Today’s Data for Tomorrow’s Pork Production System

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Carthage Conference 2026
September 1st, 2026

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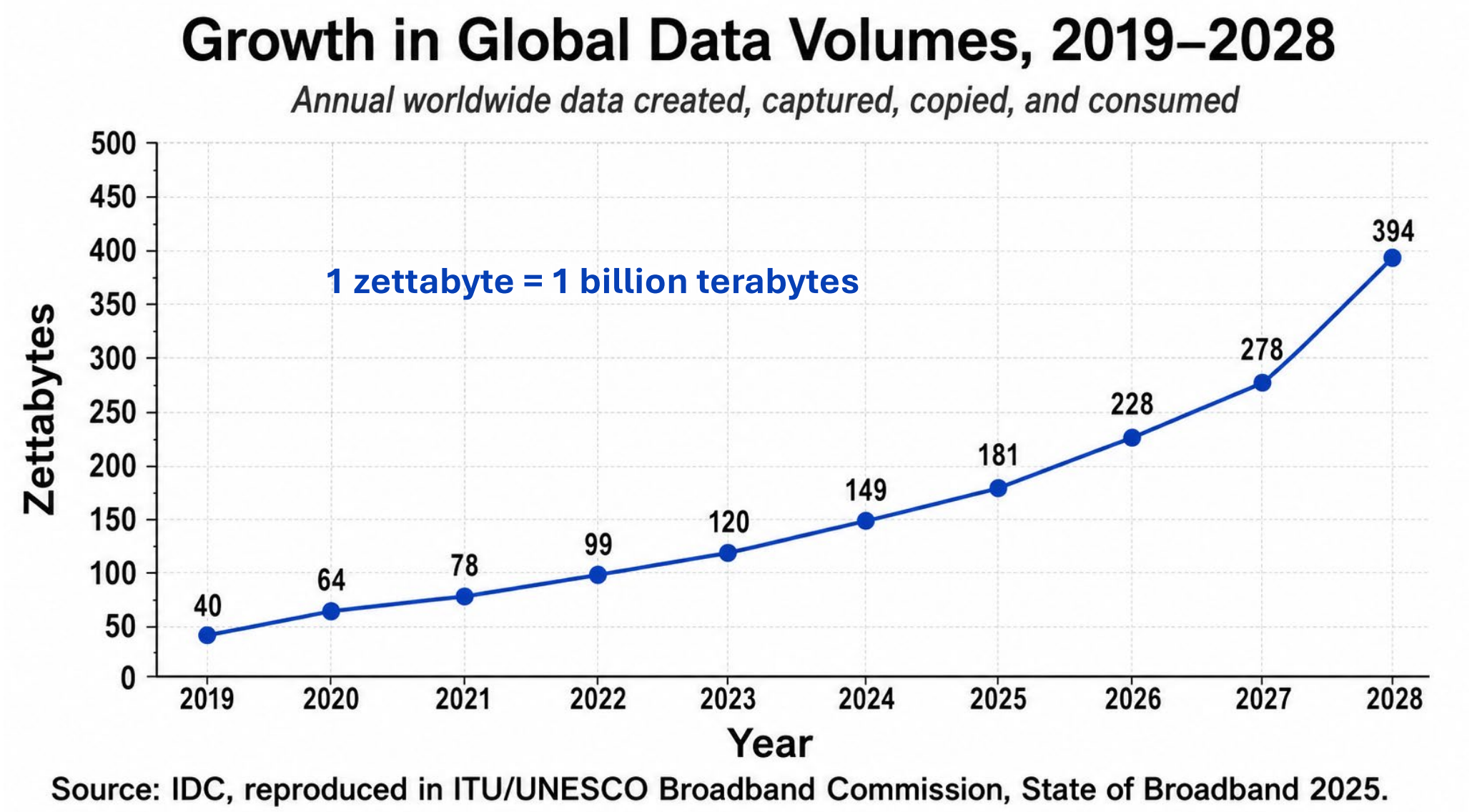
An estimated 90% of the world's data has been generated within the past two years



Advances in technology have enabled a rapid increase in the amount of data available to commercial pig producers

Group Level Production Data

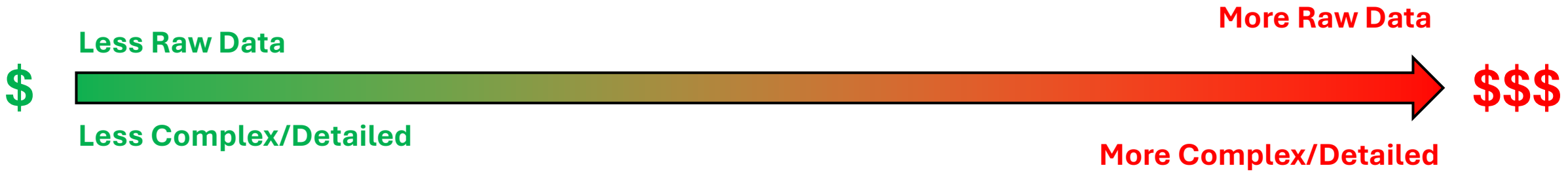
- Inventory
- Movements
- Entry and exit weights
- Feed deliveries
- Market sales
- Mortality
- Treatments

Sensor Data

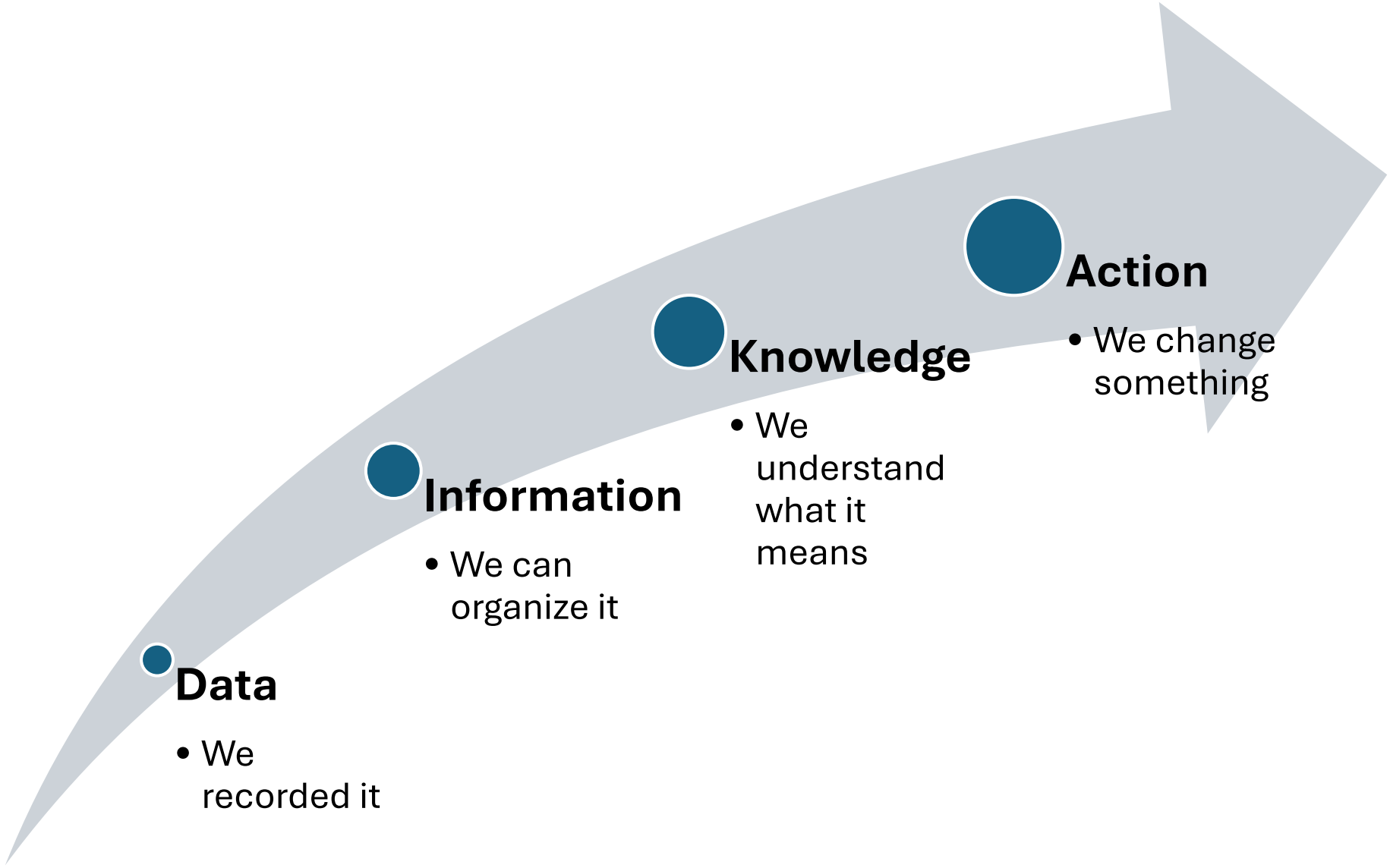
- Temperature
- Water disappearance
- Cough monitors
- Air quality measurements
- Fan runtimes
- Feed bin levels
- Feed line runtimes

Camera Data

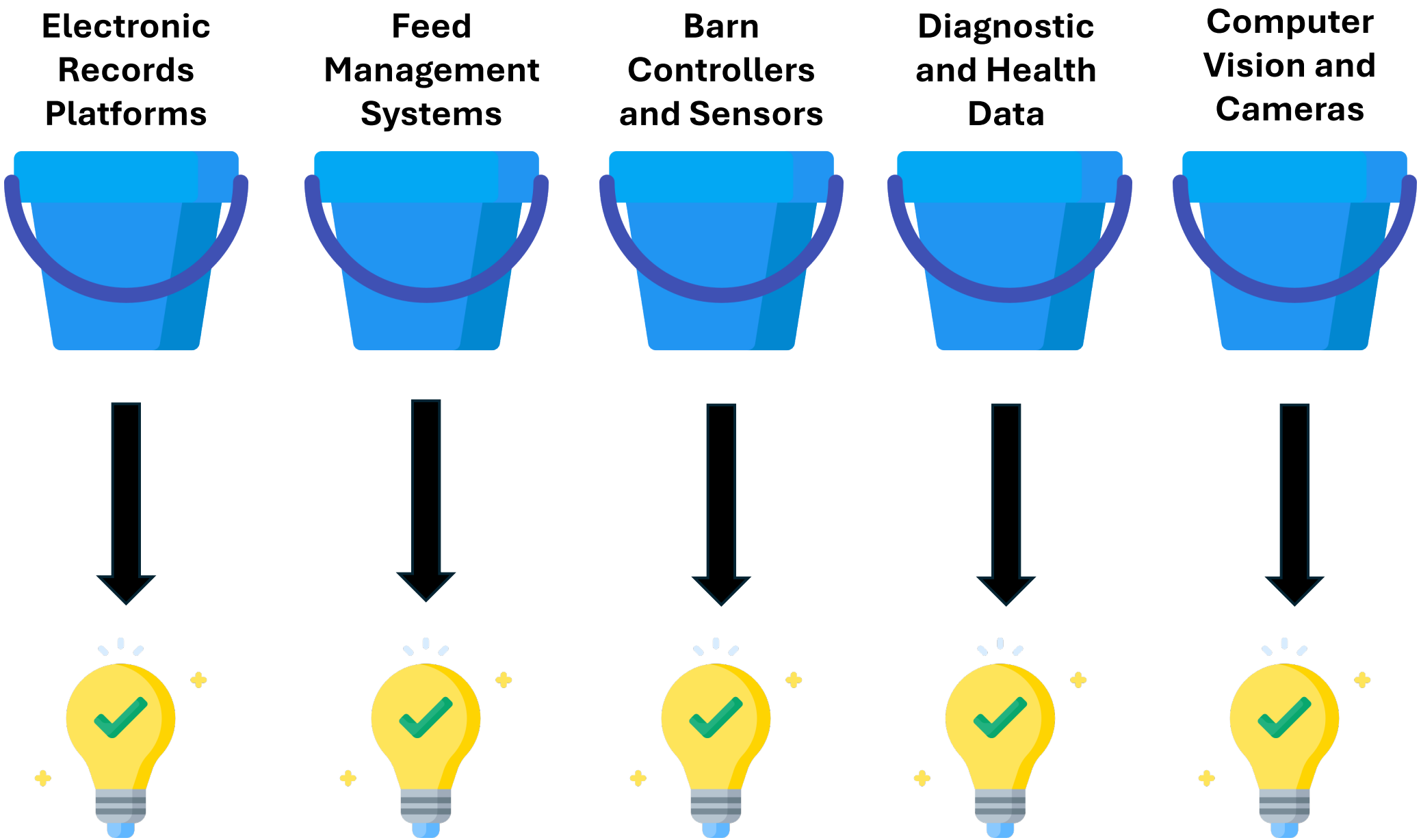
- Feeding activity
- Drinking activity
- Injury detection
- Aggression detection
- Weight estimation
- Body temperature monitoring
- Social interaction



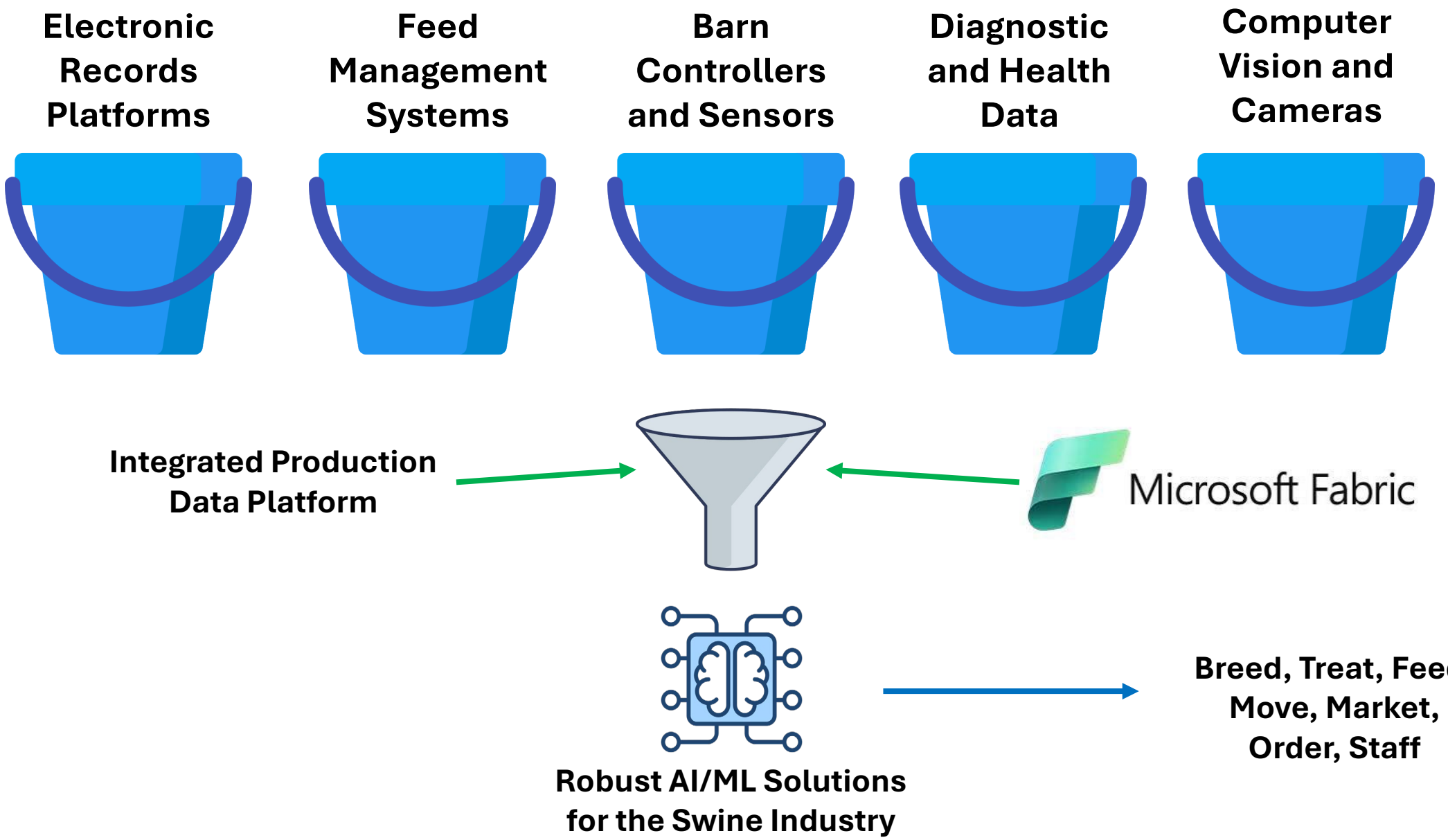
More data does not automatically mean better decisions



The “data ecosystem” in pork production today is disjointed



The “data ecosystem” in pork production tomorrow is integrated



Example questions tomorrow's data systems should answer:

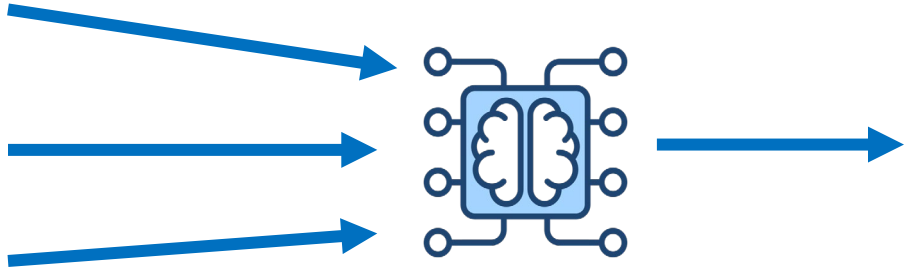
- **Finishing**
  - What date and at what weight should each load be marketed to maximize profitability?
- **Breed-to-wean**
  - How many and which sows should I breed to optimize farrowing rate and reduce non-productive sow days?
- **Health**
  - Is a health event emerging before humans realize it? If, so, how can its impact be mitigated?

Prediction only maters when it changes a decision

Case Study: Forecasting Marketing Outcomes

What we know today

- Starting inventory
- Starting weight
- Feed delivered
- Mortality
- Pig movements
- Weather
- Historical growth patterns
- Current market load weights



Outcomes

- Load by load:
  - Expected weight
  - Expected market date
  - Expected profitability
- As soon as a group is placed on feed

What can production do differently?

- Schedule trucks earlier
- Coordinate packer space
- Optimize barn turns
- Identify groups falling behind
- Reduce overweight/underweight pigs

Garbage In, Garbage Out at Production Scale

Model thinks:
Start weight = 100 pounds

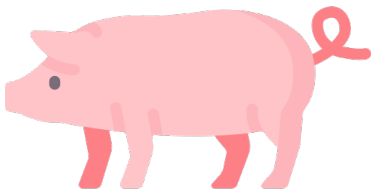
Reality:
Start weight = 55 pounds

Result:
Pigs marketed too soon

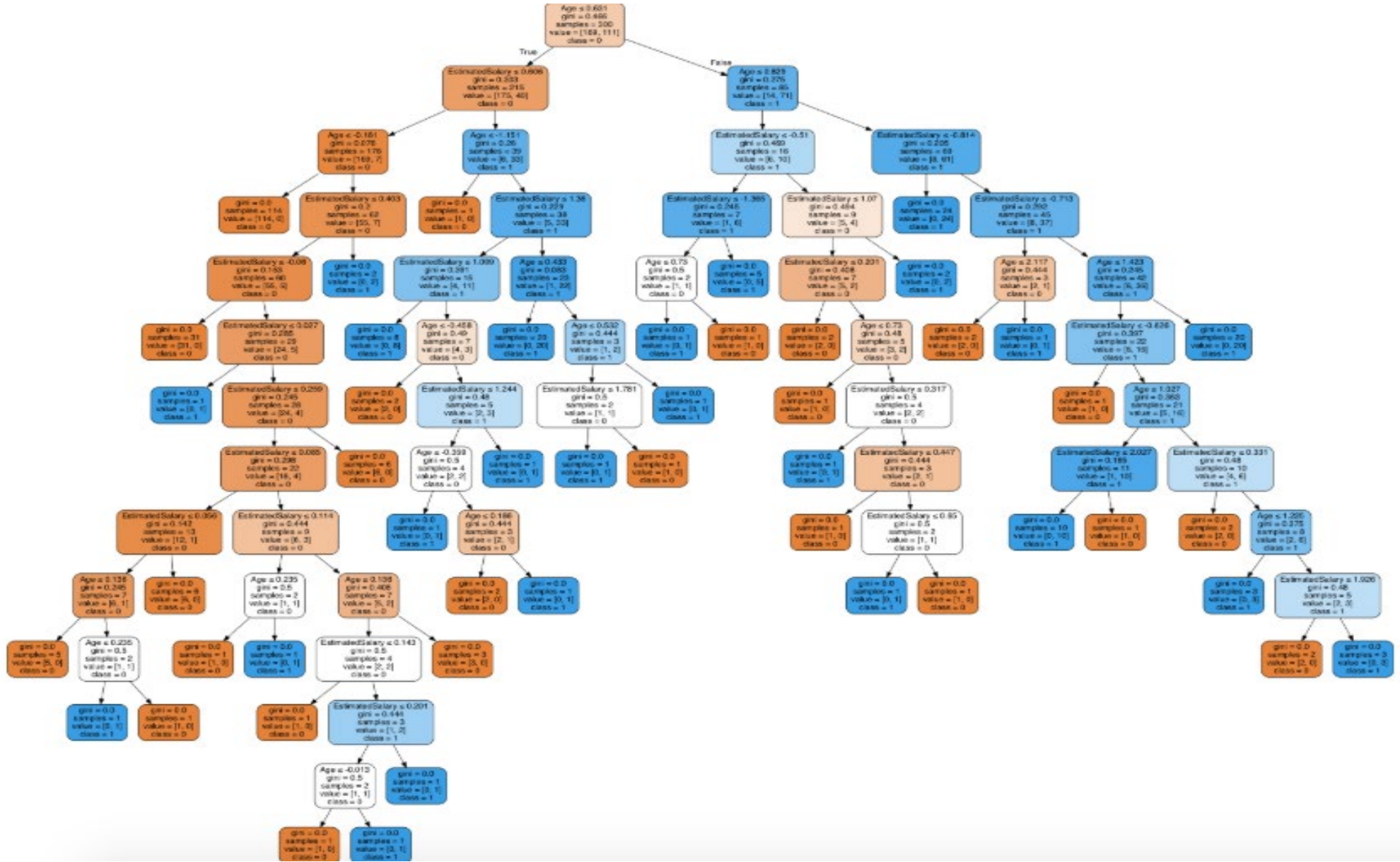
No algorithm can fix inaccurate source data

- **2000 pigs recorded, 3000 actually present**
- **Feed delivery recorded a month late**
- **Missing latitude and longitude values**
- **Mortality recorded infrequently**
- **Movements assigned to wrong group**

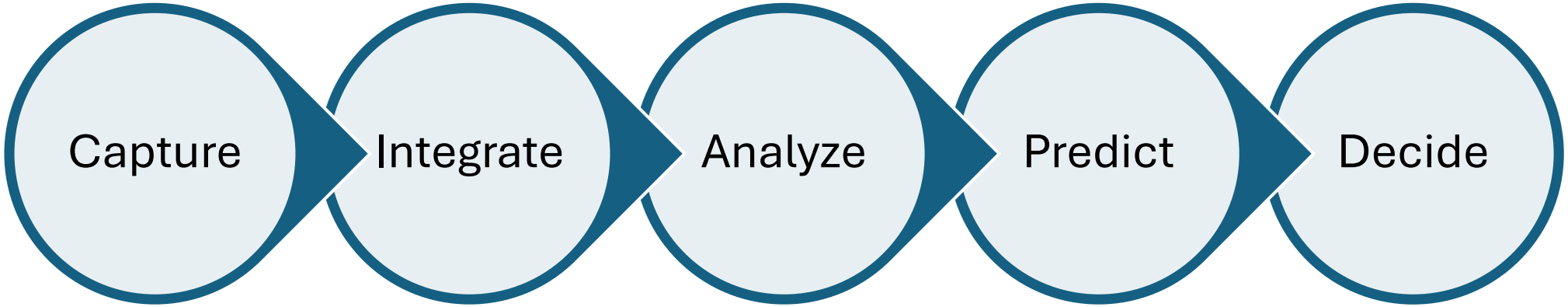
Predictive AI/ML solutions for the swine industry simply use the past to predict the future



Should I breed this sow today?*



Tomorrow’s production system starts with today’s data



Questions?

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