

Global Consulting





Pioneering the transformation of insurance

Today. Tomorrow. Together.

How AutoML boosts modelling in P&C insurance
Veronica Coronel Vera - Insurance Data Science Conference, 17 June 2021

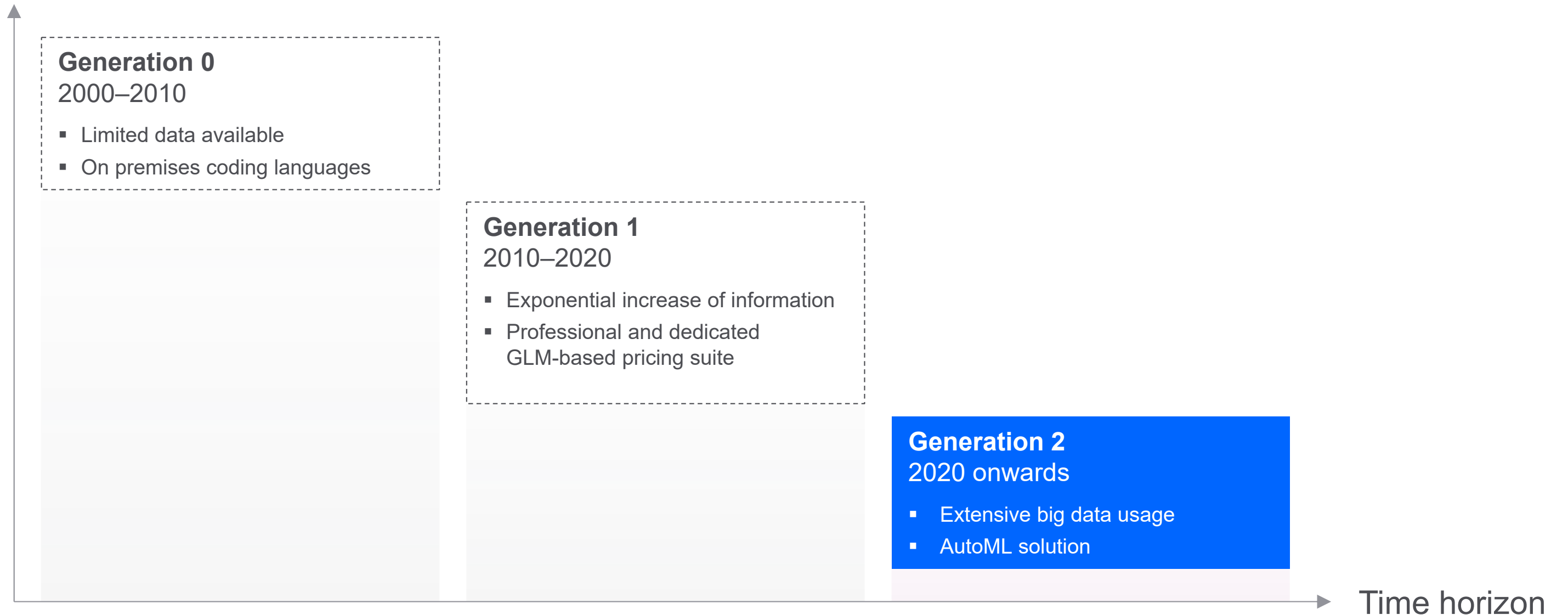


Where does digital evolution have the biggest impact on the Pricing Framework?

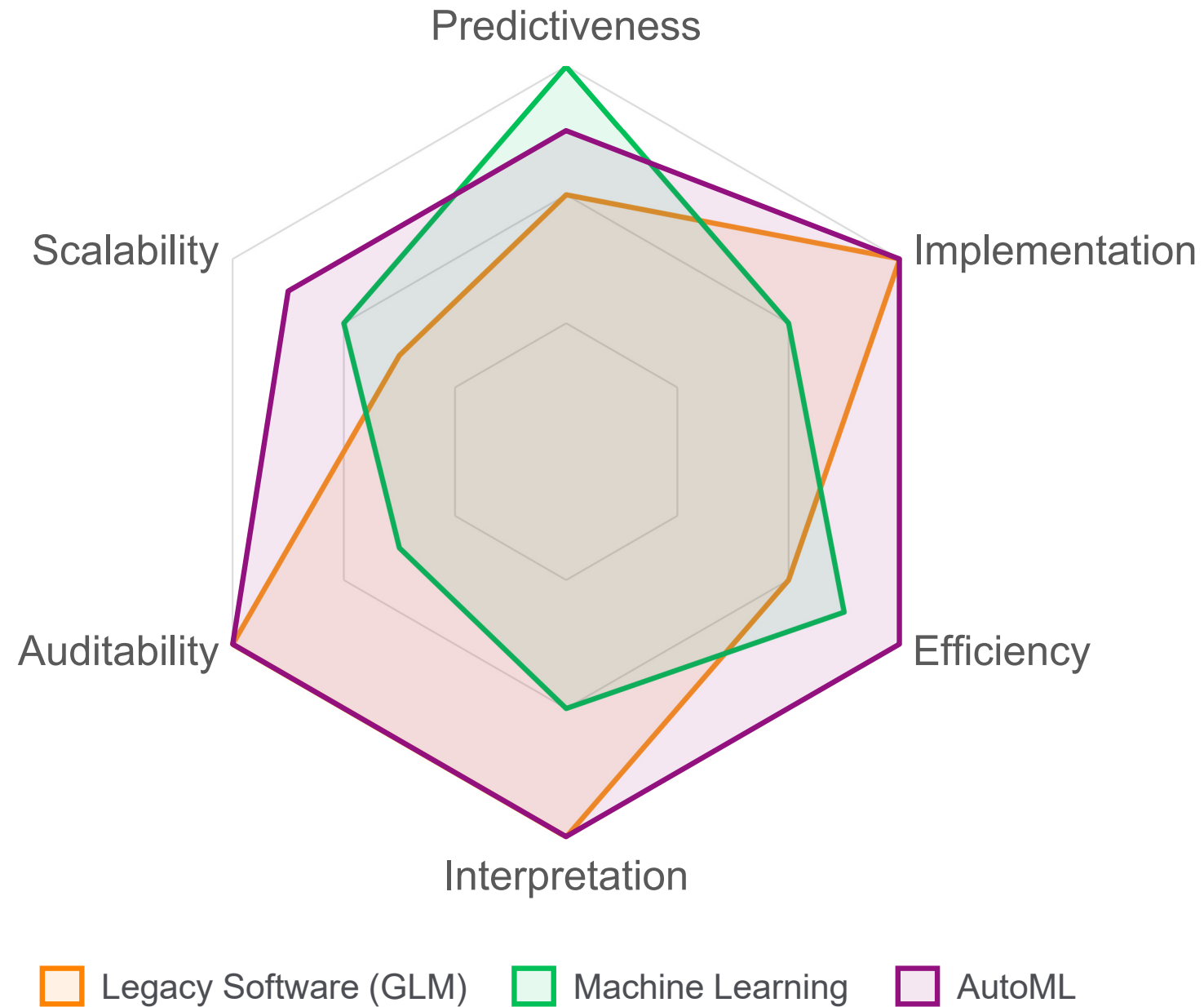
	Prediction 	Decision making 
Architrave 	Technical price Using the past to predict the expected claim costs	Rate calibration Transforming the technical prediction in a commercial rate
	Behavioral modelling Customer buying behaviour and portfolio elasticity	Scenario testing Assessing the impact of any rate change and the effect on the expected volume and profitability
	Competitive market analysis Taking into account market positioning to improve pricing adequacy	Portfolio steering & pruning Identifying the loss/profit making segment and the strategy to improve the profitability
Pillars 	Data management <ul style="list-style-type: none"> Data availability Storage infrastructure 	Domain knowledge <ul style="list-style-type: none"> Business impact of analytical actions Regulatory environment
		Deployment <ul style="list-style-type: none"> Fast implementation and execution Synergy across software solutions

AutoML is at the edge of modelling software solutions

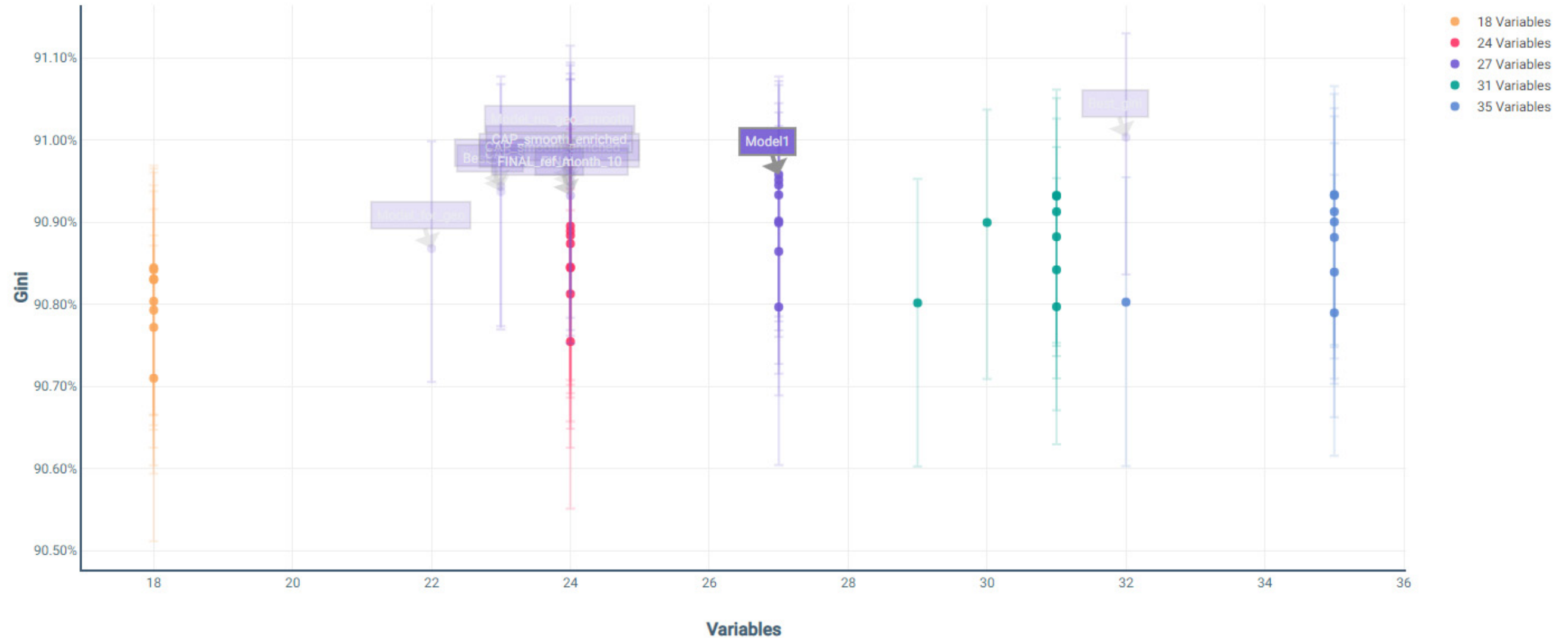
Time spent on prediction



AutoML provides strong answers to modelling challenges




Grid Search Overview



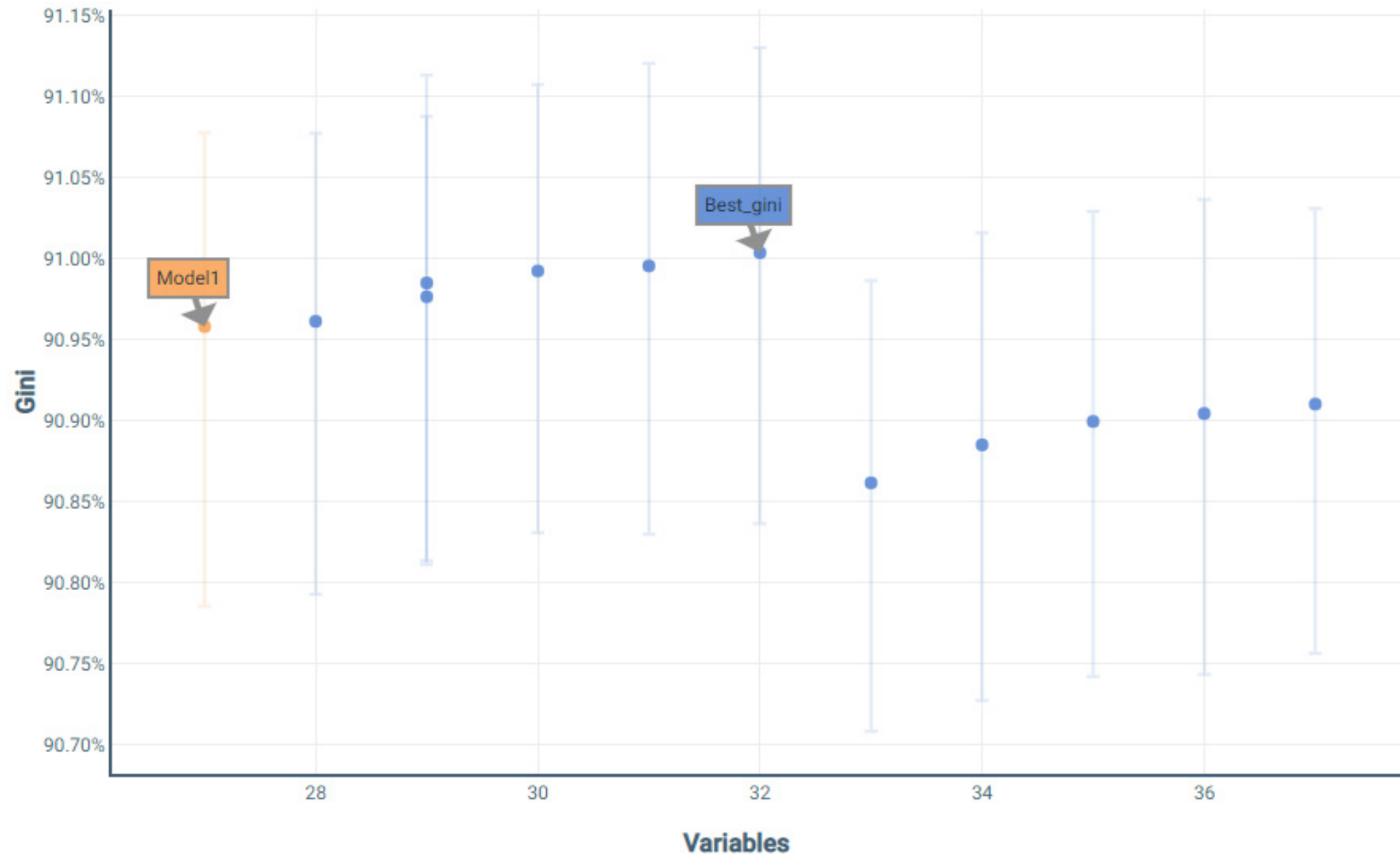
Spotting Interactions

#PreviousModel has #27 variables which give #351 possible interactions.
351 possible interactions will be automatically suggested. You can add custom interactions.

 Automatic suggestion

Number of suggested interactions

351



Optimizing resources allocation throughout technical sophistication journey

Advanced

- Risk and behavioral models
- Competitive market analysis
- Fully-fledged portfolio optimization

Intermediate

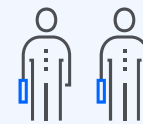
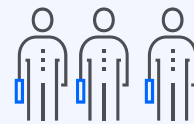
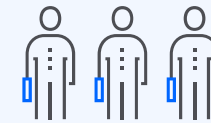
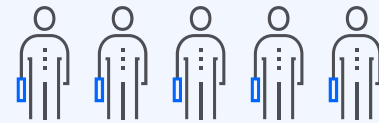
- Good granularity of covers modelled
- Risk and behavioral models
- Regular models refresh

Basic

- Limited number of covers modelled
- Risk models only
- Yearly models refresh

Legacy software

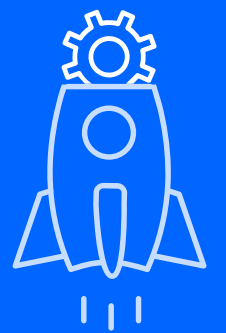
AutoML



Non-scalable operations

Scalability possible

AutoML is a business enabler allowing to accelerate your technical sophistication journey



Where to divert the effort

Decision Making



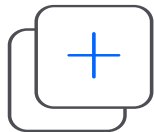
- Focus on the why and no longer on the how

Business Intel



- Devoting time monitoring sales and loss ratio metrics will help the analyst identify profitable segments
- Marketing budget and channel optimization

Pricing Engine



- Regain control of pricing model testing and price version deployments

Return Control to the Actuaries



- Actuaries responsible for price strategy and responding to competitor price changes
- Overall control of rates and deployment is returned to actuaries away from IT

Where to divert the effort

Payoff



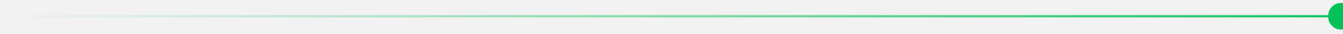
New Datasets

Test new external datasets and engineered features



Identify Segments

Identify profitable segments underpriced by the market



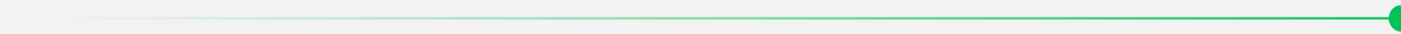
Ancillary Products

Transfer pricing sophistication to ancillary products
e.g. breakdown cover



Tiered/Multi Product

Transfer the pricing sophistication to multiproduct which have more perceived value

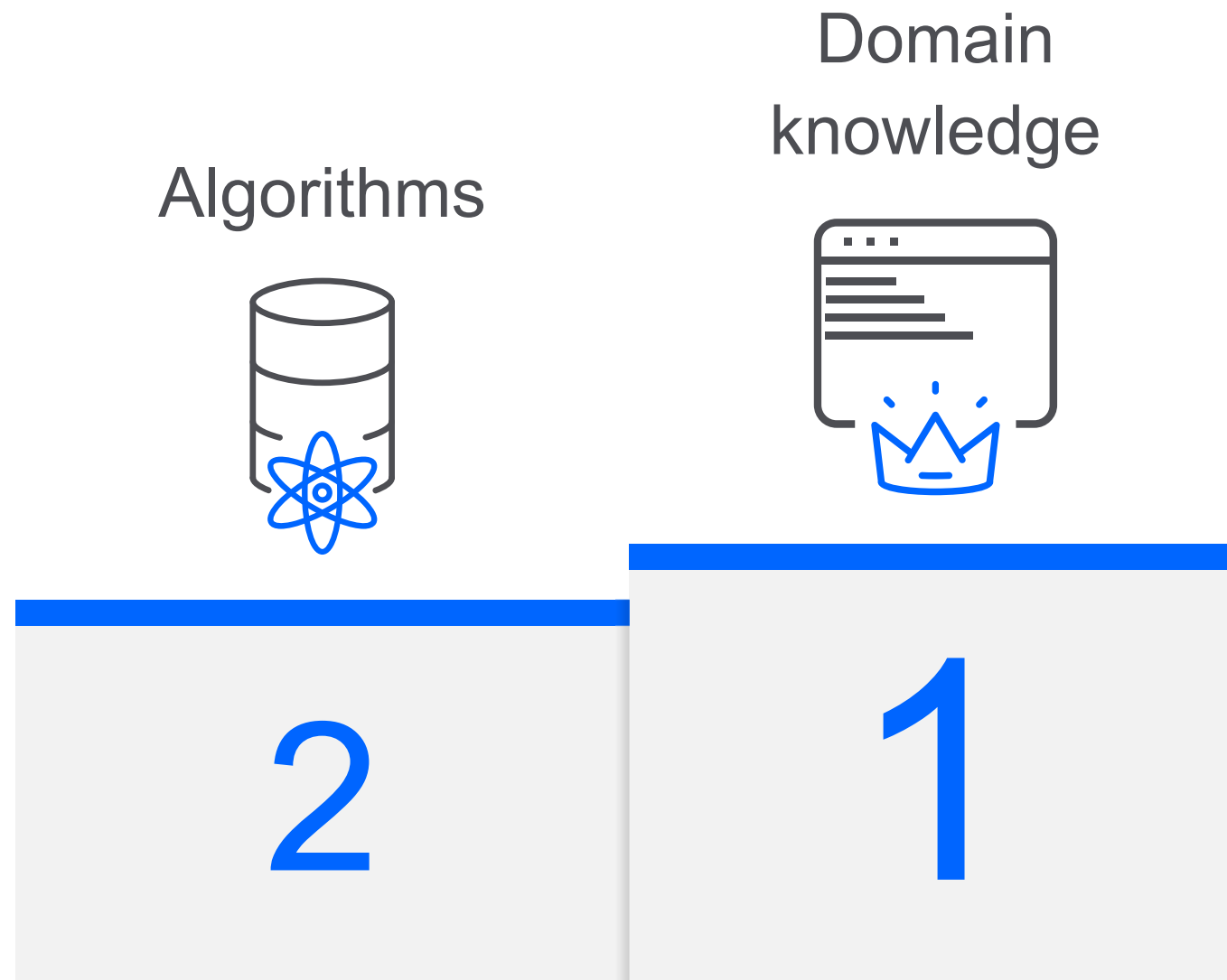


New Initiatives

Marketing campaigns, day one pricing for new products, group schemes



Domain knowledge wins over algorithms



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Global Consulting
Pricing Survey H1 2020
Insights into sophistication, tools and trends

Summary

- Munich Re's consulting unit spearheaded a pricing and data analytics survey among our clients, with the help of our client teams
- The majority of our surveyed clients believe that using a professional pricing software is a must
- The expected benefit of machine-learning (ML) techniques, only a few years ago, has not materialised in terms of the actual adoption in primary insurance, as of 2020: more room for the future, if expectations are managed correctly by experts in the field
- There is great untapped potential in the combination of smart business technology solutions with pricing and underwriting in primary insurance

August 2020 - The Global Consulting Unit is focused on keeping on track with the pricing and analytical requirements of our clients and in the markets in which Munich Re operates. In this spirit, we ran a first half-year survey on pricing sophistication in primary insurance. Throughout this document we will refer to pricing uniquely from a primary-insurance (B2C) rather than reinsurance (B2B) perspective.

The 2020H1 Pricing Survey

This questionnaire was proposed to roughly 60 clients via the generous effort of our client teams, and received roughly 40 responses. The clients were predominantly mid-sized players (but with some exceptions) in countries mainly from Central/Western European states (-20 responses), UK (5), Israel (5) and Asia (3); additionally there were replies from a single country. Given the low numbers per country, it is beyond the scope of the current publication to address regional differences, which nonetheless could be the backbone of the next survey. In the future we will scale this effort globally, with the aim of corroborating this initial insight through the whole client network.

With these caveats in mind, we believe our insight to be generally valuable for the whole network of Munich Re's clients, both because it might show the likely development for some un-surveyed markets, and because the insights confirm what our business intelligence and experience tells us from our competitors in the consulting space for primary insurance. We recommend also not to extrapolate these views indiscriminately to all clients or all countries, because of the different regulatory environments and specific market trends.

Pricing and data analytics in the 2020s
Current overview

The application of non-traditional predictive modelling in the pricing value chain dates back a couple of decades, but from the early 2010s it has risen to prominence due to the progressive commodification of both technology and maturity of theoretical insights. This process allows more sophisticated approaches to the ever-growing datasets, as well as leading to a commodification of the role of the technical analyst. The availability of data sources and the increased agility of some rating engines (the front-runners in this market as well as the emergence of some niche insurtechs) has increased the willingness, if not the necessity, of trying out new techniques.

Thank you for your attention!

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Professional experience

- Pricing consultant
- Pricing analyst for innovative mobility topics in Allianz Group
- Pricing analyst of P&C portfolio in Groupama Italy

Non project related experience

- Market Responsibility for Iberia and Latin America
- Reserving expertise on P&C portfolio

Clients/projects

- Technical and commercial rate making on motor portfolio
- Pricing committee member
- Competitive market analysis and Day-one pricing
- Demand modelling
- Pricing solution for new mobility topics (carsharing, micro-mobility)
- Telematics pricing and driving score
- Micro-zoning
- Discount analysis and clustering of motor agent network

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