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TCS's software group delivers return-to-work applications that are large-scale tested at... TCS

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The need for IoT-driven applications to support post-pandemic return-to-work requirements is high. And few firms have enabled more employees to return to work in the office post-Covid-19 than Tata Consultancy Services. The firm's Digital Software and Solutions software arm is now delivering these well-tested capabilities via its data analytics platform.

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S&P Global Market Intelligence

Introduction

Originally conceived as a platform for delivering smart city services, Tata Consultancy Services' Digital Software & Solutions (DS&S) group has pivoted the major focus of its TCS Intelligent Urban Exchange (IUX) smart cities platform to help companies and cities manage employees returning to work after COVID-19 quarantines.

The smart city-to-workplace shift is a natural one – many of the same capabilities for managing and assisting citizens can be used by large enterprises to oversee employees in building and campus environments. It also moves the group's focus from the slower-to-start – and in some cases COVID-19-stalled – smart city IoT projects to a much richer area that it dubs 'workplace resilience,' and is focused not just on post-COVID-19 return to work, but on helping enterprises manage risk for the long term and across all parts of the organization.

In addition to solid software development and IT services roots, TCS DS&S's pitch has another major selling point: its workplace offering, TCS IUX for Workplace Resilience, has been deployed in nearly all of its locations across India, and deployment will begin in North America this month, starting at its facility in Toronto, Canada, followed by offices in Edison, New Jersey; Cincinnati, Ohio; Plano, Texas; St. Petersburg, Florida; and Little Rock, Arkansas.

451 TAKE

The need for IoT-driven applications to support post-pandemic return-to-work requirements is high – 32% of enterprises are already planning or deploying new applications specifically in response to COVID-19 and another 44% are not yet, but can envision using IoT to address such challenges, according to 451 Research's Voice of the Enterprise, IoT, Organizational Dynamics survey. That's a strong demand signal. Not surprisingly, many IT vendors are targeting the opportunity. What's perhaps most interesting is how they get there. TCS DS&S isn't the first provider to take a data platform and smart city templates, and with a few tweaks point them at return to work. And they won't be the last.

What stands out most is its ambition in targeting not just today's office and campus reopenings, but the growing need for enterprises to use technology – and in particular IoT and data analytics – to more intelligently and proactively manage an emerging range of environmental and operational risks, from future pandemics to population change to climate impacts. That vision adds a new, critical component to how enterprises should think about data-driven digital transformation, focusing not just on risk mitigation and continuity planning but digital resilience: the ability to maintain or proactively shift operations in the face of unexpected and often tumultuous change.

Context

We have covered the charter of TCS's DS&S group and its digital platform capabilities elsewhere. The TCS Connected Intelligence Platform (CIP) helps enterprises deliver connected customer experience products, and powers its two other portfolio product lines, TCS Customer Intelligence & Insights (CI&I) and TCS Intelligent Urban Exchange (IUX).

CI&I provides data-driven advanced analytics to understand and anticipate customer behaviors, preferences and goals in real time with prebuilt use cases for financial services, retail, communications and other industries. And the group's IUX product portfolio supports smart city, and now workplace resilience, use cases.

For smart city deployments, TCS has packaged and delivered – mostly via small commercial and proof-of-concept pilots thus far – a range of use cases, including adaptive streetlights, water management, intelligent transportation, and city command and control centers. Some examples include an intelligent transportation implementation with the city of Belfort, France; a linked water and lighting event management system with a city in Southeast Asia; and a connected streetlight proof-of-concept deployment with a partner in North America.

Post-pandemic, TCS DS&S will continue to hunt for smart city deals. The group says its City Command Center offering has been in demand for heavily data-focused projects such as city-wide citizen data networks, and the sharing of public health data between governments and private care providers, which have emerged as heavy smart city RFP fodder in recent months.

TCS's IUX City Command Center, a module in the overall IUX offering, helps city managers gain insight from large amounts of data across different city and public/private silos, connecting the dots and enabling city managers to see the big picture. This is essential in times of crisis, to help predict and quickly adjust to market disruption, and support citizen and employee safety and enterprise resilience.

Indeed, it helps close what has emerged starkly as gap in smart city visions – connecting insights across siloed urban domains with data to make better decisions – a need that extends beyond times of crisis. IUX for Workplace Resilience incorporates that vision, and provides cross-domain capabilities specific to employee and facility/campus safety, regulatory compliance and operational resilience.

Workplace resilience

The group believes its immediate opportunity is in helping companies leverage the same platform, analytics capability and connected sensors and devices to create smart buildings, office spaces and campuses that are more prepared to cope with the new realities of the COVID-19 and post-pandemic workplace. With cities' current budget constraints and longer buying and approval cycles, the widened focus to include enterprises provides greater opportunities for TCS.

Those workplaces can take multiple forms, but TCS sees a few standing out: corporate 'white collar' office environments; call and support centers; manufacturing or warehouse facilities; travel and hospitality locations, such as restaurants, hotels and resorts; and education, in particular, university or campus environments.

As in smart cities, TCS says its IUX for Workplace Resilience has the data ingestion, management and analytics capabilities to build any return-to-work application needed. At the same time, TCS has prepackaged several use cases that can be deployed alone or in combination. These encompass employee safety, including remote working, social distancing and contact tracing; regulatory compliance, including protective gear management and quarantine control; operational resilience, enabling companies to assess and manage operational and supply chain risk; and customer experience/digital channel adoption, to help enterprises evolve from in-person to more virtual engagements.

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The focus, as the moniker ‘workplace resilience’ implies, is less on simply opening and closing offices, and more about managing risk at the employee, building/department and enterprise level. For individuals, that includes creating a ‘risk profile’ for every employee based on personal factors such as age, gender, commute patterns and comorbidity risks, along with macro patterns such as local infection trends and public health data. Individual data can then be rolled up across units or locations, and used to create safe operating zones and as proof of regulatory/health rule compliance.

Data can be analyzed in real time, and pushed out to execute a variety of actions, from launching contact tracing to temporarily closing down an assembly line or support center. A variety of IoT-based sensors, from location trackers to thermal/video cameras, collect environmental and worker data, with privacy safeguards in place according to local requirements.

As critical as post-COVID-19 return to work is for enterprises, TCS believes – and sees customers embracing – the idea that risk-based corporate resilience is a concept that must extend beyond the current pandemic, and take into account a much more fine-grained take on business continuity planning than simply closing an office or ensuring corporate data is backed up. Whether it be the next health scare or longer-term impacts like climate change, TCS DS&S is encouraging clients to leverage its platform and applications as a part of enterprise-wide risk mitigation and response processes that must sit at the center of every enterprise’s digital transformation.

IUX platform demo

TCS DS&S executives have demonstrated their IUX for Workplace Resilience platform and use cases for 451 Research. The focus of the data analytics platform and supporting applications is to help corporations set and monitor their risk tolerance levels. To that end, the platform provides a dashboard for real-time views of at-risk employee levels, low-code tools like sliders and form-based templates, and visual cues like maps and red-yellow-green color-coded risk profiles to allow non-technical managers to execute against rapidly changing realities – such as opening or closing offices or manufacturing lines, lowering worker density or closing offices altogether, and diverting critical work processes to offices and regions that can best handle them.

The initial focus is on assessing enterprise-wide risk; the ultimate goal is to link that assessment to support more proactive business continuity planning, TCS executives said. The offering uses a mix of statistical modeling and simulation techniques for risk scoring and prediction, as well as artificial intelligence/machine learning to better understand work environments, employing AI models to assess congregation points and social distancing via video camera feeds, or create time and space clusters to more intelligently track and contact trace infections.

Competition

Applications that center on IoT and smart spaces and return to work have, unsurprisingly, become a major focus for IT vendors. We recently covered a similar data analytics-focused platform play spanning cities and workplaces from NTT Data, as well as announcements from IBM leveraging its enterprise applications and Watson AI platform to target a range of new workplace needs.

Other vendors from Salesforce to Siemens to Hewlett Packard Enterprise have launched return-to-work offerings, and the category is a major target of consultancies and IT services firms like Accenture, EY or Deloitte.

SWOT Analysis

STRENGTHS

The scale and size of Tata from a software development and IoT services point of view cannot be underestimated. And the firm's own massive return-to-work efforts offer strong validation and proofs of concept.

WEAKNESSES

DS&S is a strategic growth software group sitting under the TCS umbrella. Seems like everyone – from software vendors to systems integrators – has a platform-enabled IoT services offering these days, making it harder than ever to stand out from the crowd. DS&S's focus on prebuilt use cases with embedded AI/ML for IoT-linked services can help it differentiate in this crowded market.

OPPORTUNITIES

Given its pivot into workplace resilience, the prospects are nearly endless, and the timing critical. Finding opportunities may be less of a challenge than picking the right ones, and avoiding customization creep and proof-of-concept project stall outs.

THREATS

There's no end of competitors targeting the same opportunity. TCS DS&S must be careful not to be too much TCS (consulting and services work) and not enough DS&S (platform-based, pre-built software products delivered at scale).