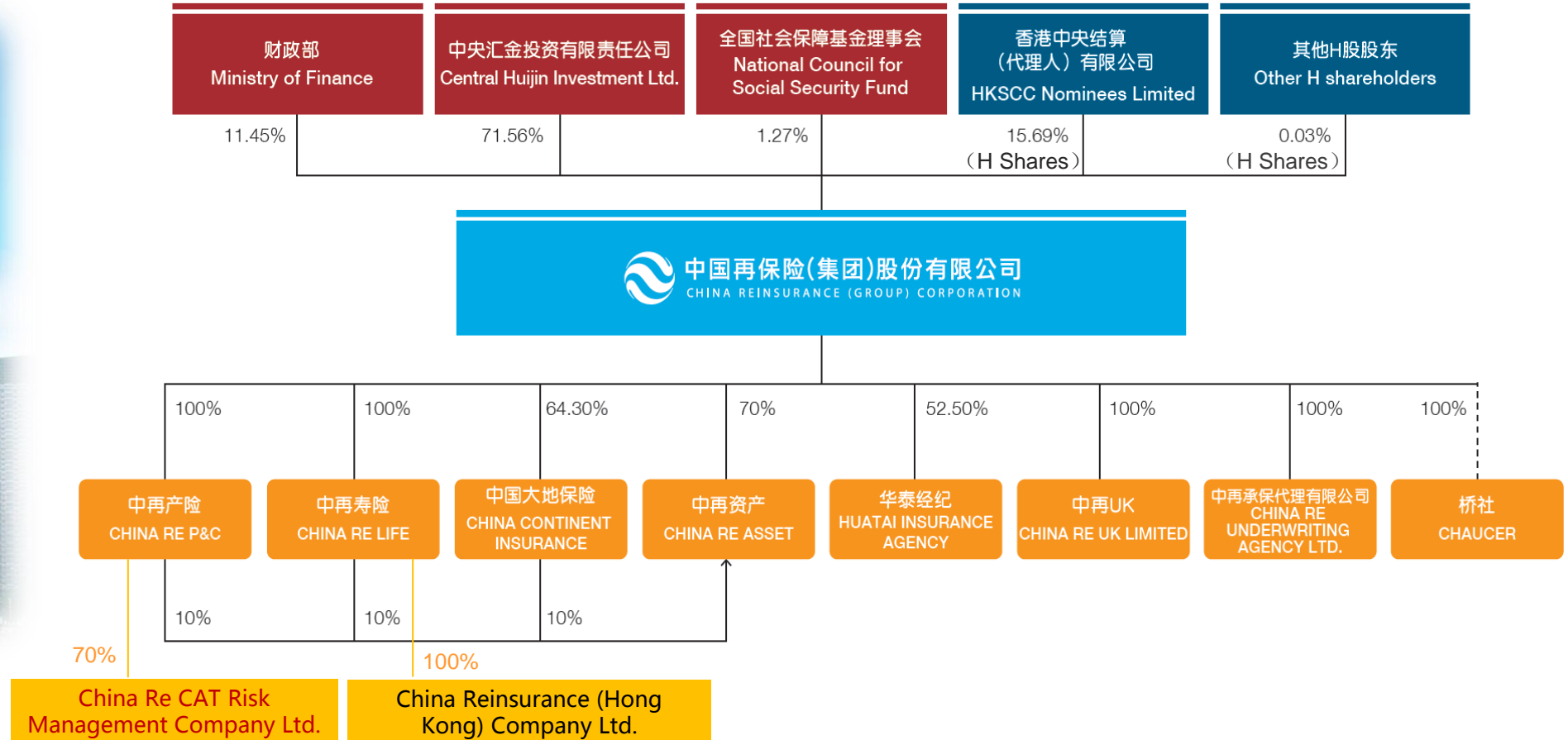


Practice and Prospects of Catastrophe Insurance in Response to Climate Change

Dr. FENG Jian

GM of IT Centre, China Reinsurance (Group) Corporation Ltd.
& CEO, China Re Catastrophe Risk Management Company Ltd.

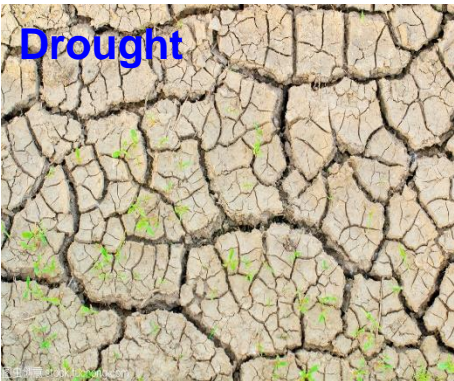
China Re is a key player of CAT Insurance and has keen concerns about CAT Related Risks



Main Business
Domestic Market Status Quo

P&C Reinsurance	Life Reinsurance	P&C Insurance	Asset Management	Insurance Brokerage
No. 1	No. 1	No. 6	1st Tier	The First

Climate Change (CC) has caused severe casualties and economic losses



Global annual average deaths from natural disasters, by period, 1989-2019

Time period	Annual average deaths per year (persons)			China's annual average deaths as a percentage of Asia (%)	China's annual average deaths in the world (%)
	China	Asia	World		
1989-1998	2920	32204	37382	9.1	7.8
1999-2008	9939	68874	84082	14.1	11.8
2009-2019	1404	10869	41990	12.9	3.3

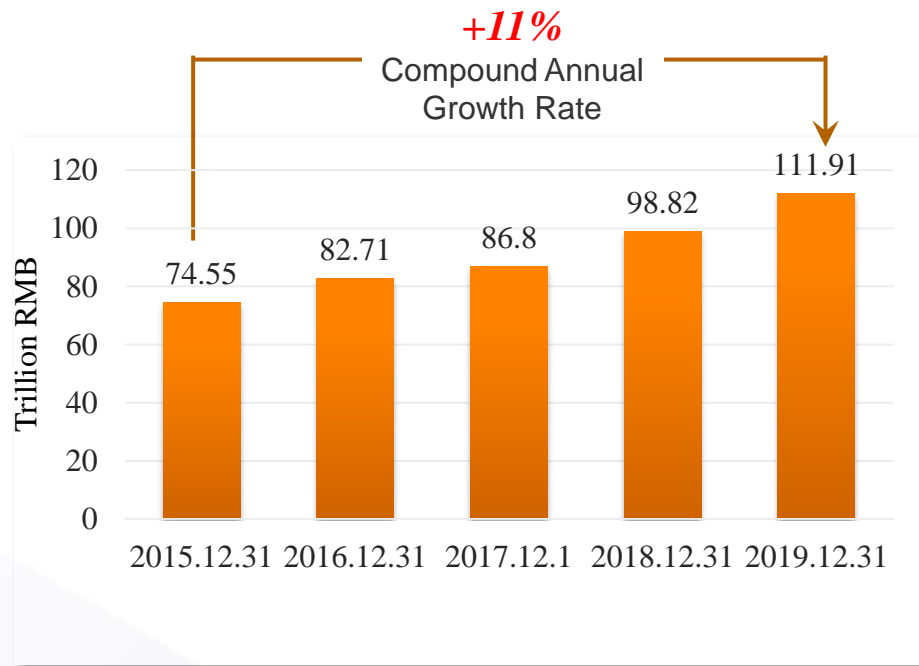
Global annual average direct economic losses from natural disasters, by period, 1989-2019 (2019 price level)

Time period	Annual average direct economic losses (US\$ 1 billion)			China's annual average deaths as a percentage of Asia (%)	China's annual average deaths in the world (%)
	China	Asia	World		
1989-1998	18.5	52.7	99.3	35.1	18.6
1999-2008	23.5	52.2	126.3	45.0	18.6
2009-2019	23.2	71.9	164.9	32.3	14.1

CAT Risk Exposure in China is growing rapidly and calls for CAT Insurance urgently. The situation will be exacerbated by the Climate Change

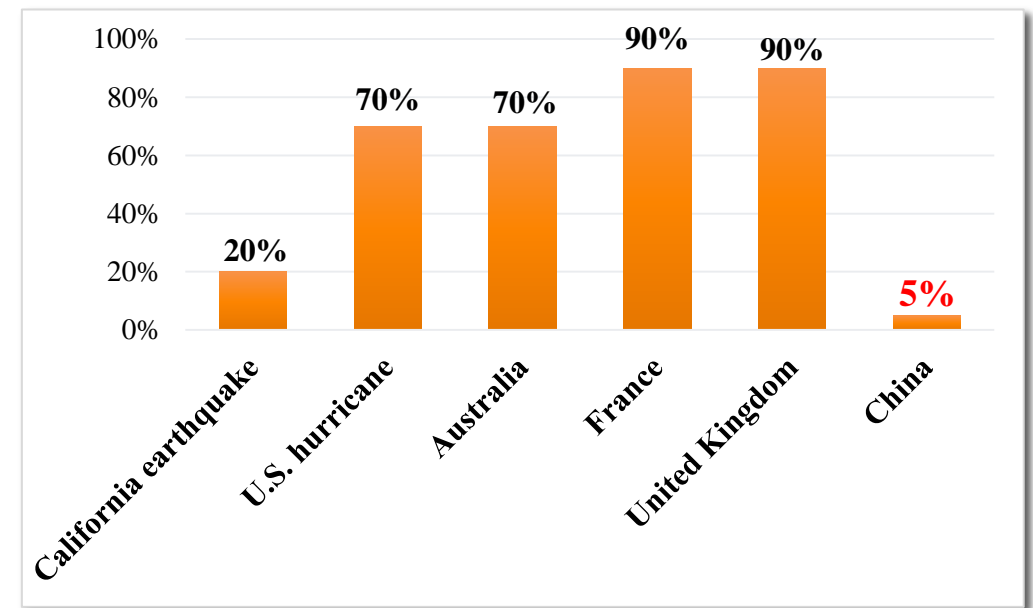


The industry risk exposure of **typhoon/flood** disasters in China has reached **trillions of RMB** and is **growing rapidly**.



The industry risk exposure of typhoon/flood disasters in China

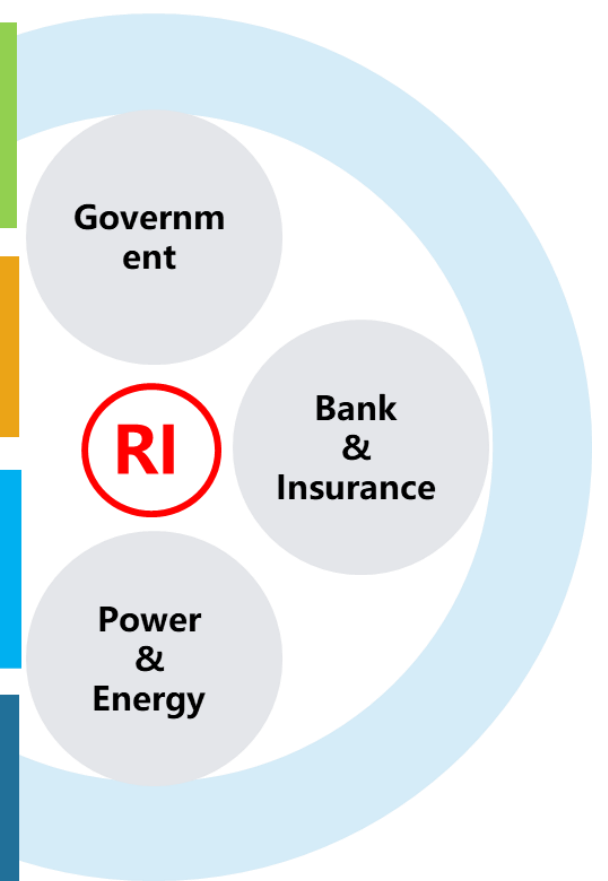
The insurance compensation rate in **developed countries** is higher than **70%**, however, in **China** is **less than 5%**.



Insurance compensation rate of each country



Standpoints of China Re: CAT Risks need to be quantified and managed in a systemic manner; Cat Insurance is Insufficient



...



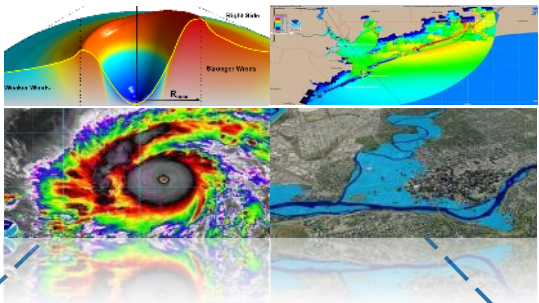
CAT Exposure Database and CAT Models for China are bedrocks to Quantify CAT Risks



(Insured) Risk = Hazard x Exposure x Vulnerability (x Terms)

Wind, Precipitation, Storm Surge, Flood

Calculate the wind speed, precipitation, storm surge depth, flood inundation area and inundation depth at the target location



Atmospheric Science
Marine science



Event Set

Generate a series of random typhoon events based on the path, intensity and scale of potential typhoons

Hydrology
Fluid mechanics

Remote Sensing
GIS



Exposure

Site location, residence, commerce & industry value

Vulnerability of the typhoon and flood

Buildings average damage and the uncertainty



Aerodynamics
Hydraulics

Mathematic
Actuary



Insured Loss

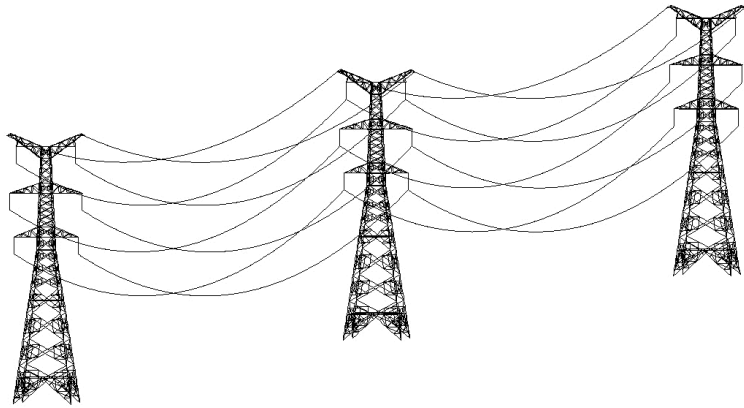
Insured loss calculation based on terms and policies

Application

Computer Science

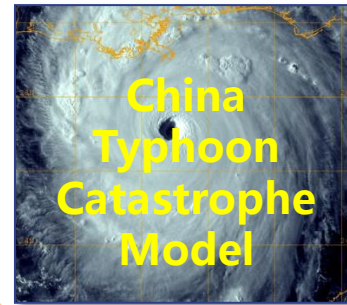
Finance

CAT Models provide holistic and scenario-oriented solutions



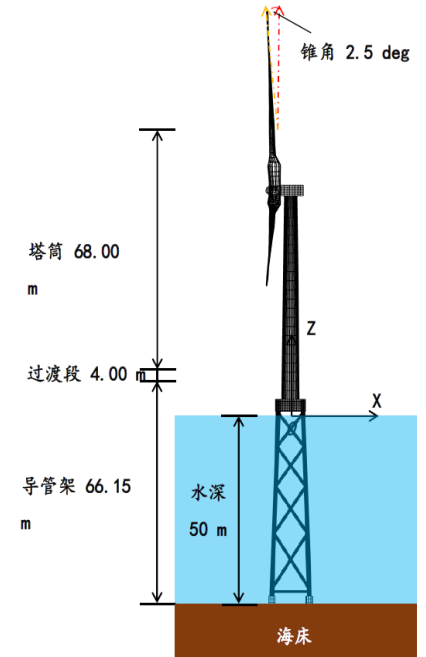
Onshore
Grid

Offshore
Wind
Power



Aquaculture

Freight

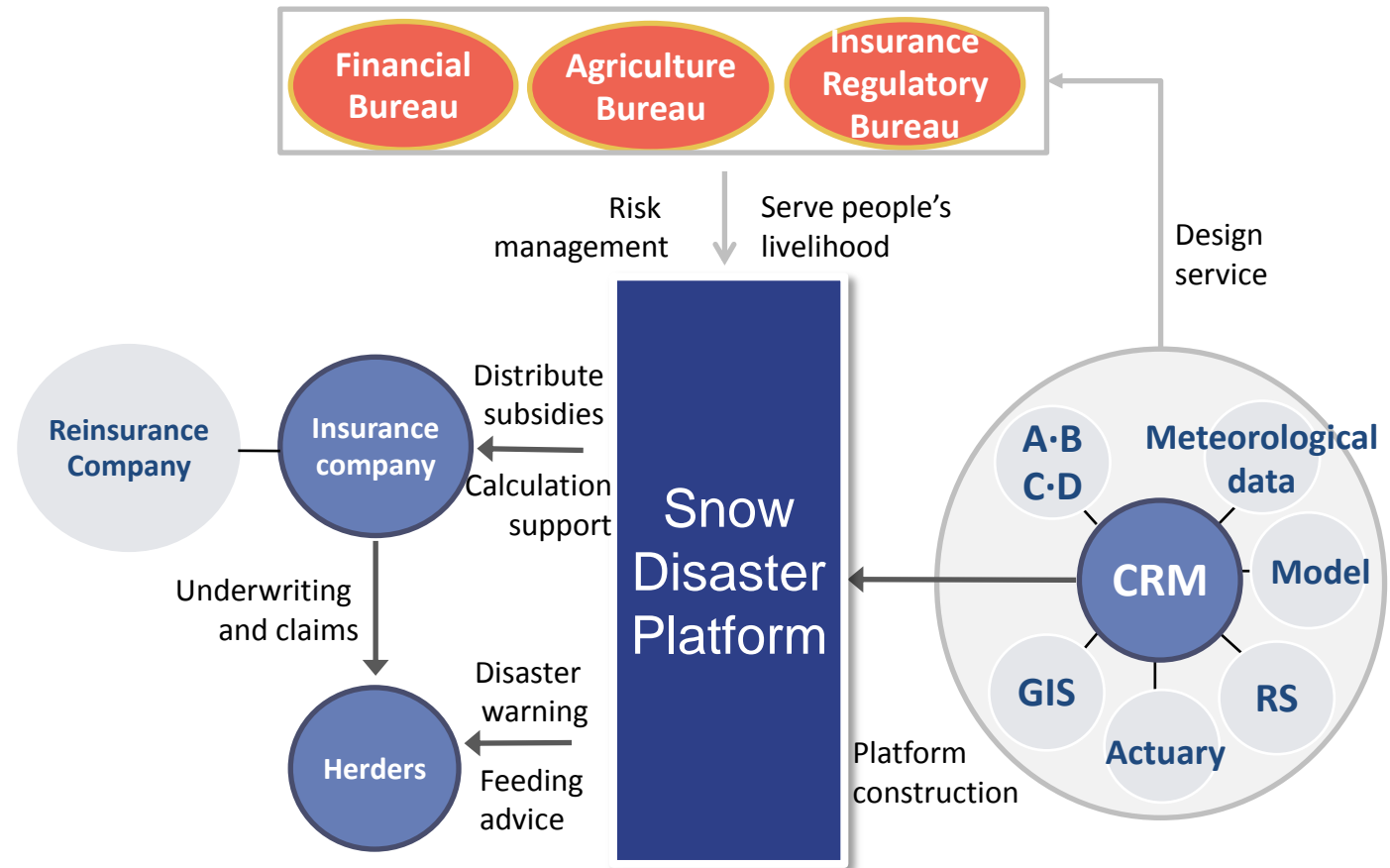
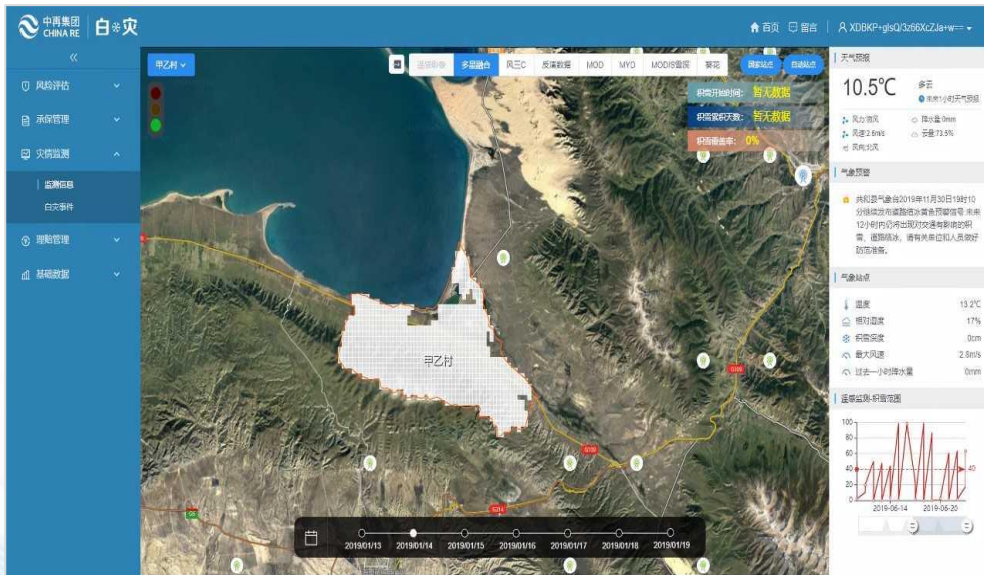


Snow Disaster Digital Platform has been deployed in Qinghai Province



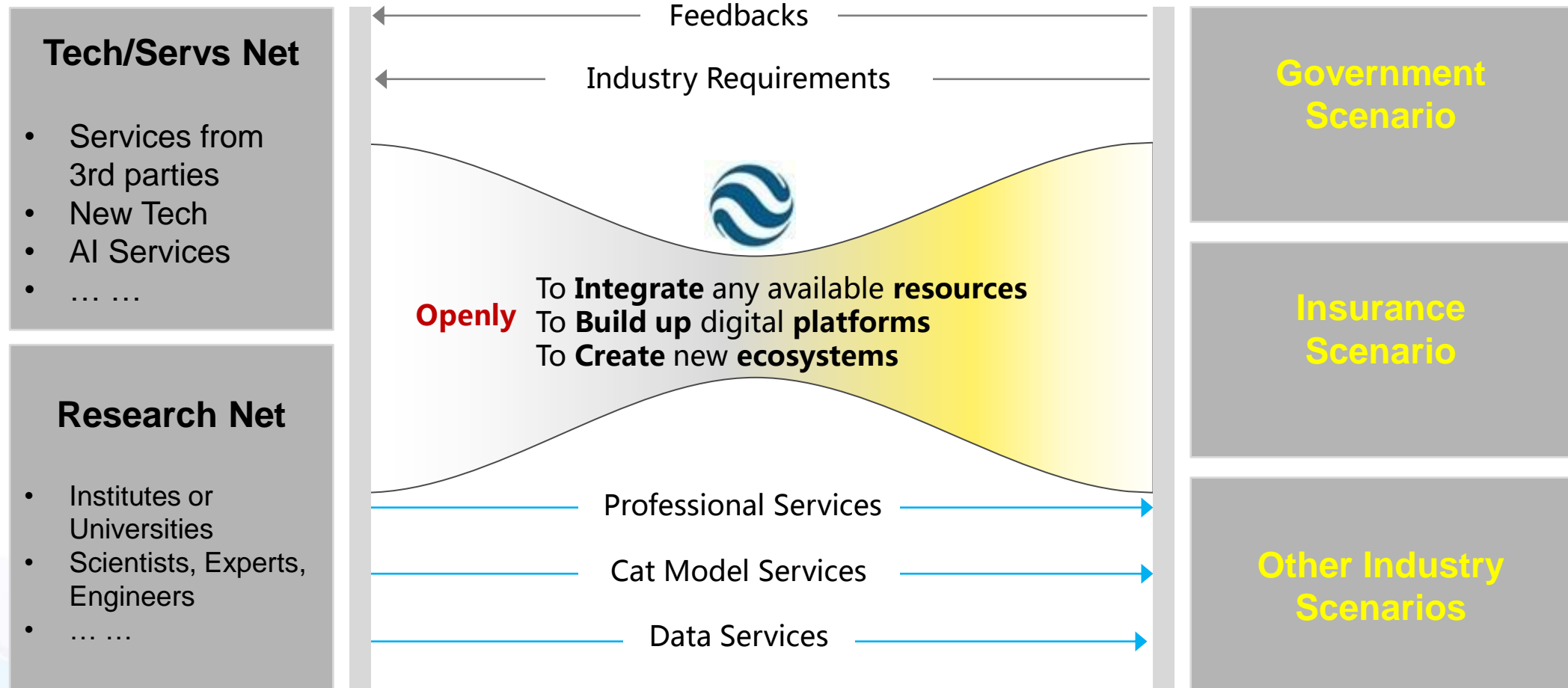
● Case: Risk Management Platform Against Snow Disaster In Grassland Stock Farming

- Disaster intensity reaches a certain level
- Meets the conditions of claim settlement
- Insurance compensation will be automatically paid to personal account within two days





China Re will include CC researchers openly to innovate Cat Insurance, promoting sustainability in a variety of scenarios



巨灾风险管理 | 服务国家治理

Bridle Catastrophe Risks | Reinsure Sustainability

