



# How a public pension fund is enhancing its service capabilities and business agility using a low-code platform

The fund migrated from its legacy pension administration system to a bespoke and composable modern system, increasing business productivity while reducing the total cost of ownership.

## Client

A major public pension fund that provides eligible DOE employees with retirement, disability, and death benefits. It is one of the largest pension plan sponsors in the United States, with more than \$100 billion in assets and over 215,000 members, retirees, and beneficiaries. Its mission is to efficiently collect contributions, prudently invest retirement funds, responsibly disburse member benefits, and deliver exceptional levels of member service.





## The challenge

The executive leadership of the fund had a clear mission to drive member-centricity in all aspects of their business operations and interactions with members. After a detailed internal assessment, they identified several key areas for improvement:



### **Improve business functions:**

Address identified “pain points.”



### **Holistically reengineer business processes:**

Fix processes that were not working well internally or externally and were deemed “broken.”



### **Enable 80 percent straight-through processing:**

Streamline all key business processes.



### **Decommission the core legacy application:**

Replace the outdated system that was reaching the end of its useful life.



### **Deploy a modernized technology platform:**

Implement a flexible and adaptable application to thrive in a complex and changing business environment.

## The approach

By migrating from their legacy “Pension Administration Platform,” our client had the opportunity to reduce costs, focus on innovation, enhance system security, improve system availability, and reduce the risks posed by technical obsolescence. However, undergoing such a transformation also posed the risk of short-term business disruption and potential member dissatisfaction.

The biggest decision the client had to make was “Build” versus “Buy.” Using traditional coding methods to build a complex application sounded intimidating and expensive. They evaluated many COTS systems, but none were a near-fit. The challenges in customizing COTS systems and being constrained by their limitations were significant deterrents. They had already tried migrating some business functionalities using a .NET-based custom solution, which was progressing at a snail’s pace and turning out to be far more expensive than estimated. Our team proposed a third choice: low-code application development, as it offered:

- **Increased collaboration** between teams, especially the ability to easily train existing employees.
- **Accelerated development** lifecycle with faster code development and easy availability of talent.
- **Huge productivity benefits** by leveraging AI-assisted application development.
- **Streamlined business processes**, especially when utilizing Agile workflows with readily available out-of-box components.
- **Easy and full control** of the application development lifecycle, including single-click deployments.
- **Reduced long-term costs** due to low maintenance and no COTS product licenses.

We helped the client navigate and evaluate the available low-code options, and Mendix was finally selected as the low-code platform after a successful proof-of-concept. The main reasons for selecting Mendix were its advanced AI-enabled low-code capabilities, rich library of reusable components, unparalleled integration capabilities, multi-device and multi-cloud deployment capabilities, integrated single-click deployments, and the financial stability of its parent company, Siemens.

We helped define the working model and designed the overall solution architecture in close collaboration with the client. The system was designed as a set of distributed Mendix applications using Mx10 on a private AWS cloud. A multiphase project plan was created to migrate the functionalities into the following Mendix applications:

- **Member accounting**
- **In service inbound payroll**
- **In service outbound payroll**
- **TDA (Tax Deferred Annuity)**
- **Disbursements**
- **Service retirements**
- **Service credits**
- **Membership management**
- **Statements**
- **OA valuation (Office Actuary)**

Additionally, a SuperApp was created to host all common functionalities such as single logout, incoming paper processing, master data management, etc. All these applications were integrated using REST API and OData. A custom file management framework was developed to handle incoming and outbound flat files from payroll agencies, containing millions of records in flexible formats.

## Pension administration system

Composable and distributed  
Mendix applications

SuperApp

Retirements

Accounting

Inbound payroll

Statements

Membership

TDA

Disbursements

Outbound payroll

Service

OA valuation

Other Apps

Legacy pension admin system  
(COBOL/DB2)

Pension system extension  
(.NET/SqlServer)

External payroll agencies

Identity provider

### The key features of the plan included

- **Lift and shift** functionalities that were deemed “not broken”
- **Implement end-to-end process automation** using workflows to enable 80 percent straight-through processing of key business processes
- **Focus on data quality and integrity** to maintain and assure the accuracy, reliability, and consistency of data over its entire life
- **Strategy to migrate and manage large data sets** involving 500 million+ records
- **Handle large and complex inbound and outbound payroll files**
- **Develop common UI and apps** to handle both electronic and paper forms/documents
- **Form a hybrid development team** with the client’s existing team and our Mendix experts
- **Leverage Cognizant’s Business Analysts** with deep domain capabilities in public pensions
- **Implement robust testing and test automation** leveraging Cognizant’s testers with expertise in public pension systems

The Mendix platform facilitated the rollout of multi-device, multi-language, intuitive user interfaces, making system adaptation easier for members and users. The Mendix Expert services provided overarching guidance and support at every stage

## Business outcome

This is a multi-year project with about 18 months remaining. While the main goal of the modernization effort continues to be the replacement of the legacy Pension Administration system, where the cost and time required to enhance it and keep up with regulatory and other changes are prohibitive, technology is not the sole driver of the overall modernization effort. However, it is a significant part of it. The drive behind modernization is to position our clients to better serve their members.



The new state-of-the-art system provides:

**Flexibility and adaptability** in a complex and changing business environment.

**Ability to comply** with regulatory, legal, and policy changes quickly, accurately, and cost-effectively.

**Enhanced capabilities** to serve members and handle fiduciary responsibilities more effectively.

Some of the direct benefits of this initiative include:

**2X**

**increase** in the pace of modernization.

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## **Agile business processes**

providing flexibility in decision-making.

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**70%**

**reduction** in manual efforts.

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**90%**

**faster response time** to comply with legislative changes.

## At a glance

A major public pension fund aimed to decommission the core legacy “Pension Administration System,” which was reaching the end of its useful life. As part of this process, they sought to boost member-centricity in all aspects of their business operations and interactions with members.

As part of a multi-year modernization project, business processes were migrated from the legacy systems to a distributed set of applications developed using Mendix, a low-code platform, enabling AI-assisted, high-quality development cycles.

The fund is already seeing the following benefits:

- **Improved quality of service delivery** through automation.
- **2X increase** in the pace of modernization.
- **Agile business processes** providing flexibility in decision-making.
- **70% reduction** in manual efforts.
- **90% faster response time** to comply with legislative changes.



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