There is an emerging ecosystem of insurers supporting the developments of innovative AI-based solutions that can help to leverage AI technology to deliver solutions to the market. In the field of risk modelling and natural catastrophe (natcat) events, some examples include:

- A US-based weather forecasting and climate risk modelling company which uses AI and physics to provide accurate medium- to long-range weather (climate) predictions for stakeholders in sectors such as energy markets, insurance, and supply chain management. This application generates accurate, high-resolution risk maps about wildfire, extreme wind, temperature, precipitation and severe convective weather for risk selection, pricing, and portfolio management.
- An application that was developed in Switzerland and enhances existing flood models by combining computational engineering tools with AI methodologies to produce high-resolution models at scale. The company's models incorporate factors including accumulated water, speed of water movement and duration of flooding which affect how much damage a building sustains from flooding. This tool can be used to support improved risk mitigation, underwriting and claims management.
- A UK-based company that uses AI, analytics and predictive modelling to calculate risk score and identify opportunities for risk mitigation to help insurers, brokers and corporates make informed decisions. This company creates digital twins of locations by integrating information drawn from commercial property owners, over 300 data sets, satellite imagery, unstructured documents and IoT feeds attached to a given location.
- A US-based firm created a platform in 2020 that leverages AI and natural language processing to scan millions of scientific and other academic sources. Once new risks are identified, quantitative models are created to translate the research into estimates of the risk of loss. These models can be used to identify historical and future reinsurance coverage gaps, and provide a basis for the design and implementation of innovative new solutions to close the gaps.

- Claims management:

  AI enables insurers to streamline various key procedures in the insurance value chain to increase efficiency and offer products at more competitive prices.

  There are examples from Japan, New Zealand and the US, where image recognition applications, in conjunction with insurers' own historic claims database, are used to speed up claims assessment and payout after natural catastrophic events such as hailstorms or hurricanes. These applications are trained to make a first assessment of damages to property and crops based on pictures submitted by the insured themselves. This automated first assessment helps to significantly reduce the time it takes to assess and pay out claims after large scale natural catastrophic events, especially in sparsely populated or difficult to access areas. AI applications in such areas still allow the possibility for human review but help facilitate a faster and smoother claims handling process, which benefits consumers.

  There are also commercial insurance providers that have launched an AI-powered claims triage capability. The triage process embeds an AI model which assesses and assigns claims based on certain criteria and proprietary scoring algorithms into the insurers' claims workflow. This leads to faster claims service for clients and brokers.

- Fraud detection:

  AI-driven fraud detection solutions can tackle the problem of fraud by analysing massive amounts of data from multiple sources in order to spot fraudulent claims. These tools can enable insurers to spot and flag unusual patterns that a human might miss, potentially helping to reduce these huge costs, as well as the level of customer premiums.