



Let's Solve

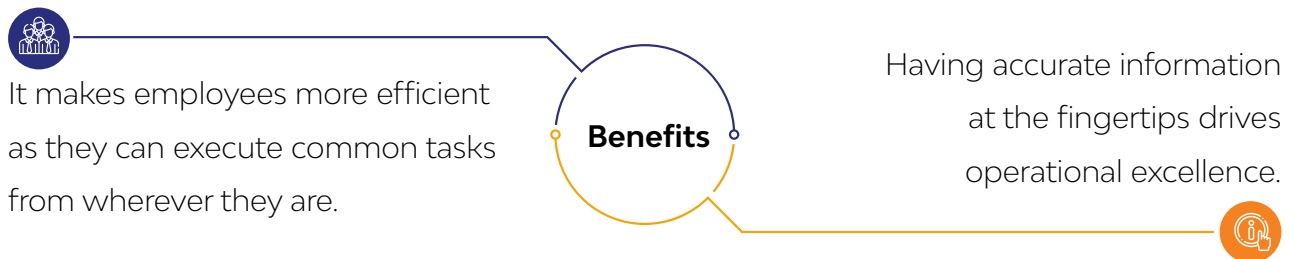


Point of view

Enterprise Mobility for **Digital Transformation**

Digital transformation is the process of adopting digital technologies to empower people and processes for delivering value to both employees and customers. Enterprise mobility paves the way for digital transformation by creating the right connection between people and technology. Mobile offers the presentation layer to the organization's digital infrastructure. Earlier, employees working on the shop floor/plant would need to run to the back office to gather actionable data. With the advent of mobile devices, all the actionable data is now available at their fingertips. Numerous transactions and tasks are executed and captured daily on mobile devices today, generating ample operational data which can be leveraged to provide meaningful insights.

Mobility Solutions offer two major benefits:



To consider enterprise mobility, we need to thoroughly study and understand overall business operations. For instance, if we can map the entire production line of a manufacturing industry, we will have up-to-date metrics that analytics tools can process. With enough data collected from the process, we can understand how machines are performing, plan preventive maintenance, and understand what assets are close to failure. While knowledge of possible machine breakdown is valuable, this data still needs to be taken to someone in the plant for timely action. So, understanding business operations is the key to knowing how and where mobile can be leveraged.

Once the business process is analyzed, we need to look at three areas:



Mobile application approach

The key step in the enterprise mobility journey is to study the entire business process and identify what needs to be mobilized. A mobile app would add more value to a field operator who collects data from equipment within a plant than to a control room operator who largely operates from a single location.

Once we finalize the process to be mobilized, organizations need to decide whether to pursue a vended solution or develop an application in-house. A vended solution may satisfy 60% to 70% of the requirements with quick time-to-market whereas an in-house solution may satisfy most of the requirements with a longer time-to-market. Organizations must assess all the tradeoffs and pick a solution that best suits their needs.

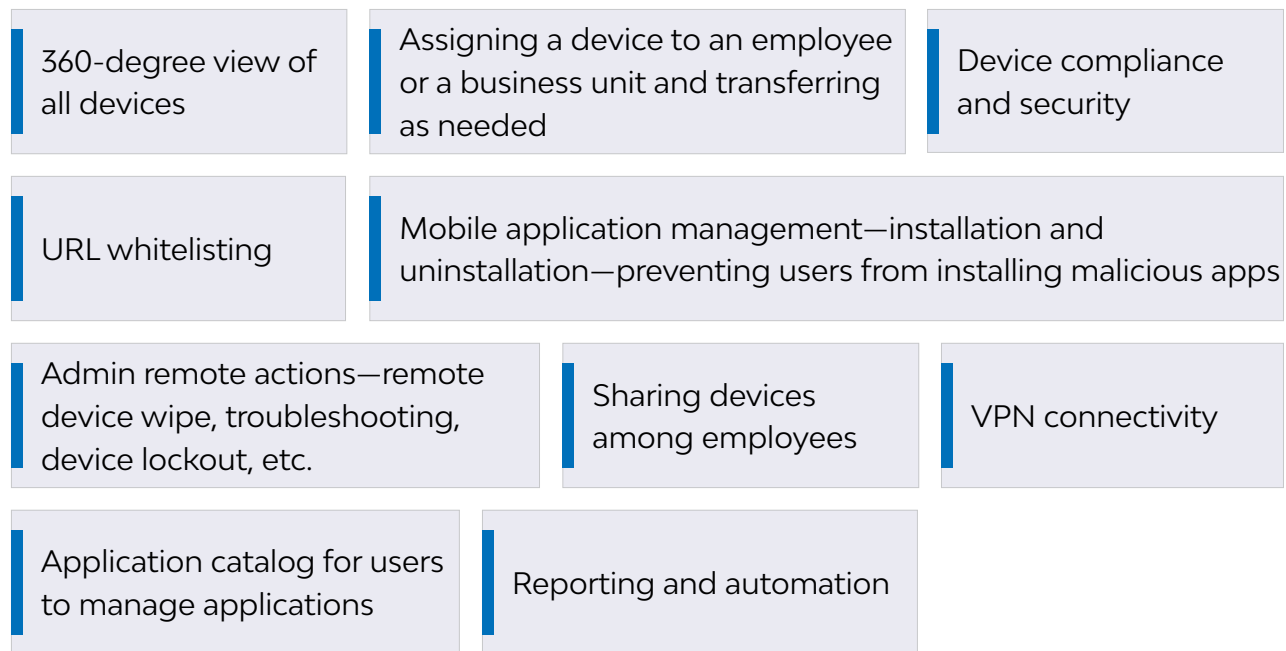
Mobile app infrastructure is the next fundamental step in the digital transformation journey. If the organization decides to go with a vended solution, vendors may or may not provide their own infrastructure for application data and the organization will need to provide the infrastructure. Mobility architecture can range from simple to complex. For example, a mobile app that collects safety observation data can write to a single database with an API or a complex scenario of an e-commerce organization that deals with products, customers, orders, promotions, invoices, payments, etc. The data for each function can be served through independent microservices that can auto-scale by demand. Engaging a solution architect would be ideal for this step as they can assess various scenarios and plan the infrastructure.

Security is another important aspect that goes hand in hand with the infrastructure and should be considered right at the start of the mobility journey. Unlike workstations, mobile devices can be carried to various places inside and outside the organization. This puts mobile applications at greater risk than applications accessed through workstations inside the organization. Some of the recommended security measures that an organization can consider include, but are not limited to, encrypting network traffic with https, proper user authentication and authorization, no clear text passwords in the presentation code, encrypting passwords or other sensitive information in case of caching, proper file/ attachments handling, purging cached critical attachments when not needed, and idle timeout after 10 or 20 minutes of inactivity.

Mobile device and application management

Most organizations purchase mobile devices in bulk for business use. As the number of mobile apps grows, the number of devices grow exponentially underlining the need for mobile device and app management.

Mobile device management enables organizations for the following:



The mobile device management solution works better if the organization provides devices to employees. Employees are increasingly willing to use personal devices for work due to the monitored and restrictive nature of corporate devices. Those using personal devices will be reluctant to allow the IT department to remote wipe their devices, blacklist certain apps, or use other MDM capabilities.

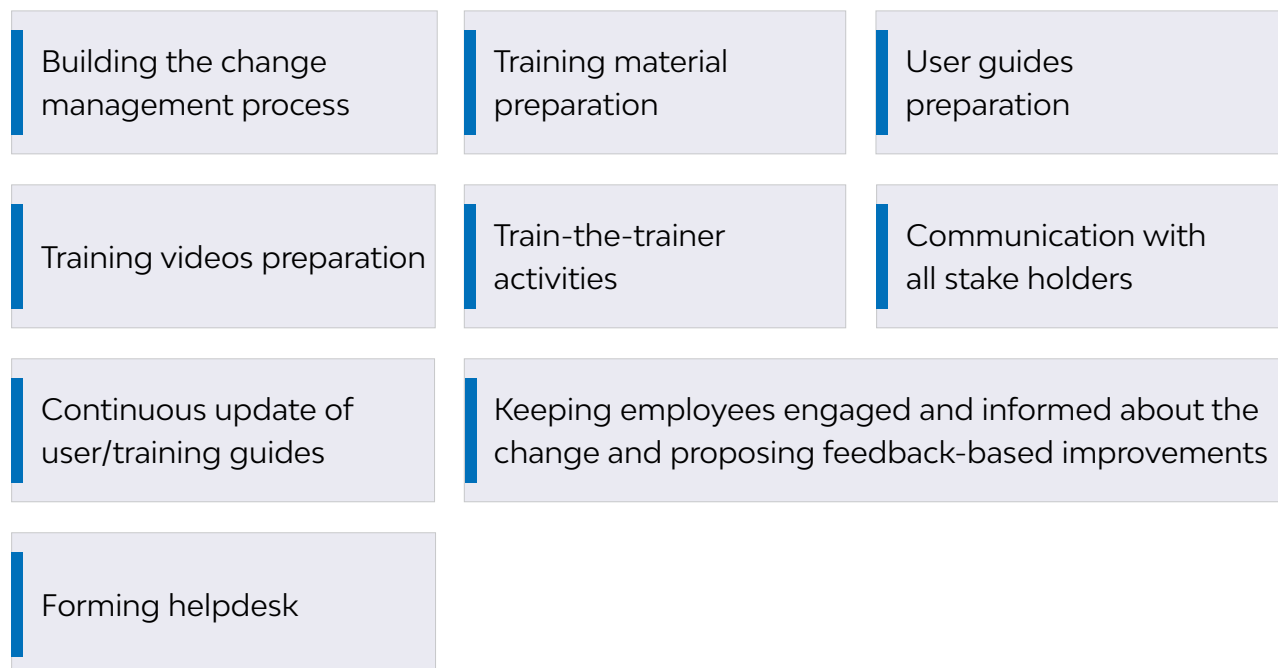
As the workforce gets more tech-savvy, it gets difficult to block employees from using personal devices for work, putting organizations at risk. Here is where mobile application management comes into play.

Mobile application management (MAM) allows administrators to enforce policy on specific apps that access corporate data leaving personal apps and data untouched. With MAM, an administrator can remote wipe specific apps and not the whole device. It also enables separation of business apps and data from personal data on a device.

The combination of mobile application management and mobile device management (MDM) is sometimes called Enterprise Mobility Management (EMM). If desktop and laptop management is combined along with mobile device and application management, it is called as Unified Endpoint Management (UEM).

Change management and governance

Digital transformation changes the way employees work. Many employees may not be willing to change or leave their comfort zone. Hence an Operational Change Management (OCM) team needs to be in place at the start of the digital transformation to facilitate change. The OCM team should be involved in:



A governance team should be formed to negotiate with the business for key requirements to build a minimum viable product (MVP), manage costs, and be a bridge between business, OCM, and service delivery teams. The MVP can initially be piloted, and subsequent iterations can be planned based on MVP feedback and priorities.

Emerging technologies for productivity enhancement

Advances in sensors and AI/ML technologies hold enormous potential for improvement in employee productivity. We are seeing this already in manufacturing industries where shop floor personnel working on equipment can connect the smartphone to a sensor connected to a remote machine and gather required data. The immediate availability of data enables shop floor personnel to act promptly, significantly reducing breakdown costs.

Beacons are another powerful wireless device used for alerting employees. When someone enters the beacon range, a notification message is prompted instantly on the mobile device and can be customized as needed. Retail outlets use beacons to alert customers with promotions and discounts when they are close to the store. Oil and gas companies use beacons to provide safety alerts. For instance, if someone enters a gas-alert area, the operator can be notified to check if they carry gas masks.

Gas stations have seen major transformations with the deployment of digital and mobile technologies. Earlier, customers paid cash to fill fuel. Credit/debit cards made life cashless. Mobile technologies are now gradually enabling cardless payments. Payments can be made directly from the mobile phone without the need to carry any credit cards. Once the customer enters the gas station, the station is identified through location services. The customer enters the pump number. The pump gets activated. The card tied to the account is charged without the need to swipe or carry credit cards. Some stations are allowing customers to pay wirelessly with near-field communication (NFC).

Wearable technology and augmented reality are gaining traction with companies investing in them in a big way. These technologies can make employees hands-free, making them more productive.

In the picture below, a logistics company employee is using augmented reality glasses to locate the boxes to be picked. As the employee is hands-free, it makes handling boxes easier, boosting productivity.



Pipeline companies are investing in similar technology for pipeline operations. Under the law, digging operations of a depth of more than 12-inches require approval from the utility companies. Utility companies are required to approve the dig after locating and marking their underground pipelines. By being hands-free, operators can locate the pipelines with AR glasses and simultaneously mark the dig, enhancing productivity.

Click [here](#) to know how LTI digitized the digging approval process with an augmented reality solution.

Profitable nexus

Digital transformation cannot be implemented without enterprise mobility in place and hence it will always find a key spot in an organization's digital transformation journey. Mobile will be the presentation layer for digital infrastructure. The rollout of 5G networks has led to the development of a slew of AR/VR- and IOT-based mobile apps. Numerous transactions and daily tasks can be executed on mobiles providing useful data for deep business insights. Mobile technology will redefine the experience of an organization's end users and their customers, adding value to the brand and boosting customer satisfaction.

About the Author



Manigandan Ramaratnam

Senior Specialist - Package Implementation, LTI

Manigandan has more than 14 years of IT delivery and consulting experience in Oil & Gas and Manufacturing sectors. He is a certified AWS and Azure developer and has helped customers digitize business processes by architecting and developing mobility solutions. He has delivered global programs spread across technology landscapes, and his solutions have helped customers boost employee productivity and reduce maintenance costs.

LTI (NSE: LTI) is a global technology consulting and digital solutions Company helping more than 460 clients succeed in a converging world. With operations in 33 countries, we go the extra mile for our clients and accelerate their digital transformation with LTI's Mosaic platform enabling their mobile, social, analytics, IoT and cloud journeys. Founded in 1997 as a subsidiary of Larsen & Toubro Limited, our unique heritage gives us unrivalled real-world expertise to solve the most complex challenges of enterprises across all industries. Each day, our team of more than 40,000 LTIites enable our clients to improve the effectiveness of their business and technology operations and deliver value to their customers, employees and shareholders. Find more at <http://www.Ltinfotech.com> or follow us at @LTI_Global.

Info@Ltinfotech.com



**A Larsen & Toubro
Group Company**