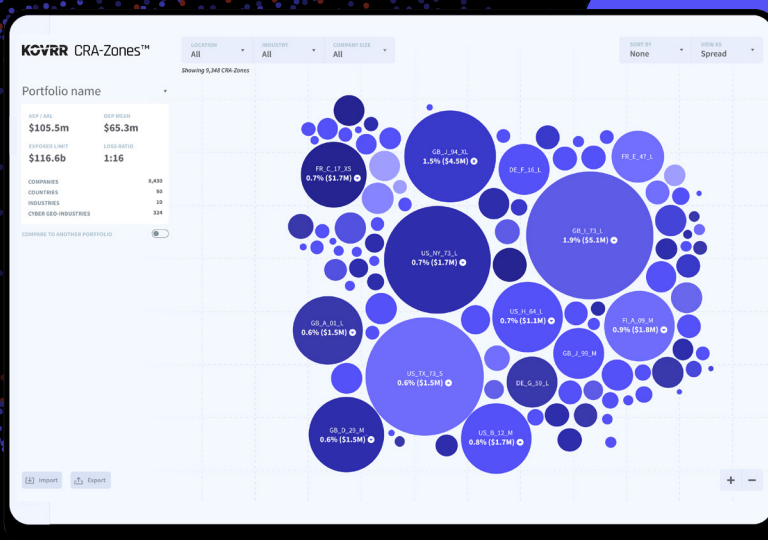


CRA-Zones™

Cyber Risk Accumulation Zones (CRA-Zones™) were established to provide an easy to use open framework to measure and understand catastrophic cyber risk exposure.



The **CRA-Zones™** framework defines the minimal elements needed to provide a view of aggregated cyber exposure. **CRA-Zones™** allow for analysis across multiple portfolios of risks and monitoring of exposure trends. The framework was also created to support regulatory efforts for setting a standard for data collection for cyber exposure management.

For natural catastrophe risk, individual policy exposures can be aggregated within geographic zones. Similarly, cyber exposures can be aggregated using **CRA-Zones™**. Geographic location is still important when assessing cyber catastrophe risk, however, two additional elements must be

taken into account to properly assess cyber risk aggregation - industry sector and company size.

The foundation of the **CRA-Zones™** is built on acquired historical data and continuous analysis of millions of cyber incidents worldwide. Analysis has shown a significant correlation between companies from the same location and industry tending to use the same third-party service providers and technologies, leaving them exposed to corresponding cyber attacks.

Additionally, the analysis demonstrated that entity size has a direct correlation to technologies used, cyber preparedness, security policies, cybersecurity spending, and level of sophistication of cyber attacks.

What are the elements of the CRA-Zones™?

The framework is built to accommodate users with various levels of data. In cases with insufficient data, an automated data extrapolation technique can be applied to begin cyber exposure analysis using CRA-Zones™.



Location

Country-level worldwide and state granularity in the US-based on the ISO-3166 Alpha-2 standard.



Industry

Industry classification breakdown based on the SIC classification system with additional granularity options.



Entity Size

Based on commonly used revenue bands.

Zones can be viewed with low or high granularity.

The views are built to accommodate the ability to use the platform despite varying quality of data within a group of risks.



Dimension



Low Granularity



High Granularity

LOCATION

Country Level (243)

Country Level (243)
US States & Territories (57)

INDUSTRY

Main Divisions (10)

Division Breakdown (83)

COMPANY SIZE

4 size classifications based on commonly used revenue bands

4 size classifications based on commonly used revenue bands

NUMBER OF ZONES

9,720

99,268



Advantages of Implementing CRA-Zones™

- + Open framework - No need to license a model
- + Understand your cyber risk accumulation
- + Facilitate portfolio risk diversification
- + Easily track portfolio aggregation trends
- + Gain a view of risk that reflects risk accumulation across multiple portfolios



Benefits of Applying Additional Data Layers on CRA-Zones™

- + Detect correlation between risk accumulation and cyber attacks trends
- + Monitor compliance with defined risk appetite
- + Support regulatory reporting obligations
- + Financially quantify probable maximum loss (PML) events
- + Benchmark to average losses and average industry exposure per zone

CRA-Zones™ Coding System



Location (US_VA)

Country level worldwide and state granularity in the US based on the ISO-3166 Alpha-2 standard.



Industry (I-73)

Classification breakdown based on SIC codes with additional granularity options.



Entity Size (L)

Based on revenue bands aligned to Lloyd's RDS definition.

US_VA_I_73_L

United States_Virginia_Services_Business Services_Large company

CRA-Zones™	Location	Industry	Size of Entity	Aggregated Exposure [Limits in Million USD]	% of Exposure out of Total Portfolio	% of companies out of Total Portfolio
US_VA_I_73_S	VIRGINIA, USA	Business Services	Small	\$61M	15.01%	8.11%
US_CA_I_73_L	CALIFORNIA, USA	Business Services	Large	\$46M	11.32%	13.51%
US_TX_B_L	TEXAS, USA	Mining	Large	\$40M	9.84%	2.70%
US_VA_I_73_M	VIRGINIA, USA	Business Services	Medium	\$39M	9.59%	10.81%
US_CO_I_82_S	COLORADO, USA	Educational Services	Small	\$37M	9.10%	5.41%
US_CA_I_73_M	CALIFORNIA, USA	Business Services	Medium	\$35M	8.12%	8.11%
US_FL_H_M	FLORIDA, USA	Finance, Insurance	Medium	\$33M	6.15%	13.51%
US_NY_I_73_M	NEW YORK, USA	Business Services	Medium	\$25M	5.66%	2.70%
US_PA_I_82_S	PENNSYLVANIA, USA	Educational Services	Small	\$23M	3.81%	2.70%
FR_I_80_M	FRANCE	Health Services	Medium	\$15.5M	6.40%	10.81%
CN_D_L	CHINA	Manufacturing	Large	\$26M	3.44%	5.41%
US_TX_A_M	TEXAS, USA	Agriculture, Forestry	Medium	\$14M	2.95%	5.41%
JP_D_M	JAPAN	Manufacturing	Medium	\$11M	2.71%	2.70%
US_VA_I_80_XS	VIRGINIA, USA	Health Services	Extra Small	\$9M	2.21%	2.70%
DE_D_M	GERMANY	Manufacturing	Medium	\$8M	1.97%	2.70%
FR_F_M	FRANCE	Wholesale Trade	Medium	\$7M	1.72%	2.70%