



## Digital Field Services Improves Performance & Up-Time

The sensor for a fuel pump in a commercial airliner flashes a warning. The fault could cause failure, but the airline is forewarned and switches passengers to a different aircraft.

Bearings in wind-farm turbines automatically monitor variances in wind load, vane velocity, tolerances, and lubrication – and a digital scheduler accelerates servicing to maintain up-time.

Hydraulic lines on a heavy-load crane advise operators when service is needed. Managers can anticipate needed adjustments, and reassign resources when servicing is necessary.

In all these instances, a combination of passive and active sensors, cloud-based communications, custom algorithms, and augmented reality for training and service operations help assure seamless operations and improved performance.

### LEADING THE FIELD: IN DIGITAL SERVICING

When complex commercial machines or industrial equipment go out of service, down-time seriously affects not only profitability but also safety and customer satisfaction. But predicting equipment failures, scheduling service, and making repairs in the field is time-consuming and costly.

### SOLUTIONS FOR ENERGY, PACKAGING, AND MEDICAL DEVICES

Cognizant has developed digital field services solutions for clients in a range of industries:

- For a leading regional energy utility, we designed and implemented an AR-based field-service application for technicians, using geo-coordinates of substations and image recognition to identify transformers and overlay critical data.
- For one of the largest packaging provider in the U.S. we leveraged our Asset Performance Excellence (APEX) platform to optimize processes based on asset conditions and proactively identify and prevent service bottlenecks.
- For a medical device equipment manufacturer, the team implemented ServiceMax to drive higher productivity levels from Call Center to Field Service. The overall results will increase \$10 million in service revenue over 3 years.

Cognizant’s next-generation, digital field services solution, powered by ServiceMax from GE Digital, is a simpler and faster way to service complex systems and equipment in the field. Our solution enables customers to:

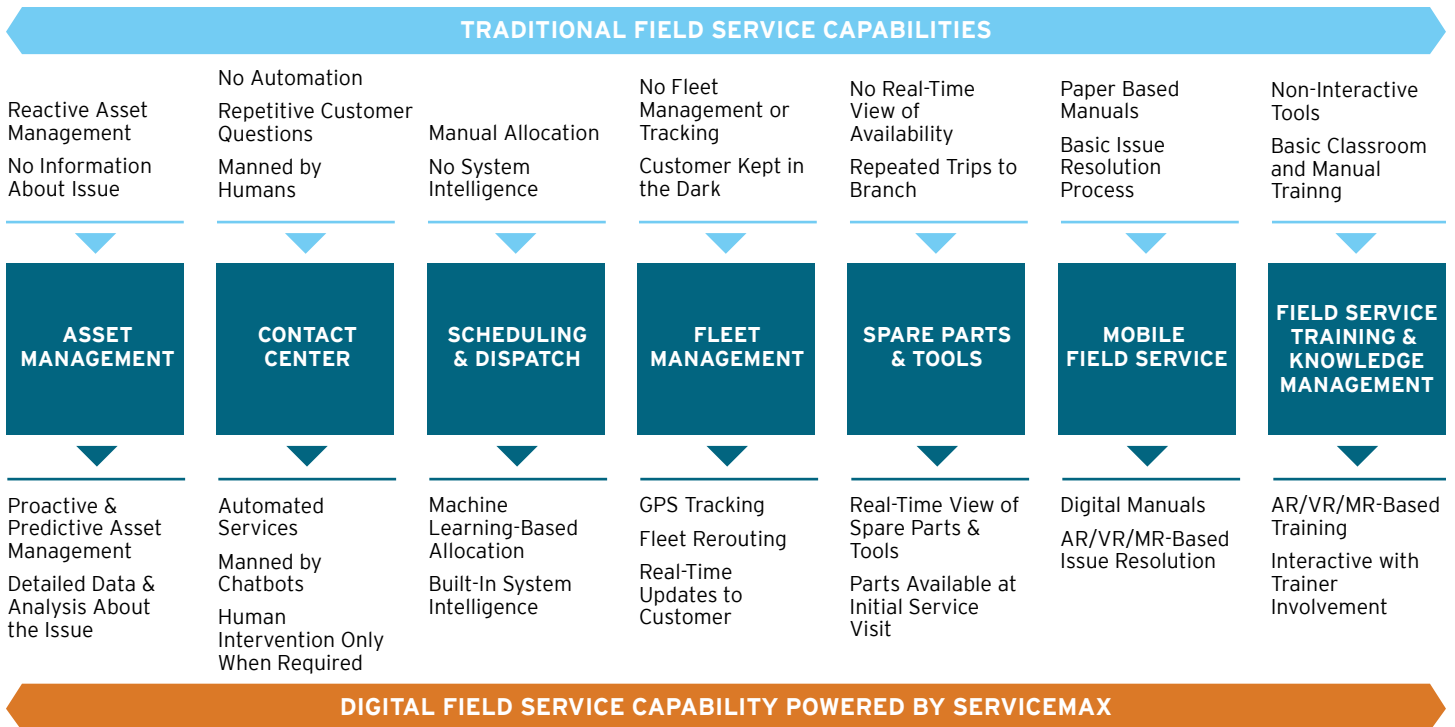
- De-couple field service and expertise.
- Automate service workflow through integrating edge data with enterprise systems.
- First-time right service through remote troubleshooting even before the field visit.
- Provide effective training for customers and their field service workforce.
- Improve collaboration and effectively use subject matter experts.

Forward-thinking equipment manufacturers are increasingly adopting digital field services, to optimize efficiency, enrich training for aging workforce, lower operational costs and deliver better customer experience for maintenance, repair, and operations (MRO).

### BUILDING SERVICE INTO DESIGN

Cognizant’s digital field services solution helps leading companies leverage the Internet of Things (IoT) and effect digital transformation at pain points across the spectrum.

## Next-Generation Technologies that Transform Traditional Field Services



Our digital field services solution incorporates asset management, contact center, scheduling and dispatch, fleet management, spare parts and tools, mobile field service, training and knowledge management, and warranty management. It builds service into equipment design, to anticipate component service needs, schedule maintenance, and install upgrades automatically.

Digital field services creates value in three key areas: operational effectiveness, customer satisfaction, and service monetization. It improves adherence to servicing schedules and increases first-time fix rates. Field engineers become more productive, leading to higher customer satisfaction and increased competitive differentiation. This paves the way to improving products; providing services based on predictive asset management; and new pricing models, including subscription-based plans.

## BEYOND MRO: CHANGING THE GAME

Cognizant's service-centric model for digital field services offers game-changing advantages over conventional field service management:

- **Digitally-enabled logistics:** Operators and management can track technicians and equipment using GPS technology and can automatically allocate service personnel and route work orders based on priority, real-time worker availability, and the skills needed.
- **Dynamic scheduling:** Organizations can implement automated, real-time scheduling to boost productivity and reduce customer wait-times while reducing the total cost of service.
- **Mixed Reality Powered Training and Maintenance:** With augmented reality (AR) and virtual reality (VR) applications on mobile devices and wearables, service personnel can access detailed visual instruction manuals, guides, and training modules that to improve productivity, performance, even

## Global Airline Gets a Timely Assist

For an airline, ensuring that equipment is reliable isn't only a business challenge; it's elemental to safe operations. That's why the CIO of one global carrier tasked Cognizant with exploiting disruptive technologies to fast-track and improve the productivity and effectiveness of the field-service technicians who maintain its massively complex jets.

Cognizant delivered digital field services solutions for both MRO service and training. Leveraging immersive AR technology on the IoT platform, our service application transforms the capabilities of field personnel. It allows technicians to take pictures of defective parts and upload them to the Cloud, so they can assess problems with remotely located peers who can view the images on an iPad. And our mixed-reality training application works with Microsoft HoloLens to display 3-D images of engines that technicians can rotate and inspect using hand movements.

Cognizant's applications improve training effectiveness, give field personnel contextual access to a central knowledge base, and transform the way they communicate, create, and collaborate. The result? Quicker diagnosis and resolution of issues so passengers arrive safely and on time.

safety. Such technologies give technicians immersive training on specific equipment and plan for solutions to problems before facing them in the field. This helps companies to fully leverage investments in new product development.

- **Remote assistance:** AR-enabled collaboration allows less experienced on-site technicians and off-site experts to use applications on smart devices and “you-see-what-I-see” tools. Digital service manuals allow field engineers to not only gather information and diagnose issues, but to repair and service machines more efficiently and accurately.
- **Dynamically updated global best practice library:** Technicians and remote workers can access, search, and utilize a digital library of best practices to drastically minimize trial and error, and prevent potential risks.
- **Customized parts production:** Leveraging instantaneous information on needed parts, organizations can order and have delivered customized, lighter, 3-D printed parts on demand. This can reduce service times from days to hours, while lowering your costs of holding inventory and automating logistics and transportation.
- **Evolve your service model:** By migrating to a digital field services model, organizations can migrate to subscription pricing model, or selling product-as-a-service.
- **Digital Twin:** Using IoT and cloud-based solutions, organizations are able to remotely monitor assets, predict maintenance needs, and update firmware and software over the air (FOTA/SOTA) to minimize or even eliminate unplanned downtime. Using digital representations of specific machines – also known as the digital twins companies can predict failure modes and provide digital solutions.

## OUR SOLUTION ADVANTAGE

COGNIZANT VALUE	THE OPPORTUNITY	SERVICEMAX VALUE
<ul style="list-style-type: none"> <li>• Trusted partner with deep domain expertise to enable business process change.</li> <li>• Extensive IoT experience implementing connected products and processes.</li> <li>• Offer a wide range of business and system integration expertise.</li> <li>• Trained agile teams who have the know-how to implement digital platforms and comply with industry regulations.</li> </ul>	<ul style="list-style-type: none"> <li>• A compliant, connected system of intelligence for field services becomes functional at minimal risk and lead time.</li> <li>• Transform and standardize field service management across the organization.</li> <li>• Modernize field services combining remote asset management capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Industry-leading field service management solution.</li> <li>• Pre-built components for work order management, planning and scheduling, mobile application, parts logistics, warranty and entitlements.</li> <li>• Over 400 customers in 40 countries deployed.</li> <li>• IoT and asset performance management integration capability.</li> </ul>

## FIELDING YOUR INQUIRIES

A digital approach to field services promises tremendous potential for extracting maximum value from asset data. Join Cognizant and ServiceMax experts in a workshop to explore your own readiness, understand your current and potential future states and begin your journey to maximizing service profit for your company and optimize business results.

Want to learn more? Visit [www.cognizant.com/enterprise-iot-solutions](http://www.cognizant.com/enterprise-iot-solutions).

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### ABOUT SERVICEMAX FROM GE DIGITAL

ServiceMax, from GE Digital, leads the global industry of field service management software – an estimated \$25 billion market worldwide. The company creates solutions for the 20 million people globally who install, maintain, and repair machines across dozens of industries as the leading provider of complete end-to-end mobile and cloud-based technology for the sector.



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### ABOUT COGNIZANT

CCognizant (NASDAQ-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 205 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](http://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).



#### World Headquarters

500 Frank W. Burr Blvd.  
Teaneck, NJ 07666 USA  
Phone: +1 201 801 0233  
Fax: +1 201 801 0243  
Toll Free: +1 888 937 3277

#### European Headquarters

1 Kingdom Street  
Paddington Central  
London W2 6BD England  
Phone: +44 (0) 20 7297 7600  
Fax: +44 (0) 20 7121 0102

#### India Operations Headquarters

#5/535 Old Mahabalipuram Road  
Okkiyam Pettai, Thoraipakkam  
Chennai, 600 096 India  
Phone: +91 (0) 44 4209 6000  
Fax: +91 (0) 44 4209 6060