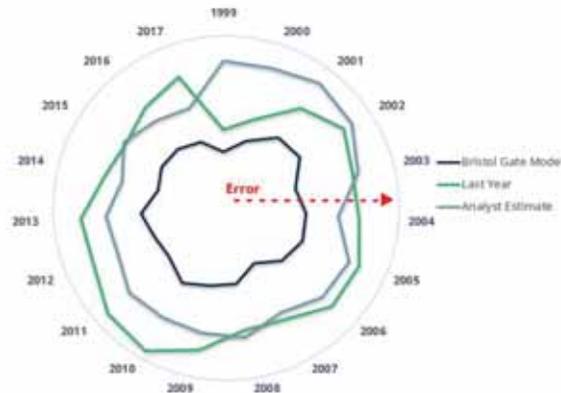Since being founded in 2006, Bristol Gate has leveraged technology to help make better investment decisions. The technology has evolved significantly since then, but the principle remains the same.

Bristol Gate now employs a machine learning model to help predict dividend growth for an opportunity set of companies over the coming 12 months.

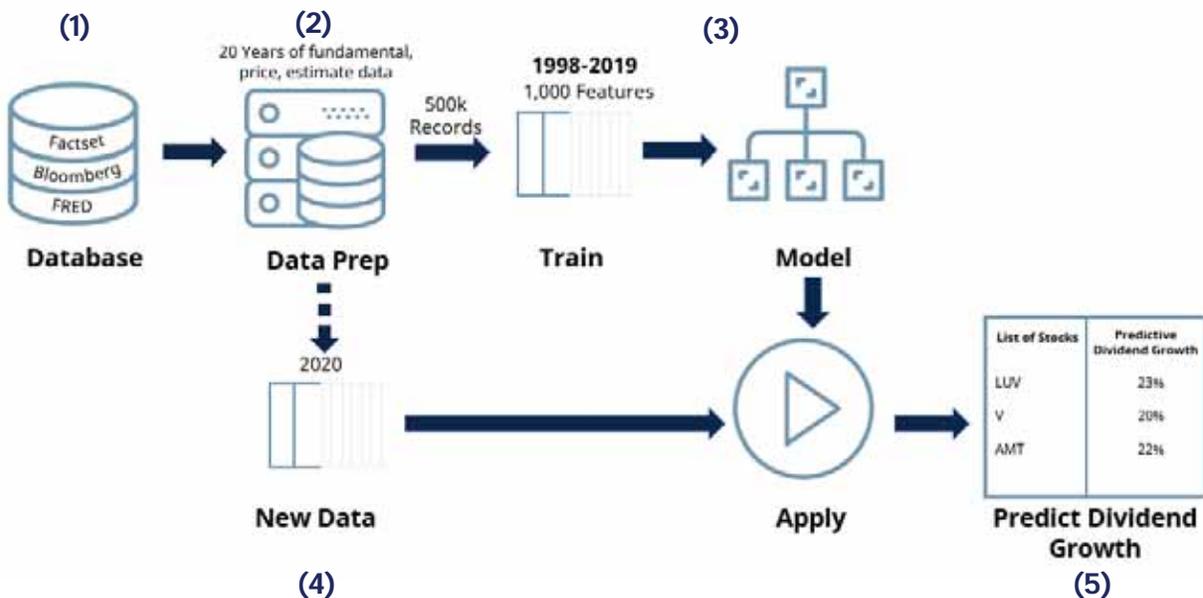It has proven to be 50% more accurate than analyst estimates.

Average Dividend Growth Prediction Error

The Bristol Gate investment process is composed of both quantitative and qualitative approaches:

- Our Dividend Growth Prediction model is used to generate a list of suggested companies.
- Our Portfolio Managers then perform Productive Capital Analysis – a combination of fundamental and risk analysis - on these companies to construct the portfolio.

How does the model work?

We employ Machine Learning algorithms called Gradient Boosting Machine using fundamental and economic factors as inputs to predict dividend growth twelve months forward. Data is provided by FACTSET, Bloomberg, and the Federal Reserve Economic Database (**Step 1** in the diagram), and combined using a proprietary Extraction, Transform and Load process (**Step 2**). The cleaned data is then fed into a cutting-edge Tree-based model to predict the dividend growers. In this process, the data is divided into train, validation and test sets (**Step 3).** The model is applied to the test set for each year to predict dividend growth for individual stocks and calculate the model accuracy through time. Based on what the model has determined through its training, it applies a prediction with the new data (**Step 4**) to make a prediction in which the outcome is unknown. We then rank stocks higher to lower by the predicted dividend growth (**Step 5**). The strategy uses the 50+ highest predicted dividend growers, and is back-tested over time to validate the process.

After the list of stocks is generated, our Portfolio Managers conduct a review of the business and financial risk, valuation and fit to arrive at the final portfolio. During this stage, the overall risk profile and diversification of the portfolio are also assessed.

What goes into the Model?

In the age we live in and with the amount of data being created in such a short amount of time, the need to embrace and utilize technology to make better decisions is crucial. Our model employs over 1000 features for each company in the S&P 500 to glean an insight on what drives dividend growth. Of the 1000 features, 200 are significant predictors of future dividend growth with the top 20 being the most significant. These factors and their significance are dynamic over time. The illustration above helps provide an idea of the types of features that are used in the model.