

The Advanced Loss Modification Module in Touchstone Re

The Advanced Loss Modification Module in Touchstone Re™ enables organizations to analyze global reinsurance treaties beyond the scope covered by AIR's traditional suite of models and offers unprecedented flexibility to modify modeled losses, perform advanced sensitivity testing, and model custom risks within a single, powerful platform.

Today's model users are more engaged with the modeling process. To further understand your risk analysis tools and truly "own the risk," you may want the ability to adjust individual model components, alter certain outputs, or implement a multi-modeling strategy within the same platform. AIR is committed to delivering the flexibility that helps you use your unique insight and experience in making decisions that make sense for your organization, with tools that enable a more robust and sophisticated risk selection, anywhere in the world.

The Advanced Loss Modification Module is a set of enhancements in Touchstone Re that give you the flexibility to:

- Examine drivers of risk at a detailed level
- Adjust ground-up losses to suit claims experience
- Modify exceedance probability (EP) curves by cedant
- Integrate in-house and third-party models
- Incorporate custom lines of business

Having a central global catastrophe reinsurance platform with flexible, sensitive analysis capabilities gives you the ability to consistently interpret model results, normalize your

organization's internal view of risk, streamline workflows, respond effectively to business opportunities, and meet regulatory requirements such as Solvency II.

Event-Based Loss Adjustment Factors

Modify most AIR models and customize losses to reflect the experience of your organization. Users can define adjustment factors to ground-up (pre-treaty terms) losses on an event total basis, as well as by area and line of business.

Detailed adjustments can be used to:

- Account for model deviation from historical experience revealed in validation
- Incorporate new scientific findings prior to model releases/updates
- Investigate the sensitivity of modeled results
- Account for secondary perils or other sources of loss not captured by the model (e.g., loss adjustment expenses, portfolio growth/inflation, policy leakage effects, evacuation costs, looting, and vandalism)
- Apply safety loads to large event losses to obtain a conservative view of the risk



Model ID	Year	Event	Day	Area Code	Residential	Mobile Home	Commercial	Auto
27	1	2	160	A01-12000	0.95	1.33	0.65	1
27	1	3	167	A28-0007	0.75	1.33	0.7	1
27	1	3	167	A28-0034	0.75	1.33	0.65	1
27	1	3	167	A46-0100	1.05	1.33	0.65	1
27	1	3	167	A46-0200	1.05	1.33	0.7	1
27	1	3	167	A46-0301	1.1	1.33	0.75	1
27	1	3	167	A46-0303	0.9	1.33	0.7	1
...	...	...	...	...	...	...	...	...

Apply loss adjustment factors to account for company experience or non-modeled losses, to incorporate new findings, and to perform advanced sensitivity testing.

If your experience suggests, for example, that earthquake losses are 5% higher or lower than the AIR model indicates, you can apply an adjustment factor of 5% to your results to reflect your own assumptions. You can tailor results at a more granular level by scaling losses by geographic area and/or line of business (LOB). In addition, to effectively increase or reduce the frequency of high severity events, event losses can be zeroed out or scaled up. Scaling is applied directly to company losses before the application of any terms, factors, or filters. A 20% reduction does not therefore necessarily mean a 20% reduction in reinsurance contract losses.

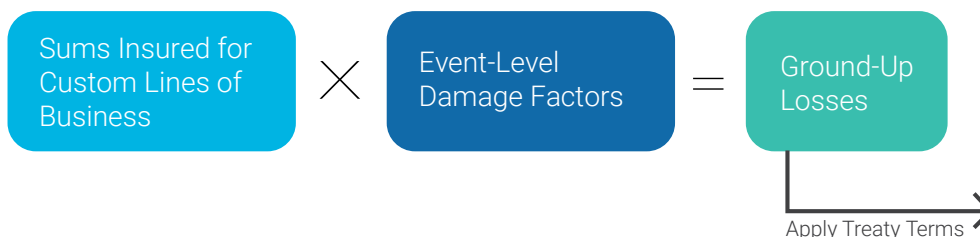
The new and modified models can be created at the area resolutions supported in Touchstone Re for the following perils: earthquake, flood, tropical cyclone, severe thunderstorm, winter storm, and wildfire. Touchstone Re calculates contract losses for custom models by multiplying event damage factors by sums insured, and then applying user-specified reinsurance treaty terms. This feature allows the user to build custom event catalogs for existing modeled countries as well as for a number of currently unmodeled countries to run in parallel with AIR models. The same approach can be used to extend existing AIR models to support additional custom lines of business, as detailed in the next section.

Embedding these tools within Touchstone Re offers the following advantages:

- Standardized and streamlined workflows for analysts (quotation and accumulation control)
- Consideration of secondary perils in aggregate coverages, such as stop-loss treaties
- Enhanced data consistency and less redundancy by storing treaty information in a single application

Integration of In-House and Third-Party Models

Construct custom models in Touchstone Re to include any property or policy in a portfolio, creating a more holistic view of risk. You can import customized event-level damage factors for perils not currently modeled by AIR, or modify or replace an existing AIR model by providing a different set of events and/or damage factors.



Create custom models for non-modeled perils and regions, and apply user-specified damage factors and reinsurance treaty terms.

New Lines of Business

Model any line of business in Touchstone Re—using either an in-house or AIR model. These custom lines of business, defined by country, can be entered in the Exposures tab; sums insured data is entered for the selected peril, year, and currency.

Extend Touchstone Re’s ability to model personal, commercial, industrial, auto, and agricultural lines of business to new regions, account for exposure types not yet modeled in a region, and adjust the vulnerability assumptions or default policy terms to fit specific needs, such as:

- Special vulnerabilities of the business (e.g., fine arts, construction business, hospitals, churches, schools/universities, heavy industrial, and energy)
- Special primary policy terms (e.g., excess of loss primary policies, first loss policies, deviating deductibles, and limit to value assumptions)

Custom Lines of Business	
Aviation	Onshore Energy
Bloodstock	Property
Marine Cargo	Space
Marine Hull	Terrorism
Construction	Wind Farms
Offshore Energy	And more!

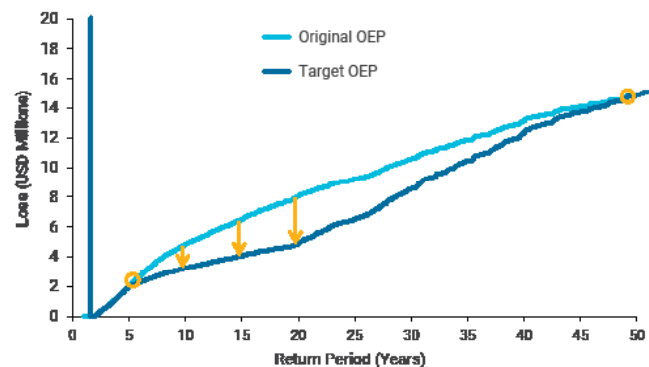
Add custom lines of business to account for special vulnerabilities¹

Exceedance Probability Curve Adjustments For Individual Programs

Adjust losses at the program level to align with your knowledge and experience. Adjustments can be made to the aggregate or occurrence exceedance probability (EP) curve at points determined by a user-defined interval: Touchstone Re will adjust company losses at those points on the curve and interpolate all or a portion of the EP curve to fit the target loss points.

EP curve adjustments can be used to:

- Account for when results deviate from observed loss history
- Adjust losses to match an alternative set of model results
- Combine results from non-AIR models with AIR outputs
- Reconcile when exposures are not in line with standard Industry Loss File assumptions
- Account for effects that cannot be modeled explicitly for efficiency/technical reasons



Make adjustments to aggregate or occurrence losses at user-specified exceedance probability points.

¹Current country-specific modeled LOBs are listed in the documentation website for [UNICEDE](#), the industry open data standard developed by AIR. Learn more about [Modeling with Flexibility](#).

To learn more about the Advanced Loss Modification module in Touchstone Re, please contact your AIR representative or visit us at: www.air-worldwide.com

ABOUT AIR WORLDWIDE

AIR Worldwide (AIR) provides risk modeling solutions that make individuals, businesses, and society more resilient to extreme events. In 1987, AIR Worldwide founded the catastrophe modeling industry and today models the risk from natural catastrophes, supply chain disruptions, terrorism, pandemics, casualty catastrophes, and cyber incidents. Insurance, reinsurance, financial, corporate, and government clients rely on AIR's advanced science, software, and consulting services for catastrophe risk management, insurance-linked securities, longevity modeling, site-specific engineering analyses, and agricultural risk management. AIR Worldwide, a Verisk (Nasdaq:VRSK) business, is headquartered in Boston with additional offices in North America, Europe, and Asia. For more information, please visit www.air-worldwide.com. For more information about Verisk, a leading data analytics provider serving customers in insurance, energy and specialized markets, and financial services, please visit www.verisk.com.