

A long-exposure photograph of a car at night, showing vibrant light trails in orange, yellow, and red. The car is moving from the bottom right towards the top left, leaving a trail of light behind it. The background is dark, making the light trails stand out.

# The Road <sub>TO</sub> Change

Usage Based Insurance: A Step by Step Guide for Small and Medium Sized Companies

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Stempora Group, LLC 

**PINNACLE**  
ACTUARIAL RESOURCES, INC.   
*The Firm of Choice*

# Usage Based Insurance: A Step by Step Guide for Small and Medium Sized Companies

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# Table of Contents

Introduction	4
Getting Started	13
Telematics Devices and Information	19
Internal Pilots	22
Field Pilots	26
Product Launch	30
Product Evolution	33

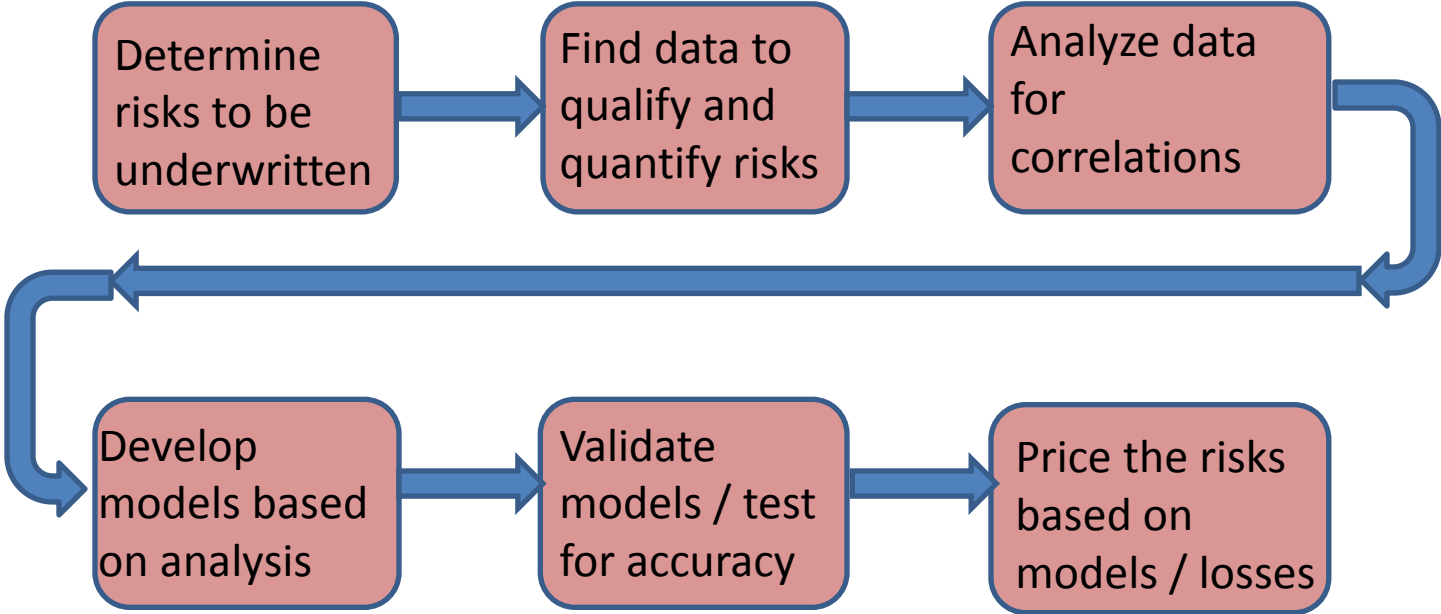
# Usage Based Insurance: A Step by Step Guide for Small and Medium Sized Companies

## The Dilemma:

Although the general process for development of insurance telematics products is the same for large to small insurers, medium to small insurers in particular face a number of problems when doing so that their larger counterparts do not necessarily face.

Given that the larger insurers are already engaged in insurance telematics product development, these additional hurdles create a barrier to entry for medium to small players and put them at a disadvantage.

# Today's High Level Product Development Process



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## Characterizing the Current Process

- Direct or proxy data already exists in many cases (e.g. credit)
- Data is collected through established channels and is relatively easy to acquire
- Established data channels perform some scrubbing and normalization
- Data has a level of standardization
- Manageable number of variables for statistical analysis

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## Characterizing the Current Process Cont.

- Predictive analysis can be performed with relational data and databases
- Terabyte or less databases/data warehouses are sufficient for analytics
- Retrospective analysis
- After model is developed, periodic data draws are sufficient for updates (static model)

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## Characterizing Insurance Telematics

- Data must be acquired for analysis
- No standards for data
- Raw data; much interpretation needed to make actionable for insurance use
- Real-time data collection (actual performance)
- (near) real-time analysis (FMECA)
- Existing data for a prospect does not exist



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## Characterizing Insurance Telematics Cont.

- Many more variables involved
- Must establish data collection channel
- Petabyte data storage capacity may be needed
- Continuous draw of data needed for ongoing risk segmentation and pricing
- Traditional statistical analysis methods and tools may not be sufficient

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Time	Latitude	Longitude	Elevation	Speed (MPH)	Heading (Degrees from true North)	Event Code	Odometer	Gas
2011-02-16T02:26:23	42.68	-112.20	367.02	0	0	IGNITION_OFF_TIME	69553	14.9
2011-02-16T01:26:24	42.68	-112.20	353.10	1	189	IGNITION_OFF	69553	14.9
2011-02-16T01:25:55	42.68	-112.20	356.51	1	270	IGNITION_ON_TIME	69552	14.9
2011-02-16T01:24:54	42.68	-112.19	354.49	30	302	IGNITION_ON_TIME	69552	14.9
2011-02-16T01:23:53	42.68	-112.19	359.44	0	283	IGNITION_ON_TIME	69552	14.9
2011-02-16T01:22:52	42.68	-112.19	346.44	51	0	IGNITION_ON_TIME	69552	15.0

...1440 records for the 24 minute trip...

2011-02-16T01:07:15	42.66	-111.92	466.54	73	284	SPEEDING	69535	15.4
2011-02-16T01:06:20	42.65	-111.90	453.66	63	289	IGNITION_ON_TIME	69534	15.4
2011-02-16T01:05:19	42.65	-111.89	465.18	54	237	IGNITION_ON_TIME	69533	15.5
2011-02-16T01:04:18	42.66	-111.89	489.80	47	160	IGNITION_ON_TIME	69532	15.5
2011-02-16T01:03:18	42.67	-111.89	515.10	22	208	IGNITION_ON_TIME	69532	15.5
2011-02-16T01:03:18	42.67	-111.89	515.10	22	208	DIRECTION_CHANGE	69532	15.5
2011-02-16T01:02:15	42.67	-111.89	554.38	0	0	IGNITION_ON	69532	15.6
2011-02-16T00:40:12	42.67	-111.89	554.38	0	0	IGNITION_OFF_TIME	69532	15.6

...1440 X 10k bytes = 14.4MB for the 24 minute trip (1 vehicle)...

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## Hurdles for Medium to Small Insurers

- Lack of prior experience with telematics data
- Insufficient analytics capability
- Insufficient IT infrastructure and storage environment
- Small test population size
- Lack of innovation/research group to experiment with concepts
- Insufficient staff to manage data channel, collection, analysis, and project management

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## Business Pressures

- Pressure to 'catch up' to large insurers
- Threat of predation
- Insufficient project budget / resources
- Inadequate business case for a UBI product
- Competition for budget priorities

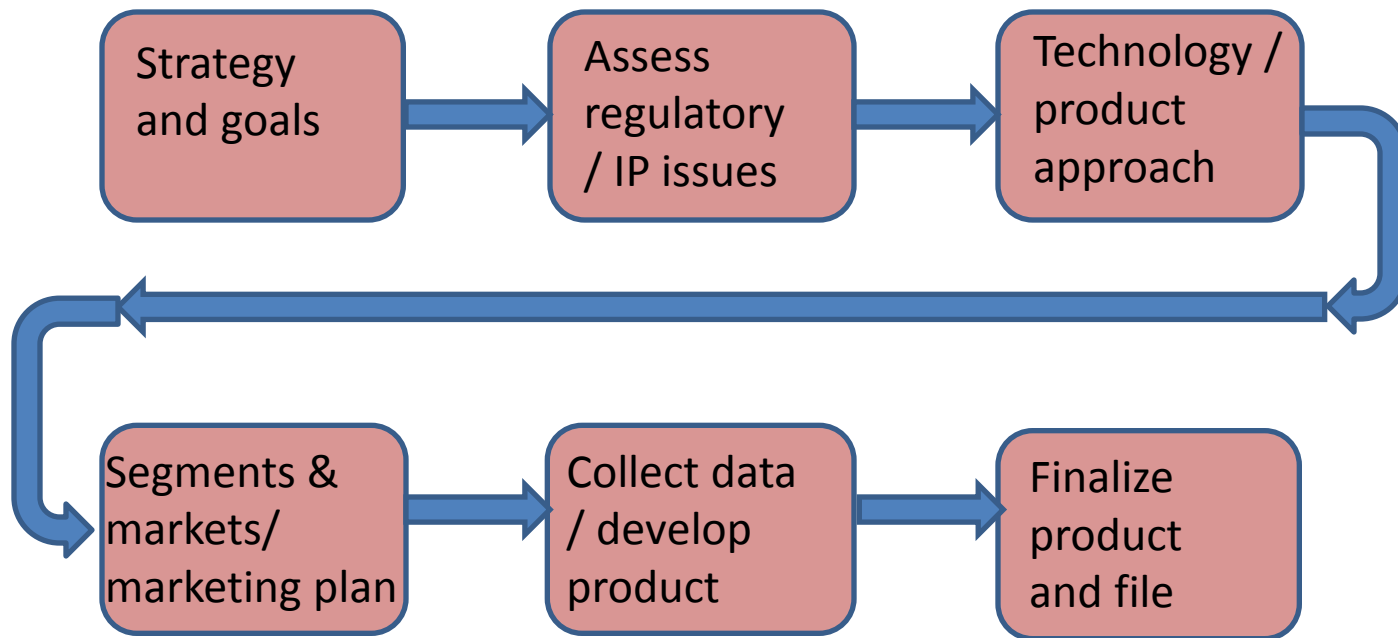
# Getting Started

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General process for the creation of insurance telematics products

- Define strategy and goals
- Assess regulatory and IP issues
- Choose technology and product approach
- Choose target market and create marketing plan
- Collect data, analyze, and develop product features
- Finalize product, file, and rollout

# General process for the creation of insurance telematics products



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## Getting started

- Strategic intent – What is it that you are trying to do?
  - Fear of predation/adverse selection
  - Attraction of new, profitable customers
  - Increased market share
  - Enhanced risk segmentation capability
  - Innovation
  - Value proposition for customer
- Time to market
  - Early adopter, early majority
  - ‘Me too’ player
  - Signs of adverse selection



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## Getting started

- **Capability assessment**
  - Actuarial capability
  - IT infrastructure
  - Statistical tool set
  - Sources of data collection (test subjects)
  - Budget
  - Availability of staff
- **Product design approach**
  - Build vs buy
  - Internal vs external
  - UBI, BBI, Geospatial, value-added services
  - Intervention program vs risk segmentation only
  - Evolutionary product approach

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## Getting started

- Legal and regulatory issues
  - State requirements
  - IP issues
- Enlisting the services of a guide
  - Avoid costly mistakes
  - Access to capabilities to develop insurance telematics products
  - Shortened time to market

# Step 1

## Working with Devices and Information

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## Step 1 - Familiarization with devices and information

Purpose: to understand what data is available to study for predictive nature and how telematics devices work

- Types
  - Self-installed
  - Professional install
  - Imbedded
  - OBD port interface vs none
  - Device specs, accuracy, precision

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## Step 1 - Familiarization with devices and information

- Data and data plans
  - How many parameters should I poll from the device?
    - Data model
    - Storage space
    - Compression
  - Security and privacy issues
    - GPS or not?
    - Open transmission or secure?
  - 'All you can eat' data plans
  - Limitations of systems
    - Coverage
    - Data gaps
    - Interpretation and scrubbing of data
    - Lack of vehicle support

# Step 2

## Internal Pilot

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## Step 2 – Internal Pilot

**Purpose:** learn and understand processes behind developing an insurance telematics ecosystem, formulate initial hypotheses of correlation and prediction, and develop business financials

- Sizing
  - Population challenges
  - Quality more important than quantity at this step

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## Step 2 – Internal Pilot

- **Product development**
  - ISO model or unique?
  - Customer segmentation alignment
  - Patent potential / patent issues
  - Marketing plan
  - Incentive to 'opt in'
  - Regulatory environments
  - Data model
  - Joining a telematics data consortium
  - Access channels (portals)



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## Step 2 – Internal Pilot

- **Business process development**
  - Fulfillment / termination
  - Customer service
  - Sales process
  - Handoffs to partners
  - Policy management system integration
    - Declarations page
    - Forms
    - Billing
    - Reporting
  - Customer, agent, and employee education

# Step 3

## Field Pilot

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## Step 3 – Field Pilot

Purpose: develop and validate scoring model and test / practice business processes for insurance telematics ecosystem

- Sizing
  - Population challenges
  - Quantity is king

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## Step 3 – Field Pilot

- Product development
  - Initial targeted customer segments
  - Lines of business
  - Marketing plan
  - Re-underwriting / rate change interval
  - Patent potential / patent issues
  - Data storage
  - Outsourcing analytics
  - Use of vendor's scoring model
  - Joining a telematics data consortium
  - Access channels (portals)

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## Step 3 – Field Pilot

- Business process development
  - Leveraging insurance telematics ecosystem
    - FNOL
    - Autoreserving
    - Leakage reduction
    - Rate evasion
    - Unrated drivers
  - Refine customer service and sales processes
  - Establish overall performance criteria
  - Establish performance criteria for supply chain partners
  - Customer, agent, and employee education

# Step 4

## Product Launch

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## Step 4 – Product Launch

Purpose: launch new product(s) in targeted markets, monitor progress toward goals, and look for opportunities to reduce costs

- Operational efficiency
  - Reduce parameters polled from devices
  - Investigate on-board computing of scores
  - Leverage insurance telematics infrastructure
  - Work with partners to streamline processes

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## Step 4 – Product Launch

- Data

- Continue to mine data for other correlations
  - Driving profiles vs customer segments
  - Expected behavior vs abnormalities
- Develop profiles of self-selecting customers and use to enhance sales processes

- Customer interaction

- Leverage customer touch points through portals
  - Additional marketing opportunities
  - ‘Sticky’ applications
- Intervention and coaching opportunities
  - Relate behavior to premium



# Step 5

## Product Evolution

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## Step 5 – Product Evolution

Purpose: use lessons learned from previous steps to evolve product(s) to greater differentiation states and value propositions

- Tune product characteristics to unique segments
  - Combine value-added services with insurance and risk management to create new offerings
  - Add 'sticky' applications aligned with customer segments
  - Integrate product offerings into vehicle and smart phone environments
  - Develop propensity models to better understand what/when/where customers are likely to purchase

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## Step 5 – Product Evolution

- Expand product development into new lines of business
  - Commercial, personal
  - Experiment with homeowners
- Exploit automation opportunities in backend systems and processes
  - Further consolidation of claims central
  - Auto-reserving / auto-estimating
  - Fraud alerts
  - Leakage identification

# Question and Answer

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