

BUILDING FACTORIES OF TOMORROW

Digital Transformation in Manufacturing

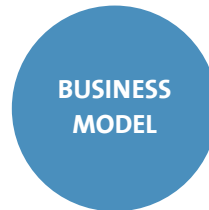
SIFY SERVICES

REIMAGINING YOUR BUSINESS FOR A DIGITAL FUTURE

Manufacturing has evolved from focusing on large-scale production and distribution of physical products to delivering intelligent personalized experiences. Changes in consumer needs, emergence of new technologies, need for accelerated time-to-market, altered cost economics of production, new dynamics of supply chain with the advent of digital distribution platforms have led to a structural shift in the way companies do business. Manufacturers with access to emerging technologies and a strong integrated IT ecosystem can operate at required scale, enabling them to create differentiated offerings

TRADITIONAL

- Large scale production and distribution
- Mass customization
- Standardized products
- Design and prototyping dependent production
- Demand-driven materials requirement planning
- Manual assembly line process
- Sourcing
- Production
- Distribution



FUTURE STATE

- Agile manufacturing for faster time-to-market with personalized products/ experiences
- Distributed manufacturing
- Digital trading platforms blurring the boundaries between countries and transforming global supply chains
- Extensive personalization by developing products as physical platforms, with each platform at the center of an ecosystem in which third-party partners build modular add-ons as per customer needs
- Connected products augmented by digital interfaces powering the business with data for predictive buying patterns
- Improve the aftermarket experience with product performance analytics to pre-empt part and system failure thereby predicting customers' need for spare parts
- Additive manufacturing for rapid prototyping, product customization or low-volume spare parts
- Advanced planning and scheduling using real-time production and inventory data to minimize waste, cycle time and inventory discounts
- Autonomous robots to effectively execute routine processes
- Digital supply chain networks operating on dynamic fulfillment models where production planning and sourcing is synchronized with the needs of the connected customer
- Sensors to track real-time movements and location of raw materials, work-in progress and finished goods and high-value tooling

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BUSINESS TRANSFORMATION IMPERATIVES TODAY



Integration of production workflows
with facets of sales and deliveries to reduce distribution loss



Use of data analytics
for adoption of a consumer friendly and market-driven approach to production and distribution



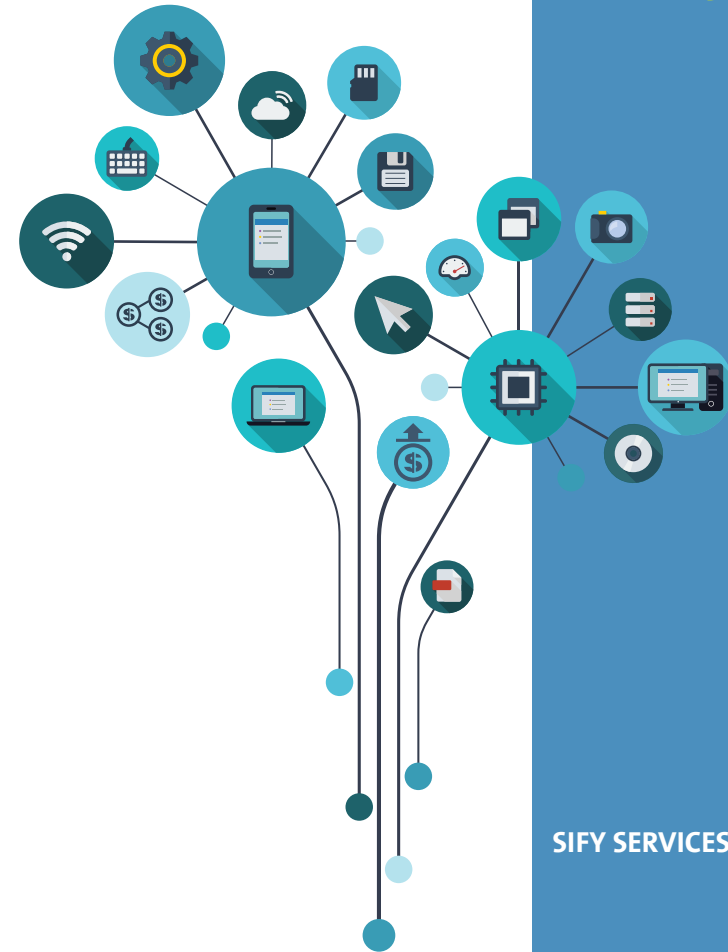
Integrating supplier into core processes
to ensure real-time visibility on inventory levels and improve quality control



Agile and flexible technology landscape
integrated across manufacturers, partners and customers



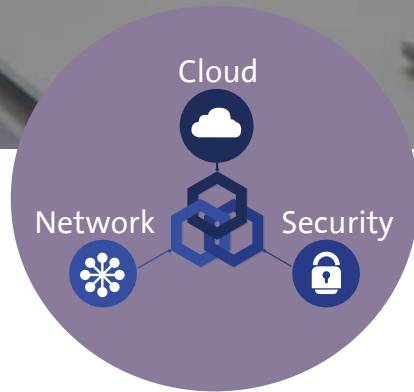
Collaborative product development
to shorten new product development cycles



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Manufacturers with access to emerging technologies and a strong integrated IT ecosystem, can operate at required scale, enabling them to create differentiated offerings.

TECHNOLOGY TRENDS TRANSFORMING THE INDUSTRY



Hybrid IT as backbone

Key elements of a hybrid IT infrastructure acting as the building blocks of enabling the implementation of emerging technologies



Big Data Analytics

Optimize manufacturing operations, with big data analytics for decision making to align production lifecycles with customer demands



Artificial Intelligence (AI)

Enhance production precision and standardization with the application of AI



3D Printing

Develop cost-effective mass customization by enabling product innovations through advanced manufacturing technologies like additive manufacturing



Internet of Things (IoT)

Optimize performance and distribution with the use of IoT to manage inventory, remotely track usage, performance and location of products



Robotic Process Automation (RPA)

Digitally skilled and engaged workforce, whose productivity is enhanced by automation, skill-based prioritization and allocation, collaboration tools and learning systems

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SIFY AS AN ENABLER OF DIGITAL TRANSFORMATION



SIFY'S DATA CENTER AND CLOUD TRANSFORMATION SERVICES

ACROSS PUBLIC, PRIVATE AND ENTERPRISE CLOUD-ENABLE FASTER SYSTEMS ROLLOUT AND INCREASED COLLABORATION WITH PARTNERS

End-to-end integration of supply chain, optimized use of resources, setting high quality standards and differentiated products requires capturing data across enterprise/ partner systems, converting data into intelligence and deploying speedy changes.



SIFY'S APPLICATION AND PLATFORM

ACHIEVE PROCESS EFFICIENCY AND ACCELERATE PRODUCTIVITY WITH CLOUD-BASED ERP AND DISTRIBUTION MANAGEMENT SYSTEMS

Our capabilities include implementation, migration and application maintenance services for Oracle EBS, SAP S4/HANA, Microsoft Dynamics and Sify's own Forum NXT. Enable setting up the infrastructure and platform environment to meet your business process, employee (self-service, collaboration, productivity, learning) and customer (CRM, security) requirements.



SIFY'S TECHNOLOGY INTEGRATION SERVICES

INTEGRATE LEGACY SYSTEMS WITH EMERGING TECHNOLOGIES

Augmentation and automation in the manufacturing industry will be driven by AI and RPA, which requires the integration of data from multiple sources.



SIFY'S NETWORK TRANSFORMATION SERVICES

CONNECT THE BUSINESS CONTROL, MES AND ENTERPRISE SYSTEMS IN A SEAMLESS MANNER

The network is uniquely positioned to support the requirements of connectivity, power, policy, compute, security and manageability enabling a connected ecosystem in manufacturing facilities.



SIFY'S MANAGED SECURITY

REAL-TIME MONITORING AND MANAGEMENT

Preventive, detective and corrective mechanisms combat emerging cyber security threats in a hyper connected manufacturing environment.

SIFY MOVES UP IN GARTNER MAGIC QUADRANT FOR HYBRID CLOUD



Sify has emerged a challenger in providing managed hybrid cloud hosting services with unique proposition combining infrastructure, public cloud, connectivity and consistent service delivery.

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DIGITAL TRANSFORMATION GOALS

Goal
BUSINESS MODEL

- Extend, expand and enhance current product offerings
- Supply chain reconfiguration

Technology enablers

- Data analytics
- Digital platforms
- Modular IT architecture

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Goal
CONNECTED SUPPLY CHAIN

- Vertical integration - horizontal collaboration
- Optimized warehousing
- Point-of-sale-driven replenishment

- Cloud
- Seamless connectivity
- Integrated platforms



Goal
SHOP FLOOR AUTOMATION

- Production optimization
- Increase equipment utilization
- Increase workforce productivity

- Supplier co-creation
- On-demand manufacturing
- Mass customization



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 Data Centre Transformation (Cloud) and Infrastructure Services

 Application and Platform Services

 Technology Integration Services

 Network Transformation and Connectivity Services

 Managed Security Services

 Internet of Things

DIGITAL TRANSFORMATION GOALS

Goal
ADVANCED LOGISTICS AND DISTRIBUTION

- Improve order-to-delivery times
- Real-time logistics tracking and traceability
- Dynamic inventory management

Technology enablers

Data analytics
Geosensing
IoT

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Goal
CUSTOMER CENTRICITY

- New SKU's and product options to meet channel needs
- Accelerated product launches to achieve a sizeable market share

Data analytics
Cloud
IoT



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 Data Centre Transformation (Cloud) and Infrastructure Services

 Application and Platform Services

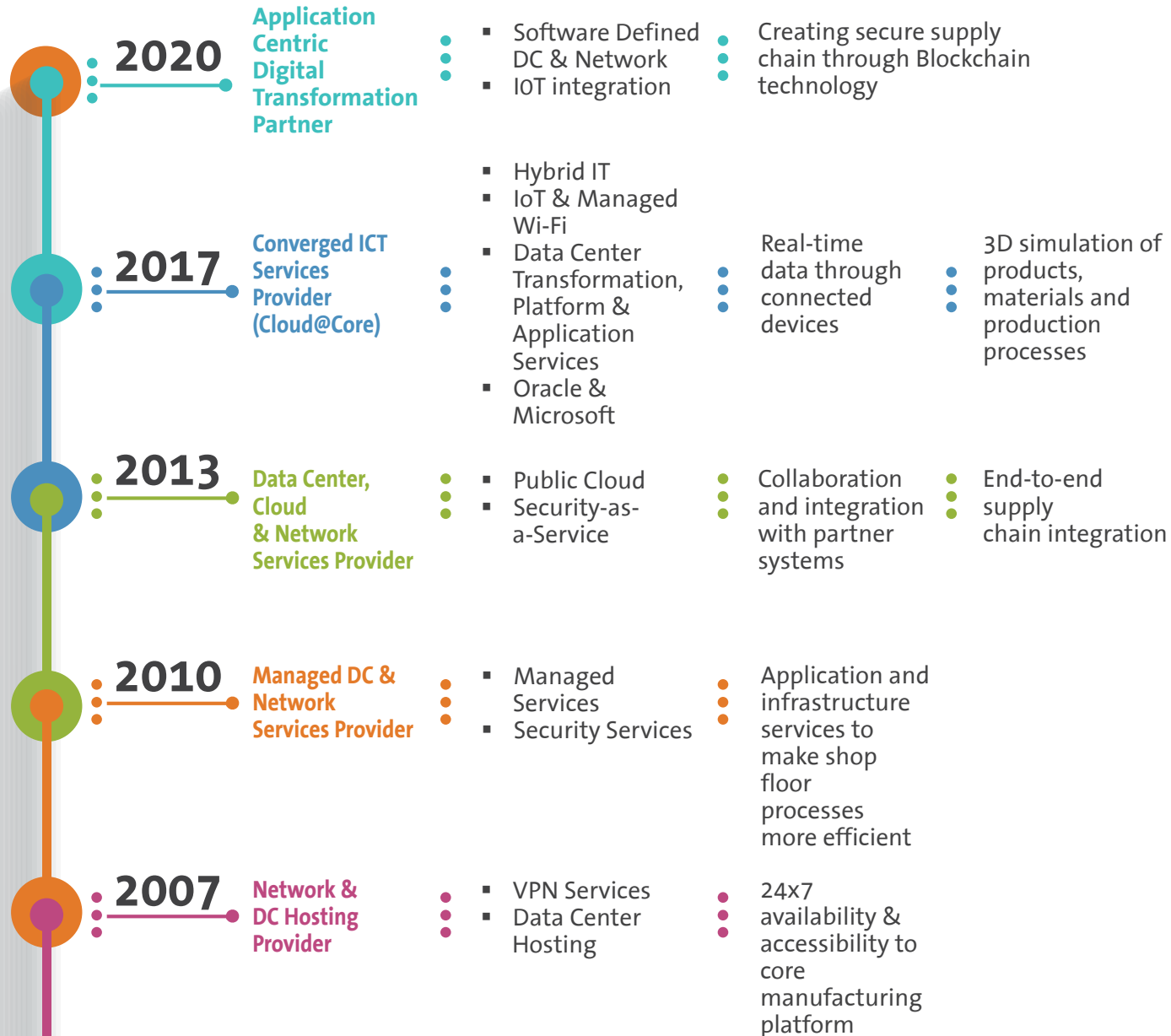
 Technology Integration Services

 Network Transformation and Connectivity Services

 Managed Security Services

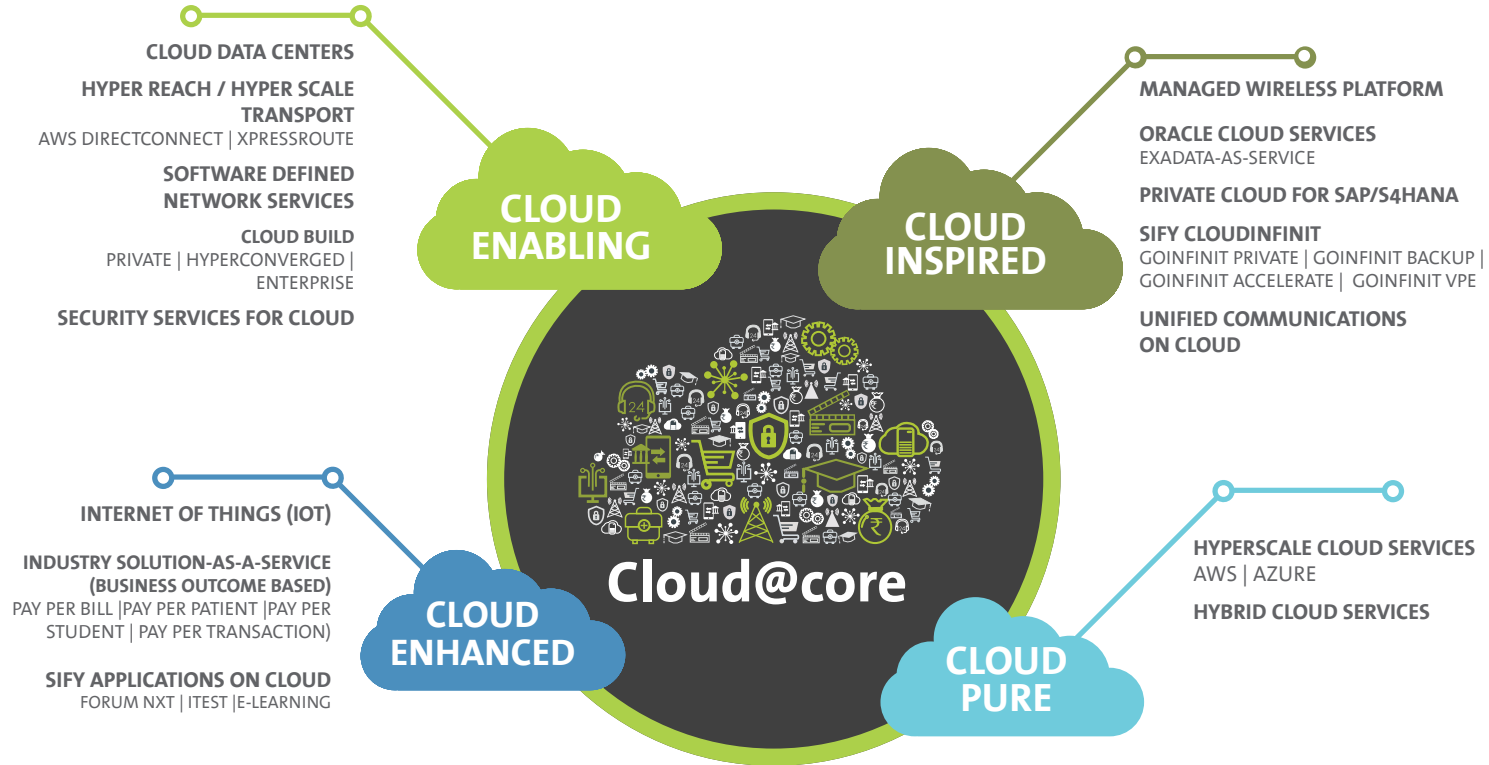
 Internet of Things

SIFY'S EVOLUTION AS A DIGITAL TRANSFORMATION PARTNER



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CLOUD@CORE

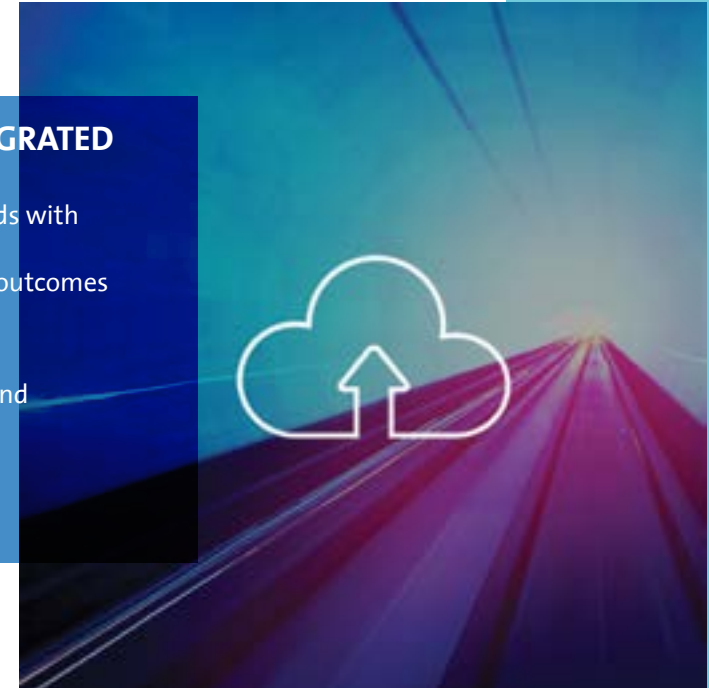


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CLOUD AND CO-LOCATION TO ENABLE BORDERLESS IT

BUSINESS DRIVERS FOR RAPID CAPACITY EXPANSION, INTEGRATED SYSTEMS AND COLLABORATIVE ENVIRONMENTS

- Traceability of process and defects from raw materials to finished goods with integrated/ inter-operable systems
- Real-time business intelligence to deliver unique value and predictive outcomes
- Quality and integrated security in products and services
- Drive efficiency by hyper-automation, self-learning and auto-healing
- Platform for collaboration and innovation for new products, markets and distribution strategy



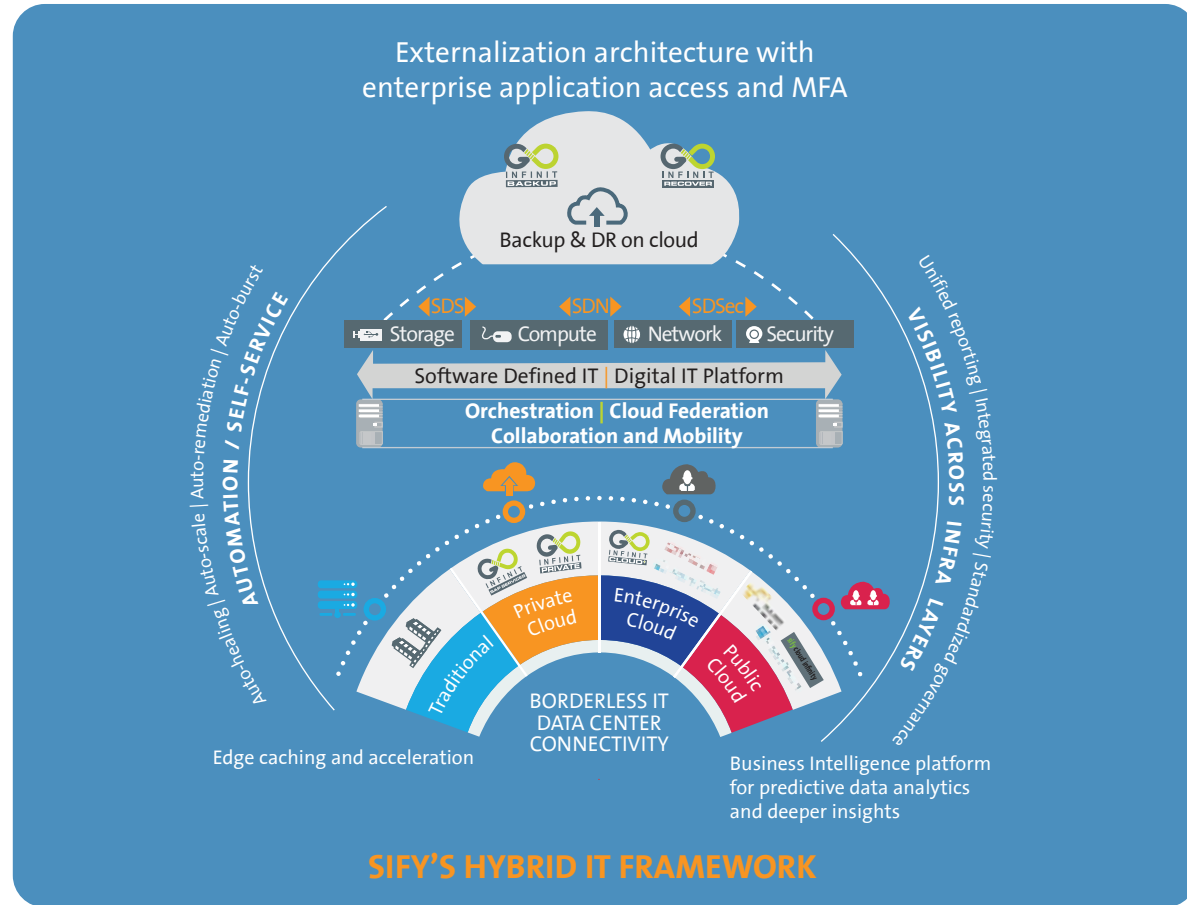
Service-led view of data center transformation and cloud solutions

- Right-fit IT architecture across public, private, enterprise cloud and/or co-location
- Public cloud choices across AWS, Microsoft Azure and Sify enterprise cloud
- Future-ready IT leveraging software-defined network, security, storage and hyper-automation
- Secure storage choices across private and public data stores compliant to industry requirements
- Application-centric IT architecture for mission critical apps such as SAP, Oracle, Microsoft etc.
- Zero-trust security framework across traditional, private, public and enterprise IT
- Unified, integrated reporting for predictive analytics, business intelligence and AI

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CLOUD AND CO-LOCATION TO ENABLE BORDERLESS IT



Service highlights

- Integrated play across network, data center, IT & security
- Solution choices across dedicated, public or hybrid models
- Aggregation partner across OEM stack, private / public cloud
- 10 public and private cloud service providers at 30+ global locations
- On-demand provisioning & simplified management – add on to MPLS network
- Premium performance / high resiliency

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NETWORK TRANSFORMATION AND CONNECTIVITY BACKBONE OF DIGITAL TRANSFORMATION

Business drivers for adoption of integrated networking platform

Scale

With advent of technologies such as Internet of Things (IoT), cloud and mobility the scale of the network and the endpoints has grown exponentially

Complexity

Non-converged voice and data networks over multiple service providers

Agility and Speed

Constant need to support change in the application landscape and ensure continuous service assurance in a global market

Security

Risk of security gaps and absence of uniform security cover across multiple platforms

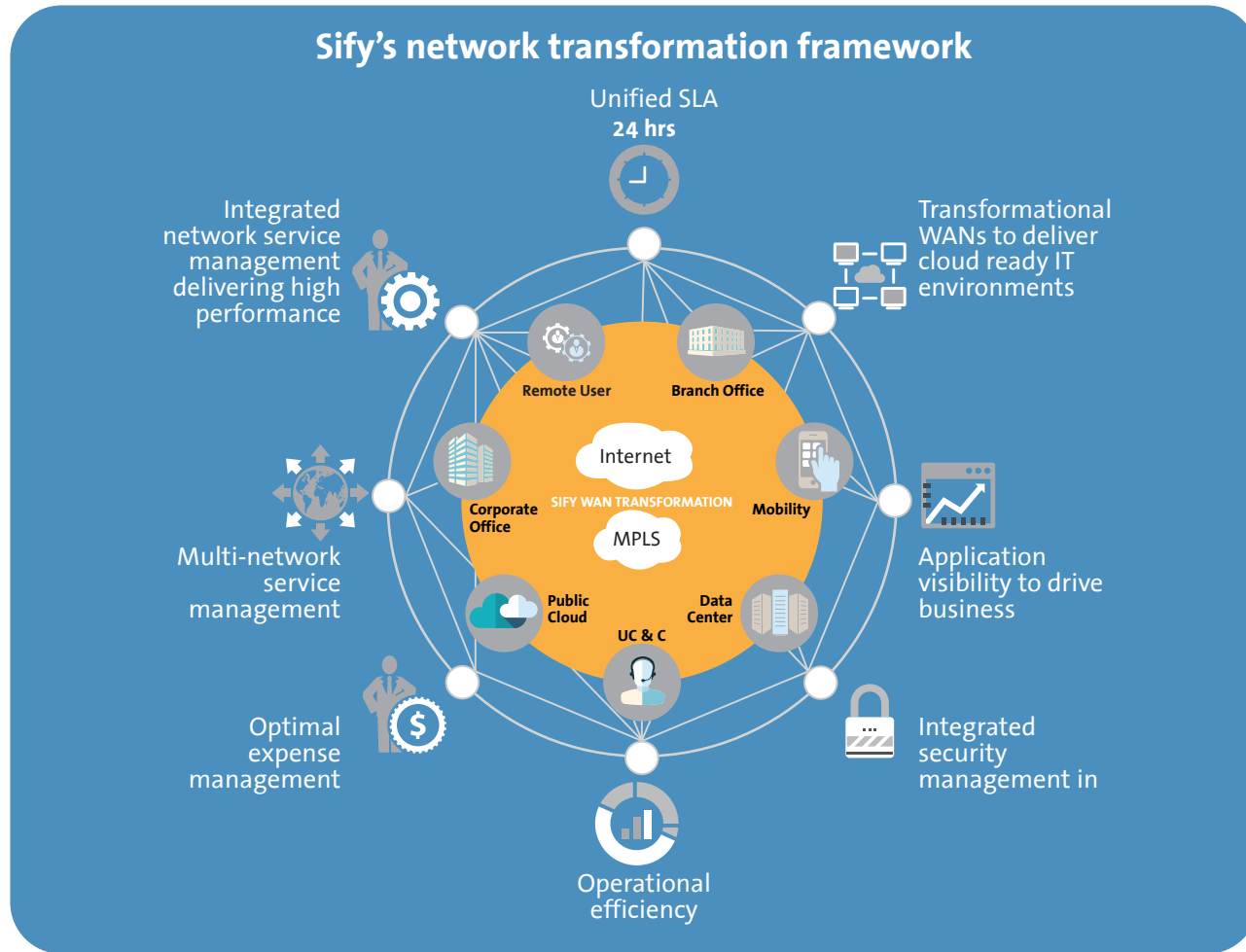


Service-led view of network transformation

- Service-oriented network architecture to ensure reliable enterprise-grade 24x7 connectivity
- Multi-location VPN and Internet services to build a highly reliable WAN setup
- Pro-active network and security monitoring and management through an integrated network operations center (NOC) & security operations center (SOC)
- Global connectivity across cloud nodes for clustered applications, storage replication and disaster recovery services
- Deep expertise across cutting-edge network and security technologies
- SDN (Software Defined Network) CoE (Center of Excellence) to develop world-class SDN centric solutions

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NETWORK TRANSFORMATION AND CONNECTIVITY BACKBONE OF DIGITAL TRANSFORMATION



Service highlights

- Extensive reach across over 1500+ cities
- Global service coverage in over 130+ countries
- 100G ready DCI and cloud interconnect network in 6 cities
- Integrated ITIL based NOC and SOC
- Deep skill sets around network and security domain
- Cloud enabled services on a consumption model

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UNIFIED SECURITY MONITORING AND MANAGEMENT ACROSS INTERNAL AND PARTNER SYSTEMS

Business drivers for securing IT environment

- Advanced data breaches using sophisticated techniques
- Increasing guidance and frameworks from industry organizations
- Increased exposure to hacktivism due to integration of new technologies
- Privacy and data protection regulations

Service-led view of managed security services

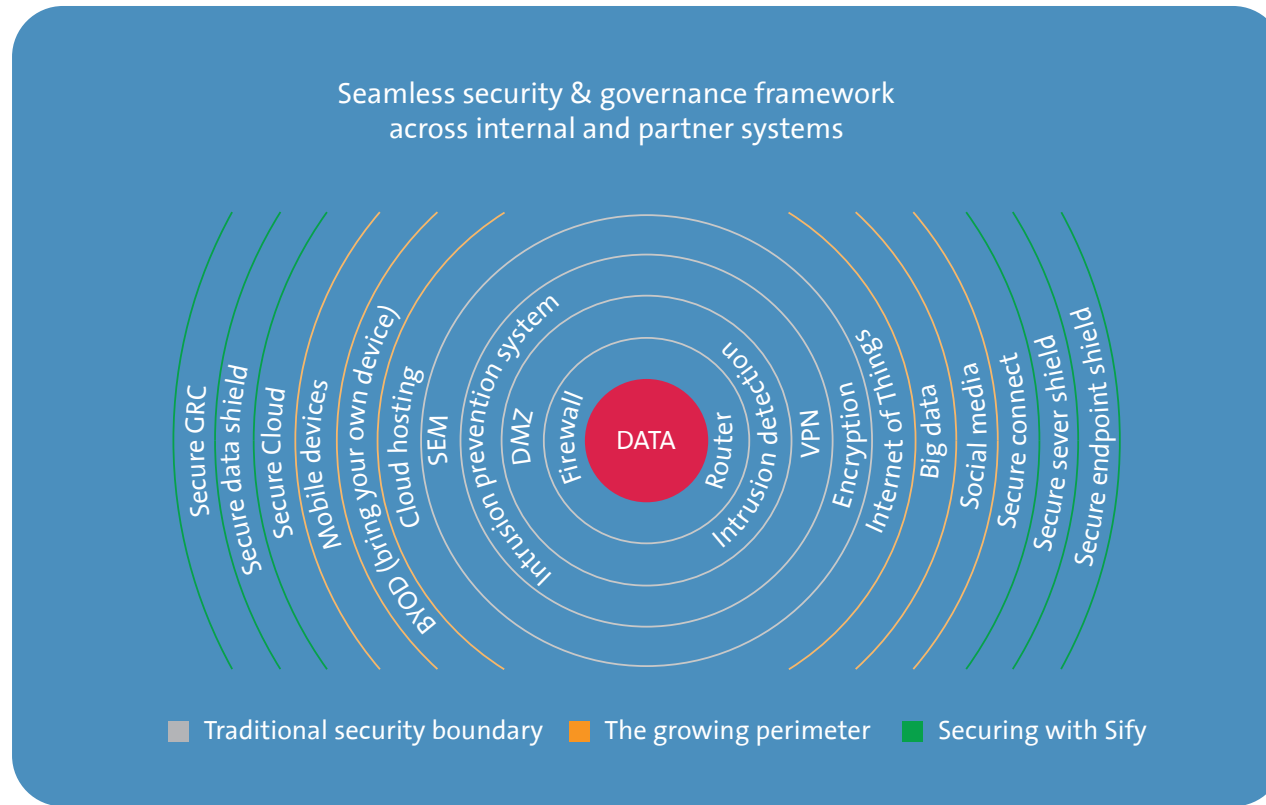
- Mature threat intelligence and analytics framework with integration of hunting and deception platform
- Gartner's intelligence driven security operations centre
- Secure cloud implementation by building tiered protection layers around data that includes multiple perimeter rings of defense
- Secure Connect solution tracks and filters legitimate network connections with customized policies and granular access controls
- Secure Data Shield provides bidirectional protection against malicious sources and sophisticated attacks to ensure data integrity and confidentiality
- Secure Endpoint Shield stops targeted attacks and advanced persistent threats with intelligent security and layered protection
- Sify Assure team delivering audit and compliance around IRDA, IT security guidelines, best practices benchmarking, ISMS, VAPT, Web App, Mobile App testing services
- Unified dashboard portal based security service delivery



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UNIFIED SECURITY MONITORING AND MANAGEMENT

ACROSS INTERNAL AND PARTNER SYSTEMS



Service highlights

- Comprehensive framework of applicable IRDAI and other cyber requirements
- Security transformation capability including design, deploy and managed services
- Threat intelligence to reduce risk from unknown vulnerabilities and threats
- First provider of cyber threat intelligence based security operations
- Partnerships with all leading security OEMs and distributors
- Automation driven security incident alerting and ticketing

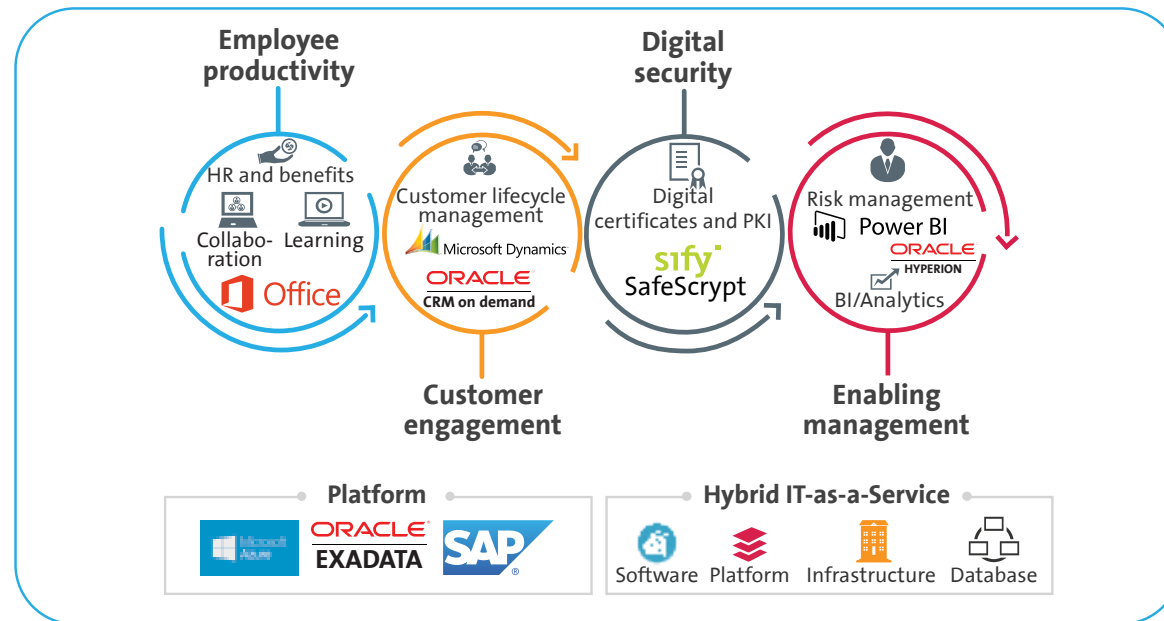
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BUILD A HIGH-QUOTIENT DIGITAL WORKFORCE TO DRIVE PROCESS EFFICIENCIES

Business drivers for streamlined processes

- Achieve faster time-to-market products within a complex multi-vendor environment
- Cost-optimization through reduction in hardware and resource costs for system management
- Cloud-based solutions with scalable and elastic capabilities
- Improved transparency and visibility within the organization through resilient platforms

Service-led view of application and platform services



Service highlights

- SAP: Application maintenance, implementation services, GST enablement
- Oracle: On-premise and on-public cloud implementation
- Microsoft: Application and platform services on MS Azure, MS Dynamics and MS Office

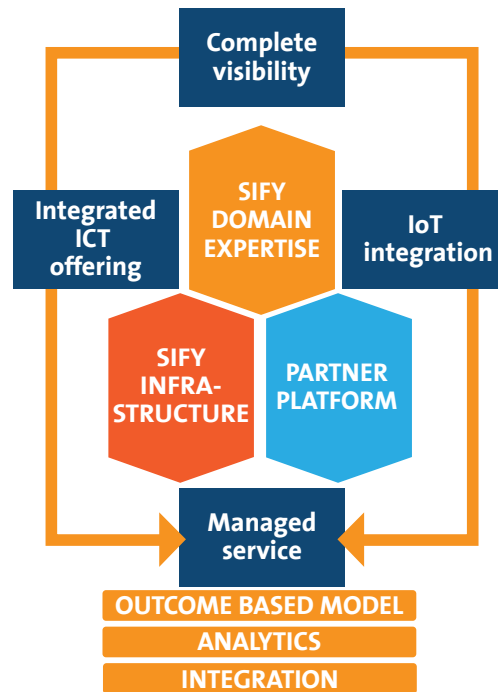
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IOT ENABLING DYNAMIC REAL-TIME ACCESS TO NEW INFORMATION

Business drivers for creating a connected ecosystem

- Creation of an agile, responsive, automated and business-aligned IT environment
- Accelerate product development to stay current and relevant
- Turn real-time data into insight, action and new business models through ubiquitous connectivity
- Build a more efficient workforce and transform underlying process by connecting people with data

Service-led view of turnkey IoT solutions



IoT in Manufacturing

- Real-time dynamic scheduling of shop-floor activities
- Predictive maintenance of machines and equipment
- Real-time logistics visibility using RFID and sensors
- Collect metadata for analysis to identify and reduce causes of process variability
- Track storage conditions of sensitive products

NEC 

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Service highlights

- Fit solution for management of BYOD platform and other mobile engagement solutions
- Specialized partners to deliver converged IoT solutions
- Scalable solution with rapid addition of WLAN nodes

ENGAGEMENT MODEL

Less hardware, less people and less license

Assets + services systems

Owned by the client and annuity based payout for services



Outcome-based
Client engagement is based on defined business outcome generated by IT solutions and services



PLATFORM

Usage-based
No upfront investment by client and payout is based on consumption



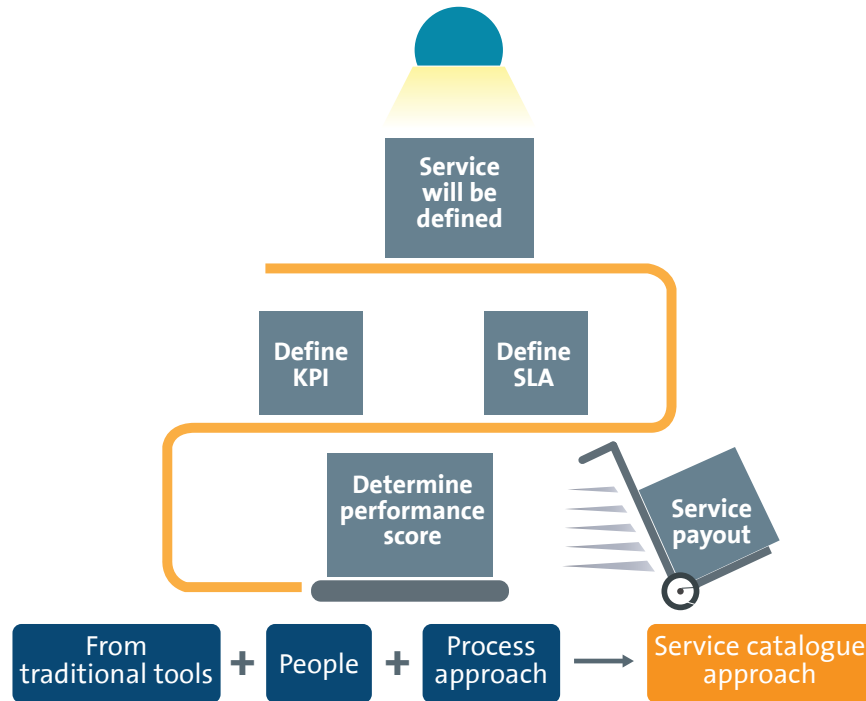
Component-based

Reduced upfront investment as client subscribes to infrastructure owned by Sify, as part of their overall infrastructure requirement

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ENGAGEMENT APPROACH

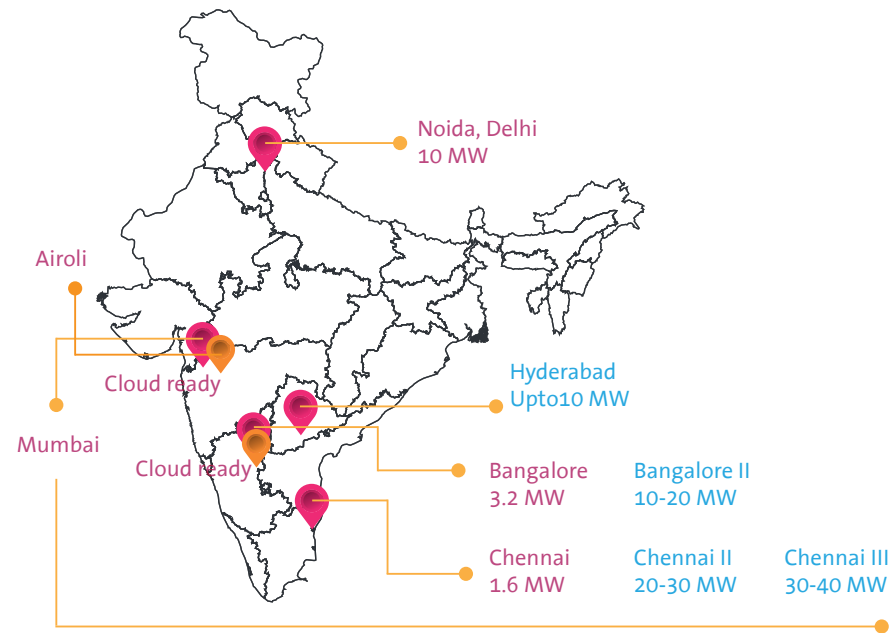
Service catalogue based managed services framework



Elements of service catalogue – illustrative	Elements of service catalogue – illustrative	Total service charges	Performance score	Payout eligible
Service catalogue	Asset management related service			
Service catalogue based payout	Backup, restore and archival related services			
Critical SLA metrics	IT operations			
Operational metrics	Email and directory related services			
SLA reporting	End-user system related services			
	Security related services			
	Service desk related services			
	Vendor management related services			
	Website management related services			
	Service delivery management (vendor's tool cost will be included here as tools enable the service delivery and management.)			
	Total payout			

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OUR MAJOR DATA CENTERS AND CLOUD CENTERS FOOTPRINT



RABALE
MUMBAI
20 MW

RABALE
MUMBAI II
10-12 MW

RABALE
MUMBAI III
20-40 MW

VASHI
MUMBAI III
1.6 MW

AIROLI
MUMBAI
10 MW

Bangalore II
10-20 MW

Chennai II
20-30 MW

Chennai III
30-40 MW

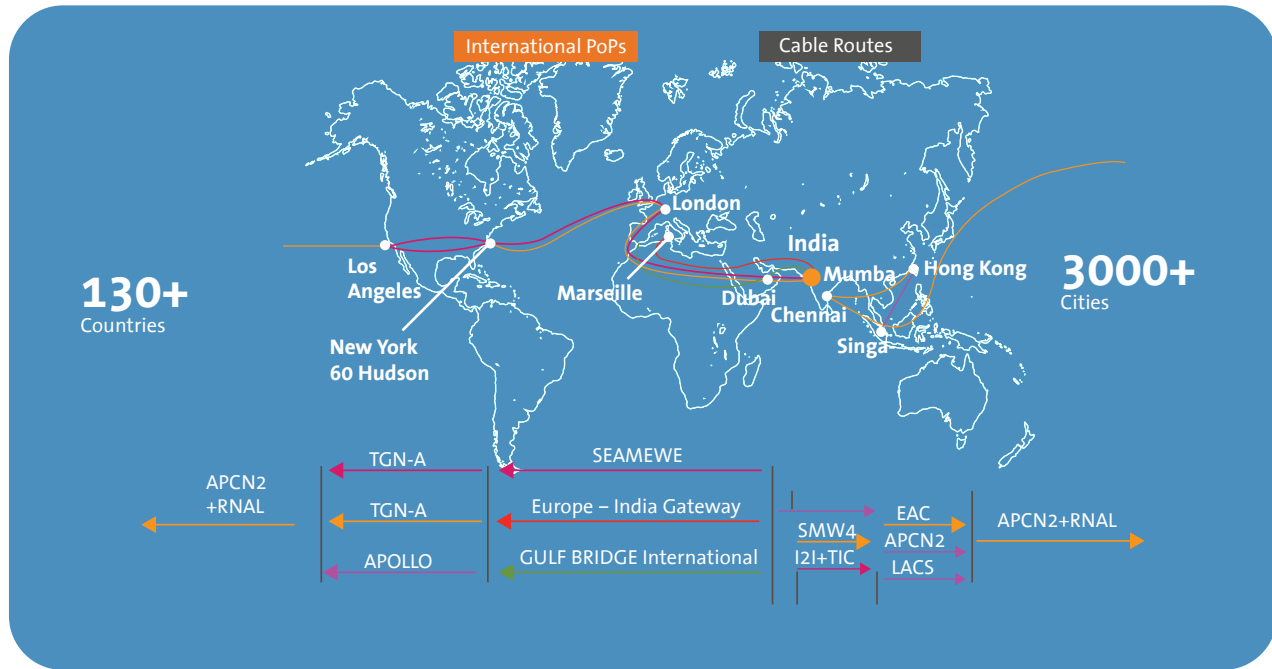
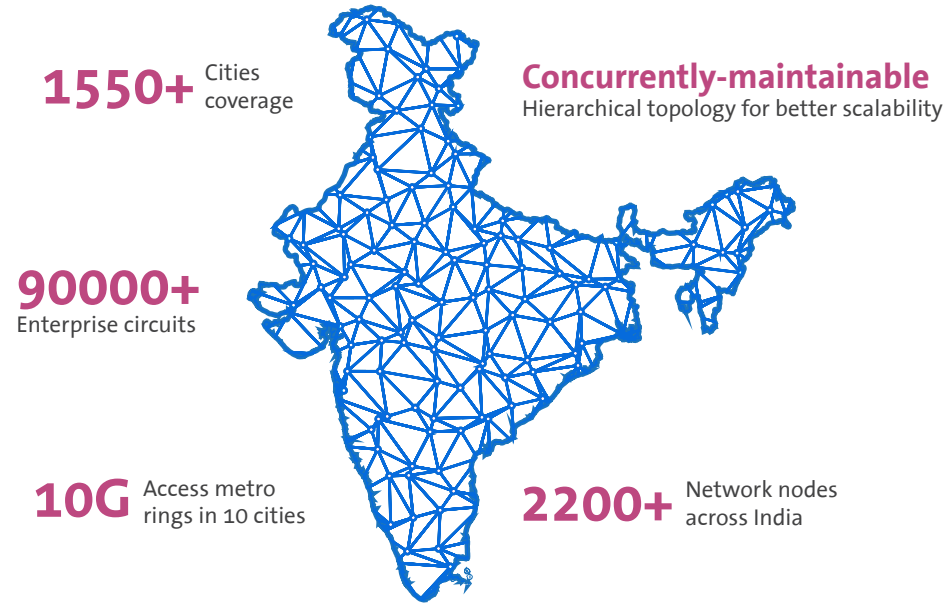
■ Existing ■ Upcoming ■ Cloud ready

Location	Existing in sq ft	Future in sq ft	Readiness
Mumbai	120,000	250,000	June 18
Chennai	12,000	70,000	June 19
Hyderabad	-	30,000	Dec 18
Delhi	55,000	55,000	Available
Bangalore	16,000	50,000	Available

Total capacity of 455,000 sq. ft. of server farm

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OUR NETWORK FOOTPRINT



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OUR CLIENTS



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OUR PARTNERS

Technology



Cloud & Acceleration



Application



Security



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AWARDS AND ACCOLADES



Managed Network Solutions



Integrated Data Centre Solutions



Sify is a Business Super Brand



Most Promising Brand by WCRC



National Award for Best Technology for Social Case for Department of Post by Cyber Media



CIO Review recognized Sify in the Cloud Managed Service Vertical



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Our end-to-end ICT solutions

- Data Center Transformation (Cloud) and Infrastructure services
- Network Transformation and Connectivity services
- Technology Integration services
- Application and Platform services
- Managed Security services
- Internet of Things

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