It's the start of a new decade.

How do your operations today compare to...

2010?

2030?

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Over the next decade DC's must become more:

RESPONSIVE TO CHANGE

CAPITAL EFFICIENT

INADEQUATE SPACE

LABOR SHORTAGES

OMNI-CHANNEL PRESSURES
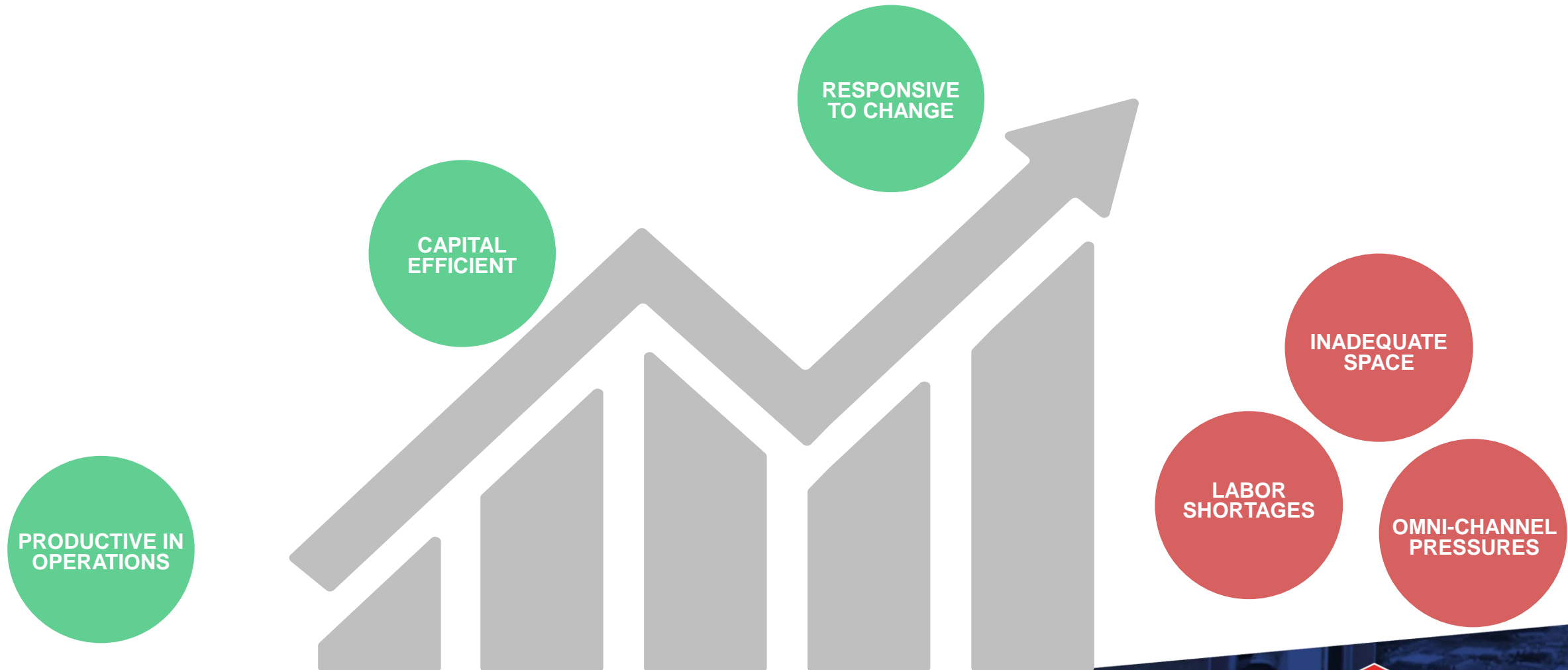
PRODUCTIVE IN OPERATIONS

What will it take?

Striking back with tools for **unprecedented flexibility**.

SETH PATIN

CEO & FOUNDER, LOGISTIVIEW & ACCELOGIX

logistiVIEW
SEE LOGISTICS DIFFERENTLY

accelogix
design. execute. deliver.

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Leader in vision picking for warehouse & logistics

Unlocking mobility and wearables to solve the most pressing challenges faced by DC's today

Today You'll Learn:

- **What is Vision+** and how does it change picking

- **6 Reasons Why** Vision+ is the new formula for picking success

- **What it Means** for your warehouse today, and in 2030

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01
What is Vision+

Vision+

Picking optimized with the best features of voice, PTL, and RF scanning taken further with visual instruction – then amplified with intelligence to perfect every step.

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Which bin is correct?

Which bin is **correct**?

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Color-coded pick overlays viewed through AR smart glasses

Audio-visual combination makes each step obvious

Work 100% hands-free or with handheld scanners

AI optimization powers smarter sequence of steps

Simple, intuitive instructions delivered in ways humans normally communicate

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Vision+: The all-in-one picking optimization tool

Faster, More Accurate

Than voice alone

More Efficient

Than handheld devices alone

More Capital Efficient, Flexible

Than fixed automation

	RF	Voice	Automation	Vision+
Fast		✓	✓	✓
Accurate	✓		✓	✓
Affordable	✓	✓		✓

19

Everything Optimized with AI

Better grouping, sequencing, zoning to reduce travel distance & increase density

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02

6 Reasons Why Vision+ is the Better Formula for Picking
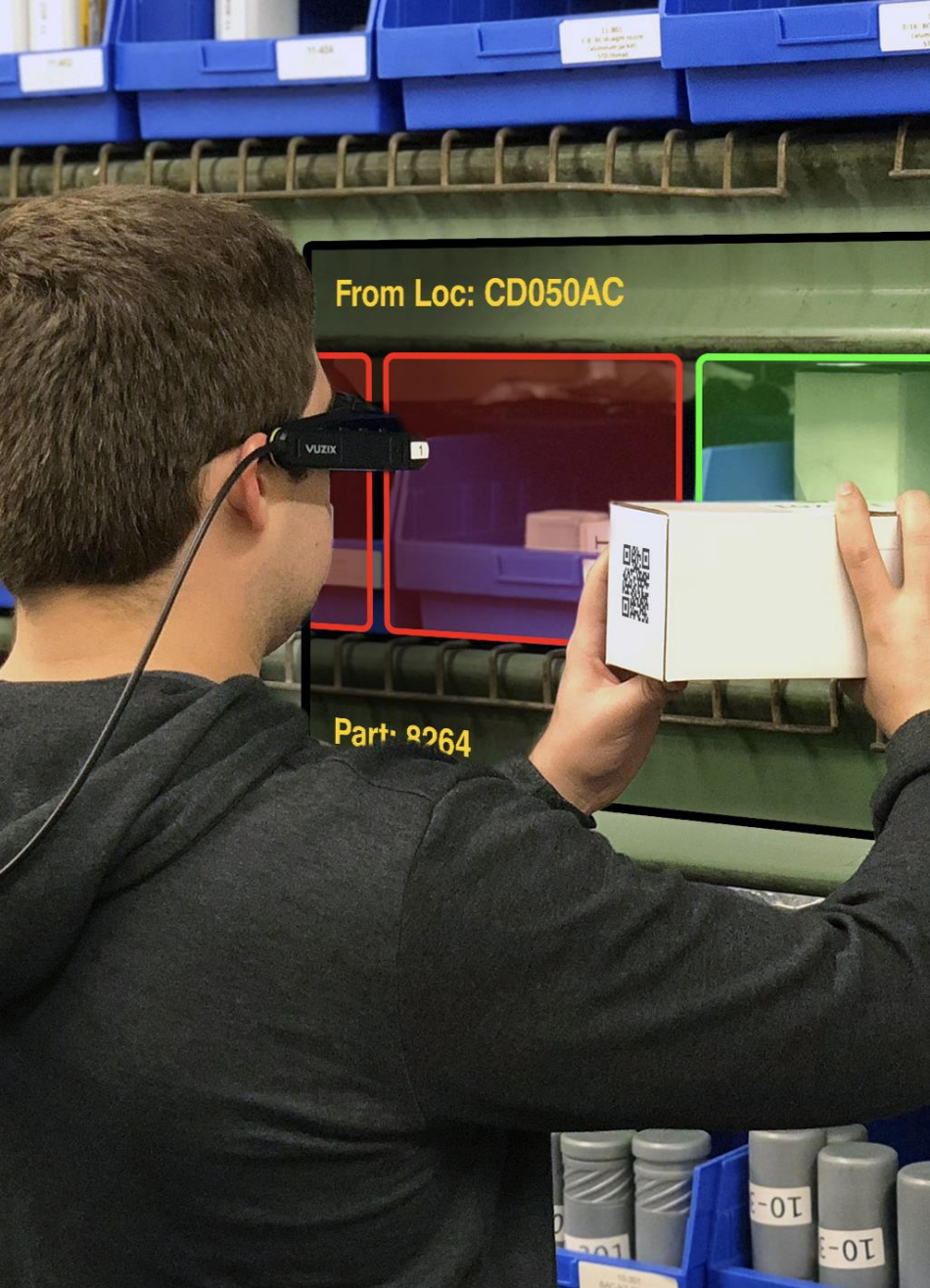
#1 **Make picking accuracy a "no-brainer."**

✓ **See *and* hear pick instructions** as a multimodal experience

✓ **Intuitive, natural cues** quickly processed by the human brain

✓ **Instantly understand** what to do, driving precise picks

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What does the research show?

DC's #1 metric for best practices in 2019: Picking Accuracy.

- WERC surveyed warehouse professionals on industry metrics to benchmark best practices

- **"Order Picking Accuracy"** ranked as the #1 out of 36 overall metrics – rising from #2 in 2018

ANNUAL SURVEY AND REPORT ON INDUSTRY METRICS

WERC DC Measures
2019 Snapshot in Time

TOP 5 METRICS FOR 2019		
Metrics	2018	2017
1. Order Picking Accuracy (percent by order) – **Quality**	2	2
2. Average Warehouse Capacity Used – **Capacity**	1	1
3. Peak Warehouse Capacity Used – **Capacity**	3	4
4. On-time Shipments – **Customer**	5	3
5. Inventory Count Accuracy by Location – **Quality**	10	10

Source: WERC 2019 DC Measures Study

Tillman, Joseph, Karl B. Manrodt, and Donnie Williams, "DC Measures Study 2019," WERCWatch, Spring 2019, Warehousing Education and Research Council

Accuracy in picking has never been more important. Give mis-picks all you've got with workers armed with tools that make it easy.

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#2 **Overcome delays & repetition from noise interference.**

✓ **Eliminate missed cues**, drowned out voice commands

✓ **Persistent visual guidance allow continuous work** even if audible or text cue is missed

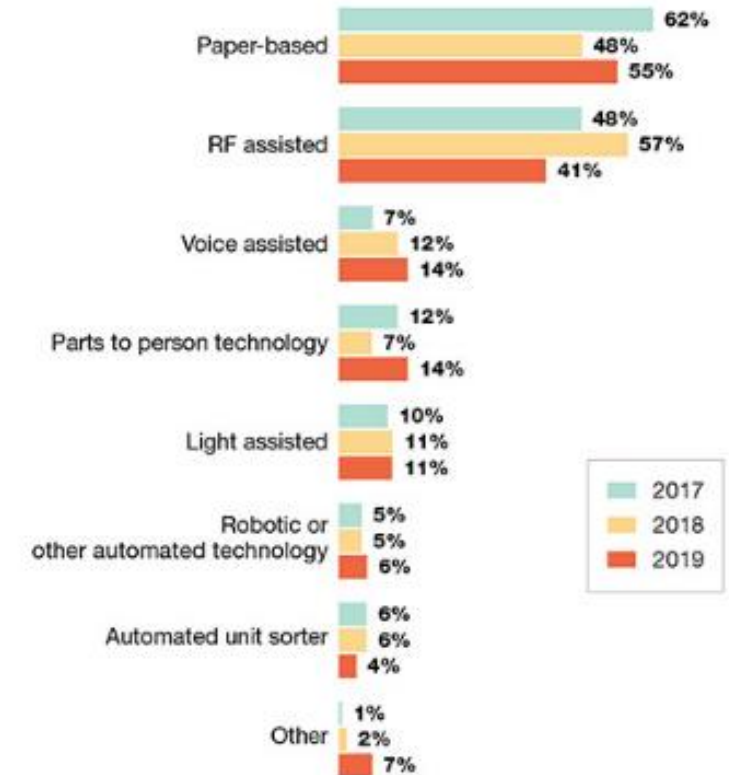✓ **No more saying "Repeat,"** rescanning label, or re-reading instructions costing time and frustration

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What does the research show?

Order fulfillment is still manual, paper-dominated and that's only increasing.

- Peerless Media asked DC's about **current picking technology use**

- **Paper-based picking dominated, and rose 7% vs 2019**

- DC's are turning to paper vs existing pick technologies

Apply Vision+ to close the gap where traditional picking tools fall short by combining the best of each.

What kinds of picking technologies are currently in use at your distribution center?

Technology	2017	2018	2019
Paper-based	62%	48%	55%
RF assisted	48%	57%	41%
Voice assisted	7%	12%	14%
Parts to person technology	12%	7%	14%
Light assisted	10%	11%	11%
Robotic or other automated technology	5%	5%	6%
Automated unit sorter	6%	6%	4%
Other	1%	2%	7%

Source: Peerless Research Group (PRG)

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#3 **Speed picking with instantaneous responses**

✓ **Appeal to human nature** as visual beings

✓ **Visual cues understood faster**, enabling immediate actions

✓ **React instantly, with no delays** compared to listening to full audible commands

✓ Workers clued into **what's coming next** – already heading for it before a voice command is completed

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What does the research show?

Human brains respond better to visual inputs.

- 30% of the brain is dedicated to sight, and between 80-90% of **human sensory input is received through the eyes**

- Only 8% of the brain is used for touch and **2% is used for auditory processing**

- **Vision picking appeals to how the brain works best**

Leverage visual-voice combinations to communicate with workers in the most brain-friendly way to drive better action.

HOW THE BRAIN PROCESSES INFORMATION

Auditory

Kinaesthetic/Tactile

Visual

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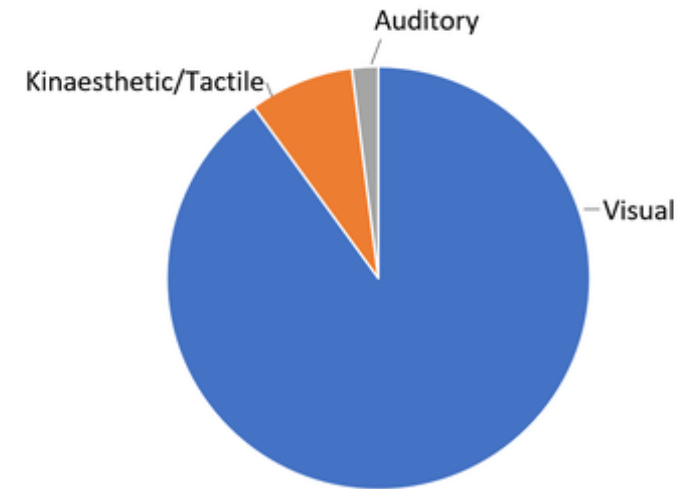
#4 **Overcome language difficulties, rapidly train new and seasonal staff.**

✓ **Colors, arrows, symbols simplify** complex instructions

✓ **Universally-recognized symbols** known to people of all language backgrounds

✓ Make instruction instant - **cut training to minutes, not weeks**

✓ **Ongoing access to training** with visual reinforcement of steps

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What does the research show?

To find and keep labor, DC's are spending more on training.

- 68% surveyed by Peerless **enhanced training programs in 2019**

- Increased investments in training / workforce retention **adding to operational costs**

- **Widening recognition that an empowered workforce** is essential to competing today

> " DC's report using multiple methods of strengthening their workforces: **68% are enhancing processes or training to improve productivity,** while 68% affirmed that they're developing **training or employee retention programs**.
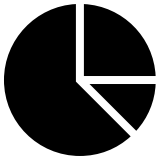
68%

Source: Peerless Media – 2019 Annual Warehouse and Distribution Center Automation Survey

Reduce training down to almost no time at all, converted into an always-on activity built into the job itself.

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#5 **Remove barriers to drive worker confidence, job satisfaction.**

✓ **Eliminate friction points** of delays, wasted steps, unnecessary walking

✓ **Provide clarity to boost confidence** in every decision

✓ **Heighten engagement in their work**, empowered with everything they need to know

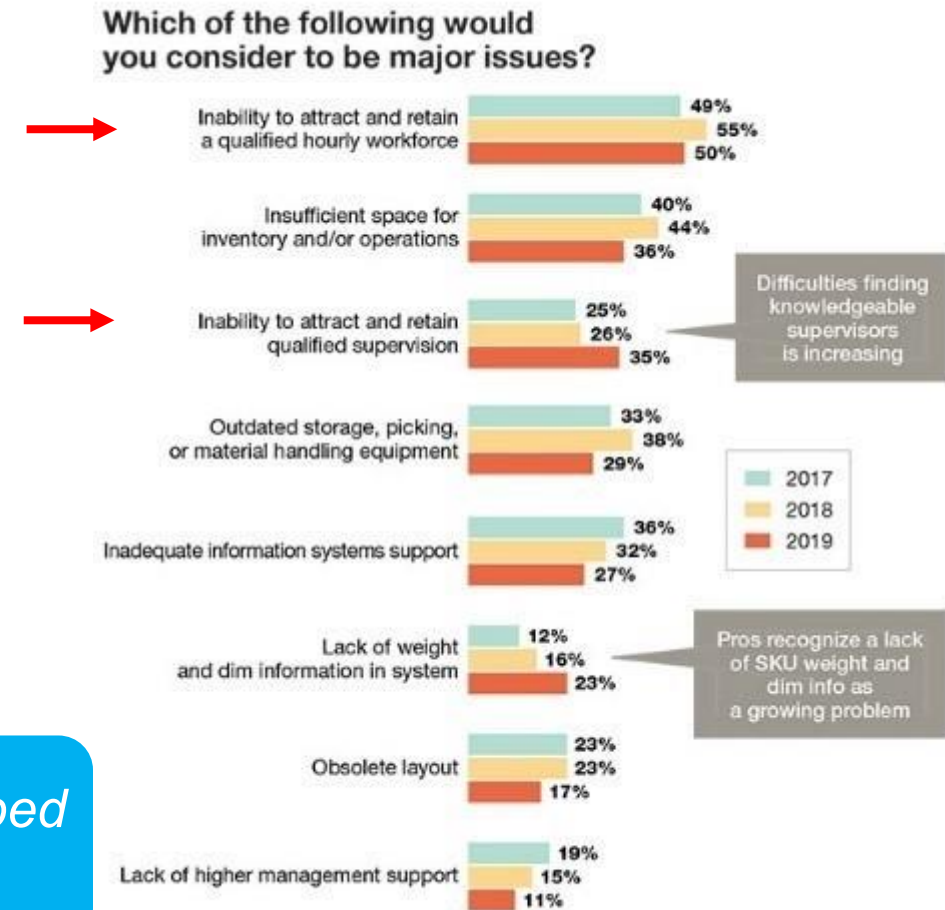✓ **Equip with cutting edge tools**, working smarter and feeling stronger about it too

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What does the research show?

Finding labor, then keeping it, is the defining issue of our time.

- **Half** of all DC's surveyed by Peerless say **labor challenges** are their topmost "Major Issues" of 2019

- **Inability to find hourly workers, qualified supervisors** is acute

- Finding ways to **increase job satisfaction** critical in 2020

Make people want to work for your DC where they're equipped with state-of-the-art tools to do their best work.

Which of the following would you consider to be major issues?

Inability to attract and retain a qualified hourly workforce: 49%, 55%, 50%

Insufficient space for inventory and/or operations: 40%, 44%, 36%

Inability to attract and retain qualified supervision: 25%, 26%, 35%
Difficulties finding knowledgeable supervisors is increasing

Outdated storage, picking, or material handling equipment: 33%, 38%, 29%

2017, 2018, 2019

Inadequate information systems support: 36%, 32%, 27%

Lack of weight and dim information in system: 12%, 16%, 23%
Pros recognize a lack of SKU weight and dim info as a growing problem

Obsolete layout: 23%, 23%, 17%

Lack of higher management support: 19%, 15%, 11%

Source: Peerless Research Group (PRG)

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#6 **Enhance human-robotic interaction.**

✓ **Optimize how people and AMR's conduct picking** without disrupting operations

✓ **Apply AI to fine-tune interactions**, enhance coordination to what each resource does best

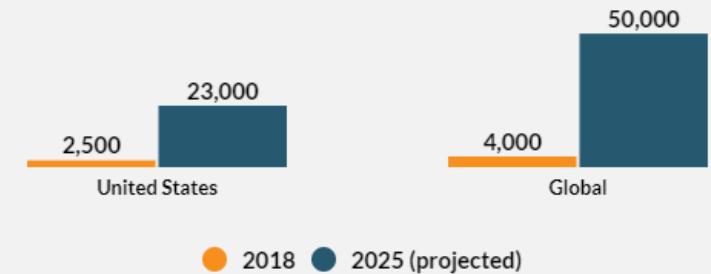✓ Pathway to drive **better results with "cobots"** through optimized work to **achieve more, together**

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What does the research show?

Robots are coming…for picking, with 12x more arriving by 2025.

- ABI Research: "**Over 4M commercial robots will be installed** in more than 50,000 warehouses by 2025—up from just 4,000 in 2018, **more than a 12-fold increase**."

- Yet… "**Over $90K per employee, per year thrown away** in manufacturing assembly due to improper implementation of collaborative robots." (Assembly Magazine)

- **Key question facing DC's: how to optimize them?**

Embed robots in picking alongside people in optimal ways – accomplishing as a whole greater than its parts.

Surge in robotic warehouses coming

Projected growth of robot-powered warehouses

50,000

23,000

2,500
United States

4,000

Global

● 2018 ● 2025 (projected)

Source: ABI Research

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03

Implications for your DC today, and in 2030

Why Vision+?

Optimize picking, while impacting labor, capacity, capex and the **major issues of the next decade**.

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Intentionally limit your fixed cost

+

Highly optimize your variable cost

=

Ability to create a more capital-efficient logistics operation for the long-term

Challenge to you:

- Evaluate ways to **improve your workforce** through adoption of Vision+

- Use it to **build your logistics operations** in a way that provides eminent flexibility

- **Pre-plan for inevitable change** – guarding against locking into the business model of the moment that won't support tomorrow

- **Make your vision of 2030 real today**

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