4 WAYS IN WHICH DIGITAL TRANSFORMATION AND IOT IS CHANGING THE AVIATION INDUSTRY

TAKING A GLOBAL DIMENSION TO DIGITAL BUSINESS TRANSFORMATION AND EXPANSION

JAN 2019
Today’s landscape demands that businesses embrace a strategic approach to Digital Transformation. Thankfully, technological developments are helping businesses to identify and adopt to transformation seamlessly. For evidence of one of these developments, we can look to the recent rise in interest around machine-to-machine communications and the Internet of Things.

In the aviation sector, there is a clear trend towards service automation, the leveraging of mobility services, Internet of Things, and Big Data. The result? Process management and Cloud based applications are revolutionising the aviation management sector, from supply chain management right through to customer experience.

In this eBook we highlight 4 key themes associated with digital transformation, enabled by the Internet of Things (IoT):

1. Sustainable cross-border business growth, regardless of geo-political boundaries
2. Realising gains in productivity and enhanced business efficiency
3. Using digital transformation and IoT to enhance customer and partner engagement
4. Methods for minimising exposure to business risk

DIGITAL TRANSFORMATION HAS BECOME A TOP PRIORITY FOR ORGANISATIONS WORLDWIDE:
BORDERLESS GROWTH

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To achieve successful digital transformation while growing your business globally, you’ll require a strategy to identify and implement best-in-class global infrastructure and information tools. Only by combining business strategy with the right infrastructure can your organisation successfully expand into new markets and geographies. Innovation arrives at the interstices of new technology, competitive new services, and future-facing business models designed to generate incremental revenue.

Global expansion principally means scaling the connectivity services that your business needs for its domestic activities. Maintaining business critical factors - e.g. consistent aircraft tracking, maintenance information, aircrew allocation, and ground crew efficiency management - as your business expands internationally might mean having to negotiate with hundreds of mobile network providers to provide mobile access for your IoT services in each country. This is a prohibitively complicated task, and one better managed through contracting with a single provider. A provider who can negotiate all the access agreements whilst also providing end-to-end mobile and Cloud connectivity and data management services.

The global mobility challenge for aviation services - How to deal with multiple mobile network operators and interfaces, while maintaining service continuity:
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PRODUCTIVITY & EFFICIENCY

CONTINUOUS COLLABORATION, UBIQUITOUS DATA ACCESS

Boosting productivity - realising the efficiencies unlocked by digital transformation - means that organisations need to pave the way for seamless multi-platform collaboration. That collaboration means empowering employees, partners, and customers alike with ubiquitous access to data and applications.

Aviation businesses can incur huge costs due to time delays or unplanned maintenance. It is estimated that 2 hours of unplanned aircraft maintenance on the tarmac can cost anything up to $150k (USD). The associated delay can have a dramatic impact on margins as well as customer satisfaction. Understandably, aviation companies are actively exploring a more pro-active approach, using technology to help manage predictive maintenance and avoid breakdowns and technical delays. Increasingly, airlines need to incorporate effective mobile connectivity capabilities across their global fleet and supply chain.

A connected transport eco-system needs a more automation-intensive environment, leveraging Mobile connectivity, IoT, and Big Data:
CUSTOMER EXPERIENCE & ENGAGEMENT

PROVIDING AN OMNI-CHANNEL CUSTOMER EXPERIENCE

It’s perhaps thought that providing customers with a seamless experience is only the preserve of companies that deal directly with end consumers. This should not be the case, as all partners in the supply chain - whether business-to-business (B2B) or business-to-consumer (B2C) - should reasonably expect an omni-channel customer experience. For example: a baggage handling team at a busy airport should be enabled to access information about missing luggage in real time. Such an approach ensures transparency in the delivery chain as well as enhancing customer engagement, awareness and loyalty.

When considering the benefits of an integrated supply chain, it is prudent to ask the following questions:

- Will my new approach provide a consistent experience across different channels and platforms?
- Does my approach factor in the need for a connected communication system, thereby obviating existing information silos?
- Is the solution scalable, and responsive to fluctuations in demand?
- How do I show value on my increased infrastructure investment?
- Does the approach account for potential security vulnerabilities?

Let’s consider these points now...
MINIMISING BUSINESS RISK

TRUSTWORTHY SECURITY, UNIVERSAL RELIABILITY

Managing business risk means that your organisation must not only secure its data and applications against external threats, but also ensure service continuity and near-zero business disruption in the event of a security breach.

While the adoption of new technology necessarily carries risk, this should be balanced against the jeopardy inherent in failing to respond to digital transformation - and so being left behind.

With regards to IoT device and Cloud connectivity, requirements range from the need to access IoT data over a secure private network, through to ensuring the effective online control of both assets and policies in near real-time.

The availability of robust security services to protect your business from a range of cyber threats can ensure that you are protected, but the added dimension of connectivity carried across a secure mobile connectivity environment provides double protection for your data.

Taking a holistic approach to protecting your data and applications:
MONITOR AIRCRAFT HEALTH MID-AIR
TATA COMMUNICATIONS MOVE – IOT CONNECT

CUSTOMISED AIRCRAFT MONITORING SOLUTIONS
Dispatching aircraft on time is hard enough, having technical problems reported after landing makes things even harder. Just imagine how much easier operations would be if your engineering team could detect problems mid-air and have the right people and equipment in place on landing. Tata Communications MOVE connected aircraft solution provides the connectivity to make this happen. Through our global mobile network partnerships we can provide a single contract to keep your fleet connected 24x7, around the globe.

BUSINESS BENEFITS OF CONNECTED AIRCRAFT MANAGEMENT
• Cut Fuel Costs - monitor fuel burn rates mid-air and alert pilots to take corrective action in real time.
• Pro-active Maintenance - keep your aircraft in the air longer by viewing aircraft alarm states, tank levels, and catering stocks as they change.
• Real-time Tracking - monitor delays on route, redeploy crews and resources to keep on schedule.
• Replenish Fast Moving Stock - maximise duty free and catering sales by ensuring the most popular items are always on-board.
• Better Customer Satisfaction - aircraft punctuality is a key metric for customer happiness and brand preference.

Aircraft turnaround time is critical on short haul routes, getting back in the air quickly can save airlines millions every year.

Key features
• Global coverage, using 600+ partner networks
• Cost effective for shorthaul and long haul airlines
• Quick set-up and provisioning
• Single contract for international fleets based across multiple countries
• Independent solution design, customised to your requirements
GLOBAL IOT CONNECTIVITY

Global Mobile Connectivity - as well as access to applications in the Cloud and platform management.

Technology and network agnostic - connect via different network providers and technologies including GSM, Wi-Fi, LoRa and NB-IoT.

Go global or stay local - deploy services globally or in a single country

Online management portal - offering control of all the connected devices in your aircraft via ordering, lifecycle management, diagnostics and usage dashboards.

Integration of connections made via another provider - a one of a kind feature that is easy to facilitate.

IOT DEVICE MANAGEMENT

Seamless on-boarding and auto-discovery - builds your IoT service in minutes. Save on remote checks and reduce costs with online control via the management portal.

Easy data storage and deletion - via fully configurable dashboard widgets across any grouping of your devices and/or assets.
FOCUS FOR SUCCESS IN AVIATION MANAGEMENT DIGITAL TRANSFORMATION AND GLOBAL IOT

We’ve now seen how successful and sustainable cross-border business growth requires access to a global network infrastructure with global connectivity options. This is a significant challenge, and one which requires a single partner to provide access to global mobile network access and connectivity agreements. Connectivity alone is of little value without a full platform management approach - an approach which includes SIM provisioning, APIs, device management, security, Cloud access, and data analytics.

Deploying IoT as part of a global digital transformation initiative can help your business realise significant gains in terms of productivity, enhanced business efficiency, and overall industry competitiveness. Configured in conjunction with IoT, a consolidated approach to digital transformation can enhance both your partners’ and customers’ experience of your business. Enhancing the customer experience also contributes towards broader goals associated with overall business efficiency and reputation.

While increasing reliance on digital processes inevitably exposes your business to risk, the greater risk is not engaging with digital transformation.

We hope this eBook has been useful for you. If you would like to learn more about Tata Communications range of mobile connectivity services, including: Tata Communications MOVE - IoT Connect, mobile customer engagement, cloud access and security services please contact us.

For more information, visit us at www.tatacommunications.com

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Tata Communications' depth and breadth of reach in emerging markets includes leadership in Indian enterprise data services and leadership in global international voice.

Tata Communications Limited is listed on the Bombay Stock Exchange and the National Stock Exchange of India.

About Tata Communications

Tata Communications global network includes one of the most advanced and largest submarine cable networks and a Tier-1 IP network, as well as nearly 1.5 million square feet of data centre and collocation space worldwide.