



AGREEYA®

Protecting Citizens
from Hazards of Vehicular
Emissions with a
Leading-edge App



Established in 1967, our customer is a leading air pollution control board that oversees all air pollution control efforts and manages climate change programs in California. The organization's goal is to maintain good air quality standards, protecting the Californians from exposure to toxic air contaminants. Towards this end, the agency is responsible for defining vehicle emissions standards under the federal Clean Air Act of United States.

Further, the Air Pollution Control Board grants funding across 35 districts of California to various projects targeted towards reducing vehicular emissions leading to air pollution. Approximately \$1 billion has been allocated to date and the Program continues to provide over \$60 million in grant funding each year to programs helping clean up old polluting vehicle engines throughout California. Prior to the engagement, agency leveraged a legacy Clean Air Reporting Log (CARL) application to grant funding and monitor projects to maintain good air quality standards.

Legacy Application Creating Roadblocks in Timely Disbursal of Grants

The CARL application had been developed in 2009 and built to support the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). When built, Moyer Program was the only governing principle to assess the programs to be rewarded with incentives. However, over the years the incentives landscape had undergone significant change. The legislature and programs have been modified periodically to better serve Californians. New programs such as CAP (Community Air Protection) Program, FARMER (Funding Agricultural Replacement Measures for Emission Reductions) Program, CC4A (Clean Cars 4 All) Program and EFM (Enhanced Fleet Modernization) Program have now come into existence. The existing application did not support the new program types and all new program data had to be entered manually. Dependence on manual data entry and monitoring caused significant delays in the entire grant approval process.

Additionally, the technologies leveraged while building the app had undergone significant upgrades over the years. Legacy technologies made the app vulnerable to various security risks. The app was prone to run-time failures and lacked efficient automation to support the current program management staff. The UI/UX of the existing app was cumbersome and uninviting, posing roadblocks, and impacting the productivity of the staff. If not addressed quickly, such challenges could impact the grants program and in turn impact the mission of the agency

Consequently, the government agency's top management wanted to modernize the mission-critical CARL application with new technologies and ensure compliance with new program types. AgreeYa has been a trusted partner for the Air Pollution Control Board for over a decade now. Based on our deep domain knowledge and understanding of the agency's infrastructure, the agency entrusted AgreeYa with the CARL app modernization project.

“Our grants program was impacted by various shortcomings in the existing CARL application. The inefficiencies were creating roadblocks in our mission towards a California with better air quality. We needed a trusted technology partner to redesign our legacy application and get the program back on tracks.”

- Project Manager, Air Pollution Control Board

Modernizing Legacy App to Drive Efficiency

Upon engagement, our team of experts held in-depth discussions with the customer's key stakeholders to understand the exact expectations and analyzed shortcomings in the existing app. Based on the inferences gained, our team of experts shared a roadmap for modernizing and redesigning the existing app to streamline the grant application process. The proposed app would utilize microservices-based AWS Cloud native architecture, to handle different loads to channelize the user interface (UI) and establish database communication for better query performance. After customer's approval, AgreeYa put together a team with exceptional expertise in .Net Framework and the AWS Cloud. AgreeYa helped the government agency with the following:

Redesigning the Existing Application

Experts at AgreeYa, redesigned and modernized the legacy application utilizing microservices-based AWS Cloud native architecture, enabling the app to handle different loads efficiently and channelize the UI and database communication for better query performance. During this stage, our experts aptly demonstrated mastery in the very technologies that were of interest to the government agency.

Creating Intuitive UI/UX

Our UI/UX team enhanced the existing user-interface. We implemented intuitive UI with better navigation, and dynamic controls, minimizing the need for complete page refreshes with responsive layout using Prime React. The newly designed app allows agency's management to manage multiple projects with tracking functionality, timely approvals, and closeout with a flexible reporting system to add new reports without IT department involvement. The UI/UX team also optimized the existing forms to reduce the average time required to utilize them.

Creating Automated Workflows

Various automated workflows were implemented to reduce manual processes and increase project management efficiency. Some of the major workflows include - project initiation, application monitoring, grant reviews, approval, and closing.

Calculations of Project Benefits at Specific Location

The legacy CARL app did not have functionality to establish location-based emission reduction targets. This new feature enables the program staff to set specific targets for high priority locations including high risk regions, low income and vulnerable populations, and others.

Adding New Project Types

With this new feature, our team accommodated the new program types, which were not supported in the previous app. The new program types included CAP Program, FARMER Program, CC4A Program and EFM Program.

Enabling Self-service Reporting

Allowed self-service reporting capability, thereby improving project reporting, and allowing the staff to filter data and produce reports required.

Migrating from On-premises to Cloud

As a part of the technology refresh, our experts migrated the LAMP (Linux Apache MySQL and PHP) based application to AWS cloud. The migration was completed seamlessly without any data loss or impacting business operations.

The app was developed using secured coding standards, adhering to the principle of validating inputs, API based data interface/exchange with effective quality assurance techniques. The new app complied with security standards required by the government agency.

Fostering Efficiency with Leading-edge App

Our expertise helped in modernizing the government agency's mission-critical app. Upon release, the app was effective in reducing the manual efforts required to manage projects and track funding. As reported by the users, the new app was a joy to use due to its intuitive and simple user experience. The app also boosted efficiency of the grants program staff with automated workflows and integration of new program types. The new app boasts of a responsive layout, dynamic controls, and efficient data entry system, setting new standards for apps in the specific industry. Some of the notable benefits of the project are:

Implementation of automated workflows enabled timely project approvals, project tracking, updates, and closeout.

Enabled easy calculations of geographical location-based emission reduction targets.

1.5X increase in efficiency with reduced time.

Easy tracking of funds for planned program expansions.

95% reduction in manual processes.

Zero data loss while migrating data from on-premises to AWS cloud.

“AgreeYa’s meticulous approach to the project addressed our challenges and helped us better plan the grants program. It enabled timely disbursement of funds for programs dedicated to the wellbeing of citizens.”

- Project Manager, Air Pollution Control Board

Technology Stack



About AgreeYa

AgreeYa Solutions is a leading global provider of software, solutions and services to small, medium and global Fortune 100 organizations. Founded in 1999 and headquartered in Folsom, Calif., AgreeYa has over 2,500 professionals helping clients across U.S, India, Mexico, and Singapore. Leveraging a technology-enabled, consultative approach and diverse talent, AgreeYa offers modern workplace, smart analytics, intelligent automation, AI/ML, cloud transformation, mobility and talent management solutions to deliver digital transformation to its clients. AgreeYa has received considerable recognition including certifications like Microsoft Solutions Partner and Cloud Solutions Provider, AICPA SOC 2 Type 2, SEI CMMI and ISO 9001:2015; and awards including 'Dream Company to Work For' and 'Best Employer Brand'.



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