SOTERIS

CASE STUDY

From Blunt Instrument to Dynamic Scalpel

How an MGA Transformed Auto Insurance Risk Selection

EMBARK.

The Client: Embark MGA

Founded in 2018, Embark MGA develops and administers custom insurance programs to meet the needs of distinct market opportunities. “We look for niche and underserved segments that don’t fit traditional carriers’ broad market focus,” explains Peter Quackenbush, Chief Actuary for Embark. “We then apply a tailored approach to better manage these complex segments relative to the mainstream approach.”

In this case, Embark’s focus is non-standard auto – but the risks they quote are less risky than the “non-standard” moniker may imply. “Some think non-standard refers to bad drivers, but that’s not how we define the market,” Peter says. “While some drivers in the segment may have a serious incident on their record, most are people with no prior insurance, a foreign ID or no credit history.” Traditional insurers often exclude or overprice drivers in these categories. Embark’s program is designed to serve people that need basic insurance to drive but struggle to find a stable insurance provider.

Challenge: Non-Standard But Not Inadequately-Rated

Embark needed a more efficient way to select drivers in the dynamic non-standard segment. While they had been successful with existing underwriting methods, they knew they could do better. Always searching for new ways to support profitable growth, the Embark team became aware of the Soteris risk scoring solution in November of 2022.

“Soteris was intriguing because our business is based on informed predictions,” Peter says. In a rapidly evolving and highly dynamic market, they needed to find new ways to confidently accelerate growth without unexpected underwriting losses. “Auto insurance is an unusual business because the cost of goods sold for any individual risk isn’t known at the point of sale,” Peter explains, describing the balancing act between growth and profitability. Our objective in all our programs is to deliver a stable, competitive market for our partners.”

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Enter Soteris: A Collaborative Partner

After vetting Soteris, Embark decided to proceed with a proof of concept, which occurred in Q1 of 2023. The Soteris team worked alongside the Embark tech, product and actuarial teams. Everyone involved was impressed with the process. Soteris delivered ahead of schedule, in a short timeframe. Based on that success, Embark made the decision to move forward with a full implementation, which was soft-launched at the end of August and fully live by September.

"Ultimately, we trust the Soteris team. The CEO, Sunit Shah is one of the most impressive, transparent and collaborative vendors I've worked with in my 20+ years in this industry. The team is very curious, comfortable with sharing what they know and don't know, and feedback was heard and integrated. They work like an extension of our team," Peter says.

How Soteris Works

- Before the first, second or both rate calls, the Soteris solution dynamically assigns a risk score to each incoming quote.
- This risk score is based on a custom algorithm derived from the company's own historical loss data. It is calculated for each individual quote in less than one second.
- Embark sets their risk score threshold based on rate adequacy and applies it to expedite underwriting decisions. For instance, Embark can allow straight-through processing for risks with scores of less than 70.

The Numbers: Compelling Trends

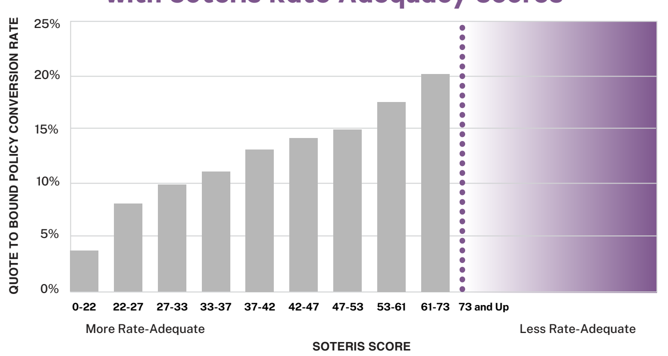
The Embark team is thrilled with the progress they're making since implementing the Soteris solution. Their original approach, which ran in parallel to Soteris, relied on logic. They determined a selection criteria, hard coded it into their system and waited to see what happened.

Conversely, with Soteris, Embark now has a tool that considers thousands of attributes and dynamically makes judgments on things they couldn't even comprehend before. It's like a dynamic, automatic scalpel – and it's game changing.

With Soteris, higher scores indicate less rate adequacy, while lower scores indicate more rate adequacy. A recurring trend seen with many customers is that the sales conversion rate goes down as rate adequacy goes up. That is, inadequately-rated drivers are more likely to buy because they may be seeing higher rates elsewhere.

Therefore, one would expect as Soteris's score goes up, indicating less rate adequacy, that the sales conversion rate would increase as well. This is exactly the trend that Embark has experienced. The graph below shows how Soteris rate adequacy scores have aligned with bound policy conversion since they went live with Soteris.

How Embark's Policy Conversion Aligned with Soteris Rate Adequacy Scores



Embark knows that in this case, lower conversion rates are a good thing. They've been able to drive down conversion rates on the inadequately-rated segment of their business, and they've also quoted and won some of the adequately-rated risks they would have forfeited with previous underwriting strategies.

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Here are some early indicators of how Embark's performance has improved by using the Soteris platform:

While the frequency and total loss metrics since going live with Soteris are still developing, to get an early look at the impact of the Soteris solution, the Soteris team worked with Embark's actuarial team to develop the current numbers to ultimate. Here are some early indicators of how Embark's performance has improved by using the Soteris platform, comparing the period between going live with Soteris and Embark's next rate change to the 3-month period before Soteris.

The numbers are indexed to the pre-live period, setting the pre-live metrics to 100, so the difference between the reported numbers and 100 represent the percentage change in that particular metric.

Loss Frequency Impact: While Soteris's scores predict loss ratios, Embark has seen a claim frequency benefit as well.

FREQ. ↓ 29%

- Total claims per earned car year over the first 90 days of the policy went from 100 to 90, i.e., dropped by 10%. Note that this is fully developed for both the before-Soteris and after-Soteris time periods, and therefore requires no actuarial assumptions.
- Total claims features per earned car year over the whole policy went from 100 to 82, i.e., dropped by 18%.
- Total property damage claims per earned exposure, which tends to reach actuarial credibility faster than other coverages, went from 100 to 71, i.e., dropped by 29%.

Loss Ratio Impact: Embark's estimated ultimate new business loss ratio went from 100 to 80 (on an indexed basis), i.e., dropped by 20%. While the data isn't fully developed, this includes several months of development as well as Embark's estimate of IBNR in both time periods.

LR ↓ 20%

The Experience: Other Unexpected Advantages

In addition to precisely selecting risks, the Embark team discovered another unexpected advantage of the Soteris platform. They can see how rate changes impact their results within a few days of making them, rather than having to wait a few months. For example, before their November rate change, 20% of opportunities were scored outside of the rate-adequacy threshold. After the rate change, only 5% of opportunities were inadequately rated.

It was immediately apparent to Embark that the rate change closed some holes in their pricing. This early feedback enables the Embark team to be more agile, and to make faster adjustments, while also increasing their risk appetite. This unique approach to risk selection is also an important differentiator.

Many insurers buy third-party data to power their risk selection. However, everyone buys the same information. With Soteris, the score is built only for you – applied in a way that is unique to your program. Soteris enables insurers to manage their portfolios differently, which helps them perform better while building credibility with partners and investors.

When asked whether he would recommend Soteris to other insurers, Peter replied, "I'm a huge fan of Soteris and the overall character of the organization. And yes, I would definitely recommend them – just not to our competitors!"

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>
> -Peter Quackenbush, Embark MGA