

IFS for Telecommunications – Network Roll-Out (NRO) Solution Value Proposition



Introduction

Whether a CSP, infrastructure provider or equipment manufacturer, telecommunications companies are facing unprecedented change. From new entrants, changing regulations, increasing customer expectations, the drive for sustainability and of course the rapid march toward 5G, telecommunications companies must constantly re-evaluate their business.

As a major provider of technology and operations solutions to the telecommunications sector, IFS is focused on helping our customers embrace this change and leverage next generation capabilities to drive differentiation. Our approach is different from that of many legacy technology providers. Rather than force companies into the traditional software categories of ERP, CRM, EAM, etc. IFS uniquely provides a single platform able to address the complex needs of organizations whose business model revolves around any combination of service, project and asset (SPA). We believe this represents a proposition that is highly relevant in the telecommunications sector.

With IFS, you get a solution that encompasses the complete lifecycle, from dynamic intraday field workforce scheduling and mobile execution, long range maintenance planning and highly complex project-based business with longer-term resourcing and procurement, through to complete asset lifecycle management.

Leveraging a single platform in these multi-time horizon scenarios results in optimum resource utilization, improved asset lifecycle management and a single source of truth. This allows a complete 360 degree view of the process, which ultimately results in a superior customer experience.



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Challenges faced by Telco NRO's

Large scale infrastructure programs

Complex asset design configurations

Access to data for action and decision making

Managing project resources and costs

Reporting progress to customers

Ambitious growth plans require agility and control

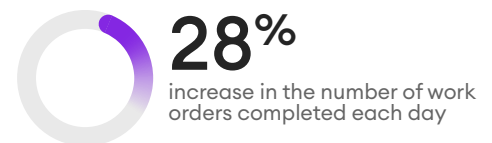
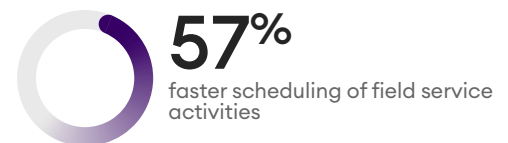
Network Roll-Out – key drivers

Of course, Network Roll-Out (NRO) services and automation are crucial to the evolution of 5G, IoT and industrial digitalization. As 5G-enabled technologies develop, communications service providers will need to increase their network capacity. But with additional capacity comes additional complexity. This includes the need to encompass project management, engineering, civil works, installation, product configuration and integration. This is where IFS excels:

- **Achieve Industry best practice by replacing disparate software systems**
IFS Asset Management, Project and Service capabilities are all part of a single platform supporting the entire lifecycle. This means we can support the capital investment in the construction and build-out of networks and equipment as well as the management of complex assets and long-distance linear assets along with the intraday servicing needs resulting from break/fix callouts. It is all leveraged from a single blended resource optimization engine, supporting a true mixed-mode enterprise.
- **The need to decrease asset uptime and outages**
Significant investment in a fleet of assets means they require continual management to ensure optimum maintenance and performance. Often, operating 24/7 365 days per year, the need for assets to perform reliably and safely is mission critical. Having a proper maintenance strategy in-place with supporting systems can protect against unplanned outages that create major problems for asset owners and operators and can lead to regulatory intervention, penalties and fines.
- **The need to manage maintenance budgets to increase margins**
Managing a maintenance budget too loosely can lead to margin erosion across the entire enterprise due to the high cost of unplanned machine replacement and third-party technical assistance. Other factors such as inefficient maintenance employee utilization and spare parts management can also quickly consume an annual maintenance budget, which then impacts the business operations budget and the bottom line.

How IFS brings value to the telecommunications industry

An independent IDC study¹ has shown that IFS brings value in terms of:



¹IDC White Paper, sponsored by IFS, The Business Value of IFS Enterprise Solutions with Industry-Specific Use Cases, September 2019

- **The lack of ROI insight when investing in new equipment**

One of the key considerations when investing in new equipment is to ensure that the new asset is operated in a manner that does not invalidate the OEM's warranty. Considerable savings can be made through managing warranties well. It is important to have the tools to provide solid numbers on the return on investment on replacing that fleet asset.

- **The lack of control and visibility of project delivery across the enterprise**

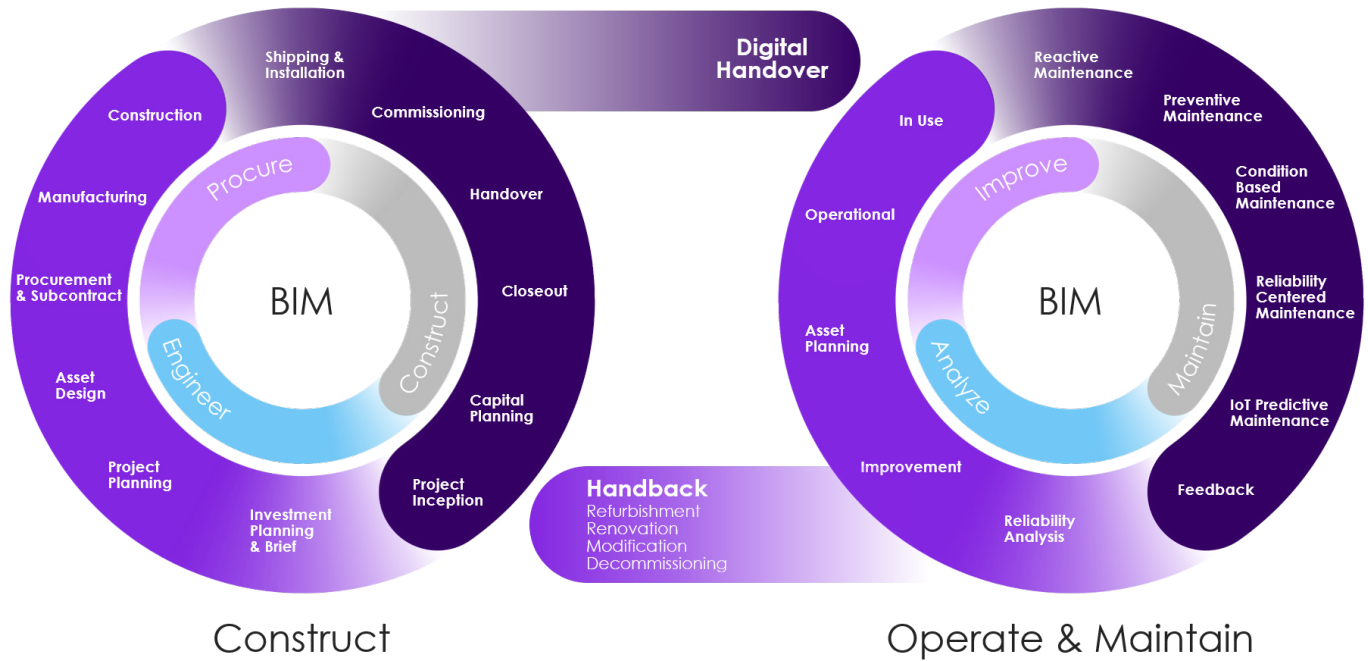
Organizations are often forced to use multiple, disparate tools to manage the various stages of a project: Tendering, commercial, estimating, engineering, procurement, manufacturing and fabrication, planning, cost control, construction, installation and commissioning.

- **The unpredictability in project delivery and compromised decision making**

Given the disparate, fragmented system architecture that is common across many organizations today, stakeholders lack control and oversight of the project. This may result in poor decision making and unpredictable project delivery.



IFS E2E Project & Asset Lifecycle Management



A truly differentiated offering

You'll have the **power to address all of your complex asset intensive and project-based service environments** which are fundamental to any asset intensive telco technology provider.

Whereas products are goods that are purchased with a relatively short-medium life and low-medium cost, an asset (i.e. the network) is something you invest in and which can change and be upgraded over time with a medium-long life and relatively high value. With IFS you get the ability to **address both product and asset centric use cases**.

Unlike most "service management" (FSM) solutions, or asset management (EAM) solutions, with IFS you get the **support you need in both product and asset use cases**. For example, in a complex telco network infrastructure, there are literally hundreds of thousands of components as well as systems and subsystems. IFS is able to natively model this complex structure via an object hierarchy and address each element specifically. Planning and performing service in this environment is an order of magnitude more complex than something like a visit to repair your router. IFS uniquely can address both.

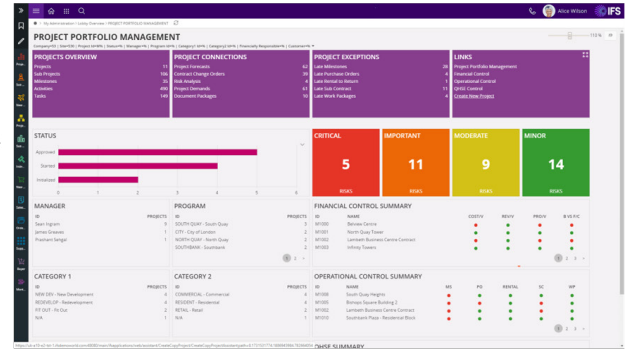
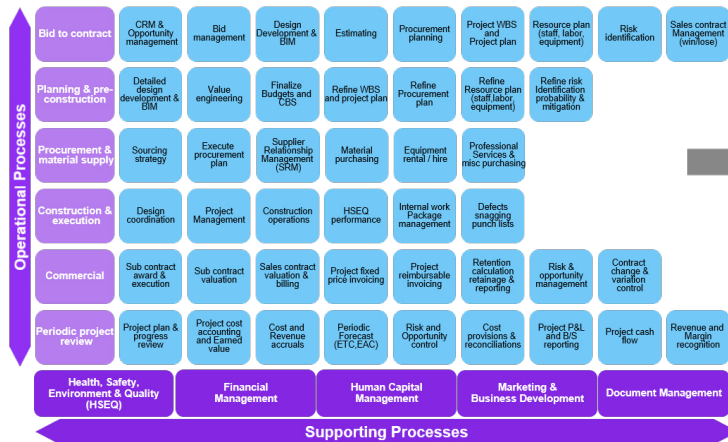
- **Extensive support for linear assets**, including integrated Geographic Information Systems (GIS), providing the ability to visually reference and identify specific elements within the network – a fully digitized view.
- The ability to **support the most complex use cases**, including long-cycle multi-day work, multi-person work and multi-location work.

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- Leveraging IFS project lifecycle management capabilities, your **users can handle complex project-based service requirements**. As an example, an overhaul of a network may involve planning several years out from the actual event, with a myriad of elements to manage such as resources, subcontractors, material orders, extensive documentation, payment milestones, complex costing and budgeting analysis; all incorporating the ability to change dynamically as events occur. Again, this requires a completely different set of capabilities from traditional project management or asset management systems.
- **Complete end-to-end lifecycle management**. For example, the CPQ process used to “configure” the asset, then spawns a single asset record, which is added to the asset registry. This is further leveraged in the contract coverage, and likewise propagated to the PM schedule and the billing cycle. The instance specific as-maintained configuration is then used all subsequent supply chain processes. This completely removes the incredibly costly overhead of maintaining complex integrations which often result in process disconnects.
- Furthermore, you have the ability to **encompass world class planning and scheduling optimization** within the platform to address high volume, volatile scheduling work. This drives huge advances in utilization and ultimately increases savings in workforce headcount.



Best practice Project Lifecycle Management natively embedded



Solution Overview

A complete end-to-end service, project and asset lifecycle management solution

Our project solution places the WBS (work breakdown structure) at the heart of the project execution process and supports the asset design process through capturing time, cost and progress associated with the infrastructure design. It is fully integrated to our asset design functionality, which uses a standards-based model to define a multi-dimensional asset structure.

Assets are then realized into production using either internal or external resources with IFS Procurement and sub-contract management, forming the foundation for externally executed works. As part of the commissioning of new or redesigned assets, they are transferred from design to EAM for on-going operation and maintenance. This gives your organization a key advantage by running both existing and new assets while managing a formal transition and handover from one to the other.

The key benefits of having a single integrated solution is the enhanced visibility and control throughout the lifecycle of assets and equipment. This capability is unique to IFS and leads to lower operational costs, better visibility and improved customer satisfaction.

Project lifecycle management

Our world class integrated project and asset lifecycle solution allows asset data to flow through all stages of the lifecycle without the need for complex integrations.

The solution keeps all stakeholders fully informed by making the relevant information available in real time. It allows organizations to move to the new digital asset lifecycle model, which is being mandated by many governments and supports the implementation of a BIM (Building Information Modeling) strategy. The solution's inherent transparency and total integration enables you to deal effectively with the day-to-day running of the business and handle risk with a new degree of confidence.

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The project solution provides an integrated capability to handle all project lifecycle stages and includes the following key processes:

- CRM, bidding and estimating
- Project planning
- Risk management
- Contract change management (e.g. variations)
- Contract management including valuations and applications for payments
- Engineering and design
- Procurement, sub-contract management and supply chain
- Manufacturing and fabrication
- Construction, installation & commissioning
- Project cost control and progress control
- Asset handover to service, asset and facilities management
- Finance and project accounting
- Human resources including time and expenses recording
- Document management

Project cost control is a further real strength. IFS provides a world-class project budgeting and forecasting capability with built in collaboration to several leading global project-based businesses. The solution allows for user defined project forecasting types such as budget, estimate, monthly project review, and simulation.

Robust asset lifecycle management

A complete solution, encompassing all aspects traditionally found in an EAM solution.

Key functionality includes:

- Comprehensive asset register/repository
- Support for structured maintenance, including structured failure management (SFM), failure reporting, analysis and corrective action (FRACAS) and failure mode, effects and criticality analysis (FMECA)
- Preventive maintenance functionality supporting:
 - Date, event and condition-based maintenance
 - Calendar, use, condition, predictive and prescriptive
 - Replacements and eliminations
 - PM programs to support packages of work/groups of assets
- Reliability centred maintenance functionality

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- IoT capability, with configurable workflow
- Integrated risk management
- Embedded quality assurance comprising of:
 - Compliance planning
 - Audit management
 - Non-conformance reporting
 - Corrective and preventive actions
- Maintenance planning optimization
- Mobile execution capability
 - Online
 - Offline
- Sub-contractor B2B portals
- Comprehensive end-to-end reporting

IFS enables companies to drive cost reduction through improved maintenance; increase user productivity through an improved user experience; and realize operational business efficiencies through role based KPI/metric driven dashboards supporting decision making.

Efficient asset performance management

Asset Performance Management (APM) is an integral part of asset management strategy, allowing ongoing asset health monitoring and measure capture to drive predictive maintenance in a push to preempt failure. Our IoT business connector takes this further and provides for intelligent asset monitoring by simplifying the approach to creating business rules to drive workflows – significantly reducing the overall time to value in implementing an IoT strategy.

Optimized asset operations and maintenance

Optimizing performance is not simply achieved by implementing any single key element, but by having a structured approach to manage all aspects of the asset and maintenance lifecycle. This includes maintenance regimes controlling as and when equipment and assets should be maintained based on class and function, to scheduling optimization considering time constraints (project builds, shutdown events, capacity windows) and resource availability (incl. skills and qualifications). It also provides for effective execution of work using tools to support digital capture of work, bringing huge advantages in evidencing work completed, including recording of spares consumed, before and after pictures, point of work risk assessments, etc.)

All of the above is underpinned by comprehensive reporting dashboards, reducing time spent in compiling and analyzing data to drive operations and run an efficient maintenance operation.

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Complete Service Management

Ability to support mixed-mode operations. Leveraging a single pool of resources and all associated objects (tools, parts, documentation, partners, etc.) for all activity types results in greater scale and efficiency, ultimately reducing costs and increasing margins.

Manage complex contracts and warranties. Long life assets require comprehensive management of the service entitlement and associated billing cycle, including support for a vast array of SLA's and coverage types. In addition, many organizations have moved beyond fixed PM schedules and billing cycles, to providing condition and usage based maintenance contracts. Beyond this, there is also support for an outcome centric model, where the contract and billing is based on a measurable result (outcome) such as the number of tickets printed, operations performed or heat produced. When modelled correctly this can result in highly profitable revenue streams.

Improved customer experience. By using a single platform, we derive a single source of truth. This in turn allows us to present a single face to the customer, globally, whether performing complex project work, planned maintenance or break/fix activities. This can be further extended with complete omni-channel contact center capabilities which enable the handling of all media types (phone, email, text, social, etc.), providing a single unified agent desktop as well as self-service portals for all stakeholders (B2B, B2C, suppliers, contractors, 3PL's, etc.). On the day of the visit, an "Appointment Assistant" enables the end-customer to track the technician, including their security credentials (name, vehicle details, photograph) as well as obtain an accurate ETA and even change or cancel the appointment.

A harmonized technician experience. IFS provides persona based mobile apps for both maintenance and service scenarios. Feature rich, leveraging the same Aurena native UX and data model, with offline capabilities. These also incorporate embedded remote assistance (RA) for requesting virtual assistance via an AR/merged reality experience.

Parts optimization. All demands are visible, irrespective of demand stream. This provides a complete picture of supply chain requirements, enabling optimal forecasting, planning and logistics. By optimizing the source of supply, this, in turn, results in higher availability, improved first time fix and decreased inventory investment (including reduced excess and obsolescence)

Reduced IT and integration costs. Leveraging a single platform that innately connects all aspects of the operation, IFS enables truly optimized processes that transcend departments, geographies and systems. Consider parts logistics synchronized with resource scheduling for improved first time fix, or maintenance planning connected with the reverse logistics supply chain enabling the returns and repairs as a source of supply. These value pillars are simply not achievable with traditional systems that are siloed, relying on high levels of integration and the associated ongoing maintenance.

Multi-time Horizon Planning. The IFS platform encompasses the entire SPA lifecycle across any combination of service, projects and assets requiring planning and scheduling tools that also address the end-to-end spectrum from long range planning to intraday scheduling. This could range from months and years for outage planning, to daily and minute-by-minute for break/fix emergency service. Most solutions either only have visibility of one type of work (e.g. outage planning) or focus on one end of the optimization timeline (e.g. intraday), but IFS is able to address the total complexity of the entire horizon and in doing so is able to drive superior levels of resource optimization, driving up service levels at decreased cost.

The contingent workforce. Many industries have seen tremendous advantages in leveraging a contingent workforce, in the form of flexibility and elasticity. However, for many organizations this creates several challenges, particularly in the area of sourcing, onboarding and execution. IFS provides comprehensive tools to support the entire lifecycle of contingent workers, even enabling you to first determine your capacity requirements and model the use of contingent workers vs. the internal workforce. From issuing tenders for work, onboarding with a defined adoption process and day to day execution via tools such as the B2B Portal and mobile apps, IFS supports the entire lifecycle of a contingent workforce. Also consider the ability to again blend this resource pool with your own internal workforce (both maintenance and service), which means you are able to achieve truly optimum resource utilization with significantly increased margins.

IFS develops and delivers enterprise software for customers around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. The industry expertise of our people and solutions, together with a commitment to delivering value to every one of our customers, has made IFS a recognized leader and the most recommended supplier in our sector. Our team of 4,500 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers.

Learn more about how our enterprise software solutions can help your business today at ifs.com.

