



**Nirvana Lab**

Crafting Next-Gen Digital Engineering



# Transforming a Global CNC Machine Manufacturer with Liferay




# Overview

A global manufacturing OEM specializing in large CNC milling machines for the automotive and heavy engineering industries set out to modernize its digital ecosystem. The company produces high-precision CNC machines used for critical applications such as engine block machining, transmission systems, and complex metal components.

With a diverse global customer base that includes automotive OEMs, tier-1 suppliers, and industrial manufacturers, the organization recognized the need for a unified digital platform that could seamlessly connect its marketing, sales, service, and internal operations.

To achieve this, the company partnered with **The Nirvana Lab**, a **Liferay Gold Partner**, to implement a comprehensive solution built on **Liferay Digital Experience Platform (DXP)**.

The initiative resulted in three tightly integrated digital experiences:

-  A modern **public website**
-  A personalized **customer portal**
-  An integrated **employee intranet**



Remarkably, the entire platform was delivered in just six months, at a highly competitive cost, demonstrating both the flexibility of Liferay and the execution strength of The Nirvana Lab.

# The Challenge

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Before this transformation, the organization was dealing with several operational inefficiencies and fragmented user experiences. Their digital presence was spread across multiple disconnected systems, making it difficult to provide a consistent and seamless experience to customers.

Customers often struggled with spare parts ordering, frequently placing incorrect orders due to lack of guidance or validation. Access to machine documentation was not centralized, which slowed down maintenance and troubleshooting. At the same time, internal teams faced challenges in coordinating fulfillment, service scheduling, and customer support due to siloed systems.

Additionally, there was limited visibility into machine performance, even though IoT data was available. The company needed a platform that could not only unify these experiences but also make them intelligent, personalized, and scalable.

# The Solution

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Working closely with the OEM, **The Nirvana Lab** designed and implemented a unified digital platform using Liferay DXP. The solution was built with an API-first architecture and integrated seamlessly with key enterprise systems, including:

- **SAP S/4HANA** for pricing, inventory, and order management
- **Paymetric** for secure payment processing
- **FedEx** for shipping and tracking
- IoT platforms for real-time machine data

This unified architecture ensured that all digital touchpoints—external and internal—were connected and consistent.

# **Public Website: A**

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# **Modern Digital Front**

# **Door**

The public website now serves as the company's primary digital storefront and brand experience platform. It is designed not only to showcase products but also to drive engagement and revenue.

Visitors can explore detailed product pages that highlight CNC machine capabilities, configurations, and use cases. These pages are supported by rich visuals, technical specifications, and downloadable resources.

The website also includes a fully integrated e-commerce capability for spare parts and consumables. Customers can browse products, view real-time pricing and availability (powered by SAP), and complete purchases securely using Paymetric.

Beyond commerce, the website includes several key features:

- Contact forms for sales and service inquiries, intelligently routed to the right teams
- A comprehensive “About Us” section highlighting the company’s history, manufacturing expertise, and global presence
- A careers portal to attract talent
- A knowledge center with blogs, case studies, and technical insights
- A dealer and partner locator with an interactive global map
- Event and training pages showcasing webinars, trade shows, and customer programs

The Nirvana Lab ensured that the website is fast, scalable, and optimized for both user experience and search engines, turning it into a powerful growth channel.

# **Customer Portal: Personalized and Intelligent Self- Service**

The customer portal represents the most transformative aspect of the solution. It provides a highly personalized and role-based experience for each customer organization.

Different personas within a customer organization—such as procurement teams, maintenance engineers, and leadership—can access tailored views of the platform.

One of the standout features is the personalized product catalog. Customers only see machines, spare parts, and consumables that are relevant to the equipment they own. Pricing and discounts are automatically applied based on their contracts, thanks to the integration with SAP.

The portal also introduces an intelligent purchasing experience. Before placing an order, users are guided through validation questions that ensure compatibility between the selected parts and their machines. This significantly reduces ordering errors and improves operational efficiency.

Customers can also manage their entire transaction lifecycle within the portal. They can view orders, track shipments via FedEx, access invoices, and complete payments securely using Paymetric.

The platform includes a fully integrated returns management process, allowing customers to initiate and track returns with ease.

Another major benefit is access to documentation. Customers can search through maintenance manuals, operational guides, and technical diagrams using semantic search. Instead of manually browsing documents, users can simply type a question and quickly find relevant answers, improving maintenance efficiency.

In addition, the portal provides real-time machine monitoring dashboards powered by IoT data.

These dashboards display:



Machine  
operating hours



Fault and  
defect reports



Parameter  
settings and  
thresholds



Alerts for  
abnormal  
conditions

This enables predictive maintenance, helping customers reduce downtime and extend machine life.

# Employee Intranet:

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# Enabling Internal Excellence

Alongside the customer-facing capabilities, The Nirvana Lab implemented a robust intranet for employees to streamline operations and collaboration.



## Order Fulfillment & Inventory

The intranet provides a centralized platform for order fulfillment teams to manage incoming orders and track inventory in real time through SAP integration.



## Service & Support Management

Support and service teams can monitor customer requests, schedule service visits, and track resolution timelines. They also have access to IoT-driven dashboards that provide insights into machine performance across customers, enabling proactive service recommendations.



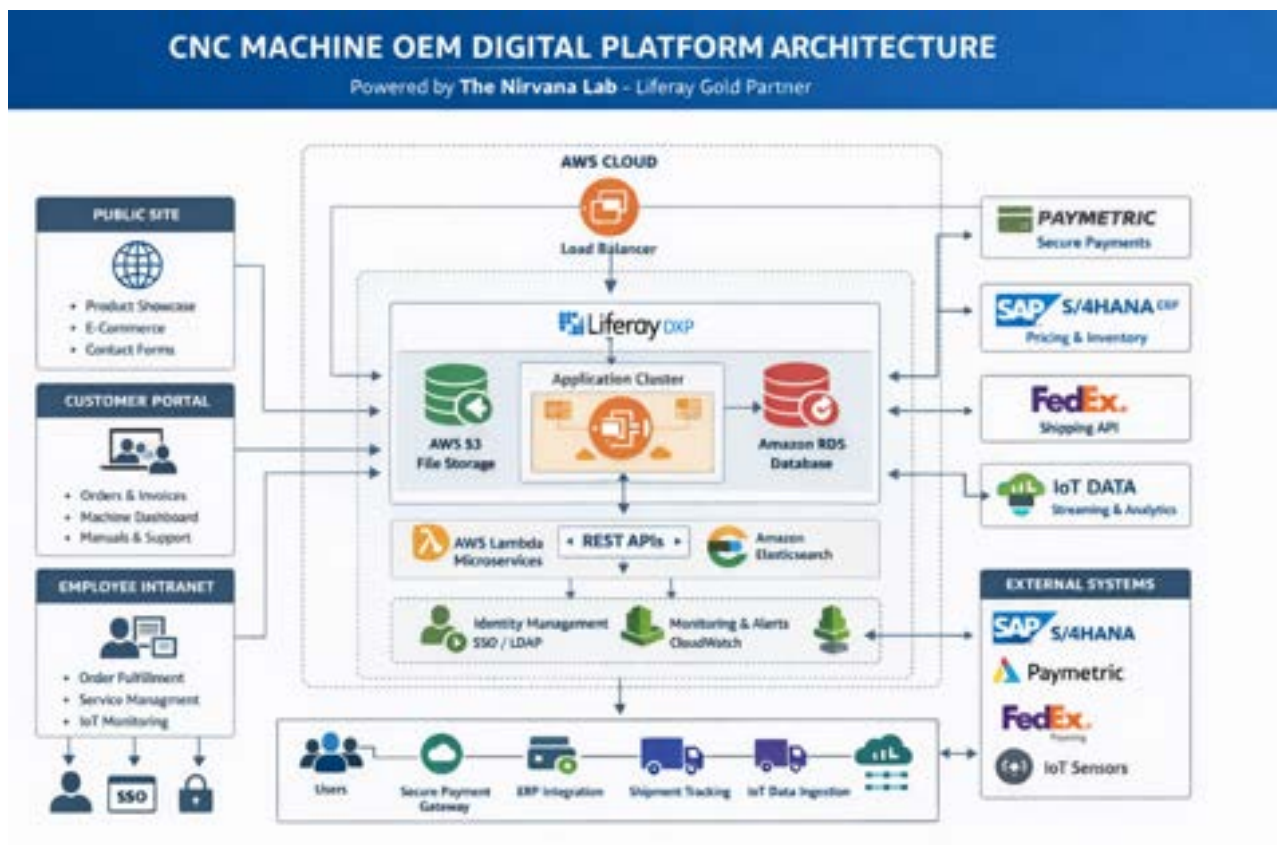
## **Collaboration & Knowledge Sharing**

Additionally, the intranet supports collaboration and knowledge sharing through centralized documentation, training materials, and communication tools.

This internal transformation ensures that employees are equipped with the right tools and data to deliver exceptional customer service.

# Integration and Architecture

A key strength of the solution lies in its seamless integration architecture, designed and implemented by The Nirvana Lab.



Liferay DXP acts as the central experience layer, connecting with:

- **SAP S/4HANA** for pricing, inventory, and orders
- **Paymetric** for secure payment processing
- **FedEx** for shipping and tracking
- IoT platforms for machine telemetry and analytics

The platform follows an API-first approach, ensuring scalability and flexibility for future enhancements.

# Implementation Approach

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The project was executed using an agile methodology, with close collaboration between the OEM and The Nirvana Lab.

The delivery was structured in phases, covering the public website, customer portal, and intranet. Reusable components and templates within Liferay helped accelerate development, while continuous feedback ensured alignment with business needs.

Despite the complexity of integrations and functionality, the entire solution was successfully delivered in just **six months**, at an exceptionally competitive cost.

# Business Outcomes

The transformation delivered significant benefits across the organization.

For customers, the platform provides a seamless and intuitive experience. Ordering spare parts is faster and more accurate, access to information is easier, and machine performance insights enable better decision-making.

For the **OEM**, the platform has unlocked new revenue streams through digital commerce, reduced operational inefficiencies, and improved customer satisfaction and retention.

For internal teams, the intranet has streamlined workflows, improved collaboration, and enabled proactive service delivery using real-time data.

By partnering with The **Nirvana Lab, a Liferay Gold Partner**, the CNC manufacturing OEM successfully transformed its digital ecosystem into a unified, intelligent, and scalable platform.

Liferay DXP now serves as the digital backbone of the organization, connecting public engagement, customer self-service, and internal operations into a seamless experience.

Delivered in just six months at an exceptional value, this transformation demonstrates how the right combination of platform and implementation partner can drive meaningful business outcomes.

The organization is now well-positioned to scale, innovate, and lead in a highly competitive manufacturing landscape.



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