

DATA-DRIVEN MODELLING
AND VISUALIZATION

ANALYSIS OF GLOBAL UNICORN COMPANIES



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ABOUT DATASET

The dataset provides comprehensive information on unicorn companies (startups valued at over \$1 billion), offering insights into their industry, geographical location, valuation, funding stages, and other critical metrics. It tracks companies across various sectors, such as technology, healthcare, and finance, and contains data such as the year of founding, country, and number of investors involved. This dataset is pivotal in understanding global trends, investor preferences, and how companies from different countries and industries evolve to become unicorns.

DATA PREPROCESSING



Handling Missing Data

Rows with missing values in critical columns like Valuation and Date Joined were removed, while non-critical columns were imputed using mean/median values.



Data Transformation

The Valuation column was converted into billions for consistency. Dates were reformatted to a standard YYYY-MM-DD format to facilitate time-series analysis.



Normalization and Scaling

Features like Valuation and Total Funding were normalized to remove any bias due to outliers and to prepare the data for visual analysis.



Converting String Values to Numeric

Features like Valuation and Total Funding were converted into numeric values by removing the unit of measurement from them.



Grouping

Some of the values of Industry were grouped together for clarity purposes.

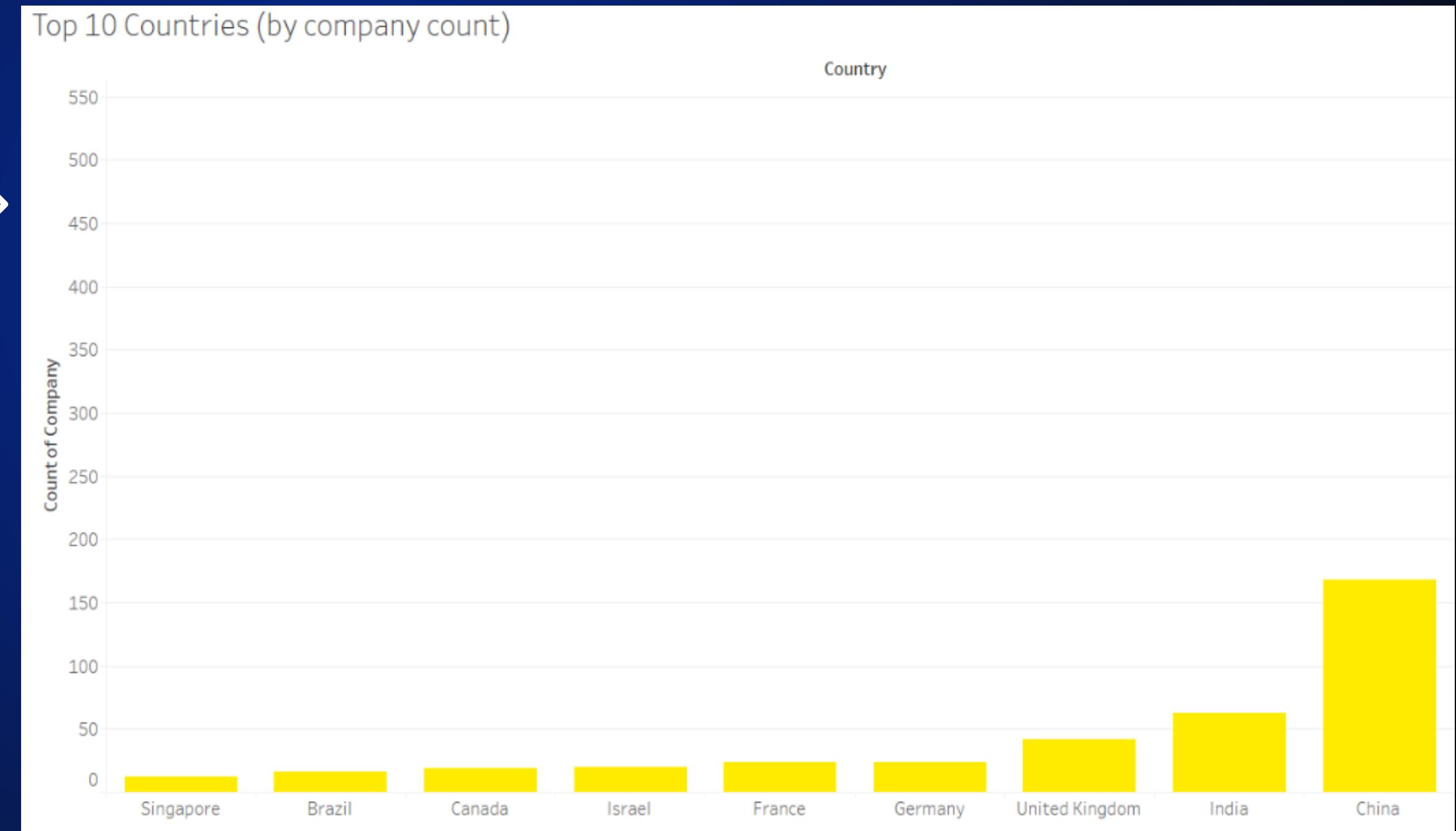


Date-based Feature Engineering

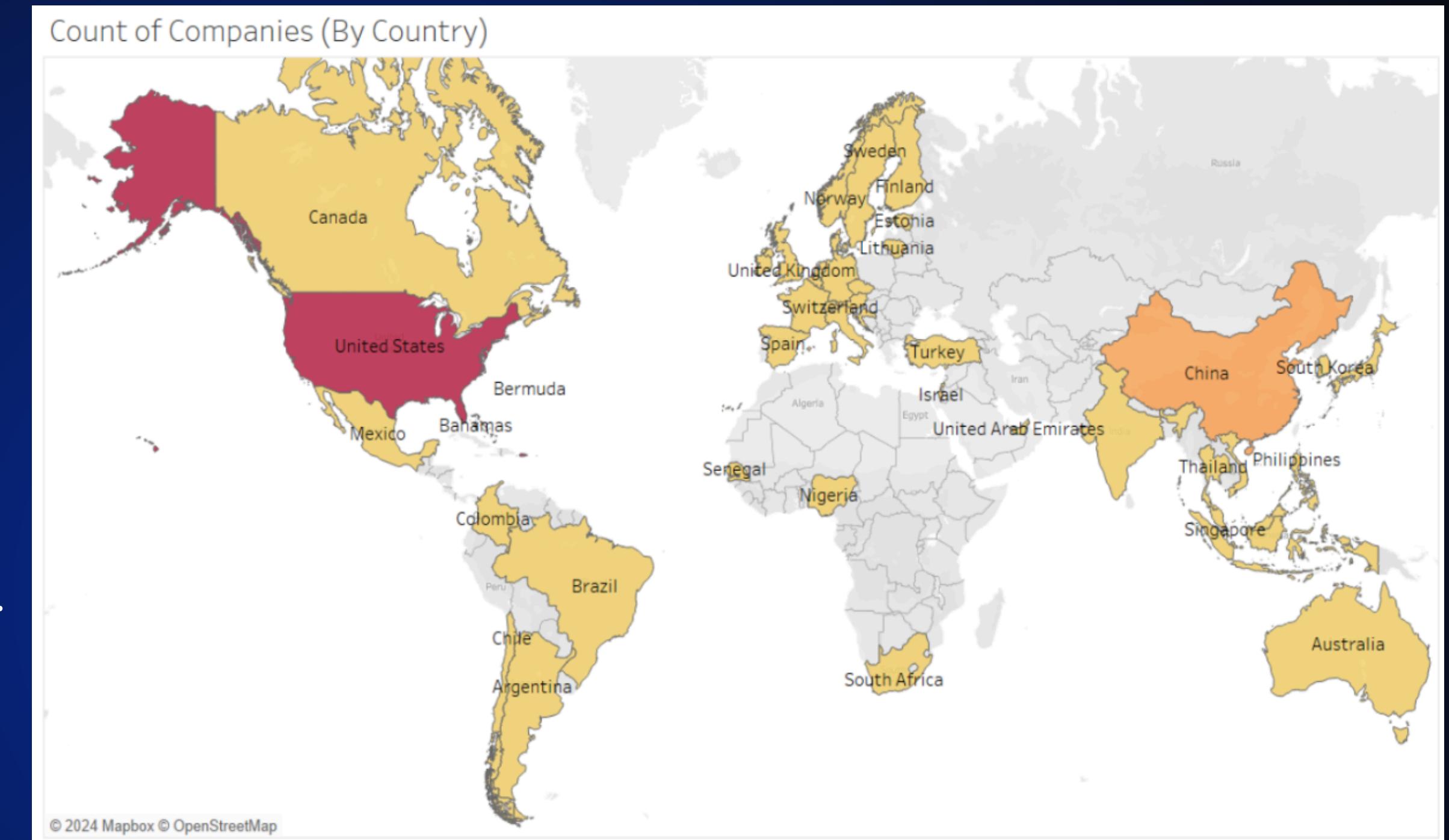
Extracted features like Year from the Date Joined to analyze growth trends over time.

TOP 10 COUNTRIES WITH THE HIGHEST NUMBER OF COMPANIES

The top 10 countries with the highest number of unicorn companies are represented in this graph.



This map visualizes global unicorn company distribution, highlighting clusters in North America, Europe, and East Asia.



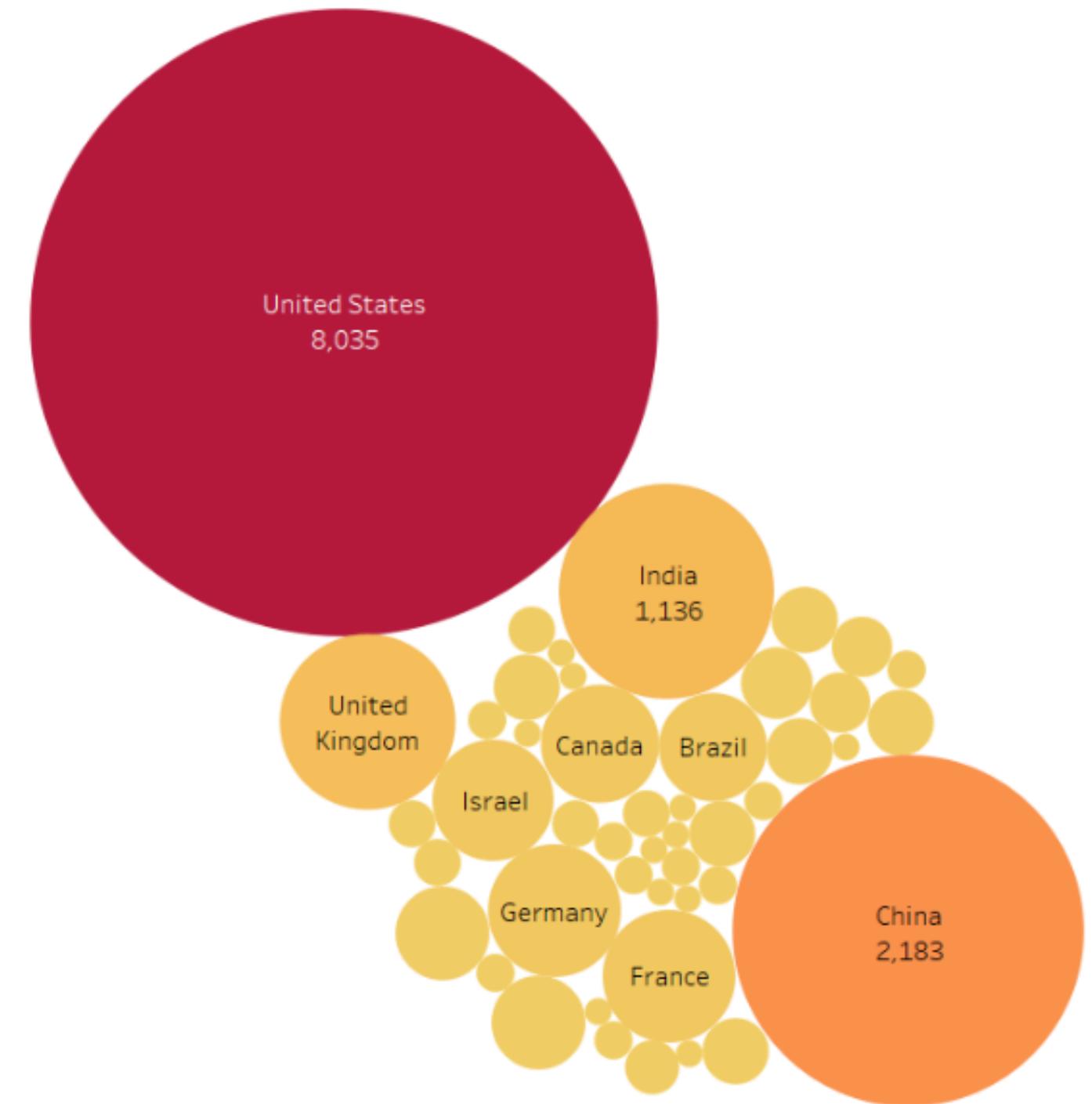
GEOGRAPHICAL DISTRIBUTION OF COMPANIES

ANALYZING INVESTOR CONCENTRATION BY COUNTRY



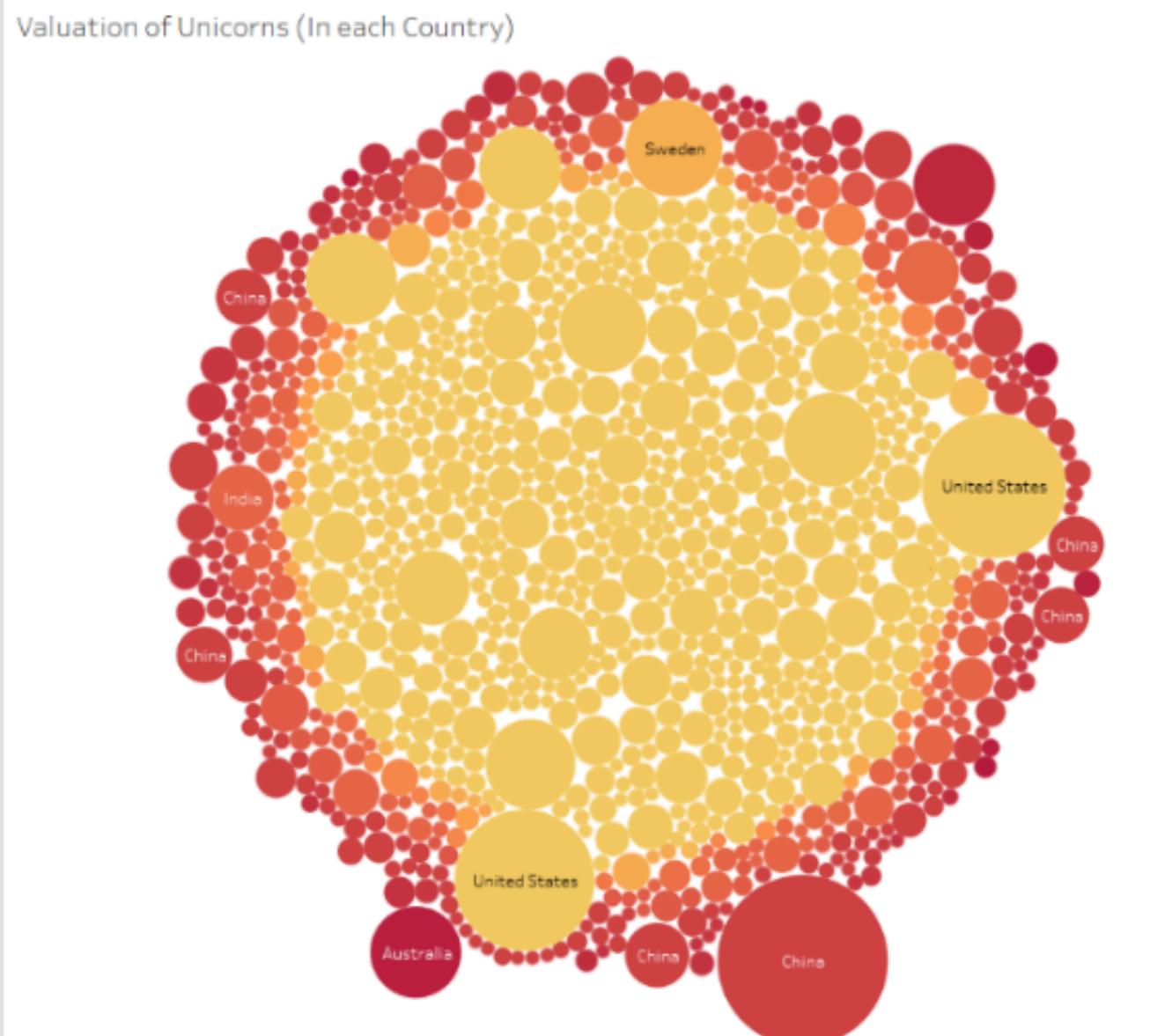
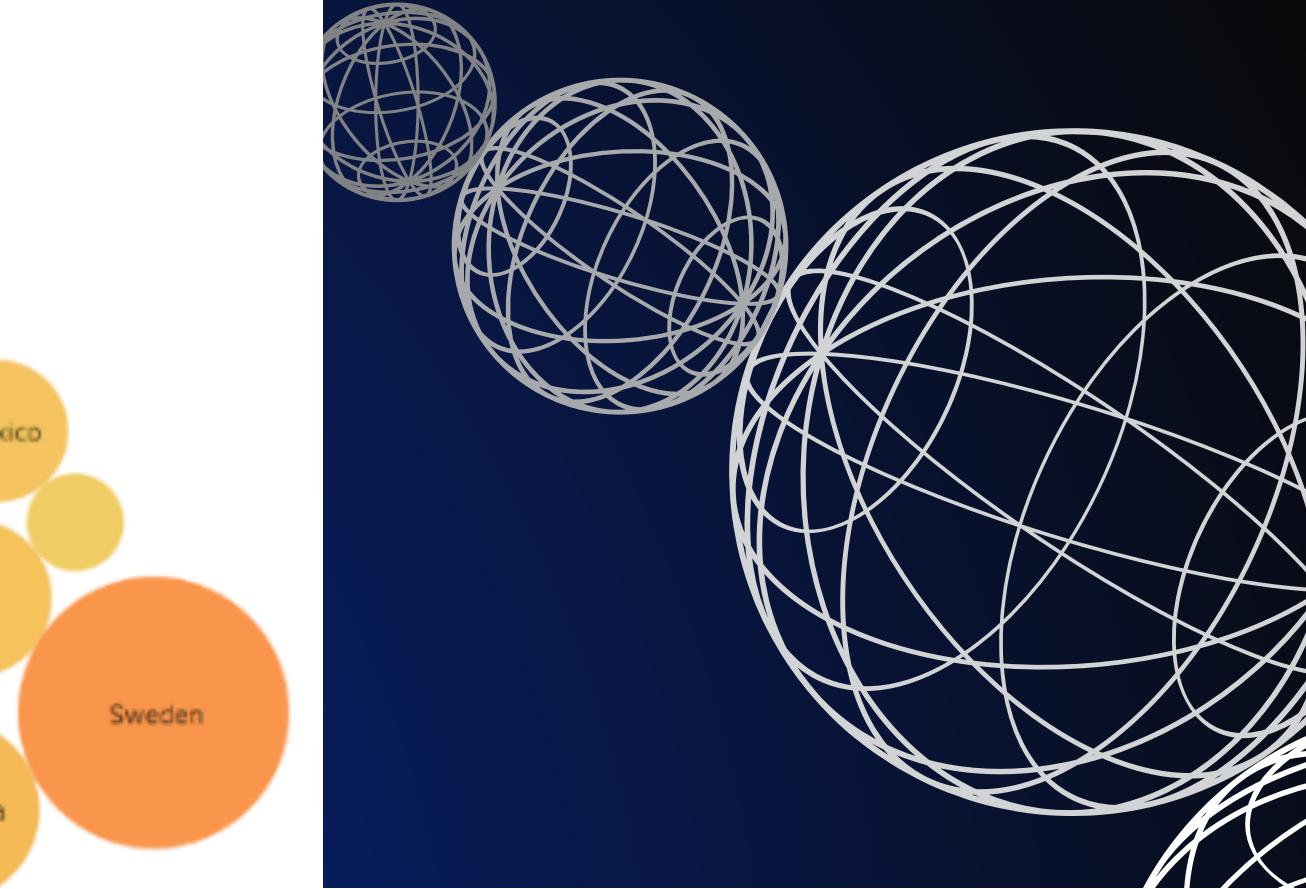
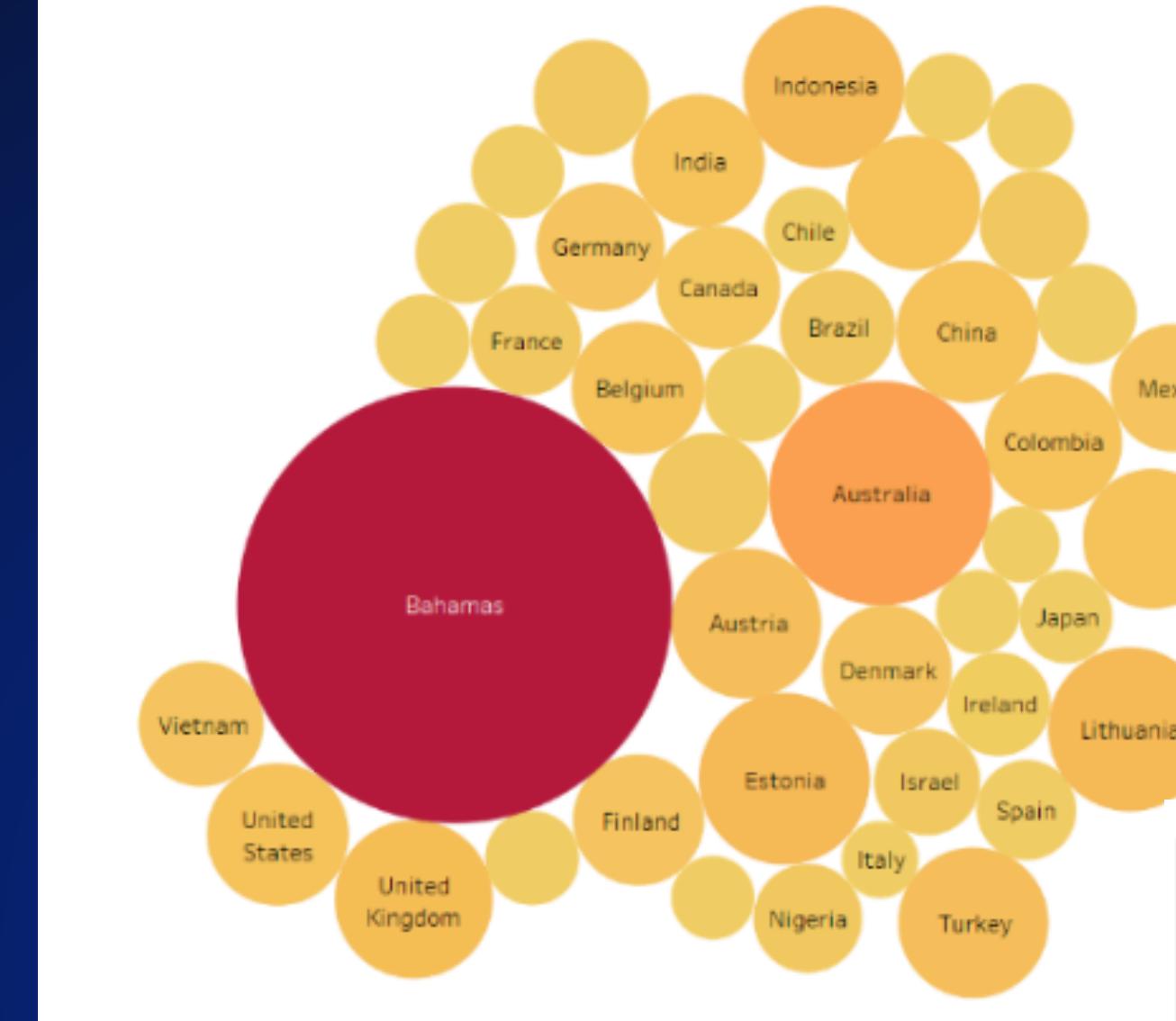
This packed bubble chart shows how investor concentration varies by country.

<Total Raised Funds by Country>



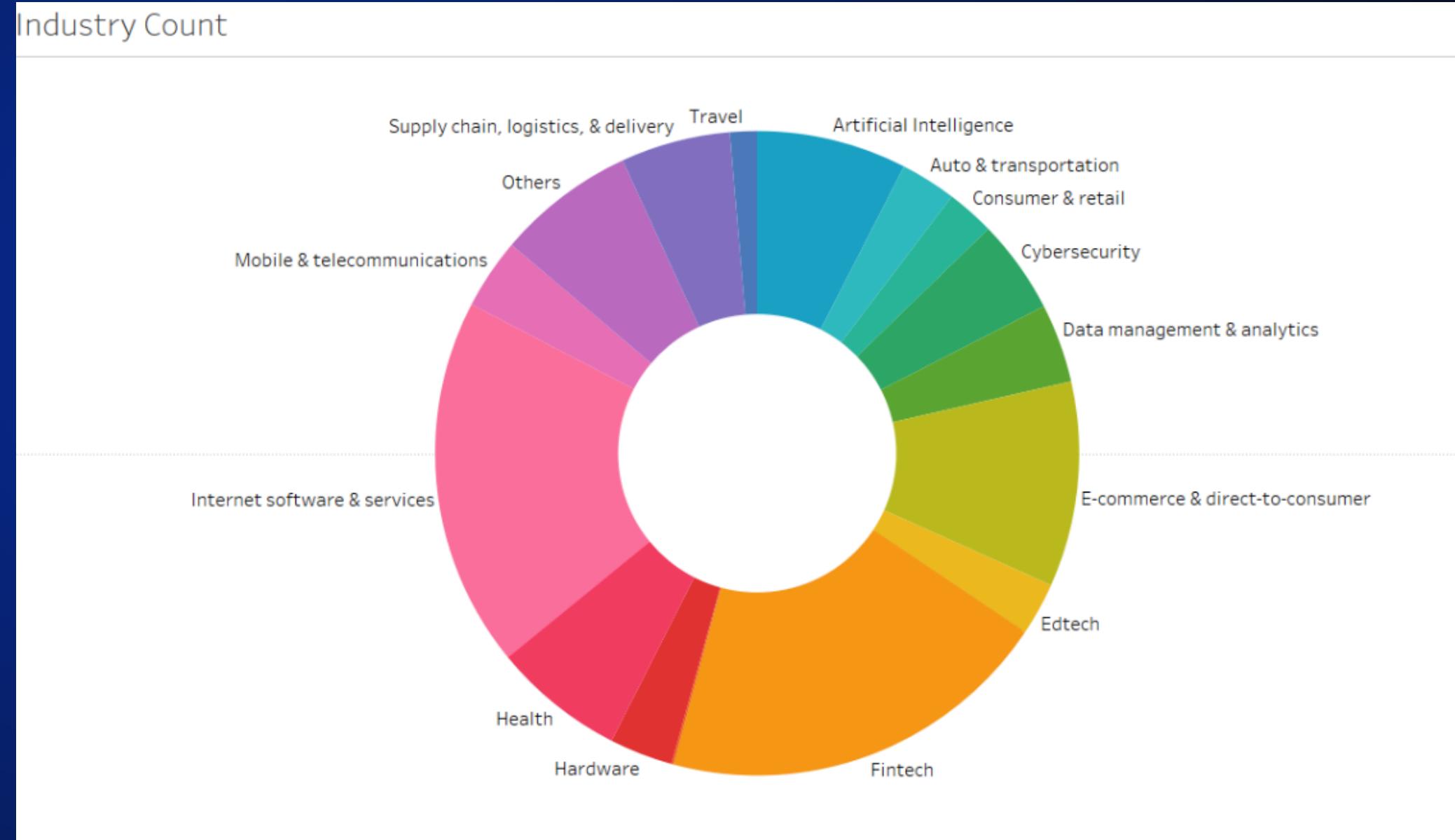
GLOBAL MARKET VALUATION: COUNTRY-WISE AVERAGE VALUATION ANALYSIS

This packed bubble chart reveals the financial dominance of U.S. and Chinese unicorns, highlighting smaller countries with fewer but high-valued unicorns.



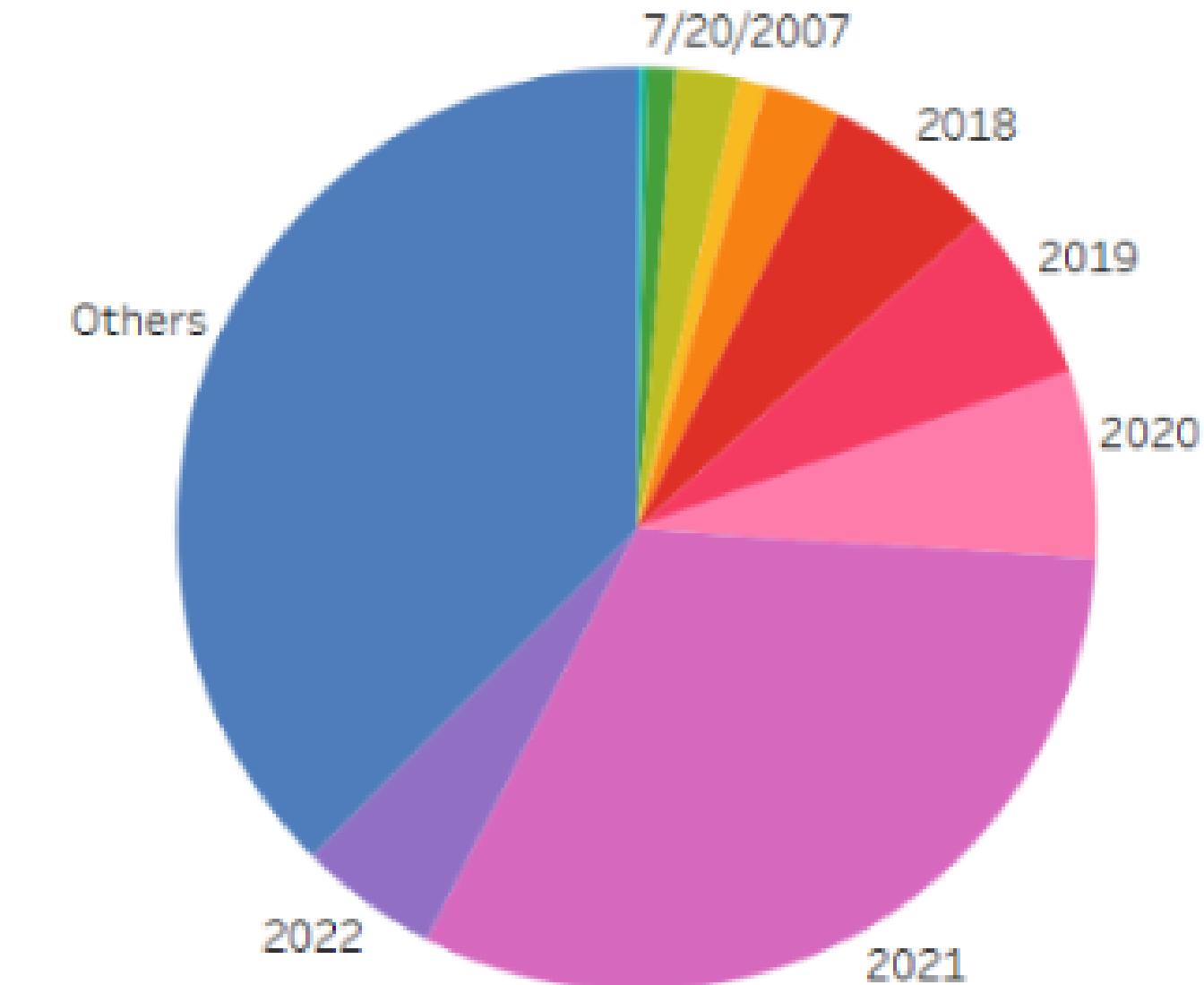
AVERAGE INDUSTRY METRICS COMPARISON AND DISTRIBUTION ANALYSIS

A comparison of industry metrics shows significant trends across industries like healthcare and fintech, revealing the highest average valuations and funding totals.



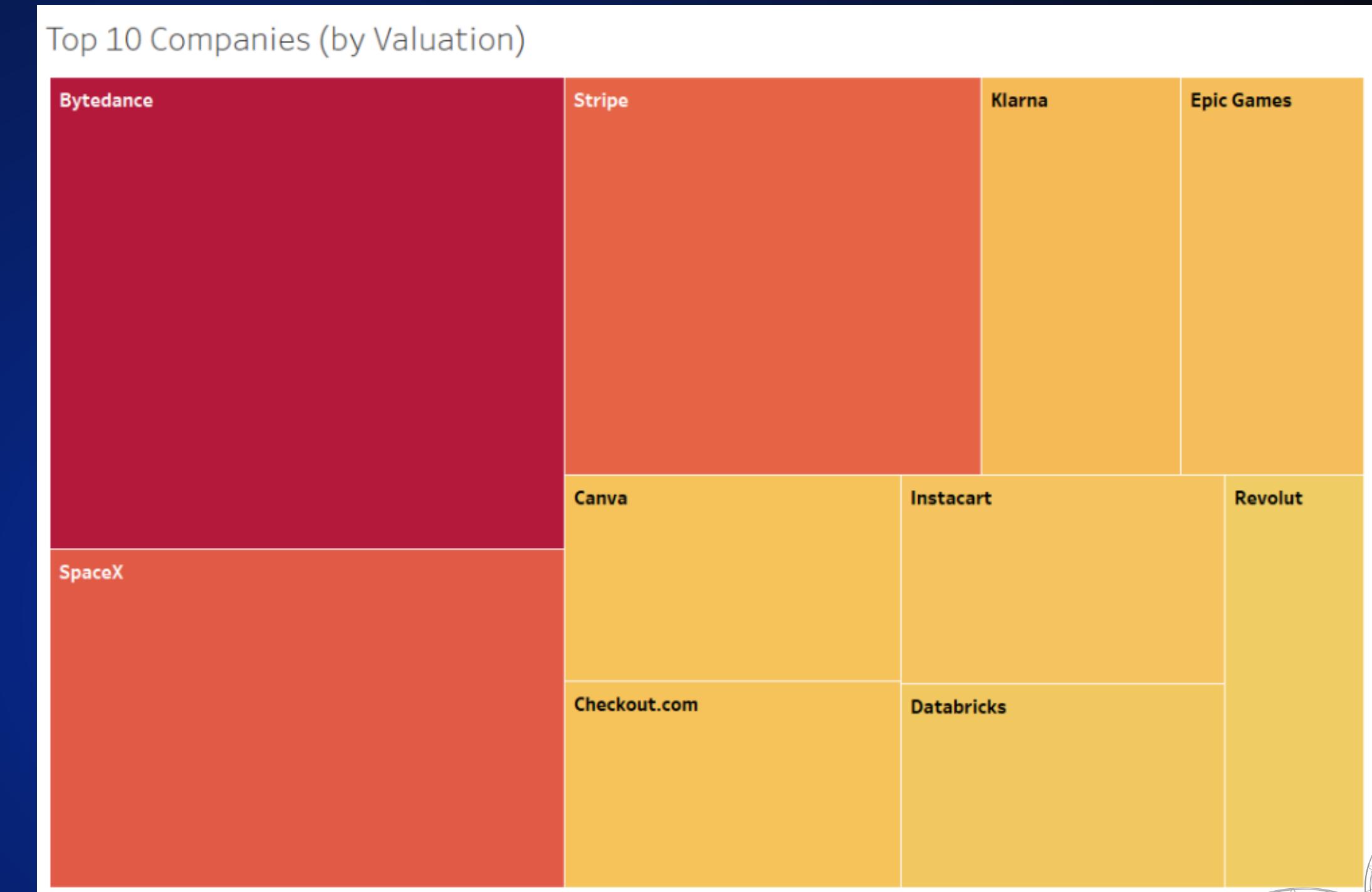
TREND ANALYSIS OF UNICORN COMPANIES' GROWTH OVER TIME

The pie chart illustrates the percentage of unicorn companies by year, emphasizing peak growth in 2021.



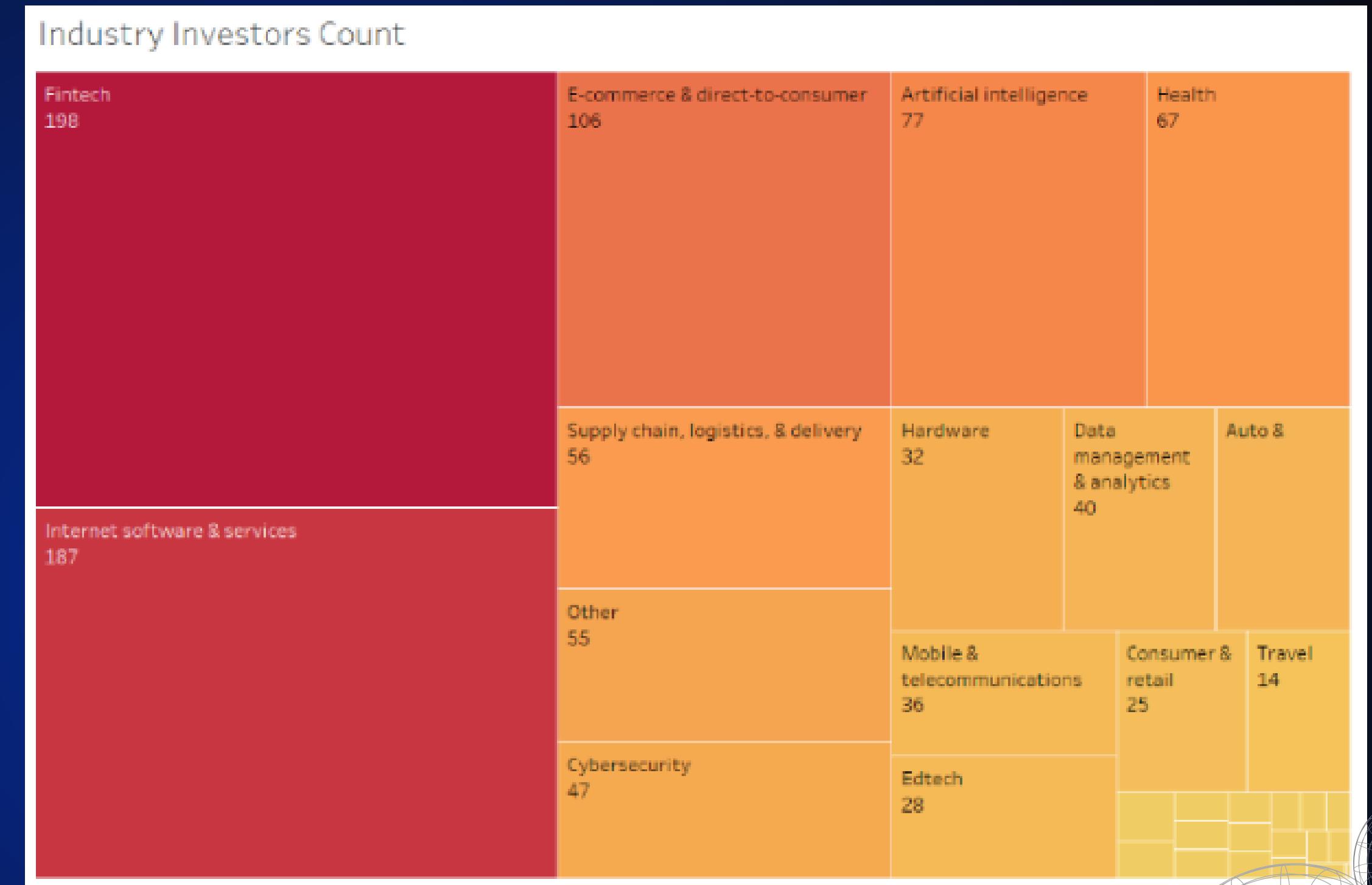
TOP 10 COMPANIES BY VALUATION - TREE MAP

This tree map will highlight the top 10 companies by valuation, showcasing the biggest players in the unicorn space.



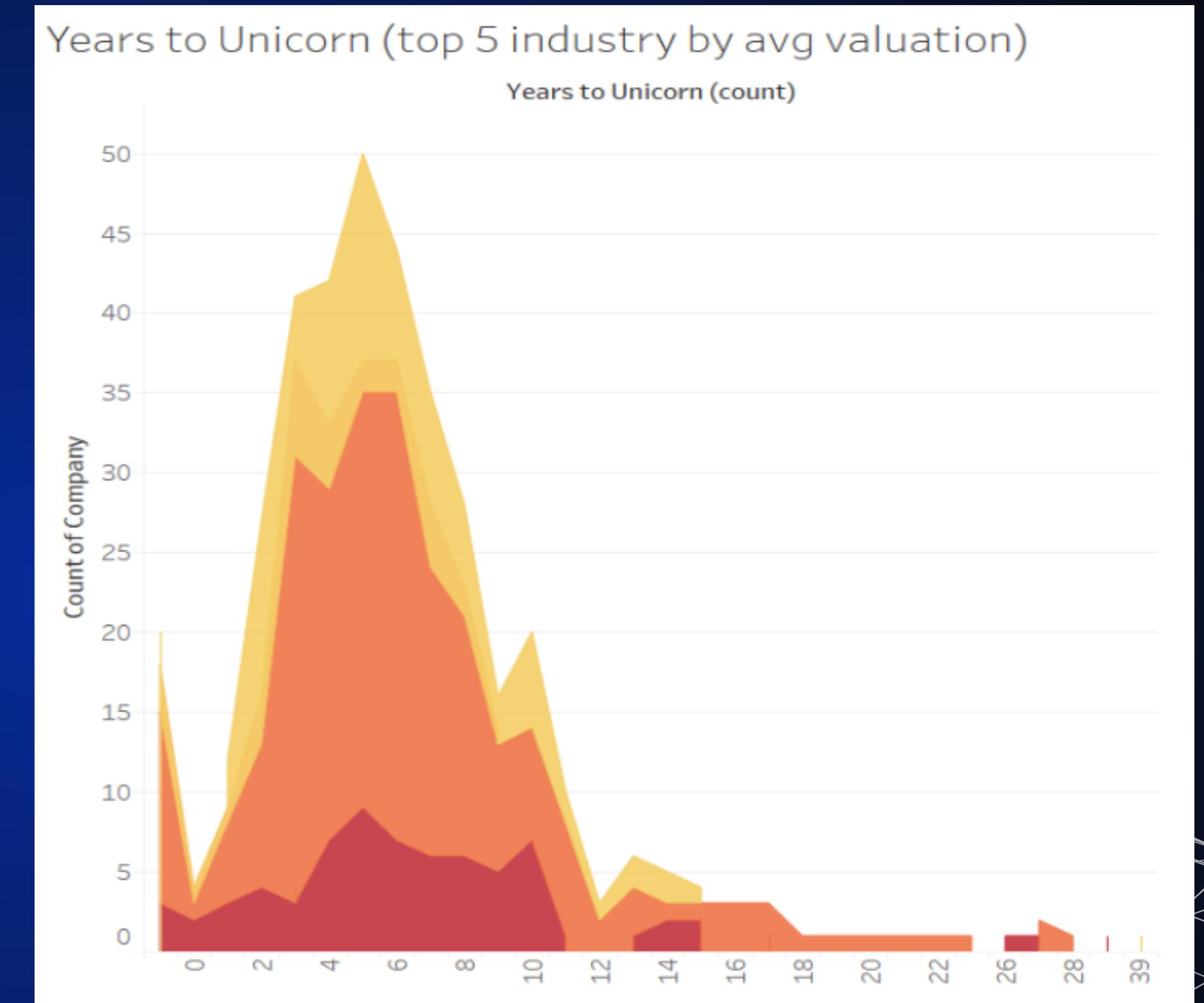
INDUSTRY INVESTORS COUNT - TREE MAP

The Tree Map visualization reveals investor distribution across industries, highlighting sectors with the highest investment concentration.



YEARS TO UNICORN OF THE TOP 5 INDUSTRIES BY AVERAGE COMPANY VALUATION AND THEIR COMPANY COUNTS

Shows the top 5 industries by average valuation, along with the number of companies in each sector.



CUMULATIVE VALUATION OF INDUSTRIES

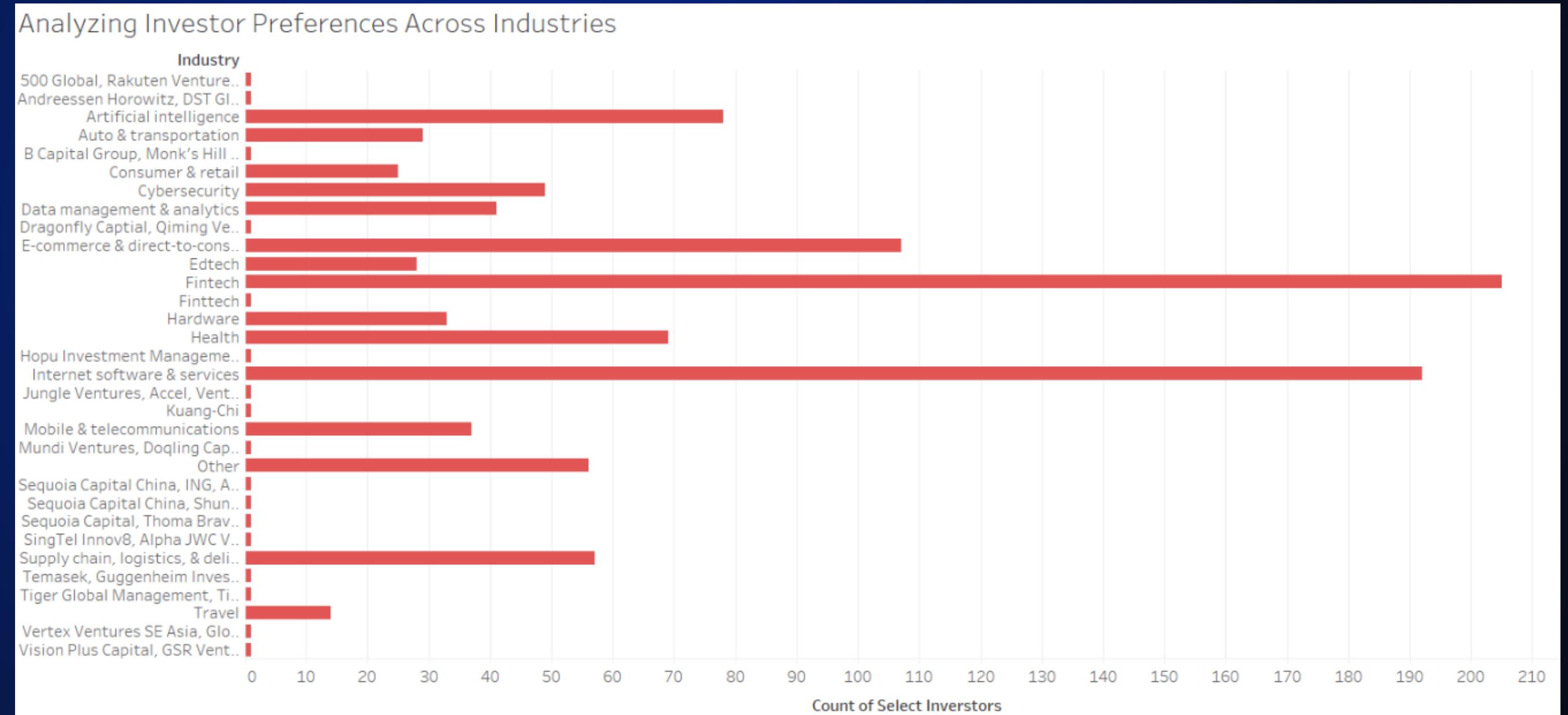
A Pareto Chart shows the cumulative valuation growth of unicorn companies, highlighting sharp increases from recent major funding rounds.



ANALYZING INVESTOR PREFERENCES ACROSS INDUSTRIES

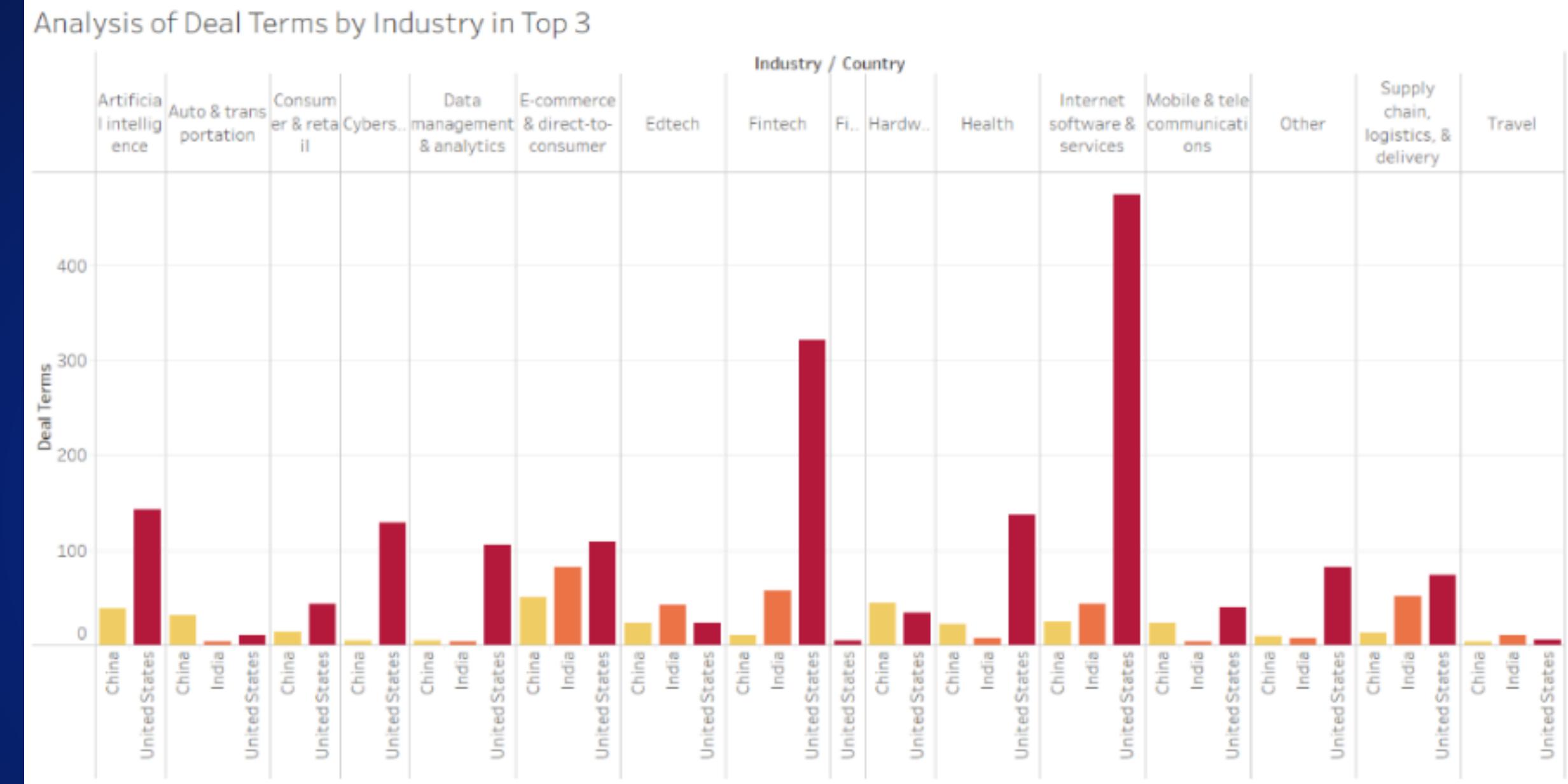


This bar chart highlights investor preferences by industry, showing the highest investor interest in technology and healthcare companies.



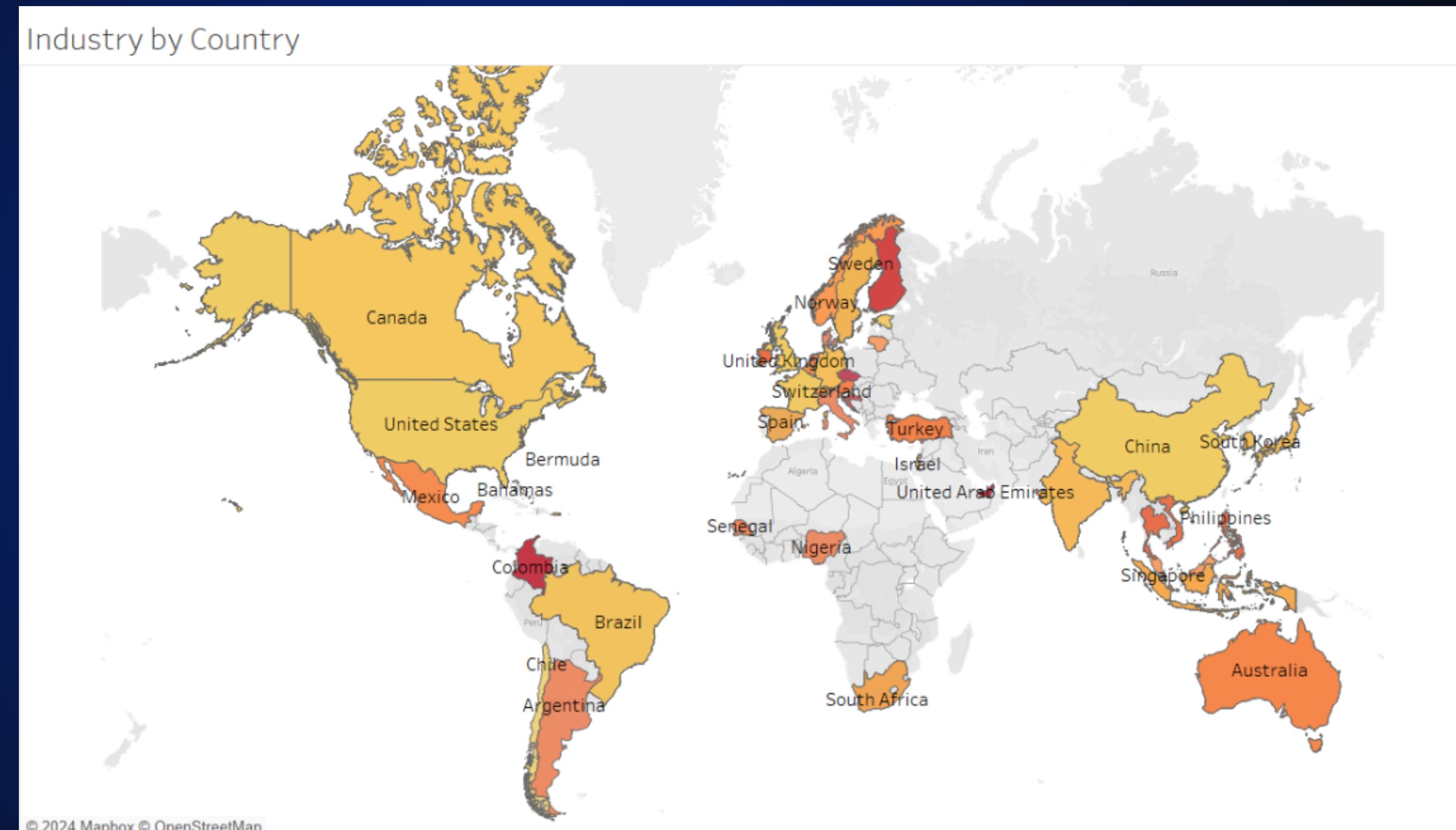
ANALYSIS OF DEAL TERMS BY INDUSTRY IN TOP 3 COUNTRIES

A multi-bar graph compares deal terms across industries in the U.S., China, and India, highlighting key investment strategy differences.



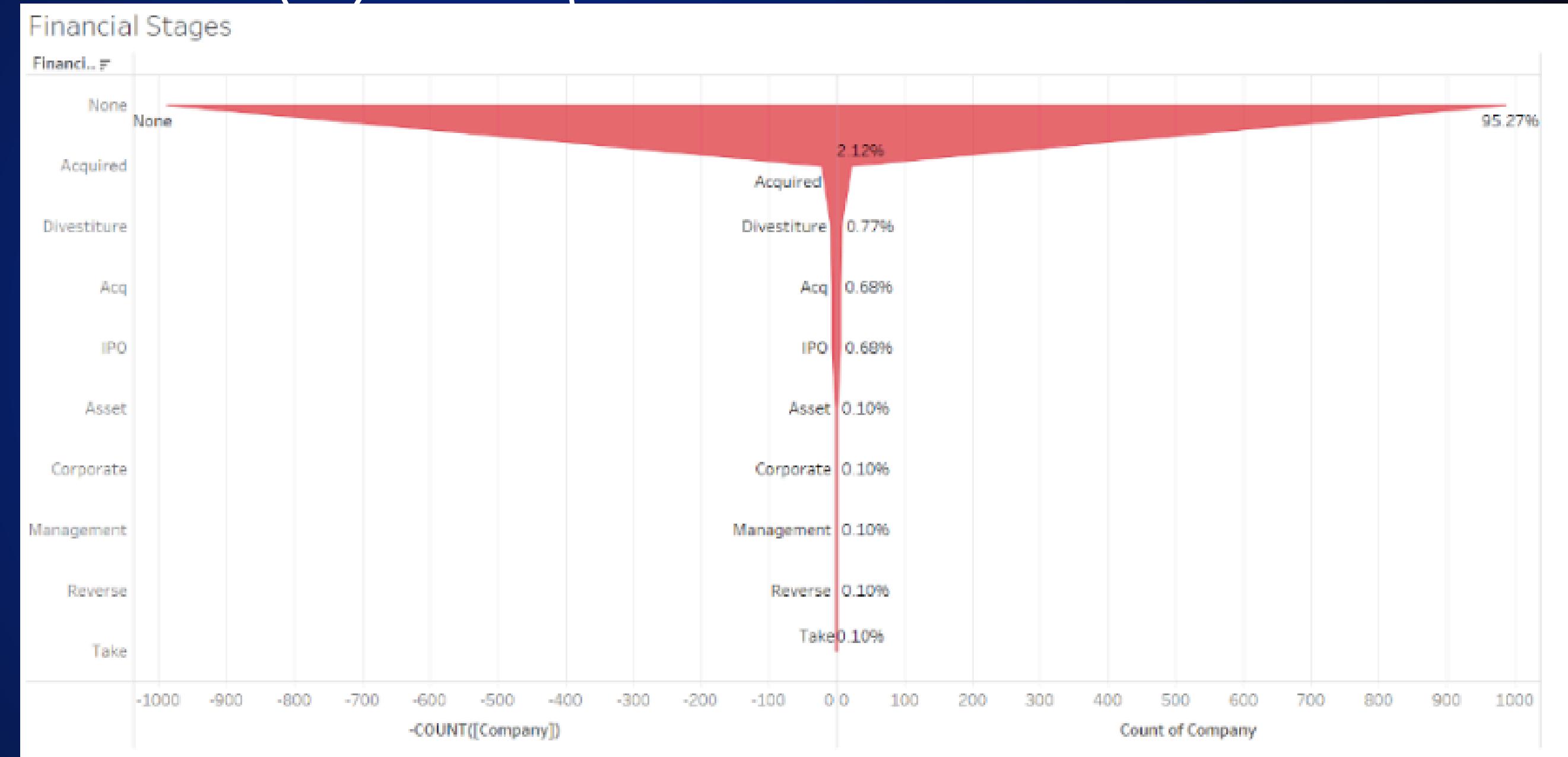
INDUSTRY BY COUNTRY

This map visualizes the dominant industries in different countries, showing how sectors like fintech and e-commerce vary by geographical region.

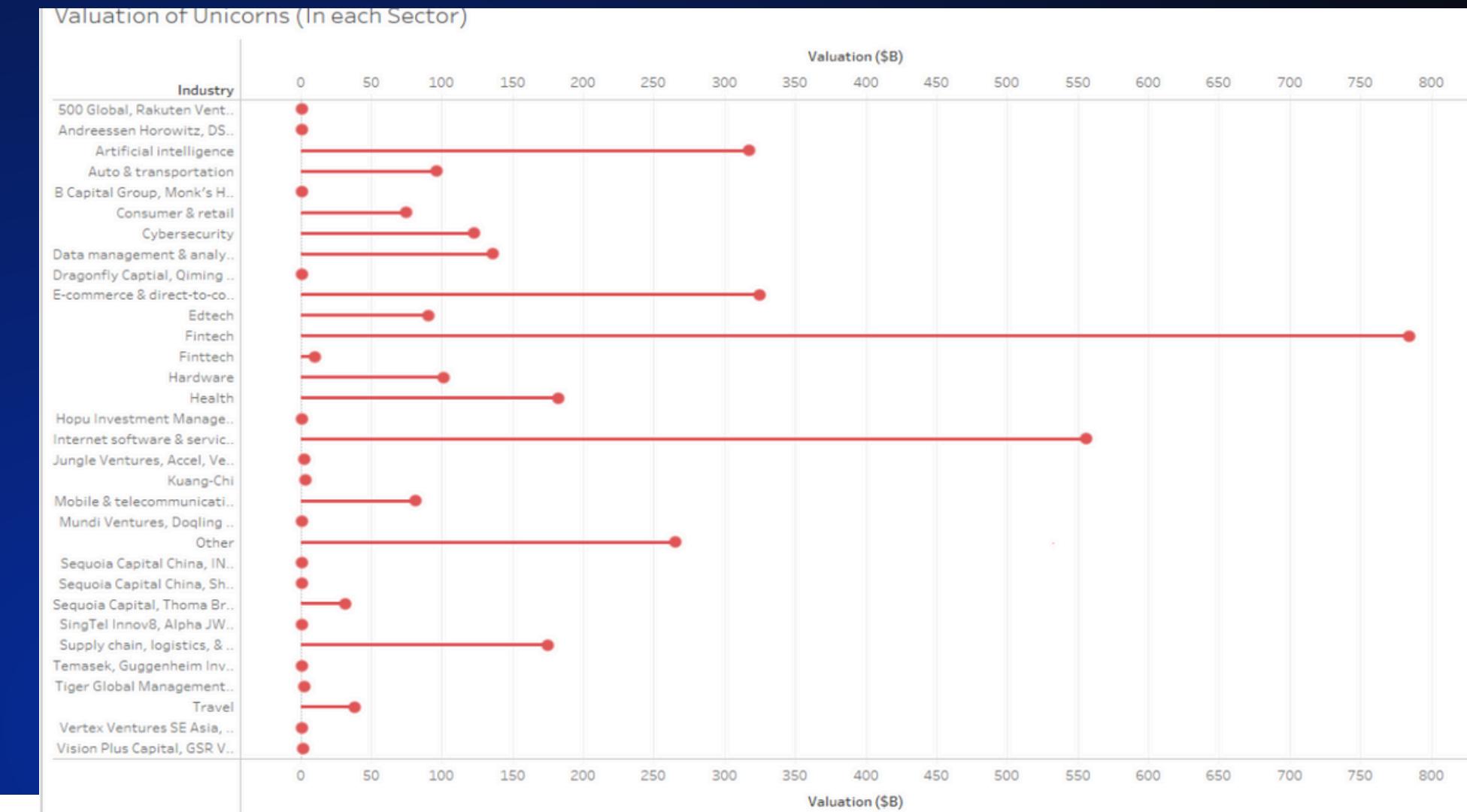


FINANCIAL STAGES

The funnel chart visualizes companies' financial stages, showcasing their progression from initial funding to unicorn status.



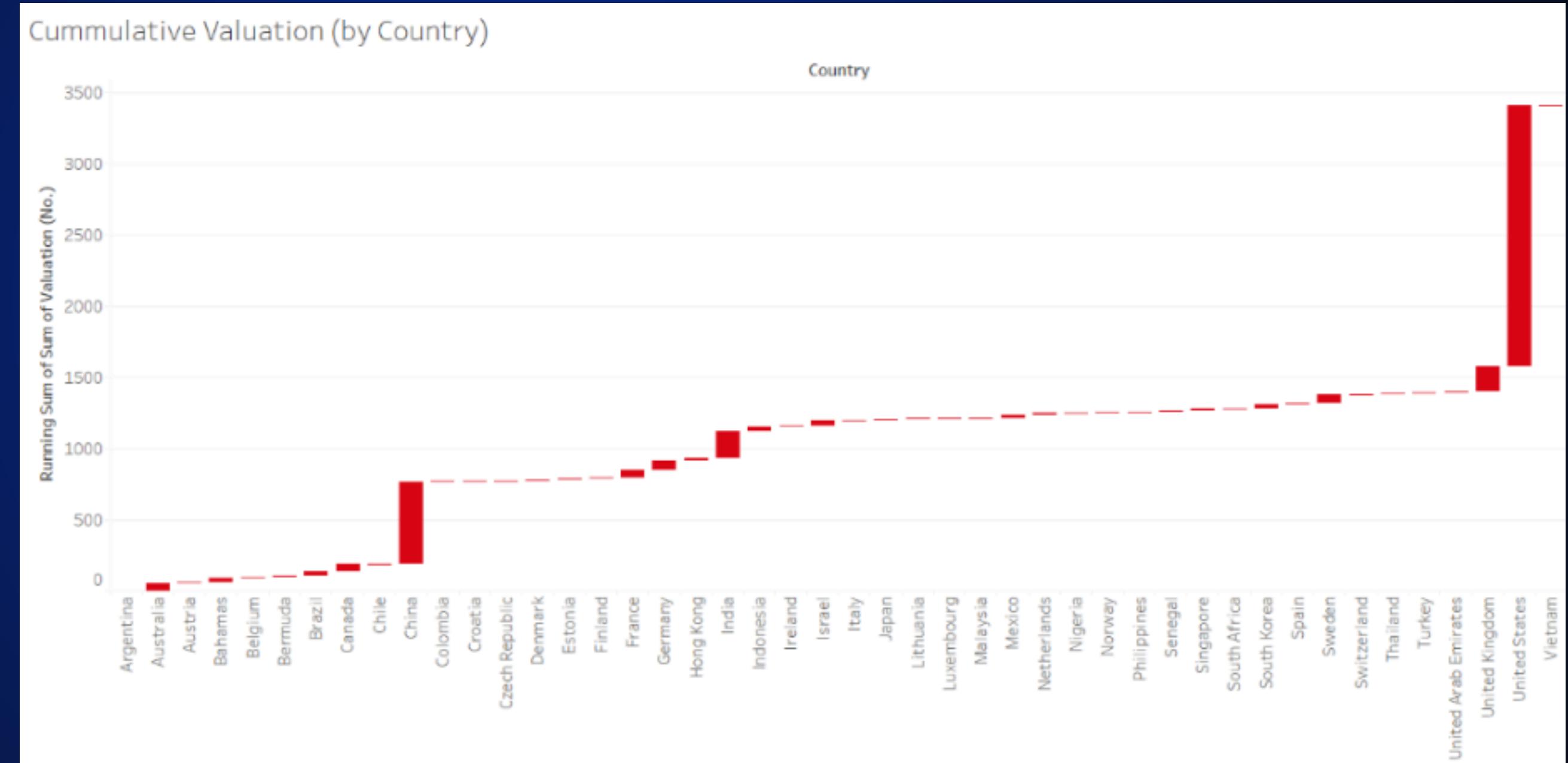
INDUSTRY WITH VALUATION



A Lollipop Chart ranks industries by valuation, while a Word Cloud emphasizes the most highly valued Unicorns through size.

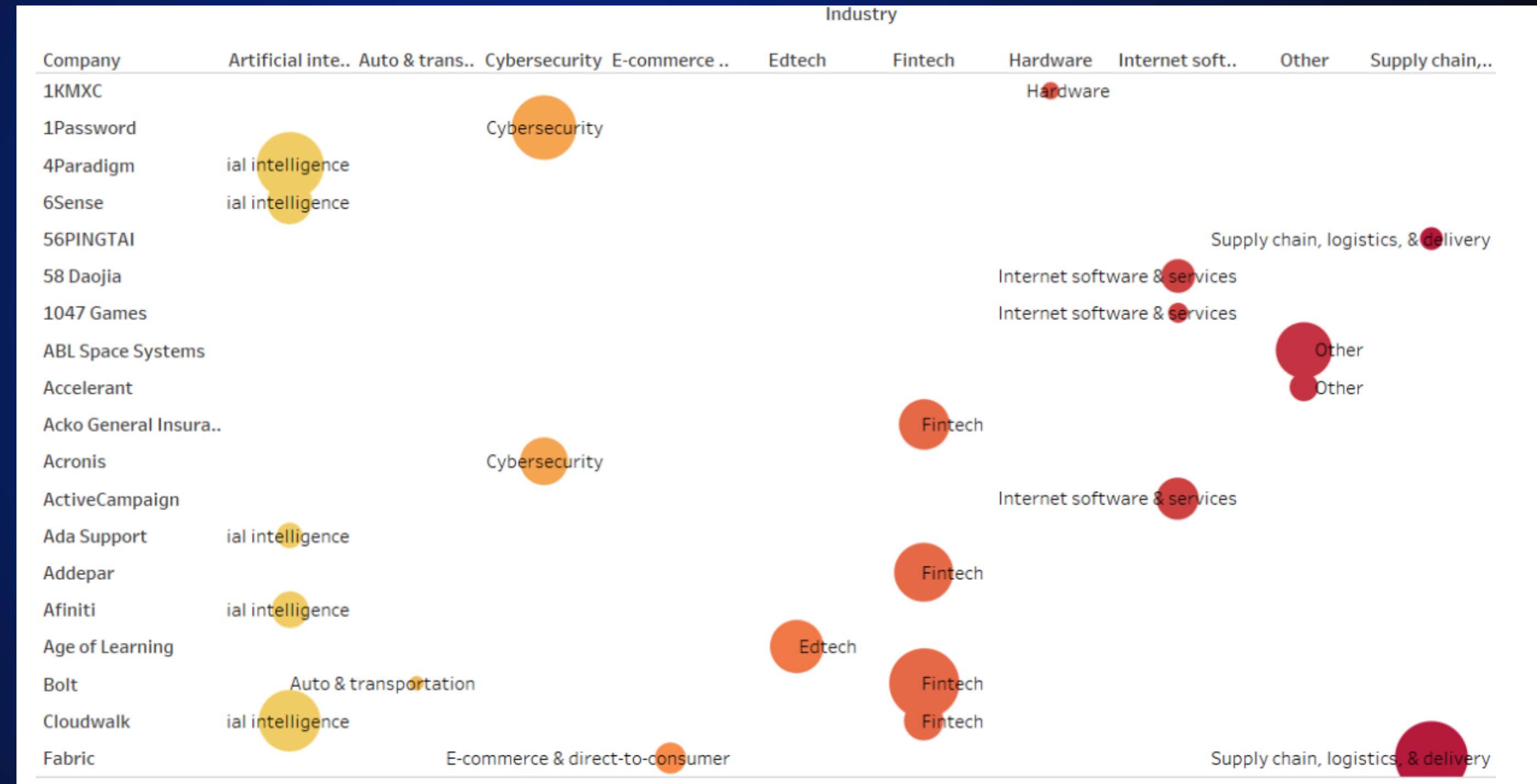
COUNTRY WITH VALUATION

The Waterfall Chart reveal the total unicorn valuations by country, highlighting key global startup leaders.



EXPLORING INDUSTRY RELATIONSHIPS ACROSS COMPANIES

This chord diagram explores relationships between different industries, highlighting connections between sectors such as fintech, healthcare etc.



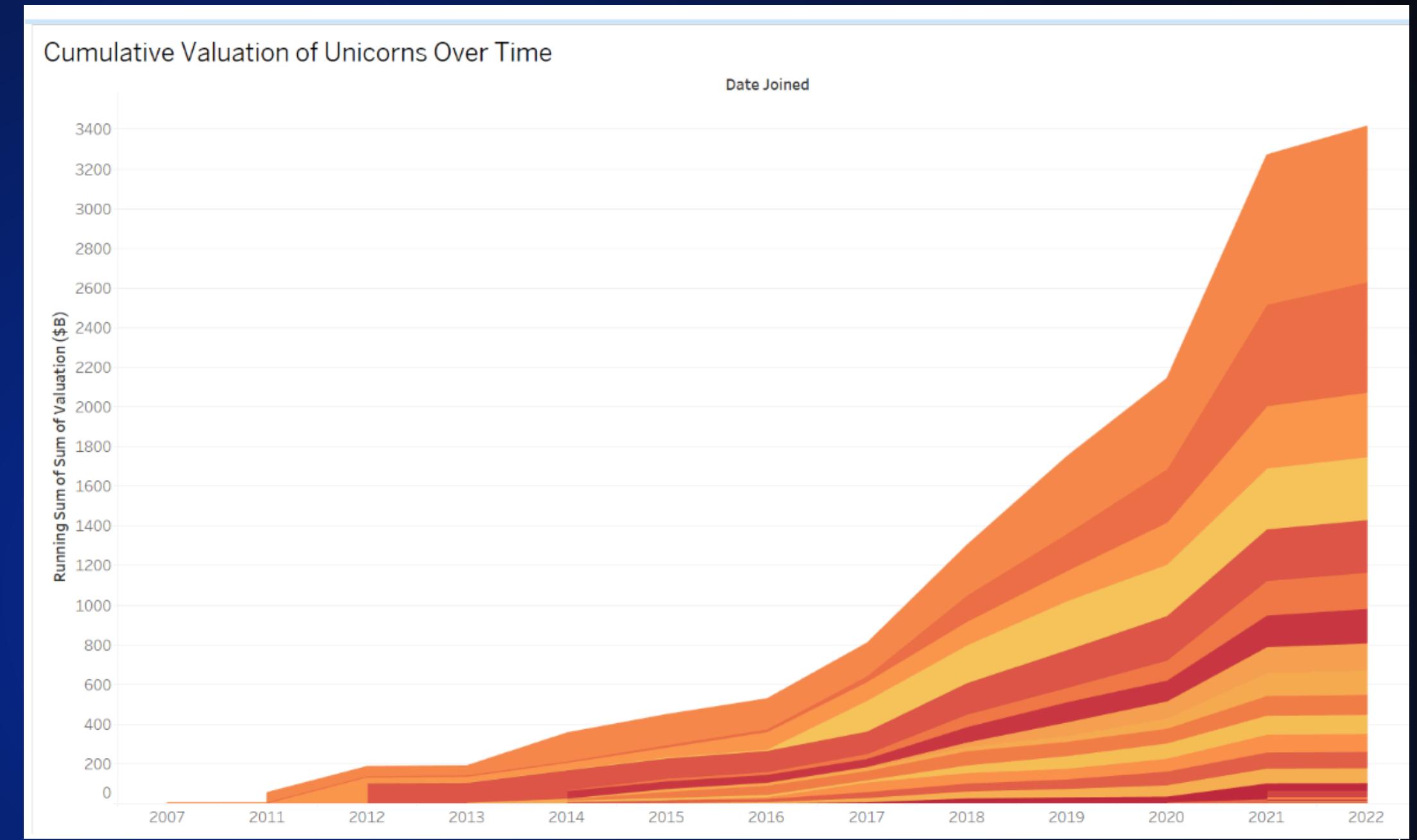
INDUSTRY AND COMPANY GROWTH OVER TIME

A Motion Chart shows how company valuations and fundraising amounts evolve over time, enabling trend analysis, industry comparison, and outlier identification.



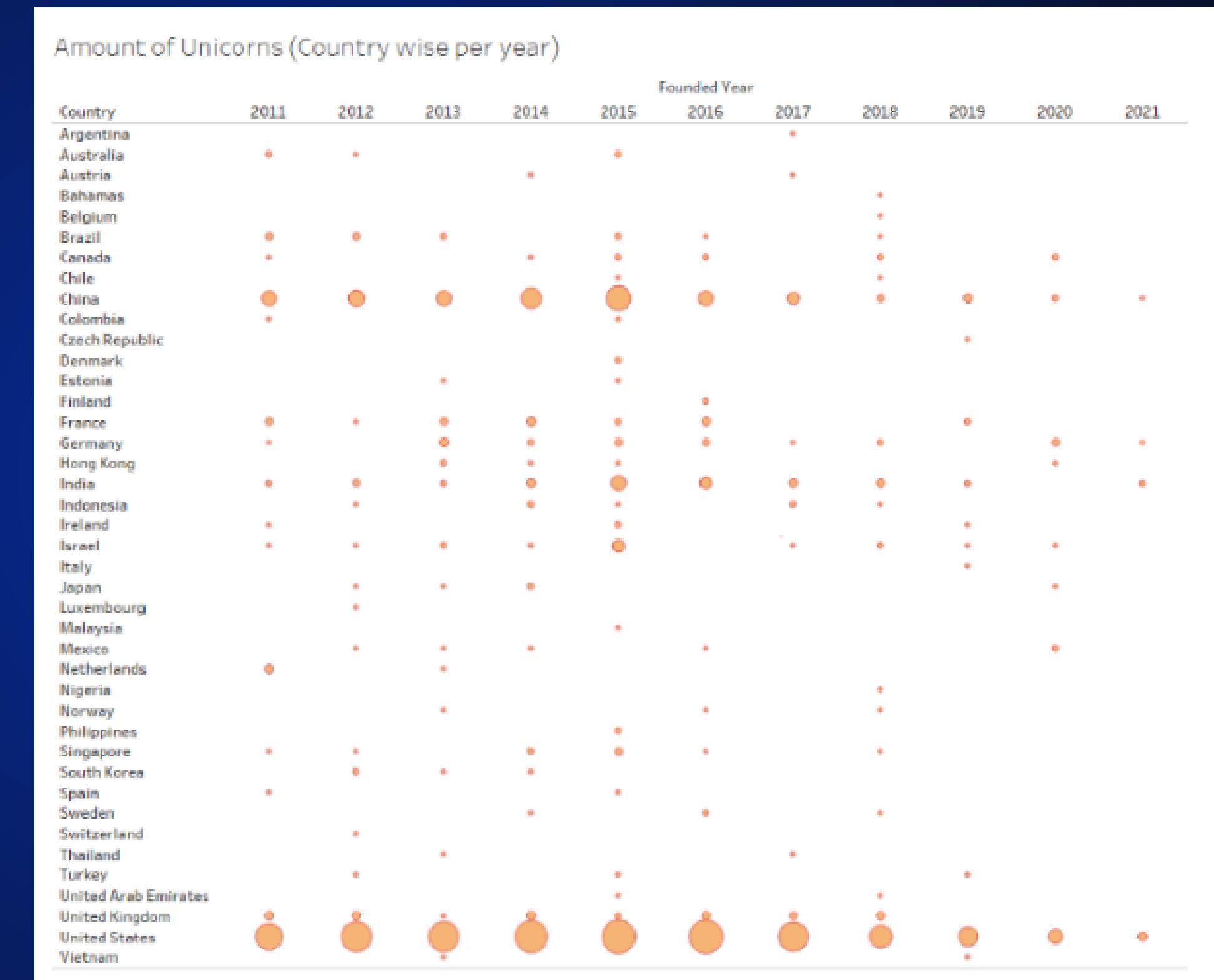
CUMULATIVE VALUATION OF UNICORNS OVER TIME

Cumulative valuation of unicorns over time shows the overall growth and market expansion of high-value startups, revealing trends in investment and economic impact.



UNICORNS IN THE PAST DECADE

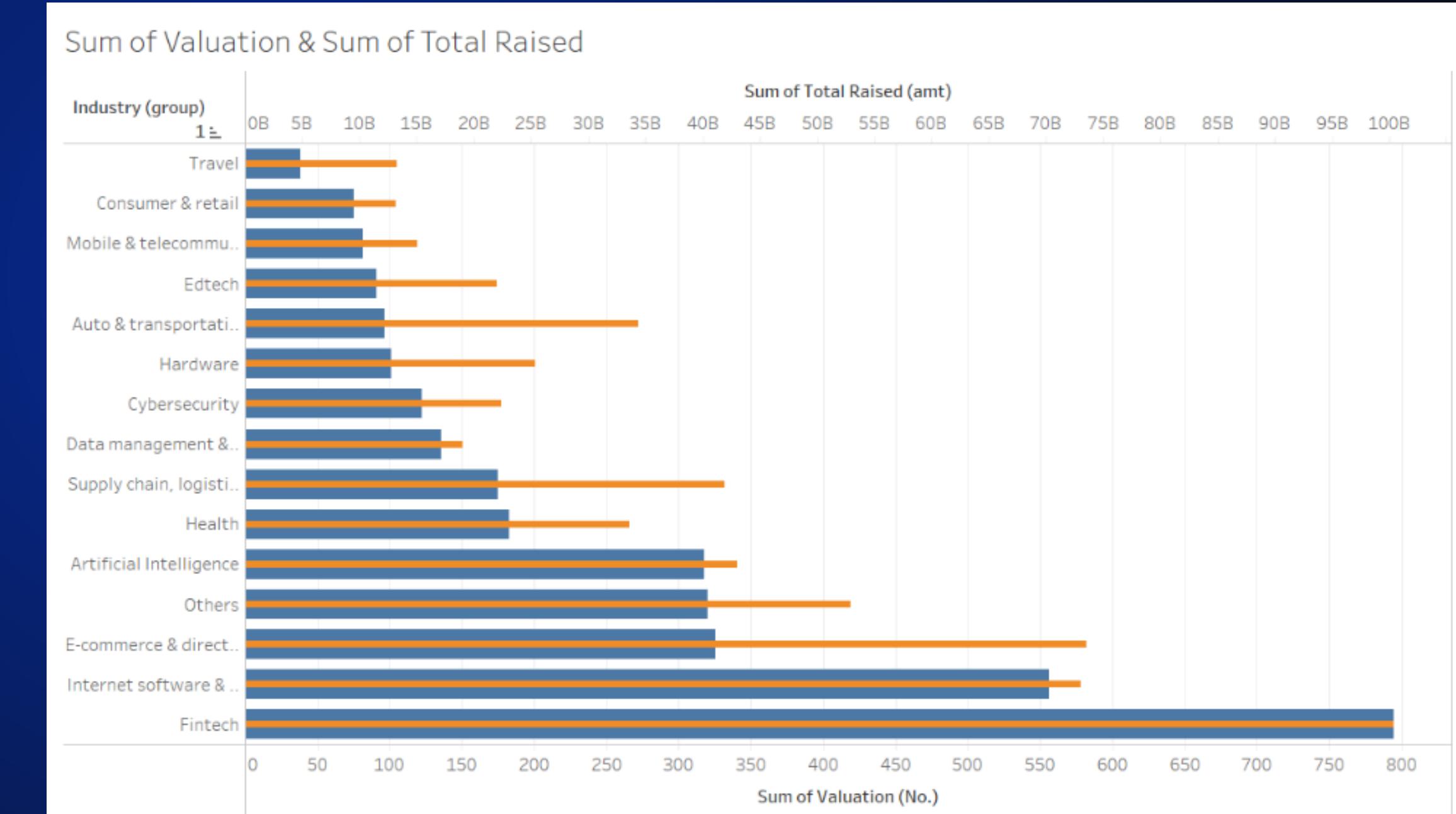
The Bubble Timeline graph illustrates the number of unicorns established in each country over the past decade.



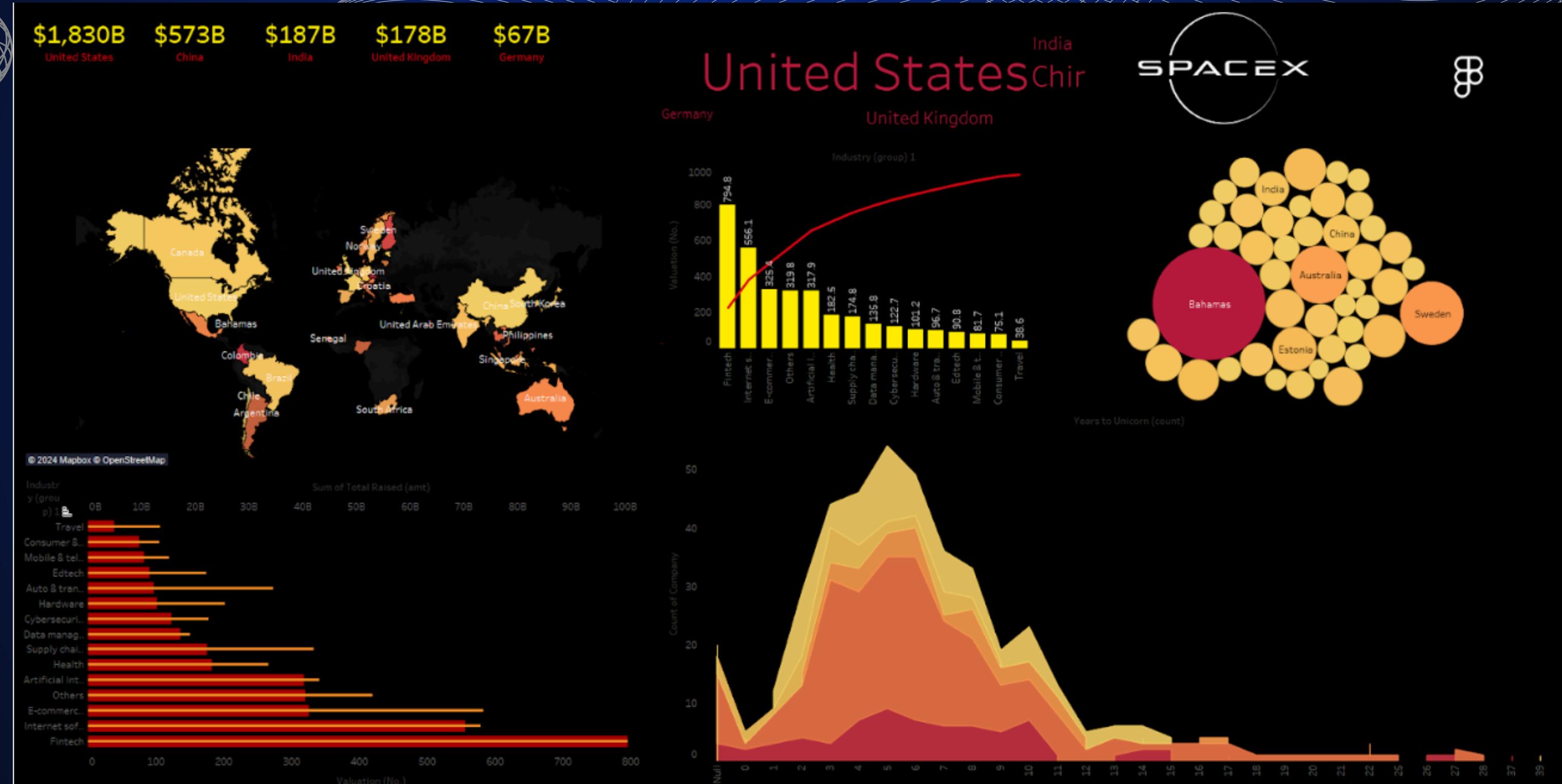
STUDY OF VALUATION AND TOTAL RAISED RELATION

The graph helps to understand the dynamics of different sectors :

- Established Sectors: Sectors with high valuation but lower funds raised.
- Growth Sectors: Sectors with high funds raised but moderate valuations.
- Booming Sectors: Sectors with both high valuation and high funds raised.



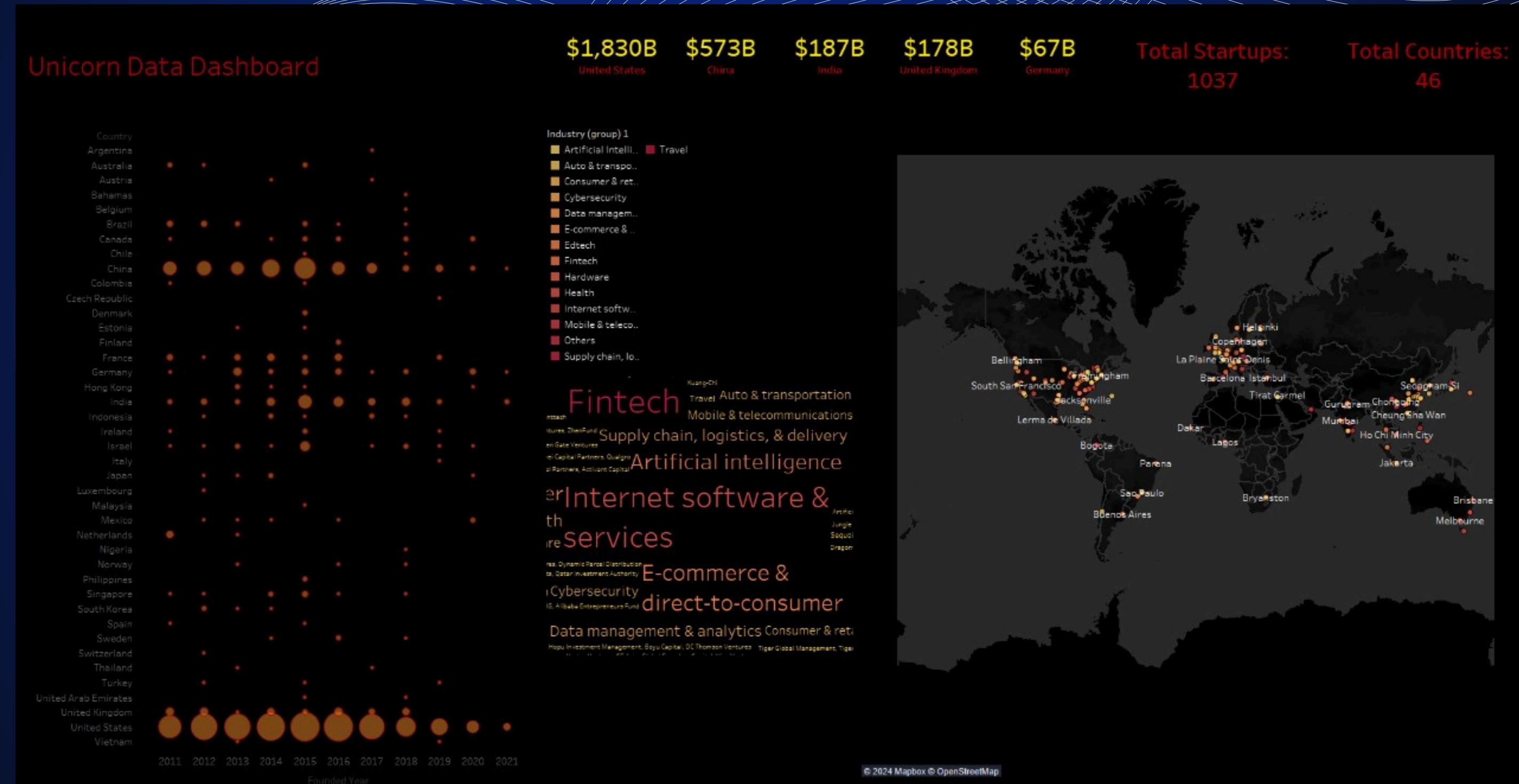
DASHBOARD



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THANK
YOU!