

# ***SOLVE FOR X.***

***MHI presents:  
Get ready for 2030***

Presented by:

**Material Handling & Logistics**

**U.S. Roadmap**

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## MATERIAL HANDLING & LOGISTICS **U.S. ROADMAP 2.0**

powered by  **MHI**



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# SETTING THE STAGE FOR 2030



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## The story behind the Roadmap

- Five years
- Nine events
- 300 participants
- Baseline published 2014
- Roadmap 2.0 published yesterday
- Setting the stage for 2030

## Disruptors

- E-commerce
- Relentless competition
- Mass personalization
- Mobile & wearable computing
- Robotics and automation
- Internet of Things
- Urbanization
- Big Data
- Workforce
- Sustainability

## Core competencies

- Total supply chain visibility
- Standardization
- Internet of Things
- Planning & optimization
- E-Commerce
- Collaboration
- Urban logistics
- Technology and automation
- Sustainability
- Workforce



## Steve Melnyk's 10 drivers of change

- Uncertainty and change
- Increasing rate of technological advances
- Customer-driven complexity
- New competitive pressures
- New methods of dealing with customers
- Low cost is no longer enough
- Customer demand for greater supply chain visibility
- Robust not optimal systems
- Outside/in not inside/out perspective
- A future focus

## Roadmap 2.0

- Technology
- Consumers
- Workforce
- Logistics Infrastructure

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# TECHNOLOGY

No place is the rate of change faster than among the technologies that drive supply chain, logistics and material handling. And that will be the case through 2030.



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## Trends that could shape the future

- Most Roadmap v1 trends are still *very* important
- Cloud computing
- Artificial intelligence
- Using data despite risks

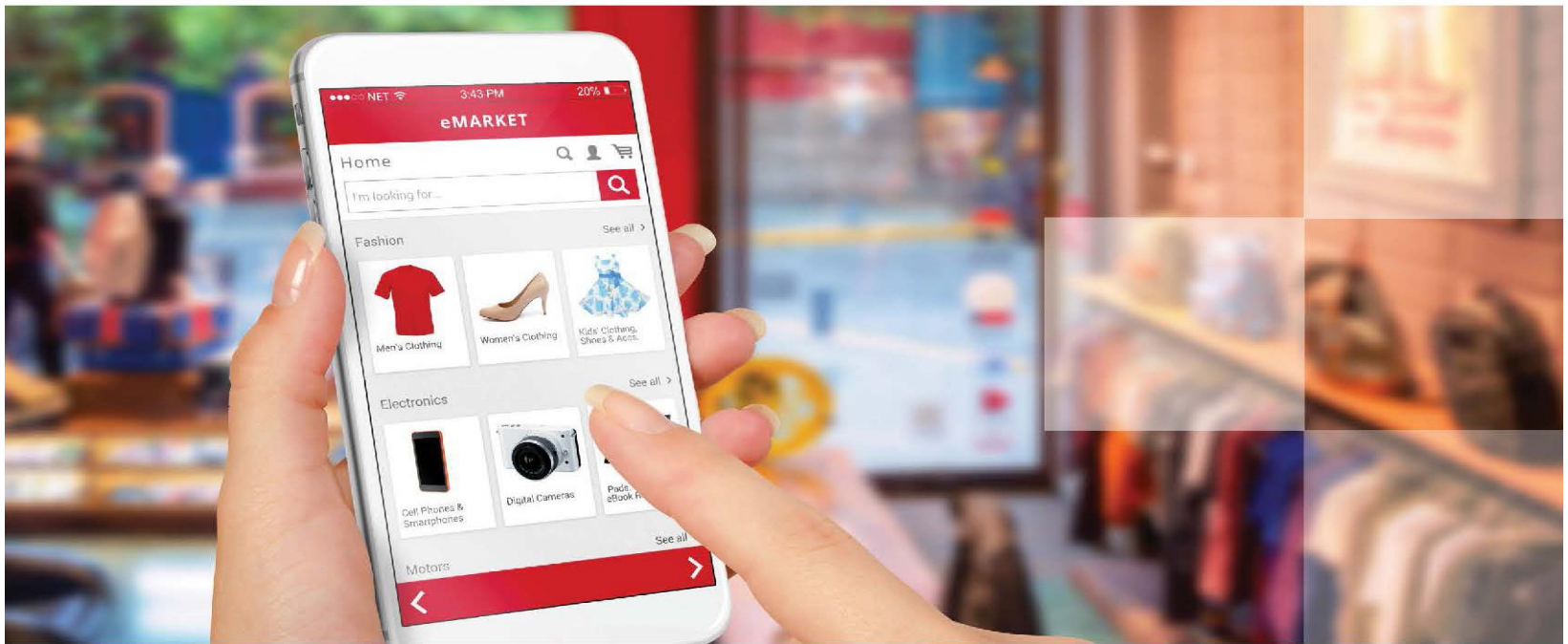
## Impacts on the Supply Chain

- Different types of facilities
- Single-piece unit loads
- Technology interacting with humans
- Outside the four walls transportation

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# CONSUMERS

**The consumer is king. In fact, millions of consumers are kings. All at the same time.**



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Don't think of *the* consumer, think of **all** of the consumers

Demographics matter. 5 Groups. And the three youngest matter the most.

While we all talk about the Millennials, the iGen will move the market.

iGen accounts for 29%  
of the total population  
in 2025.

The most educated, most  
integrated, most diverse, most  
self-employed and most tech  
dependent of any generation.



Consumers ask  
**4 Questions**

*Plus the Bonus*

Do You Have What I Want?

How much is it?

When can I get it?

How do I get it?

**Can I  
Trust  
You?**

Consumers typically start with zero trust in  
any seller, and only after asking their buying  
questions does their trust level go up.

**One-size-fits-all  
no longer applies  
to consumers,  
and they want  
options that  
decrease effort  
and time to  
select and buy  
the product.**

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## Death of the salesman?

### The Internet Changes how business buys.

In the past, the purchasing process took more time, working through purchasing managers, sales meetings and pricing negotiations.



The Internet, mobile devices and corporate credit cards are replacing large corporate purchasing departments. The receptionist becomes the buyer, as does the line supervisor, the office manager, the engineer, and the boss.

And just as product personalization will dominate by 2030, personalized logistics will, too.

### The consumer as the moving target...

Deliver it to anywhere I am, at a specific time, or better  
Track where I am and deliver it to **my phone!**

### Bottom Line

The Consumer *is* the

# Disrupter



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# WORKFORCE

As a formal profession, supply chain is barely three decades old. Yes, material handling and logistics have been practiced for a very long time. But the term supply chain first reached a broad audience in 1982 in the *Financial Times*.



## 3 key workforce challenges on the road to 2030

1. Finding people
  - Understand the labor market
  - Align of work with available workers
  - Commit to the flexible workforce
  - Improve the image of and provide greater visibility for our profession
2. Improving workers' skills
  - Provide more effective education and training
  - Tighten collaboration with academia
  - Clearly articulate functional skills
3. Managing and retaining workers
  - Create company cultures that allow them to thrive
  - Adopt effective training methods
  - Provide more effective approaches to performance evaluation

## Workforce needed by 2030: A tale of 3 collars

- Blue-collar workers
  - Less repetitive, standardized work than today due to automation; more administration, oversight and exception handling
  - Minimum credential: High-school diploma
- Grey-collar workers
  - Installation, programming, maintenance and repair of automation and related mechanization
  - Minimum credential: 2-year technical- or trade-school degree
- White-collar workers
  - Engineering and management
  - Minimum credential: 4-year university degree (industrial engineering, supply chain, logistics, etc.)



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# LOGISTICS INFRASTRUCTURE

To the untrained eye at a distance, logistics infrastructure does not appear likely to change much in the years ahead. Some ask: How many Panama Canal scale projects are out there after all?



## Data & Technology

- Data & Technology will be applied in innovative ways impacting industry
  - Full supply chain visibility will be the baseline supported by tech such as AI and IOT
  - Corporate consolidation and major changes in sectors like transportation will continue
  - Collaborative practices will shape logistics and broader business behavior including public/private partnerships for infrastructure planning and investment
  - Security and planning for both cyber and physical assets will become fully integrated
  - Other technologies such as additive manufacturing will mature and support localized production and late stage customization
  - Advanced data analytics skills will be integral to the future of education and industry



## Planning & Flexibility

- Rapid changes in flows, modal choice, and vehicles will change how the infrastructure is designed
  - Semi- and fully-autonomous and other new vehicles will create new planning challenges
  - Infrastructure design will focus on reliability and flexibility
  - Multi-modal systems will start inside the building and end inside the customer's location
  - Collaboration between users and planners will be mandatory
  - Innovative infrastructure funding will match shorter life cycles

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## ***For More Information:***

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