

**THE INTRODUCTION:**

A multi-billion-dollar manufacturing company and global leader in high-tech filtration, separation and purification solutions has been at the forefront of new developments for a broad spectrum of life sciences and industrial customers for close to 100 years. For purposes of this case study, we will focus on their Food & Beverage division and their dedication to ensuring the product quality that is critical for safety within this industry.

One such product, a comprehensive filtration system in vast use within the world of winemaking. With installations filtering wine in every region of the world at many of the largest wineries, smallest boutique producers and every provider in between they and their brands are often seen as benchmarks for what's known in the industry as wine and lees filtration. Recovery of wine and juice from lees represents one of the most challenging forms of filtration faced by wineries. The high concentration and variability of the suspended solids limits the suitable filtration technologies, while strict environmental regulations and sustainability programs are increasing pressure to reduce waste volumes. In their never-ending effort to solve the most complex challenges, their engineers have developed a number of sensors and gauges installed throughout their proprietary system to ensure stability, efficiency, and quality.

**THE CHALLENGE:**

The Corporation contacted Envative to aid in making their proprietary system more adaptive to modern manufacturing workflows. Simply stated, replicate the control panel on a mobile device and alert the equipment operators of any events or conditions that they may need to address even if they are not in front of the machine.

While they employ numerous engineers capable of creating the sensors, they sought Envative's expertise in creating a communication connection between the sensors, the control panel, and the cloud, where we could ultimately provide the system operator with all of the critical information the sensors reported.

They also needed us to develop native mobile applications for iOS and Android for the intended user-base.

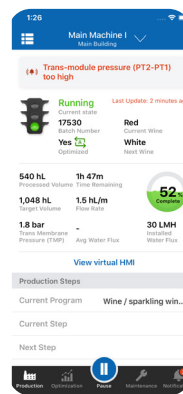
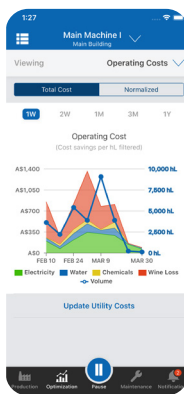
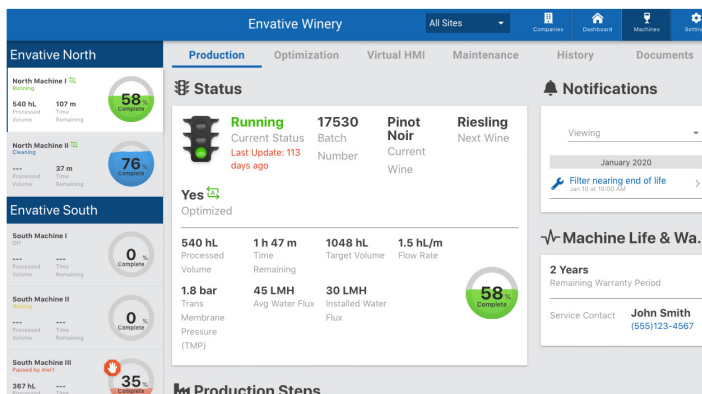
**THE GOAL:**

Several goals were identified within this project:

1. Create an appealing user interface that would be intuitive to a trained system operator, while employing modern graphics and seamless navigation.
2. Develop robust communications without latency, should the operator need to shut down the equipment remotely.
3. Develop an architecture within the data model to allow for new data points and analytics for a possible future in predictive maintenance measures.
4. Develop a common-user-interface layer that could be employed for their web version of the application while managed in a single code base.

In addition, Envative needed to be ready to assist in developing some custom APIs should the need arise.

THE SOLUTION:



Envative formed two teams; web, mobile (with an IoT team advisor). For the mobile solution, we developed a native UI for each platform but developed a shared business layer using TypeScript running in each JavaScript interface. This layer was designed for interfacing with all the backend APIs that the web team created. This method was paramount in creating efficiencies in development as well as lowered cost of ownership. It is also the same layer the Corporation was able to employ on their web portal, which was developed in React – creating a unified UI/UX regardless of the platform.

The new applications, APIs, and system control features were deployed in July of 2020, on time and within budget. Our work was so well received, Envative is currently engaged on new projects with with the same as well as other divisions of this Corporation, within the US and Germany.

Note: due to the proprietary nature of this system and our strict adherence to non-disclosure agreements with this client, company name and product specifics have been left out of this case study.