Microsoft

Microsoft #BuildFor2030 Hackathon Hero

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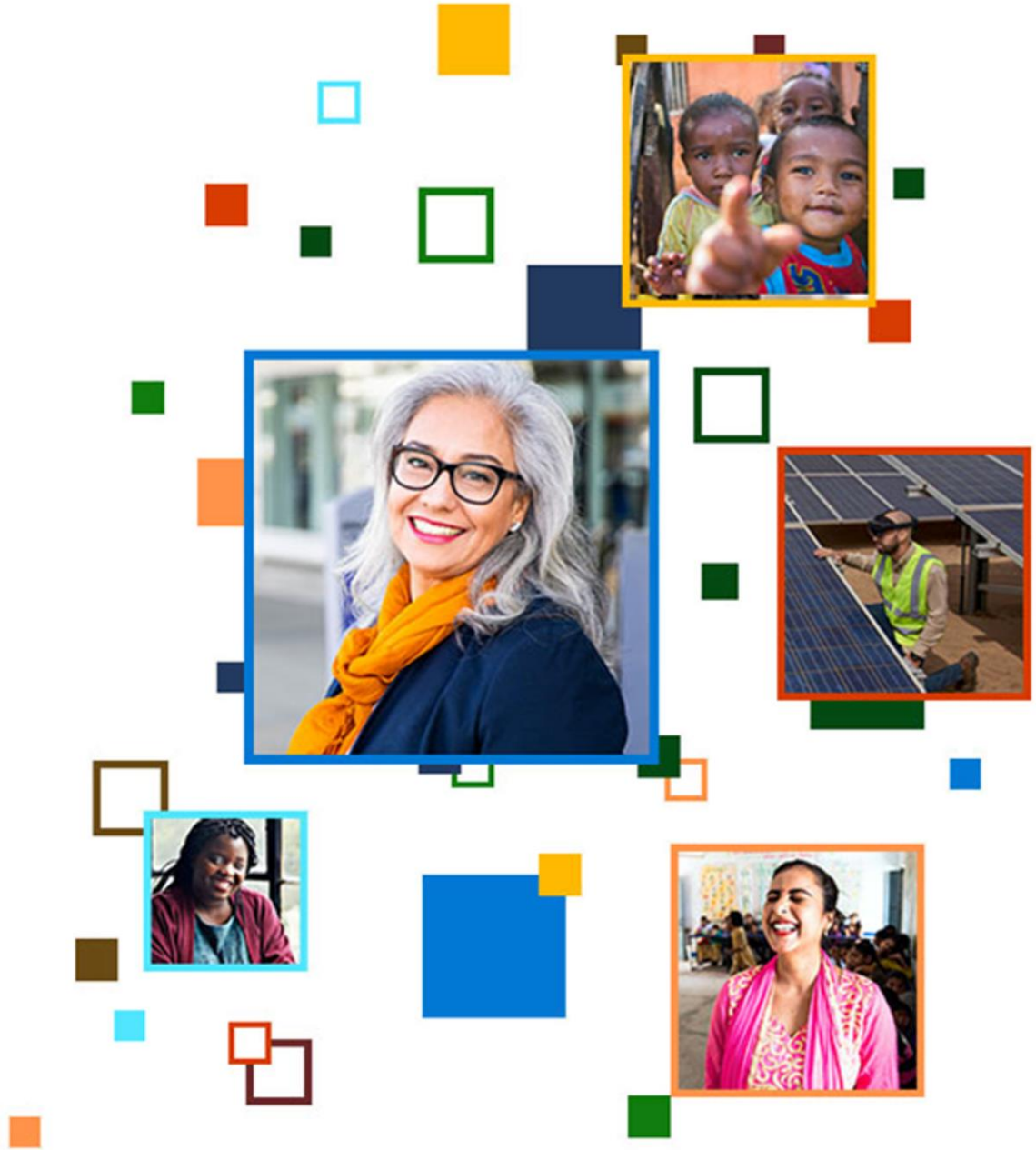


SUSTAINABLE SUPPLY CHAIN
WITH SMART TECHNOLOGIES

Solution - Sustainable Supply chain with Smart Technologies

Accelerating value-driven Supply chain with Digital Twin

Global supply chain is an integral part of almost every business, comprising a wide range of events from Factory to Front door. Customer expectations, global disruptions & unforeseen incidents have mandated to bring end-to-end visibility, build ways for resilience in creating successful & future proof supply chains. Businesses are also embarking on their journey towards more sustainable supply chain, as they thrive to build strong & lasting customer relationships founded on trust & mutual relationships.

Our solution is adopting transformational potential of digital technologies to unlock traceability, real-time monitoring, effective decisions in increasing operational efficiencies & step towards sustainability. Makes supply chain more mature, efficient, effective, agile, resilient & sustainable.

Solution Highlights

1. Leverages potential of Azure Cloud Platform & Digital Twin technology, as a bridge between physical & virtual worlds, to 1. *Collect Data*, 2. *Analyze Data*, 3. *Run Simulations to Make Predictions*, 4. *Visualize Insights*, 5. *Enable Data Driven Decisions*, 6. *Optimize & Run* to improve visibility, operational efficiency, mitigate risks, uncover new business opportunities & to fulfill sustainability agenda.

2. Provide greater visibility across supply chain to identify patterns & discover opportunities to improve cost to serve

3. Run multiple scenarios in parallel & shorten time to answer different questions in different areas, show trade-offs to conclude best strategy & pivot quickly

4. Discover bottlenecks early on, monitor risks & test contingencies, take actions to eliminate inefficiencies & optimize processes

5. Plan alternate logistics, routes, suppliers, raw materials & optimize inventory to reduce carbon footprint while meeting profitability & sustainability targets

6. Analysis of financials, KPIs, iterate responses to bounce back quickly by testing operations while reducing cost of recovery

7. Enable procurement & finance empowered with data needed to adapt quickly to changes in demand, production & make decisions that improves overall business objectives

8. Create a playbook of options to respond to crisis before they happen & bridge potential points of failure without involving all departments or impacting their productivity

9. ESG & Carbon Emissions scores for each shipment calculated and alternatives recommended to give organizations options to view sustainable procurement spends.

10. Digital twins for continuous monitoring, diagnosis & analysis to avoid loses, predict supply chain breakdowns, better utilize resources, optimize networks, reduce carbon emission to future-proof processes.

How Digital Twins help achieve Excellence in supply chain

Demand Planning

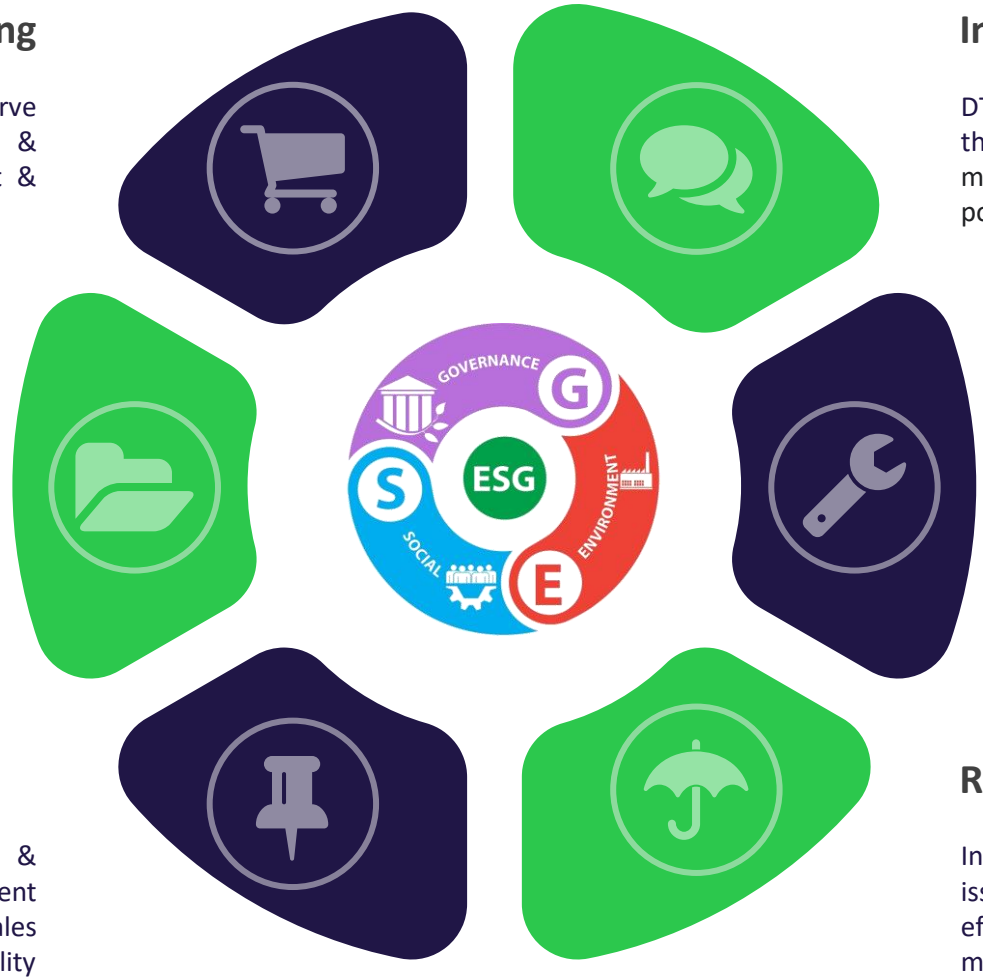
DT enhances process controls & reduces cost to serve with real-time customer behaviors, macroeconomic & microeconomic events to draw insights into current & future demand levels, to keep meeting targets

Identify Bottlenecks & Increase Visibility

Provides a Transparent, Perpetual, E2E view of processes and bottlenecks across the supply chain, facilitating more agile problem resolution with minor human intervention. Production automation increase capacity and reduce energy requirements per unit leading to a boost in ESG

Optimize Overall Supply chain Processes

DT improves design tests of supply chain process & optimization across critical areas – procurement synergies, logistics and network optimization, and sales and operations planning driving towards carbon neutrality



Increased E2E Visibility

DT enables greater transparency between different tiers of the supply chain operations. Enhancing the ability to track, monitor & easily report on all freight movements from the point of origin to the destination, & everything in-between

Plan Transportation & Facilities

By leveraging real-time data, DTs enable supply chain management to better plan transportation resources by effectively being able to monitor how changes in demand and supply affect the supply chain's physical locations and supporting system resulting in reduction in carbon emissions.

Risk Assessments & Mitigation

In supply chain, earlier a business can identify potential issues, DT allows for better risk assessment, devise effective mitigation strategies and proactive management with contingency plans

Envisioned Architecture