



Title Insurance Innovation with Data Science



What is Title Insurance?

Title Means Full and Clear Right to a Property

Buyers, Sellers, and Lenders need to ensure no other parties have a legal claim on property

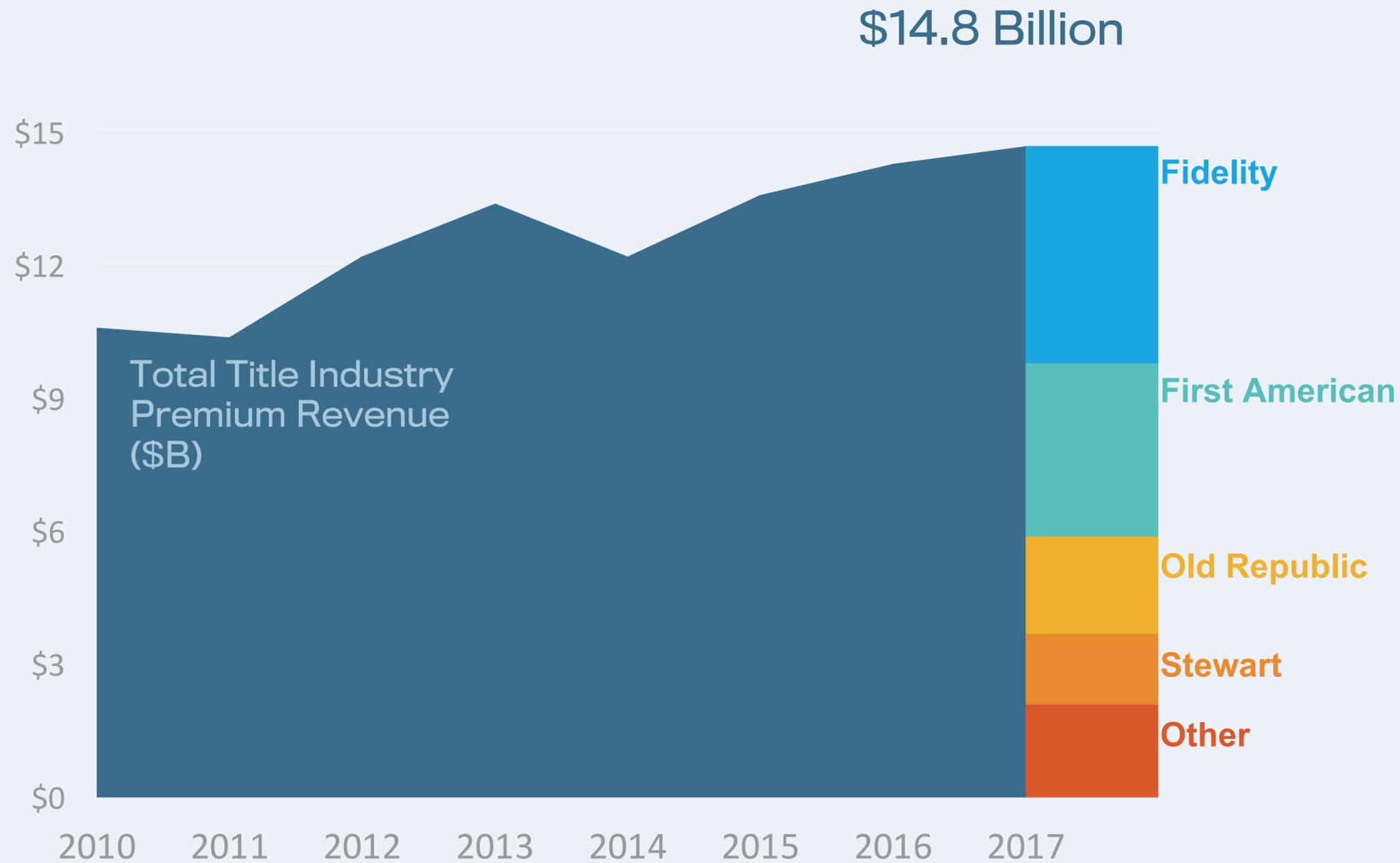
Europe: Latin Notary

- Notary has broad responsibilities to ensure clear title
- Notary is penalized for errors, but does not bear financial responsibility for losses

US & Canada: Title Insurance

- Private insurance companies copy and clean public records
- An insurance product pays for all legal issues if any happen
- A **required** product for most mortgages

US Title Insurance Market Structure



6% Net Income | 4% Claims



Today's Title Model: Time Consuming and Full of Friction

Costly, Time-Intensive, Manual Processes



TITLE ORDER
1 Day

Phoned in,
manually entered

TITLE SEARCH
1-3 Days

Manual collection
and review of records

TITLE CLEARANCE
2-5 Days

Manual back-and-forth
to resolve defects

PRE-CLOSING
1 Day

Third party phone call
to schedule closing

CLOSING/SETTLEMENT
1 Day

In person paper signing
and processing





How States Title Cuts Time and Cost using Data Science

An array of rich real estate data sources exist in the US



Zillow Save Share More

\$458,500 3 bd | 3 ba | 1,986 sqft
 3541 E Remington Dr. Portland, OR
 House for sale | Zestimate®: \$461,000
 Est. payment: \$2,500/mo | Get pre-qualified

Contact agent

We calculate the estimated sales range based on the current market and the info we have about this home.
 Estimated sales range: **\$451k - \$470k**

Zestimate history
 This home: \$461,000 | Portland avg: \$498,340

Today
 Sold 9/24/16 | Listed 2/24/19 | Forecast

See Zestimate models

Price and tax history

IoT Home (205 Companies)

nest entia
 roost Ayla
 dojo labs ambi

Home Services (119 Companies)

Thumbtack
 Clutter
 shyp HANDY
 TaskRabbit

Home/Prop Insurance (81 Companies)

Bungalow
 LeaseLock wallflower
 squareone insurance
 MICROENSURE

Long-Term Rent/Sale (111 Companies)

trulia
 Zillow
 Rent.com
 爱屋吉屋 REDFIN

Real Estate Agent Tools (50 Companies)

fivestreet
 UpNest Agent Ace
 nestio ZipRealty

Facility Management (105 Companies)

SmartLocus
 AutoGrid
 ISAS
 happy inspector
 plotwatt Energy
 eMeter
 AWAREMANAGER
 corrigo Trilliant

Real Estate Technology

Venture Scanner
 Contact info@venturescanner.com to access the full landscape report With all 1137 companies

Portfolio Management (160 Companies)

CADRE
 Rentlytics
 reesio REALTYSHARES
 daptiv
 FUNDRISE
 KWELIA

Indoor Mapping (22 Companies)

CREATE
 Floored
 NAVVIS Real 5D
 matterport

Construction Management (105 Companies)

eSUB clarizen
 VIEWPOINT
 PROCORE
 PlanGrid APROPLAN

Short-Term Rent/Vacacy (68 Companies)

Vacatia
 PandaBed
 WIMDU
 hometogo
 HomeAway

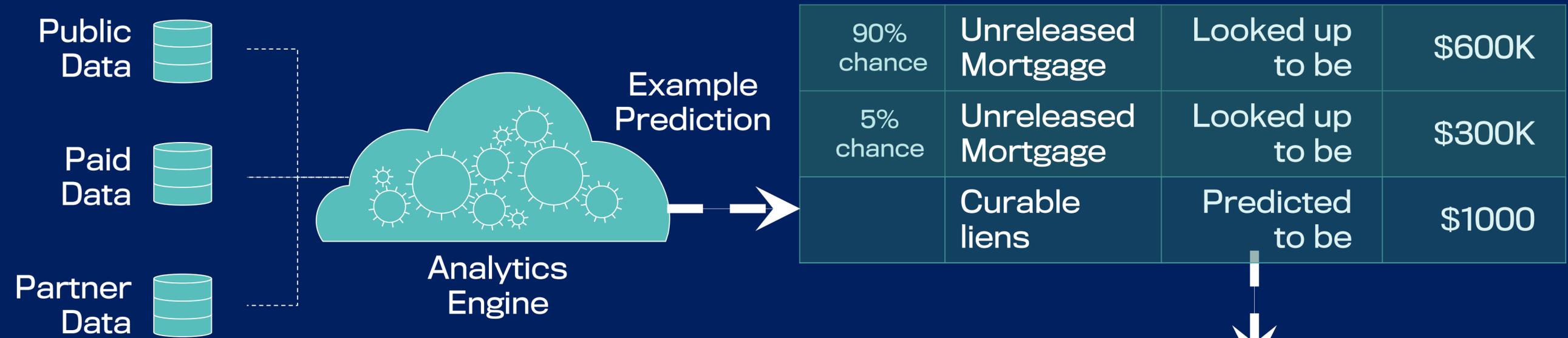
Commercial RE Search (43 Companies)

coworkingon
 pivotdesk
 wework
 42 Floors

Property Management (112 Companies)

PayLease
 SMS ASSIST RenterResume
 Rentify Cozy
 RENTPAYMENT
 oppfolio Property Manager eviivo

SEPARATING INSTANTANEOUS AND TRADITIONAL ORDERS USING OUR LIVE PREDICTIVE UNDERWRITING TECHNOLOGY



Calculate projected losses due classifying unreleased mortgages as released

Calculate projected losses due to non-mortgage risks (liens + non-lien risks)

Is projected loss below threshold?

Traditional Title Insurance Product in 2-10 days

Instant Title Insurance Product in 2 minutes

Risk prediction vs risk elimination

Risk prediction

- Future hasn't happened yet
- Use historical data to learn risk patterns
- Simulate on blinded data
- Deliver recipe for risk acceptance

Risk elimination

- Past has already happened
- Find all past records
- Eliminate all risk regardless of difficulty/time required to do so
- Make ad-hoc decisions about potential issues

States Title's Underwriting Approach

Finding the right balance between Risk Prediction and Risk Elimination

Where possible, eliminate risk instantly

- Find subset of title data sources that are instant
- Use machine learning for risk elimination

Use risk prediction in cases where it makes sense

- Where title data sources are slow/expensive gather and analyze historical data
- Use machine learning for risk prediction

Use profitability and consumer experience metrics to decide

- Decide when it makes sense to take on more risk because risk elimination is expensive
- Decide when risk elimination makes sense due to consumer experience or claims