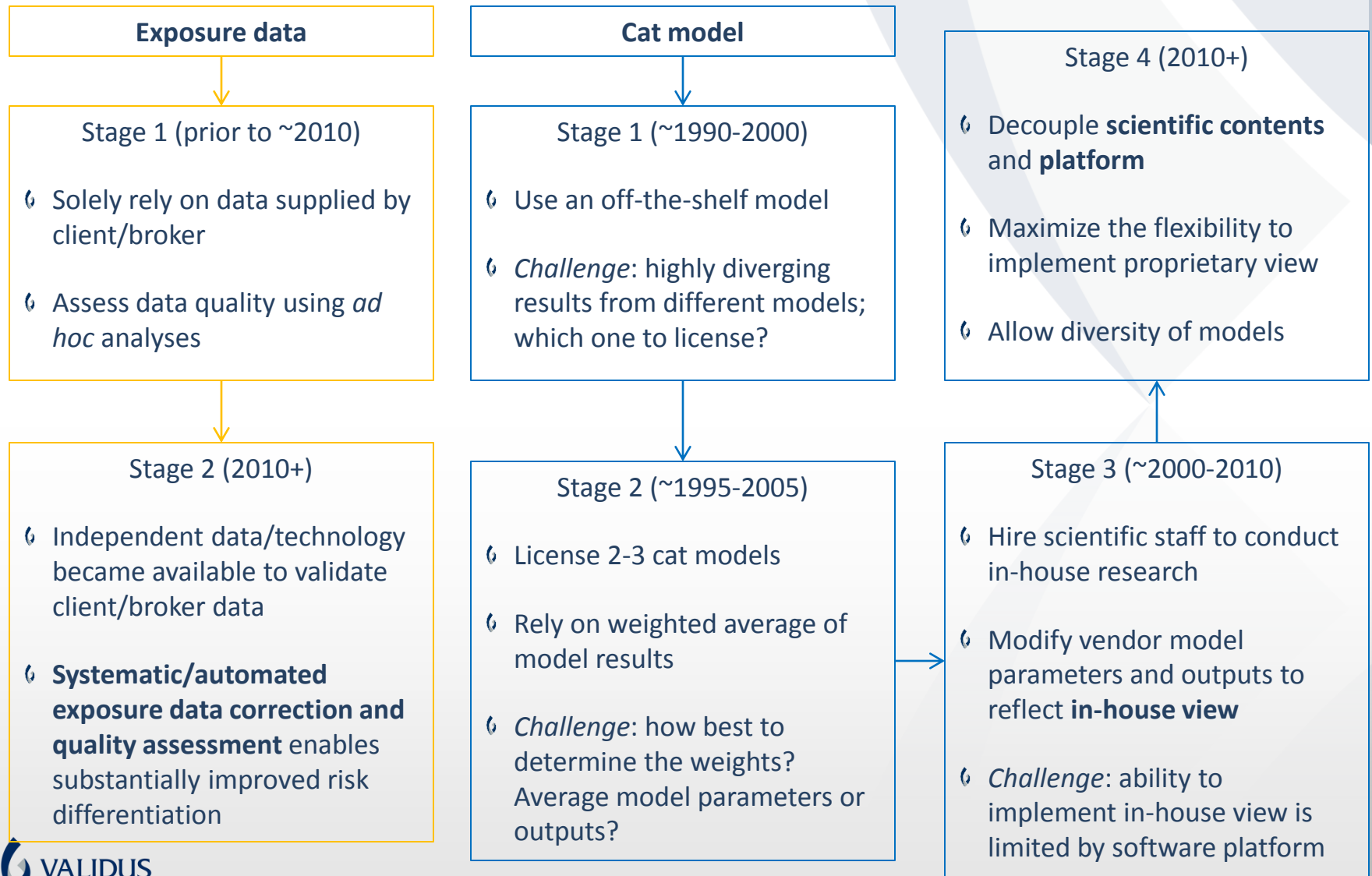




Thoughts on Platform, Own View of Risk, and the Future of Modeling

CARe Seminar on Reinsurance
May 22nd, 2014

The evolving strategy of cat modeling in the reinsurance industry



The future of cat modeling: three pillars

- ↳ Deploy advanced exposure data correction and quality assessment technology
- ↳ Own your own view of risk
- ↳ Decouple the scientific contents and software platform of cat modeling

Deploy advanced exposure data technology

- ↳ Alleviate the problem of “garbage in, garbage out”
- ↳ Investment required is beyond licensing external data and tools; in fact, the majority of the investment is in the people, technology, and process required for systematic implementation
- ↳ Worldwide coverage remains a goal in the distant future



Broker data: year built = 2009

Validation data: year built = 1958



Broker data: year built = 1900; wood construction

Validation data: year built = 1987; reinforced concrete construction

Own your own view of risk

- ↳ It is important and necessary
 - ↳ With a large number of market participants still using a “plug-and-play” approach to cat modeling, biases and errors in vendor models are reflected in market pricing. Correcting such biases and errors creates an advantage in risk selection
 - ↳ Latency in including best science and latest data
 - ↳ Vendors’ priority of geographical and peril coverage does not necessarily align perfectly with every (re)insurer
- ↳ It is feasible
 - ↳ Fundamental theories are mostly in the public domain and are equally accessible by both the vendors and (re)insurers
 - ↳ Major (re)insurers have the best claims data to calibrate the model
 - ↳ A (re)insurer can choose to focus resources on specific perils that are most important to its business
 - ↳ Vendors must serve their entire clientele; this requires extreme caution when making changes. On the other hand, a (re)insurer can focus on its own business needs and make decisions based on new scientific theory/data more efficiently

Decouple scientific contents and software platform

- ↳ Limitations imposed by today's cat modeling framework
 - ↳ Today, a cat model = scientific contents (hazard, vulnerability curves, etc.) implemented on proprietary software platform
 - ↳ This limits the flexibility of the (re)insurer to implement its own view of risk
 - ↳ To use the scientific content of different models, the (re)insurer must run that party's model software package as well; consequently, it is infeasible to operate a large number of niche models best suited for specific perils because of the software maintenance alone
- ↳ Benefits of a transparent software platform that accommodates scientific content from multiple external sources
 - ↳ The (re)insurer is able to create its own view of risk by assembling the best combinations of hazard, vulnerability, and financial modules developed in-house and/or by a large number of third parties
 - ↳ Maximize transparency of risk modeling
 - ↳ Gain substantially deeper understanding of the assumptions embedded in models and data, further improving our ability to quantify the uncertainty in model outputs
 - ↳ Take advantage of constant advances in IT technology
 - ↳ Truly own **your own view of risk**