Powering Possibilitie

BUSHEL® POWERED

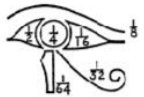
S

What if we could account for every bushel of grain?

(Where it came from, how it was produced, and where it's going...)

We've been trying to for 5,000 years

Egyptian Hieroglyphs for Grain Measurement

Full Measure		$\frac{63^*}{64}$
Half Measure		$\frac{32}{64}$
Quarter Measure		$\frac{16}{64}$
Eighth Measure		$\frac{8}{64}$
Sixteenth Measure		$\frac{4}{64}$
Thirty-Second Measure		$\frac{2}{64}$
Sixty-Fourth Measure		$\frac{1}{64}$

*Compare Alma 11:10: "the value of them all"

Current Software in Agribusiness

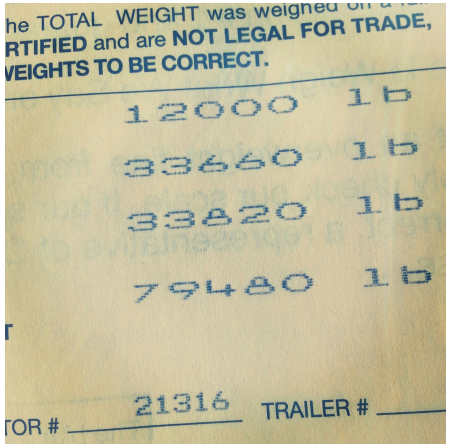
AGRICULTURAL SOFTWARE / SPECIALTY CROP / MANAGEMENT / ACCOUNTING
AGSTAR

AGRICULTURAL SOFTWARE / MANAGEMENT / ANALYSIS
BINSIGHT

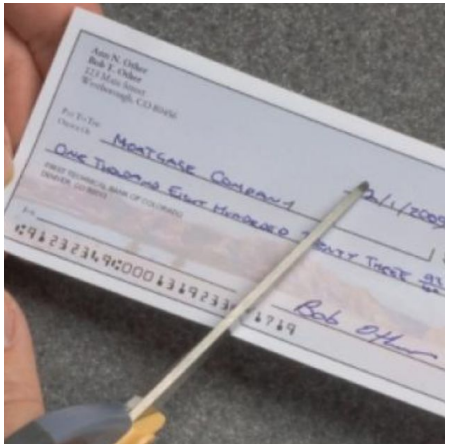
AGRICULTURAL SOFTWARE / MANAGEMENT / ACCOUNTING
IVIEW

Current Situation at Grain Companies

PAPER TICKETS

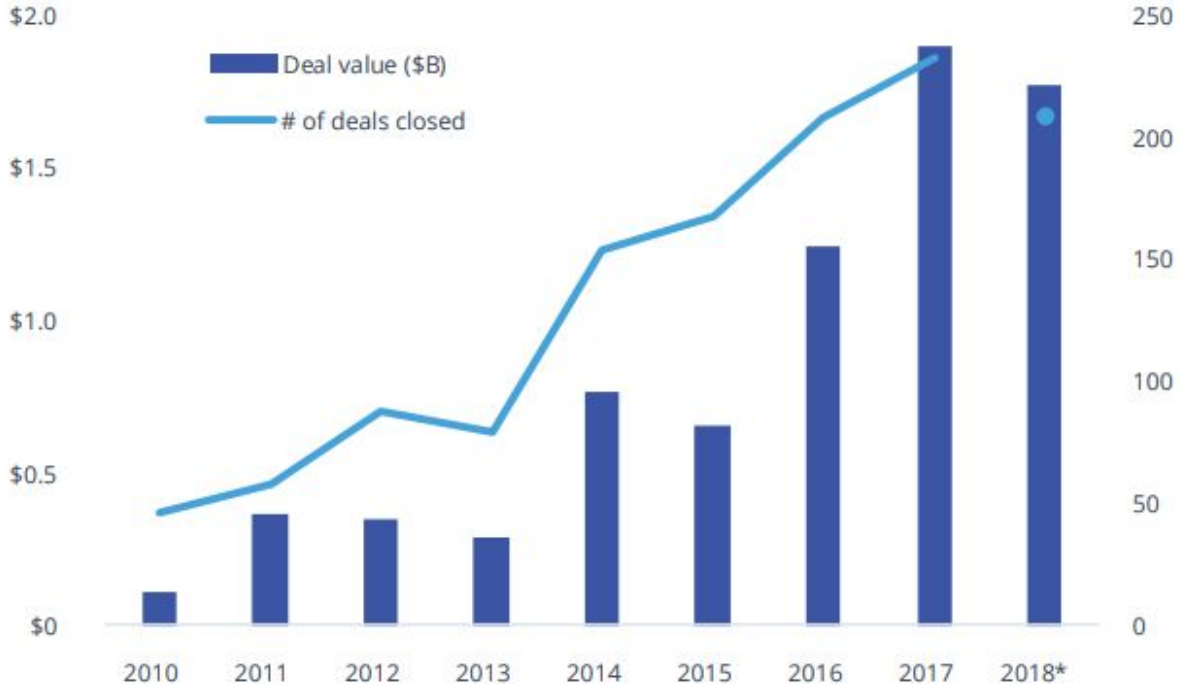


PAPER CHECKS



SNAIL MAIL

Global agtech VC deal activity



Source: PitchBook
*As of October 31, 2018

AG TECH: 80+ TECHNOLOGY COMPANIES CHANGING THE FARM

Infrastructure could be considered the greatest advancement in the grain industry in the last century. The robust network has allowed the rural heartland to become a major part in the world-wide exporting system.

Digital infrastructure, on the other hand is the wild west: archaic, non-standard, individualistic, and protectionist. Elevators aren't connected to their growers, one another, or processing centers.

Ag is the least digitized major industry*. Perceived technophobia has left the grain industry largely behind in software.

*According to the McKinsey Global Institute's Digitization Index

Who’s building supply chain tech?

ESTABLISHED CO’S

- ADM
- Bunge
- Cargill
- Land O’ Lakes
- General Mills
- Scoular

NEW PLAYERS

indigo™

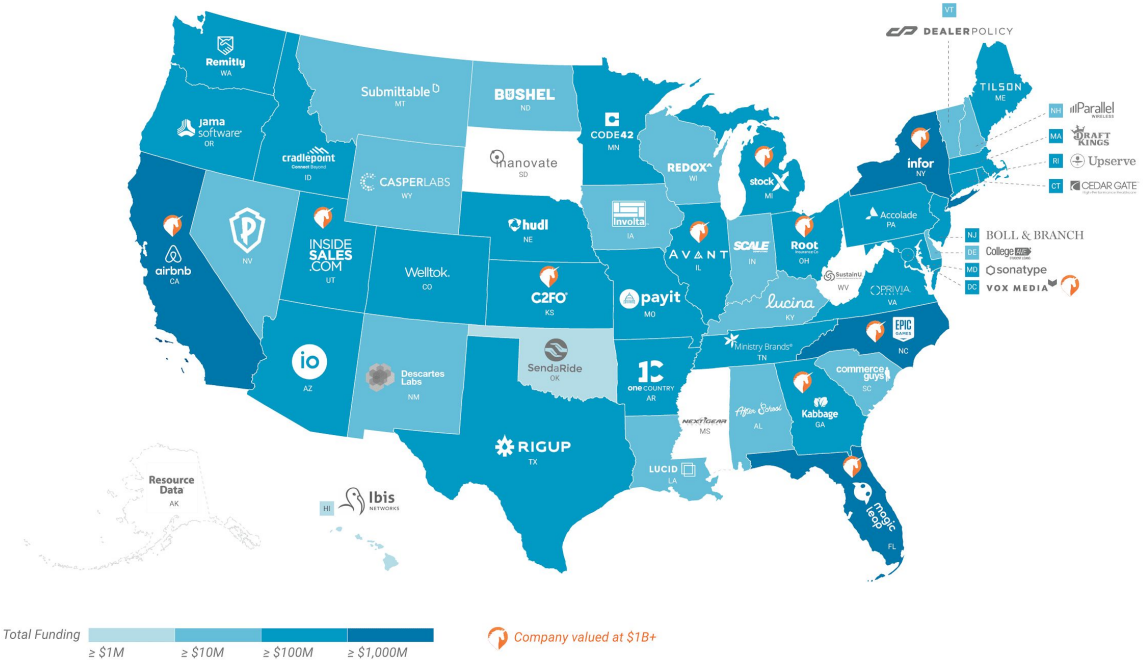
agri digital

PIPELINE FOODS
DEVELOPING SUSTAINABLE SUPPLY CHAINS IN AGRICULTURE

Rather than collaborating, new players are pushing to disrupt the market.

THE UNITED STATES OF TECH STARTUPS

The most well-funded VC-backed tech startup in every US state.



Companies must have raised a minimum of $1M and raised any amount of equity funding since January 2014 to be considered.
Excludes debt and lines of credit. Alaska and Mississippi had no companies meeting our full criteria.
Data is as of 10/17/2019.

CBINSIGHTS

WHITE LABELED:
elevator's brand

It's your brand seen throughout the app. Your elevator is recognized as a market leader, giving growers even more reason to do business with you.

scale tickets

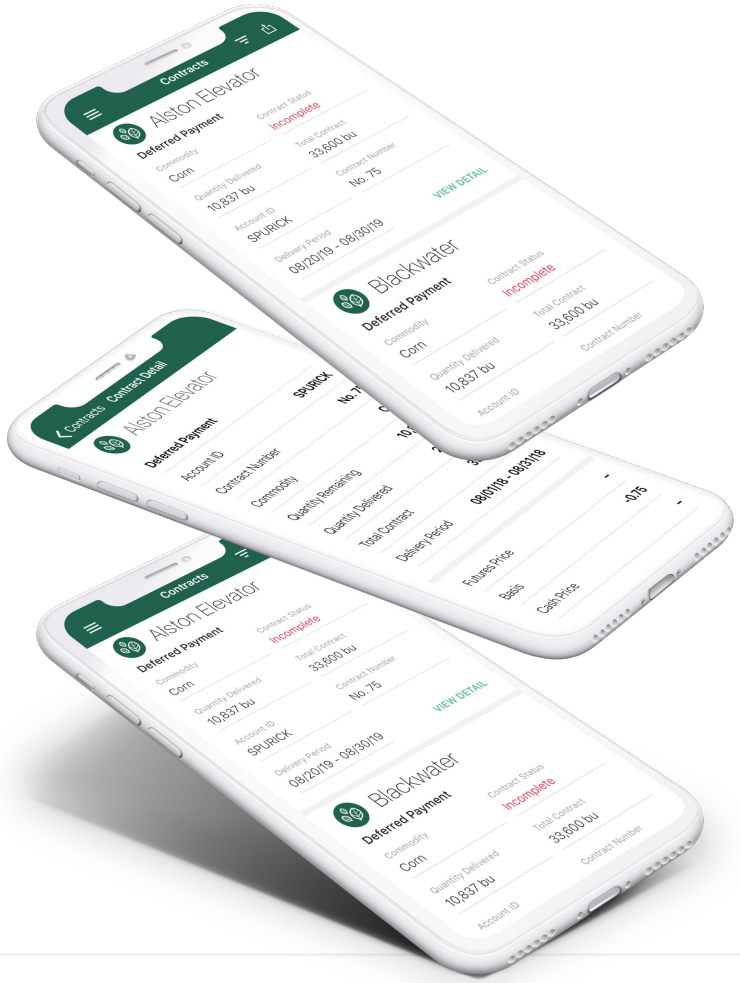
Your growers have **access to tickets** near real-time.* Tickets are easy to understand and track.

***Based on configuration. Otherwise it could be a half hour delay. Which is still better than never. And paper.**

contracts

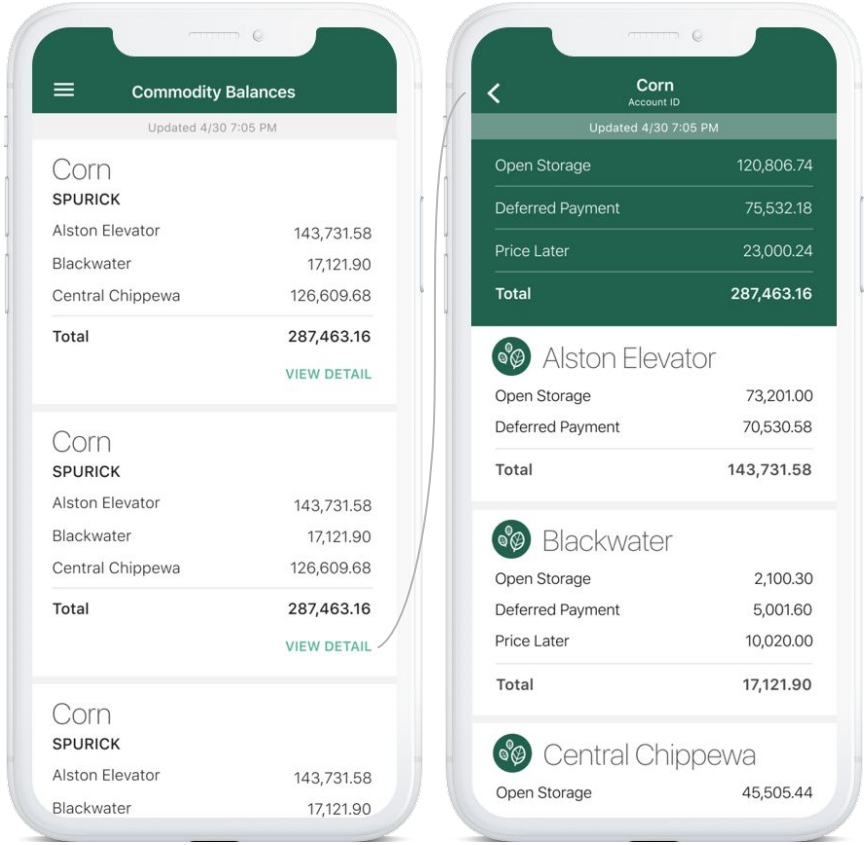
Your growers know how much they ***have delivered*** and how much they ***need to deliver***.

Your growers know what contracts have locked in the basis and futures price.



commodity balances

Real-time inventory for your growers provides **balances of commodities across locations**.



eSign

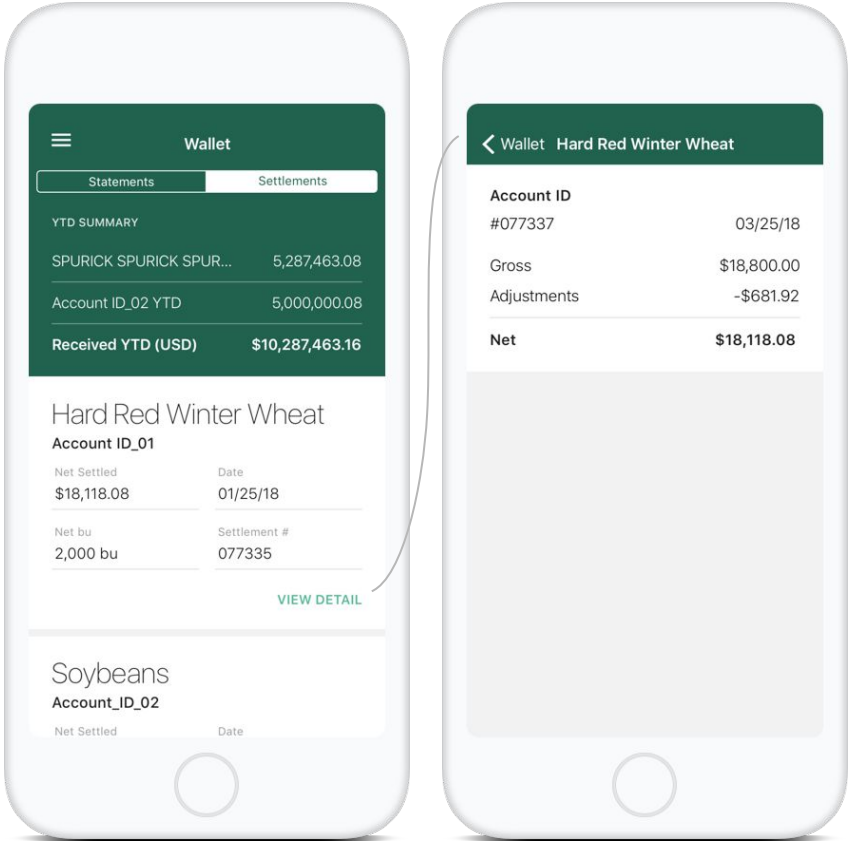
Increase contract accuracy and transparency while saving on mailing costs.

For the elevator it's easy to upload and use, and quick for the grower to sign.

settlements

Delivering information pertinent to growers' revenue forecasting

In Design Phase

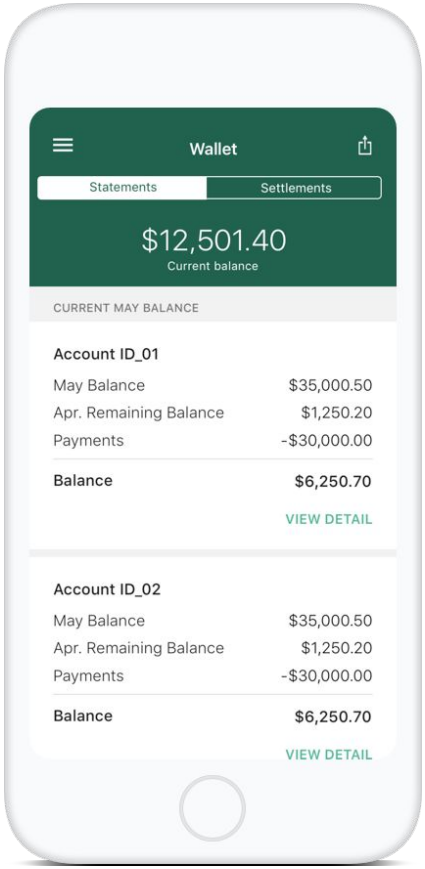


statements

Reduce accounts receivable days with quicker delivery of statements

Keep growers informed of their balance, seeing balances and statements faster than traditional mailing method and limiting doubtful accounts .

In Design Phase



Bushel is enabling clear and simple business between grain facilities and their growers.

(Because you don't call the bank to check your balance anymore)

DMG
BEACH COOPERATIVE
South West Ag Partners Inc.
Amalgamated Sugar
Pure. Sweet. Grower-Owned.
Scott Coop
ValleyAG PARTNERS
MINN-DAK FARMERS COOPERATIVE
Scranton Equity
CFC CentralFarmers COOPERATIVE
FLINT HILLS resources
C-W Valley Co-op
SL
Border Ag & Energy
Walsh Grain
TE
Tharaldson Ethanol
DAKOTA MILL & GRAIN INC.
Helping You Grow
Harvey's
Minn-Kota AG PRODUCTS
The Arthur Companies
REYNOLDS UNITED CO-OP
POET grain
Smithfield
MOUNTAIN VIEW CO-OP
MARKIT COUNTY GRAIN LLC
CPI
Chandler Feed Co.
EQUITY EXCHANGE
HOMELAND grain inc.
NORTH DAKOTA MILL
Quality Millers Since 1922
LIGHTHOUSE COMMODITIES

US Market Share

16%

Customer Churn

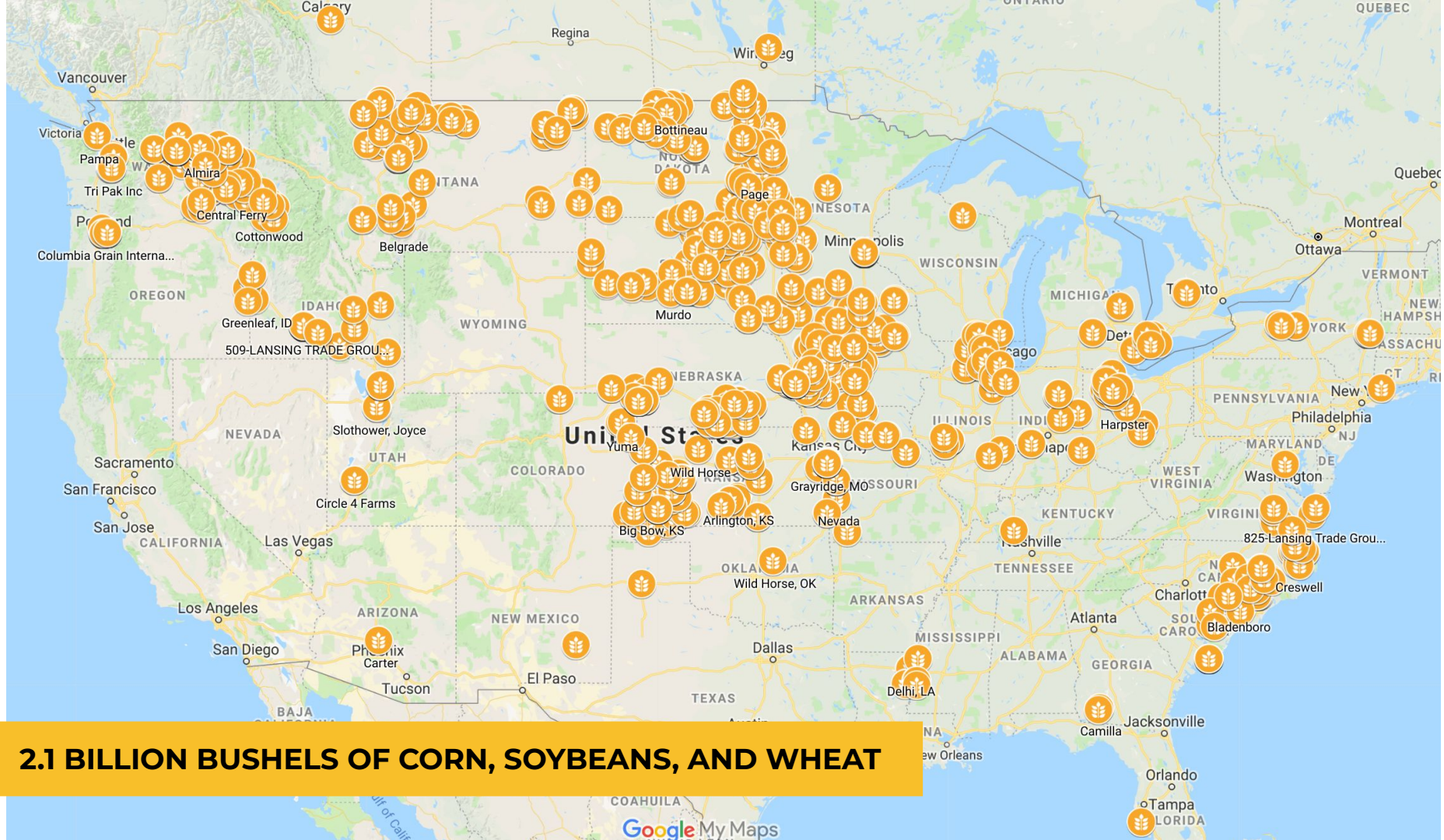
2%

Monthly Active Users

18,407

Power Users

12,326



2.1 BILLION BUSHELS OF CORN, SOYBEANS, AND WHEAT

ERP INTEGRATIONS

AGTRAX Connect. Integrate. Evolve.

AgVantage Software

Vertical Software

AGROSOFT BY GROSSMAN SOFTWARE SOLUTIONS

AGEXCEED BY GROSSMAN SOFTWARE SOLUTIONS

AGRIS PERVASIVE

Agvance

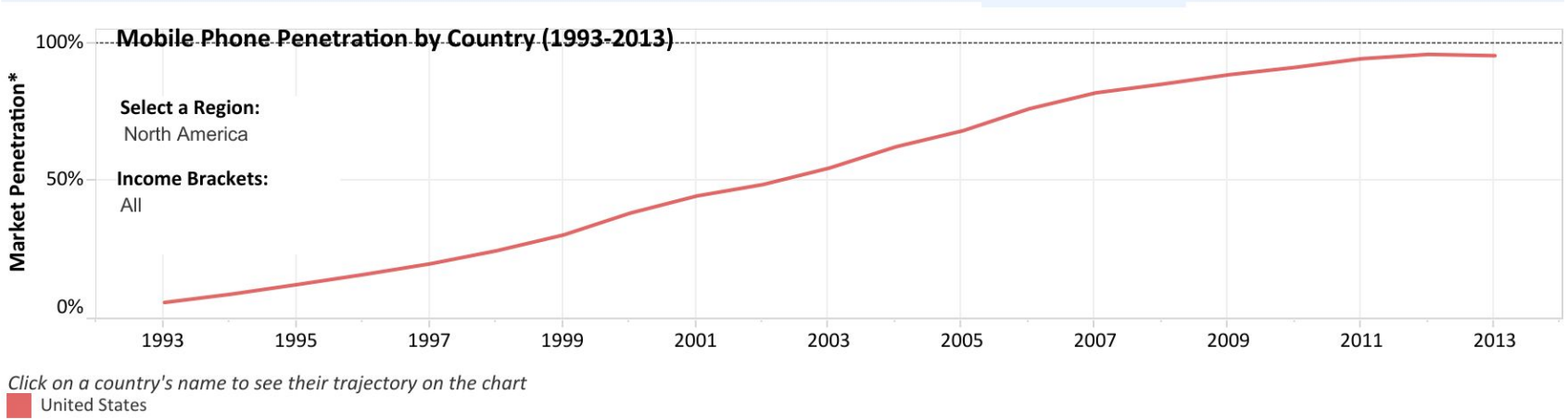
openlink ORACLE

AGRIS Microsoft SQL Server

CINCH

openlink Microsoft SQL Server

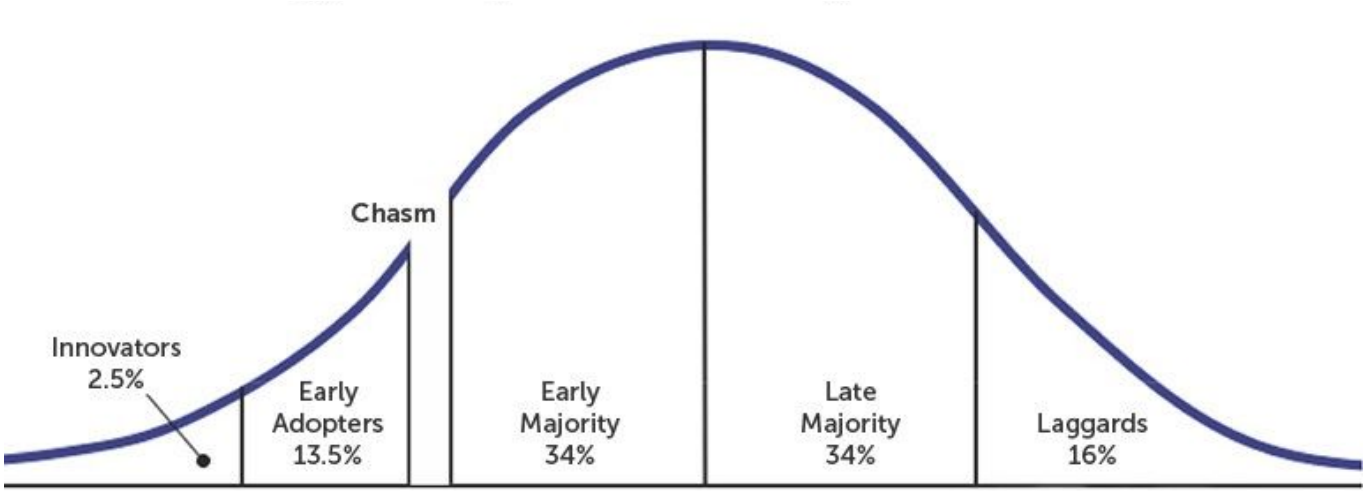
Right Place, Right Time



*Market Penetration greater than 100% means more than one mobile phone per person.
Source: World Bank, Cartesian

https://blog.cartesian.com/the-rise-of-mobile-phones-20-years-of-global-adoption

Technology Adoption Life Cycle



Technical Challenges we've dealt with

VARIETY

- ERPS / Accounting Systems
  - SQL, Flat Files, AS/400, Pervasive, etc.
- Crops, Commodities & Locations
  - Kansas City Hard Red Winter Wheat

VERACITY

- Phone numbers
- On-site
- Push / pull
- Time Zones
- Deleted data

"Veracity refers to the biases, noise and abnormality in data … you need to have your team and partners work to help keep your data clean and processes to keep 'dirty data' from accumulating in your systems."

https://insidebigdata.com/2013/09/12/beyond-volume-variety-velocity-issue-big-data-veracity/."

Technical Challenges we've dealt with

VELOCITY

- Data Pull
  - Tickets, contracts, splits
    - Every 5 minutes
    - Daily + additional
- Data Push
  - Real time triggered events
- Market Data

VOLUME

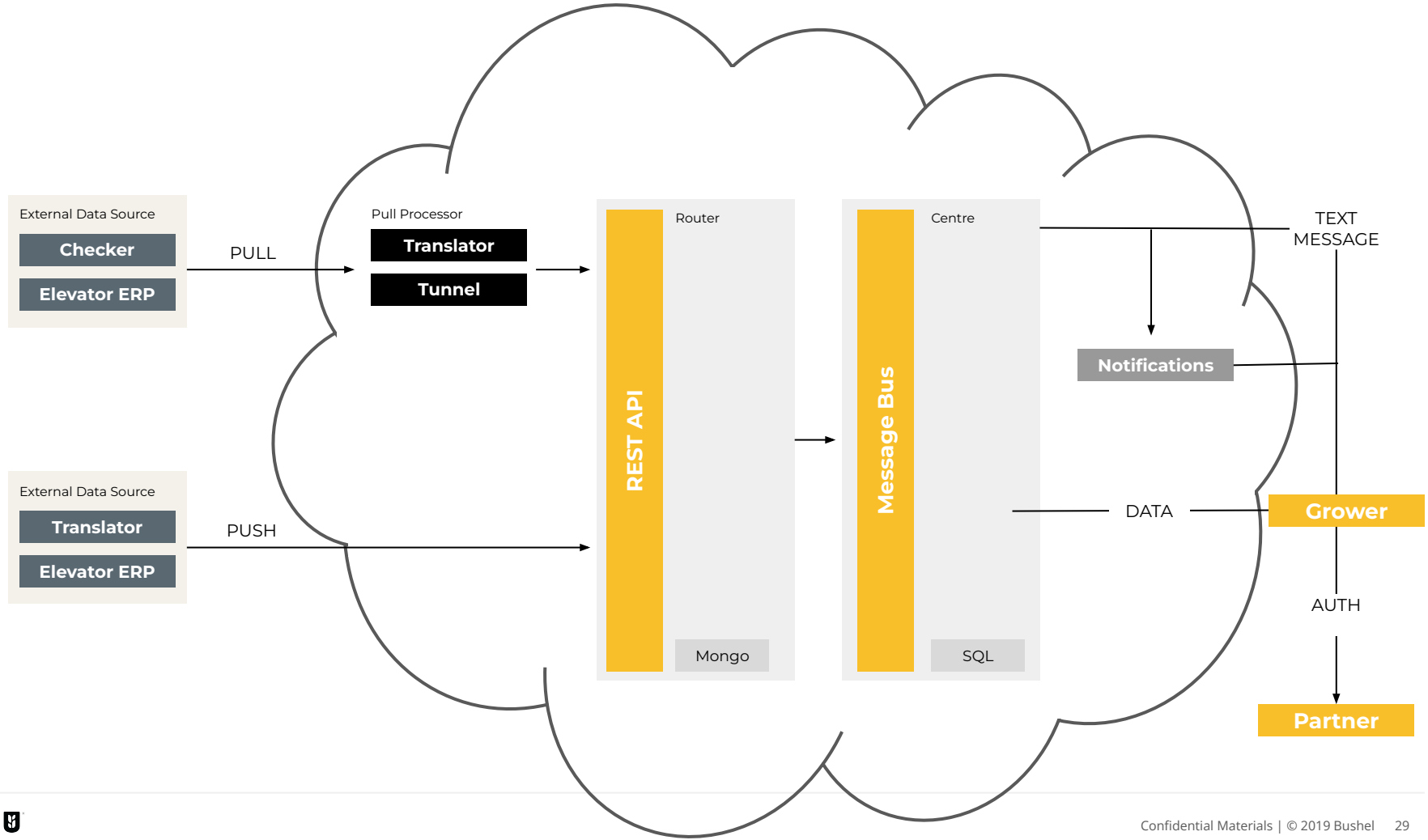
~ 18k Active Users

~ 2.1 Billion Bushels

2019 Indicators:

~ 8.2 million tickets

~ 1.4 million contracts


External Data Source
Checker
Elevator ERP
PULL
Pull Processor
Translator
Tunnel
Router
REST API
Mongo
Centre
Message Bus
SQL
TEXT MESSAGE
Notifications
External Data Source
Translator
Elevator ERP
PUSH
DATA
Grower
AUTH
Partner

POWERING POSSIBILITIES

Imagine a future where grain is tracked and monitored through every purchase across the supply chain, where reports can be shared with a click of a button.

Forbes

1,754 views | Nov 1, 2019, 07:10am

Land O'Lakes Uses Visibility and Velocity to Combat Supply Chain Variability

Steve Banker Contributor ⓘ
Transportation
I cover logistics and supply chain management.

"... supply chain management has not changed at all. We are still moving stuff from point A to point B, ... What changed? Visibility, variability, and velocity. With more variability, you need to move faster. To do that you need more visibility."

- Land O'Lakes, Inc. Chief Supply Chain Officer, Yone Dewberry

BUSHEL CONNECT:

Data sharing across the supply chain, through resilient and robust services.

Bushel Connect

Producer

CONNECTED

Elevator

CONNECTED

Food Processor, Ethanol Plant, Feedlots

Logistics | Agronomy Inputs | Crop Insurance | Accounting Systems

BUSHEL POWERED

Core Tools

Bushel-powered App

Your elevator's app with clear and simple business information

Bushel-powered Website

The web presence for your grain business

Connect

Bushel-powered API

(In Beta)

Data standardization and sharing across the supply chain

Bushel-powered Portal*

Convenient data exporting and reporting

Trading

Bushel-powered OMS*

Streamlining workflow and removing risk for merchandisers

*In Planning and Development

Technical Challenges We're Solving

DATA WRANGLING

- ML & AI
  - Classification
  - Categorization
  - Standardization

Crops, Commodities, Locations

DATA FIDELITY

Kansas City Hard Red Winter Wheat

DATA STREAMING

- Subscriptions and webhooks

DATA QUERY AND MANIPULATION

- GraphQL??

IMMUTABILITY

- Blockchain

Bushel Vision:

To connect and enhance the Grain Industry through digital infrastructure.

WHO WE ARE

We’re a software company in Fargo, ND, made up of farm kids.

WHAT WE DO

We build software for grain retailers to better serve growers.

150
teammates strong
(and counting)

Inc. BEST WORKPLACES 2018

87th Percentile

Officevibe Employee Engagement Score

High Autonomy, Innovative Culture

110+ teammates, less than 4% turnover
Servant leadership

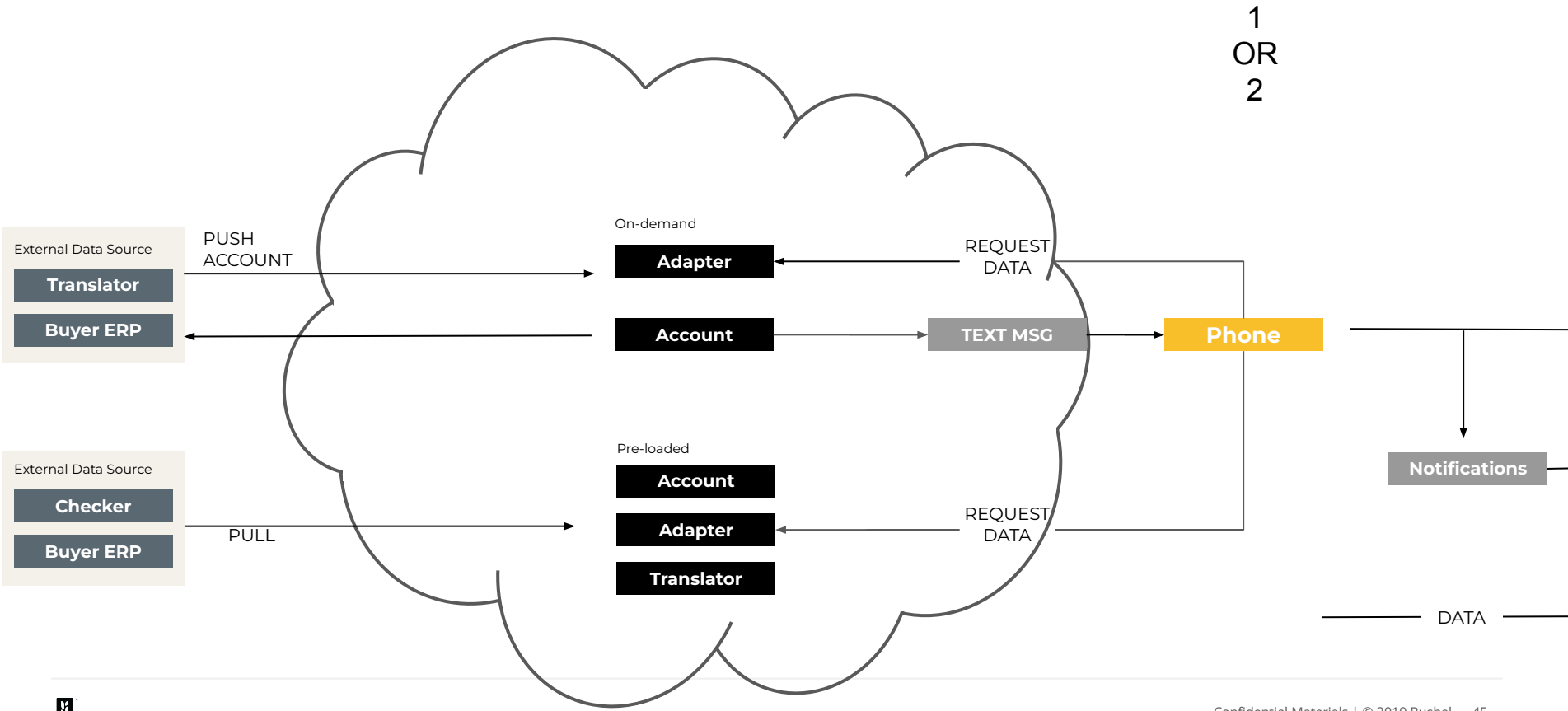
We're Farm Kids ...

PARTNERSHIPS
better
business
for all

Ted Steinmann

tsteinmann@bushelpowered.com | (701) 369-0633 | www.bushelpowered.com

BUSHEL


1
OR
2
External Data Source
Translator
Buyer ERP
PUSH
ACCOUNT
On-demand
Adapter
REQUEST
DATA
Account
TEXT MSG
Phone
Notifications
External Data Source
Checker
Buyer ERP
PULL
Pre-loaded
Account
Adapter
Translator
REQUEST
DATA
DATA