



bowdark

CASE STUDY

Offline-First Mobile Apps for Shipyard Mechanics

SUMMARY

Bowdark modernized production engineering and operational processes through a custom application ecosystem, featuring a mobile solution that allowed mechanics to continue working seamlessly without network connectivity.

BUSINESS OVERVIEW

SIZE

25,000+ employees

INDUSTRY

Aerospace & Defense

COUNTRY

United States

PRODUCTS & SERVICES

SAP S/4HANA, SAP Fiori, Progressive Web Apps



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CHALLENGE

The customer had implemented SAP Production Engineering and Operations (SAP PEO), but the out-of-the-box solution wasn't mobile-friendly. Many mechanics worked on ships and in shipyards, where network access was limited and tasks were performed in tight, complex spaces. Mechanics needed offline access to their assigned production orders, tasks, drawings, and work instructions, along with the ability to record inspection results that would sync back to SAP PEO once network connectivity was restored.

APPROACH

Bowdark designed an offline-first PWA architecture and extended SAP PEO's data model to support the sync process, ensuring mechanics could work seamlessly without network access while preserving the integrity of the standard SAP Fiori apps.

SOLUTION

Bowdark built offline-first progressive web apps that work seamlessly alongside SAP PEO, giving mechanics access to assigned production orders, tasks, drawings, and work instructions even without network connectivity, all without compromising the standard Fiori apps used elsewhere in the system. A custom workflow engine manages the sync process, so that when mechanics complete a work shift and reconnect to the network, their recorded inspection results and task updates are reliably synced back into SAP PEO.

TECHNOLOGIES USED

 SAP S/4HANA  SAP PEO  SAP Fiori  Progressive Web Apps

 Workflow Resync Engine

Outcome

The offline-first mobile solution increased system utilization by 64%, giving mechanics reliable access to production data and work instructions regardless of network conditions in shipyards and other low-connectivity environments.

KEY FEATURES & BENEFITS



**Offline-First Mobile
Access**



Inspection Result Sync



**Drawings & Work
Instructions On-the-Go**



**Seamless SAP Fiori
Compatibility**