Predicting new business projects to optimize staffing and infrastructural resources

Data science case study

March 9, 2023

Key takeaways

- A West Coast gas utility wanted to develop a forecasting tool to predict new business for several different geographies and project types that it could integrate into its resource planning system.
- E Source developed a proof-of-concept machine-learning model using external economic and construction data to forecast new business projects for the utility.
- The E Source model is dynamic, with the ability to spot changes over time, adjust the forecast accordingly, and improve the utility's ability to adapt to changing market conditions.

The challenge

It's complicated and expensive to expand natural gas distribution infrastructure. Utilities strive to be as proactive as possible when planning for material and labor costs that come with a project like expanding the distribution network to serve a new mixed-use development. Long-term forecasting for new business is incredibly challenging because it involves understanding economic trends in addition to the utility's own infrastructure and customer base.

A West Coast gas utility facing this challenge needed help developing a forecasting tool for predicting new business for several different geographies and project types that it could integrate into its resource planning

system.

Forecast what new business is coming in the pipeline

Contact our team to learn more about our expertise and how we can help.

The solution

The utility worked with E Source to develop a proof-of-concept machine-learning model to forecast new business projects. Data scientists trained the model to recognize relationships between external economic and construction data and new business data. E Source used the external data to identify leading indicators of new business work. The model considers factors like federal, state, and local economic development activity and indexes.

To create the forecast, E Source trained several classes of predictive models and measured their performance by iteratively comparing predictions to actual historical data from the utility. Data scientists performed these cross-validations for each sector, service territory, and project type. E Source developed the final forecast by blending the top-performing machine-learning and statistical methodologies.

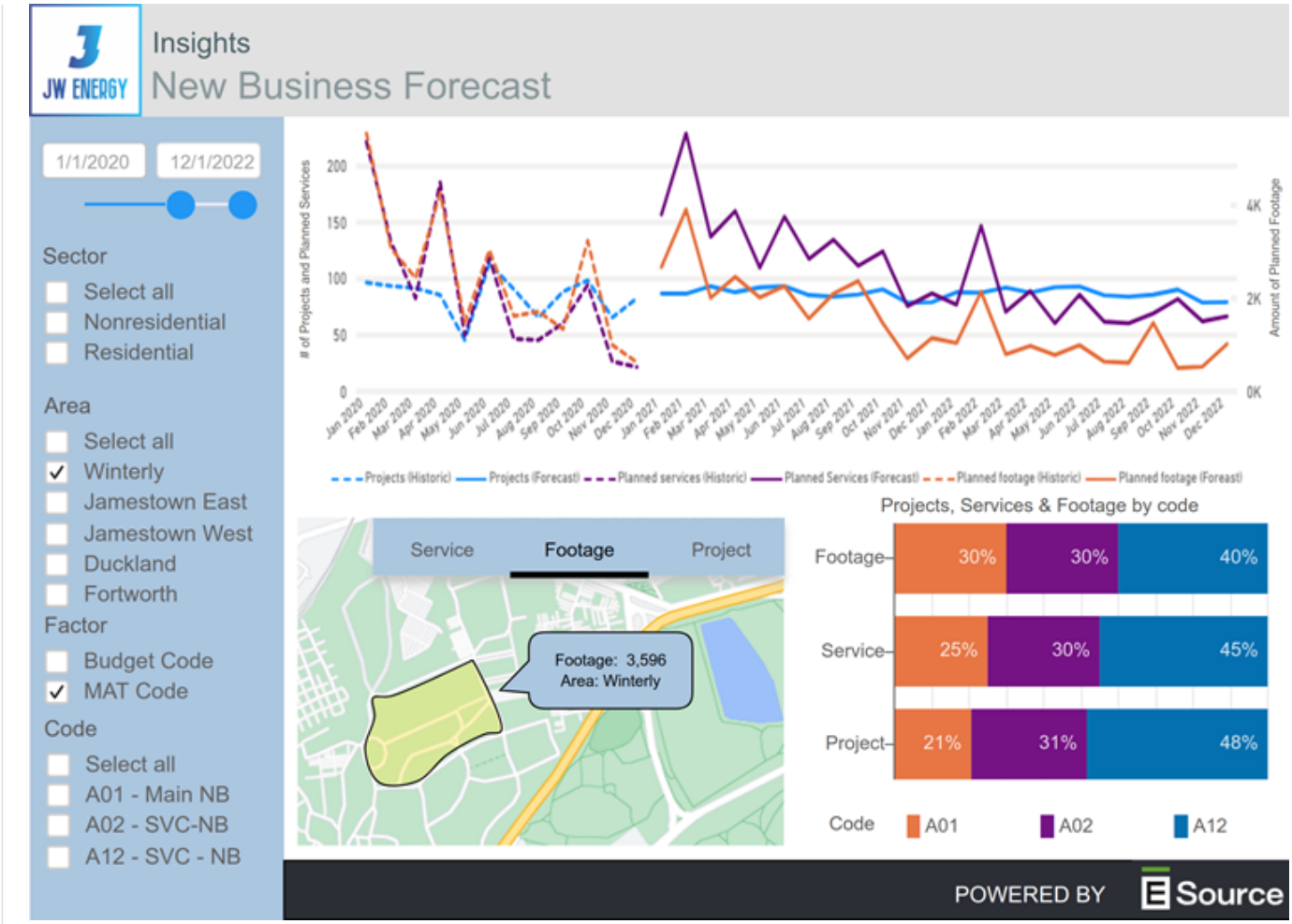
The results

E Source's advanced machine-learning model is dynamic and can:

- Spot changes over time
- Adjust the forecast accordingly
- Improve the utility's ability to adapt to changing market conditions

E Source also developed an interactive tool for the utility to use when preparing for new business. The tool provides a visualization of new business with both historic and forecasted activity. It also breaks down the forecast by service area.

E Source's interactive forecasting tool



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