

**HOW TECHNOLOGY IS SHAPING THE FUTURE OF CONCRETE DELIVERY**

Chris Strickland & Ben Rabchuk  
Command Alkon

December 7, 2022

Command Alkon

Minnesota Concrete Council  
Dedicated to Cast-in-Place Concrete

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**OBJECTIVES**

**Objective 1** View on N. America & Global industry **mega-trends** (challenges and opportunities) and how technologies are being applied

**Objective 2** Recent innovations helping to improve **communication & collaboration** amongst all Trading Partners in construction

**Objective 3** New technologies associated with **sustainability** including: property measurement in transit, carbon reduction, EPDs, quality management, and more

**Objective 4** What the **future holds** for production automation as well as materials, supply chain, and trucking management

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**THE CHALLENGE**

**THE OPPORTUNITY**

**THE FUTURE**

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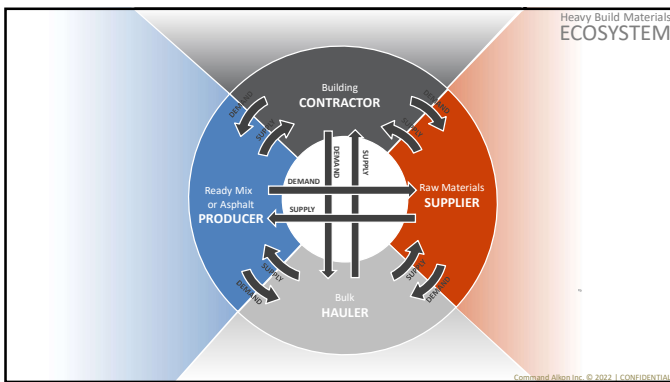
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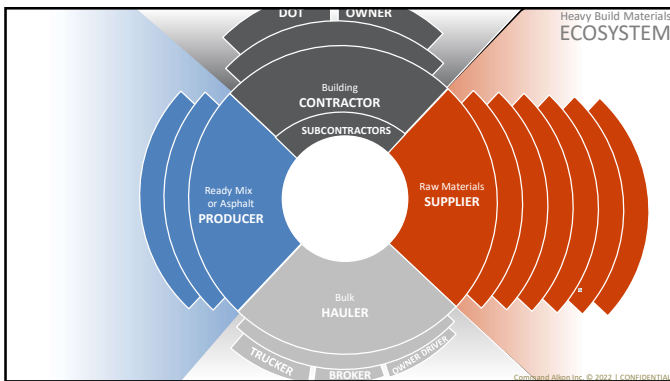
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**CHALLENGES**

- ✓ **EVERYTHING SHORTAGE**
  - Worker Shortage
  - Material Shortage
  - Parts Shortage
- ✓ **PRODUCTIVITY**
  - Price & Cost
  - Tighter Utilization
  - Process Complexity
- ✓ **QUALITY & SUSTAINABILITY**
  - Think Safe
  - Think Green
  - Think Sustainably
- ✓ **CUSTOMER EXPERIENCE**
  - Competitive Differentiation
  - Simplify for Them
  - Simplify for You



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**EVERYTHING SHORTAGE**

*CYCLICAL ♦ SPORADIC*



*FINDING ♦ UTILIZING ♦ KEEPING*



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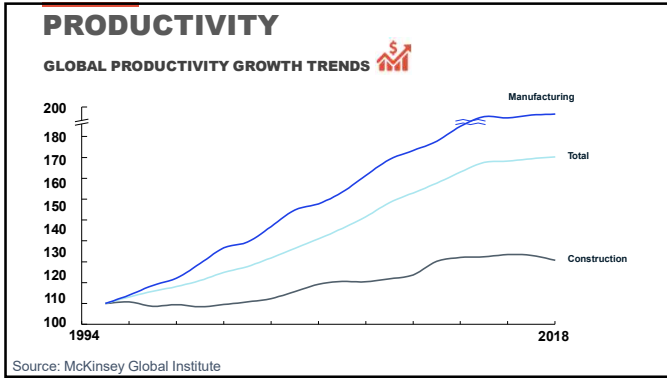
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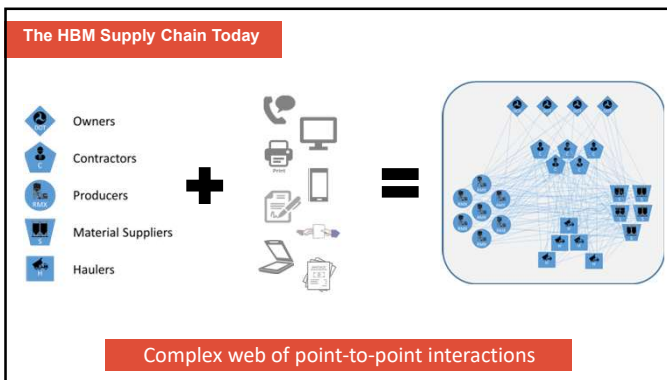
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**ENVIRONMENTAL SUSTAINABILITY**



**SUSTAINABILITY DRIVE**

There is a global push for all industries to drive sustainability and reduce carbon emissions.



**CONSTRUCTION INDUSTRY**

Regulatory and Consumer Pressure to Improve  
 (A) Accountability toward carbon neutrality & safety  
 (B) Design & Re-use

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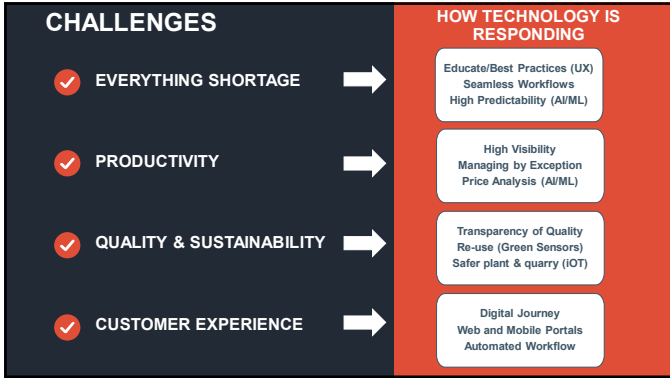
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Concrete In Transit

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### The Concrete Quality Challenge

AT PLANT	TO JOB	POURING	LEAVING JOB
 Batch Process Slump Time Water Management	 Traffic/Pouring Delays Unrecorded Events Inconsistent Testing	 Slump Realities Your Slump v. Contractor Slump Load Performance Transparency	 Proof of Delivery Next Loads Leftover Concrete

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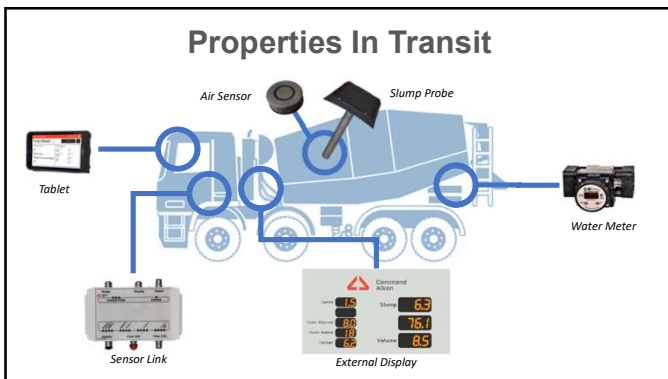
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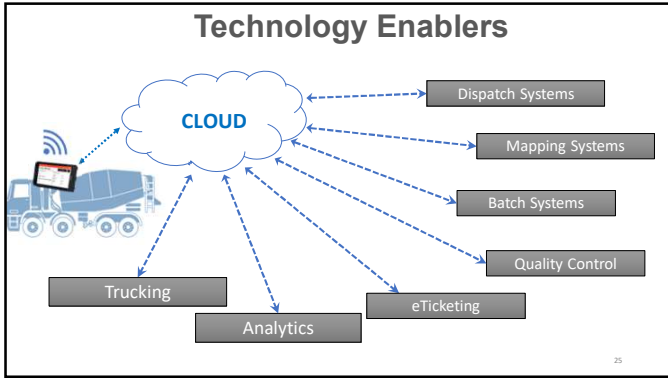
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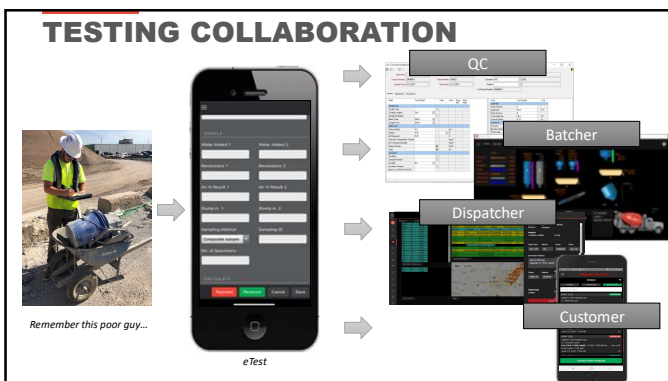
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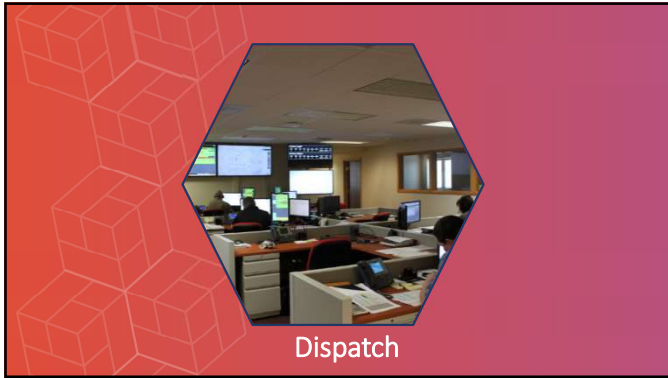
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Dispatch

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<p><b>Less Time</b></p> <p>Better Data To Support Decisions</p> <p>Customer Performance</p> <p>Field Transparency</p> <p>Faster Billing</p> <p>Easier Dispatching</p>	<p>Better Data (Traffic, Travel, Taxing, Schedules, etc.)</p> <p>Better Integrations</p> <p>Safe, Secure, Scalable</p> <p>Enables Fit for Purpose Solutions</p>	<p>High predictability (esp Schedules)</p> <p>Proacting v/s Reacting (e.g. Cancelled Orders)</p> <p>Higher Visibility (Slump, Air, Mix Designs, etc.)</p>

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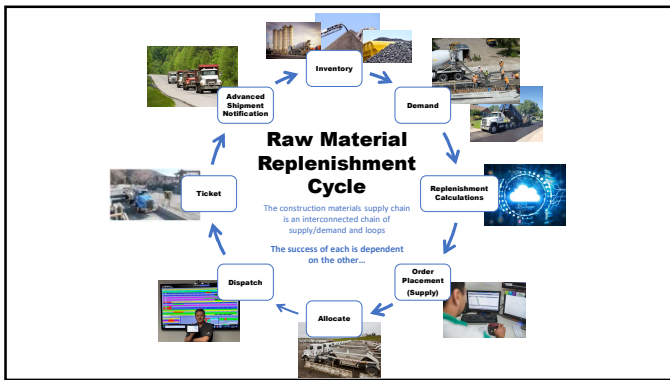
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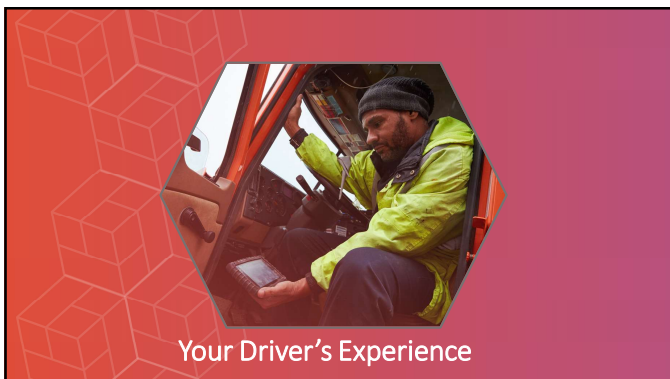
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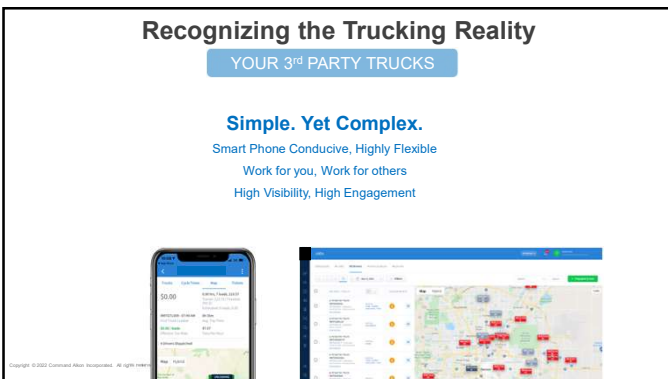
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Electronic Ticketing

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**eTicketing Scenarios**  
A digital recognition of a transaction(s) resulting from a load

WORK				Examples
CONTRACTOR'S PROJECT	MATERIAL	IN		Concrete, Asphalt, Rock, ...
		OUT		Waste, Dirt, Recyclables, ...
	TRUCKING	IN		Owned, Haulers, ...
		OUT		Owned, Haulers, ...
PRODUCER'S PLANT	MATERIAL	IN		Sand, Cement, Admix, ...
		OUT		Concrete, Asphalt, Precast, ...
	TRUCKING	IN		Haulers, Owned, ...
		OUT		Concrete, Asphalt, Rock, ...

Not Just This Anymore

Lots of Solutions Out There for the FIELD and the OFFICE

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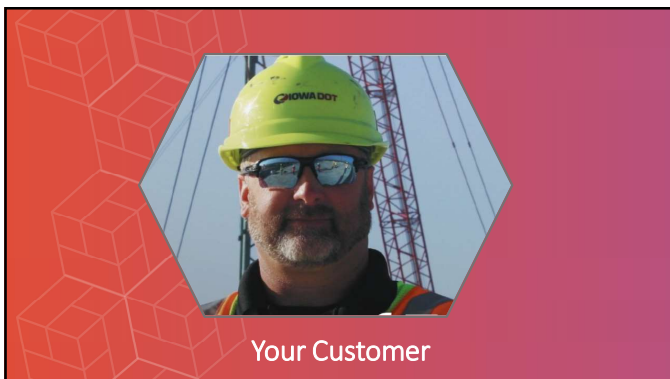
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Your Customer

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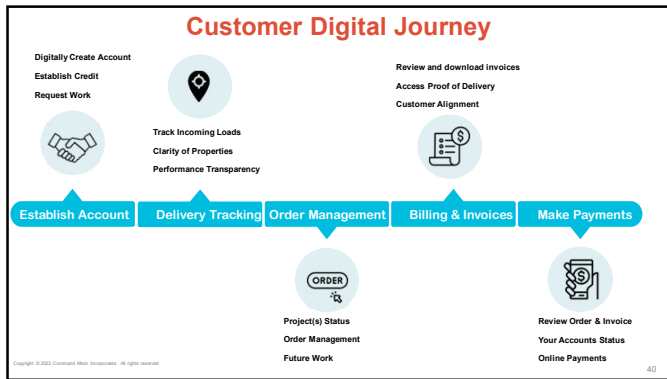
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### PRIVACY & SECURITY | Areas to Consider

EDUCATION	ACTION	PREVENTION
Awareness Best Practices Certify	Process Technology People	Discipline Audit Incident Mngt

**EXAMPLES**

- Security in Culture (#1)
- Apply latest industry standard principles for data security and protection
- People that have done it before: Internal or Fractional
- Key evolution of internal IT roles
- Internal and External Audit
- Penetration Testing
- Disaster Recovery (DRP)
- Incident or Outage Escalation & Communication
- Root Cause Analysis

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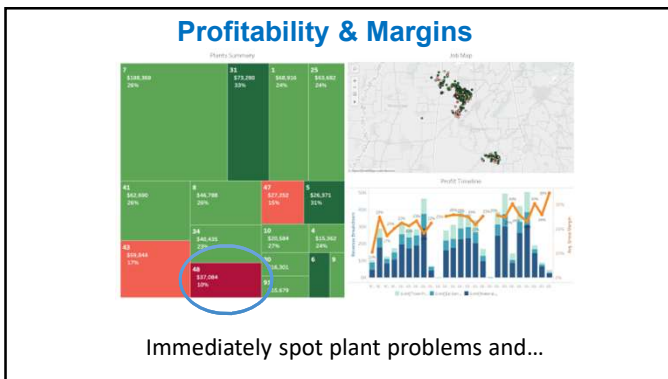
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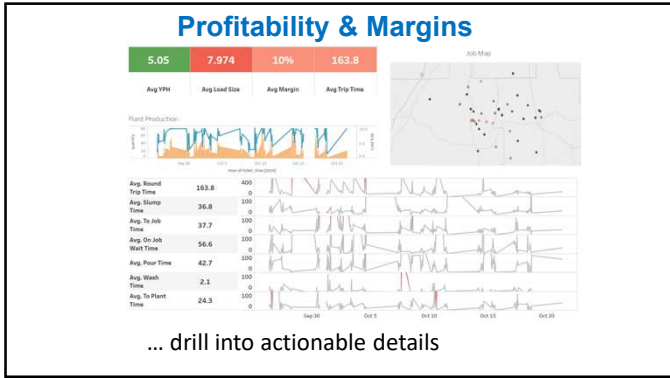
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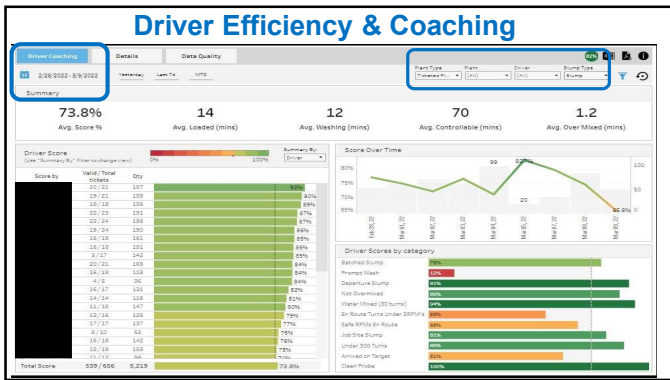
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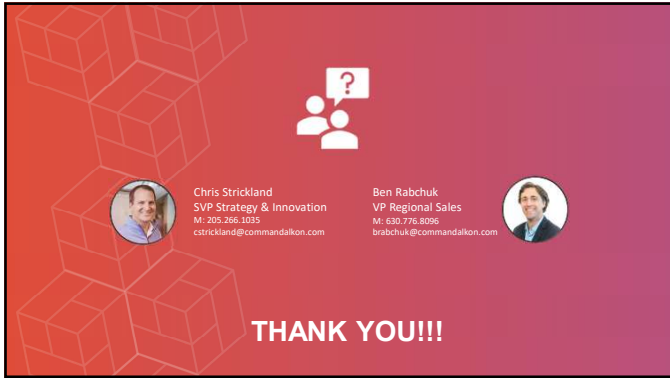
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Chris Strickland  
SVP Strategy & Innovation  
M: 205.266.1035  
cstrickland@commandakon.com

Ben Rabchuk  
VP Regional Sales  
M: 630.776.8096  
brabchuk@commandakon.com

**THANK YOU!!!**

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