

SEAKR Engineering gears up for larger projects with IFS ERP upgrade



Centennial, CO-based SEAKR Engineering designs and manufactures aerospace data storage and processing systems for governmental and private aerospace organizations. Since 2011, IFS's aerospace engineering and manufacturing enterprise resource planning (ERP) solution has facilitated and streamlined SEAKR's entire business value stream from contract through to project delivery.

In 2019, SEAKR upgraded its instance of IFS ERP software to IFS Applications 10, adding a number of new capabilities that will leave it better prepared to handle larger projects and the tighter timelines associated with new space programs.

Private sector space contracts and growing demand from government agencies means SEAKR needs to quickly scale its operations. IFS ERP is providing SEAKR the tools to do this, helping the company extend existing processes across larger contracts and more frequent outsourcing as order quantities grow. New space programs require faster delivery with fewer rules, rather than the redundancy and rigorous specifications associated with historic space programs.

This means SEAKR's low-volume, high-mix manufacturing processes must flex to accommodate higher numbers of items and faster schedules for commercial satellite and space programs.

One version of the truth

SEAKR's products include advanced electronics that are ruggedized for the demanding environment of space. Their products have been used in planetary probes, satellites, orbiting laboratories and space shuttles. SEAKR works on government programs in partnership with major aerospace and defense OEMs, so government-mandated reporting methods like earned value management (EVM) are important. Since SEAKR develops its technologies for each specific application, but still uses standard parts, it needs an enterprise environment optimized for mixed manufacturing modes, including engineer-to-order and kitting of complex electronic assemblies.

About SEAKR

SEAKR Engineering designs and manufactures advanced data management, processing, avionics, and communications systems for all manner of spacecraft including manned space systems. SEAKR's products are on the International Space Station, have traveled to Mars and Jupiter, provide images of Earth, and contribute space-based capabilities to the U.S. battle network. SEAKR also supports worldwide satellite communications networks. In all areas—commercial, government, domestic and abroad—SEAKR is positioned to support space exploration and communication today and beyond.



According to SEAKR Manager of Business Integration Sara Green, IFS software is used to structure sales contracts, which then drive project creation, customer orders, bill of material (BOM) development, procurement, and shop orders. IFS facilitates the flow of process and information from the initial contract through billing, contractual deliverables, and delivery of the physical hardware.

“We currently leverage IFS for a large percentage of our company’s functions—accounting, finance, manufacturing, supply chain, quality management, and configuration/document management—every person in our company uses IFS,” Green said. “Our IFS ERP system also integrates with other tools like Microsoft Project and our Human Resource Information System (HRIS). Having IFS as our one version of the truth helps us meet requirements our customers place on us with full visibility and control.”

“Most of our programs involve new development and a very complicated design process,” SEAKR Vice President of Operations Lori Ireland said. “We use IFS Product Data Management with an interface to our electronic design tools. During the design process, our engineers can select from existing parts in IFS. If there is not an appropriate standard item for their new design, they request a new part number via an IFS-based routing process that triggers creation of a new part number. The design parts list is imported from our Mentor Graphics design application into the engineering BOM in IFS. The BOM then drives the manufacturing product structure and project-based demand for materials purchasing. With our tight timelines, we often must procure materials well in advance of design completion, so having all of this in a single application is very important.”

The company also contains data in their IFS ERP solution by leveraging the IFS Document Management module for mission-critical processes like design documents, request forms, and approval routings.

“Just this morning, our team proposed a new way to track deliverable documentation from our suppliers so we can do a simple search on document revisions to get an instant status of all supplier documentation,” Ireland said.

Powerful project MRP

Highly dynamic BOMs and the need to ensure materials and parts are available for time-sensitive manufacturing projects places a premium on project materials requirements planning (MRP).

“In general, we order material as soon as we know we need it and do not follow a just-in-time (JIT) approach,” Ireland said. “We’ve seen some lead time increases because of the pandemic, but even before that, lead times had been increasing because of higher global demand for the high-reliability space components we need. We are engaging with some of our suppliers and distributors and developing forecasts by looking at past demand in IFS ERP. We can then structure agreements with suppliers based on these forecasts, but do not place the order until demand solidifies in IFS.”

Faster delivery of projects

- Ability to handle large projects
- Full visibility and control
- Forecasts of demand accuracy
- Real-time visibility
- Improved user configurable options
- Ability to leverage custom fields

Reporting on earned value and quality

IFS Project Management functionality also helps SEAKR manage projects in different contract types, including fixed price, time and materials, and cost-reimbursable.

“With cost-reimbursable contracts, we are subject to very exacting EVM requirements,” Ireland said. “The data to support EVM is contained in both IFS Project and Microsoft Project, with a custom interface to process and deliver the project progress measurement our customers require. During earned value data and system reviews, our Customers are consistently impressed with the level of processing and data integration. Even large aerospace companies often do not have this real-time integration between planning, progress, and cost measurement.”

SEAKR relies on Microsoft Project for planning and predicting tasks, labor and non-labor resources in a work breakdown structure (WBS) which is then pushed into IFS Projects for the labor cost calculation and total cost prediction. For EVM reporting, actual costs from IFS are directly collected in the Project WBS.

Regardless of project type, IFS Projects along with custom dashboards give them complete real-time visibility into what they have invested in a project to date and how much work and expense will be consumed in total estimate-at-completion (EAC), squaring this off against the contract and informing EVM reporting.

“We do monthly EACs for all of our projects whether or not they require earned value reporting,” Ireland said. “We fold in actuals and can present EAC data in our project management dashboard for each individual contract.

Return on cost and contract changes also gets presented internally through our executive ownership and to customers as required under EVM contracts.”

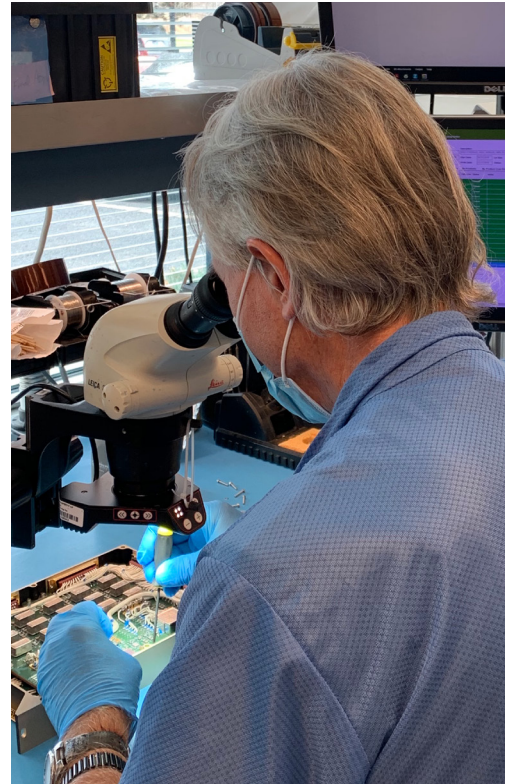
Apart from progress against project milestones and cost, SEAKR presents customers with information regarding quality and supplier performance metrics.

“We use the IFS Quality Management module—for non-conformance reporting and tracking in addition to supplier performance measurement in both schedule and quality delivery. Here again we leverage custom dashboards to present information in readily accessible formats. ” Ireland said. “These items become very visible to our customers as well.”

Upgrade enhances user-configurable options

Project-driven businesses must be managed in real time to ensure that project variances are dealt with before they can threaten budgets or delivery timelines. One benefit of SEAKR’s upgrade to IFS Applications 10 is the availability of IFS Lobby, a tool that enables IFS customers to create user-specific or role-specific dashboards.

“We have pushed one lobby out to our program management group,” Green said. “We created a home screen for quick access to the main areas in the system they use. We also associate different program managers with specific projects, showing them current information about the projects they are working on.”





SEAKR will be phasing in IFS Aurena. “Currently, Linux users leverage IFS Aurena for time registration because it is browser agnostic.” Green said.

SEAKR’s upgraded instance of IFS also gave the company access to layered architecture features so they can customize their IFS environment, without modifying the source code.

“One big win with upgrading to the current version of IFS was our ability to leverage custom fields and pages through the IFS Extensibility package,” Green said. “This allowed us to replace previous modifications with in-house custom built solutions. We can add custom fields, tabs, logical units, and pages to satisfy requests from inside our organization.”

Find out more

Further information, e-mail info@ifs.com, contact your local IFS office or visit our web site, ifs.com

