

TCS Intelligent Urban Exchange™ (IUX) Expedites the Sustainability Journey

Climate change acceleration is affecting the places we live, the food and water that we consume, and the businesses where we work. Enterprises of all types play a critical role in helping to reduce the environmental, social, and economic impacts caused by climate change. Businesses need to rethink operating models to reduce their carbon footprint and accelerate sustainability efforts while remaining agile and resilient.

62% of the executives surveyed in a Challenge.org study believe building sustainability into their strategic business plans is necessary for staying competitive in today's business climate¹. These environmentally conscious organizations are harnessing the power of big data analytics to help sustainably manage operations while transparently and responsibly delivering customer value.

5 ways industries and cities can drive sustainability through data analytics

1 Precisely monitor emissions across the value chain

Globally, energy efficiency represents about **40%** of the greenhouse gas reduction potential²

TCS Intelligent Urban Exchange™ (IUX) enables cities, manufacturers, energy producers, transportation agencies, and logistics companies to connect operational data from multiple sources and deliver incisive insights into carbon emission levels, emission sources, and overall operational efficiencies.

TCS IUX collects and analyzes data from diverse sources such as business systems, IoT and streaming devices, sensors and operational processes to build a holistic view of energy usage and carbon footprints. These analytics provide data-driven recommendations that help managers and operators monitor and proactively mitigate emissions across the organization and its partner ecosystem.



2 Predict carbon emissions for scenario planning

By 2030, businesses must cut their greenhouse gas emissions globally by **3.7bn** metric tons of CO₂ equivalent a year or **60%** of total emissions to meet Paris Climate Agreement goals³

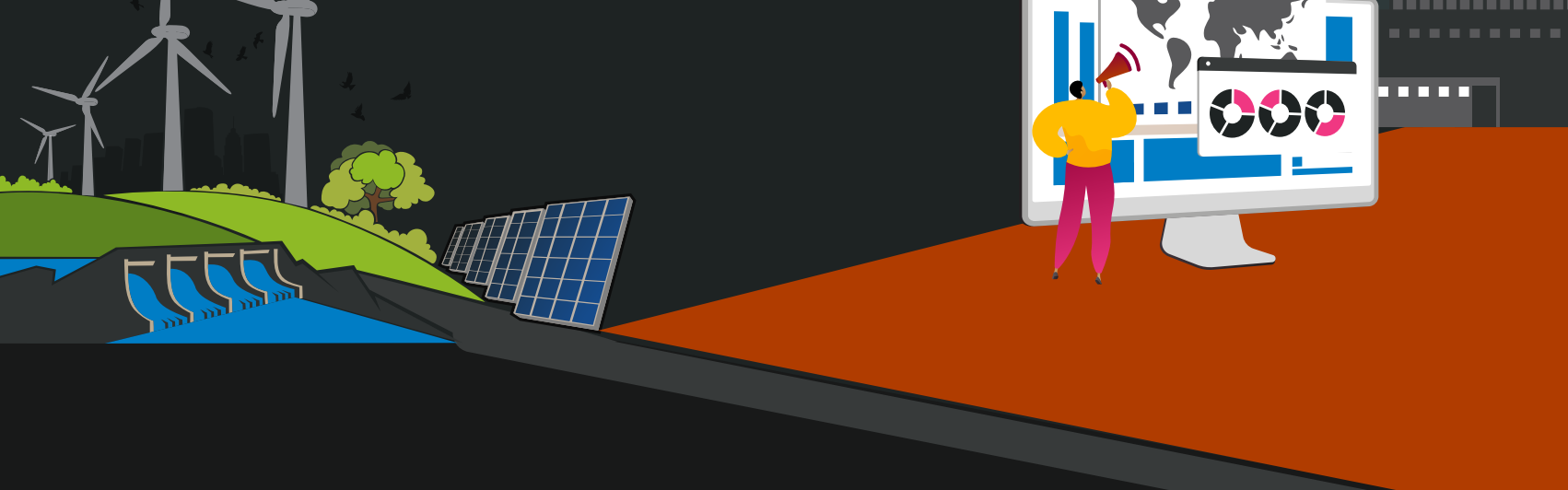
TCS IUX helps organizations predict and quantify likely ecological impacts of disruption event scenarios. The software allows leaders to run what-if analysis and predict scope 1 and 2 emission levels for various situations. This equips them to knowledgeably tailor business strategies for sustainable and energy compliant operations while also including contingencies for unforeseen events. Powered by AI, ML and industry-tuned models, TCS IUX provides a powerful tool for performing multi-dimensional simulations that inform key operational initiatives, minimize environmental impact and ensure regulatory compliance.



3 Accelerate decarbonization with detailed actionable insights

Achieving a warming cap scenario of 2 degrees Celsius requires that CO₂ emissions decline by about **25 percent** by 2030⁴

TCS IUX helps enterprises accelerate their carbon neutrality journeys with an AI-powered, big data platform. This platform in combination with IUX industry models delivers actionable insights based on real-time input and includes use cases that analyze and recommend efficient energy usage, operational processes and proactive physical asset maintenance. TCS IUX provides insights to help managers determine actions that directly support sustainable operations including efficient asset usage, preventative asset maintenance, and resource allocation based on changing localized needs. These and other emissions-reducing actions can be coordinated from a single dashboard for even greater efficiencies with the IUX Command Center to coordinate and optimize operations.



4 Reduce energy usage and optimize resources

Cities can use smart technologies to improve key quality-of-life indicators by **10 to 30%**⁵

Air pollution from traffic congestion in 83 of the nation's largest urban areas contributes to more than 2,200 premature deaths annually, costing the health system at least **\$18 billion**⁶

TCS IUX helps campuses, cities and city service providers proactively manage key resources and services. Pre-built intelligent water, streetlights, building and transport use cases are designed to solve real-world resource management and conservation challenges such as reducing energy usage, carbon emissions and water waste/loss. These solutions also help optimize capital allocations, asset life cycles, and resource deployments. TCS IUX also delivers real-time monitoring that aids in early detection of incidents giving responders valuable time to formulate and execute appropriate responses before situations escalate. This timely information saves costs, manpower and time which minimizes situational impacts and preserves precious resources.

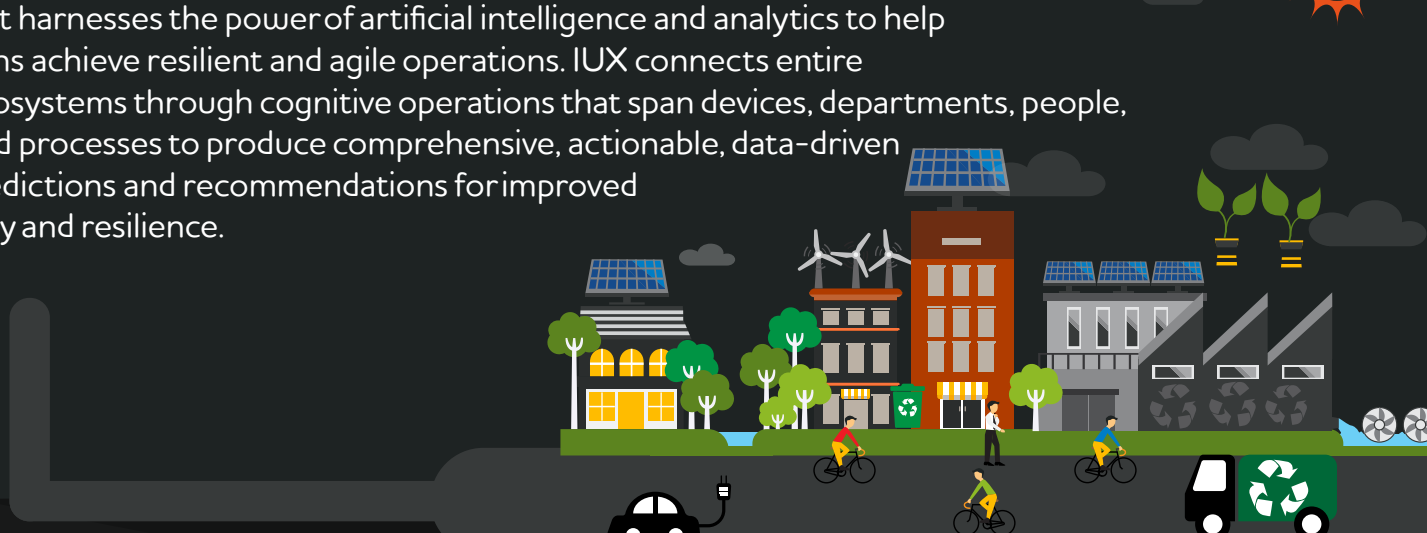


5 Achieve a smooth transition to alternative energy sources

In the United States renewable sources currently account for just under **17.5%** of its energy generation mix, and are expected to increase to **38%** by 2050⁷

As enterprises increase focus on carbon-neutral initiatives, IUX helps them identify potential transition risks and the impact on business operations by providing insights into regulatory guidelines, the local business environment and government policy. The solution helps businesses tailor their new energy mix model by providing actionable intelligence for sustainable activities including planning electric charging stations and forecasting energy demand and generation.

TCS Intelligent Urban Exchange™ (IUX) is a purpose-built decision intelligence product that harnesses the power of artificial intelligence and analytics to help organizations achieve resilient and agile operations. IUX connects entire business ecosystems through cognitive operations that span devices, departments, people, systems, and processes to produce comprehensive, actionable, data-driven insights, predictions and recommendations for improved sustainability and resilience.



Sources: ¹Challenge.org | ²Mckinsey | ³United Nations | ⁴Nature | ⁵Mckinsey | ⁶Harvard | ⁷Deloitte