



Institute
and Faculty
of Actuaries

GIRO40

8 – 11 October, Edinburgh



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of Actuaries

Dynamic Risk in a Connected World

Richard Cornish Vodafone

Tony Lovick Towers Watson



Proliferation of devices can be confusing

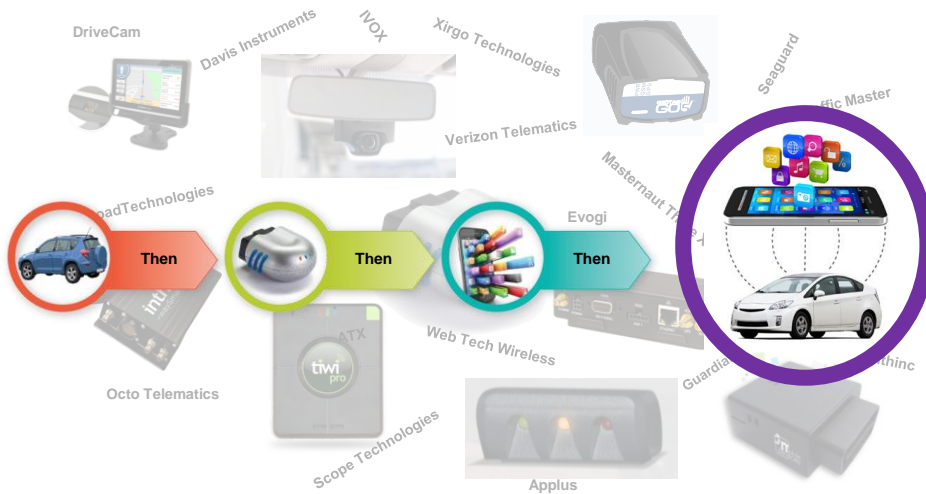


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6

Technology will evolve and transform

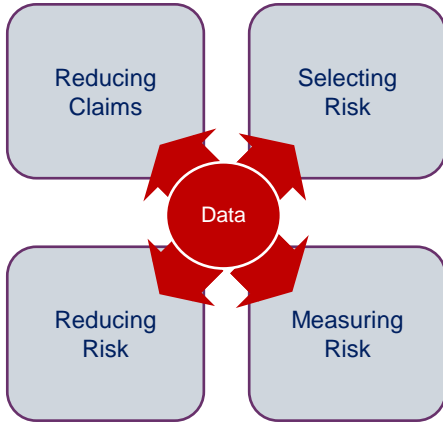


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7

Connected Car Data – What will you do with it?



Ford says
SYNC base is now 4M,
will reach 13M by 2015

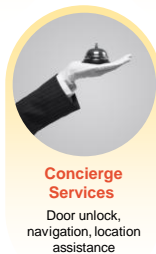
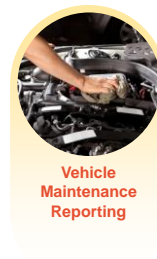
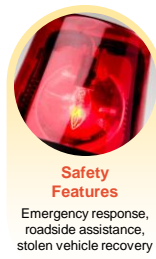
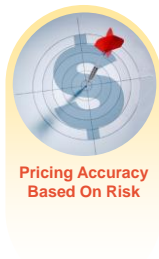


<http://www.autoblog.com/2012/01/14/ford-says-sync-base-is-now-4m-will-reach-13m-by-2015/>

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8

Telematics is a new opportunity



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9

Key stakeholders in a UBI strategy



Consumers:

- Control of premium
- Understandable rating based on how, when, where drive
- Access to useful driving feedback
- Value-added services
- "Green" and "progressive" products

Insurers:

- Enhanced pricing
- Product differentiation and brand awareness
- Reduced loss costs
- Improved consumer satisfaction and retention

Regulators:

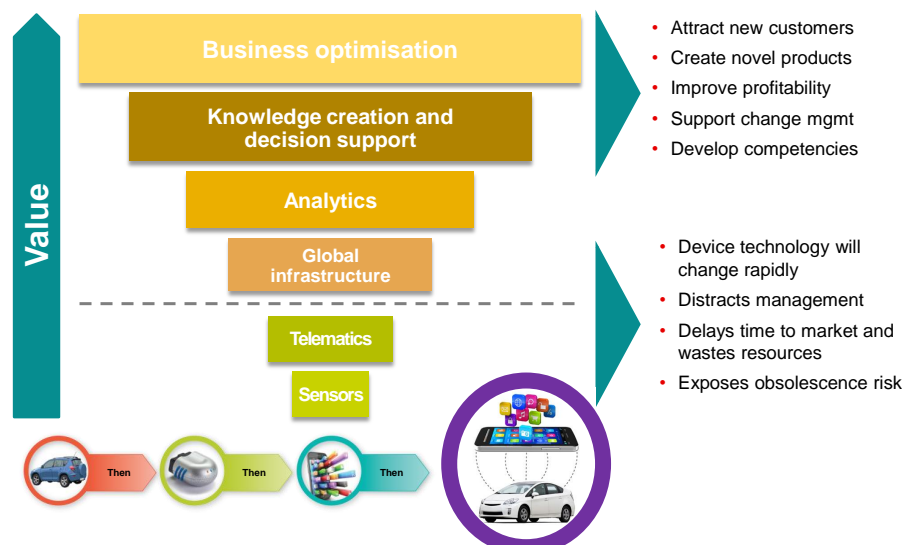
- Saves lives
- "Fairly" discriminatory variables
- Consumer acceptance and premium control
- Environmentally friendly

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10

Building knowledge and value



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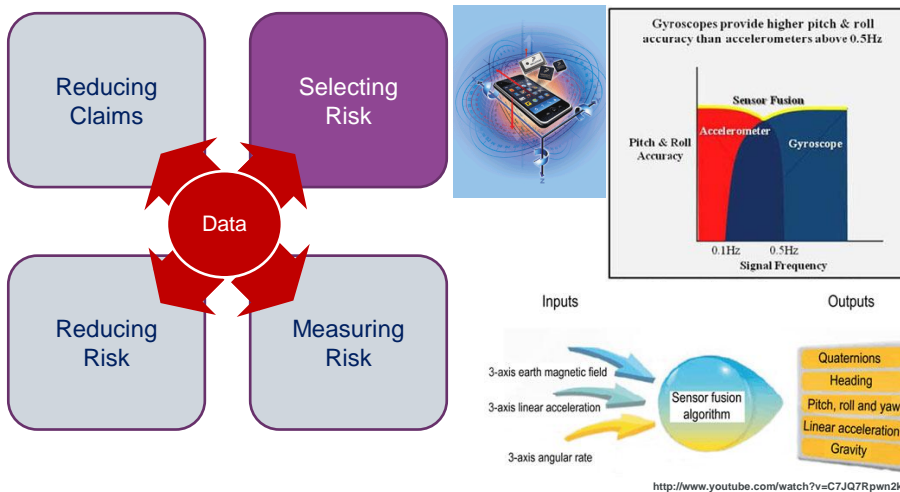
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11

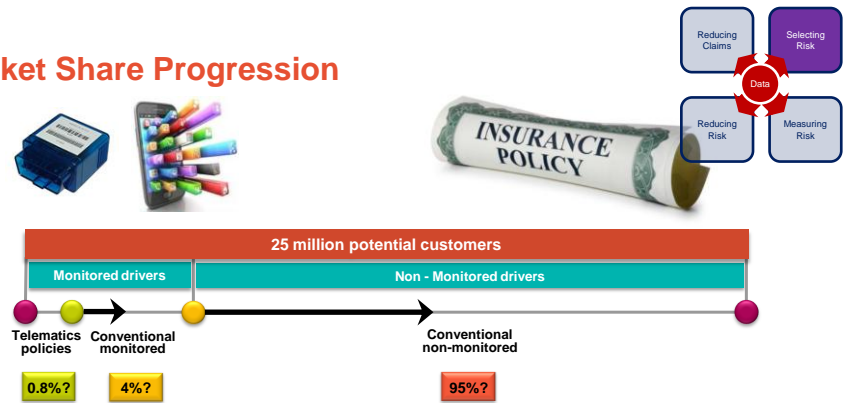
Upheaval in Distribution and Value Chain



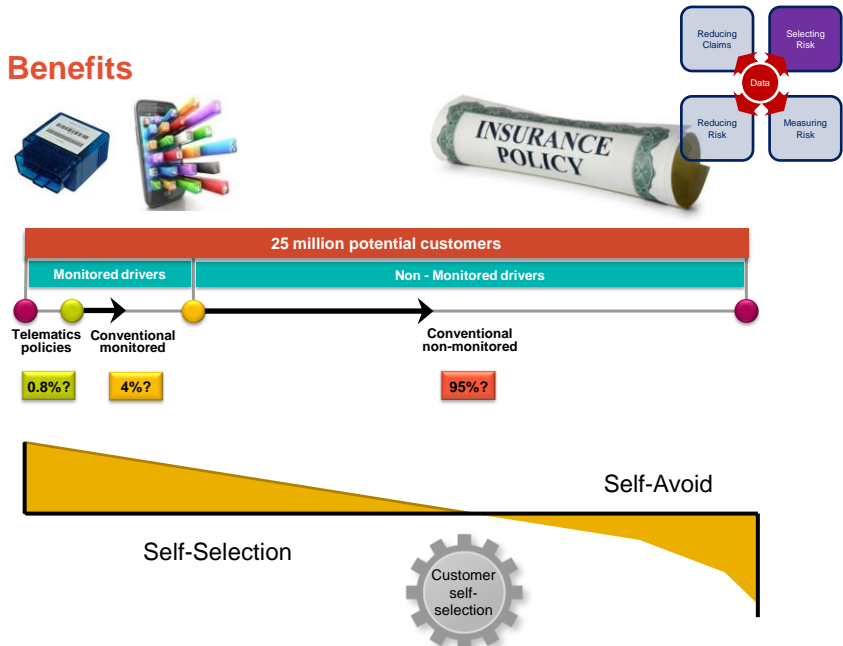
Sensor Fusion & Tethering – Are apps a gimmick?



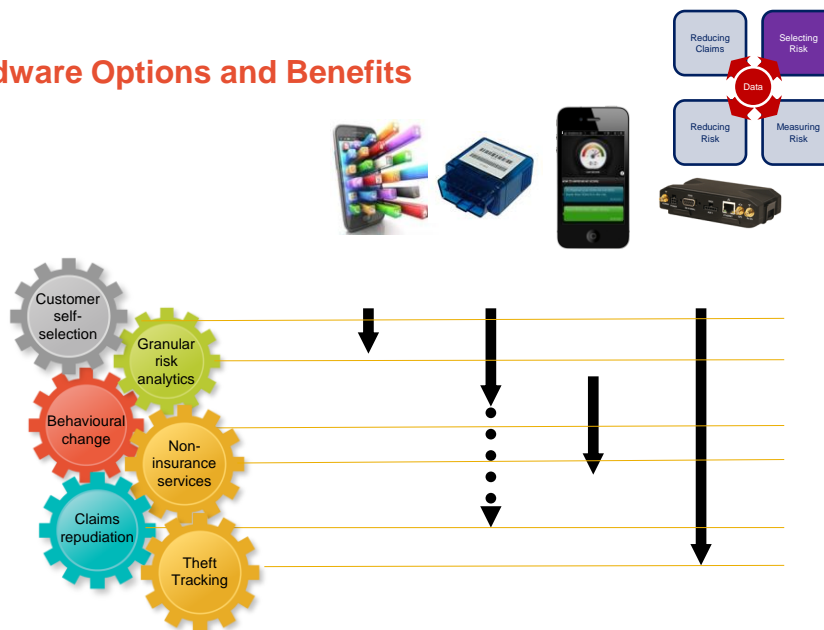
Market Share Progression



UBI Benefits



Hardware Options and Benefits

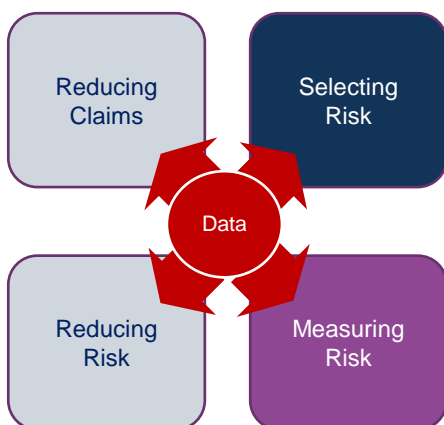


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16

Why use data for Pricing?



New provider ESMI aims to 'revolutionise' health insurance

The provider is offering simple fixed rate insurance ... regardless of age, health, career or lifestyle ... same fixed premium for every policy holder, ... no premium loadings for ... existing medical conditions.

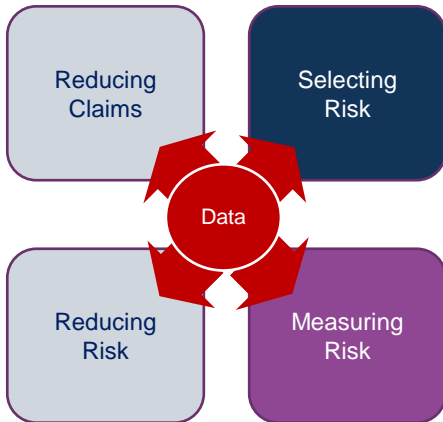


<http://www.covermagazine.co.uk/cover/news/2294384/new-provider-esmi-aims-to-revolutionise-health-insurance>

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17

Counting Harsh Brakes – Is it enough?



Usage – based insurance is on its way – are you ready?

It could also take advantage of ... harsh braking ...



https://www.insuranceday.com/generic_listing/it/usage-based-insurance-is-on-its-way--are-you-ready.htm

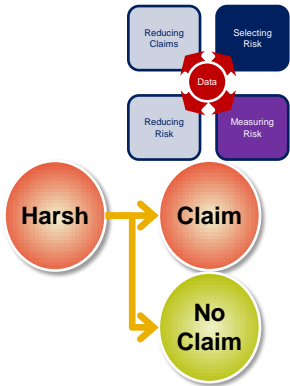
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18

Counting Harsh Brakes – Is it enough?



Counting Harsh Brakes – Is it enough?

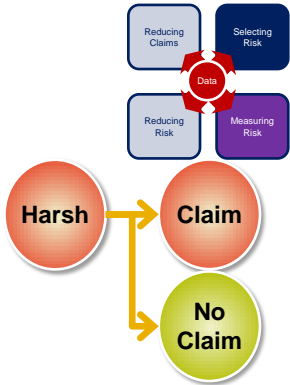


	Harsh
Claim	1
No Claim	10

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Counting Harsh Brakes – Is it enough?



No Skill	Harsh
Claim	1
No Claim	0

Asleep	Harsh
Claim	0
No Claim	0

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Counting Harsh Brakes – Is it enough?

Skilled	Harsh
Claim	1
No Claim	10

No Skill	Harsh
Claim	1
No Claim	0

Asleep	Harsh
Claim	0
No Claim	0

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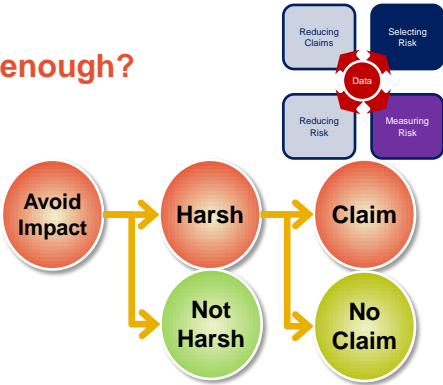
Counting Harsh Brakes – Is it enough?

Skilled	Harsh	Not Harsh
Claim	1	0
No Claim	10	10000

No Skill	Harsh
Claim	1
No Claim	0

Asleep	Harsh
Claim	0
No Claim	0

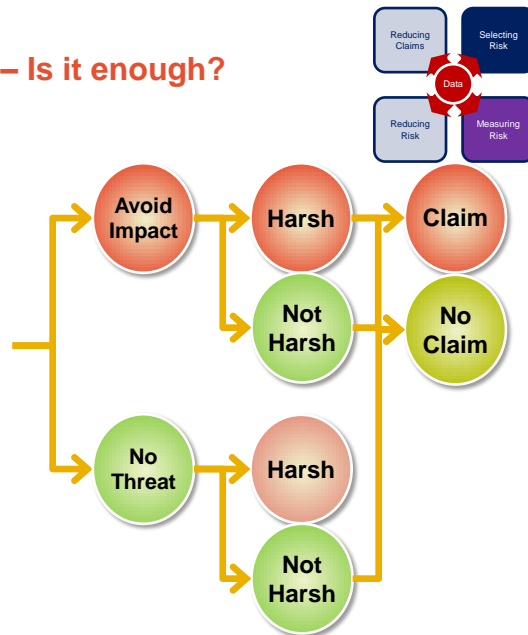
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Counting Harsh Brakes – Is it enough?

	Skilled	Harsh	Not Harsh
Claim		1	0
No Claim		10	10000



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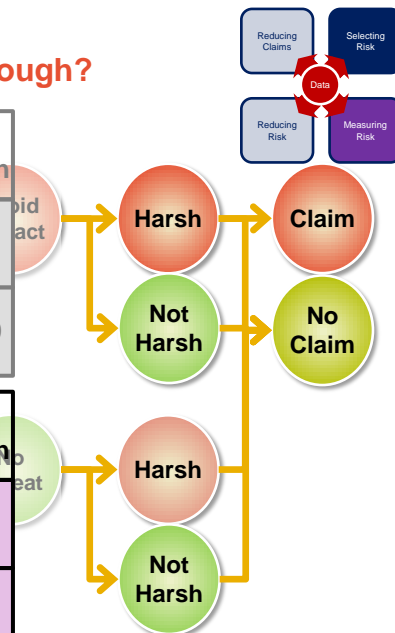
Counting Harsh Brakes – Is it enough?

	Skilled	Harsh	Not Harsh
Claim		1	0
No Claim		10	10000

	No Skill	Harsh	Not Harsh
Claim		1	0
No Claim		0	1000

	Asleep	Harsh	Not Harsh
Claim		0	1
No Claim		0	1000

		Harsh	Not Harsh
Claim		0/1	0/1
No Claim		A	B

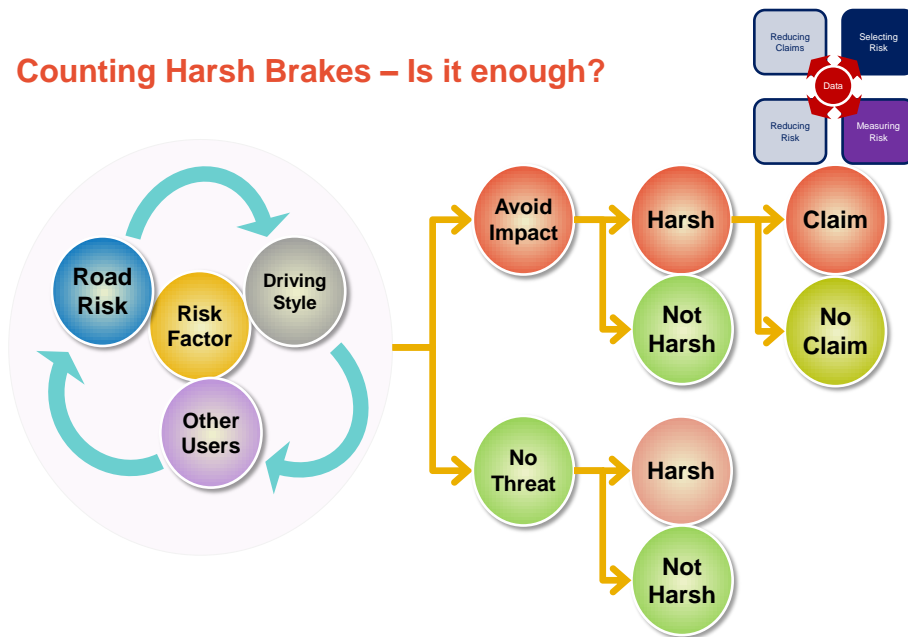


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Counting Harsh Brakes – Is it enough?

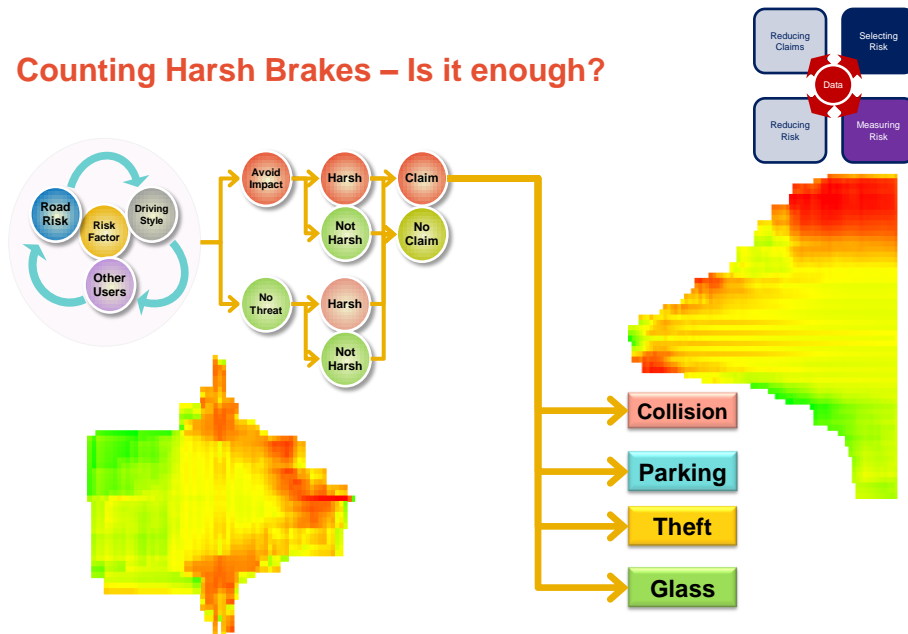


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26

Counting Harsh Brakes – Is it enough?



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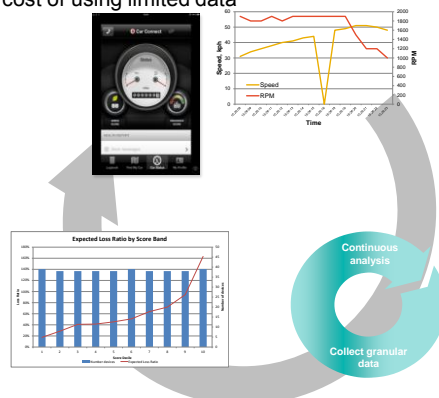
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28

Granular data is the key to short- and long-run success

- Many providers choose to collect very limited “event-counter” data
 - Don't have the skills necessary to manage and analyze the granular data
 - Don't have capability to compress data to minimize costs
 - Don't understand the opportunity cost of using limited data

- Granular data is critical to
 - Adequately addressing inevitable data issues
 - Decrease timescales necessary to build an effective score
 - Increase the effectiveness of the score
 - Support longer-term behavioral modification programs and other value-added services

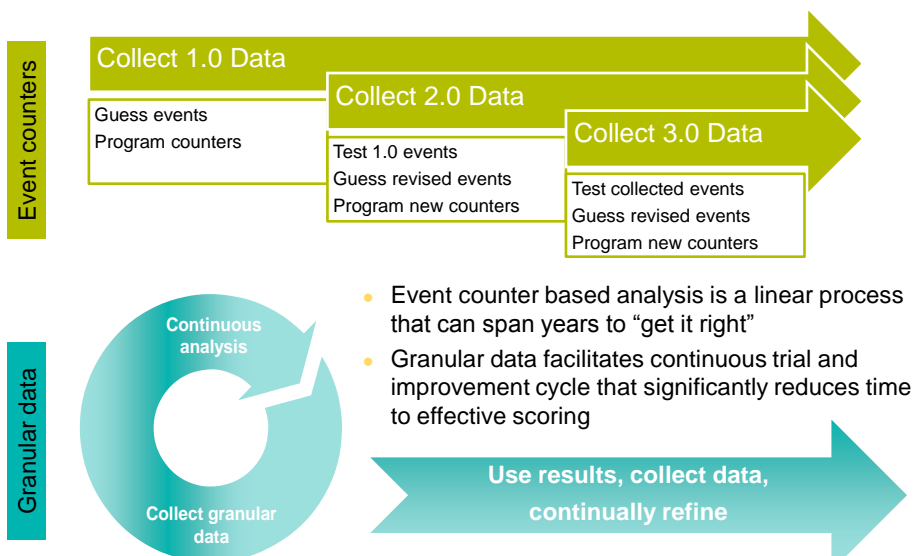


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Granular data results in a better score faster

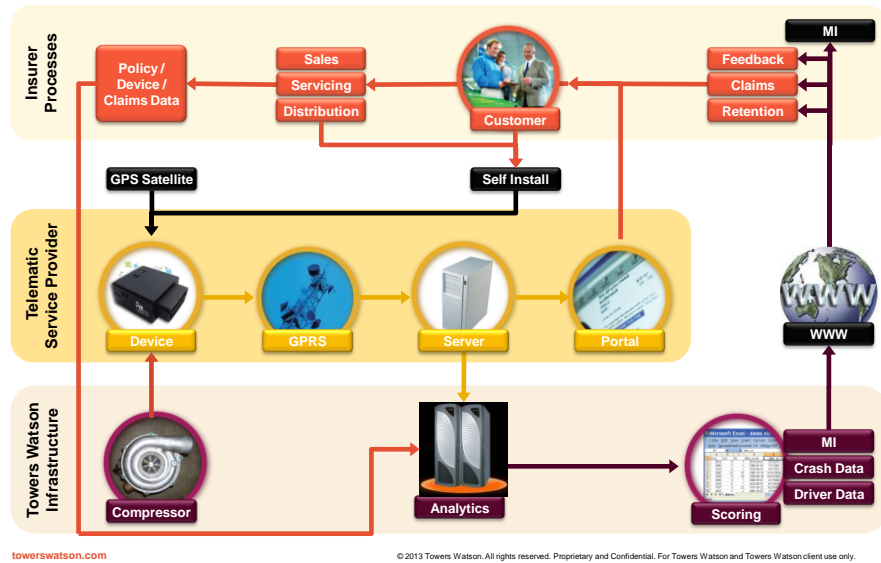


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31

Telematics Infrastructure



32

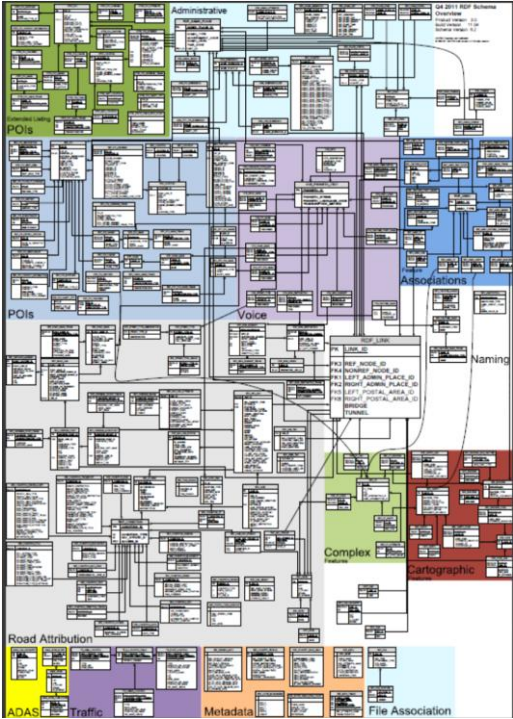
Road type



33

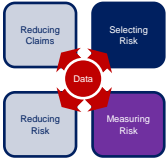
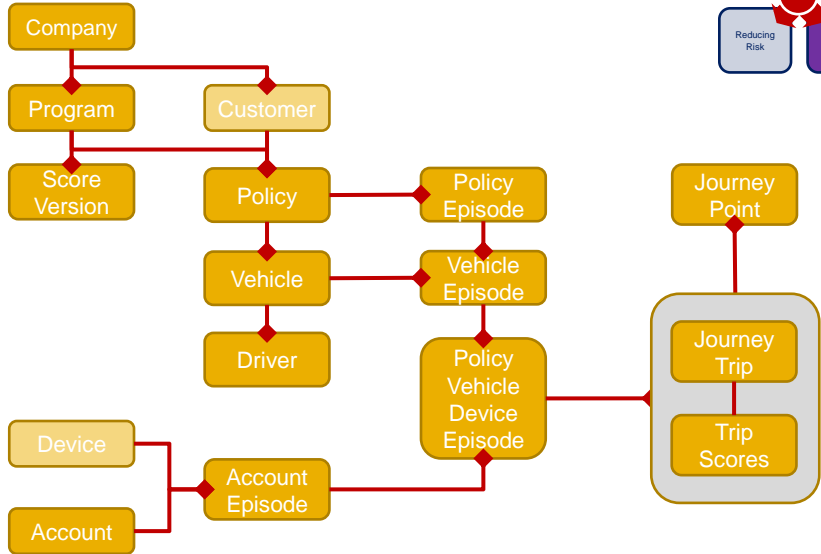
Map Schema

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34

Towers Watson DriveAbility Data Hierarchy

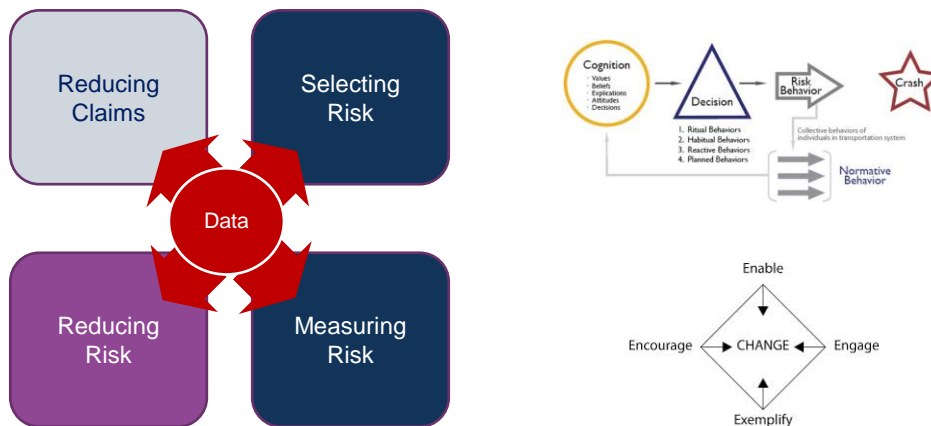


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35

Feedback and behaviour change – Can it reduce risk?



<http://designforbetter.wordpress.com/category/waste/>

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38

Do you enjoy driving?



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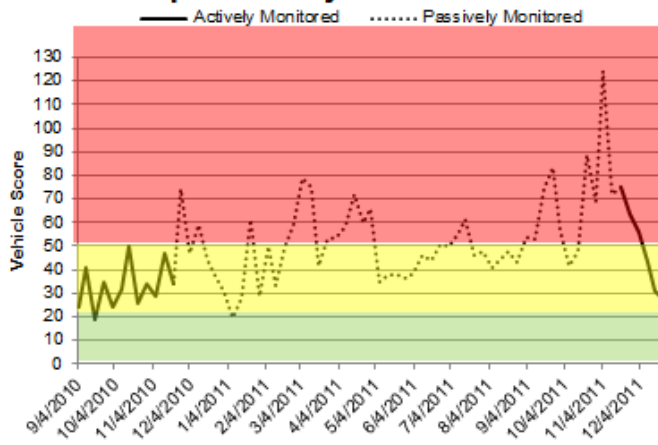
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39

Teen driver experience



Example: 16-17 year old over time



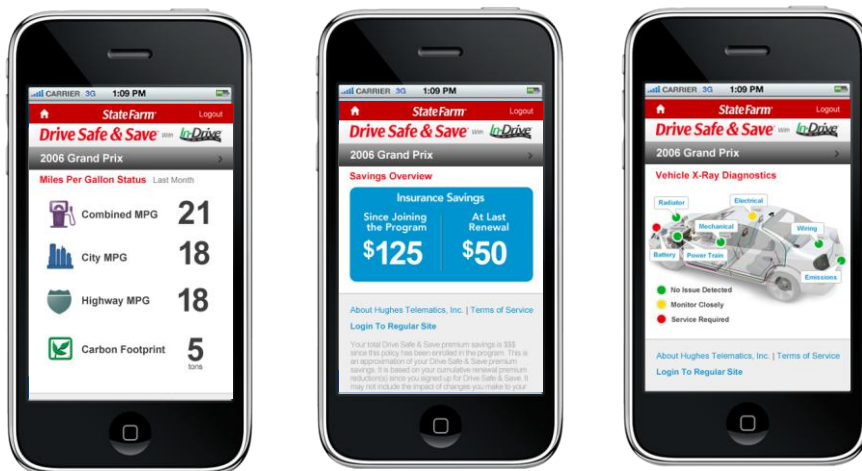
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40

State Farm Drive Safe & Save™ with In-Drive®

Smartphone App



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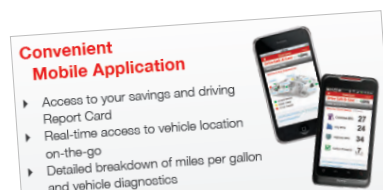
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41

Insurers are staking out different positions for their UBI programs

ILLUSTRATIVE

State Farm



Progressive



Feature Focus

- Opportunity to de-commoditise the product
- Product/service focus, including driver coaching requires an understanding of driving behaviour and the key influencing factors

Price Proposition

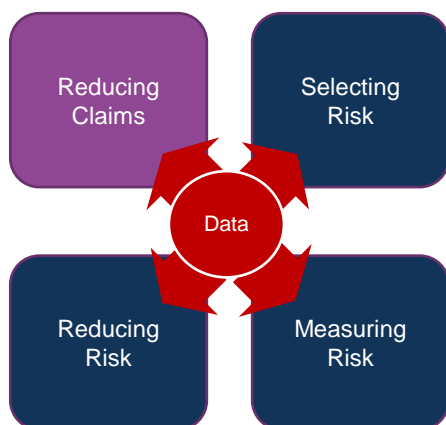
- Will price remain king with more powerful risk segmentation?
- Price focus will require strong analytic insight with more telematics data to create new risk factors

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42

Drivers demand – Defend us from whiplash claims!



<http://www.postonline.co.uk/post/news/2162283/updated-whiplash-book-proposal-support-despite-reservations>

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43

Value-Added Services propositions

- State Farm-Drive Safe & Save
- Programmes provide a variety of package choices for value-added services
- Moved to InDrive self-installable solution
- 10% enrollment discount that can increase up to 50% based on mileage, turns, acceleration, braking, speed, and time of day
- Initial fee of \$10. Services available for \$5-\$14.99 per month

Package Comparison

	In-Drive Connect	In-Drive Guardian	In-Drive Go Pilot
Maintenance/Service Reminder	✓	✓	✓
Recall Information	✓	✓	✓
Eco-Drive Data	✓	✓	✓
Stolen Vehicle Location Assistance	✓	✓	✓
Risk Category Comparison	✓	✓	✓
Driver Behavior Tips	✓	✓	✓
Geobloc™ Display	✓	✓	✓
MPC Status	✓	✓	✓
Vehicle X-Ray Diagnostics	✓	✓	✓
Incident Alert	✓	✓	✓

Enhanced Safety Features

- Easy access to trained specialists in an emergency situation
- Automatic crash notification if an accident should occur
- Roadside assistance for vehicle related problems

Start up In-Drive Connect

Allianz - SestoSenso



Allianz - Allie



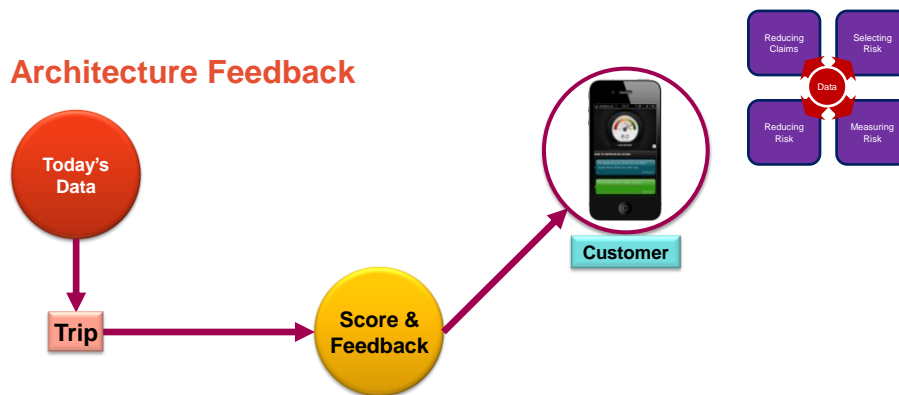
- Value added services linked to personal protection, theft and breakdown
- 24 hour emergency assistance – accident, breakdown and theft
- Based on annual fee
- No insurance included
- Value added services – accident, breakdown and theft for an annual fee
- Now offers Genialloyd discounts

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44

Architecture Feedback



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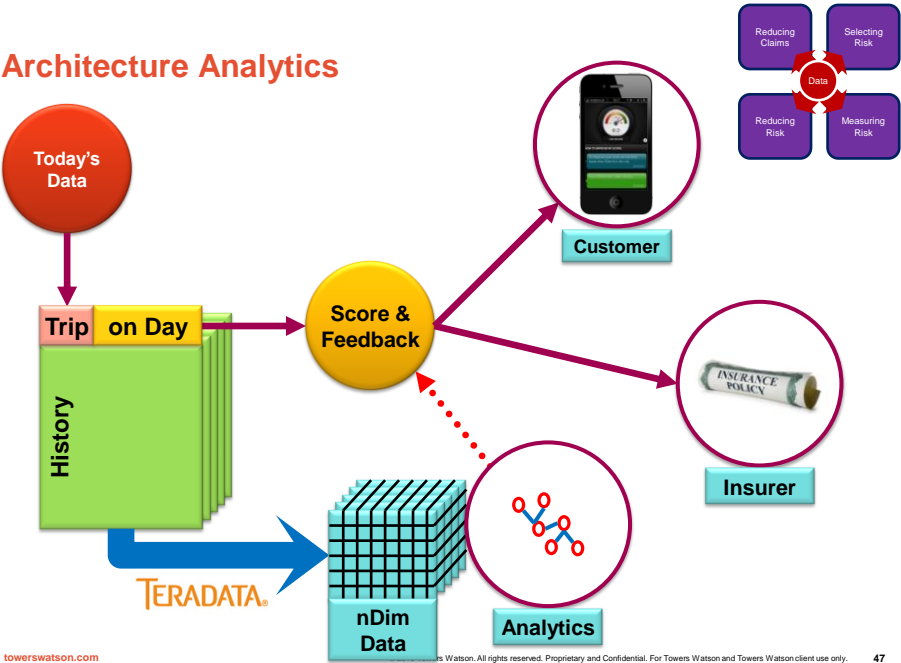
Architecture Scoring



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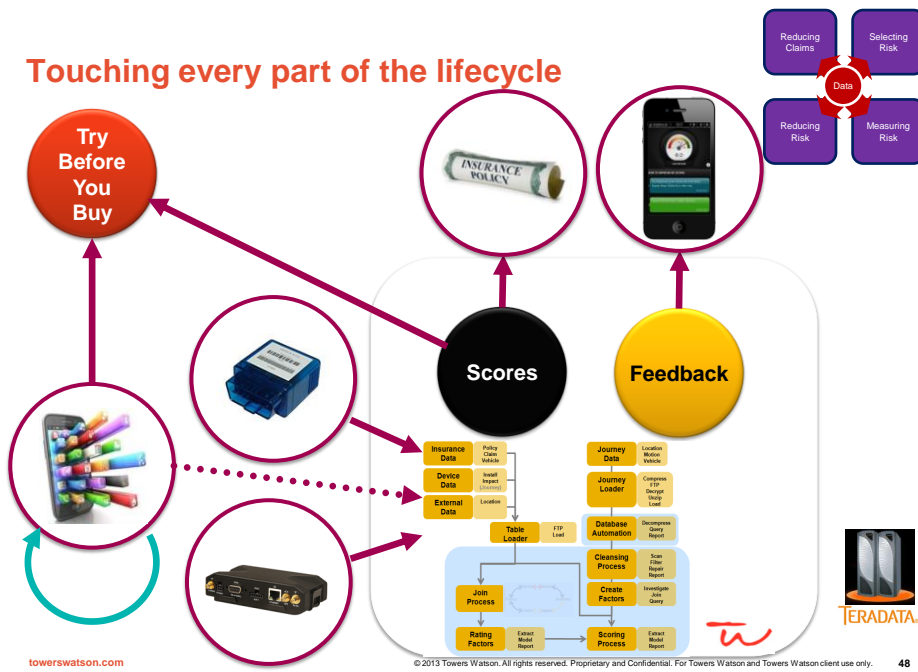
Architecture Analytics



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Touching every part of the lifecycle



Any Questions





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Dynamic Risk in a Connected World

Richard Cornish Vodafone

Tony Lovick Towers Watson



Tony Lovick, MA FIA

Global UBI Analytics Actuary

Tony.Lovick@TowersWatson.com

- Tony graduated in Mathematics from Oxford University in 1987, and qualified as a Fellow of the Institute of Actuaries in 1994. He spent twenty one years with Aviva Group, before joining EMB, now Towers Watson, as a Senior Consultant.⁽¹⁾
- Tony is interested in innovative actuarial research and its delivery through pragmatic systems development.
- Within Towers Watson, Tony is the lead Architect for the Usage Based Insurance project serving a number of insurers
- Latest research from Tony improves pricing models with a noise reduction technique to take account of uncertainty.⁽²⁾ Last year EMB filed a patent application for this innovation.⁽³⁾
- Tony undertook a number of roles within Aviva, most recently as Price Optimisation Actuary, "Pay as you drive" Actuary and Head of Statistics and Development, in the Personal Lines Pricing Division of Norwich Union. As Price Optimisation Actuary he undertook the client side pricing and architecture design, concluding in a successful Motor Renewal pilot. As the actuary leading the research for Pay as you drive, he helped inspire the analysis, build of the data warehouse systems⁽⁴⁾, and launch of the product to market. As part of this project Aviva prepared two patents with Tony listed as the inventor, one of which is now granted⁽⁵⁾. As Head of Statistics he led the implementation of full postcode risk cost models for motor and home insurance, pioneering the introduction of external data to Aviva rating systems.

⁽¹⁾ <http://www.linkedin.com/in/anthonylovick>

⁽²⁾ <http://www.actuaries.org.uk/research-and-resources/documents/defining-deviance-objective-generalised-linear-models>

⁽³⁾ <http://www.ipo.gov.uk/types/patent/p-osp-journal/p-pip-pi-ukappfiled.htm?startYear=2011&startMonth=January&startDay=12th+-+6347&endYear=2011&endMonth=January&endDay=12th+-+6347&filter=EMB&perPage=10&sort=Publication+Date>

⁽⁴⁾ http://www.silicon.com/financialservices/0_3800010322_38169285_00.htm

⁽⁵⁾ <http://v3.espacenet.com/textdoc?DB=EPODOC&IDX=GB2436880&F=0>

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