## StarMine M&A Target model

Mitigate risk, enhance multi-factor models and identify M&A targets with a model that predicts companies more likely to be acquired

#### **Our Solution**

With the StarMine M&A Target Model you get access to the first commercially available model that uses a large language model to rank potential merger and acquisition (M&A) targets within the next 12 months for over 38,000 public companies.

The model is global, but it accounts for different levels of acquisition activity by region and allocates a greater probability for sectors experiencing a wave of activity.

#### How the model works

The StarMine M&A Target Model uses a large language model on Reuters News textual content, machine learning on fundamental point-in-time data sets and credit profiles. The model has two components that separately analyse industry-leading structured and unstructured data to deliver a best-of-breed ranking:



The fundamental component analyses M&A deals, proxy fights, corporate actions, pricing, company fundamentals and other structured data.

The fundamental component identifies the influential features for M&A in each geographic region and uses a logistic regression model to compute the M&A target likelihood. It utilises firm size, market-to-book ratio, dividend and the StarMine Combined Credit Risk Model (CCR) for financial condition assessment, and incorporates prior takeover transactions and proxy fights to predict the possibility of an M&A deal. It also takes historical sector merger waves into account.



The text component performs natural language processing (NLP) on millions of Reuters News articles by applying a transformer-based, pre-trained large language model.

- The text component applies a pre-trained BERT-RNA model on the textual data from Reuters News to estimate the probability of a company becoming an M&A target. It analyses English language news articles and assigns relevant sections to each company. The model is then fine-tuned on previous M&A activity to create a predictive model.
- BERT (Bidirectional Encoder Representations from Transformers) models are trained from both left and right contexts to build semantic representations of news articles, making them well suited for classification problems.



## Fundamental Model and Score



Mergers & Acquisitions

#### **LSEG** Datastream

Pricing



Company Fundamentals

#### **LSEG** StarMine

Quant Models

#### Separate models by region

- Factors include:
  - Sector
  - Credit Quality
  - Valuation
  - Dividend
  - Market Cap
  - Proxy Fights
  - Prior Deals

### Large Language Model and Score

Reuters News Archive



#### BERT-RNA Large Language

**Model:** Domain-specific, transformer-based NLP foundation model, using BERT pre-trained on our proprietary Reuters News Archive

#### M&A Target Model

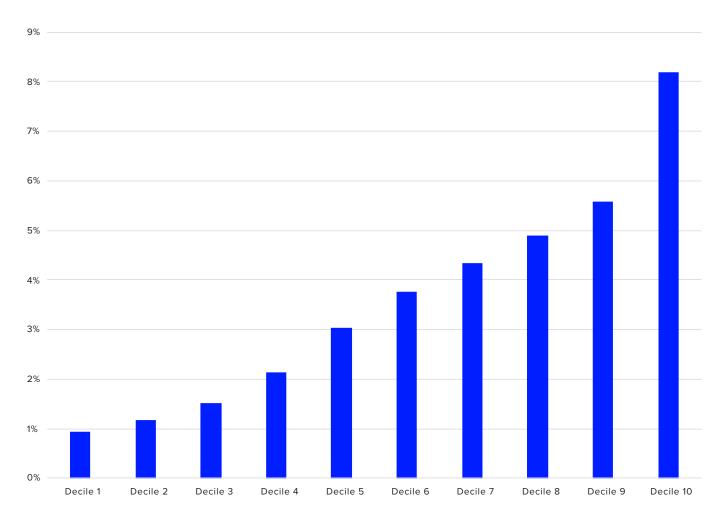
- Workspace view highlighting
  StarMine M&A deal target
  likelihood ranks and key factors
- Workspace screener generating lists of potential M&A targets
- Data feed with M&A Target and subcomponent scores

Top decile companies are 9x more likely to be acquired than bottom decile

#### **Model efficacy**

The top decile of the model's signal identifies companies that are approximately nine times more likely to be acquired than the bottom decile – with consistent results across sectors and regions and over time. Approximately 8% of companies in the top decile were acquired during the period of January 2000 to June 2022 – a higher success rate than previously available academic models.

#### M&A event frequency by StarMine M&A Target decile



#### **Key benefits**



# Avoid short positions in companies more likely to be acquired in the next 12 months

The StarMine M&A Target Model can help you mitigate the risk of your short positions and predict the potential of M&A activity by providing relative rankings of potential M&A targets, updated daily.



# Enhance multi-factor alpha and risk models with an orthogonal data point

The StarMine M&A Target Model provides an additional data point for screening and back-testing with historical testing files available dating to 2000.



#### Identify potential M&A targets

Inform your business development efforts by using the model to prioritise companies that are strong candidates for M&A activity.

#### **Delivery**

#### Data feed

 The StarMine M&A Target Model is delivered via our Platform, accessible via modern, robust APIs.

#### Desktop

- The StarMine M&A Target Model is accessible within Workspace by typing a Ticker+MATM into Search or navigating to the model under the Company>Events navigation category.
- For the company in context the StarMine M&A Target Model Workspace application will provide analysis of the overall model and component scores, graph of up to 10 years of historical scores, breakdowns of the text-mining and fundamental component scores, and peers analysis.

#### **About StarMine**

StarMine is dedicated to making investment research smarter. Analytics and equity research tools like our suite of quantitative models help investment professionals around the globe generate alpha, manage risk and process equity information more efficiently, so they can get ideas to market faster.

