



Automating workflows to increase business agility and reap the benefits of digital transformation

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Workflow automation: A business imperative

Today, almost every organisation has some form of digital transformation initiative underway. They're adopting Internet of Things (IoT), cloud and other digital technologies to work more productively, meet new demands and simplify operations. While these initiatives are a significant step forward, they're just the first step towards true business agility.

To maximise the benefits of digital transformation, organisations must connect people and objects to automate workflows and business processes. The hardware, software and integration technologies needed to make these connections are available. And they're being widely adopted by organisations looking to further increase operational efficiency.

Accelerate automation initiatives

In 2020, the World Economic Forum Future of Jobs Report noted that more than 80 percent of the business leaders surveyed were accelerating the automation of work processes and expanding the use of remote work.¹

Industry research and consulting firms also noted and commented on this trend.

In 2021, Gartner issued a press release where Fabrizio Biscotti, Research Vice President at Gartner, said “Hyperautomation has shifted from an option, to a condition of survival. Organisations will require more IT and business process automation as they are forced to accelerate digital transformation plans in a post-COVID-19, digital-first world.”² And in its report, Future of Work Trends: Work is Distributed, Gartner advises organisations to “make workforce digital dexterity a top priority and pivot to human-centric digital enablement.”³

Increase digital dexterity

Organisations that automate workflows and business processes to work faster, smarter and in more informed ways, gain the digital dexterity needed to increase business agility and succeed in a modern world. They have new opportunities to:

- Accelerate task completion and response times
- Reduce operational costs
- Reduce management oversight requirements and the potential for human error
- Gain increased visibility into new business opportunities
- Enhance the customer experience
- Proactively detect and address issues before they cause problems
- Improve quality management and regulatory compliance
- Simplify and accelerate approval processes
- Increase planning accuracy

¹ [The Future of Jobs Report 2020](#), World Economic Forum, October 2020.

² [Gartner Forecasts Worldwide Hyperautomation-Enabling Software Market to Reach Nearly \\$600 Billion by 2022](#), April 2021.

³ Future of Work Trends: Work Is Distributed, Helen Poitevin, Gartner, October 15, 2021.

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New levels of business agility

There are almost unlimited ways to automate workflows and business processes. The opportunities vary by industry, organisational requirements, goals and digital transformation strategies. The examples below expand on the potential, but are not intended to serve as prescriptive approaches. A partner who is an expert in workflow and business process automation can help to identify the best use cases and opportunities in individual organisations.

Efficient airports

With the high volumes of traffic moving through airports, the ability to identify where and when congestion occurs is crucial to increasing operational efficiency and profitability. With automated workflows, planes can be diverted to a less congested terminal. And baggage handling teams can be immediately informed when an aircraft has arrived at the gate so they are ready to unload bags with no delays. In areas where people congregate, food, beverage and retail outlets can be added to increase commerce.

Asset tracking applications and automated alerts can also be used to increase efficiency at airports. With these automated solutions, airline staff can quickly pinpoint the location of wheelchairs, electric carts and other equipment.

Safety processes can also be automated. An IoT device that detects smoke or heat can automatically send the location of the problem and a photo of the current situation, and trigger the fire alarm. Staff who receive the notification can immediately tap into the real-time closed-circuit TV (CCTV) feed to assess the situation in more detail.

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Connected hospitals

In hospitals, proactive insight into the state of medical devices can improve care delivery and prevent valuable equipment from breaking down. For example, care staff can be automatically notified when infusion pumps are running low. And maintenance staff can be automatically alerted when that same infusion pump detects an issue with its operation such as a worn out part that triggers a sensor, or the output doesn't match the configured flow rate.

Automated applications also allow hospitals to monitor the location of medical equipment, staff, and patients. Staff can ask a chatbot where the nearest gurney is and receive a map showing the exact location. Staff can also easily find one another. And they can monitor patient locations to ensure they don't enter restricted areas, venture outdoors, or get lost in a maze of similar-looking hallways.

Data can also be used to increase efficiency at hospitals. For example, an application can correlate data about the number of staff on duty and patient wait times to automatically optimise staffing levels.

Other applications can be used to set up virtual boundaries around “hotspots” in hospitals that need to be monitored and to identify who is, and has been, in the area and for how long. With this visibility, hospitals can automate and accelerate contact tracing to reduce the spread of infectious diseases and quickly identify people who may have been exposed to contagious viruses.

Student-centric schools

At schools, particularly on large campuses, automation can be applied to increase safety with:

- Automated notifications that alert students to major events, such as a fire, flood, or gas leak, an approaching storm, or a threat to human safety
- Emergency call applications and CCTV cameras connected to central security systems that ensure school personnel are immediately aware when students are in trouble
- Automated lighting systems that increase visibility throughout the campus

Automation can also improve learning security. For example, secure, class-specific usernames and passwords, created specifically for the class, can be automatically sent to students just before a class starts to minimise the potential for rogue devices connecting to the wireless network.

In other cases, automation can be used to comply with school board requirements, such as automatically starting up and shutting down equipment at specific times to minimise use and save power.



Smart cities

Workflow and business process automation are key to increasing operational efficiency, citizen engagement, and reducing costs in smart cities.

In the city's network, automated device configuration eliminates the need for manual data entry, reducing the risk of errors and allowing staff to focus on higher value tasks. Automated requests and approvals for city services and permits frees staff from mundane tasks and provides citizens with an efficient and consistent way to access city services.

Outside of core city offices, automation can be used to:

- Optimise traffic signal operations (coordinate police assistance or dispatch for service when traffic lights are not working)
- Turn streetlights on and off (trigger lighting a few meters ahead of cyclists, pedestrians, and/or cars)
- Detect and locate streetlights that need to be replaced
- Track city vehicle locations and monitor fuel usage
- Monitor garbage bins across the city to optimise garbage collection routes (only go to locations that need emptying)
- Align heating, ventilation and air conditioning (HVAC) operations with peak visitor times at libraries and recreational facilities

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Hospitable hotels

In hospitality, automation is key to anticipating guests' wants and needs and making their stay as smooth and enjoyable as possible.

The experience starts with automated, contactless check-in, a feature that has become mandatory since the pandemic started. It continues to the guest room where all room amenities — lights, curtains, TVs, fans, heating and air conditioning, and door locks — can be automated and controlled from a personalised smart app. Once guests are settled, they can use the smart app to make service requests for wake up and do not disturb times, housekeeping, room service, laundry or maintenance.

Hotel management can also use data collected from the app to tailor staffing levels and services to align with guest requirements and deliver that all-important great guest experience.

Secure casinos

Security is high stakes in the casino industry. But so is ensuring visitors have a great experience. With the right approach to workflow and business process automation, casino operators can have the best of both worlds.

Always-on video surveillance provides critical visibility into all activities inside and outside the casino. Security staff have reliable access to high-quality, real-time CCTV footage that helps them protect casino operations and patrons.

With location-based services and data analytics, casino operators can better understand the customer journey and optimise operations accordingly. This could include:

- Moving gaming machines closer to where people congregate after eating or seeing a show
- Automatically sending offers for VIP experiences to top patrons
- Offering incentives to use gaming machines at off-peak times
- Proactively letting patrons know where their favourite games are located
- Customising and personalising communications to increase patron engagement
- Providing security updates to patrons
- Notifying security when patrons enter restricted (geo-fenced) areas

Automated workflows benefit from an autonomous network

For all the examples in the previous section, an autonomous network is desirable. It would be far too difficult and time-consuming to manually configure, monitor, maintain and support all the devices and technologies connected to the network that are required to securely automate workflows and business processes.

An autonomous network can configure, monitor and heal itself. It can also understand what's happening in the network so it can take action based on those activities without human intervention. Triggered actions can include automatic traffic re-routing, alerting security of any possible breaches and alerting operational staff for required intervention, among other things. This built-in intelligence simplifies network operations and relieves a significant operational burden on IT staff.

Simplify network configuration

With an autonomous network, devices, users and applications are autonomously provisioned. When a new device is connected the network automatically detects it, identifies it and configures it based on the profile defined for that device type.

Consider a situation where a CCTV camera is added. The network detects the device and uses its MAC address, its certificate, if present, or takes its fingerprint to determine what type of device it is. It then automatically applies the pre-defined configuration for that device type. In addition to defining port, protocol and other settings for the CCTV camera, the profile determines:

- Who can access the device
- Which part of the network the device can access
- Which security policies should be applied
- How much bandwidth must be reserved for device use

The autonomous network also uses [Shortest Path Bridging \(SPB\)](#) technology to create an end-to-end path from the device to the application it uses. The route is comprised of multiple, active, physical links to enable automatic rerouting if there's an issue in the network.

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Accelerate issue resolution

Autonomous networks are also engineered to detect and resolve issues without manual intervention.

The autonomous network continuously collects information about network activities. If it detects an issue, the network notifies administrators and provides suggestions to help pinpoint the root cause and resolve it. Depending on the way the network is configured, the network administrator may or may not need to approve the suggested resolution. If approval is not required, the network automatically implements the required correction.

For example, if a user is unable to connect to a Wi-Fi access point, the network can determine whether there's a problem with a DHCP server or whether the user simply mistyped the Wi-Fi password. Similarly, if the network detects an area of the Wi-Fi network where coverage is weak, it can suggest relocating a particular access point or changing the channel an access point uses.

Because intelligence is distributed throughout the network, the network can also heal itself. If one Wi-Fi access point has an issue, the other access points automatically increase their signal power to try and cover the affected area. This self-healing mitigates the impact of problems in the network and provides the opportunity to resolve them before they noticeably affect application performance and user experience.

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Autonomous network benefits

The self-configuration, self-monitoring and self-healing capabilities in autonomous networks provide important benefits including:

- Secure device onboarding with segmentation techniques that protect the rest of the network from being compromised
- Zero touch device configuration with pre-defined device profiles
- Unified security policies based on device type and function
- Easy adds, moves and changes because devices are automatically reconfigured
- Optimised application performance due to automated, proactive troubleshooting
- Less down time because the network can automatically compensate for issues
- Lower risk of human errors because manual tasks are significantly reduced
- Increased scalability because intelligence is distributed throughout the network rather than centralised on a single physical appliance

3 Steps to workflow and process automation

Each organisation will have a unique approach to autonomous networks and workflow automation. However, there are three key steps that are common to every organisation.

1. Build an autonomous network foundation

Networks that include LAN and wireless LAN (WLAN) solutions are needed to provide consistent connections and performance that allow devices to switch between wired and wireless environments in a seamless and secure way. And solutions that provide distributed intelligence ensure there's no single point of failure in the network. They also provide a far better ability to scale to support large numbers of devices, such as WLAN access points.

Programmable core network solutions with built-in intelligence are needed to enable automatic connections to each other, LAN and WLAN devices, applications and services. They should comply with the latest security standards and implement best practices in security processes. And they should be able to continuously collect data that can be used for predictive analysis, preventive and predictive maintenance and advanced event correlation.

Finally, it's important to implement a single management system for the entire network. This provides an additional level of integration between wired and wireless networks and simplifies network operations. It also enables network-wide visibility to improve network management efficiency and promote business agility.

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2. Add automation technologies and applications

To add automation, organisations will need:

- A workflow engine that supports advanced automation capabilities and defines automatic actions for specific event triggers. The engine must integrate with business tools, such as those used for operations management and enterprise resource planning.
- Communications and collaboration solutions that get the right information to the right people, systems, devices and applications at the right time
- Technologies that enable a geolocation context with location-based services
- Applications for new capabilities, such as asset tracking and contact tracing

3. Work with an expert partner

A knowledgeable and experienced partner can simplify the move to autonomous networks and help organisations take advantage of automated workflows and business processes. The partner must be able to:

- Offer the complete set of network solutions, technologies and applications needed to fully leverage workflow and business process automation
- Understand the complexity and risks of connecting IoT devices to the network and provide ways to simplify their deployment without compromising security
- Provide guidance and recommendations as automation strategies are developed and implemented
- Incorporate solutions from a variety of vendors to ensure the optimal automation strategy is implemented to support immediate and long-term business needs, budgets and goals



A holistic approach simplifies the journey

Alcatel-Lucent Enterprise provides the solutions, technologies and expertise organisations need to move to autonomous networks and take advantage of workflow and business process automation, in any industry.

We combine secure, autonomous networking solutions with industry-leading communications and collaboration platforms to enable end-to-end automation. We also offer a flexible approach to Network as a Service (NaaS) that helps organisations accelerate their move to an autonomous network in a very cost-effective way. For more insight, read our white paper, Accelerating Digital Transformation With Network as a Service.

Learn more

To learn how Alcatel-Lucent Enterprise can help your organisation securely automate workflows and business processes, [contact us today](#).

Trusted by leading organisations globally

With our unique combination of solutions, expertise and experience, we are trusted by organisations around the world and across industries, to help maximise their digital transformation benefits. For example:

- [UIN Antasari Banjarmasin University](#) in Indonesia turned to us for secure, automated network infrastructure, centralised management and secure communications and collaboration solutions. The network transformation enabled an intelligent campus that meets student and staff demands and provides a more collaborative and personalised learning environment.
- [Metz Eurometropolis](#) in France leveraged our solutions to modernise and transform its network infrastructure with extensive Wi-Fi connectivity and unified management, as well as phone systems and a secure, all-in-one cloud communications and collaboration platform.
- The [Nevada Department of Transportation \(NDOT\)](#) chose our ruggedised network switches and SPB technology to securely support the increasing number of sensors, cameras and other IoT devices along 8,000 kilometres (5,000 miles) of state-maintained roads and highways. The solution lays the foundation for NDOT's next-generation intelligent transportation system.
- [Okada Manila Resort](#) deployed our converged network solution to create a redundant and resilient network that provides reliable connectivity for thousands of devices across gaming, hotel and retail spaces and can easily scale to support future expansion.
- [Inspira Health Network](#) helped increase patient satisfaction and nurses' productivity by enabling staff to access clinical applications from anywhere in the hospital using an ALE W-Fi network with Unified Access and WLAN handsets. This optimised nurse-patient workflow allowing more time to be spent with patients.