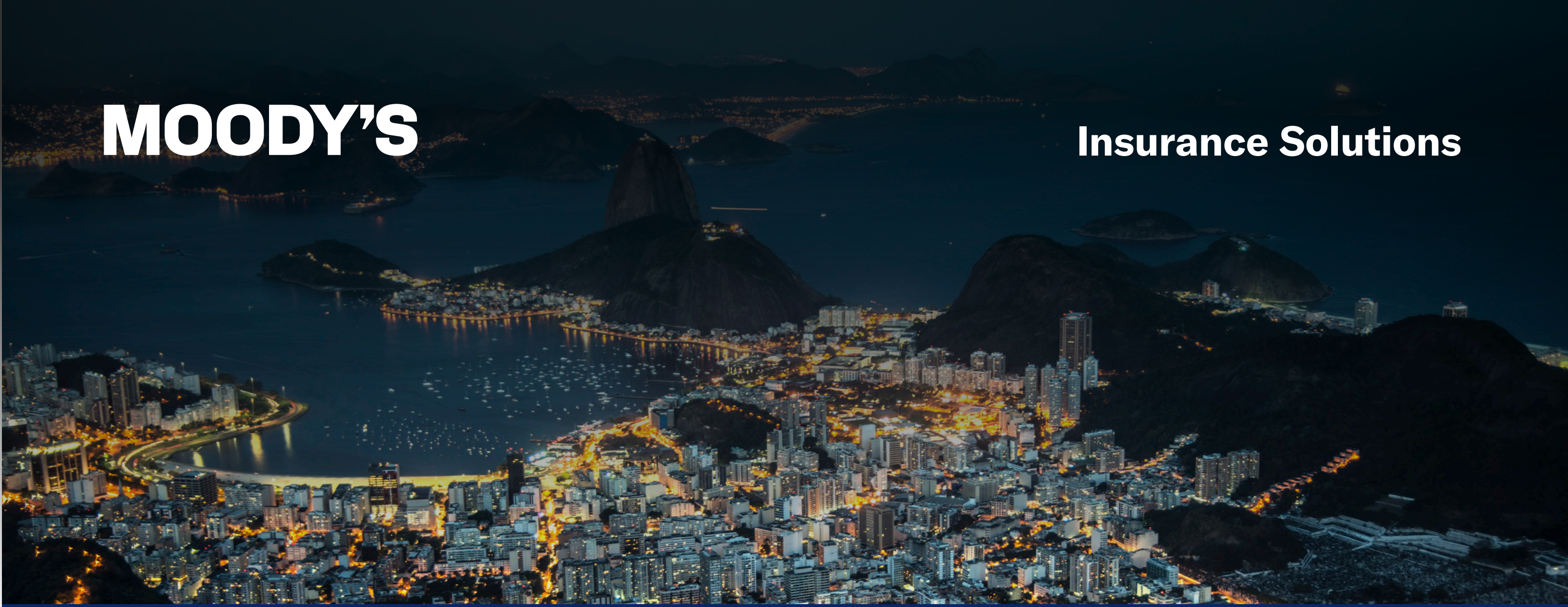
MOODY'S

Insurance Solutions



CASE STUDY

# A mature approach to exposure and catastrophe risk management

**Company:** IRB Brasil RE

**Headquarters:** Rio de Janeiro, Brazil

**Industry:** Reinsurance

**Moody's Products:**

→ Consulting Services

## The goal

IRB Brasil Re has a long history of reinsurance market leadership in Latin America and continues to maintain that position in nine out of its eleven business lines while also growing to be among the ten largest reinsurers in the world in market value (BRL 31 billion as of May 2019).

Looking ahead for IRB, expanding on the international stage, achieving greater efficiency across risk and exposure management processes, improving profitability and boosting return on investment are core to maintaining and expanding their market position. In 2017, IRB launched a 3 year transformation plan with a goal to become best in class on the global reinsurance stage. They saw us as the right partner to enable this transition, through Moody's Intelligent Risk Platform™, given their commitment to open platforms, big data and quality analytics.

## The objective

The IRB transformation plan objectives were closely aligned to the company's primary strategic drivers. These included:

- → To grow IRB's international presence as a 'best-in-class' global reinsurer
- → To achieve greater capital efficiency across all business lines
- → To develop a market-advancing Enterprise Risk Management capability
- → To maintain a focus on innovation as a key differentiator
- → To achieve a competitive advantage by advancing modeling and analytical capabilities

## The process

### SETTING THE BASELINE

Phase 1 of the IRB transformation plan was to establish a clear understanding of the organization's current maturity levels. The Moody's consulting team composed of insurance experts, technologists and catastrophe risk management practitioners—applied its proprietary risk maturity benchmarking (RMB) methodology to evaluate the maturity of IRB's domain expertise, processes and technology across four key business areas and 10 sub-processes.

Our consulting team worked with IRB representatives from across the exposure management spectrum over a three-day period. The team conducted interviews based on a granular questionnaire of over 100 questions to gain a working knowledge of every process and procedure across the four areas.

**Luis Brito,**
IRB

**I don't believe we would have achieved what we have if we had not first undertaken the RMB study.**

"This provided IRB with an effective way to establish where it was currently strong across the pillars, and to pinpoint any specific weaknesses." says Rhett Austell, Director, Consulting at Moody's, "By targeting specific areas for improvement, this would help them achieve the necessary level of maturity across their exposure and risk management capabilities to compete more effectively with their peers."

**Risk Maturity Benchmark (RMB) Assesses Maturity Across Key Business Areas**

**MODELING**
Data entry and validation; catastrophe modeling; non-modeled risk

**PORTFOLIO MANAGEMENT**
Exposure and capacity management; risk transfer; event response

**UNDERWRITING**
Risk profiling; risk-based pricing; risk binding

**REPORTING**
Stakeholder reporting and regulatory compliance

### EVALUATING THE SCORES

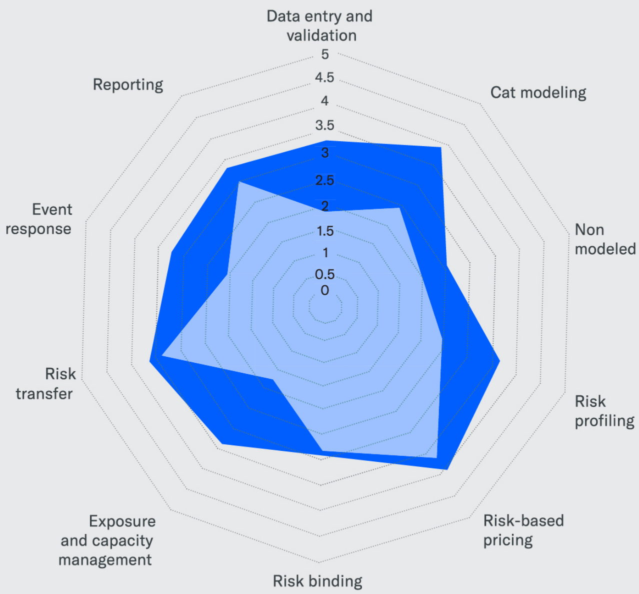
Following analysis of the interview data and demonstrations of various processes, the Moody's consulting team assigned provisional maturity scores to each business area and sub-process plus an initial indication of areas for potential development. Scoring and recommendations across the 10 sub-processes are based on industry best practices, leveraging more than 10 years of client project experience, and have been calibrated against insurers and reinsurers across the major (re)insurance markets.

Maturity scores range from 1 to 5, with a Level 1 score denoting a process that is conducted on an 'ad hoc' basis to Level 5 where an activity is considered 'best-in-class'. "It's important to recognize that a low maturity score in a particular area is not necessarily 'bad'," adds Austell, "and a Level 5 is not always desirable. The goal is to achieve a reasonable and appropriate balance over time across these areas for the market sector and the client's strategic objectives."

## Illustrative Maturity Score Radar Chart

The Moody's risk maturity benchmarking the methodology evaluates the maturity of a company's domain expertise, processes and technology across four business areas, spanning 10 sub- processes. Following an assessment, a maturity score between 1 and 5 is assigned to each

- **Level 1** Ad hoc
- **Level 2** Repeatable
- **Level 3** Consistent
- **Level 4** Managed
- **Level 5** Best-in-Class




Note: *This data is generic and does not relate to the IRB risk maturity benchmarking findings*

**STRENGTHS**

- Formal tracking of underwriting decisions in the underwriting system, with underwriting assumptions captured consistently and in an auditable way
- Mature processes around risk transfer, with the ability to mode structures and alternatives in-house. A consistent strategy across lines of business

**RECOMMENDATIONS**

- Enhancing **exposure and capacity management** and increasing roll- up frequency can improve underwriting performance with real-time view on capacity utilization
- **Exposure data quality** is an area for development – including systematic assessment, automated flagging of data issues, and augmentation prior to underwriting
- **Establish best-practice cat management workflow** across business units — including formal documentation of all processes and instituting a change control process

# The outcome

→ IRB demonstrated sound underwriting practices and a rigorous approach to risk analysis based on a structured/repeatable decision-making process

→ Solid maturity in reporting with minimal key person risk and frequent detailed reports utilized by management for decision making

→ Portfolio management required some additional focus to reach the desired level of maturity

→ There was some room for improvement in modeling to help IRB gain a deeper understanding of catastrophe models and exposure management

"Too often companies assume they are performing to their optimal potential," says Luis Brito. "The RMB process exposes the reality of the situation. In our case, it showed that in many areas our maturity level was on par with industry peers, but in others there was too great a gap. This allowed us to generate a clearer picture of where we needed to focus our attention and investment to bridge these gaps."

In consultation with IRB, Moody's gauged their initial response to the maturity scores to ascertain whether the results were in line with expectations. "The RMB process is not simply about our stepping in and taking control of the situation," explains Austell. "It is a collaborative undertaking that includes a series of 'checkpoints' to discuss the findings and incorporate their feedback. It's critical that the client has a clear ownership stake throughout and that what is created is a joint plan of action."

# The solution

### TAKING ACTION

Based on an understanding of IRB's strategic priorities gained from the senior leadership team, Moody's compiled a comprehensive series of prioritized recommendations designed to drive success and aligned with company strategy. In addition, the team generated projected maturity scores based on completion of the proposed actions, giving IRB a view of the magnitude of improvement possible.

Finally, our consulting team developed a 'straw man' plan for the execution of each recommendation, aligned to IRB's resources and capabilities, that detailed the proposed short, medium and long-term steps in sequence, and target time frames for completion. This formed the basis of IRB's implementation strategy, developed in conjunction with Moody's, to improve its overall cat risk management maturity. As Austell explains, the proposed recommendations were aligned to IRB's strategic objectives and financial impact.

"We focused on fundamental areas such as supporting premium growth in new markets while dynamically measuring against gross and net capacity," he continues. "Being able to isolate IRB's value drivers was central to this process. Our goal was to achieve what we both viewed as a reasonable and appropriate balance of actions over time across the four primary business areas to achieve the necessary maturity level."

**DELIVERING ON THE PLAN**

"Moody's worked closely with us at all stages in the development of the action plans," says Brito. "The recommendations made clear what near-term steps should be taken to achieve improved performance with minimal effort, and where it would be necessary to set up specific projects to deliverer on longer-term aims." While at the time of writing, IRB has already completed a number of near-term actions and is executing on Phase Two of the implementation plan for delivering on the longer-term objectives. "One area in which we have already increased our maturity level is data quality analysis," he explains. "The RMB pinpointed this as a key investment area and working with Moody's we developed an enhancement program. We have now implemented this for one of our regional portfolios which has strengthened our overall risk classification processes. This was a straightforward change that we were able to implement relatively quickly." In terms of the longer-term objectives, the IRB team are currently delivering on a series of projects across various business critical areas.

"With each project," Brito adds, "we have a clear understanding of what the beneficial outcomes will be. For example, on the portfolio management front, as we transition onto the Intelligent Risk Platform, we will be able to significantly improve our portfolio roll-up capabilities. That will mean being able to perform PML reviews daily, which will fundamentally alter our ability to assess risk and allow us to manage our portfolios company-wide in real-time."

**FORGING AHEAD**

For IRB, the RMB project formed the first phase of a much larger undertaking as it implements exposure and risk management processes that leverage the Intelligent Risk Platform. Yet in many ways, it is the most critical phase of the project as it has ensured that IRB has a full understanding of where it is heading and how it will get there.

"There is no doubt in our mind that the RMB study has delivered tangible value," believes Brito. "It helped us generate a clear picture of where IRB stands against our peers from an exposure management perspective, how we need to move forward and how we can achieve that forward momentum. We now have a clearly defined, precisely structured plan in place that is already helping us deliver on our broader strategic objectives. I don't believe that we would have achieved what we have to date if we had not first undertaken the RMB study."

"Through the RMB process," concludes Austell, "we wanted to help IRB achieve their goal of owning their view of risk by building out expertise, insights and capabilities across both modeling and exposure management and leveraging this in the wider marketplace. We are confident that they are now well on their way to achieving that."

## Projected timeline

RMB project timelines are project specific, varying depending on scale and complexity of the organization

**WEEK 1**
- Interviews and delivery of provisional maturity scores

**Checkpoint:** presentation and discussion

**WEEK 2**
- Deliver initial recommendation and projected score improvements

**Checkpoint:** presentation and discussion

**WEEK 3**
- Deliver final recommendations synched to strategic objectives
- Create strawman implementation plan for delivery of recommended actions

**Checkpoint:** presentation and discussion

IRB Brasil RE is a leader in Latin America and one of the ten largest reinsurers globally by market value. Maintaining a leading position in nine out of the eleven business lines it operates in, the company combines excellent performance with financial strength and superior technical knowledge. Headquartered in Rio de Janeiro, it has offices in São Paulo, Buenos Aires and London.



BX23384