



**CAL FIRE**

avolve<sup>®</sup>  
software



## CAL FIRE ePlan Case Study

Electronic Plan Review is the latest effort in the CAL FIRE Office of the State Fire Marshal (OSFM)'s commitment to improving customer service through technology and process enhancements. Learn how the organization teamed up with IBTS and Avolve Software to seamlessly integrate sophisticated ProjectDox<sup>®</sup> electronic plan review in its existing GOVmotus<sup>®</sup>//FIRE permitting, licensing, and inspection system.

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### Introduction

Electronic plan reviews (ePlans) have undoubtedly transformed how the construction industry and authorities having jurisdiction (AHJs) interact, allowing for increased efficiency, ease, accuracy, speed, and transparency of plan review processes to the benefit of all parties involved.

After deploying GOVmotus<sup>®</sup>//FIRE, a robust role-based permitting and inspection software as a service (SaaS) in 2018, CAL FIRE leadership began working with GOVmotus' technology partner, the Institute for Building Technology and Safety (IBTS), to identify a solution that would link their electronic permitting and paper plan review workflows in an integrated, seamless system. CAL FIRE and IBTS found their answer in Avolve Software's ProjectDox<sup>®</sup>, an ePlan and document workflow software solution. This case study showcases how the three organizations worked together to develop a sophisticated, integrated platform including a single sign-on (SSO) capability that has revolutionized CAL FIRE's project workflows.



**CAL FIRE**

*by the Numbers*



**60,000**  
buildings



**16,000**  
external users



**135**  
internal users

← ..... EACH MONTH ..... →



≈ **200**  
Construction  
Permits



**400<sup>+</sup>**  
Occupancy-Based  
Inspections



**250<sup>+</sup>**  
Enforcement-Based  
Inspections



≈ **250**  
Plan  
Reviews

# Background

The California Department of Forestry and Fire Protection, commonly known as CAL FIRE, is one of the largest fire departments in the United States. It is responsible for fire protection and stewardship in State Responsibility Area (SRA) lands, including over 31 million acres of California's privately-owned wildlands. It also acts as an all-risk fire department that responds to any number of emergency needs in 36 of the state's 58 counties through contracts with local governments.

Within CAL FIRE, the Office of the State Fire Marshall (OSFM) protects life and property through fire prevention, engineering, training, and enforcement. OSFM includes the Fire and Life Safety and Fire Engineering and Investigations divisions.

Fire and Life Safety performs mandatory and periodic inspections and permit application and plan review for approximately 60,000 buildings throughout California, including State-owned and State-occupied structures, institutions, detention facilities, high-rises, schools, hospitals and care facilities, camps, places of assembly and more. The Fire Engineering division administers licensing programs and performs engineering functions affecting consumer services and product evaluation, approval and listing across 11 extensive statewide programs.

The scope of these responsibilities is exceptional given California's size, its population, and economic activity. Yet as of 2016, OSFM staff performed these fire prevention oversight tasks using paper files, spreadsheets, and siloed databases.

OSFM's visionary division chiefs set out to transform this process using modern web-based software systems. After documenting their requirements, reviewing commercially available tools and consulting with the agency chief information officer, CAL FIRE issued an RFQ in late 2016 for a web-based permitting system.

IBTS, a national nonprofit professional services organization, competitively bid and won the contract based on its proprietary GOVMOTUS® software, a role-based, business automation solution. IBTS originally developed GOVMOTUS® to assist its municipal and local government clients in transitioning to electronic permitting and inspections processes. Over the next several months, IBTS worked closely with OSFM leadership to customize GOVMOTUS® into GOVMOTUS®//FIRE, a platform specifically configured for CAL FIRE's complex needs, volume, and usage.

***“This project was a success due to CAL FIRE’s visionary executive leadership and their assignment of a lead subject matter expert who was truly an expert in their processes and regulations.”***

**- Craig Bertolett, IBTS Director of Operations.**



## GOVmotus®//FIRE Initial CAL FIRE Deployed Capabilities

- A fully electronic, cradle-to-grave system, transitioned from paper-based permitting process
- Integration of OSFM's substantial database of buildings and inspection records
- Building inspection schedule based on imported information
- Supported by cellular-enabled tablet computers to enable easy field usage by F&LS staff
- IBTS support, training, and outreach to internal and external users
- A licensing program that tracks application submission, acceptance, payment, inspection, and issuance for over 40 license types
- Centralized applicant portal for permit and license application submittals and viewing/signing inspection reports
- Role-based dashboards, automated notifications, unified building database, contractor license verification and automated identification of fire hazard severity zone
- Automated email and SMS notifications of status updates to applicants, contractors, and agency contacts
- Flexible reporting, including a list of standard, pre-configured reports as well as a custom report builder
- Offline mobile application for F&LS inspections, including inspection scheduling, processing, code look up, picture capture, and inspection report output

## Integrating ePlan

Following the initial deployment of GOVmotus®//Fire, CAL FIRE leadership began investigating how to integrate electronic plan review for permit approvals. With about 2,600 applications a year, enabling an electronic review process would have a significant positive impact on department staff, customer service, and process efficiency.

Avolve Software was quickly identified as the best partner to meet this need with their ProjectDox® ePlan software platform. Like GOVmotus®, ProjectDox® is a role-based workflow tool that has the necessary capabilities and best in class workflows to meet CAL FIRE's needs in addition to a team that was able to collaborate with CAL FIRE and IBTS to customize an integrated solution.

The Avolve team's initial efforts were to understand CAL FIRE's needs and identify the functions necessary to meet these without increasing complexity. Given CAL FIRE Chief Stephen Guarino's long-standing commitment to a vision of digital transparency and efficiency for the department, it became immediately clear that the new system must allow users to easily access ePlan functions from the GOVmotus®//FIRE platform.

The Avolve and IBTS teams collaborated over the next several months to develop a single sign-on (SSO) approach that not only allows users to easily move between GOVmotus®//FIRE and ProjectDox®, but that also passes required information back and forth between the two platforms, allowing for

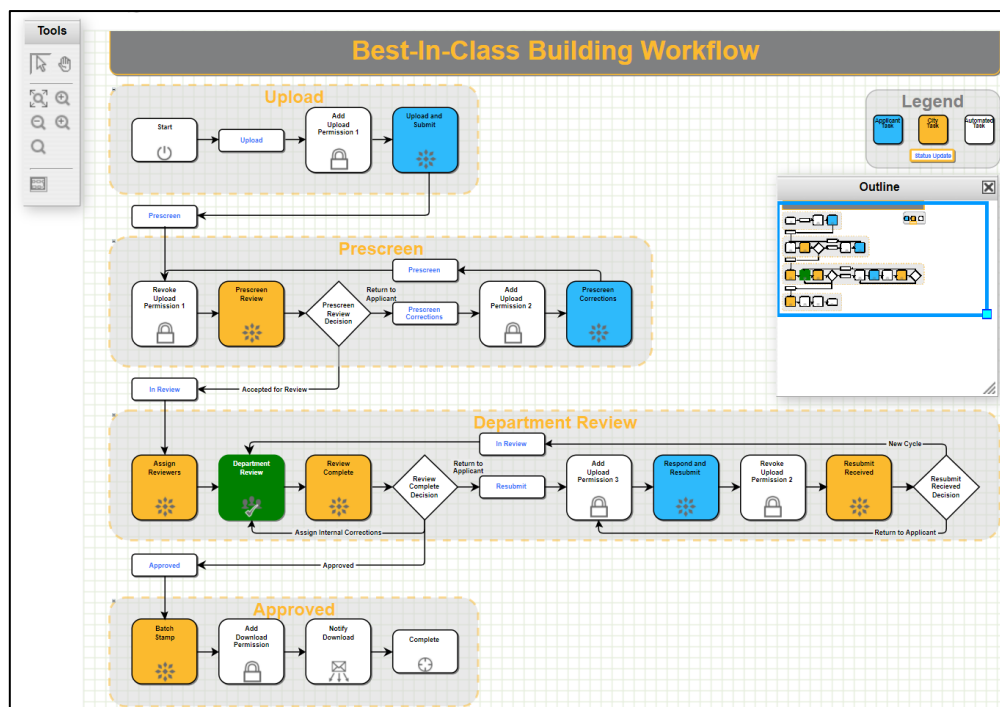
seamless integration of permitting and plan review functions and workflows.

For external users who want to submit an electronic plan for review, the new system allows them to complete a plan submittal checklist to ensure all fundamental components of the plans are complete, then upload the plans electronically. ProjectDox® can accept hundreds of different file types, including AutoCAD, MicroStation, and Word documents as well as many image and video file types. Additionally, the software retains all vector and layer information inherent to the native file type.

Once plans are uploaded, the system alerts a Review Coordinator who performs a pre-screen review before submitting to the plan reviewer. Plan reviewers can easily interface with GOVMOTUS®//FIRE's permitting and inspection functions, mark up documents concurrently and read each others' comments; overlay document versions to see and compare changes; monitor review processes and generate reports; and use various annotation, checklist, and notes

features. They can also take advantage of the platform's superior document and version control management and batch stamping capabilities. Further, the GOVMOTUS®//FIRE system continues to support paper plan reviews, which are still used in some cases; in this case, the paper plan reviews are tracked in the system and integrated to the extent possible with electronic permitting and inspection processes.

During this effort, CAL FIRE also asked that IBTS and Avolve provide additional functionality that would allow staff to use the system to accurately track and attribute their time on permitting, plan review, inspections, and other tasks. This allows CAL FIRE to support the Financial Information System for California (FI\$Cal), California's statewide accounting, budget, cash management and procurement IT system. Per FI\$Cal requirements, department staff must account for their time by project or building to ensure that the State can bill the appropriate agency. This functionality likewise supports CAL FIRE's overall approach to transparency and efficiency.



An example of a CAL FIRE project workflow in the ProjectDox® platform.

## Other System Improvements

During the plan review integration, the IBTS team also developed several additional functionalities for the system, including automated notifications sent to applicants for frequent permit application and plan review status updates; added priority inspections to the mobile app; added folder creation for uploaded and system-generated documents; implemented a Time Entry Editing function, replacing the need for a separate Time Entry system for OSFM; added an advanced searching capability; created several advanced reports for identifying common deficiencies found per agency, building, and project.

## CAL FIRE's Vision Becomes Reality

The new system was launched in April 2020, realizing CAL FIRE's vision of having an integrated, web-based system for electronic permitting, plan review, inspections, and licensing that supports thousands of projects across the state. IBTS continues to maintain the GOVmotus®//FIRE system for CAL FIRE with routine software patches, system updates, and maintenance of the deployed capabilities. This includes addressing new needs as they arise; for example, IBTS performed a minor configuration change to set up a billing code for COVID-related work, an urgent requirement necessary for tracking costs for potential grant reimbursement in the future. Since its deployment, OSFM's GOVmotus®//FIRE system provided 99.9% availability.

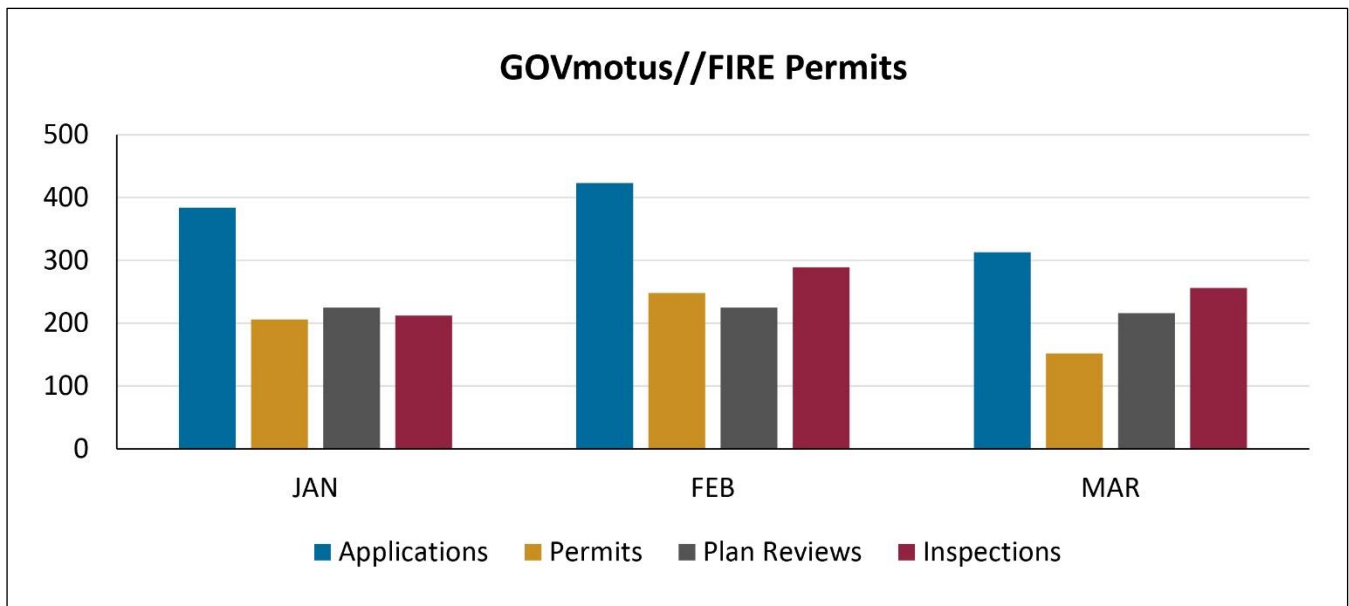


Chart demonstrating the number of permit applications, plan reviews, and inspections processed through CAL FIRE's GOVmotus®//FIRE each month.



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Institute for Building Technology and Safety  
45207 Research Place  
Ashburn, Virginia 20147  
703.481. 2000  
[www.ibts.org](http://www.ibts.org)