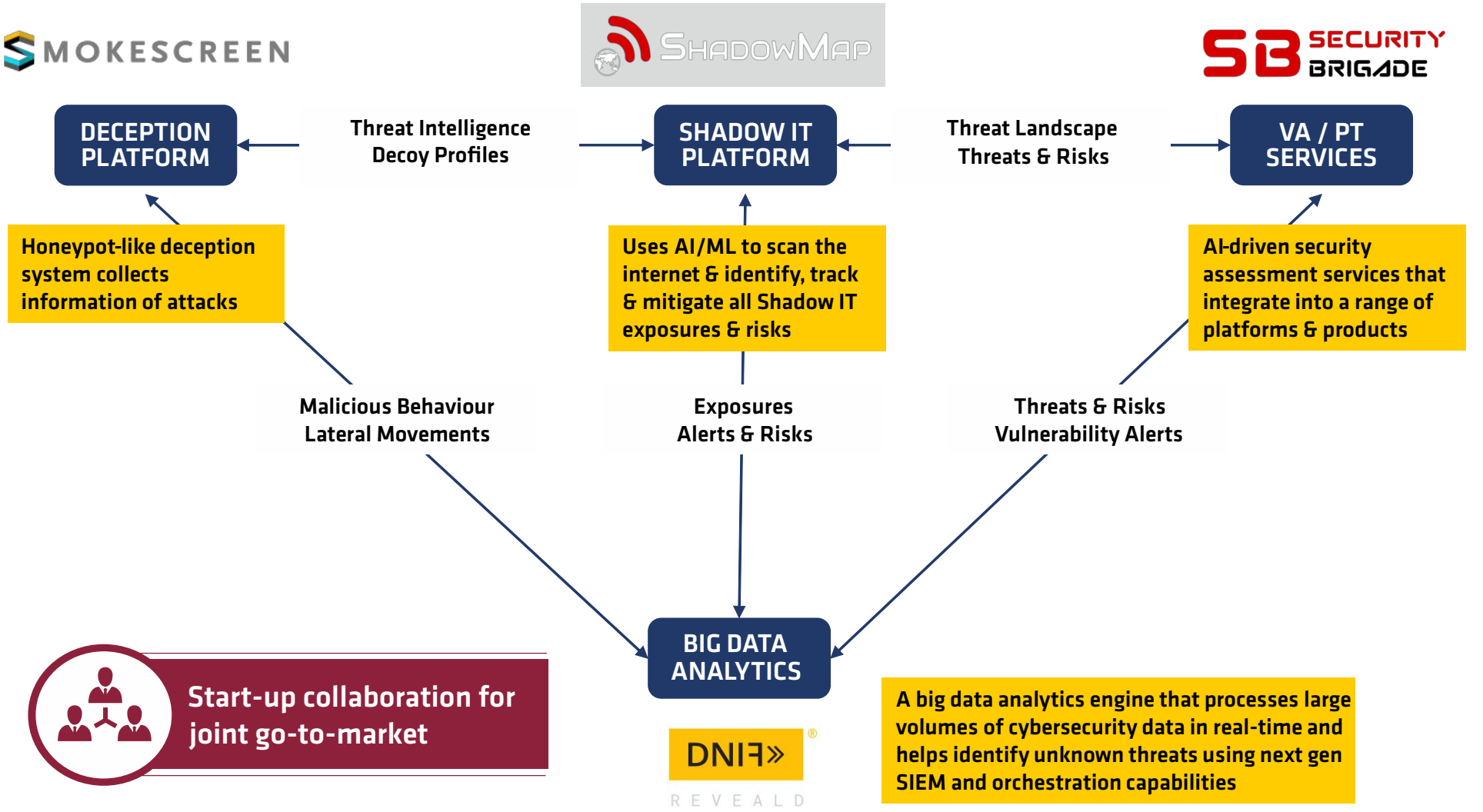
Using blockchain for data security

Secure Shield
Provides blockchain-based security to crypto exchanges

Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

Case Study – Technology Stack

Creation of technology stack to provide holistic offering for improved market access



Source: Expert Insights

Most patents granted for Data Security and IAM solutions, which use next-gen technologies

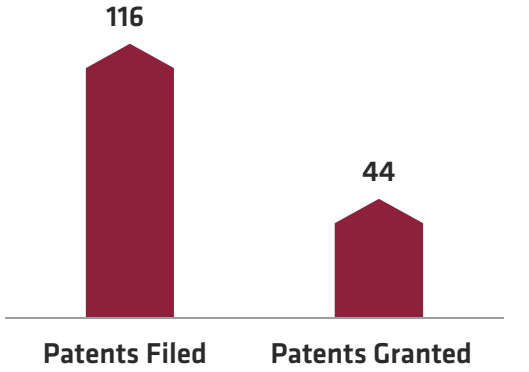
1/3rd of the companies have applied for patents

33% of the companies have applied for patents, as of 2018

- AI-based malware security
- AI-based DDoS
- Blockchain-based data security
- Encryption-based data security
- ML-based website protection
- Using quantum key distribution for data security
- AI-based advanced authentication
- Mobile data management
- Blockchain-based IAM
- Forensics
- Military grade encryptions

Close to 40% patent conversion ratio

Patents Applied vs. Granted – Patent Conversion (as of 2018)



On an average, the companies that have been granted patents have 40-50% of their employees dedicated to R&D

Companies with patents granted in cybersecurity

Illustrative List

Neridio	ENSURITY TECHNOLOGIES	SecurelyShare	INNEFU	QUNDLABS	digitaltrust	Quick Heal
Using deep data intelligence, ML and blockchain, provides data security solution	Using cryptography and encryption provides data security and IAM solutions	Using blockchain for data security	Using AI for advanced authentication	Provides quantum key distribution, quantum safe, network encryption etc.	Provides IAM solutions	Using diverse core technologies such as ML, cryptography, behaviour detection for end-point security

Source: Based on analysis of 100 Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions, Google Patents

Security product certification yet to become a priority for Indian product companies, owing to significant expenses and resource requirement

Description

- Common security product certifications that Indian cybersecurity product companies are going for are Common Criteria Certifications, AV Test, AV Comparatives, OATH, VB100, and FICS.
- Offering certified cybersecurity products is preferable and assists in establishing credibility. However, very few companies offer certified products, primarily because certifications are expensive, and most Indian cybersecurity product companies are bootstrapped, thus, prioritising market outreach first.

Key Product Certifications

Common Criteria

ELA2+, ELA4/4+

FICS

AV comparatives

AV-TEST The Independent IT-Security Institute Magdeburg Germany

oath initiative for open authentication CERTIFIED

vb 100 VIRUS virusbtn.com

Companies with Product Certifications

haltDos

digitaltrust

SECLORE

Quick Heal

eScan Enterprise Security

K7 COMPUTING

emudhra Trust Delivered

GAJSHIELD

INNEFU Security | Analytics | Intelligence

Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

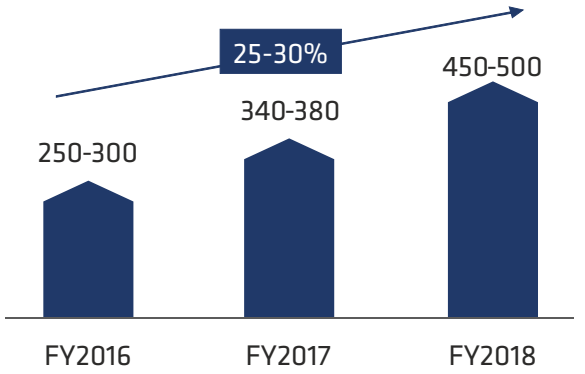
2 Indian Cybersecurity Product Landscape

Revenue Analysis

Close to 30% CAGR from FY2016 to FY2018 for Indian companies offering cybersecurity products

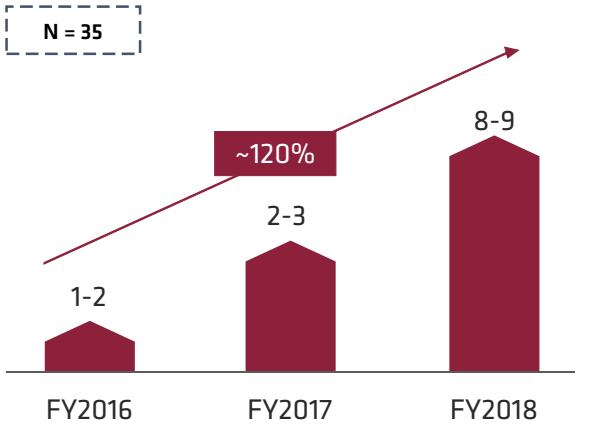
Indian companies offering cybersecurity products generated a cumulative revenue of USD 450+ million in FY2018

Indian Companies Offering Cybersecurity Products – Total Revenue (USD million, FY2016 – FY2018)



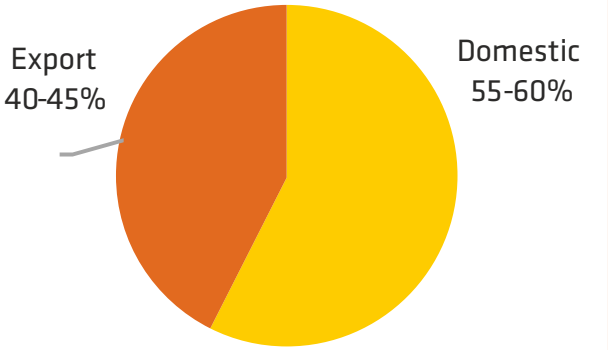
Start-ups witnessing rapid growth

Indian Start-ups Offering Cybersecurity Products - Revenue (USD million, FY2016 – FY2018)



The bigger pie of domestic market is attributed to some of the Indian pioneers in the end-point security segment

Indian Companies Offering Cybersecurity Products – Revenue Split (%, FY2016)



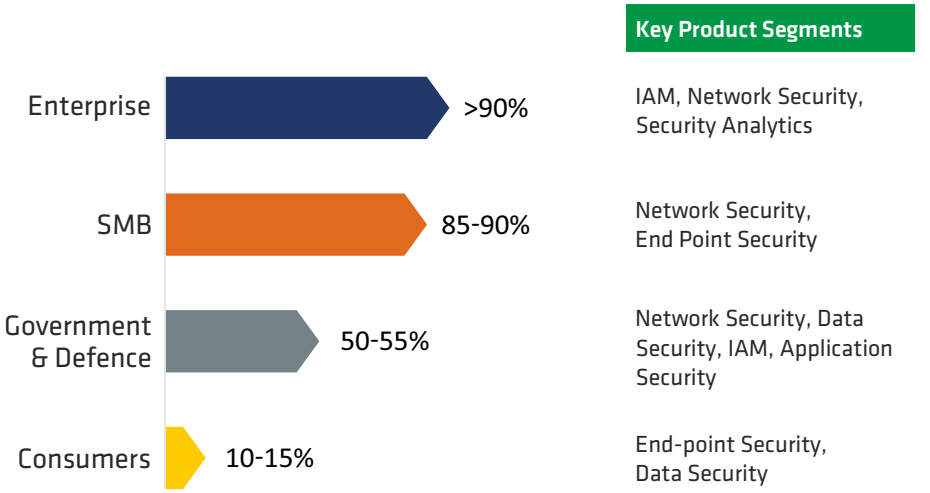
- The Indian cybersecurity product landscape comprises:
  - Bigger security players such as Quick Heal, K7 Computing, Net Protector, and Druva
  - Companies having a services arm such as eMudhra, Inspira, Digital Trust, Aujas and Paladian
  - New-age companies such as Data Resolve, HaltDos, Smokescreen, Khika, InstaSafe, and InfiSecure
- The overall landscape was valued at USD 450-500 million in FY2018, having grown at a CAGR of 25-30% from FY2016 to FY2018
- A sample analysis of 35 new-age companies, incorporated in the last 5 years and offering solutions such as AI-based DDoS, security analytics, banking security, IAM, mobile security, WAF, threat intelligence etc. shows an impressive CAGR of 100%+.

Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

BFSI, Government & Defence, and IT/ITeS are the key verticals that Indian cybersecurity companies have the intent to penetrate

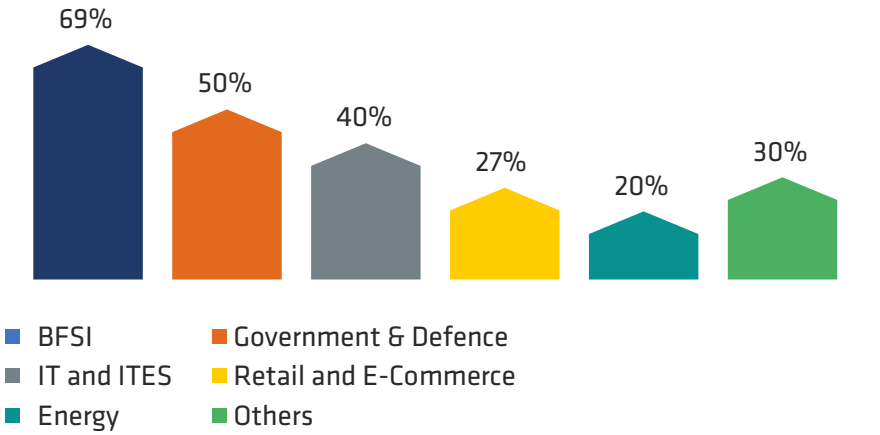
Customer segment analysis shows a strong B2B focus

Customer Segment Focus – By Number of Companies (2018)



Close to 70% of the companies have a focus on the BFSI sector

Vertical Focus – By Number of Companies (2018)



- Indian cybersecurity companies focus extensively on the B2B segment
- Limited focus on the B2C segment, where end-point security is a popular category
- Heightened focus on national security due to concerns around state-sponsored attacks is going to make government a strong customer segment. Several cybersecurity companies such as QuNu Labs, DigitalTrust, Orkash, Seclore and eMudhra are working with government agencies in India, US and Middle East.

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

India Market

Indian security companies looking to capitalize domestic market for product adoption

Drivers

- Rising digitisation, IoT, and interconnectedness, with 'security' yet to be addressed as a critical aspect
- Changing threat landscape and sophistication of cyber-attacks
- Rising regulatory stringency
- Steady uptake of security solutions by the SMB segment

Inhibitors

- Limited IT security budgets
- Limited cybersecurity skilled resources
- Lower awareness on severity of cyber threats among certain industry verticals
- Existing customer's proclivity towards global providers

Key Verticals Indian Cyber Security Product Companies are Focussing

Drivers

Government & Defence

Digital India, smart city initiatives, e-gov and mission-mode projects, state-level digitisation, app-based solutions, automation, heightened focus on national security due to concerns around state-sponsored attacks, focus on data confidentiality

BFSI

Regulatory push; digitisation and automation; rising security awareness among mid-tier banks, NBFCs, and fintech; adoption of fintech solutions

IT-BPM, Telecom, Internet Companies

IT-BPM – Driven by global compliance
Telecom – Driven by local TRAI regulations
Internet Companies – A consumer-driven industry; need for competitive advantage

Preferred Products

Network Security, Data Security, Application Security, IAM, Security Analytics

Illustrative List

ORKASH, XENARMOR, INNEFU, FIXNIX, LUCIDEUS, SMOKESCREEN, DNIF, CustomerXPs, haltDos, Arcon, SB SECURITY BRIGADE, KHIKA

Emerging Verticals

Healthcare

Data privacy regulations, rise in healthtech solutions (medical IoT, tele-health) will drive adoption. Ensuring reliable and integrated security network to protect and transfer patient data will become important

Power & Energy

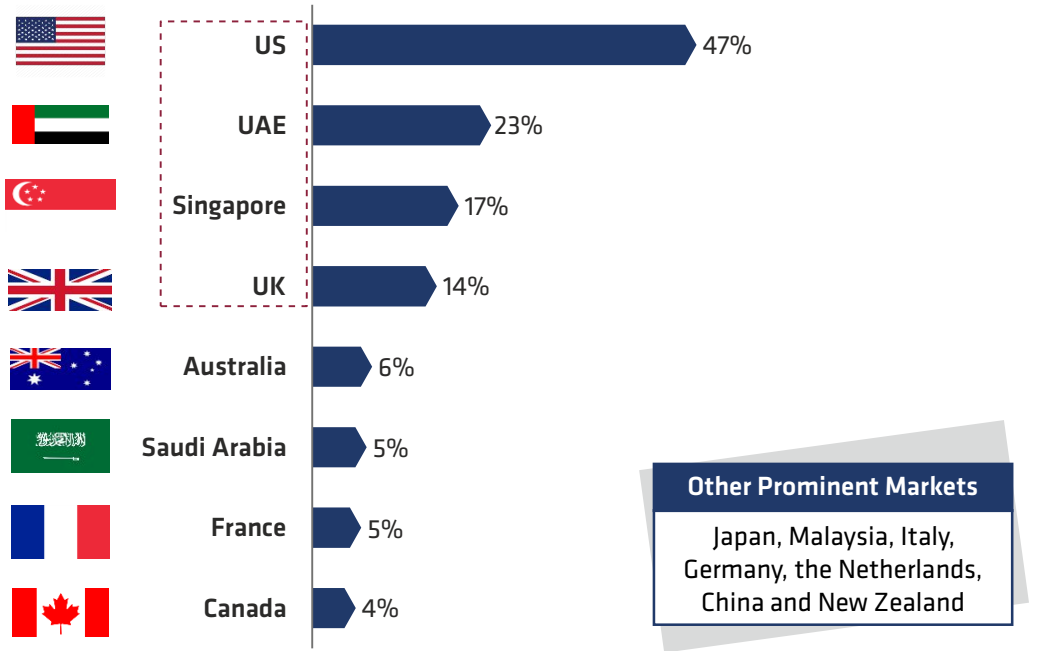
Growing concerns among government and industry regarding safety of critical infrastructure (e.g. SCADA & ICS systems that operate and control pipelines and distribution grids) will increase demand in this sector in the future

Source: Cyber Security Landscape Report by Innovation Norway, NASSCOM, Expert Insights

Export Market

The US, UAE, Singapore, and the UK are the top geographies, where Indian companies have a sales presence

Top geographies where Indian Cybersecurity Product Companies have a sales presence - by number of companies



Other Prominent Markets

Japan, Malaysia, Italy, Germany, the Netherlands, China and New Zealand

Product segment focus across key geographies

	North America (US and Canada)	Middle-East (UAE and Saudi Arabia)	APAC (Singapore and Australia)	Europe (France and UK)
IAM				
Network Security				
Security Analytics				
Data Security				
Application Security				
End-point Security				
GRC				
Mobile Security				
Forensics				
Cloud Security				
Device Security				

- A whopping 70+ companies have a sales presence in the US. It is large and an extremely competitive market. Companies with disruptive technologies prioritise the US, where first-generation technologies are already adopted, drawing attention to potentially disruptive products. At the same time, companies offering traditional first generation products find other geographies lucrative.
- Across the top 4 top markets, Network Security, IAM, Threat Intelligence & Security Analytics seem popular. Data Security is relatively popular in Singapore and UK, while GRC is relatively popular in Singapore and UAE.

Number of Companies		
High	Medium	Low

High: >16 companies; Medium: 7-16 companies; Low: <7 companies

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

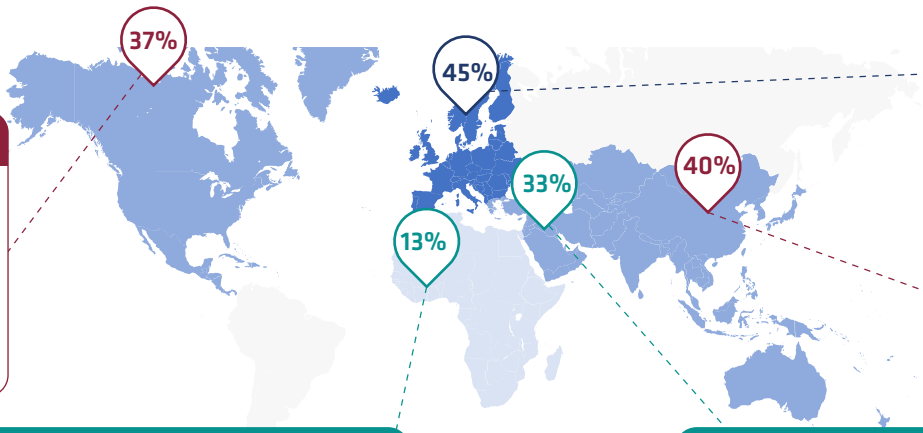
Future Expansions

For future expansion, APAC, EU/UK and Middle East being preferred

Indian cybersecurity product companies have a multi-market focus; after the US foray, eastward movement is most likely

Geographical Expansion Plans – by Company

N = 60



Legend

% of companies focussing on the region for expansion

North America - Key Country: US

ZIROH Labs, QUNLABS, Klassify, digitaltrust, SMOKESCREEN, SecurelyShare

EU & UK – Key country: UK

haltDos, INDUSFACE, Klassify, BLUSAPPHIRE, SMOKESCREEN, cloudneeti

APAC - Key Countries: Japan, Australia

AKS IT SERVICES, haltDos, INDUSFACE, SECLORE, NetluX Antivirus, Cotelligent, cloudneeti, ORKASH

Africa - Key Country: South Africa

accops, Wi-Jungle, digitaltrust, Quick Heal, XGEN PLUS, SISA

Middle East - Key Countries: GCC[1]

QUNLABS, BLUSAPPHIRE, Wi-Jungle, LUCIDEUS, digitaltrust, ORKASH, NetluX Antivirus, INNEFU Security | Analytics | Intelligence

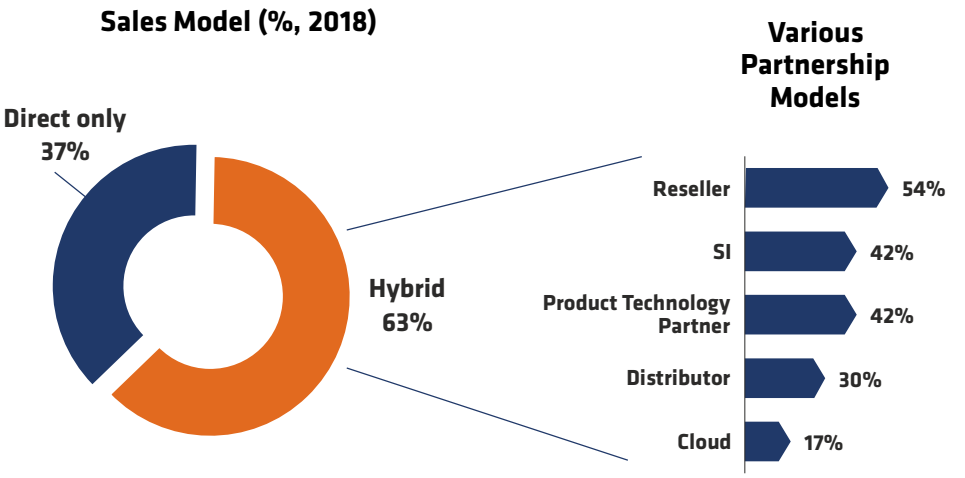
- Europe's focus on data security and privacy will compel some of the promising and innovative security companies (offering GDPR-compliant products and solutions) to foray into these geographies. Experts highlight Europe as an amenable market (UK, Germany, Nordics), but language barrier continues to exist.
- The expansion plans highlight a significant eastward movement (towards the APAC countries – Malaysia, Japan, Thailand, Indonesia); however, experts caution that language being a barrier, reseller partnership model could be utilized for a successful foray.
- Although Africa doesn't come out very prominent in future expansion plans of companies, experts indicate the favourability of countries such as Nigeria, Kenya, and Nairobi, for market uptake.

Source: Based on analysis of Indian Cybersecurity product companies collated by DSCI

GCC - Six Middle Eastern countries–Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman

More than 60% of the companies exploring partner ecosystem for market foray

6 out of every 10 companies partner with third-party companies for sales



- Product companies leverage partner ecosystem for market outreach. However, experts highlight there is 'no one size fits all' approach. Partnership models depend on geographies, existing relationships with partners, and the opportunity at hand.
- For companies offering disruptive technologies, It is also very important to establish relationships with end-customers to be able to articulate attributes and benefits.

Illustrative examples of partnerships

Cloud Providers

accops + Microsoft Azure

Accops HySecure, an application access gateway available on Microsoft Azure marketplace

InstaSafe + aws

InstaSafe® Cloud Access for Amazon Web Services

Resellers

Tuebora + ixtel

Tuebora entered into a partnership with ixtel, where ixtel will promote IAM and Governance, leveraging Tuebora's rich portfolio of products

GajShield + D-Link

GajShield has partnered with Dlink MEA for Middle East expansion

Product Technology Partners

Clari5 + ORACLE

Clari5 integrated with Oracle Exadata Database Machine

42Gears Mobility Systems + Several technology partners such as Samsung, Lenovo, LG etc.

OEMs can integrate 42Gears Mobility System's solutions

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

M&A/IPO

Global security players have begun to show interest in niche solution providers and those with market presence in newer geographies

Initial Public Offering (IPO)

Quick Heal
Security Simplified

Founded in 1993, was the first Indian security company to go public in 2016

Key Strengths of the Company

- Large portfolio
- User base
- Brand name in the Indian end-point segment
- Consistent growth, profitability, cash flow
- Diversified channel network

Key Acquisitions

Only some assets of Nevis has been acquired

1mobility	Acquired by	Qualys	iViz	Acquired by	Cigital	Nevis Networks	Acquired by	Qualys	Cyberoam	Acquired by	SOPHOS
(Offers an enterprise mobility management SaaS platform)	**2018**	(Offers cloud-based security and compliance solutions)	(Offers SaaS-based penetration testing platform)	**2014**	(An app security firm into security testing, penetration testing, and architecture analysis)	(Offers LAN security and network access control)	**2017**	(Offers cloud-based security and compliance solutions)	(Network Security firm)	**2014**	(Offers IT security & data protection)

Mobile and IoT Security

- ✓ Established in 2014, 1Mobility got acquired due to its comprehensive and well-architected technology that allows organizations to manage and secure mobile and IoT devices at scale
- ✓ Its solutions (BYOD management, DLP, mobile threat management, compliance enforcement) to be integrated with Qualys cloud platform and its cloud apps

Penetration Testing

- ✓ Established in 2005, iViz has a SaaS-based penetration testing platform
- ✓ Acquisition primarily to use each other's complementary market reach and technologies
- ✓ By 2014, iViz had 500 customers including ING, Flipkart and NSDL, with 70% of revenues coming from the US and Europe

LAN, Endpoint, Network Access Control

- ✓ Established in 2002, Nevis was acquired for its high performance security products that extend similar levels of protection found in the perimeter to managed and unmanaged users on enterprise LANs
- ✓ Acquisition to help fortify Qualys' passive scanning offerings and expedite entry into mitigation and response market

Cloud Providers

- ✓ Founded in 1999, got acquired due to complementary network security product lines to enable synergized market penetration with differentiated product offerings
- ✓ Enable joint UTM-oriented sales, and geographical expansion into India, the Middle East and Africa where Cyberoam has a particularly strong presence

Source: Economic Times; Sophos Press Release, Qualys Press Release, Silicon India; PRNewsWire, Chittorgarh IPO/Broker Comparison

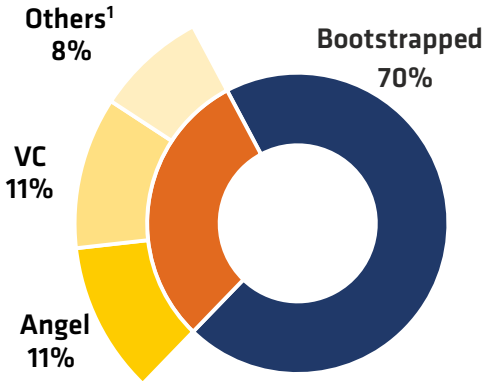
2 Indian Cybersecurity Product Landscape

Funding Landscape (1/2)

70% of the companies are bootstrapped; significant traction in funding in recent years

Indian cybersecurity product landscape is predominantly bootstrapped

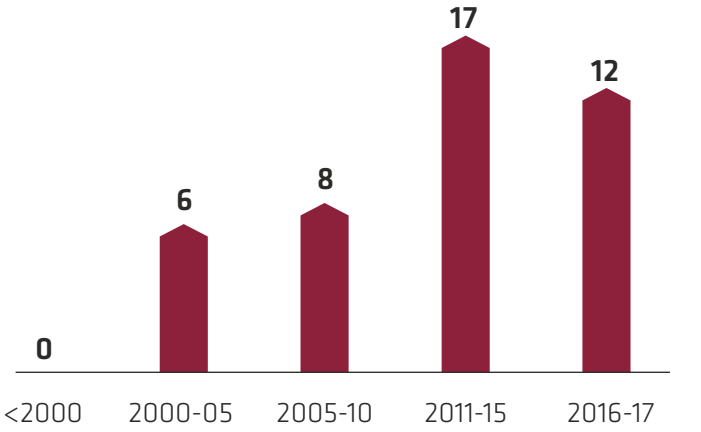
Funding Status (as of 2018)



- Most founders have significant experience in cybersecurity or IT, and mostly have integrated businesses, offering both products and services.
- It is because of this mature founder base that the landscape is self-sustainable, despite being largely bootstrapped.

Rising investor's interest in new-age cybersecurity companies

Number of Funded Companies – by Year of Inception



70% of the funded companies have been incorporated in the last 7 years, indicating investor's interest in the new-age companies.

Characteristics of funded companies – Nearly 70% of funded companies have founders with 10+ years of experience

Strong IT or cybersecurity experience – 70% of founders with 10+ years of experience

Notable role of support ecosystem - 40% of the funded companies incepted from academia /incubators/accelerators

	Large-scale investments[2]	Medium-scale investments[2]	Small-scale investments[2]
Key Companies	Sequretek, Druva, Lucideus	Data Resolve Technologies, Innefu, CloudSEK, Securely Share	Matisoft, QuNu labs, Ziroh labs
Type of Investors	VC and PE	Angel/HNI and VC	Angel

Note: 1. Other investors include government, incubators, accelerators, PE investors
2. Large scale investments: >USD 3 million; Medium scale investments: ranging between USD 0.5 million and USD 3 million, and Small scale investments: <USD 0.5 million

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions

Funding Landscape (2/2)

Indian cybersecurity product companies drawing investor interest; however, more support is required

USD 250-300 Mn
total funds raised so far[1]

Key Investors

AXILOR
PARAMPARA The Entrepreneurial Tradition
Indian Angel Network®

Various individual investors such as Kulmeet Bawa, Sanjay Mehta and Rajan Anandan

UNICORN INDIA VENTURES
exfinity VENTURE PARTNERS
SEQUOIA
CAN CIO Angel Network
प्रौद्योगिकी विकास बोर्ड TECHNOLOGY DEVELOPMENT BOARD DEPARTMENT OF SCIENCE & TECHNOLOGY
NEXUS VENTURE PARTNERS
IvyCap Ventures
Helix Investments PRIVATE CAPITAL FOR THE SUBCONTINENT
VenturEast We differentiate. You win.
JOINT-STOCK FINANCIAL CORPORATION SISTEMA
helion venture partners
Microsoft Ventures
chiratae VENTURES

Representative List

Notable Funding

Data Resolve
Data Security
Received funding from IDFC-Parampara Capital JV

CustomerXPs™
Fraud Risk Management
Received funding from Jafco Asia Fund

appknox
Mobile Security
Received funding from SeedPlus

InstaSafe Cloud. Secure. Instant.
Secure Access Solution
Funded by ABM Knowledgeware Exited India Angel Network and CIO Angel Network

LUCIDEUS
Cyber Risk Assessment
Raised funds from angel investors and JC2 Ventures

INFISECURE
Bot Protection
Raised funding from Chiratae & Axilor Ventures

INNEFU Security | Analytics | Intelligence
Threat Intelligence and Authentication
Raised funding from IndiaNivesh funds

haltDos
DDoS Protection
Funding from Technology Development Board (TDB), Government of India

Tuebora
Identity and Access Management
Funded by Citrix Accelerator

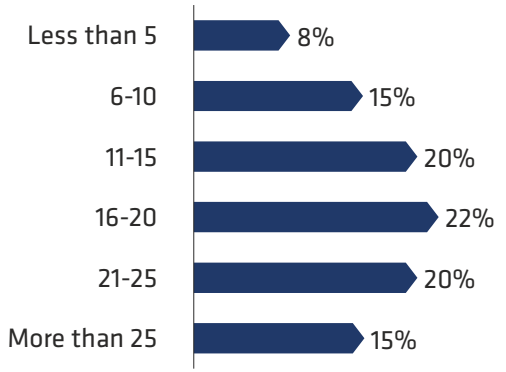
Note: 1. Insights based on analysis of information gathered from 43 funded companies

Talent Overview

80% of founders have 10+ years of experience, indicating a higher level of maturity in the ecosystem

8 out of every 10 founders have 10+ years of experience

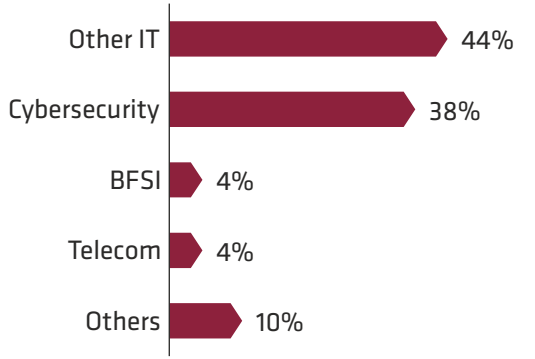
Years of Experience



- Majority of the founders of Indian cybersecurity product companies have robust experience, especially in IT and/or cybersecurity
- The average experience of founders is **18 years**

80% founders have prior experience in IT

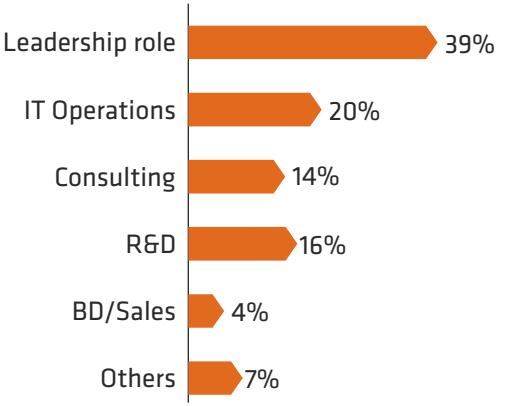
Industry Experience



- The cybersecurity landscape is dominated by founders from IT and cybersecurity industry, with domain experts form finance and telecom also plunging into entrepreneurial space

The product ecosystem has a diverse base of founders

Functional Experience



- A significant number of founders are experienced professionals having held past roles of Chairman, VP, Director and CXO

Total Employee Base: 11,500+

Source: Based on analysis of 140+ Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions, LinkedIn, Company Websites

Support Ecosystem

Active support from incubators and accelerators, with IITs emerging as key partners

Illustrative List

Key Incubators and Accelerators

Microsoft Accelerator, Citrix Accelerator, Netapp Accelerator, NUMA Bengaluru, Ginserv/VIT, CISCO Launchpad, NASSCOM 10,000 Start-ups

10 000 START-UPS A NASSCOM initiative

ADROIT For a quantum leap

AUTHBASE

SECONIZE

Microsoft Accelerator

Tuebora

START-UP CHILE

Sentropi

Other start-ups from incubators and accelerators

primeauth

SOCVIEW

TrustCheckr

Key Academic Incubation Centres in India

IIT Delhi, IIT Bombay, IIT Kharagpur, IIT Madras, IIIT Bangalore, LEAF-GLS University)

IIT Delhi

haltDos

MATISOFT CYBER SECURITY LABS

IIT BOMBAY

LUCIDEUS

SECLORE

Other start-ups from academic institutions

BUGSKAN

NetluX Antivirus

DUNLABS

Collaboration with Academia

~20% of the companies are working with various educational institutes

Key Institutes: IIT Delhi, IIT Bombay, IIT Kharagpur, ISB, NIT Wrangal, Institute of Information Security, Army Institute of Technology (Pune)

BLUSAPPHIRE

ZIROH Labs

FIXNIX

VOLON

SMOKESCREEN

NETWORK INTELLIGENCE ISO 27001 Certified | PCI DSS QSA

digitaltrust

PALADION BETTER SECURITY OUTCOMES

CCURE ONGO

zebi

THIRDWATCH

Quick Heal

FORTYTWO

XGEN PLUS

accops

AUTHBASE

Neridio Rationalizing Data Clouds

- Indian cybersecurity product companies are collaborating with academia for product development
- In the last 10 years, many start-ups have also emerged from incubators and accelerators

Source: Based on analysis of Indian Cybersecurity Product Companies collated by DSCI, Expert Discussions, YourStory

Academic incubators giving rise to start-ups that are attracting notable investments, and commercializing products

Lucideus and IIT Mumbai (SINE - Business incubator)

Society for Innovation and Entrepreneurship (SINE), hosted by Indian Institute of Technology, Mumbai is an umbrella for promotion of entrepreneurship at IIT Mumbai. SINE administers a business incubator that provides support to technology entrepreneurship.

Incubated at SINE IIT Mumbai, Lucideus provides information security platforms and services, to proactively secure, continuously monitor and reactively respond to cyber threats to an organization's technology stack

The company received multiple rounds of funding – the latest being USD 5 million Series A funding led by Cisco's Chairman Emeritus, John Chambers, from his personal venture arm JC2 Ventures.

Data Resolve and IIT Kharagpur (STEP – Technology Business Incubation)

The Science and Technology Entrepreneurs' Park (STEP) was established at IIT Kharagpur in Dec. 1986 with financial support from DST New Delhi, DST West Bengal, IDBI, IFCI, ICICI.

Data Resolve was incubated at IIT Kharagpur. It offers products to manage corporate fraud, data leak and employee productivity with security analytics via endpoints, for on-premise and on-cloud platforms.

After an initial seed funding from SRIC Cell - IIT, the company received support from various eminent Indian and global investors.

Latest funding of USD 1 million received from IDFC-Parampara Capital JV

Source: SINE Press Release; Data Resolve Website, STEP Website

Support Ecosystem – Government (1/2)

Government of India taking several initiatives across funding, market access, opportunity creation and R&D capability development

Funding

Ministry of Electronics and Information Technology
Government of India

- ✓ **Feb'18:** 'Grand Challenge' initiative for cybersecurity has been announced with the objective to promote innovation and entrepreneurship culture in the country for cybersecurity, and provide incentives for products developed for a 'Grand Problem Statement'.

प्रौद्योगिकी विकास बोर्ड
TECHNOLOGY DEVELOPMENT BOARD
DEPARTMENT OF SCIENCE & TECHNOLOGY

- ✓ **Mar'18:** Technology Development Board (TDB) launched a call for proposal from Indian cybersecurity product companies, to offer financial support for the development and commercialization of innovative cybersecurity products/solutions.

Market Access & Opportunity Creation

Ministry of Electronics and Information Technology
Government of India

- ✓ **Jul'18:** MeitY announced the Public Procurement (Preference to Make in India) Order 2018 for cybersecurity products, and notified that cyber security being a strategic sector, preference shall be provided by all procuring entities to domestically manufactured/produced cyber security products.

Ministry of Electronics and Information Technology
Government of India

- ✓ MeitY has directed all Central Government Ministries/Departments, State Government/UTs and Critical Sector to earmark 10% of Annual IT budget for implementation of cybersecurity.

Testing & Certifications

Ministry of Electronics and Information Technology
Government of India

- ✓ **Feb'17:** Hon'ble Minister of Electronics and Information Technology during the launch of Cyber Swachhta Kendra on Feb 22, 2017 in New Delhi highlighted that the testing fee for any start-up that comes up with a digital technology in the quest for cybersecurity, to be reduced by 50%.

R&D Capability Development

Ministry of Electronics and Information Technology
Government of India

The Information Security Education and Awareness (ISEA) Project initiated by MeitY, is aimed at developing human resource in the area of Information Security. The project lays out the following objectives:

- ✓ To attract highly qualified and motivated candidates to pursue a doctoral degree
- ✓ To provide research support to bright young candidates for pursuing exciting and innovative research in the field of Information Security

The Ph.D Fellowship Scheme under the ISEA Project is being coordinated by IIT Madras

Source: MeitY, TDB, NEGD, Press Information Bureau – GoI

Details of specific Initiatives by Central and State Government of India to promote Indian cybersecurity product companies

सत्यमेव जयते
Ministry of Electronics and Information Technology
Government of India

- ✓ MEITY launched the Public Procurement (Preference to Make in India) Order 2018 for cybersecurity products, and notified that cybersecurity being a strategic sector, preference shall be provided to domestically manufactured/produced cybersecurity products, by all procuring entities.
- ✓ This order is in furtherance of Public Procurement (Preference to Make in India) Order 2017 by the Department of Industria Policy and Promotion (DIPP) Notification No. P45021/2/2017-B.E.-II dated 15.06.2017 and partially modified order no No.P-45021/2/2017- PP(BE-II) was issued on 28.05.2018, to encourage 'Make in India' and to promote manufacturing and production of goods and services in India with a view to enhance income and employment.

प्रौद्योगिकी विकास बोर्ड
TECHNOLOGY DEVELOPMENT BOARD
DEPARTMENT OF SCIENCE & TECHNOLOGY

- ✓ To financially support cybersecurity companies and make concerted effort, Technology Development Board (TDB) and DSCI organized a brainstorming session with various stakeholders. As an outcome, TDB came up with a plan and announced 'Call for Proposal' for 'Development and Commercialization' of innovative and affordable cybersecurity products/solutions.
- ✓ TDB to provide financial assistance by means of soft loans (up to 50% of the project cost at 5% simple interest per annum), purpose equity (up to 25% of project cost) and grants to encourage commercial application of locally developed technology.
- ✓ 20+ companies have applied for it, and their funding proposals are being evaluated, with 2 companies having already received funding confirmation.

GOVERNMENT OF TELANGANA + DSCI PROMOTING DATA PROTECTION A NASSCOM® Initiative

Cyber Security - Centre of Excellence (CoE) Telangana

- ✓ June 2018: The Government of Telangana partnered with Data Security Council of India (DSCI) to setup a cybersecurity - Centre of Excellence (CoE) with the aim to accelerate Telangana's cybersecurity momentum and position the state as one of the leading cybersecurity hubs in India over the next five years.
- ✓ The CoE based on Public-Private-Partnership model will accelerate and strengthen the ecosystem by focusing on strategic areas including, innovation, entrepreneurship and capability building. This CoE in partnership with industry will also enhance State's cybersecurity preparedness, adoption of security technologies and capability building.
- ✓ The CoE is built on below mentioned 3 fundamental pillars:
  - Building innovation ecosystem at state level with appropriate partnerships & associations, investment opportunities and policy engagements
  - Align with existing start-up incubators
  - Capability building at various levels

Source: MeitY Website, TDB Website, DSCI Press Release

DSCI supports Indian cybersecurity companies through various efforts and initiatives

Strategies

- Industry Development Roadmap
- Cyber Security Task Force – Building India as a hub of cyber security products and services
- Establishing CoE for Cybersecurity in Telangana

Market Development

- Industry connects
- Initiatives to provide platforms for capability demonstration
- Use Case Clearing House (UCCH): An initiative to identify white spaces/gaps in the current cybersecurity ecosystem, and channelize them to reseachers/entrepreneurs for technology solution development

Government Engagement

- Platform for startups to engage with government
- Public advocacy in policy matters related to cyber security startup industry

Recognition and Awards

- 'Excellence Award' for security product companies
- Innovation Box Challenge - acknowledgement for most innovative product of the year

Mentoring and Guidance

- Mentoring security startups
- Platforms for knowledge sharing

Funding Support

- Platforms for engagement with VCs and investor community
- Support in exploring government funding options

Visibility and Branding

- Global visibility – Taking delegations outside India, meeting with delegations coming to India
- Special focus on startups in DSCI flagship events including AISS, FinSEC and BPM
- Creating opportunities to showcase Indian security product companies at national events

Community Building

- Platforms to bring together product companies to discuss and explore opportunities to collaborate
- Building technical communities
- Engaging with academia for creating a pipeline of security startups

Source: DSCI

Way Forward

Need a concerted effort by the ecosystem to take Indian cybersecurity product companies to the next orbit

Top drivers for Cybersecurity uptake in India and across the globe

- Cloud vulnerabilities/vulnerabilities due to digitisation and mobility solutions
- With BYOD, need for securing more end-points
- Fear of state-sponsored and financially motivated cyber attacks
- Need for security across the supply chain
- Rise in IoT and interconnectedness, and the need for Critical Infrastructure Security
- Fear of corporate espionage – zero-trust security becoming mainstream
- Changing threat landscape, sophistication of cyber attacks, rise in cyber-crime-as-a-service
- Rising regulatory stringency

- Adequate budget for cybersecurity – treating security as strategic planning and a serious boardroom agenda
- Moving from reaction to prevention – moving from traditional to next-gen technologies such as use of AI/ML driven solutions to identify potential threats, manage authentication and access control in case of thefts etc.
- Rising focus on Data Protection and Privacy, globally and in India, creating the need for more controls and better governance
- More awareness and uptake across verticals and the MSME sector

Role of Indian security product companies

- With **175+** security product companies in India (working in diverse areas), India being one of the top geographies with cyber security talent base, and security being a strategic sector recognized by the GoI, the landscape has the makings of a growth sector, provided if the right support comes from various stakeholders.

Need for Ecosystem Support to grow the Landscape

Forge collaborations

- Forging collaboration with tech industry and user enterprises for co-creation
- Start-ups exploring possibilities of collaboration with peers to develop integrated technology stack

Policy Enablement

Policies to create level-playing field for security product companies for procurement

Funding Support

More influx of institutional and Government funding to support cybersecurity product companies

Development of R&D Hotspots

Growing existing and newer hubs (via CoE, Incubation centres) for cybersecurity talent development and creation of more start-ups

Support in Scaling & Market Access

Exploration of opportunities for global expansion and brand visibility (planning delegations and setting up Indian pavilion at global conferences)

Source: Expert Discussions

Past Winners of DSCI Award Programs

Past Winners of DSCI Innovation Box Challenge

2017

Lucideus | Product: SAFE

SAFE (Security Assessment Framework for an Enterprise) is a platform that integrates with the existing technology stack of an enterprise to provide real-time cyber risk assessment (a number between 0-5) at a macro level across the organization that can be broken down into micro-level scoring individually for each asset.

Security Brigade | Product: ShadowMap

ShadowMap is an innovative platform that leverages internet-wide scanning, data analysis & machine learning to continuously identify & map an organization's global Shadow IT infrastructure. Since its launch a year ago, ShadowMap has rapidly been on-boarded by 50+ companies in Germany, France, Singapore and India with a combined annual revenue of over 450 Billion USD.

2016

By deploying hundreds of unique deception tripwires, IllusionBLACK maximises attack detection through the kill-chain, even against stealthy, targeted campaigns that don't involve malware. IllusionBLACK features rapid out-of-band deployment, no performance impact, enterprise scalability, and minimal false positives, leading to faster breach detection and improved security and incident response team productivity.

2015

S2Pay is a patent pending technology enabling digital payments in the offline world. It enables 2-factor authenticated payment in a single step on any phone. S2Pay is the only solution that provides brute-force protected offline payment capability without any hardware support.

2014

FixNix GRC is intuitive, easy to use Cloud GRC Solution for SMBs and Enterprises for automating complex Information security workflows like audit, risk, policy, incident, asset, contract, control, compliance, fraud, whistleblower, business continuity management & vendor risk management.

Past Winners of DSCI Excellence Awards

Winners of 'Product Segment' of DSCI Excellence Awards

2017 — SMOKESCREEN

Offers IllusionBLACK, a 3rd generation deception system, designed to detect and respond to the targeted cyber-attacks companies face today

2016 — INDUSFACE™

Indusface offers website security, web application firewall and SSL certificate to keep online business safer

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2014 — UNIKEN

Offers REL-ID Security Platform that tightly integrates identity, authentication, and channel security

2014 — Monitor Protect Control

Data Resolve offers products to manage corporate fraud, data leak and employee productivity with security analytics via endpoints, for on-premise and on-cloud platforms

2013 — Cyberoam Securing You

A network security firm (in UTM and NGFW) founded in 1999. Got acquired by Sophos due to complementary product lines to enable synergized market penetration with differentiated product offerings

2012 — pawaa SOFTWARE *Now SecurelyShare*

Provides secure on-premise and cloud-based file sharing software. Pawaa was 100% acquired by CISCO. Later assets re-acquired to form SecurelyShare which currently offers blockchain-based data security

About DSCI

Data Security Council of India (DSCI) is a premier industry body on data protection in India, setup by NASSCOM®, committed to making the cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy. DSCI brings together governments and their agencies, industry sectors including IT-BPM, BFSI, Telecom, industry associations, data protection authorities and think tanks for public advocacy, thought leadership, capacity building and outreach initiatives. www.dsci.in

About Industry Development Initiative

Appendix

Definitions of Product Segments

Product Segments	Includes
Network Security	Network Firewall, Threat Hunting, Deception, Distributed Denial of Service (DDoS), Secure Web Gateway, Unified Threat Management, Network Masking, Encryption, Intrusion Prevention Systems, Network Behaviour Analysis and Anomaly Detection, Vulnerability Assessment, Secure Email Gateway, WAF, Intrusion Detection Systems
Identity and Access Management (IAM)	Advanced Authentication, User Provisioning, Federated Identity Management, Identity Governance, Authorization
Data Security	Digital Right Management, Data Loss Prevention (DLP), Data Classification, Data Masking, Data Discovery, Database Security, Cryptography
Threat Intelligence & Security Analytics	Security Information and Event Management (SIEM), Threat Intelligence and Management, Cyber Fraud Analytics, UEBA, Security Monitoring
Governance, Risk and Compliance	Data Acquisition, Standards and Regulations, Compliance Products
Application Security	VAPT (Vulnerability Assessment and Penetration Testing), Code Analysis
End-point Security	Phishing Simulation, Anti-virus, Anti-Malware, Asset Security, Server Security, Encryption, Device Security Solutions, Browser Security (Secure Virtual Browser and Remote Browser), Patch Configuration and Management
Mobile Security	Mobile Device Management
Forensics	Fraud Management, Email Forensics, Network Forensics, Data Recovery, Digital Forensics
Cloud Security	Cloud Access Security Broker, Container Security
Device Security	IoT Security, Automotive Cyber Security, Embedded Security, Sensors Security

Abbreviations

AI	Artificial Intelligence
APAC	Asia Pacific
AV Test	Anti-virus Test
BFSI	Banking, Financial Services and Insurance
BPM	Business Process Management
BYOD	Bring Your Own Device
CAGR	Compounded Annual Growth Rate
CERT	Computer Emergency Response Team
CoE	Centre of Excellence
DAST	Dynamic Application Security Testing
DLP	Data Loss Prevention
DRM	Data Rights Management
EU	Europe Union
FY	Financial Year (ending in March)
GCC	Gulf Cooperation Council
GDPR	General Data Protection Regulation
GRC	Governance, Risk and Compliance
GTM	Go-to-market
HQ	Headquarter Location
IAM	Identity and Access Management
ICS	Industrial Control Systems
IDS	Intrusion Detection System
IIT	Indian Institute of Technology
IoT	Internet of Things
IPS	Intrusion Prevention System
ISB	Indian School of Business
ISO	International Organization for Standardization
IT/ITeS	Information technology and Information technology enabled services
LAN	Local Area Network
M&A	Mergers and Acquisition
MDM	Mobile Device Management
MEA	Middle East and Africa
ML	Machine Learning
NBFCs	Non Banking Financial Companies
OATH	Open Authentication (Certification)
NIT	National Institute of Technology
RBA	Risk-based Authentication
RFP	Request for Proposal
SaaS	Software-as-a-Service
SAST	Static Application Security Testing
SCADA	Supervisory Control and Data Acquisition
SIEM	Security Information and Event Management
SINE	Society for Innovation and Entrepreneurship
SMEs	Small and Medium-scale Enterprises
STQC	Standardization Testing and Quality Certification
TDB	Technology Development Board
TRAI	Telecom Regulatory Authority of India
UEBA	User and Entity and Behaviour analytics
UTM	Unified Threat Management
VAPT	Vulnerability Assessment & Penetration Testing
WAF	Web Application Firewall
Y-o-Y	Year-on-Year

NOTES

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