

MANUFACTURING / CUSTOM SOFTWARE

A global customer base.
A closer connection
to their equipment.

How IMSKC built a customer portal that brings equipment information online for an established manufacturer and the customers it supports.

Customer portal

Equipment data

Ongoing development

Global

DISTRIBUTOR NETWORK

4 months

INITIAL BUILD

Live

PLATFORM STATUS

OVERVIEW

A large operation
with a visibility gap.

The client is a long-established manufacturer of heavy equipment, serving a geographically dispersed customer base through a distributor network that reaches around the world. Supporting that reach means understanding equipment in use far beyond the manufacturer's own facilities.

Customers were asking for online visibility into their equipment. Internal teams needed the same information to investigate issues and respond more effectively. The business had the vision, but lacked the development capacity and time to turn it into a platform.

01 / THE BUSINESS CHALLENGE

Supporting customers
across distance.

For a manufacturer with customers and distributors spread across different locations, access to equipment information is part of the service relationship. Before this project, that information was not readily available online to the people who needed it.

Customers wanted visibility.

Equipment information was available directly on the equipment, but customers had been asking for a way to access it through a portal. There was a gap between owning the equipment and having convenient online access to the information it produced.

Internal teams depended on the
conversation.

When the manufacturer needed to understand what was happening with a customer's equipment, staff often had to contact the customer or rely on information passed through customer service. Troubleshooting could begin with collecting details rather than reviewing them.

A TYPICAL SUPPORT SITUATION

A team member needs more information about a piece of equipment. First, they must reach the customer and obtain the details. Only then can they begin a more informed investigation.

Illustrative workflow based on the project brief; not a customer quotation.

The opportunity was to make equipment information
accessible before a phone call or site visit was needed
simply to gather context.

02 / EQUIPMENT-LEVEL VISIBILITY

From a status question
to diagnostic context.

The portal brings equipment records, operating readings, battery information, and fault history into one online view. Users can move from an overview into the details needed to investigate an issue.

Equipment identity	Equipment number, installation date, nickname, and description help users identify the unit they are reviewing.
Battery condition	Battery percentage, a condition summary, charging guidance, and a last-updated timestamp provide context about the reported battery state.
Fault and system records	Fault codes include code numbers, descriptions, and timestamps, with search and filtering controls. A separate system-code view provides another route into diagnostic information.
Operating and connection history	Historical records include battery voltage, height, weight, status, wireless network information, signal strength, and timestamps. Date controls help narrow the period under review.
Multiple ways to review the data	Battery-status and height-versus-voltage views complement the historical table, allowing users to explore different aspects of equipment behavior.

Better support starts with more context: what was reported, when it happened, and which equipment was involved.

03 / GROUPED-EQUIPMENT VISIBILITY

See the individual unit.
Understand the group.

Some equipment operates in paired groups. The portal extends visibility beyond a single unit to show group condition, member readings, synchronization, and the sequence of recorded events.

An overview of the operating group.

Group views show member count, lowest battery level, active fault count, connectivity, average signal strength, and total weight. Individual equipment cards add height, weight, battery, signal, connection status, and fault counts, with links into each equipment record.

Synchronization and visual context.

Comparison views cover height, weight, signal, and battery. The height view identifies deviation from the group reference and displays a synchronization warning. A vehicle-position visualization helps users relate equipment members to their positions.

A timeline for investigation.

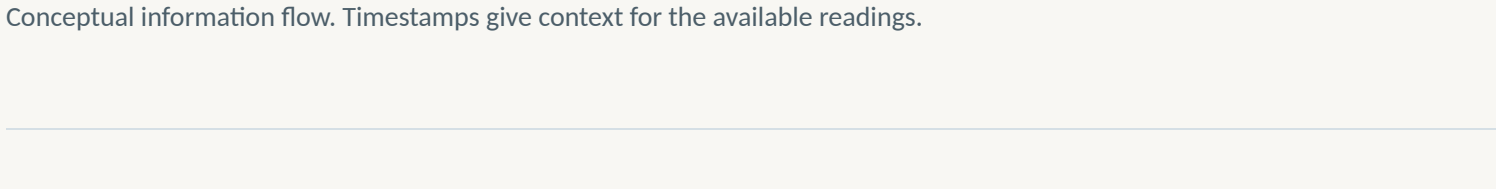
The group timeline records events such as equipment joining, group creation, applied weight, synchronized movement, and detected faults. Groups are created when equipment is paired and end when all members shut down.

A user can start with a group warning, review the member readings, open the relevant equipment record, and inspect its timestamped fault history.

04 / TECHNICAL IMPLEMENTATION

Connecting to the
existing equipment environment.

This was a custom software project built around the manufacturer's existing equipment-information environment. The connection brings equipment records and operating data into the application, where users can review both individual units and paired groups.



Conceptual Information flow. Timestamps give context for the available readings.

Laravel	Application backend The backend framework for the portal application and its equipment-information workflows.
React	User interface Equipment detail pages, group summaries, diagnostic tables, and visual comparisons.
MariaDB	Database The database technology supporting the application and its data-backed views.

Client knowledge shaped the connection.

The manufacturer supplied information architecture and context about its current equipment environment, working with IMSKC throughout design and development.

05 / DELIVERY AND CONTINUED
DEVELOPMENT

From an idea
to a live platform.

The initial build took approximately four months. IMSKC was responsible for building and delivering the platform, then maintaining it and continuing development as the business's needs evolved.

Discovery grounded in the business.

Meetings, video calls, and on-site visits helped IMSKC understand the workflows and the existing equipment environment. The client contributed design feedback, technical context, and ongoing collaboration.

A defined first phase, followed by adoption.

A well-scoped Statement of Work and shared expectations guided phase one. Documentation, on-site training, and phased feature releases supported users as the platform moved into use.

Live access, with broader rollout ahead.

Customers and internal teams can access equipment information online, with detailed diagnostic and group views demonstrated in the platform. Broader rollout is still ahead. Maintenance and feature development continue as the business builds on this foundation.

IMSKC supplied the development capacity to turn a business idea into working software, then stayed involved to maintain and improve it.

Have an idea your business needs?

Let's talk about turning it into working software.

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