Ultimate
Risk
Solutions

Enlighten Strategic Thinking

Portfolio**Polis**™

Insurance Portfolio Pricing and Optimisation Platform

Turning Insight into Competitive Advantage

New York, January 28th, 2020

URS Ultimate Risk Solutions

.. .In a nutshell... Portfolio**Polis** is

- A tool built for actuaries, underwriters, product R&D teams

- Allowing them to **model and optimize** Insurance Portfolios... meaning:

  - **Evaluate** how pricing and underwriting decisions perform

  - **Compare** to competitors' prices and underwriting strategies

  - **Identify** business opportunities or risk classes to avoid

  - **Create** strategies to allow a company to meet or exceed targets

- Not a black box... The focus is on **data-driven strategic decisions** about pricing and business development

- Not tied to consulting services that drive costs up... Users are in control

  Empowerment by URS = ½ day training + begin using + create your own analytical process + design the solutions yourself

- Accessible to companies of **any size**

URS Ultimate Risk Solutions

Why is **Ultimate Risk Solutions** doing this?

"**Future belongs to data driven companies**..." Guy C. + many others

- *"An **analytical arms race** is disrupting the traditional insurance company business model and changing the imperatives for success."* CAS Magazine July 2017

- *"Despite a wealth of available data, decision-makers can often still be **starved of true insight**... [what is needed is] a cultural change..."* CAS Magazine same article

- *"Sooner or later a competitor with a data-driven, risk-taking group of **smart creatives and leadership** that encourages them will [target] the non-innovating competitor's book of business, with good data supporting it."* CAS May 2015

The challenge is going from **THEORY** to **PRACTICE**

URS Ultimate Risk Solutions

Purpose of our conversation today...

- A candid dialogue about product development and objectives for PortfolioPolis

- A "focus group" on practitioners' needs

- Who should URS target in this launch?

- How should the product be deployed and priced?

- Your personal level of interest in an extended/no obligation trial license

- **Thank you!...** in advance for your valuable input

Preface

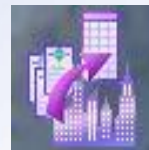## The evolution of actuarial science in the last 50 years...

a personal perspective...
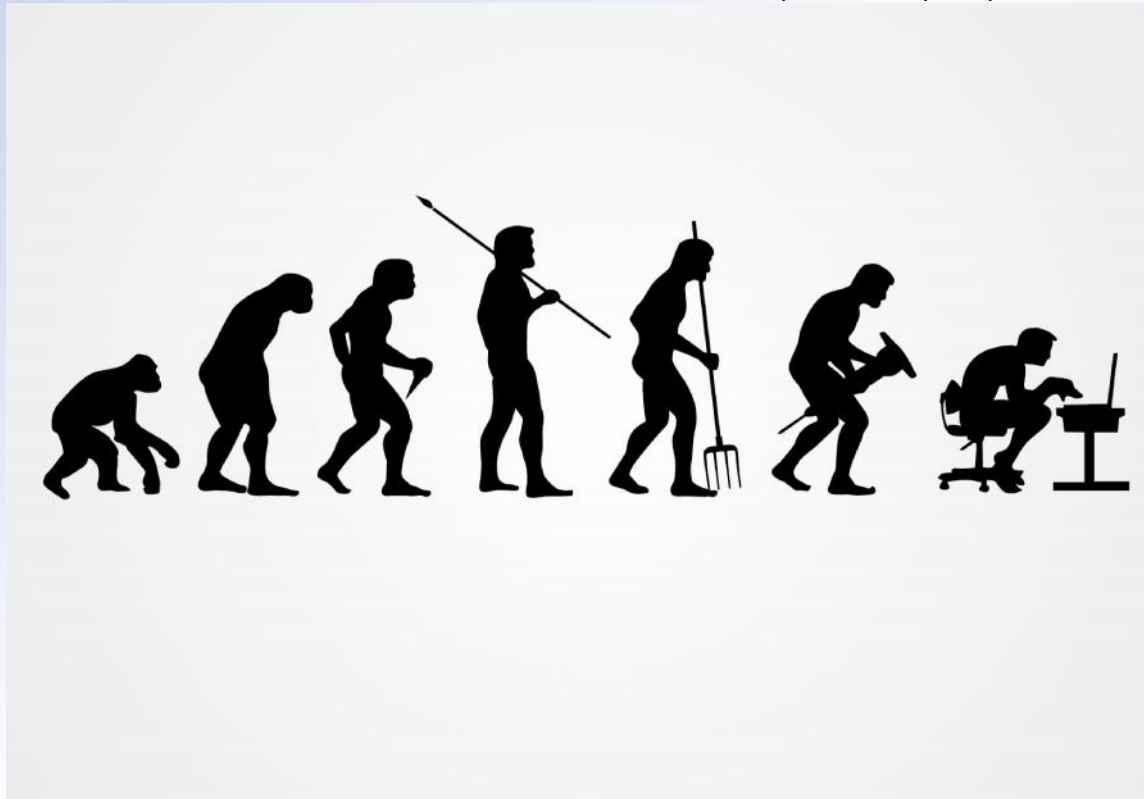
URS Product Suites **Evolution**

 PredicTiM – GLM Analytics

 PortfolioPolis – Portfolio Pricing & Optimization
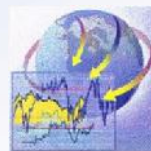
 Predictable Dynamics – Economic Scenario Generator

 Res-Solver Suite – Deterministic & Stochastic Loss Reserving
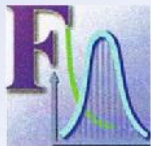
 Risk Explorer Suite – DFA & Capital Modeling

URS Ultimate Risk Solutions

What does Portfolio**Polis** do for you?...

Making sense of the puzzle...
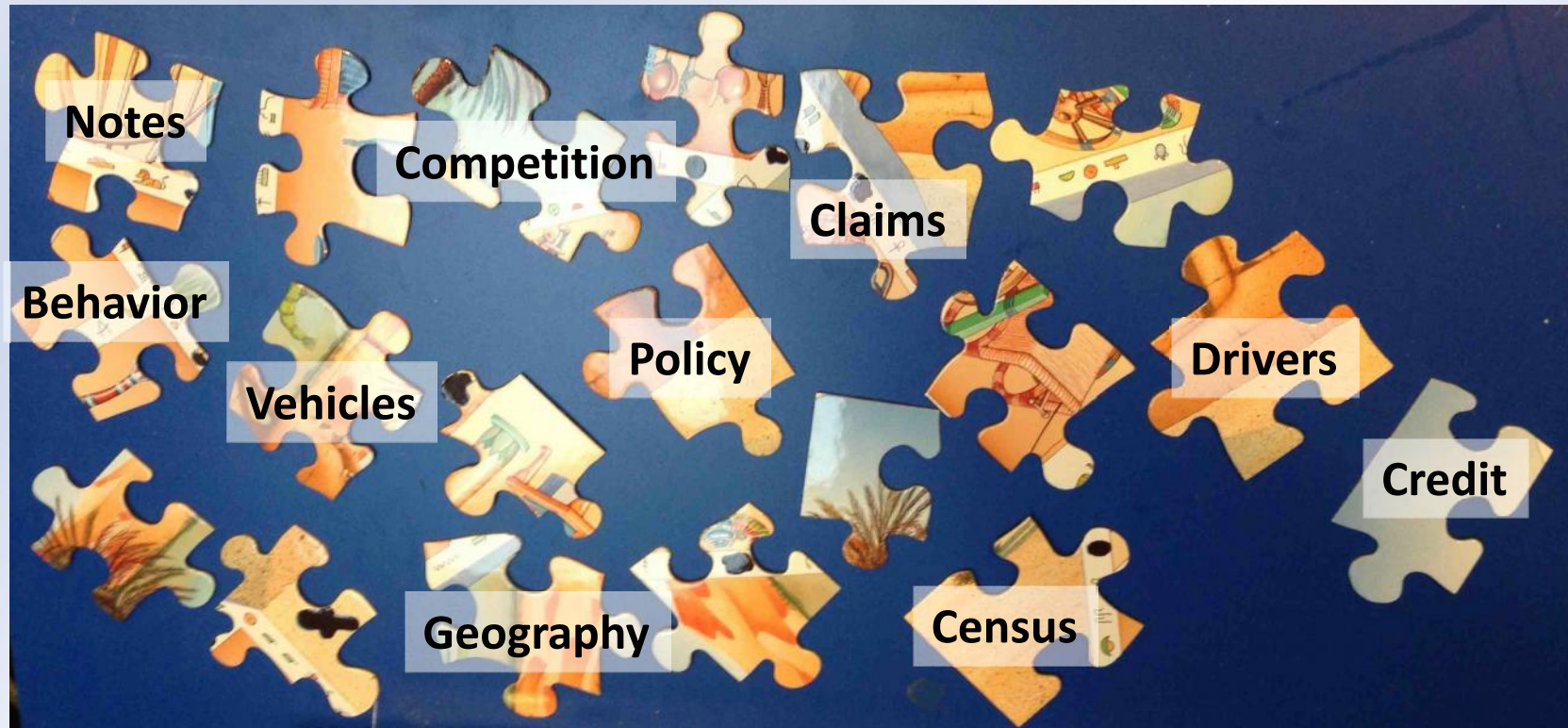
PortfolioPolis = The Power of **Relational Database** + **Portfolio Modeling**

URS Ultimate Risk Solutions

What does Portfolio**Polis** do for you?...(continued)

Insurance Portfolio Modeling

Policy Data   Claims Data   Geographic Census Market Data   Competition Data   Rating Factors   Actuarial Data   ...

*: only requirement...UNIQUE Keys

Design/Testing New Pricing Algorithms & Strategies

Competitiveness Analyses of Strategies

Identify Opportunity Segments

Evaluate Marketing Distribution

Claims Reserving Fraud Detection

...

URS Ultimate Risk Solutions
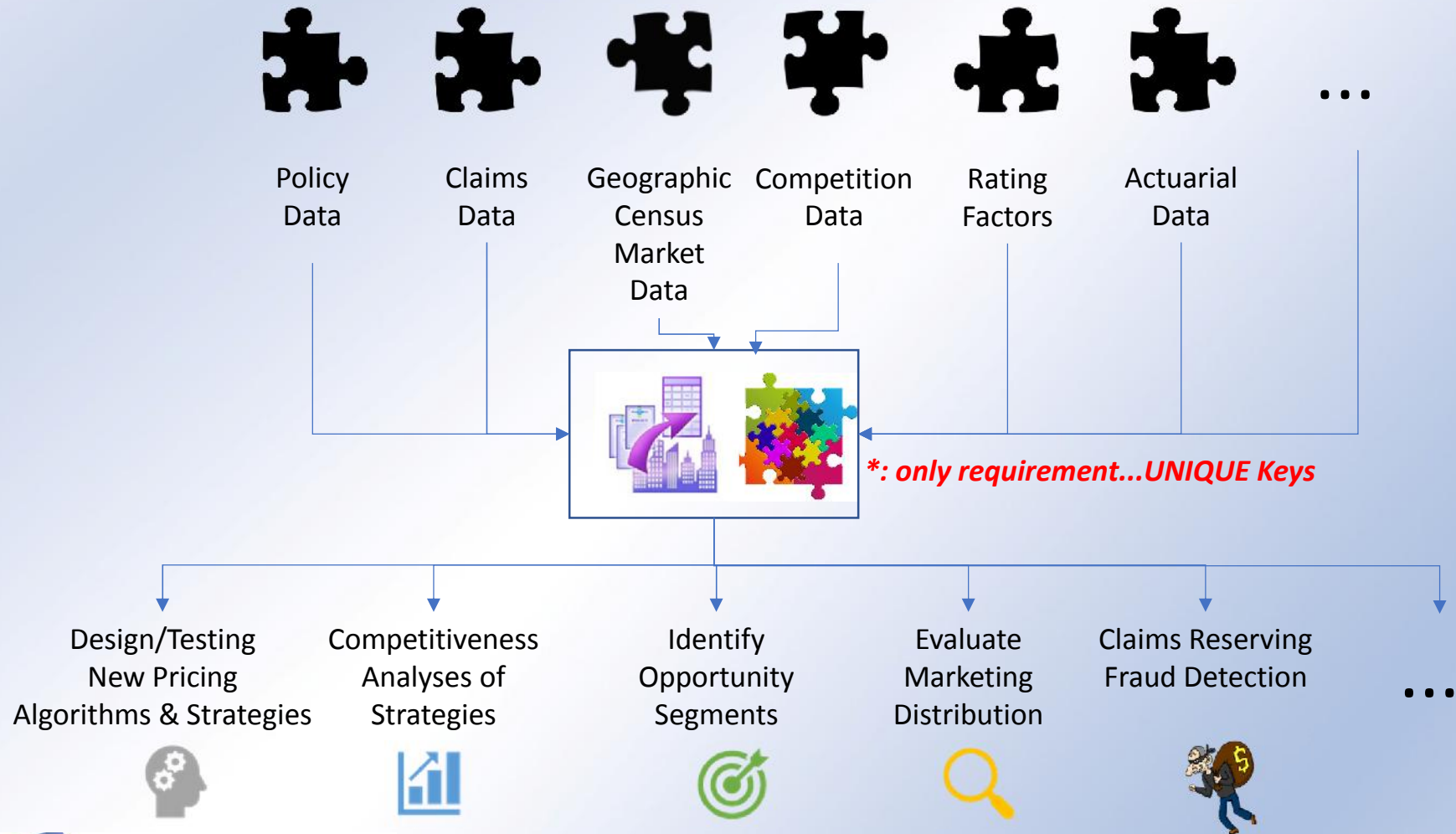
Simple Example of Building Model in Portfolio**Polis**

Information inputs:

- *Internal or*

- *External*

EXCEL files
.TXT files
Data base

Reads directly from any source

Policy Table

Driver Info

Vehicle Info

Pricing Factors & Rating Tables

Expected Claim Costs

Competitors Data

- *Relational Data Base Platform*

- *Unique keys link information*

- *All information is in One Data Base*

URS Ultimate Risk Solutions
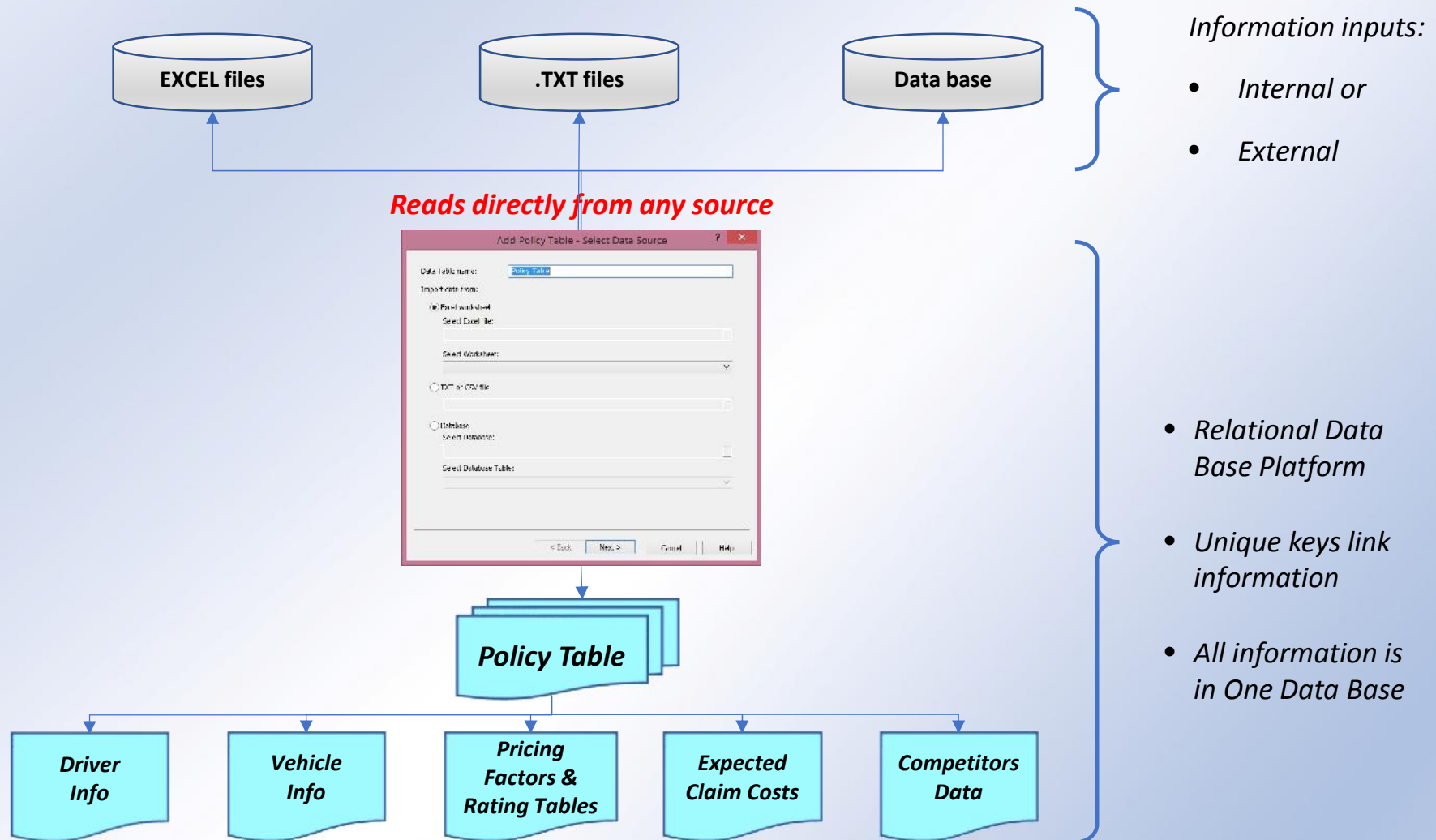
Importing data tables from diverse sources is a one step process

Import Table Wizard
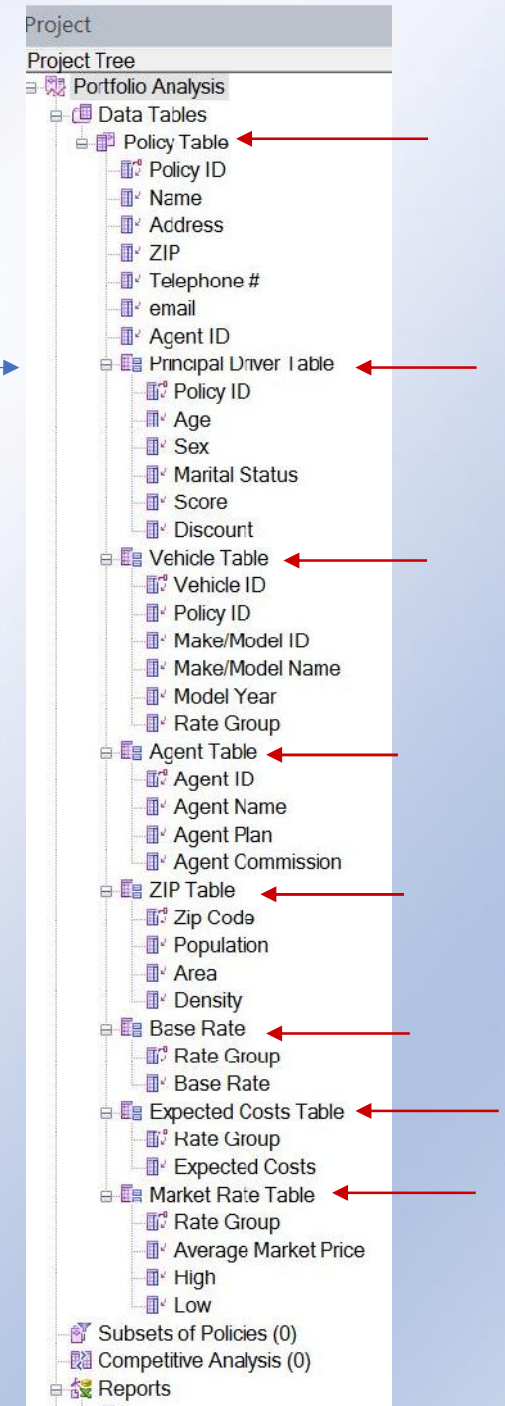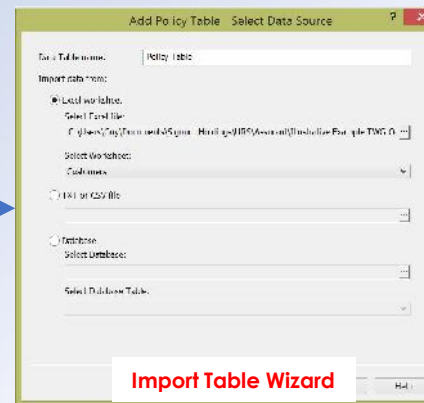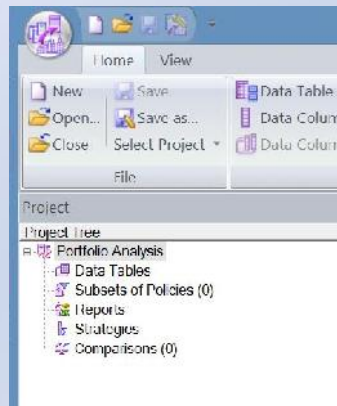
- *Policy table is at the top of the hierarchy, each customer is separately identified*

- *Unlimited number of supporting table can be added, groups can collaborate in model building*

- *Each table having a unique key, information from various sources can be brought together*

- *No programming required...so focus remains on identifying relevant data sources*

- *Data tables are easily updated with "RESET" option*

- *Structures are easily and quickly manipulated, reordered or reproduced*

- *Great transparency and ease of auditing*

URS Ultimate Risk Solutions

Project
Project Tree
- Portfolio Analysis
  - Data Tables
    - Policy Table ←
      - Policy ID
      - Name
      - Address
      - ZIP
      - Telephone #
      - email
      - Agent ID
    - Principal Driver Table ←
      - Policy ID
      - Age
      - Sex
      - Marital Status
      - Score
      - Discount
    - Vehicle Table ←
      - Vehicle ID
      - Policy ID
      - Make/Model ID
      - Make/Model Name
      - Model Year
      - Rate Group
    - Agent Table ←
      - Agent ID
      - Agent Name
      - Agent Plan
      - Agent Commission
    - ZIP Table ←
      - Zip Code
      - Population
      - Area
      - Density
    - Base Rate ←
      - Rate Group
      - Base Rate
    - Expected Costs Table ←
      - Rate Group
      - Expected Costs
    - Market Rate Table ←
      - Rate Group
      - Average Market Price
      - High
      - Low
  - Subsets of Policies (0)
  - Competitive Analysis (0)
  - Reports

Example of Project Screen

- Define any field
- Automatic update
- Unlimited data manipulation
- Up or Down the project tree
- Unlimited file size

Example – Importing tables and supporting tables

Many ways of associating data tables and performing calculations
No coding...all done through "wizards"

Calculations between columns

Groupings in "Bins" or "Bands"

Joining data with unique keys

- *Once table are imported, new data elements are added*

- *Rating algorithms can use data from diverse sources*

- *Parameters of associations or calculations are easily revised*

- *Wizard tools minimize errors and facilitate audits by displaying formulas on screen*

- *Unlimited ability to create new columns, new associations, new calculations.... A boost to innovation*

Aggregate data from other tables

URS Ultimate Risk Solutions

Example of creating columns by joining/banding/calculations

Ultimate Risk Solutions

URS Translator™... A patented code generator extending ability to create new pricing or analytical tools

Launch User-Defined Wizard
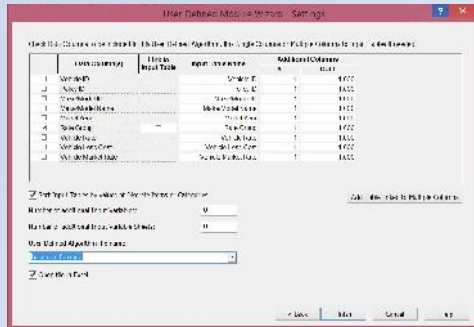
Select Input/Define Output

Model any process through power of EXCEL

One step translation to machine code

One click to integrate the new process into the model
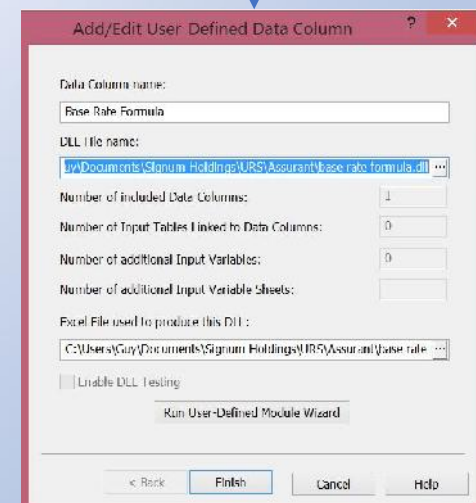
- URS Translator allow users to create new processes or calculations in EXCEL

- Any EXCEL function can be used... No limit to complexity of models

- Translation to DLL machine code is instant

- Processing speed is super fast no matter the complexity of the procedure

- No other technology in the market provides this functionality

URS Ultimate Risk Solutions

Example of User-defined column and URS_Lookup()

Illustrative Pricing Model

How do we proceed...?

Ultimate Risk Solutions
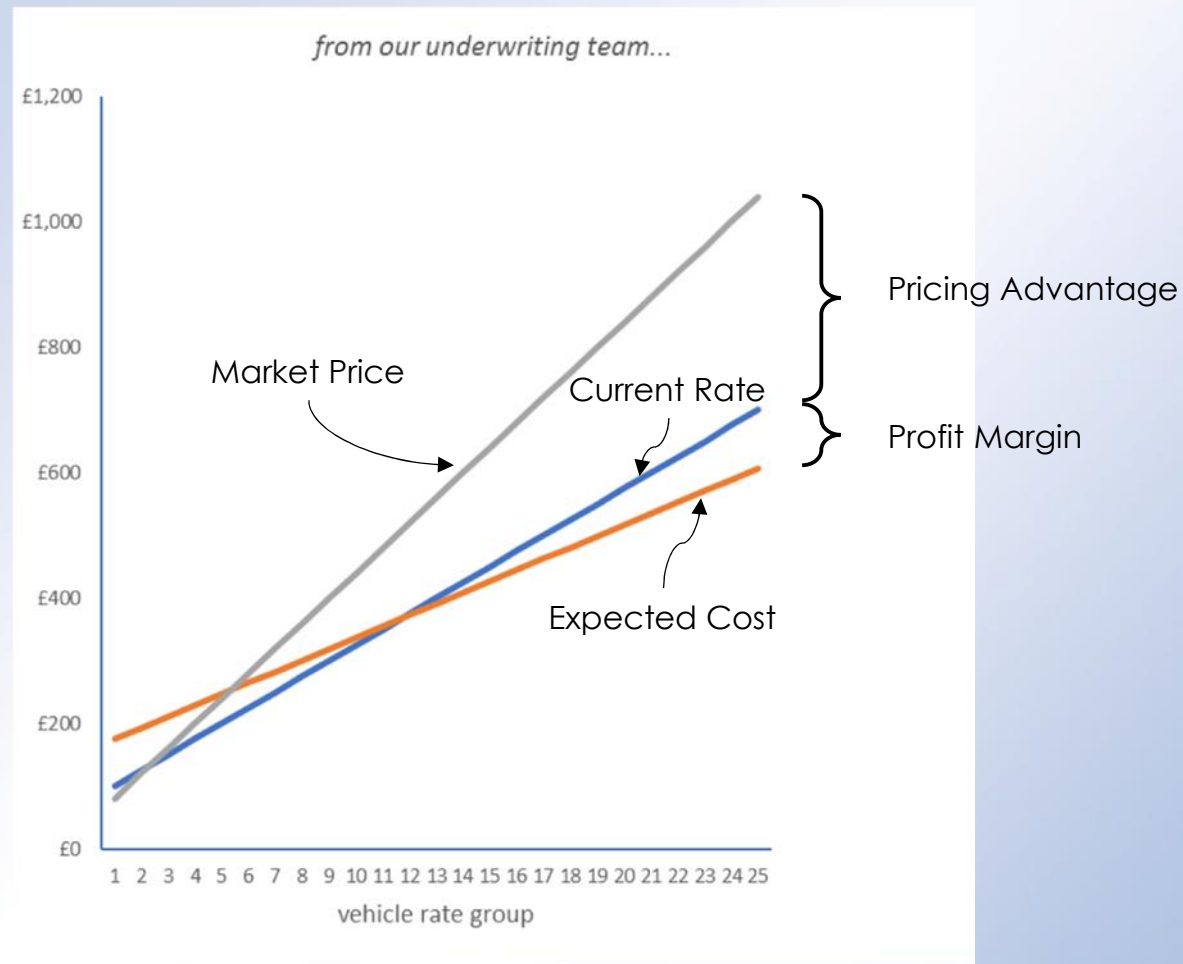
Amending Base Rate Formula

Strategies Are Used to Test Pricing/Rules Changes

- *Strategies are defined as Actions:*

  - *New Price*
  - *New Algorithm*
  - *Cancellations, etc...*

- *Actions can apply to all policies, subset of policies or even one policy*

- *Results are instantly available*

- *All Strategies are maintained in the Policy Table as additional data elements*

- *Strategies can include entry in new markets, customer sensitivity factors or exit from specific segments*

- *New Strategies can be added as variations of existing Strategies or brand-new ones*

- *The user defines the performance measures used to compare Strategies, such as sales, profits, return on capital, etc...*

URS Ultimate Risk Solutions

Example of creating strategies

Ultimate Risk Solutions

Competitive Analysis at the Policy Level... Point and click...

Summary of functionalities:

- ➢ Import competitors' premiums

- ➢ Creation of multiple Competitiveness Indicators such as premium variance and rankings

- ➢ Visualize at the policy level, subset of policies of all policies using filters

Ultimate Risk Solutions

Example of creating Competitive Analysis

Ultimate Risk Solutions

Easily Produce reports with one-click and export anywhere...

- *Any data in PortfolioPolis can be extracted and copied elsewhere*

- *Report specifications are kept and can be easily updated or modified*

- *Data can be supplied to other applications*

URS Ultimate Risk Solutions

Example of creating and exporting report
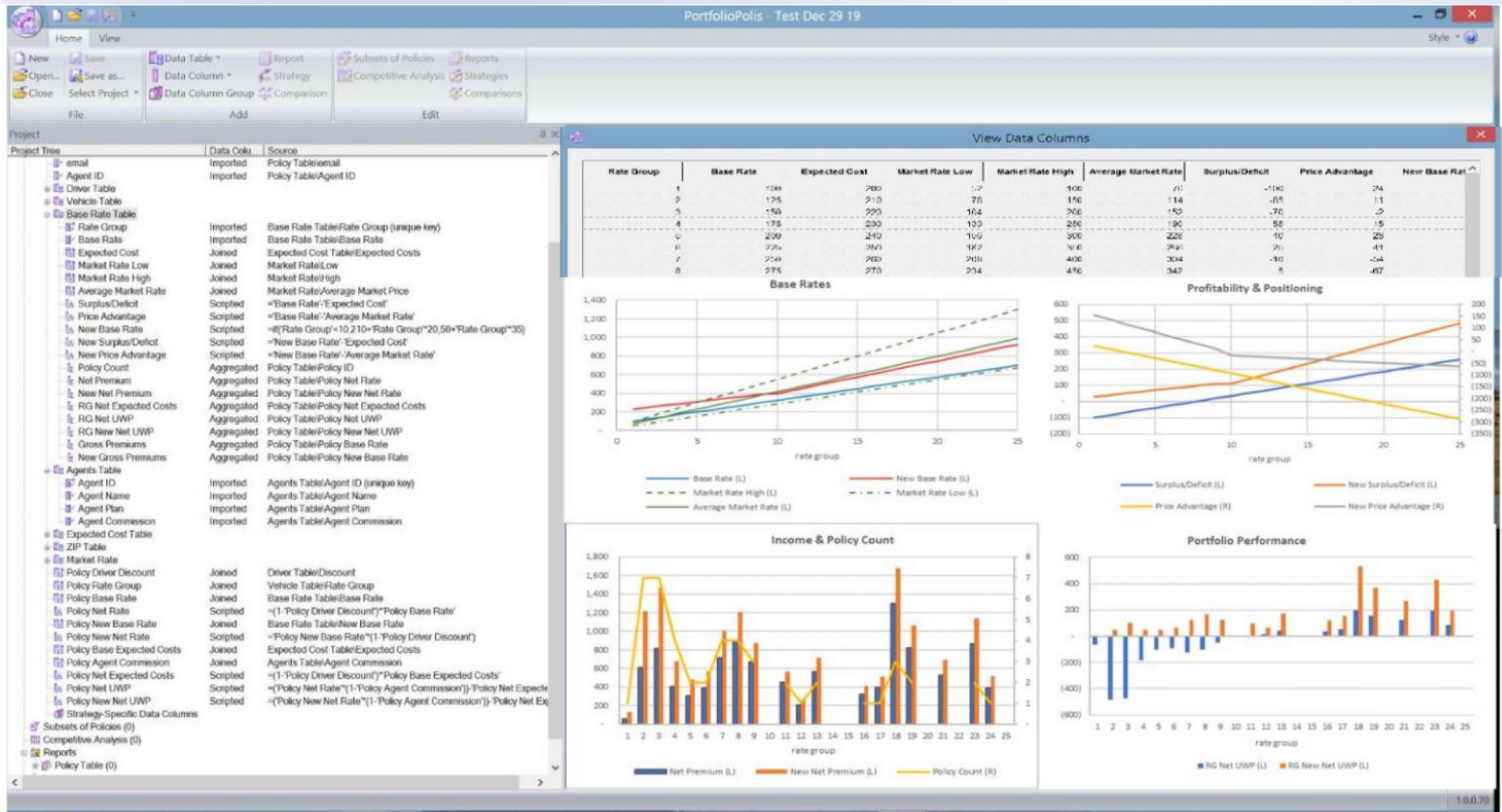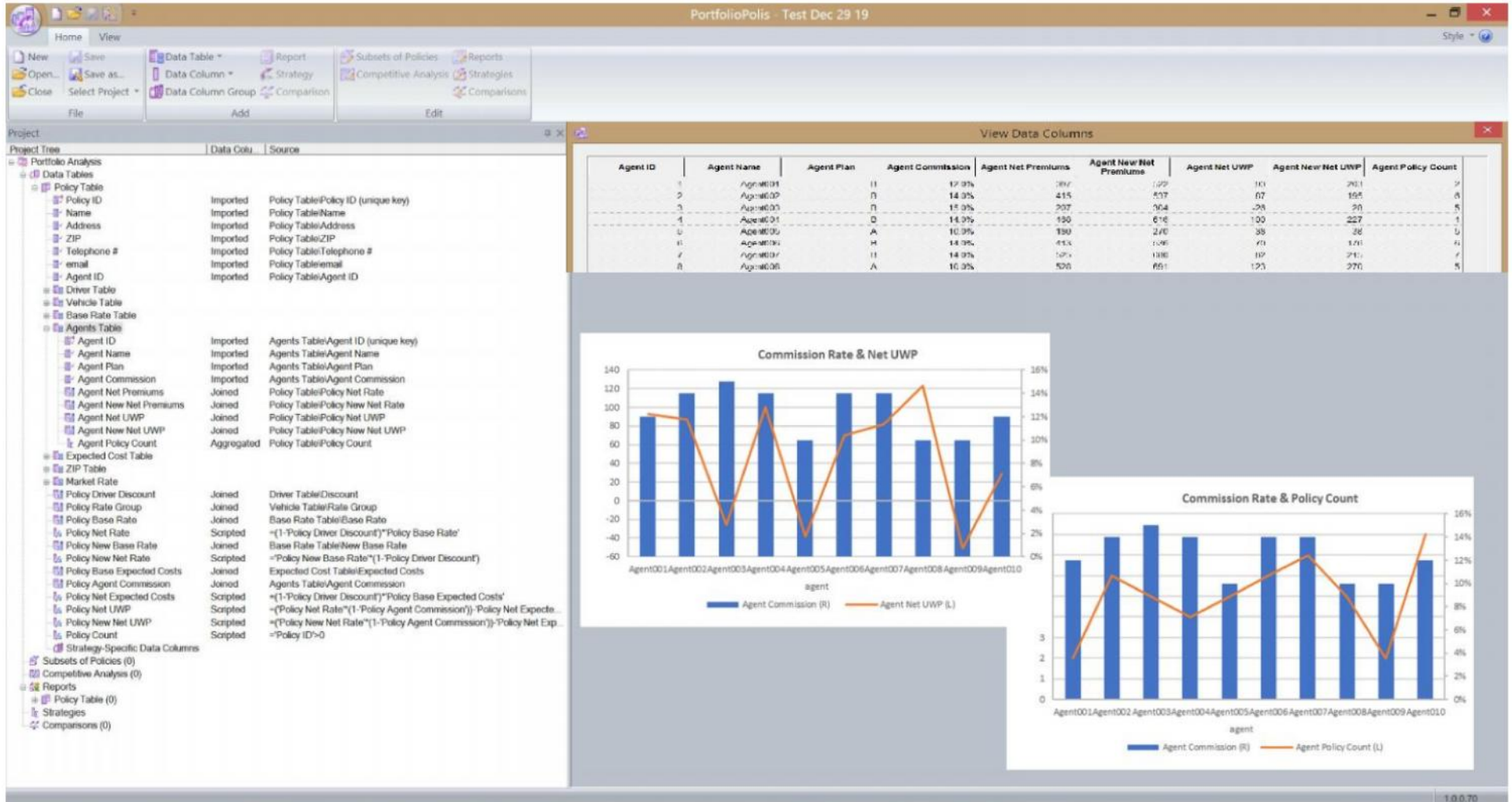
Coming **Enhancements**

- Visualization

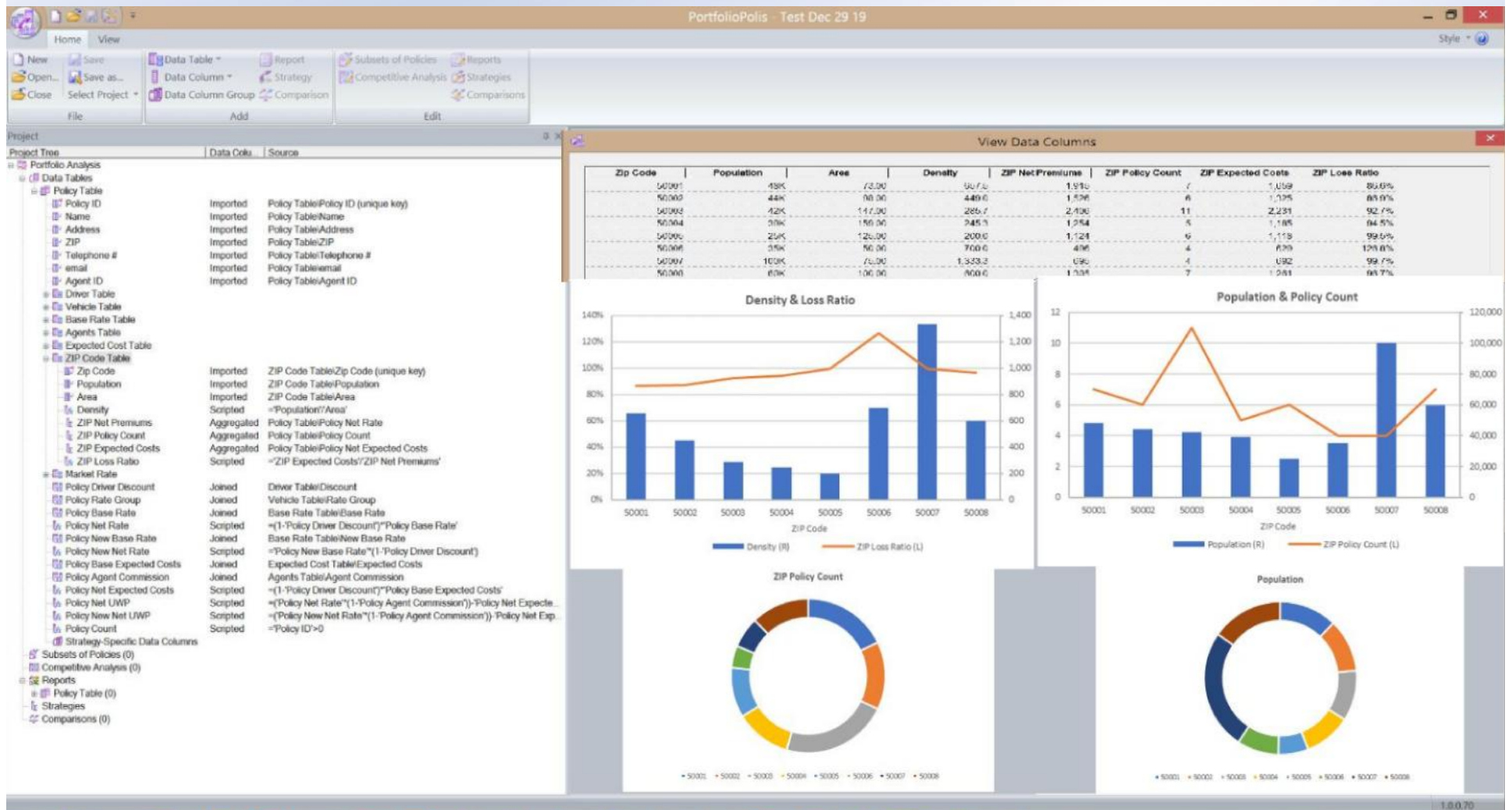# Example of Outputs #1: Rating Plan Performance

Ultimate Risk Solutions

Example of Outputs #2: Agency Performance

Ultimate Risk Solutions

Example of Outputs #3: Demographic/Geographic Analysis

Example of Outputs #4: Comparing Strategies
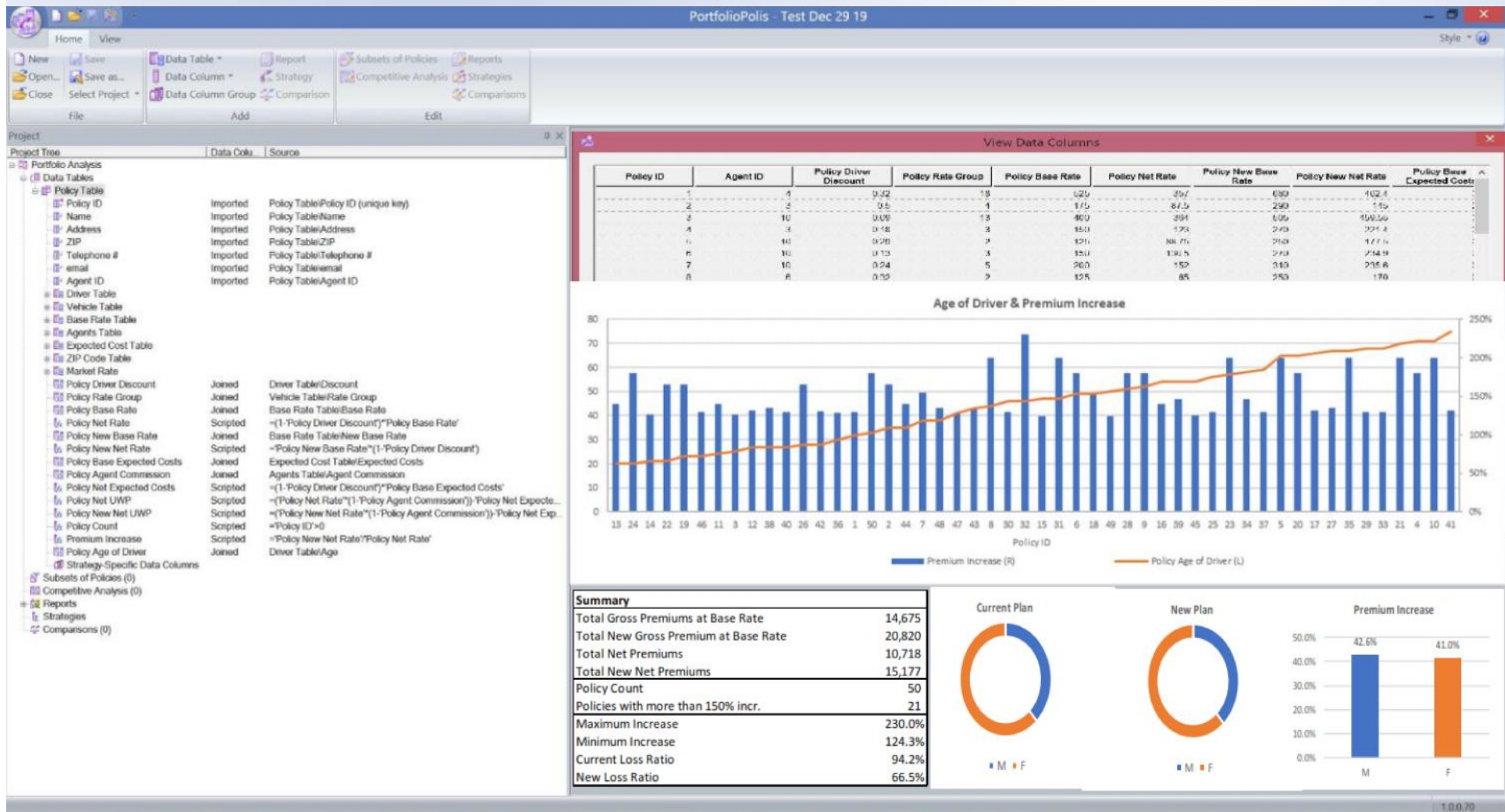
Comment from our **first** PortfolioPolis client...

Eric has replicated our rate algorithm in PortfolioPolis and is working on documentation at this point. Our next step is start building the analysis components for rate changes and market comparisons. **It is amazing how much time this tool has saved us!**

Karen Hopkins-Lee
VP, Operation
Stratford Underwriting
December 13th, 2019

URS Ultimate Risk Solutions

Conclusion

- The battle is fought in the field of **data analytics**

- **Data savvy** companies identify opportunities and capture their competitors' books of business

- The data is all around us...what is needed is the tool and the ability to create **insight**

- With the advances in computation and availability of data... There is **no better time** to be an actuary, data analyst or business development manager

- Leaders who **empower** their troupes and allow them to be **creative** will come out ahead

- URS is offering opportunity to **pioneers** willing to get into the game.

URS Ultimate Risk Solutions

Our **Mission**

*"We are committed to deliver **the most advanced and easy to use** financial risk modeling technologies that meet the needs of corporate decision makers"*

Alex Bushel
Founder and CEO

URS Ultimate Risk Solutions