

# Digital Transformation ERP For Gems And Jewellery Council – MegaCFC (GJEPC)

## Project Overview

Mega Common Facilitation Center (Mega CFC) is a socio-economic project promoted by the Ministry of Commerce and Industry of India for the scaling and upliftment of the Jewellery and Gems industry. The project is designed to encourage engagement from micro, small, and medium (MSME) enterprises by offering them access to advanced technologies, modern techniques, and industry-aligned training.

DRC Systems was assigned the objective of centralizing query inputs and information from the custom requirements of different clients. It should also digitize operations across multiple departments, maintain efficiency, and implement easily accessible information. They also required inventory tracking and service order processing for their organization.

## Key Objectives

To implement an end-to-end digital transformation of the client's service workflow – from order receipt and processing to final product handover – ensuring streamlined operations, improved traceability through bar code, and reduced manual intervention. Add somewhere diamond and jewellery so it looks relatable.

- Deliver role-based access to the firm's employees to manage operations between them, manufacturers, and clients for accurate approvals, confirmations, and invoicing.
- Simplify complex task requests like dynamic input fields, automated calculations, and real-time cost estimations in a centralized database.
- Create a database for the accounting department to calculate and record dynamic currency conversion, helping in financial queries and global cost estimation.
- Improved operability of the platform by creating a structured process, monitoring every step of the service lifecycle, from initiation to payment confirmation.
- Install a barcode tracking system to track the movement of diamonds and jewellery pieces across departments, allowing real-time visibility and status of each item.
- Managed 10+ service offerings of unique nature and dimensions while automating BOQ generation with built-in calculation logic for weight and costing.
- Create modules for assigning exhibition booths, scheduling conference hall usage, and managing catering services for half/full day durations, along with their handling cost calculations within the ERP.

## Key Challenges

Some of the challenges that we faced while developing the ERP system for the client are:



### Diverse service requests

Managing service requests was complicated due to variations in materials, sizes, and specifications, which made data collection inconsistent and scattered.



### Irregular data display

Since products of different materials were involved, there was no unifying system to process custom field requests efficiently.



### Manual calculations

There was no centralized service for the platform to automate costs and rate calculations.



### Complex user workflow

The workflow for the organization was cluttered with inconsistent information, which required a permission-based system to manage approvals, confirmations, and visibility at every hierarchy.



### Inventory management

The inventory was difficult to manage due to no fixed percentage or BOQ, as materials required varied based on the product or service requested.

## Solution We Offered

We provided a centralized workflow ERP system for Mega CFC's service, developed in Odoo for their business processes. Let us take you through the different solutions we made.

### Centralized Service Management

- ✓ We built a backend solution for Mega CFC using Odoo and Python with configurable 10+ service offerings to manage all their services and set up a complete automated workflow for input and output fields.
- ✓ We also designed a structured data model with more than 180 custom fields with inputs like material type, cost, and dimensions.

### Dynamic Calculation Model

- ✓ We used Python to implement a set of formulas in the ERP system to automatically calculate the weight and overall costing of the materials based on the details of the query.
- ✓ A centralized calculation model is particularly beneficial since it eliminates over-reliance on spreadsheets and manual calculators.

### Role-based Workflow System

- ✓ With the Odoo framework, we developed a structured model within the ERP that gave role-based permissions to manage service order flow across employees, manufacturers, and clients.
- ✓ We developed this through backend logic within Odoo's framework to make it a scalable and safe workflow model.

### Custom API Integrations

- ✓ We developed a custom API within Odoo that was also integrated with SAP to handle the finances of the accounting department, as they were using SAP at the Group level.
- ✓ A booking engine was developed so the admin can keep the availability of exhibition stands, conference rooms, and catering services, which customers can register for events through auditorium booking based on different durations, as the booking data is stored in a database created from PostgreSQL.

### Data Backup

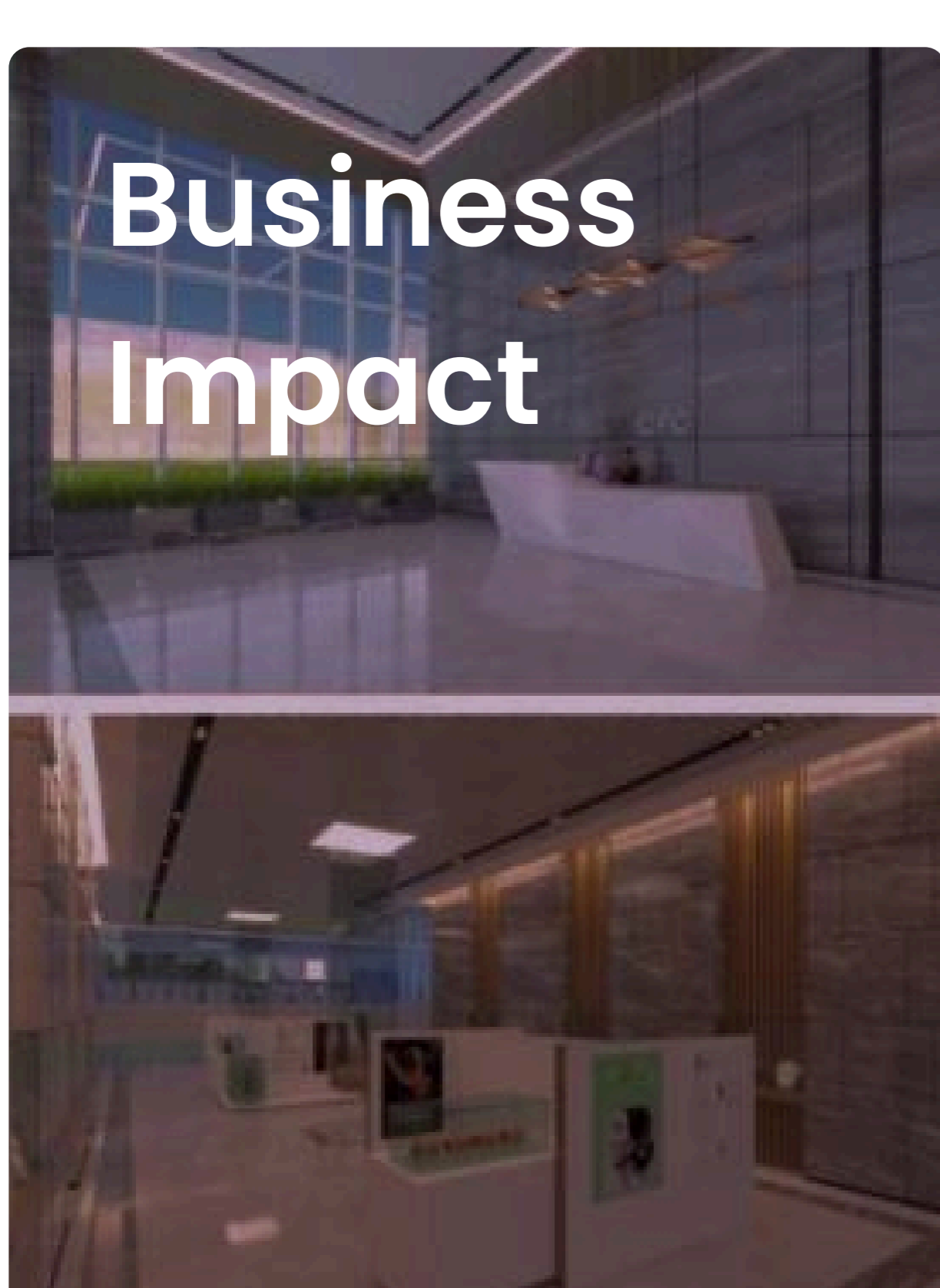
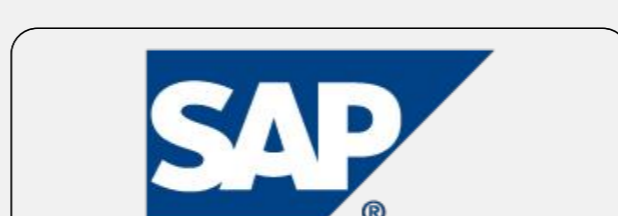
- ✓ We also built the means to backup and restore data with AWS, hosted with a 30-day backup window, which allowed scheduled backups and secure recovery of data.

### Global Currency Support

- ✓ We developed a dynamic currency conversion system available in Odoo to support global transactions that can auto-convert pricing based on the real-time market rates for the product.



## Tech Stack



The ERP system that we developed for Mega CFC was beneficial to them because:

### Organized query management

Our custom APIs extracted and categorized service requests of the clients, providing a clear view of their needs.

### Quicker service

Since the workflow is defined in a well-organized manner, manufacturers, operators, and clients can work in sync without any delays.

### Accurate cost estimation

Python provides automated cost calculations that were previously done manually, thereby increasing the rate of approvals and invoicing.

### Event booking

Booking an auditorium or exhibition stands for a business event was made possible through the website portal.

### Structured role management

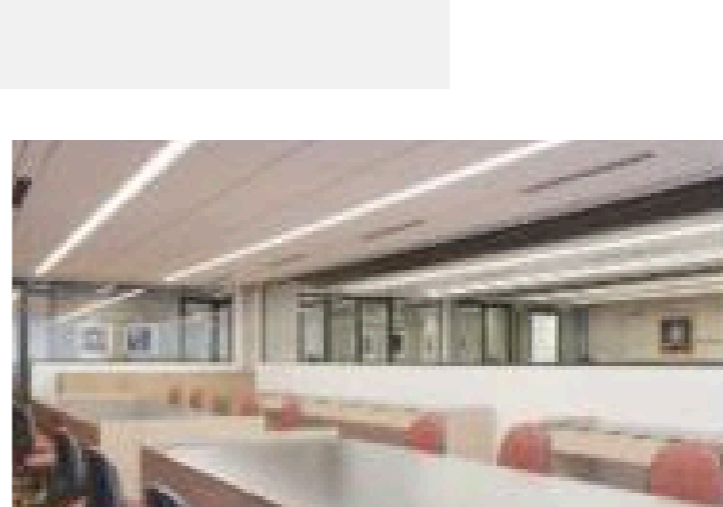
Role-based access ensured that only the person with the right authority has the permission to approve, confirm, and review information for accountability.

### Accounting and transactions

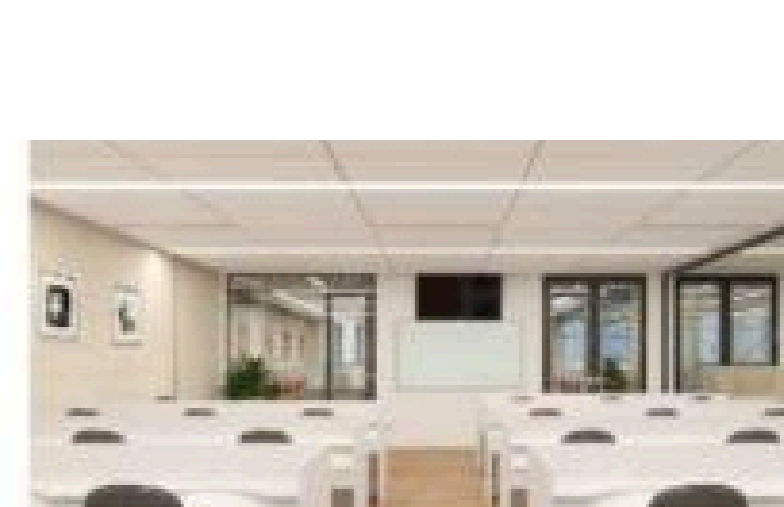
Due to an integrated global currency system, converting international currencies with real-time market data is made easier, along with the SAP integration to view invoices for the accounting department.

## Conclusion

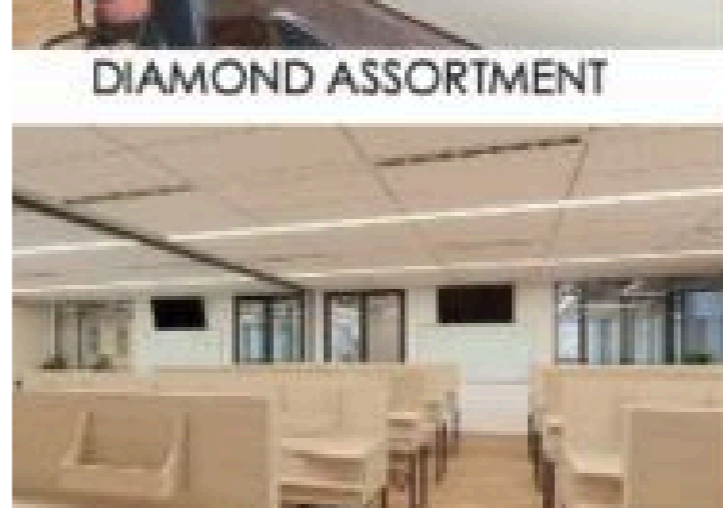
This project turned the organization's service management and workflows into well-organized and well-maintained, centralized data. We simplified complex service request inputs with the implementation of diverse categories from Odoo, automated costing, and third-party integrations like SAP. This resulted in a platform that was transparent and reliant on delivering MSMEs long-term efficiency and investment for their manufacturing projects.



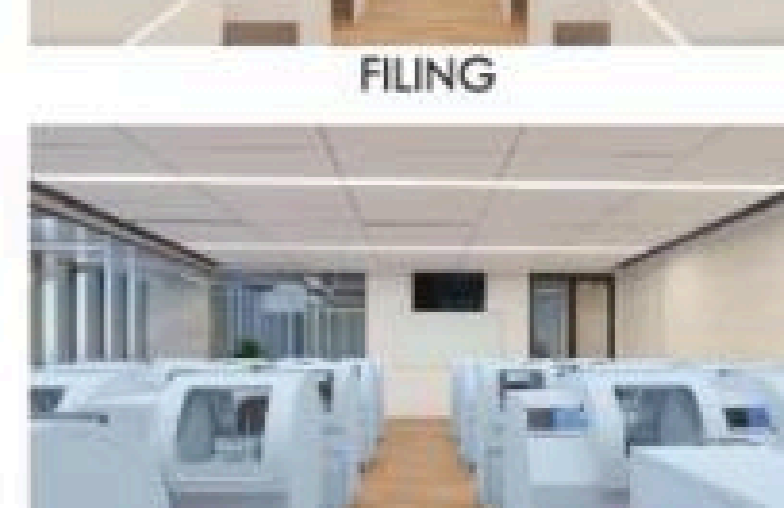
DIAMOND ASSORTMENT



FILING



METAL SETTING



POLISHING