Insurance:
Leading Through Disruption

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I.I.I. Mission Statement

Improving public understanding of insurance...

...what it does and how it works
Disruption is Everywhere
Disruption is Everywhere
Catastrophes – Increases in frequency and severity

Natural Catastrophes

Water
2016 Flood Loss
6x Greater

Wind
8 of 10 costliest since 2004
367 Tornados Q1/17

Fire
2015: Record Year

Climate Change
Disruption is Everywhere
Catastrophes – Increases in frequency and severity

Man-Made Catastrophes

Autos
- More cars on road
- Distracted driving

Cyber
- $445 million/year

“Induced” Earthquakes
- ~950 3.0+
- 60% in OK
Technology / Digitalization

- Sharing Economy
- Big Data
- The Internet of Things
Economic Uncertainty

Global Growth...
*Since 2008 we've had the longest period of relative trade stagnation since World War II...

US Growth...
GDP 1.6%
Investment Growth

...Monetary vs. Fiscal Policy

- **Monetary**: Low interest rates mean insurers are struggling to meet interest rate guarantees for life insurance and annuities must diversify their investment portfolios
- **Fiscal**: Supply-side debate heating up, i.e., tax reform

* The Peterson Institute for International Economics
* Mainland purchases of insurance and related investment policies in the nine months ended September 2016 surged to a record high.
Geopolitics – US
P/C Insurance Industry ROE by Presidential Party Affiliation
1950-2016*

BLUE = Democratic President  RED = Republican President

Source: Insurance Information Institute

*2016 data is through Q3.
But State Politics Drives Insurance
And Every State is Different

Source: R Street Insurance Regulation Report Card, December 2016

Not Graded: District of Columbia
Insurance Industry Snapshot
State of Insurance

Top Issues
- Autonomous Vehicles
- P2P insurance
- Cybersecurity
- Sharing Economy
- Workers Comp Regulation
- Politics
- Overcapitalization (Reinsurance)

Catastrophe Costs
P/C Payouts / Property Losses
- 2015: $15.4B
- 2016: $21.0B
U.S. Insured Cat Losses
- $76.8B
- 2016 Loss Up Modestly Compared With 10-Year Average $19.1B

Consolidation/M&A
Insurance-related Deals Involving U.S. Firms
- 2014 DEALS: 506
- 2015 VALUE: $194B (+517%)
- 2016 $6.3B
- Pending or completed M&As involving U.S. insurance companies (2016): 84

P/C Insurance Industry Combined Ratio, 2001-2016*

*Excludes Mortgage & Financial Guaranty insurers 2008-2014. 2016 is first nine months
Including M&FG, 2008=105.1, 2009=100.7, 2010=102.4, 2011=108.1; 2012=103.2; 2013=96.1; 2014=97.0.

Sources: A.M. Best; ISO, a Verisk Analytics company; 2010-2015E is from A.M. Best P&C Review and Preview, February 16, 2016.

An UW Loss, Actually.

3 Consecutive Years of U/W Profits; 1st time since 1971-73
Commercial & Personal Lines NPW Growth: 1996-2016

Note: Data include state funds beginning in 1998.
Sources: A.M. Best; Insurance Information Institute.

Commercial Lines is Prone to Much More Cyclical Volatility Than Personal Lines.
Even as Prevailing Rates Rise in the Next Few Years, Portfolio Yields Are Unlikely to Rise Quickly, Since Low Yields of Recent Years Are “Baked In” to Future Returns.

Sources: NAIC data, sourced from S&P Global Market Intelligence; Insurance Information Institute.
Rising Auto Costs

A force to be reckoned with…
Loss Ratios Have Been Rising for a Decade. 2015 Return on Net Worth is Likely Close to Zero or Negative.

Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.
Double Digit Loss Costs

Auto Insurance

<table>
<thead>
<tr>
<th></th>
<th>Bodily Injury</th>
<th>Property Damage</th>
<th>Personal Injury Protection</th>
<th>Collision</th>
<th>Comprehensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in Loss Costs, 2014:Q4–2016:Q4</td>
<td>14.2%</td>
<td>15.3%</td>
<td>14.2%</td>
<td>13.6%</td>
<td>20.7%</td>
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</table>

From 2014 to 2016, the cost of accidents has risen dramatically. By contrast, consumer prices overall rose 3.9 percent during 2014 and 2015.

Source: Fast Track Monitoring System.

When people are out of work, they drive less. When they get jobs, they drive to work, helping drive claim frequency higher.

Sources: Seasonally Adjusted Employed at end of each quarter, from Bureau of Labor Statistics; Rolling Four-Qtr Avg. Frequency from Insurance Services Office; Insurance Information Institute.
Severity: Driving Fatalities Are Rising

Driving Has Been Getting Safer for Decades, But Recent Trend is Discouraging—38,300 Deaths in 2015.

Sources: National Safety Council, Insurance Information Institute.
Fixing a Bumper

. . . On an Entry-Level Luxury Car (~$35K)

2014 Cost vs. 2016 Cost

What Has Changed?

<table>
<thead>
<tr>
<th>Parts</th>
<th>2014</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grille: Distance Sensor</td>
<td>$0</td>
<td>$2,818</td>
</tr>
<tr>
<td>Headlamp Assembly</td>
<td>394</td>
<td>918</td>
</tr>
<tr>
<td>Mechanical Labor</td>
<td>0</td>
<td>108</td>
</tr>
</tbody>
</table>

Fewer Accidents, Higher Costs

- Parts: 130% Higher
- Labor: 18% Higher
- Total cost: $1,705 higher

2016 vehicle has LED headlights and adaptive cruise control.
Source: Liberty Mutual Insurance.
Insurance: Leading Through Disruption
Insurance Leadership

**Fundamentals Strong – but Still Susceptible to Disruption**

- **Sustainable Business Model**
  - 2010
  - Bank Failures: 157
  - Insurance Impairments¹: 8
  - Policyholder Surplus: $700.9B End 2016

- **Strong Jobs Pool/Provider**
  - 2.5M Employed
  - Need to Fill 400K+ by 2022

- **Economic Growth Promoter/Facilitator**
  - $450.3B
  - 2.6% US GDP³
  - Premium Taxes Paid⁴ $19.2B
  - Bond Investment⁵ $489B
  - Charity/Volunteerism⁶ ↑15%

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Insurance Disruption
Technology / Digitalization

**Fundamental Changes**
- Future of Auto
- Future of Reduced Risk Pools

**Opportunities**
- Automation / Efficiencies
- New Product Lines (Cyber)
- Emerging Technologies

**Challenges**
- Consumer Trust – Demonstrate the Societal Value
- Big Data vs. Individual Privacy

**New Market Entrants “Uber of Insurance”?**
- Lemonade
  - Approved in NY and CA

**Regulatory Opportunities/Threats**
- Barrier to Entry
- US vs. Other Less Regulated Regions
- Trust Pull-back – the Sandbox Approach
InsurTech Disruption: Threat or Opportunity?

Automation efficiencies can have powerful impact on industry
InsurTech Startups Have Broad Range… BUT…

<table>
<thead>
<tr>
<th>Risk</th>
<th>Health</th>
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<tbody>
<tr>
<td><strong>Insurance MarketPlace</strong></td>
<td></td>
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<tr>
<td>CoverHound</td>
<td>policygenius</td>
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<td>turtlemint</td>
<td>Coverfox</td>
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<tr>
<td>GetInsured</td>
<td>HealthSherpa</td>
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<td><strong>Digital Brokers</strong></td>
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<td>EMBROKER</td>
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<td>FOUNDERSHIELD</td>
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<td><strong>Peer to Peer</strong></td>
<td><strong>Health Navigators</strong></td>
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<td>friendsurance</td>
<td>Weltok</td>
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<td>GUEVARA</td>
<td>Teladoc</td>
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<td>YYY PEERCOVER</td>
<td>TRUVEN</td>
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<tr>
<td>Lemonade</td>
<td>KYRON</td>
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<td><strong>Micro-duration Coverage</strong></td>
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<td>Slice</td>
<td>GRAND ROUNDS'</td>
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<td><strong>Telematics</strong></td>
<td><strong>Peer to Peer</strong></td>
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<td>metromile</td>
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<td>Zendrive</td>
<td>Teladoc</td>
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…With Broad Incumbent Support

- Metromile: $205M
- Intact: $57M
- CoverHound: $37M
- ONE, Inc.: $21M
- Policygenius: $4M

Note: Total funding
Successful Digital Transformation ➔ Holistic Approach
“Surround Sound” Approach
Campaign Framework

Proactively Position the Insurance Industry as an Economic Imperative

Pillar: Financial & Community Resilience

Pillar: Talent Recruitment & Retention

Pillar: Innovation & Technology

Campaign 1: A Day in the Life of Risk

Campaign 2: Insurance Information Institute of Innovation

Actuary in Action

Conquering Life’s Obstacles

On-Air Actuary

Innovation Sessions

Insure-Tech Hackathon

Incubator

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Conquering Life’s Obstacles

On-Air Actuary

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Incubator
People usually don’t understand risk or the economic value of insurance until something bad happens to them or someone they know. They also don’t understand the humanity of the insurance industry until they have a live person helping them sort out their situation.

The I.I.I. will construct a scalable, multi-tier campaign aimed at building community resilience and talent recruitment that tastefully and authentically raises awareness of the critical importance of insurance by personifying risk and giving it tangible, touchable, and experiential factors.
A Day in the Life of Risk
Conquering Life’s Obstacles

**Phase 1**

- Invite press to experience the I.I.I. Obstacle Course as a kick-off event that reintroduces the industry and shakes off outdated insurance sentiments; offer executive interviews on thought leadership and institutional authority.

**Phase 2**

- Take the show on the road.
  - Hold events at college campuses nationwide where students can participate in the obstacle course, get information on careers in the industry and learn more about why they need the product at this stage of their life.
  - Potentially engage celebrity (ex: comedian Chris Hardwick) to host competitive sessions between teams (fraternities, sororities, study groups).
Insurance Information Institute of Innovation (I-4)

Concept

- Embrace disruption and new technologies to ensure relevance and address potential challenges technology can manifest by launching the I-4 campaign: the Insurance Information Institute of Innovation.

- It begins with a focus on:
  - Driving conversations around technology and its implications – both positive and negative – to business and personal insurance.
  - Shining a light on the current innovators in the industry while supporting and celebrating new development and technology breakthroughs.
  - Promoting contemporary and technology-focused career opportunities within the insurance industry on college campuses.
I-4 InsurTech Hacks

Phase 1
- Participate with informational POV in stories of innovation, such as:
  - Sharing Economy: Gather members for a “State of the Gig Economy” review and discussion.
  - Entrepreneurs who are just starting their insurance for Start Ups: Partner with leading VCs and incubators to offer webinars and how-to’s for entering into fundraising and how to protect themselves; consider a session at this fall’s TechCrunch Hackathon in SF.

Phase 2
- i-4 Hackathon: Increase I.I.I.’s presence at these hackathons – like SXSW next spring – by building out an InsurTech track and stacking the judging panel with industry leaders.
  - Solicit problems/parameters from member companies to solve at the hackathon; drive a discussion around STANDARDS.
  - Engage universities in each city to participate by inviting engineering students, insurance majors and their professors.
  - Note that Axis held one at University of Illinois at CU and Zurich Insurance in Germany.
Summary

- Disruption Causing Insurance Industry Inflection Point

- Opportunity/Risk: Define or Be Defined...

- I.I.I. @ Catalyst – Responsiveness to Proactive Driver
Thank You!
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