Globally, leaders across industries are using drones to improve productivity and accuracy, optimize costs, offer new products and services, and create a safer working environment for their workforce. Drone technology, along with advanced analytics, is helping businesses simplify data collection and enhance business insights.

TCS’ Drones Offerings include market-ready solutions across the drone technology value chain that can be integrated to rapidly build new solutions for specific industry problems. They are also available as pre-integrated, configurable, and customizable business solutions for targeted industry use cases. In addition, the offering include near-shore test beds with FAA certified pilots for clients to rapidly conduct experiments and build solutions. Clients get access to a global co-innovation ecosystem comprising start-ups, OEMs, drone operators, and academia for the best solution architecture and operating model fit. The offering also provides services from TCS and its partners to support the client’s journey from technology evaluation and pilots to ongoing operations in production.

**Overview**

Organizations spend a significant amount of effort and costs on performing manual tracking and surveillance activities such as industrial infrastructure surveys, asset condition assessment, and inventory management. Such manual processes are prone to human errors, and pose significant risk to the health and safety of field personnel performing them. Drone technology can help organizations digitize their industrial processes. Drones are especially beneficial in the event of natural disasters or accidents, where access to the affected site is restricted, and it is critical to remotely deliver essential services or conduct recce for better planning.

We help organizations reimagine operations by leveraging drone technologies and fit-for-purpose cameras and sensors, providing them an ecosystem for rapid experimentation and co-innovation to accelerate outcomes. The devices capture real-time data, analyze it for insights, and integrate it with data from other sensors and enterprise systems available either in-premise or on the cloud. Drones help companies minimize their operational risk and costs, and boost productivity and accuracy in a host of applications across agriculture, forestry, infrastructure inspection, damage assessment, security and surveillance, disaster relief and emergency response, and supply chain and logistics.

**Our Solution**

Our offerings comprise the following components:

- **Market-ready solutions:** We offer intelligent mission planning, autonomous indoor and outdoor navigation using advanced computer vision, context-aware data acquisition, and artificial intelligence. We provide fully automated hands-free data processing using state-of-the-art machine learning, and integration with chatbots for search-and-find operations using NLP. We also offer pre-integrated, configurable, and customizable business solutions for targeted industry use cases such as:
  - Warehouse inventory reconciliation: Inventory counting and reconciliation using computer vision for autonomous navigation in an indoor environment and artificial intelligence for inventory recognition
  - Forest inventory management: Forest inventory count and volume estimation of wood; detection of illegal encroachments and deforestation; vegetation health management; and species recognition using machine learning and analytics

**Benefits**

With TCS’ Drone Offerings, companies can reap the following benefits:

- **Reduce costs:** Minimize operational costs by reducing field visits and dependencies on field personnel. Reduce costs associated with approximations and human errors at sites that are difficult to access. Eliminate penalties related to regulatory non-compliance
- **Improve efficiency:** Enhance operations by improving productivity through automation, reducing manual errors in repetitive tasks and improving quality of work
Yard Management: Mapping of yards to improve visibility on space utilization and capacity available; AI-based identification and reconciliation of inventory; and detection of empty and full slots in large open yards, addressing manufacturing, CPG, retail, 3PL, and transportation industry segments

Technology and consultancy services: TCS provides drone evaluation and selection, sensor integration, integration of drone solution with enterprise systems and processes, and independent- or partner-leveraged drone operations services

The TCS Advantage

By partnering with TCS, companies can leverage the following differentiators:

- **Rapid prototyping**: Our clients get access to drones test beds with certified pilots, pre-integrated solutions, and ready solution components that can be rapidly integrated to build solutions. They can also benefit from consistent support for multiple hardware, communication protocols, and process intelligence formats and greater interoperability with standardized data and information semantics

- **Integration with enterprise systems and processes**: Our expertise with enterprise systems and processes allows clients to realize the full potential of drone solutions through mainstream integration

- **Solution scale-out**: Our experience as a global system integrator allows clients to seamlessly scale from successful pilots to production class systems, rapidly uptake drone technologies into their operations, and adopt alternate business models

- **Domain and technical expertise**: Our in-house subject matter experts (SMEs) have proven experience in building customized, scalable, and cost-effective drone-centric business solutions. Our broad portfolio of pre-built solutions and accelerators helps companies adopt drone technology and integrate it efficiently with their routine industrial workflows

- **Agile methodology**: Using a lean agile-based start-up methodology, TCS accelerates time-to-market for drone technology adoption, ensuring a 30-60-90 day delivery cycle. We take an incremental, iterative approach towards solution development, and ensure that continuous feedback mechanism throughout the development lifecycle

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**Improve safety**: Minimize risk to human life in hazardous environments, improve worker safety, and strengthen regulatory compliance

**Scale up operations**: Enable economical, drone-assisted alternatives to conventional business processes by reducing the unit cost of scaling up operations
Awards & Recognition

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