

Algorithms, Secrets, and Humans

November 27, 2018

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2nd Annual
**Supply Chain
Management Strategies
Summit**

26 - 28 November 2018
Berlin, Germany

Quick About Elementum

Disruptive Technologies

Graph Technologies:

- Proven by Facebook & LinkedIn
- Now at supply chain scale

Global Cloud Platform:

- Single instance, multi-tenant
- Micro-services architecture

Consumer UX:

- Psychology-based User Experience
- Mobile, screen, room optimized

Machine & Deep Learning:

- Leverage cloud for analytics
- Predictions and Decision Assist

Real-Time ETL:

- Diverse data ingestion
- Real-time pipelines

Silicon Valley Leaders



Nader Mikhail

Founder & CEO
Elementum



Jim Davidson

Founder & CEO
Silver Lake Partners



Mike McNamara

CEO Flex, BoD
Workday



Chris Schaepe

Founder & Partner
LSVP



Frank Sloodman

Chairman, BoD
ServiceNow

Industry Innovators



Dave Duffield
Founder & Chairman
Workday, PeopleSoft



Jerry Yang
Founder Yahoo!



Mike Frandsen
EVP of Products,
Workday Support
& Delivery



David Henke
Former SVP
Engineering LinkedIn



Peter Carlsson
Former CSCO Tesla



Aaron Levie
Founder & CEO
Box



**Alberto Sangiovanni-
Vincentelli**
Co-Founder Cadence Design
Systems



David Dibble
CTO Cablevision

Game Changers

Top 10 Customers:

\$800B in revenue | \$1.7T in market cap

- Electronics
- Food & Beverage
- Retail
- Healthcare/Pharma
- Chemical
- Diversified Industrial

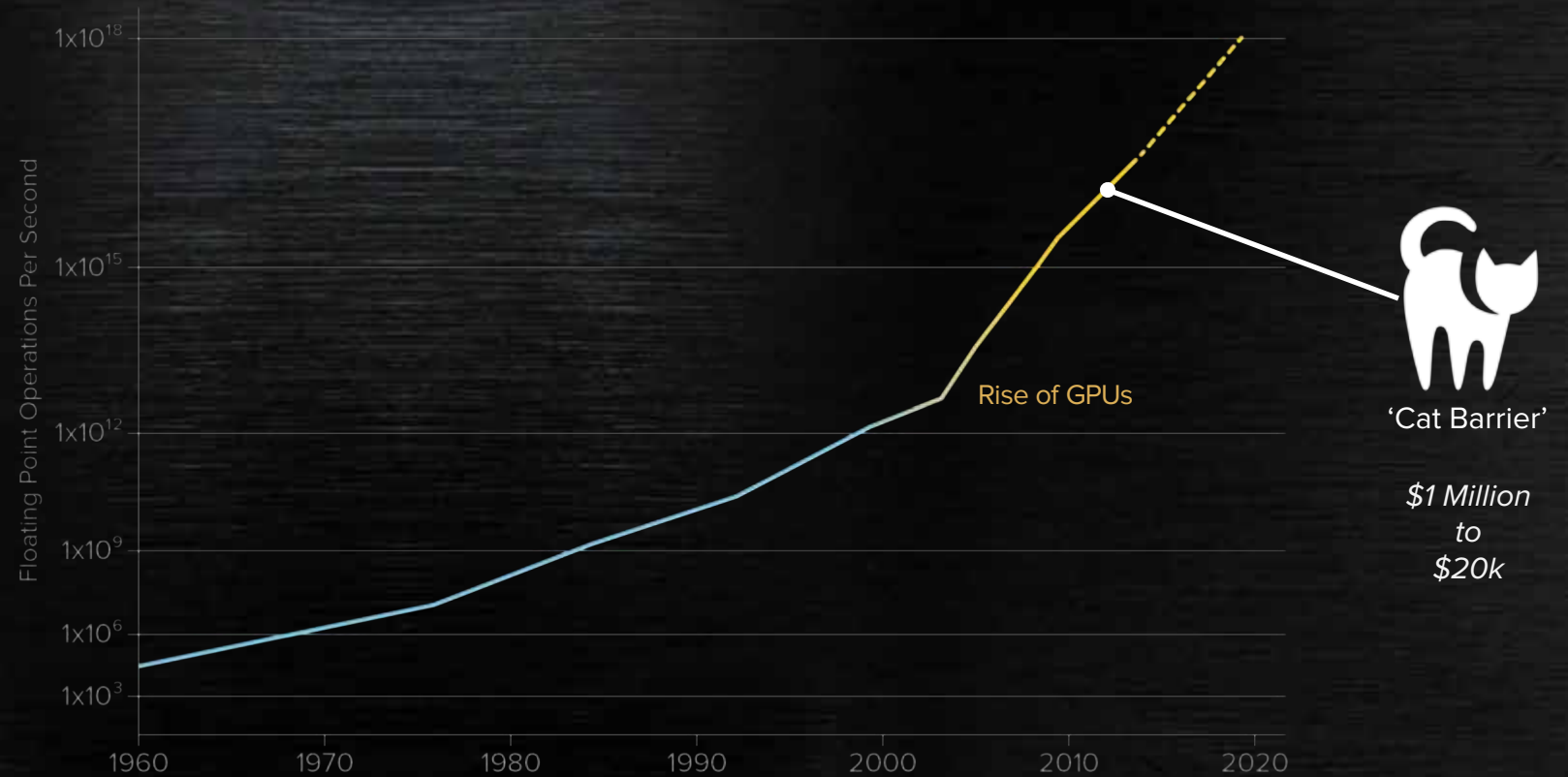
400+ employees:

Deep roots in tech, design, and supply chain

- Mountain View CA, USA (HQ)
- Buenos Aires, Argentina
- Manila, Philippines
- Munich, Germany
- Toronto, Canada



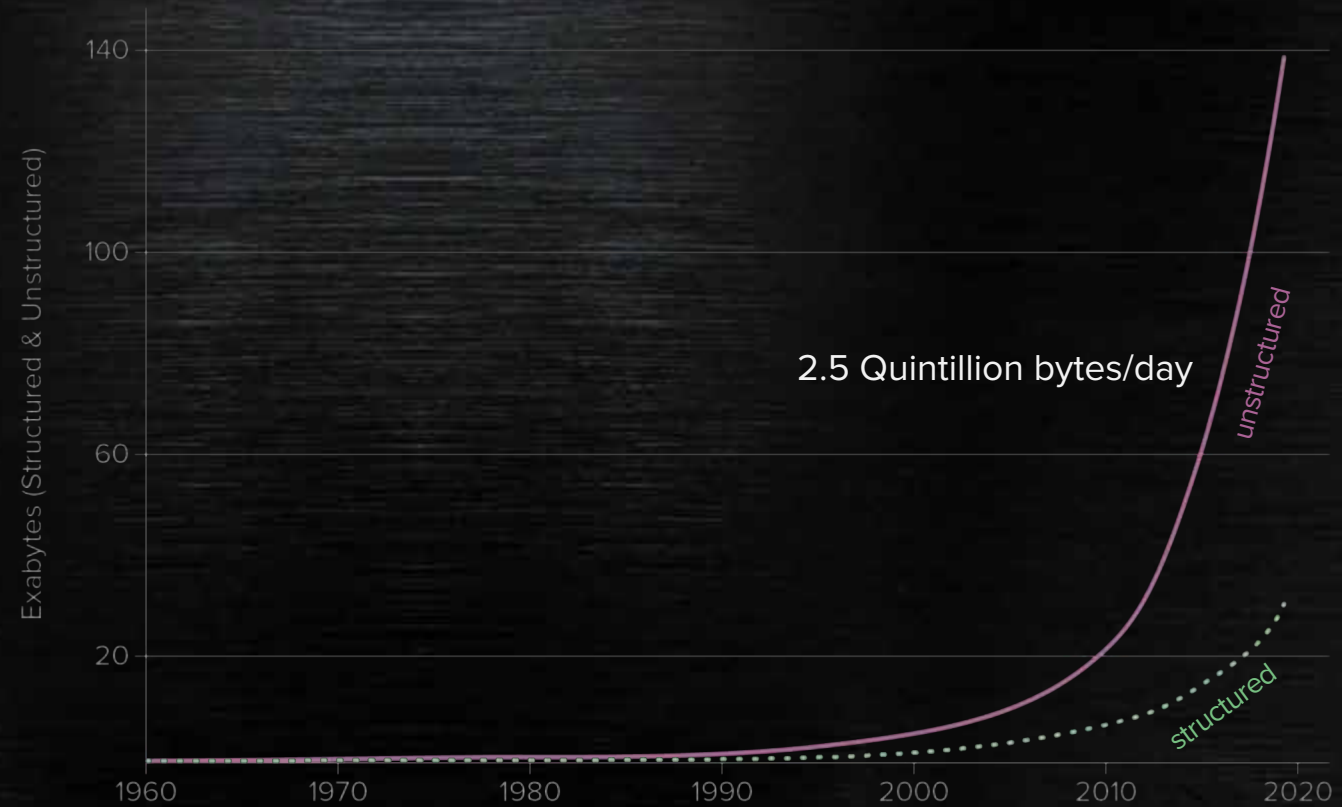
Hardware/Economics



*AMD, "High-Performance Computing Milestones (1960-2019)"



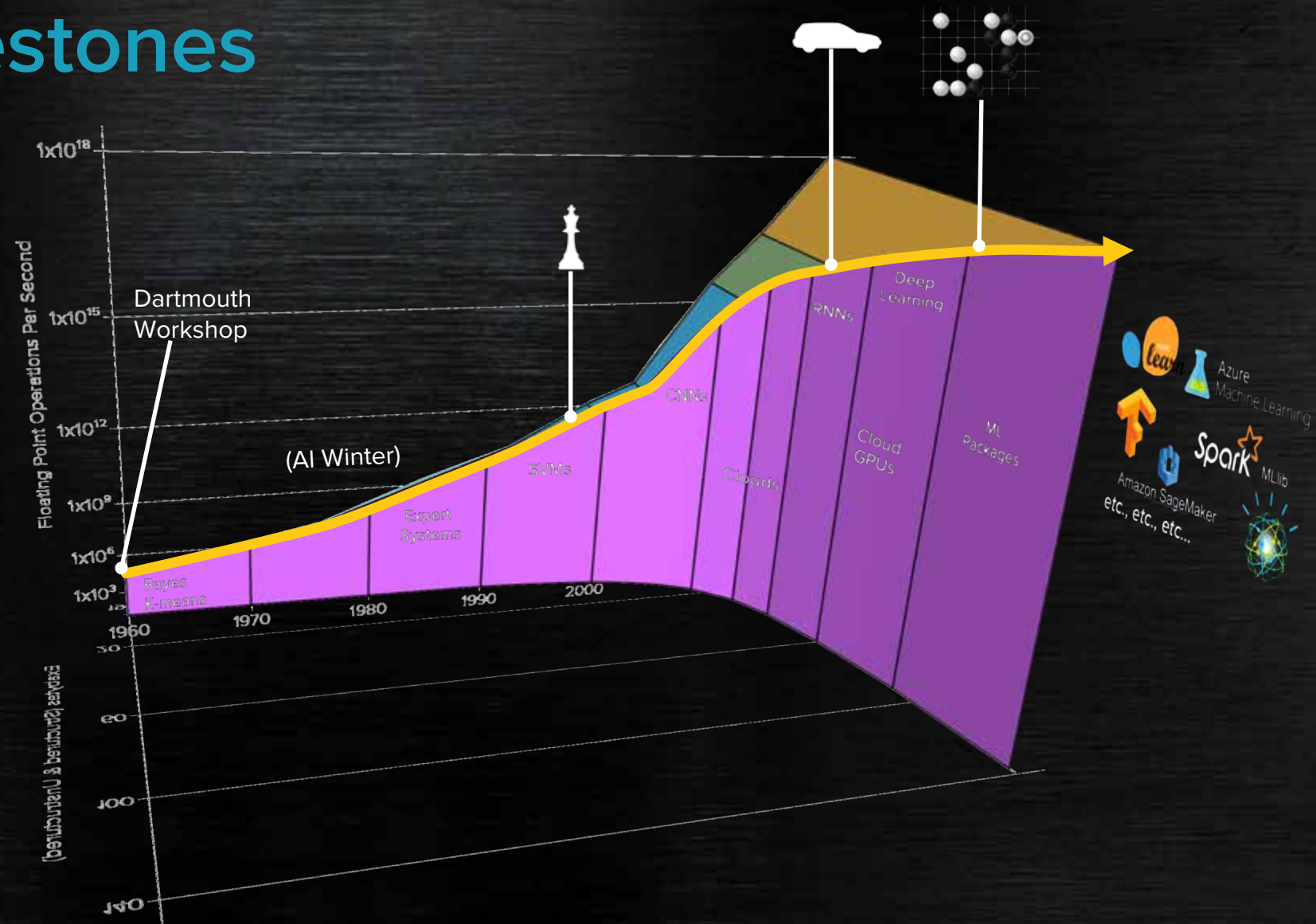
Data/Fuel



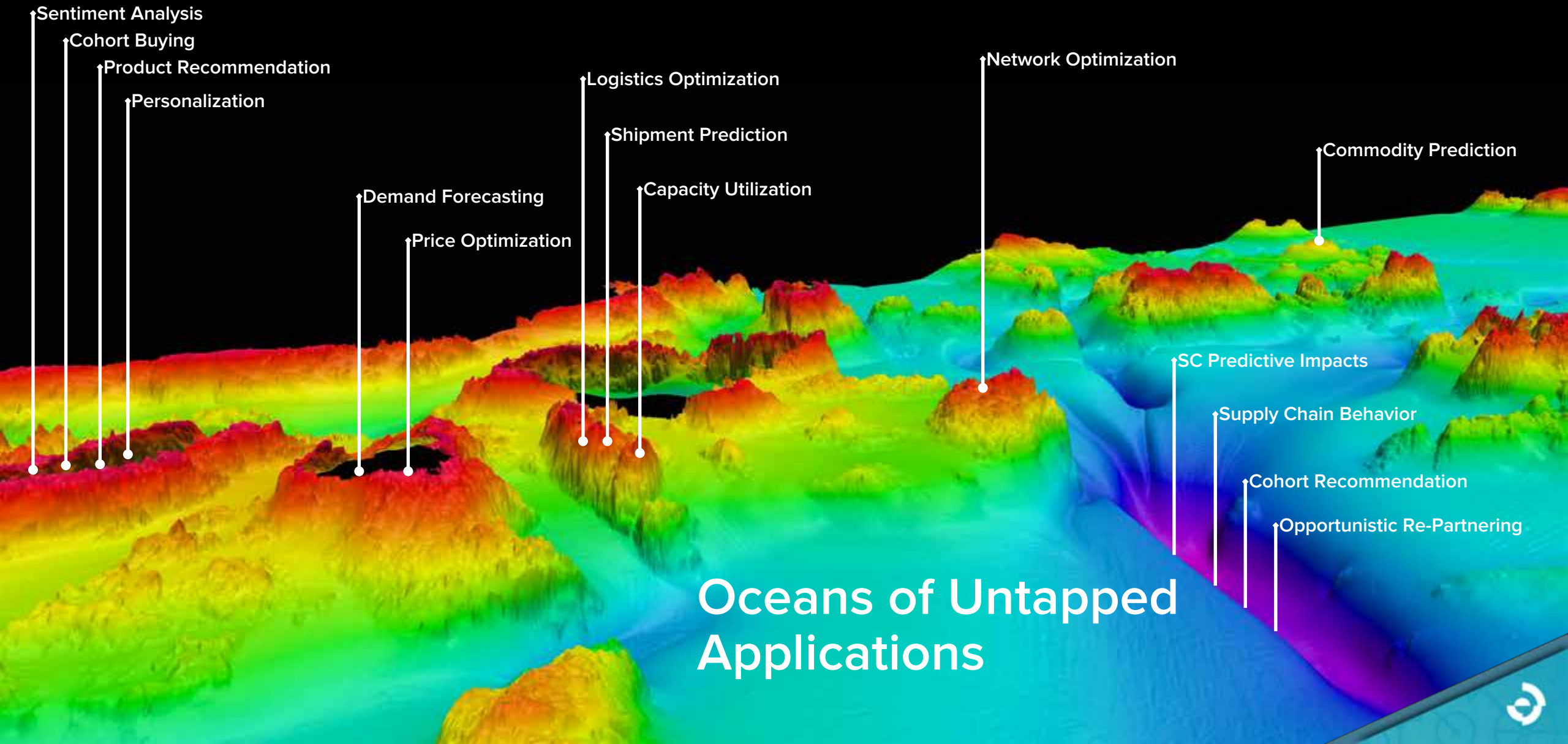
*IDC, "Structured vs. Unstructured Data:
The Balance of Power Continues to Shift"
**Domo, "Data Never Sleeps"



Algorithms/Milestones



Algorithm Islands



“The drunkard’s search principle”

A.K.A. Human Observational Bias

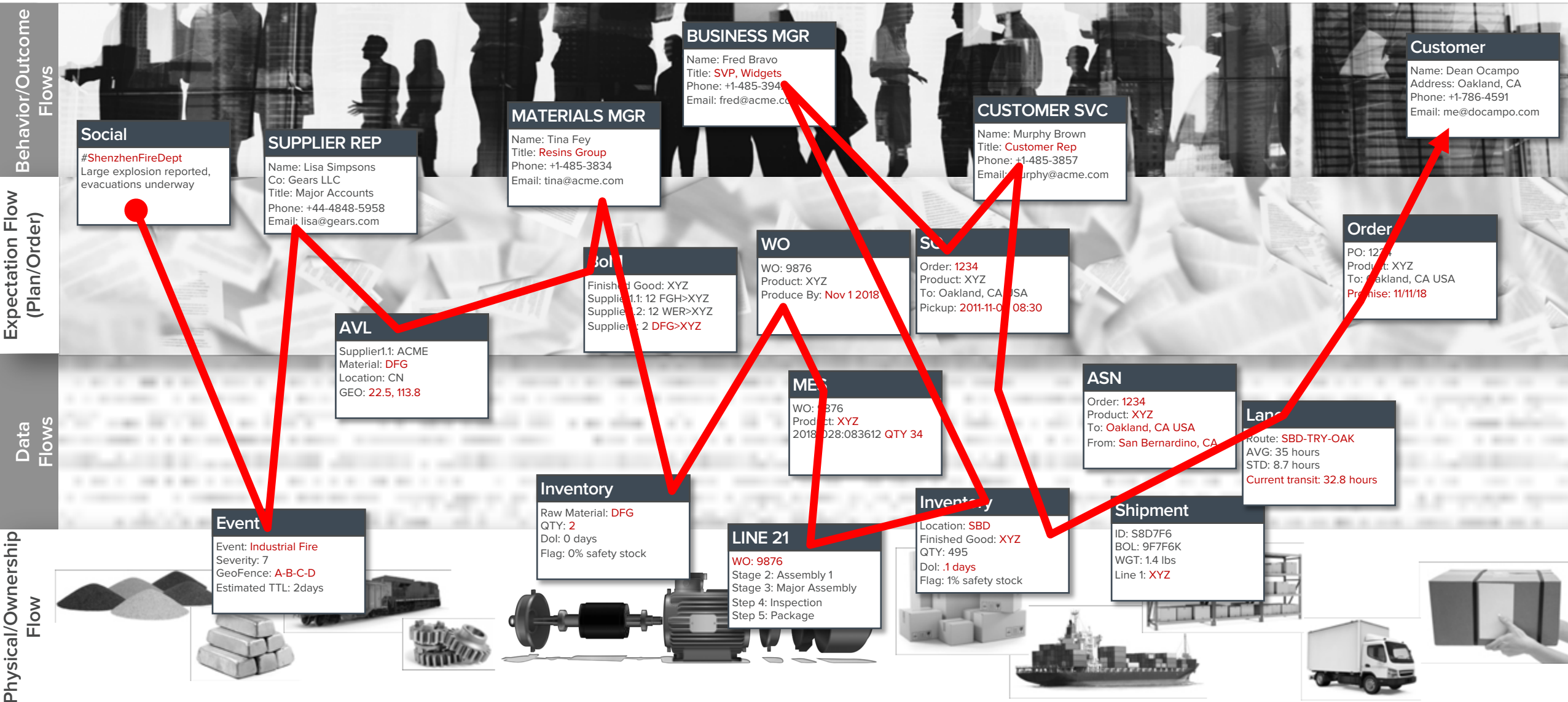
Why?



4 Coordinated Activities to Make Something



Reality: Your Data (probably) is Messy (but so is everyone else's)





This is Not a Technology Problem

- Data lakes, data marts, super BI
- Have they moved the needle?
- How many projects fail because of scope creep?

It's a Human Behavior Problem

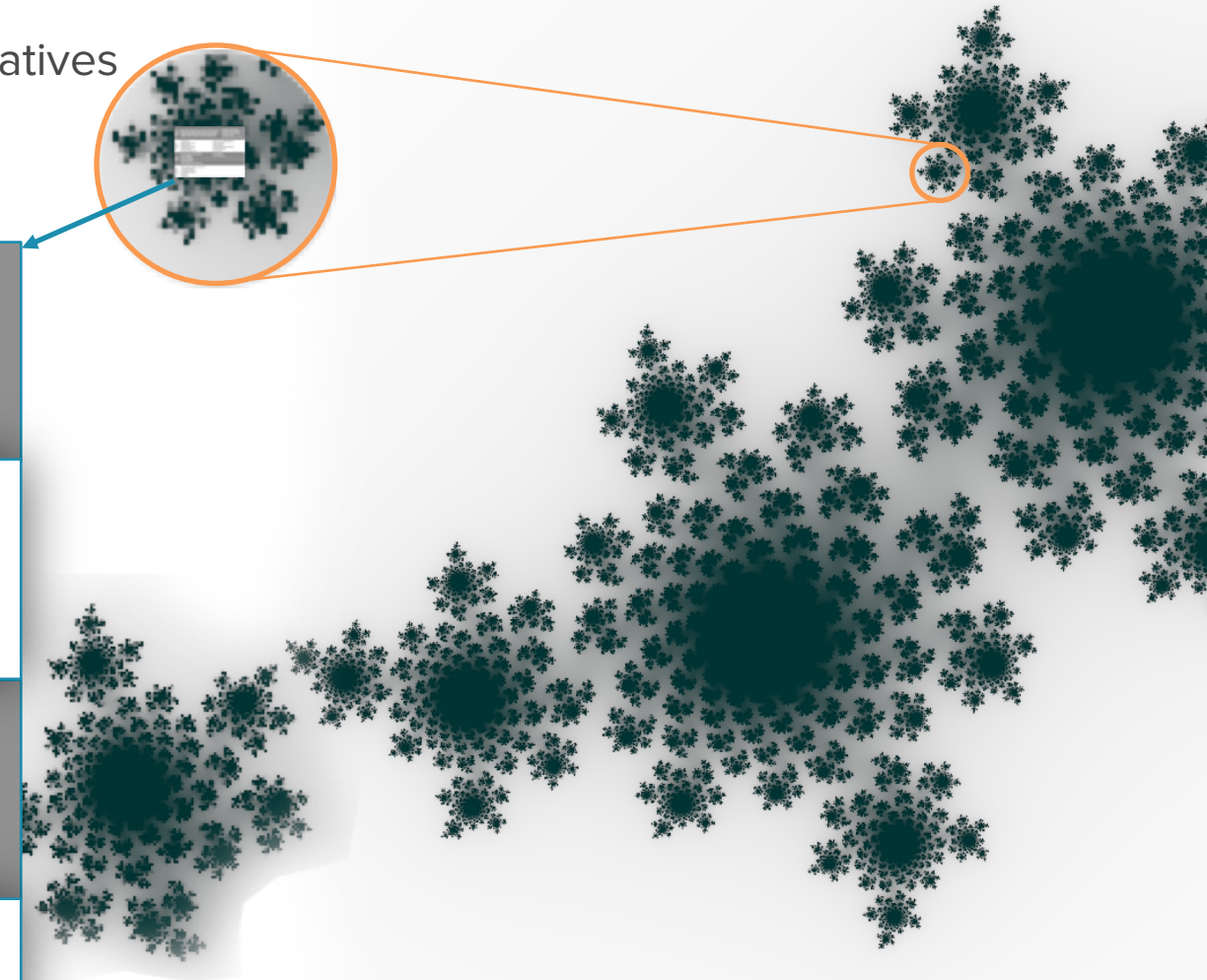
- At the end of the day, technology must serve as a leveraging tool for the business and the humans in it
- That focus keeps cross-org momentum in a project
- So....
 - How many of us are clearly defining the business problem and a human behavior desired outcome?



A Fractal Approach: A 'Whole' Human and Technology Approach

- A single (or few) business goal aligned with corporate initiatives
- A set of desired outcomes
- A defined set of human beings
- A defined set of data and entities

Behavior Flows	▪ Scope: Men's Apparel, Asia and North America inbound ▪ Groups: Men's Apparel Buyers, Planners, International Logistics team, DC Operations, Men's Apparel SVPs, Suppliers of Men's Apparel, Carrier Representatives	▪ Decreased variability for material in Men's Apparel ▪ Shorten Lead Times from Factories to DCs ▪ Exception Indicators & SOPs
Expectation Flow	▪ Supply Plan ▪ Supplier VMI Levels ▪ Material POs ▪ Supplier/Plant ASNs ▪ Carrier Signals ▪ Ocean/Truck/Air data	▪ Plant Inventory (RM/WIP/FG) ▪ Production Plan ▪ WOs and SOs ▪ Actual Output/Yield/Shipment ▪ DC Inventory Plan ▪ DC Inventory
Data Flows	▪ Men's Supplier ERP/TMS/WMS ▪ Carrier EDI/API ▪ Factory MES/API ▪ Factory ERP/WMS ▪ GPS aggregation ▪ Men's Apparel: ERP/WMS/PLM	▪ DC WMS/ERP ▪ News and Events
Physical/Owners hip Flow	▪ Men's Apparel: Shells, Accessories, Packaging suppliers ▪ Associated Carriers ▪ Associated Factories ▪ 3PL DCs ▪ Own DCs	



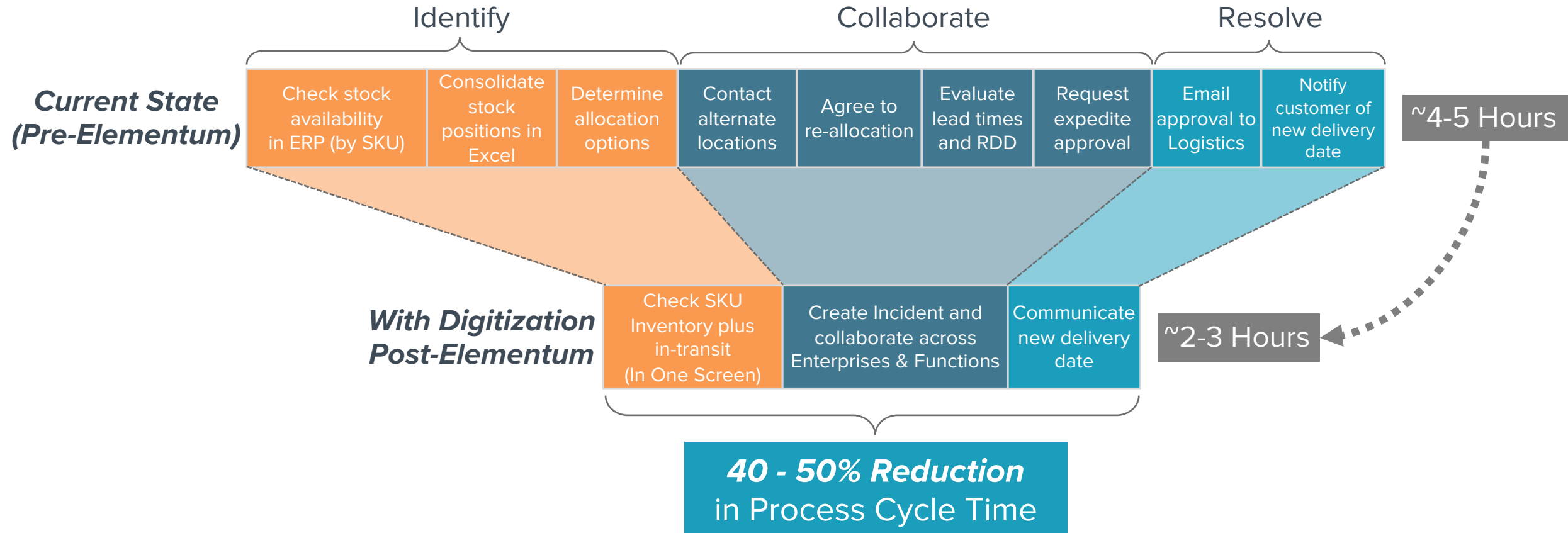




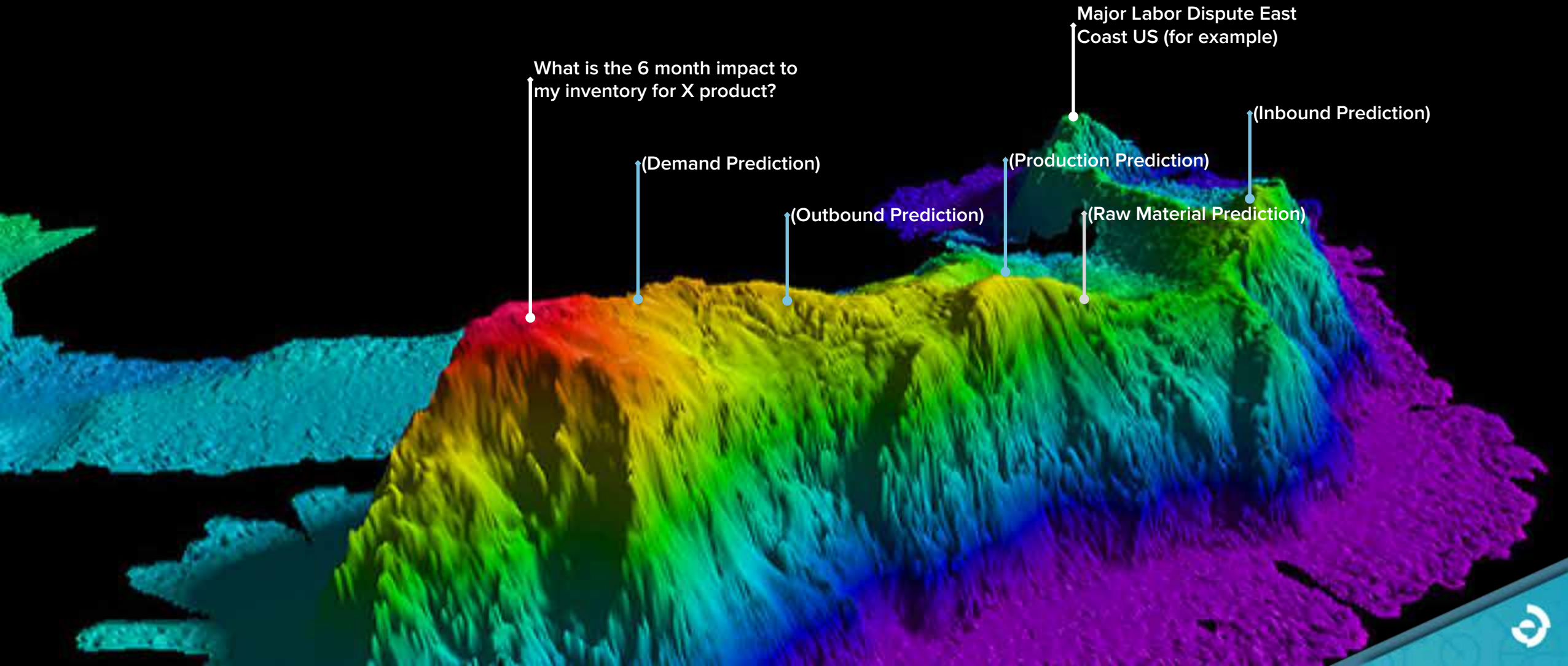
- Significant impact in the every-day worker lives
- Reduction in variability and surprises
- Convert low-level tasks to high-level thinking
- Improved operational agility

An Example: 2-3 Hours Back Every Day for Users

(A Customer Service example with unified data and ML)



...and make new Data Continents



Final Thoughts and Recap

- You control major advances in ML/AI
- Don't just focus on technology, focus on humans and outcomes
- Fractals: 'Whole' business chunk that can scale
- This drives better data, not data projects
- Experiment with ML/AI within fractal framework





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Thank You

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