



Transparantie

IBM's capabilities in Internet of Things, Analytics, Weather, Cognitive Computing

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A 360° view of the environment is achieved leveraging multiple data sources to develop a hyper-local multidimensional strategy



Optimizing productivity

Understand optimal maintenance schedule and capacity constraints to optimize productivity and yields



Gaining insight on livestock conditions

Hyper-local analysis on changing dairy conditions and its impact on yields



Predicting weather conditions

Accurate weather forecast help identify optimal farming conditions and gain foresight on yields



Understanding the consumer

Early identification of consumer preferences and changing trends to gain deeper insight on demand shifts and market prices

Our intelligent analytics engine, actionable models that generate new insights to lower costs and increase yields

Collect hundreds of metrics to create 360 view

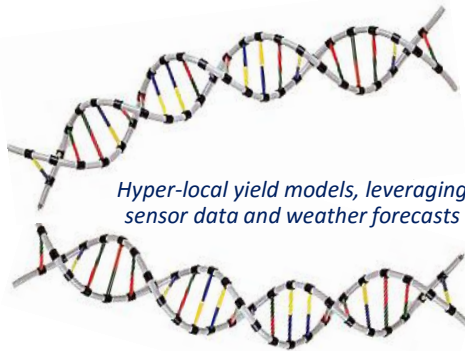
Generate performance models

Developed actionable insights

Drive productivity and yield rates



Historical analysis of weather, soil conditions and humidity patterns



Hyper-local yield models, leveraging sensor data and weather forecasts

Identify optimal recollection and seeding times



Increase yields and drive asset productivity



Lower Costs



Higher Yields

➤ Collect and analyze hundreds of metrics to obtain a **360 degree view of the environment**

➤ Created a **precise, holistic and micro-view of dairy products, assets and weather**

➤ Provided **detailed and actionable insights to drive productivity and increase yields**

➤ **Increase yields, productivity and asset efficiency** through hyper-local analytical models



Data at the edge changes how we look at information

90%

Of data created over the last 10 years was never captured or analyzed

2X

Rate of data creation compared to the expansion of bandwidth over the past decade

60%

Of valuable sensory data loses value in milliseconds

By 2017

The collective computing and storage capacity of smartphones will surpass all worldwide servers

Confluence of several forces of technology – Cloud / Analytics / Mobile / Social & IoT



More and more Data ...

Island Solutions dominate and prevent optimal development for farmers



Social Media



Seeding/Planting Sensors



Weather Data



GIS Data from Satellites



Drone sensor & image transmissions



Farmer's Input



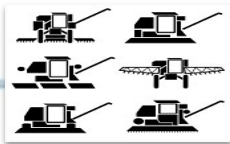
Application Sensors for Inputs

Challenges:
Farmers buy different brands of sensed equipment
How do they safeguard the data and cooperate with other businesses?
Growers need to collect, standardize, handle and analyze big data to create value

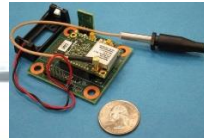
Farmer/Grower do not know what to choose from.....



Pivot Irrigation system sensors



Yield Sensors on Harvesting Equipment



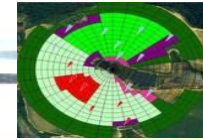
Soil Moisture Sensors



Nitrogen Sensors



Environmental data – temp. humidity, wind



Drip Irrigation sensors

IBM's Bluemix is innovating to drive solutions in Agribusiness

Smarter Agribusiness "Insight as a Service" Architecture

Data Sources

mobile Farmer Input equipments **First party data**

The Weather Company weather drone satellite Literature **Second party data**

soil topography Land-use Irrigation **Third party data**

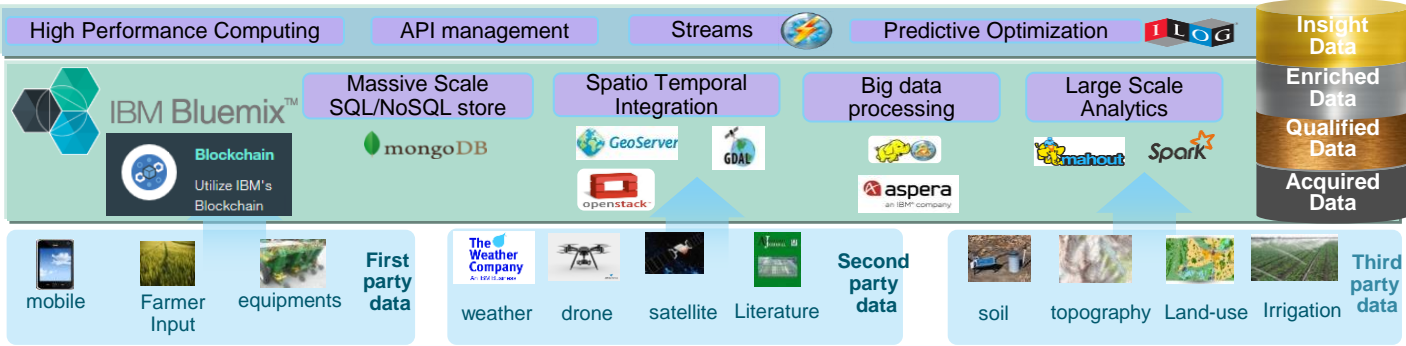


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Smarter Agribusiness “Insight as a Service” Architecture

Agribusiness
Insights
Market Place

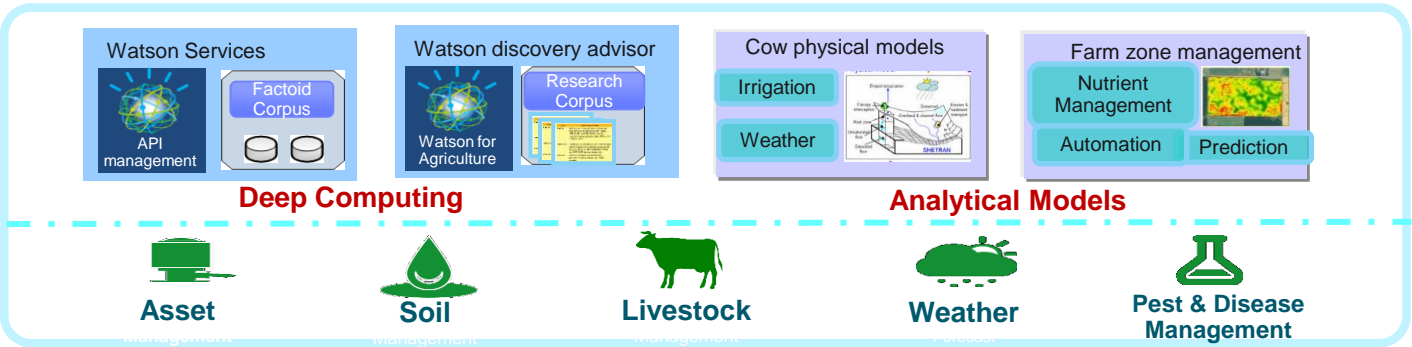
Data Sources



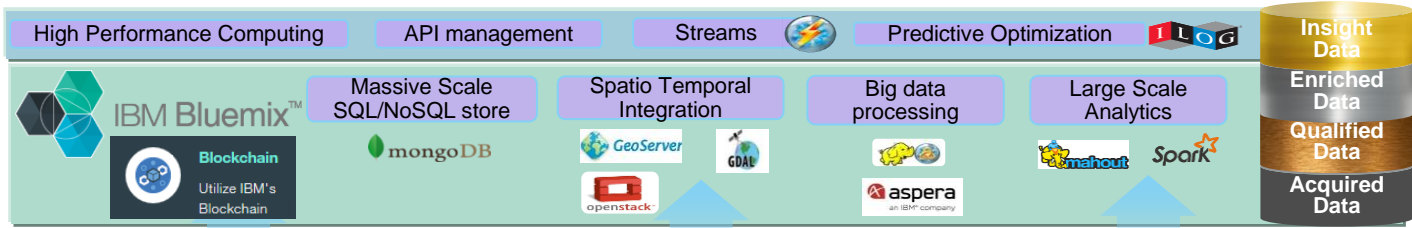
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Smarter Agribusiness “Insight as a Service” Architecture

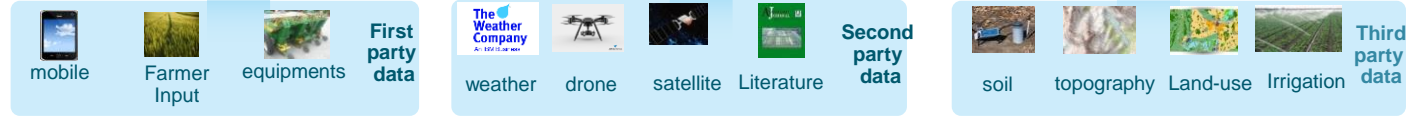
Decision Agribusiness Hub



Agribusiness Insights Market Place



Data Sources



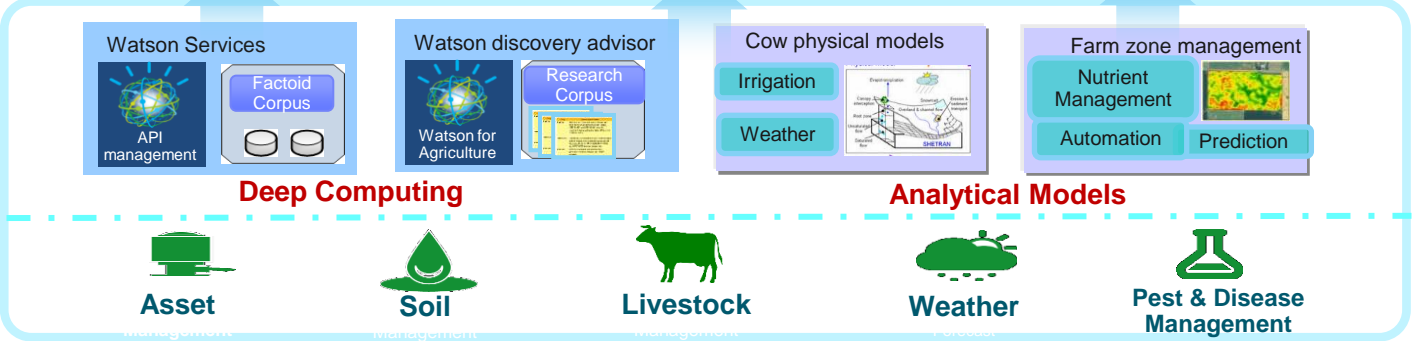
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Smarter Agribusiness “Insight as a Service” Architecture

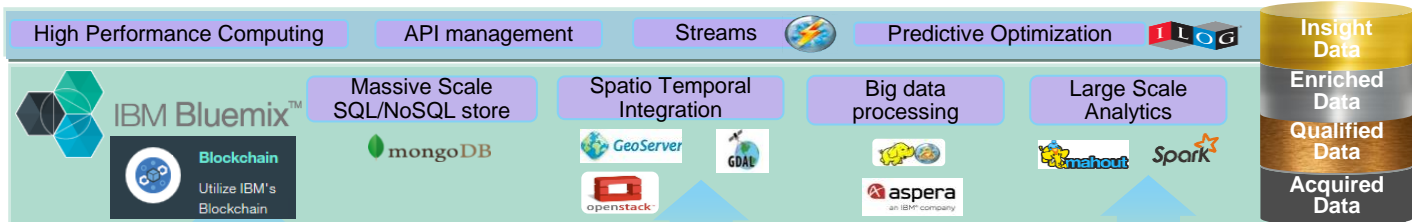
Go to Market Channels



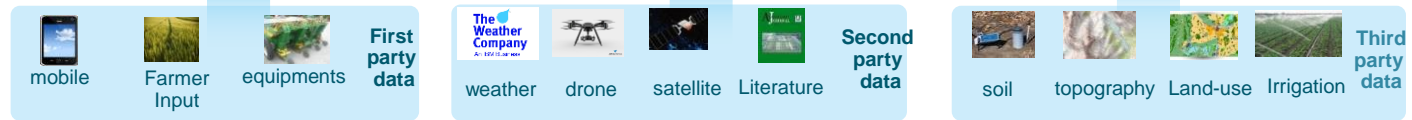
Decision Agribusiness Hub



Agribusiness Insights Market Place

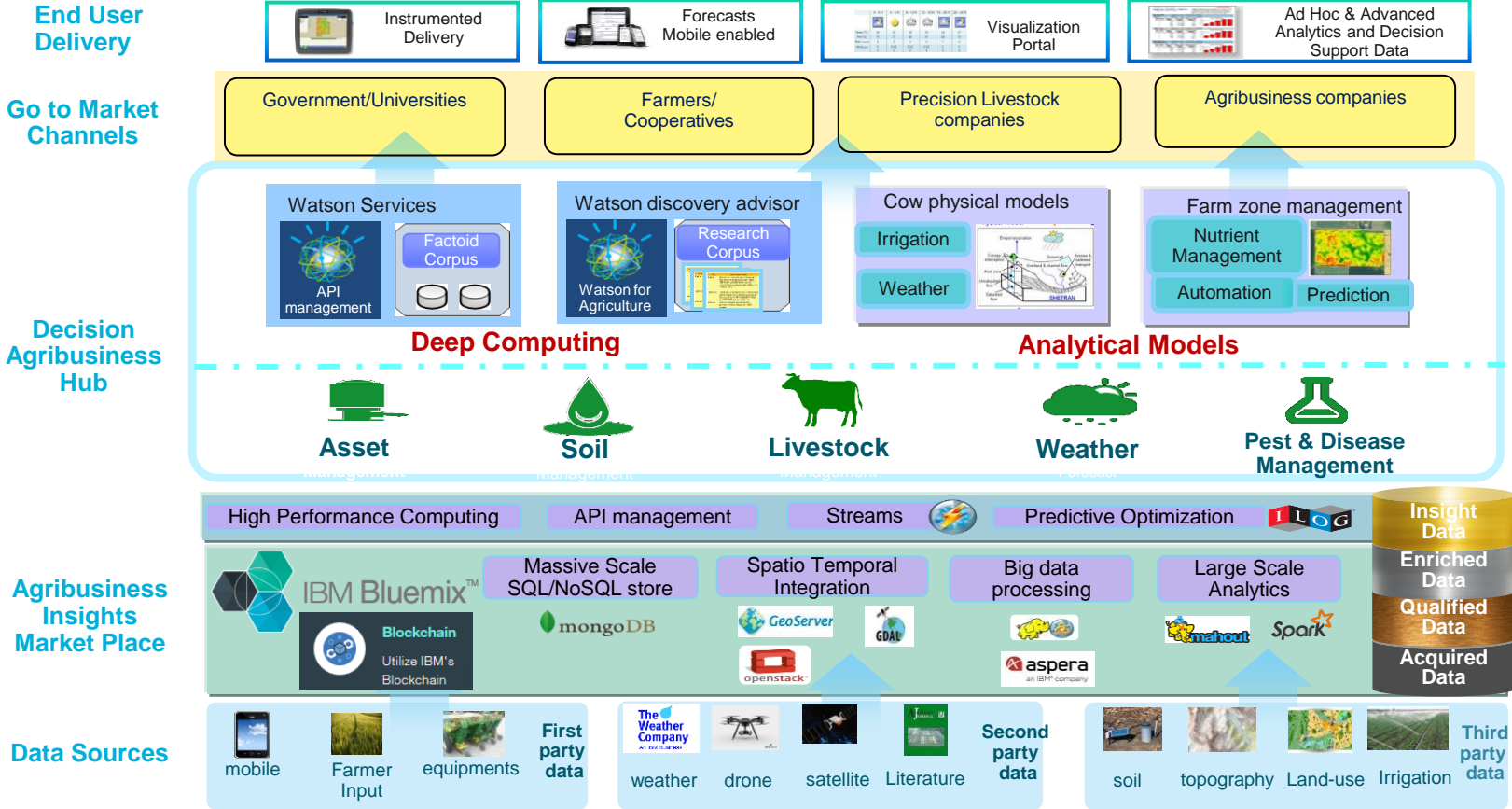


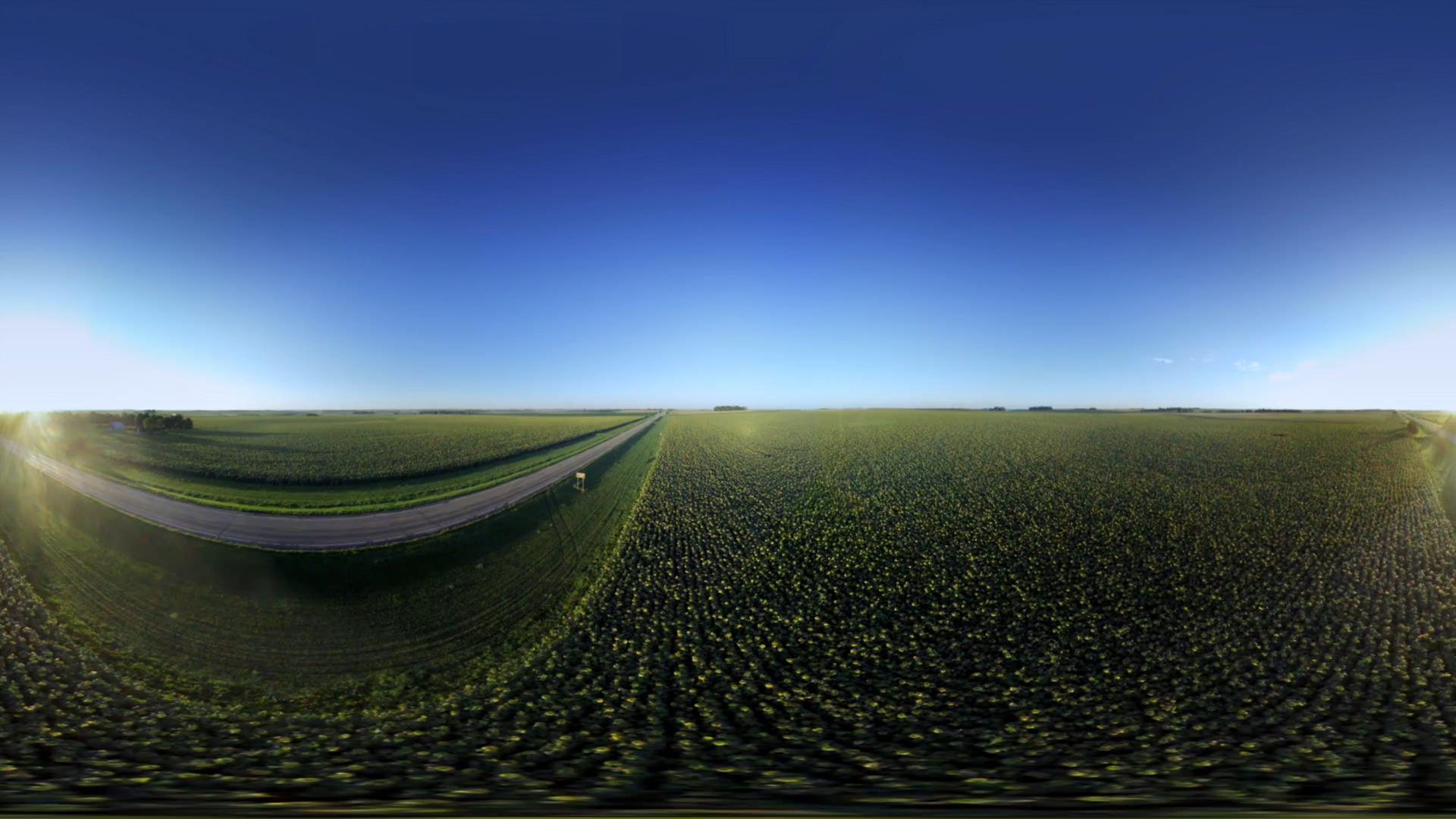
Data Sources



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Smarter Agribusiness “Insight as a Service” Architecture





Cognitive systems rely on collections of data and information:



Data, information, and expertise create the foundation.

Examples include:

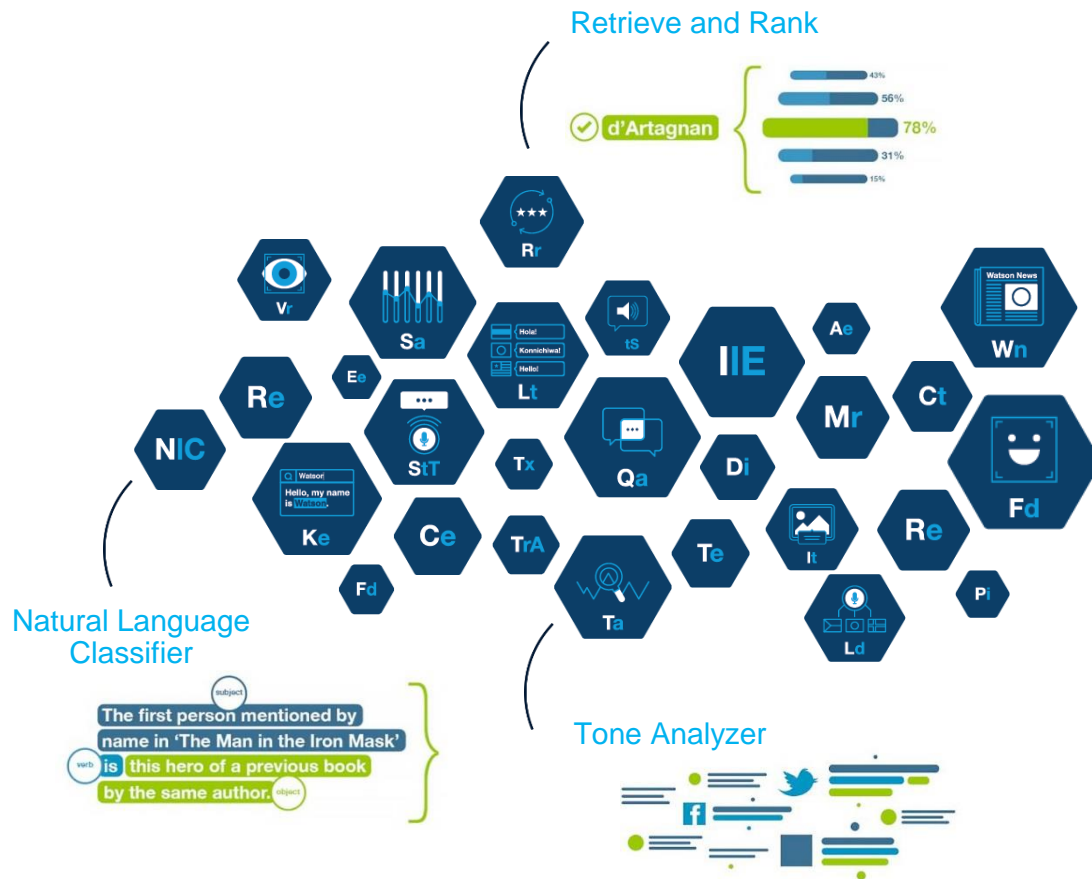
- Analyst reports
- tweets
- Wire tap transcripts
- Battlefield docs
- E-mails
- Texts
- Forensic reports
- Newspapers
- Blogs
- Wiki
- Court rulings
- Sensors
- Stolen vehicle data
- Missing persons data

...and then leverage Watson APIs to apply cognitive capabilities.

50 underlying technologies

Entity Extraction
Sentiment Analysis
Emotion Analysis (Beta)
Keyword Extraction
Concept Tagging
Taxonomy Classification
Author Extraction
Language Detection
Text Extraction
Microformats Parsing
Feed Detection
Linked Data Support
Concept Expansion
Concept Insights
Dialog
Document Conversion
Language Translation

Natural Language Classifier
Personality insights
Relationship Extraction
Retrieve and Rank
Tone Analyzer
Emotive Speech to Text
Text to Speech
Face Detection
Image Link Extraction
Image Tagging
Text Detection
Visual Insights
Visual Recognition
AlchemyData News
Tradeoff Analytics



As a strategic partner IBM uniquely positioned to address the challenges in the agriculture industry across the ecosystem.



An industry leader in **Cloud Services**

We monitor 13 billion security events every day and have more than 1,000 researchers and developers working on security and privacy breakthroughs



Has exclusive **Watson** and cognitive computing technology

Is a leader in the **IoT** (sensors) Ecosystem

IBM is investing \$3 billion to build an "Internet of Things" division



Is the worlds leader in **advanced analytics**

BUSINESS ANALYTICS
IBM has the world's deepest portfolio of analytics and the industry expertise of 8,000 business analytics consultants and 400 researchers.



Is a leader in **Mobile Solutions** and platforms

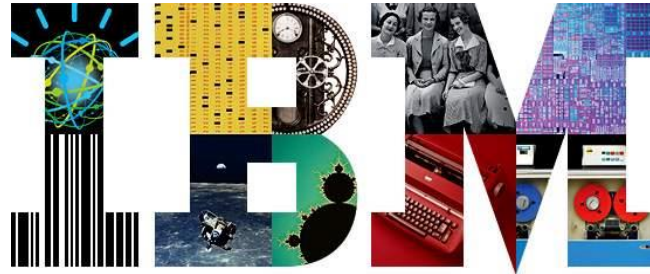


Has the ability to handle massive amounts of big data (high performance computing) and apply the advanced analytics in ways that are not available today in the industry.

Has advanced weather prediction tools like **Deep Thunder**



Is the leader in **Traceability** solutions and genetics for food safety

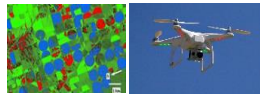


Has the largest private research organization in the world
IBM Research



Is the Global Leader **Social analytics** (Twitter partnership)

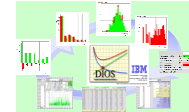
Only IBM is able to deliver across the complete ecosystem



Has industry leading **GIS and drone data processing expertise**



Is a leader in the **weather analytics** business
The Weather Company + IBM Cloud + IBM Analytics and Expertise



Is the industry Leader in **Supply Chain Analytics & Optimization**

- Innovation that Matters
- 18 years of patent leadership
 - Five Nobel Laureates
 - Six Turing Awards
 - 12 Labs around the World
 - 3000 Researchers

