

Cyber Insurance Pricing for Small to Midsize Enterprises



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November 2017

Cyber Market Statistics



U.S. Cyber Market Performance in 2016 Based on NAIC Supplement Accounting Data

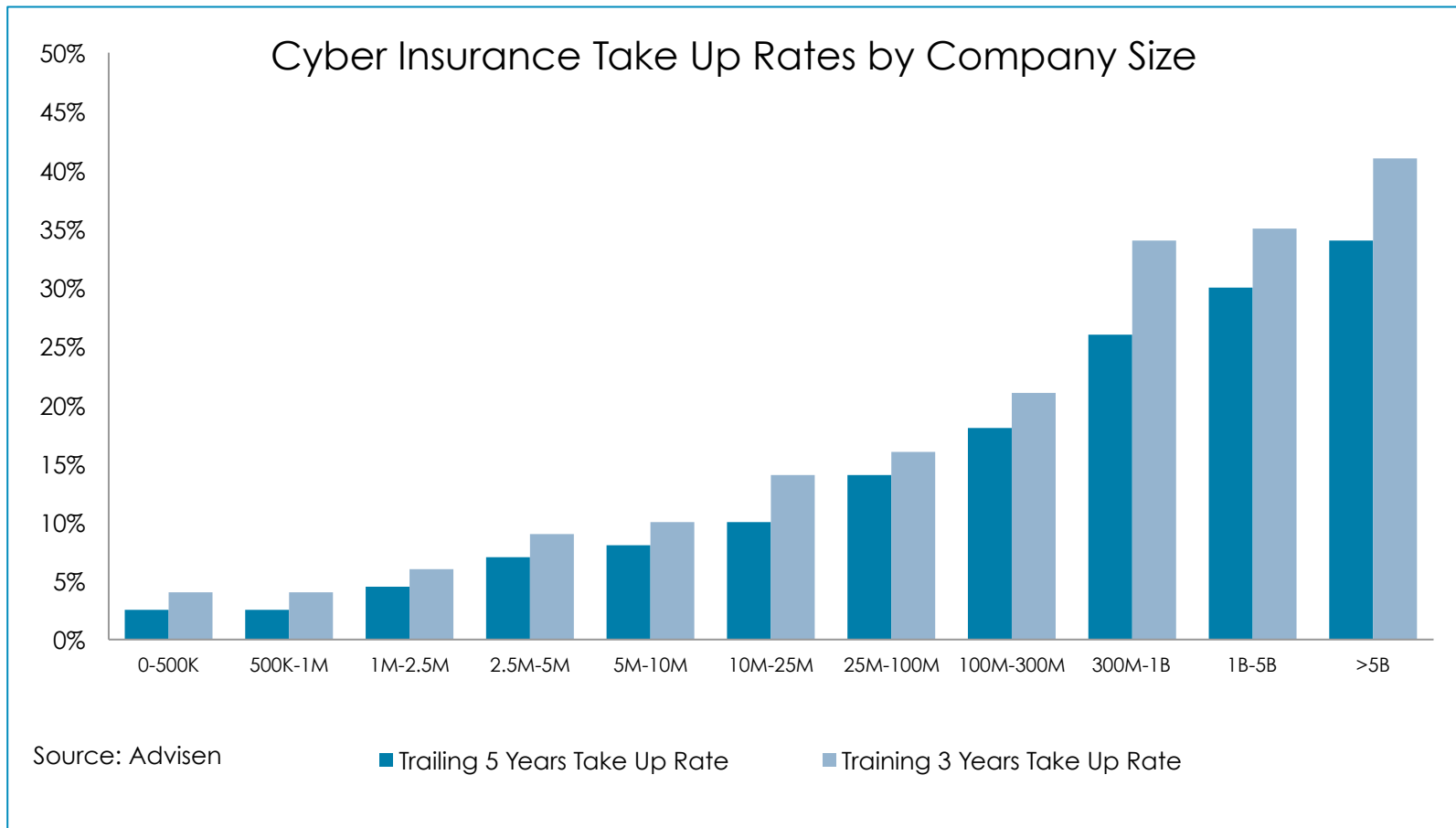
- Approximately \$1.4B in reported premium and 128 cyber writers
- 62% of premium is written by top 10 cyber writers
- Overall loss ratio - 54% (Max 1524%, Min 0%)
 - Stand-alone policies - 60%
 - Package policies - 43%
- Stand-alone Loss Ratios: Top 10 vs. The Rest
 - Top 10 Writers - 49%
 - The Rest- 83%

Source: National Association of Insurance Commissioners (NAIC) Supplement Accounting Data



Cyber is the Fastest Growing Segment of Insurance

- Market is growing both in scope of products offered and type of clients





Poll Question #1

- What percentage of small businesses reportedly go out of business in the 6 months following a data breach?



SMEs – The Next Big Growth Area in Cyber Insurance

64% of Cyber
Breach victims are
small to mid-size
businesses*

Over 60% of those
attacked go out of
business**

- What is a Small / Medium Enterprise?
 - Companies with under \$250 million in annual revenue
- Why are SMEs Vulnerable?
 - Financial gain is a primary motivation for committing cyber attack – SMEs often have the lowest defenses, making them attractive targets
- Costs of Breach (forensics and notification) alone can bankrupt an SME
 - Proliferation of Ransomware (Cyber Extortion) increases risk

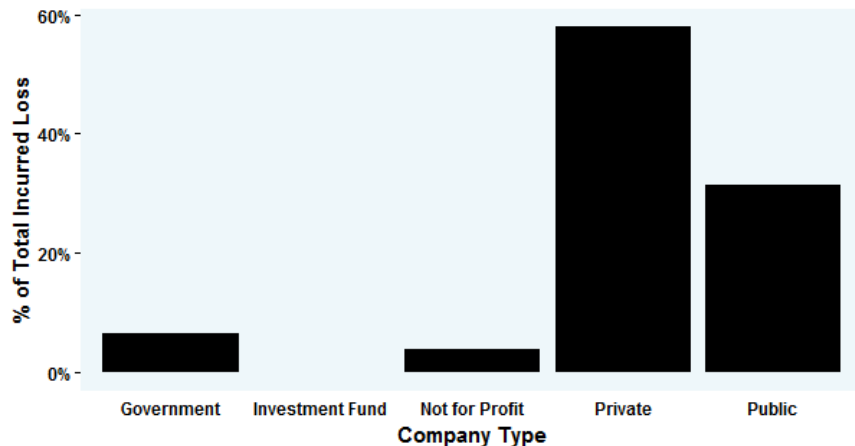
*Based on ISO Analysis

**[SBIR STIR The Impact of Cybercrime on Small Business](#)

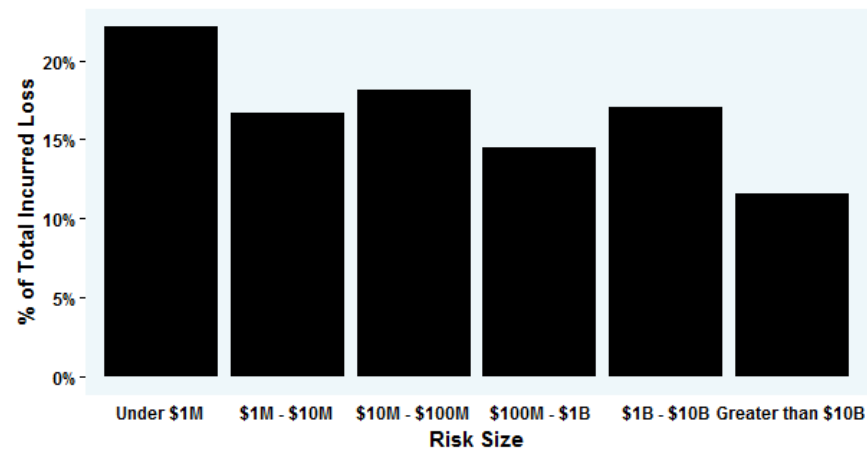


Cyber Data Profile | Loss

**Cyber Data Profile
Losses by Company Type**



**Cyber Data Profile
Losses by Risk Size**



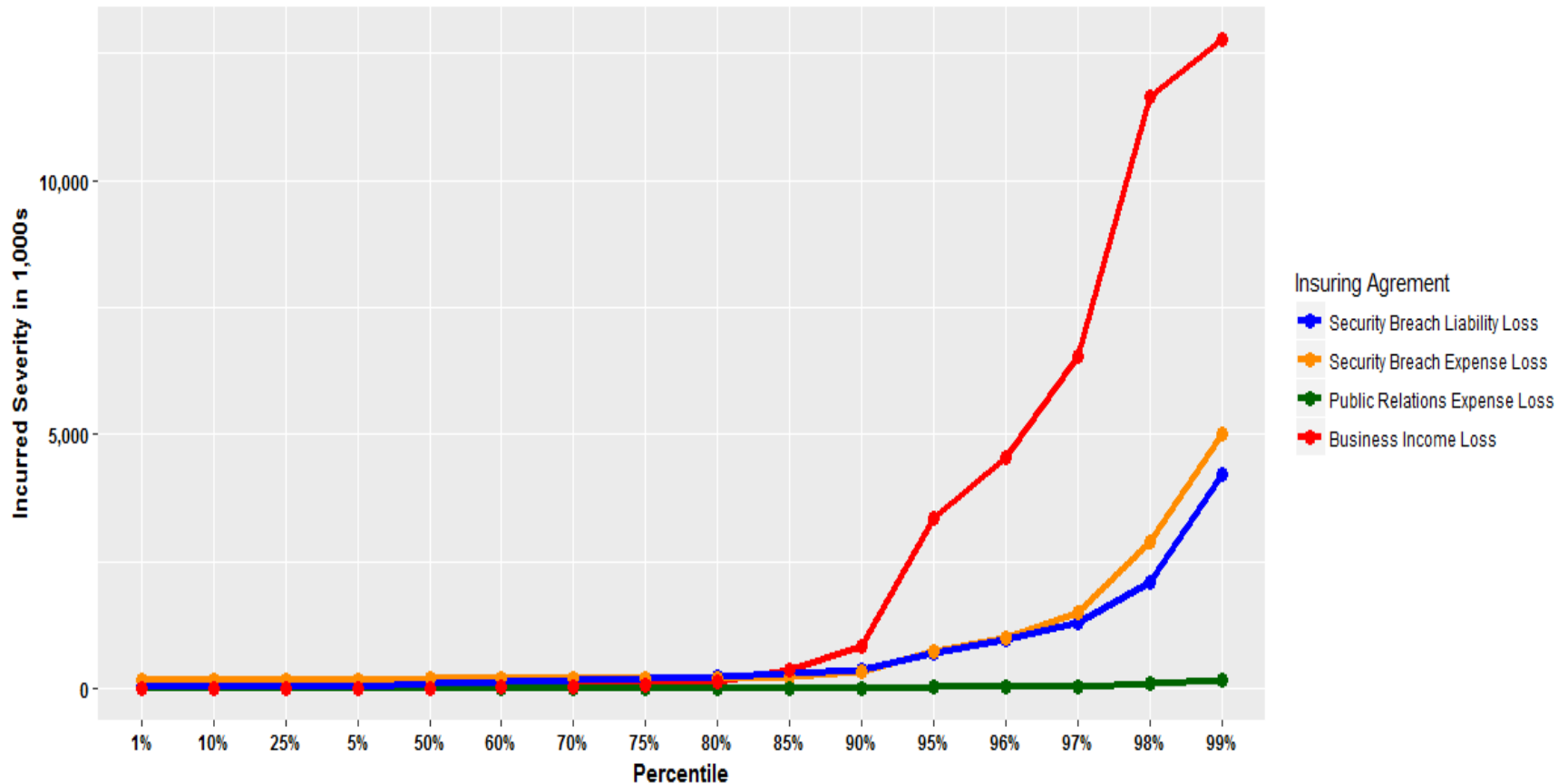
**Cyber Data Profile
Losses by Industry Group**





Severity Distribution

Incurred Severity Distribution by Insuring Agreement



*A basic limit of \$1M overall captures roughly 85% of the variance in the severity distribution

*A basic limit of \$100K only captures less than 10% of the variance in the severity distribution



Insurance Industry Faces Additional Challenges in Pricing Small to Midsize Enterprises

Lack of insurance data

Short Application Forms for SMEs

Specialized Coverage Forms for SMEs

Different Security Standard for SMEs

Risk Aggregation Exposure

Competitive and Heterogeneous Market

Cyber Data Resources for Pricing SMEs



Drawbacks of Most Cyber Insurance Databases

- Cyber is often written at low limits (often as low as \$50K for small commercial)
- Most businesses do not have cyber insurance, so databases are quite small
- Not useful with respect to new coverages
- Certain segments are underrepresented based on ISO data
 - Small commercial
 - Manufacturing
 - Education
 - Transportation
 - Utilities



Third Party Data Vendors Overview

Outside In Scan

- Cyber Health and Hygiene
- Ongoing Infections
- IT policies

Incident Data

- Past Incidents
- Losses
- Trend over time

Connectedness

- Cloud Providers
- Software/ Hardware Providers
- Degrees of Separation

Threat Intelligence

- Vulnerabilities
- IRC communications
- Leaked credentials

Inside Out Scan

- Evaluate access paths within network
- Evaluate difficulty for hacker to move laterally
- Internal device configurations

Process and Policy

- Self described process and policy evaluation
- Vendor management platform
- Phishing simulations

Endpoint/Mobile

- Security providers have data on risks
- Privacy protection
- Aggregated Information

Cloud Hosting

- Hosting providers have data on security settings of their customers
- They want to incentivize better security

Cyber SME Rating



Cyber Exposure Bases in the Marketplace

- Revenue
- Assets
- Budget
- Net Operating Expense
- Limit
- Number of Records Stored



Potential Rating Variables for SMEs

General Rating Variables

- Revenue
- NAICS
- Years in Business

Technical Control Rating Variables

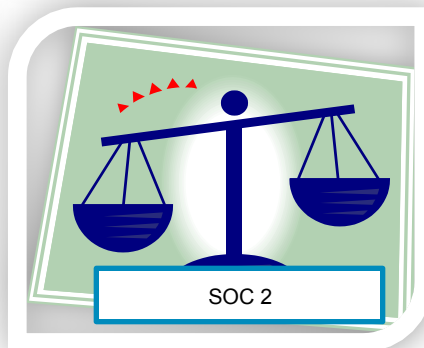
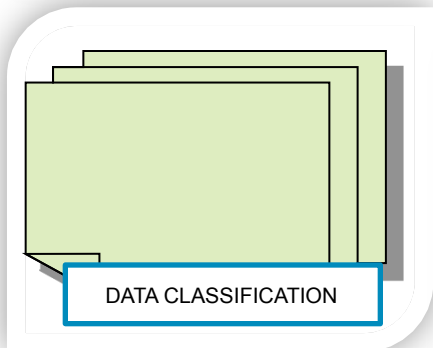
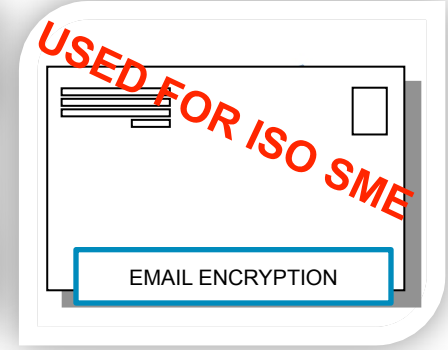
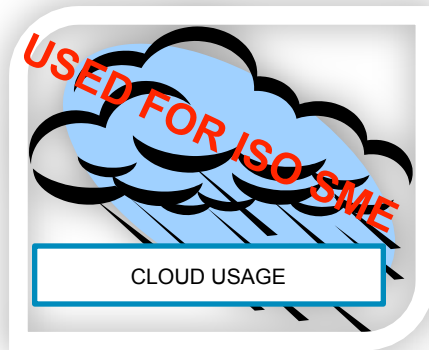
- Email Encryption
- Data Encryption
- Cloud Usage

Administrative Control Rating Variables

- Employee Training
- Business Continuity Planning
- Information Security Leadership

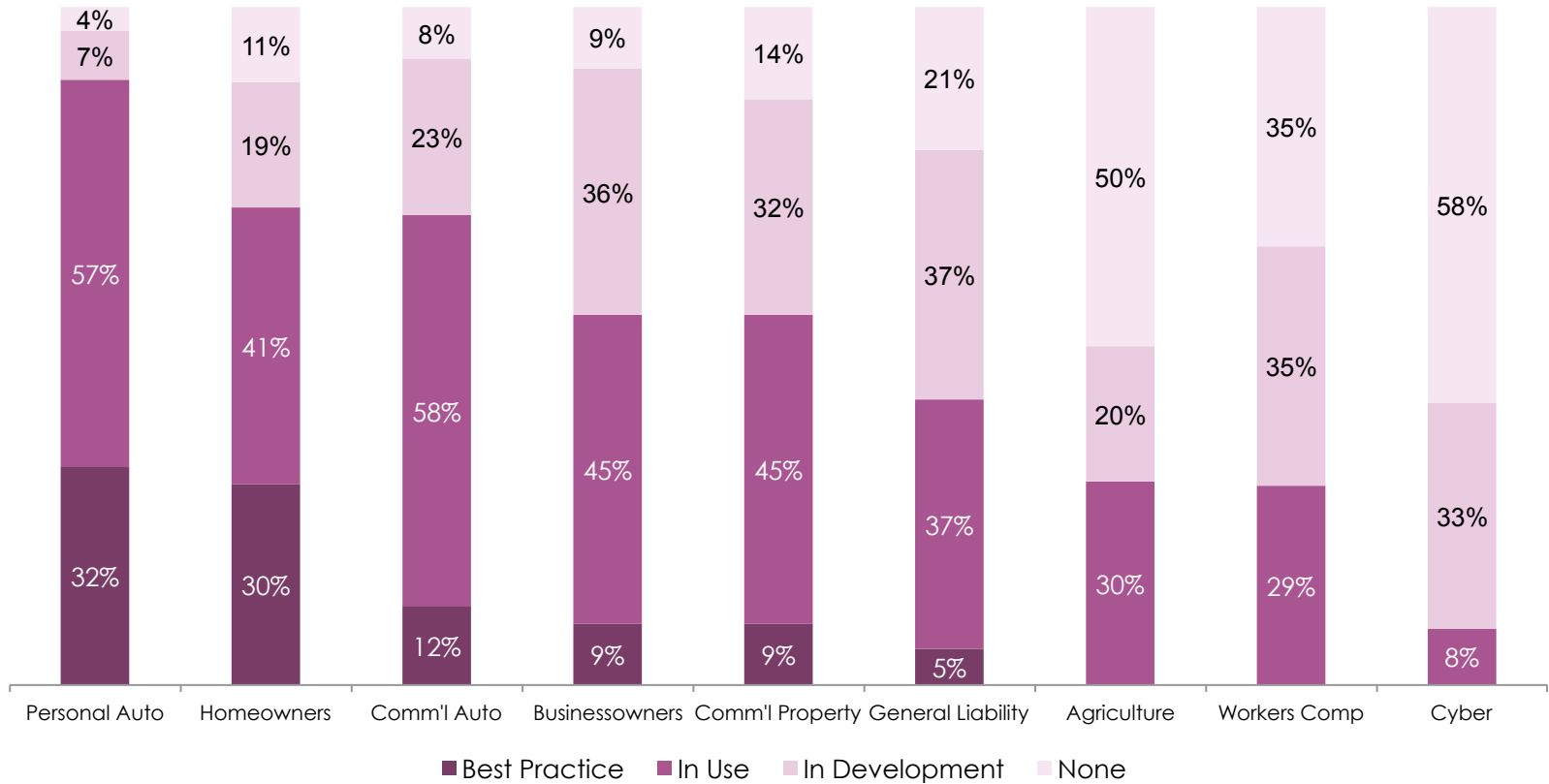


Different Security Standard for SMEs





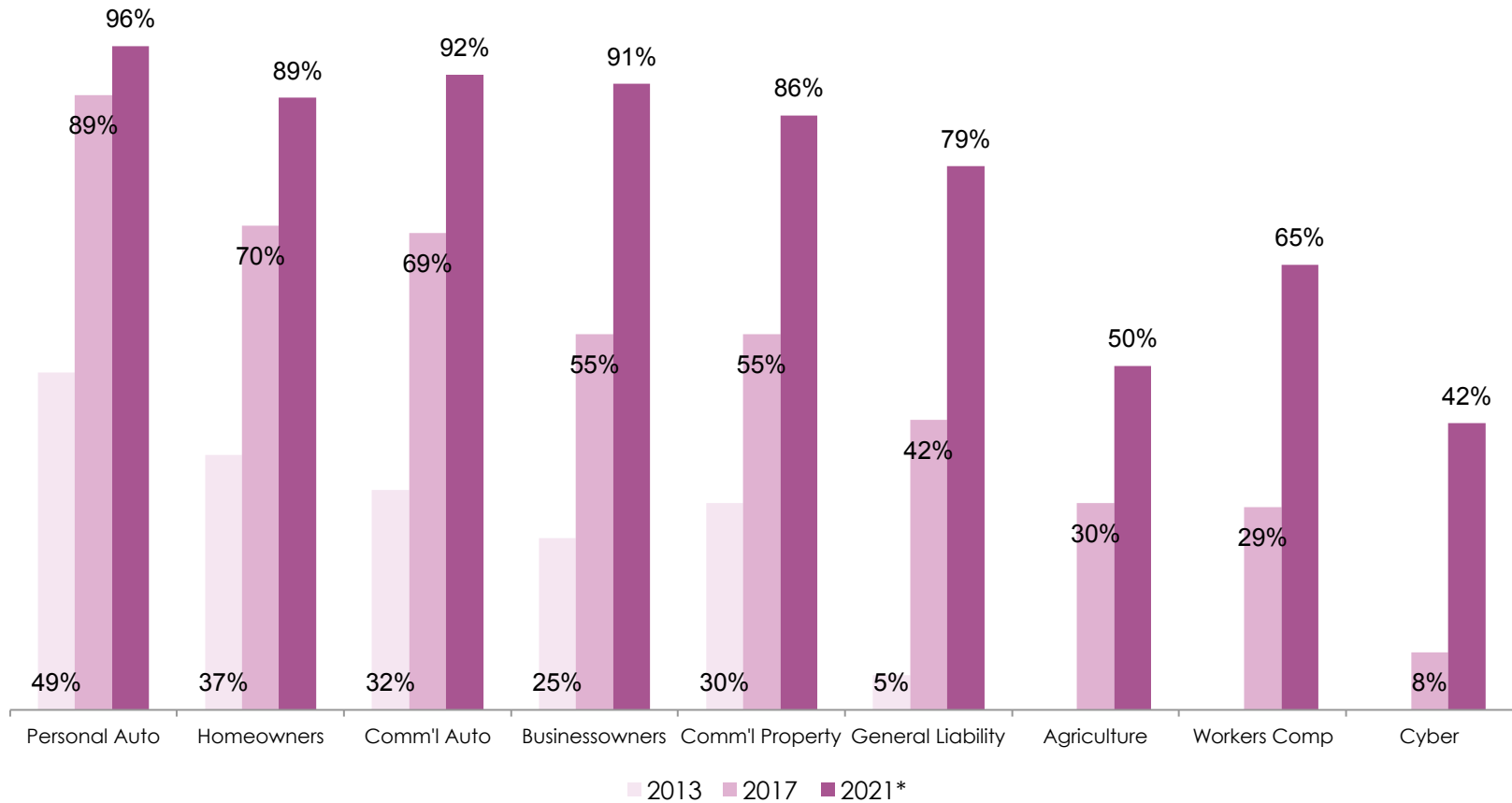
Analytic Maturity by Line of Business



Preliminary findings from 2017 ISO-Earnix Predictive Modeling Survey (n=40). Want to take it? <http://bit.ly/2l4v7hr>.



Analytics Growth Projections



Findings from 2013 and preliminary 2017 ISO-Earnix Predictive Modeling Survey (n=269 and n=40).

* - 2021 is projected, based on responses that capabilities are in development over the next two to three years.

Thank You!

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