

TCS DynaPORT™

Travel, Transportation & Hospitality



The marine terminal industry is in the midst of tectonic changes accelerated by the pandemic. The struggling industry was in dire need to improve productivity and enhance efficiency due to changing ownership models, the growing trend of mixed usage terminals and demanding consumers with expectations for a better experience and returns. The way forward involves building resilience and acting with agility. It requires adapting to fast changing dynamics in real-time by leveraging digital platforms to address the key challenges faced by terminals worldwide.

Tata Consultancy Services (TCS) DynaPORT™ provides terminals a digital platform to enhance performance and optimize operations utilizing our more than 25 years of rich domain expertise across the globe. It is based on new-age technologies like artificial intelligence, automation, agile, IoT, and cloud and helps customers to deal with growing business complexities while transforming.

Overview

Marine terminal operators are under intense pressures to amplify their existing capabilities, increase focus on sustainability and compliance to safety norms besides optimizing resources and improving productivity and efficiency. They need to offer their customers streamlined, integrated, comprehensive and end-to-end logistic services and solutions. The need is for a digital platform to monitor, control and optimize resources.

TCS DynaPORT is a next-generation terminal operation system (TOS), designed as a one-stop solution for order to invoice (O2I) processes of a marine terminal and enabling terminal automation. It supports multi-modal (vessel, rail, truck and barge) and multi-purpose (container, break-bulk, liquid bulk, dry bulk and ro-ro) requirements of a terminal. The solution enables the smart port vision by automating and optimizing, planning and scheduling activities of marine, ship, yard, storage, equipment, and gate besides simplifying complex business processes related to documentation, operation monitoring and control and invoicing.

Our Solution

The offering includes:

- **Terminal Documentation:** Provides features to help administrate and manage documentation requirements of a multi-modal and multi-purpose terminal. Configurable business-to-business electronic data interchange engine, provides vehicle appointment booking system, gate kiosk system and interface with gate automation systems for man-less gate operations.
- **Terminal Planning:** Includes rule-based berth planning and optimal berth suggestion, auto quay crane sequencing based on configurable rules, dynamic yard planning based on optimization templates, automatic vessel load planning, and resource (manpower and equipment) planning.
- **Terminal Optimization:** Time-tested and field-proven algorithm generates optimized jobs for terminal equipment to perform gate, yard, ITVs and vessel operations reducing shuffles, increasing productivity and shortening turnaround time.
- **Terminal Operations and Monitoring:** Supports end-to-end terminal operations monitoring with key performance indicators on gate, vessel, yard operations and real-time alerts to manage exceptional scenarios.
- **Terminal Automation:** Enables both process and equipment automation for operations of semi-automated and fully automated terminals by integrating with equipment control systems (ECS) and programmable logic controller system, provide mobile based and hand-held or vehicle mounted terminal interfaces and devices such as Radio Frequency Identification Device (RFID), Optical Character Recognition (OCR), barrier and weighbridge.
- **Terminal Invoicing:** Handles various vessel, container, and cargo related contract, agreements, tariff and tax rules; generates proforma and final invoicing; provides offline invoicing, credit note generation and cash payment option; interfaces with financial systems and payment gateways.



Benefits

- **Reduced Total Cost of Ownership:** One TOS for all cargo types with cloud deployment option, which reduces infrastructure requirements, subsequent administration and maintenance costs.
- **Boosts Terminal Performance:** Configurable algorithm for intelligent operations-- resource planning, monitoring and control that reduces vessel and truck turnaround time and ensures optimal utilization of terminal assets and resources.
- **Accelerate Business Transformation:** Configurable documentation, planning, and operational processes provides agility to accommodate changes driven by fast-paced business ecosystem.
- **Enhances Resource Optimization:** Leverage available resources as per intelligent recommendations, powered by dynamic resource scheduling and allocation based on cost parameters and operational constraints.

The TCS Advantage

- **Technology Expertise:** TCS brings domain-specific product roadmap to enable digitalization for marine terminals with new-age technologies like artificial intelligence, automation, agile, IoT, and cloud.
- **Full-stack solution:** With over 25 years of domain experience, TCS combines a range of core services including ERP, technology implementation, infrastructure support, and consulting to offer a one-stop answer to meet the industry's varied business needs and IT expectations.
- **Field-proven outcomes:** TCS DynaPORT is implemented at over 80 terminals worldwide. These terminals are of varied sizes and automation maturity levels.

Awards & Recognition



To know more

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About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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