



accelerating 5G
densification
projects with
advanced
process
orchestration



As with most large scale infrastructure projects, 5G densification involves millions of assets and hundreds, if not thousands of people across numerous sites. These projects are highly complex and require meticulous project planning and state of the art logistics to stay on-track and in-budget.

Building, densifying and upgrading to a 5G network is no exception and wireless service providers, cable operators and network construction companies all face a similar situation. With the relentless pressure to deliver new wireless broadband services, more innovative ways need to be found to densify and upgrade the RAN faster. With emerging 5G and virtualized networks, service providers need to have the tools, flexibility and agility to take care of these complex projects while handling rapid changes and speeding up cell deployment.

Large scale deployments need accurate information, meticulous planning and very tight process management.

In this brief we examine what it means to apply process automation to project management for 5G build and upgrade projects. How project orchestration can drive project tasks automatically, enabling more efficient information flow across all key stakeholders, systems and processes, resulting in faster, more accurate and cost effective projects.



35%
lower costs



40%
reduction in cycle time



Scale to 1000s
of projects

Project challenges

5G differs from previous generations of mobile networks since it is not defined by any one single technology. Instead, 5G consists of a collection of new technologies, all of which combine to create a much faster, more robust and secure network.

Project complexity starts with upgrading the existing network, a multifaceted hybrid RAN having many different radio access and backhaul technologies all at different stages of evolution involving both physical and virtualized technology. Now enter 5G which will need to be phased-in, adding 5G New Radio, network slicing, improved security, faster throughput, greater capacity and more spectrum re-use. But with 5G comes even more complexity.

Dealing with these huge, highly complex build and upgrade programs requires accurate information, meticulous planning and very tight process management. Complex projects often change mid-flow as more information is gathered during site surveys and installation. Project management needs to remain flexible to deal with unexpected in-flight changes and workarounds. With the sheer volume of projects and the need to do more with fewer resources, it is no longer realistic to manage these programs by taking a manual approach using conventional planning and project management tools.

Project orchestration

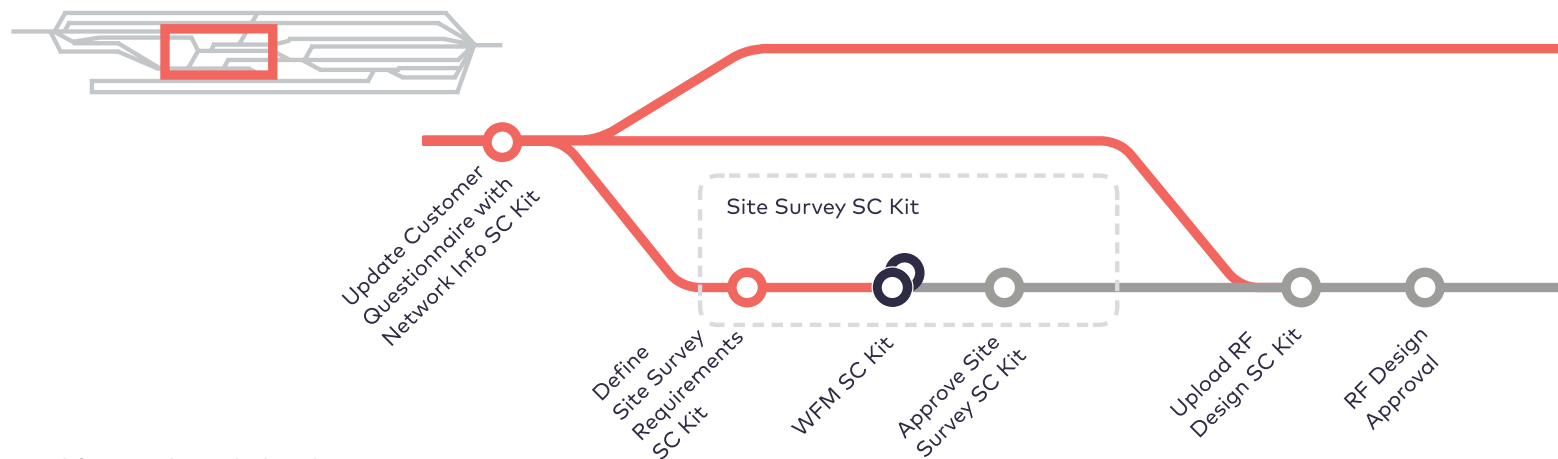
Project orchestration is much more than just project management and applies process automation to RAN build and upgrade projects to improve efficiency and reduce project time and costs. High volume change management processes which span all of the various network inventories, asset management, activation systems, project teams and 3rd parties, requires project orchestration in order to meet stringent commercial objectives. By getting all the systems and teams working closely together and sharing the same common information, the whole process from demand planning to cell commissioning can be accomplished seamlessly end-to-end. Orchestration can reduce human error and project risk while delivering projects faster with fewer resources.



Accelerating operations

There are a number of ways to accelerate operations using process orchestration. Firstly, tasks can be automated where systems are connected to exchange information, such as for example, checking the status of a macro cell via the network inventory. These tasks can be completed with minimum human intervention and are especially useful where they are repetitive or predictable. Bulk equipment configuration and field test procedures would fall into this category.

Secondly, manual task completion can be speeded up using guided tasks to help field engineers and other personnel to carry out specific activities with the minimum of effort and support. By applying predefined templates or "scripted" procedures for field engineers to follow and interact with, each step of the task can be tracked to ensure it is completed correctly on time. Specific instructions, checklists and 'how-to' guides can also be provided for more complex tasks like equipment configuration.



Keeping an eye on project progress

With so much going on across thousands of sub-projects, keeping track of project progress and managing exceptions is essential. Orchestration systems can provide management dashboards and up to the minute status reports to allow project managers to monitor every task, no matter how small, whether it's manual or automatic. Any slips in the project schedule against the plan can be immediately flagged up by the management system, allowing corrective action to be taken before the project runs into trouble. In many cases these actions can be initiated by the system itself without the need for human intervention.

When third-party partners are involved for the supply of materials, sub-contract construction work and onsite installation, different partners may be employed in various regions at different times. It's important that everyone has easy access to the relevant site, network and project information which they need to complete their tasks. Where third-party partner management is employed, it becomes much more effective with guided tasks and process flows, providing clearer communication and operational task management. A centralized data repository holds common project information which gets regularly updated automatically during each task. This data can be shared across many different authorized groups of users, ensuring the same source data is used consistently and remains synchronized across multiple teams.

Summary

5G is set to open up huge opportunities for network operators but a key hurdle to overcome is its increased complexity for RAN upgrade and densification projects. Dealing with these huge, highly complex build and upgrade programs requires accurate information, meticulous planning and very tight process management. Manual processes and traditional project management tools are no longer viable. Process automation and project orchestration are critical for successful 5G project deployments.



about amdocs

Amdocs is a leading software and services provider to communications and media companies of all sizes, accelerating the industry's dynamic and continuous digital transformation. With a rich set of innovative solutions, long-term business relationships with 350 communications and media providers, and technology and distribution ties to 600 content creators, Amdocs delivers business improvements to drive growth.

Amdocs and its 25,000 employees serve customers in over 85 countries. Listed on the NASDAQ Global Select Market, Amdocs had revenue of \$4 billion in fiscal 2018.

For more information, visit Amdocs at www.amdocs.com

