

Model Governance for Advanced Analytics:

What's Different & What Have We Learned?

Andy Wunsch, FSA, CERA, MAAA

ERM Symposium – May 2-3, 2019



Agenda

1

Background

2

The Challenge

3

Advanced Analytics: What's the Same & What's Different

4

Lessons Learned



Background

Data and Analytics at Allstate



History and Background

Allstate has a long history of creating value through data & analytics.

In 1939, we became the first insurer to tailor auto rates by age, mileage and car usage – key data elements used in pricing today and the first use of analytic capabilities at Allstate.

Today, it's being used broadly across the company.

External trends such as big data, artificial intelligence and proactive personalization present new opportunities to accelerate Allstate's transformation.

D³: Data, Discovery & Decision Science was formed in 2016.

In 2016, Allstate's data strategy and analytics departments merged to form D³ – a vibrant, collaborative organization that's leading Allstate's data & analytics transformation.



D³: Data, Discovery & Decision Science

Who We Are



330+ data and analytics experts



Managing and governing data

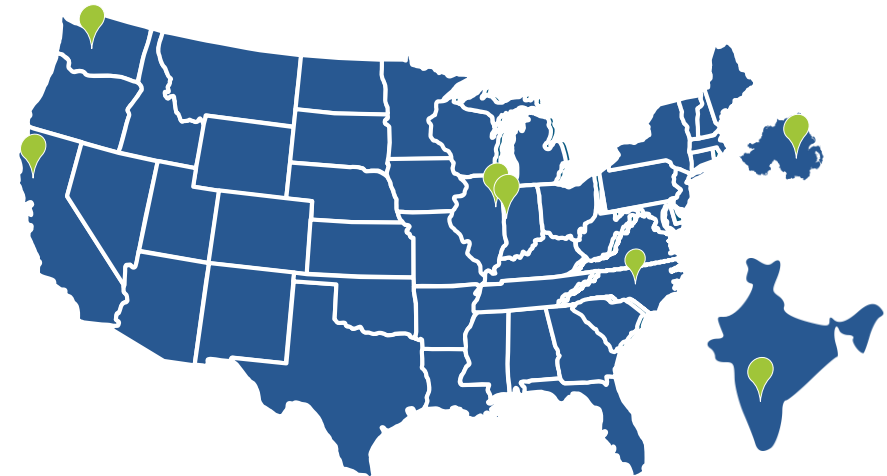


Developing analytics solutions



Delivering solutions through technology

Where We Work



We have experts across **seven locations**:
Bangalore - Belfast - Charlotte - Chicago
Northbrook - Seattle - Silicon Valley



How D³ Supports Allstate with Data & Analytics



Marketing: Design programs to generate new business leads



Connected Car: Analyze driving behavior through telematics



Sales: Recruit, place and retain Allstate exclusive agents



Claims: Find and prevent fraudulent activity



Customer Experience: Develop solutions to improve retention





The Challenge

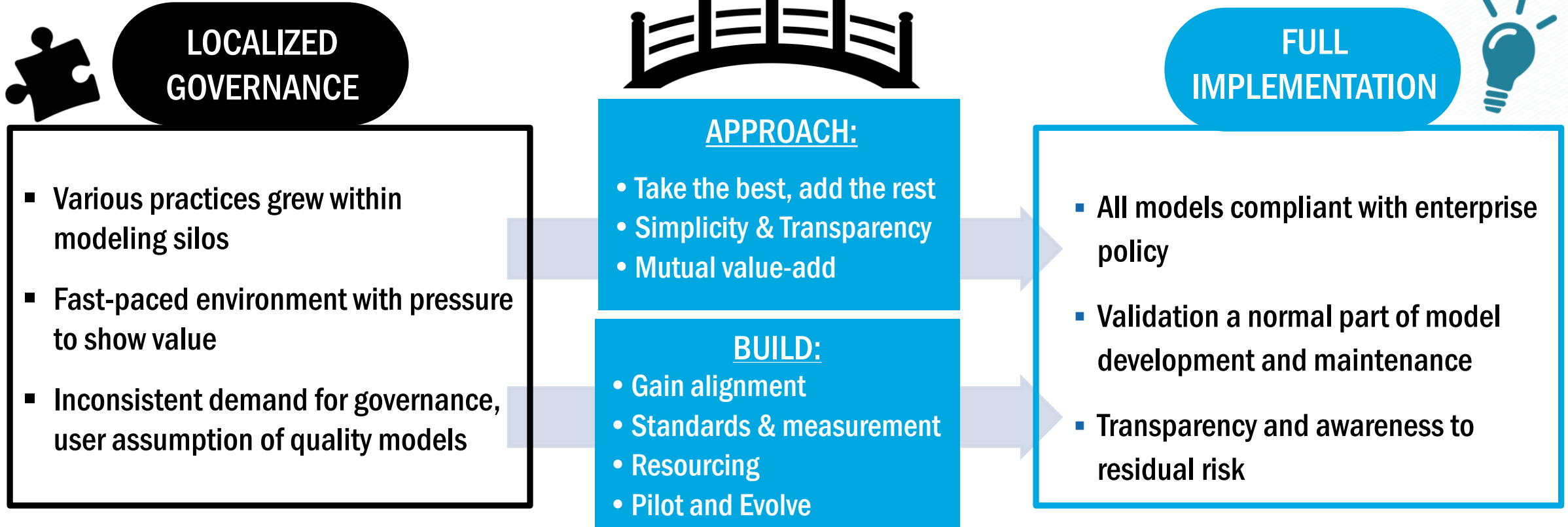
Model Risk with Advanced Analytics



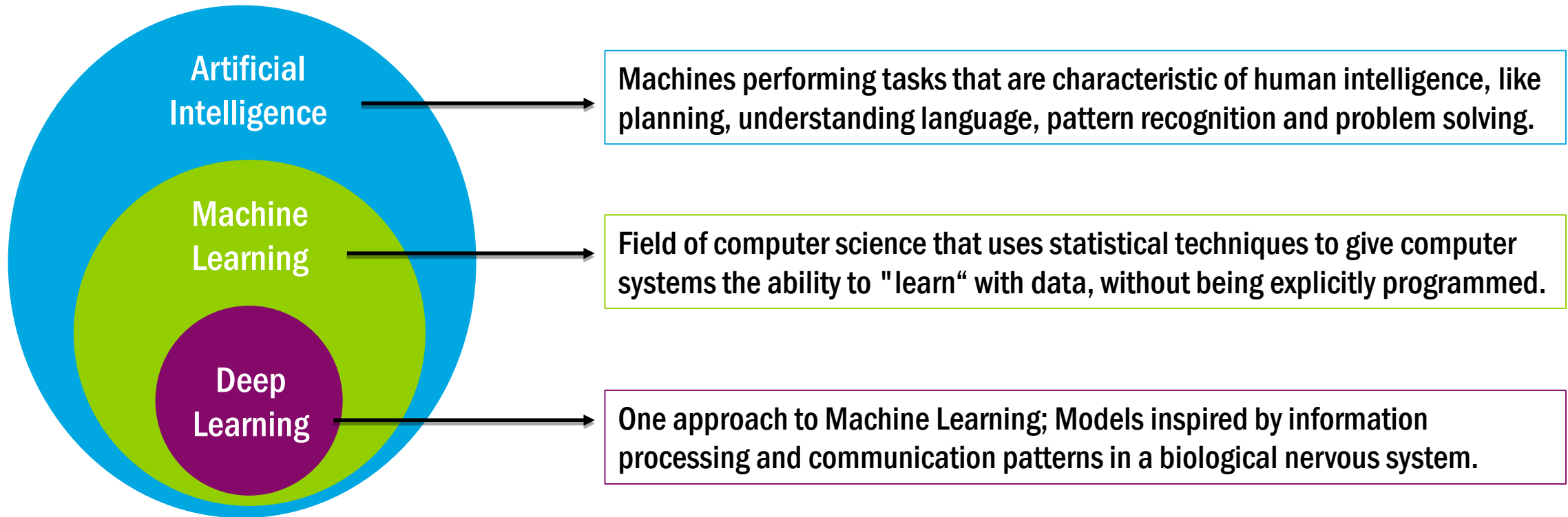
Meeting the Challenge

Our model validation framework aims to:

1. Ensure effective [model risk management](#), living into the enterprise program
2. Help create the most [useful analytic insights](#) possible



Some Working Terminology



“AI” tools automate business processes (Robotics) and/or make decisions based on data (Machine Learning)











Advanced Analytics

What's the Same & What's Different



What's the Same & What's Different

The overall objective is the same: We are trying to manage model risk to an acceptable level, while producing the most useful analytics for business decision-making.

	SAME	DIFFERENT
 Data & Inputs	<ul style="list-style-type: none"> Data structure 	<ul style="list-style-type: none"> Data (un)structure Data vs. assumptions
 Methodology	<ul style="list-style-type: none"> Use quantification algorithms Appropriate for use case 	<ul style="list-style-type: none"> Data relationships Model type (Predictions)
 Mechanics	<ul style="list-style-type: none"> Coded formulas & logic 	<ul style="list-style-type: none"> Open source packages Calculation transparency
 Output & Reporting	<ul style="list-style-type: none"> Uncertain results transparency Testing & vetting 	<ul style="list-style-type: none"> Holdout data & overfitting Tolerance for precision
 Operation	<ul style="list-style-type: none"> Access, backup, change control 	<ul style="list-style-type: none"> Owner handoff (org-specific)
 Implementation & Improvement	<ul style="list-style-type: none"> Benchmark & performance test 	<ul style="list-style-type: none"> Performance over time





Lessons Learned

What Worked / Challenges & Adjustments



What Worked

Build Alignment

- Risk Management preparation
- Regular leader engagement
- Find champions & leverage subject expertise

Seize Opportunity

- Part-time staffing over full-time commitment
- Personal development via rotation
- Principle-based, leverage existing practices

Unite the Purpose

- Bottom-up Listening: Best practices, pain points
- Show the Value
 - Minimize audit pain, better models
 - E.g., Remove bias, provide templates

Help Proactively

- Standards to ease documentation/compliance
- Allow time to remedy findings before model release
- Transparency



Challenges and Adjustments

What Seems Simple, Often is Not

- Imperfect model landscape information
- Connect data source & model user
- Terminology & taxonomy

Synergize Feedback

- Peer review late in development led to rework
- Feedback from reviewers, modelers, data, etc.
- Consolidate, remove redundancy
- Timely review findings communication, with credit for remediation

Balance Need with Practicality

- Too much leeway – what's the process, steps
- Inconsistent governance/control maturity

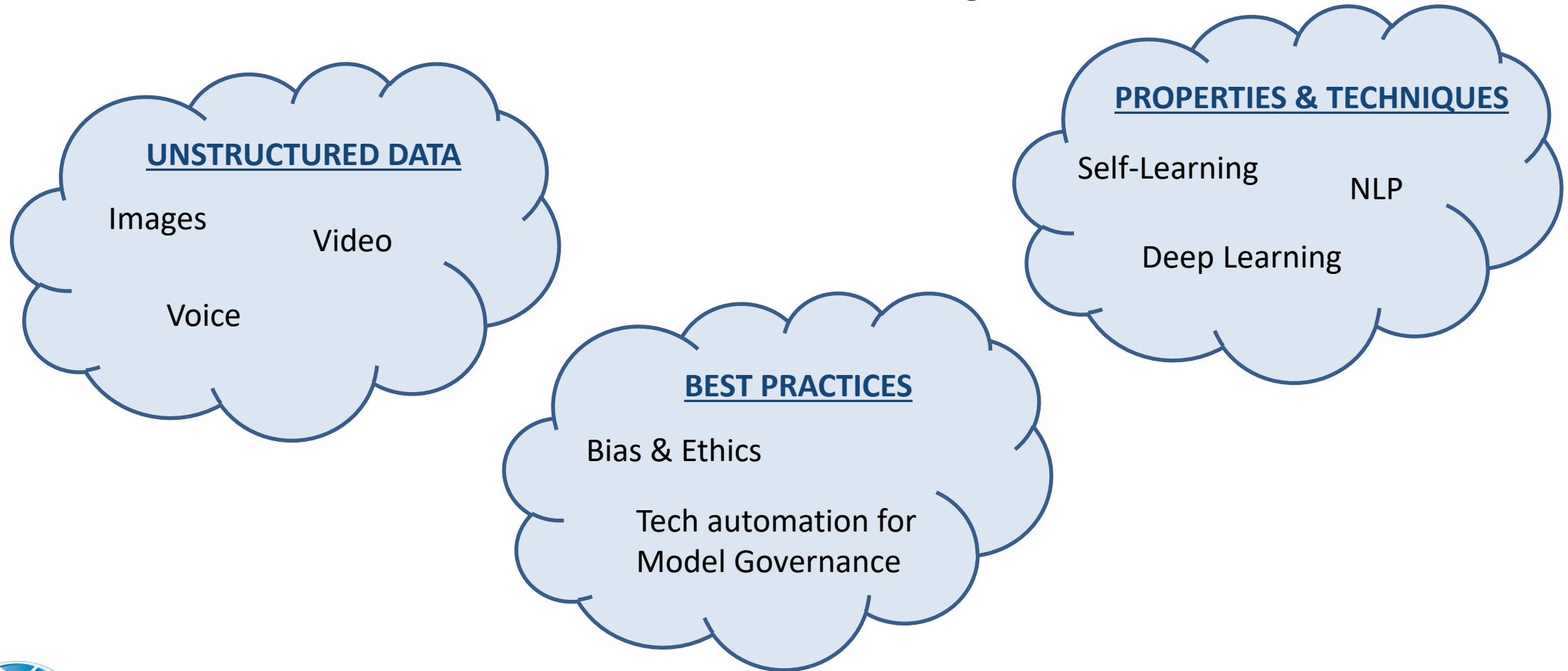
Accountability

- When to take off training wheels



What's on the Horizon?

As compliance effort shifts to review resources and front line modelers, plenty remains to be explored for model risk management...



Key Takeaways

- 1** The overall model risk management objective for advanced analytics is no different, but the “how” poses interesting challenges.
- 2** Build alignment on all levels, connect yourself and others.
- 3** Be transparent and empathetic where you cannot compromise.
- 4** Embrace the culture: take advantage of opportunities to learn and improve.

