Edge Computing Services

Cognitive Business Operations

The way the world does business has changed significantly over the past few years. Now, organizations are looking to automate operations, enable real-time decisions, improve customer experience and operational efficiencies by building a strong digital core and leveraging technologies such as 5G, AI/ML, XR, and IoT.

Edge computing brings processing closer to the edge of a network, enabling organizations to combine the power of digital technologies to create connected and personalized customer experiences. This, in turn, sets the stage for business model innovations. Considering the massive growth of connected devices, video traffic, and demand for immersive user experience, companies are exploring edge computing actively.

TCS Edge Computing Services helps enterprises accelerate their adoption of edge computing to create business value and drive digital transformation. These services enable clients to develop sustainable solutions that enrich and transform industries, with real-time insights and ultra-low latency.

Overview

The advent of 5G has accelerated the adoption of edge computing. It has not only led to proliferation of consumer-oriented, internet-connected devices that necessitate ultra-low latency, but also opened doors to a world of possibilities enabled by augmented reality and robotics. By placing computing and storage resources at the edge of the network, edge computing enables faster data processing, real-time decision making, and new business models and cost optimization. It also ensures uninterrupted services and helps in reducing security breaches due to localized processing.

However, building a secure, scalable, and robust edge computing solution is fraught with challenges. Unlike core computing, edge computing architecture is use-case centric. The architecture must be hardware-agnostic, scalable, and have a hierarchy of levels that share the workload. As this network grows and spans several geographies, infrastructure maintenance gets challenging.

Maintaining a vastly distributed network also warrants a specialized team of service engineers well-equipped to oversee IT-OT operations while tackling security risks. With TCS' Edge Computing Services, enterprises get complete visibility and centralized control of the edge computing infrastructure across remote, geographically disparate edge locations.
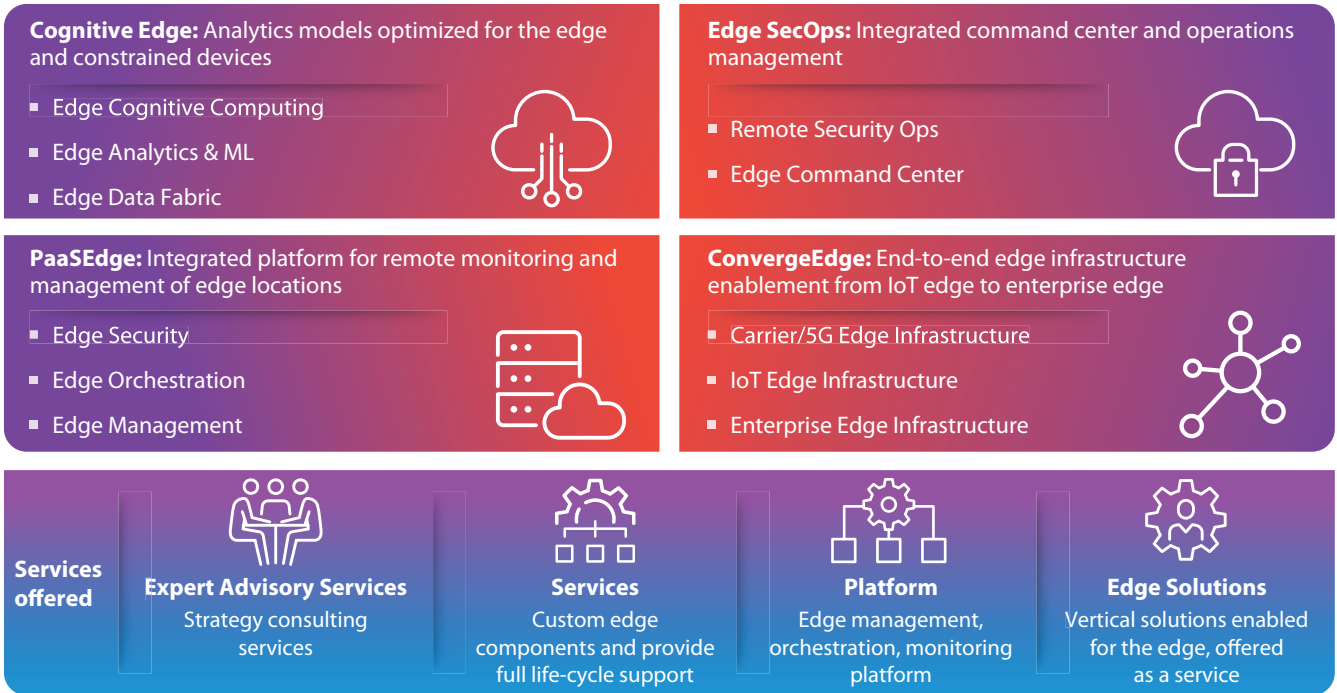
Our Solution

TCS Edge Computing Services deliver an end-to-end strategy and solution for enterprises to design, implement, and manage their edge computing landscape and seamlessly perform remote operations. These services are focused on scale, security, connectivity, cognitive computing, and autonomous operations.

TCS Edge Computing Services are powered by the following capabilities:

- **Expert Advisory:** Helps discover edge computing use cases that can boost business performance

- **Services:** Design, build, deploy, and manage services around Edge applications, networking, and security with the following:
  - **Edge SecOps:** Allows remote security operations and centralized monitoring and visibility across remote Edge locations
  - **Cognitive Edge:** Includes analytics models that are optimized for the edge and constrained devices
  - **Converge Edge:** Allows end-to-end edge infrastructure enablement from IoT edge to enterprise edge

- **Platform (PaaSEdge):** Integrated management platform to enable edge orchestration, security, and provisioning

- **Industry Solutions:** Provides edge-enabled industry verticalized solutions such as worker safety, predictive maintenance, quality inspection, branch in a box, etc.

TCS CogniX for edge carries a vast collection of 'value builders' – pre-built, configurable, reusable digital solutions that bring together multiple digital levers to address specific business KPIs. These solutions are easy to deploy, modular and scalable to address the varying needs of the organization. The suite's value builders include an edge orchestrator, edge command center, and edge manager.

Cognitive Edge: Analytics models optimized for the edge and constrained devices

- Edge Cognitive Computing
- Edge Analytics & ML
- Edge Data Fabric

Edge SecOps: Integrated command center and operations management

- Remote Security Ops
- Edge Command Center

PaaSEdge: Integrated platform for remote monitoring and management of edge locations

- Edge Security
- Edge Orchestration
- Edge Management

ConvergeEdge: End-to-end edge infrastructure enablement from IoT edge to enterprise edge

- Carrier/5G Edge Infrastructure
- IoT Edge Infrastructure
- Enterprise Edge Infrastructure

Services offered

Expert Advisory Services
Strategy consulting services

Services
Custom edge components and provide full life-cycle support

Platform
Edge management, orchestration, monitoring platform

Edge Solutions
Vertical solutions enabled for the edge, offered as a service

An overview of TCS' Edge Computing Services

Benefits

By bringing data processing and storage capabilities closer to the edge of the network, TCS Edge Computing Services provides the following benefits to enterprises:

Hyper-personalized Experience

- Enhances customer experience by providing services even in intermittent connectivity environments
- Transforms experiences of latency-sensitive applications such as gaming and online learning, with the use of AI-powered intelligent edge computing

Intelligent Decisions

- Employs streaming analytics to provide real-time insights at edge
- Reduces operational risks and decreases equipment downtime with predictive and prescriptive analytics

Improved Operational Efficiency

- Ensures data availability for operations and remote monitoring with the use of enhanced visual inspection systems
- Improves data privacy and security with stringent checks and control measures

Optimize Costs

- Reduces data transmission costs with focus on efficient service delivery
- Optimizes asset usage with reduced data traffic between the edge and the cloud

The TCS Advantage

TCS is uniquely placed in terms of supporting the enterprises who wish to explore or leap into intelligent edge computing. Partnering with TCS brings the following advantages:

- **Domain Expertise:** The trifecta of contextual knowledge, a certified pool of associates in IoT edge services, cloud, machine learning, and data processing, and intense domain expertise in sectors such as manufacturing, retail, oil and gas, and telecom for over 40 years makes TCS an obvious choice for edge computing services. Our certified subject matter experts and professionals have an industry background and strong product knowledge. They are well-versed in delivering strategic solutions to fulfill the varied requirements of different customers with ease.

- **Intellectual Property:** As an industry leader, TCS brings into play its homegrown IoT and intelligent edge platform solutions such as a TCS Connected Universe Platform (TCUP), TCS Intelligent Edge Gateway, and asset tracking units. Our Machine First Delivery Model (MFDM™) focuses on automation for exponential value.

- **Strategic Partnerships:** Our extended ecosystem of powerful alliances with leading-edge vendors, such as AWS, Microsoft, Google, Intel, Nvidia, HPE, Nutanix, Dell and CISCO, helps future-proof IT operations with intelligent edge computing platform solutions at optimized costs.

Awards & Recognition

2019 Brand Finance® Awards — TOP 3 IT SERVICES BRAND

AWARDED Superbrands AMERICA'S CHOICE 2020

#1 IN CUSTOMER SATISFACTION 2019 EUROPE — Whitelane Research

top EMPLOYER — GLOBAL 2019 — CERTIFIED EXCELLENCE IN EMPLOYEE CONDITIONS

To know more

Visit the **Cognitive Business Operations** page on **tcs.com**

Email: **cbo.marketing@tcs.com**

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for over 50 years. TCS offers a consulting-led, cognitive powered, integrated portfolio of business, technology and engineering services and solutions. This is delivered through its unique Location Independent Agile™ delivery model, recognized as a benchmark of excellence in software development.

A part of the Tata group, India's largest multinational business group, TCS has over 453,000 of the world's best-trained consultants in 46 countries. The company generated consolidated revenues of US $22 billion in the fiscal year ended March 31, 2020, and is listed on the BSE (formerly Bombay Stock Exchange) and the NSE (National Stock Exchange) in India. TCS' proactive stance on climate change and award-winning work with communities across the world have earned it a place in leading sustainability indices such as the Dow Jones Sustainability Index (DJSI), MSCI Global Sustainability Index and the FTSE4Good Emerging Index. For more information, visit us at **www.tcs.com**.

For TCS global news, follow **@TCS_News**.

IT Services
Business Solutions
Consulting