



**The impact of  
changing attitudes &  
advancing technology**



**Phillip Godding**

Chairman of IPAF Manufacturers'  
Technical Committee

Principal Product Safety  
and Reliability Engineer

JLG Industries, Inc.

**WHERE IS PRODUCT SAFETY  
DEVELOPMENT HEADED?**



# WELCOME

## Agenda

- Evolution of safety in the access industry
- Shift in attitudes towards safety
- Gains in product safety development
- Impacting the industry: Manufacturers' Technical Committee
- Where are we headed? *Ignacy Puskiewicz, JLG Industries, Inc.*
- Evolution of safety: final thoughts



# EVOLUTION OF SAFETY IN ACCESS

**Advancing technology** and  
**changing attitudes** are leading  
to significant gains in  
**product safety development.**







**SHIFT IN ATTITUDES  
TOWARDS SAFETY**



# RISK ACCEPTANCE

As the culture around safety has changed, **attitudes have changed, too.**





# RISK ACCEPTANCE

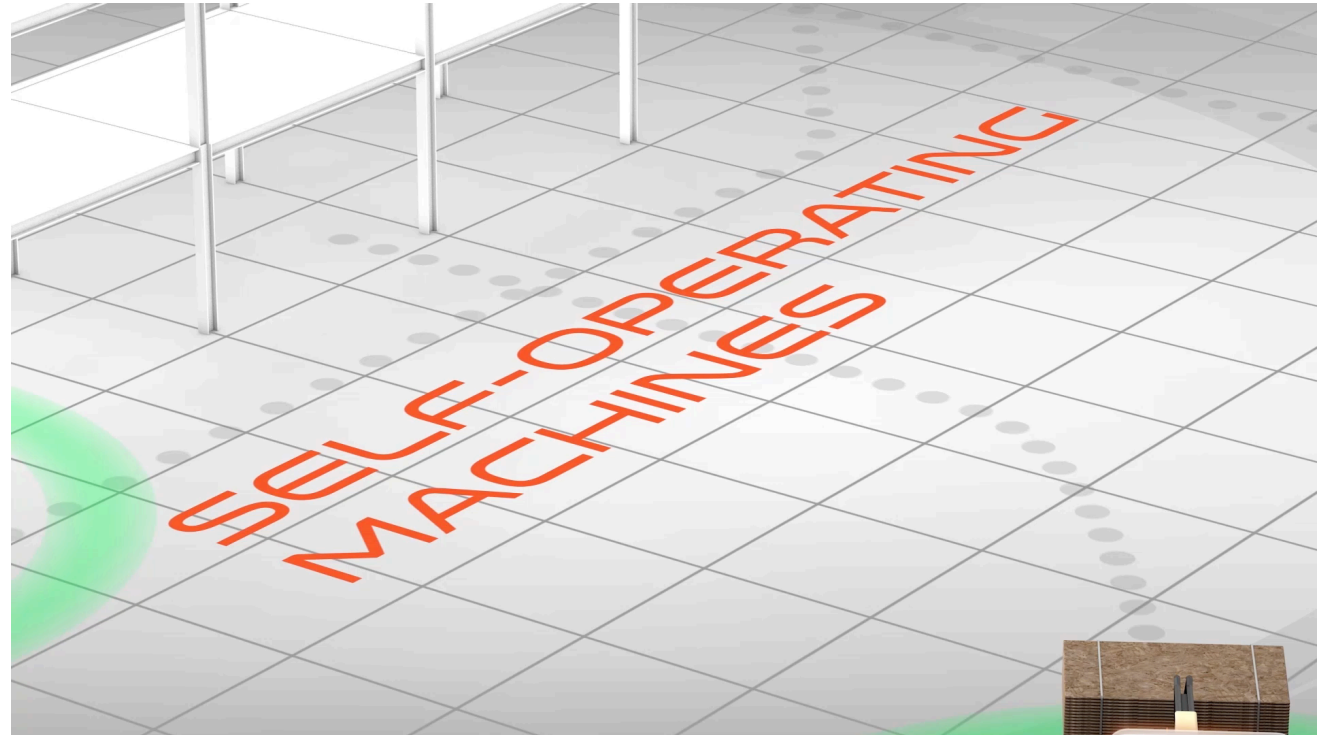
As the culture around safety has changed, **attitudes have changed, too.**





# ATTITUDES TOWARDS RISK

The pace of change is accelerating and shows a clear trend towards further **evolution of product safety** needs.







# CORPORATE SAFETY CULTURE

“The best sales tool you have  
is that of safety.”

– Pedro Torres, COO, Riwal



# INDUSTRY COMPLIANCE

Our industry is **leaping beyond compliance**.

- Secondary guarding on boom lifts
- Emissions and noise requirements
- Worker health







**GAINS IN PRODUCT  
SAFETY DEVELOPMENT**



# PRODUCT SAFETY DEVELOPMENT

THEN...





# PRODUCT SAFETY DEVELOPMENT

NOW...







**IMPACTING THE  
WIDER INDUSTRY**



# MANUFACTURERS' TECHNICAL COMMITTEE



## LISTEN

Hear the voice of wider industry  
and manufacturers



## LEAD

Project-based focus  
delivering results



## COMMUNICATE

Exchange information on  
work undertaken





**ISO 21455 standard**

The **first global draft** standard to  
consider control function consistency.

**MTC PROJECT:  
CONTROL BOX STANDARD**



# MTC CONTROL BOX STANDARD: ACCOMPLISHMENT

- Manufacturers and the regulator worked together
- Developing the draft was quicker than traditional methods
- As a result, the committee has successfully brought this work to the industry





# BEYOND 2020: FUTURE PROJECTS

- Owner registration
- Auxiliary lowering decal
- Standard alignment
- Noise/environmental performance (with FEM)
- Work in Australia with MIMG for scissor lifts
- Simplified communication tools for committee
- Anchorage point research
- Secondary guarding developments
- MEWPs as fall arrest guidance





**Ignacy Puskiewicz**

Senior Director, Advanced Technology  
and Industrial Design

JLG Industries, Inc.

**WHERE IS PRODUCT SAFETY  
DEVELOPMENT HEADED?**





The background image is a cityscape featuring a multi-lane highway with several cars. In the distance, a dense urban skyline with various high-rise buildings is visible. Overlaid on this image is a complex network of thin, light-blue lines connecting small circular nodes, creating a digital or data network aesthetic. Two prominent circular icons are also visible: one with a Wi-Fi symbol and another with a laptop icon.

# **MEGATRENDS: RESHAPING THE BUSINESS LANDSCAPE**



# MEGATRENDS: GLOBAL TRENDS

Megatrends help establish long-term product development strategies.

Data is a common thread that binds all megatrends.

A graphic representing the digital future, featuring a blue background with a grid of glowing lines and binary code (0s and 1s) scattered across the scene.

Digital Future

A graphic illustrating the sharing economy, showing several white cars parked in designated yellow-painted zones on a city street. One zone is labeled 'CAR SHARE' and 'D2'. A charging station is visible in the background.

Sharing Economy

A graphic of a city at night, with illuminated buildings and streets. Overlaid on the city are several glowing, curved lines that represent data flow or connectivity between different parts of the urban landscape.

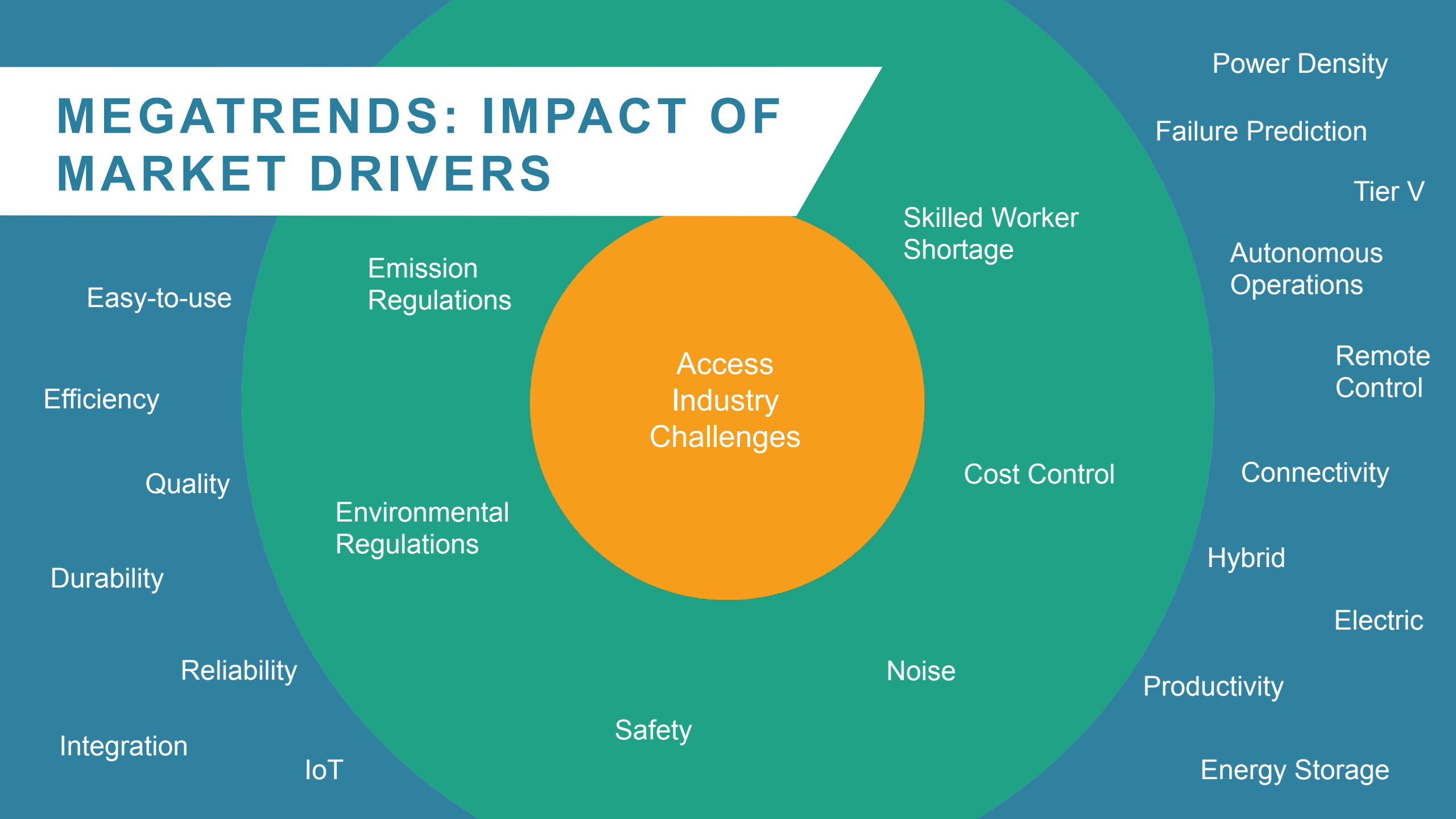
Urban World

A graphic of a world map with glowing blue lines connecting various global locations, symbolizing a global marketplace or network.

Global Marketplace



# MEGATRENDS: IMPACT OF MARKET DRIVERS



# MACHINE SYSTEMS & SAFETY

Aerial work platform  
boundary conditions

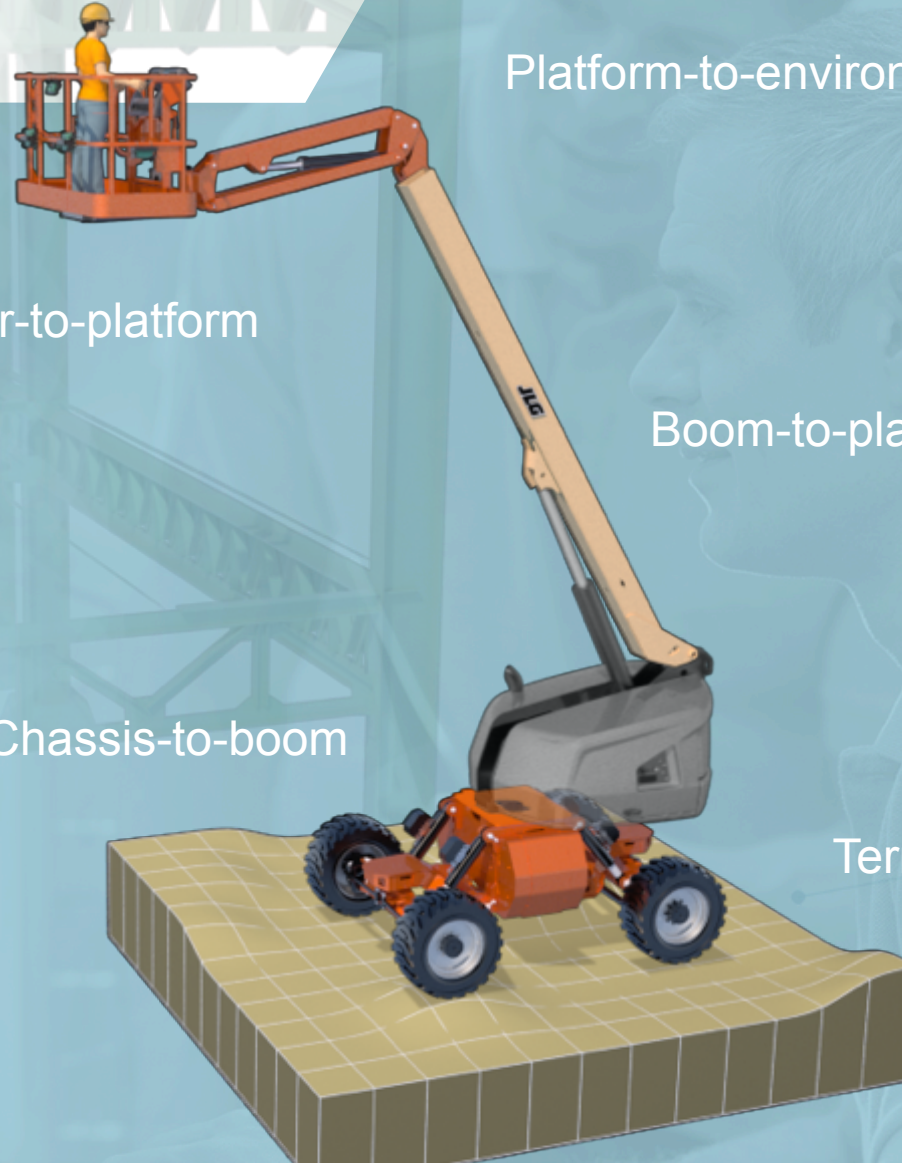
Operator-to-platform

Platform-to-environment

Boom-to-platform

Chassis-to-boom

Terrain-to-chassis







**OPERATOR-TO-PLATFORM**



# CONTROL BOX EVOLUTION



## CONSUMER PRODUCT CONTROLS

Analog radio  
with large knobs



## CONSTRUCTION EQUIPMENT CONTROLS

Cab with long  
direct control  
levers



## AWP CONTROLS

Direct hydraulic  
controls



# CONTROL BOX EVOLUTION

## CONSUMER PRODUCT CONTROLS



Analog radio  
with large knobs



Game controller

## CONSTRUCTION EQUIPMENT CONTROLS



Cab with long  
direct control  
levers



Cab with  
pilot-operated  
joysticks

## AWP CONTROLS



Direct hydraulic  
controls



Joysticks



# CONTROL BOX EVOLUTION

## CONSUMER PRODUCT CONTROLS



Analog radio  
with large knobs



Game controller



iPhone

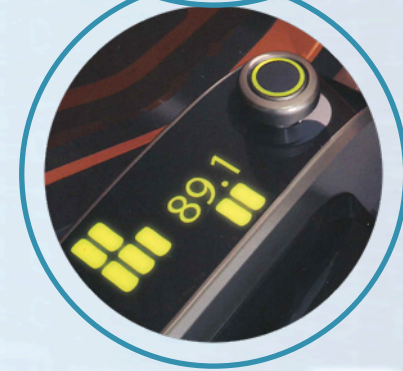
## CONSTRUCTION EQUIPMENT CONTROLS



Cab with long  
direct control  
levers



Cab with  
pilot-operated  
joysticks



Cab with large  
monitor replacing  
switches

## AWP CONTROLS



Direct hydraulic  
controls



Joysticks



Next generation  
control box



# CONTROL SIMPLIFICATION CONCEPTS

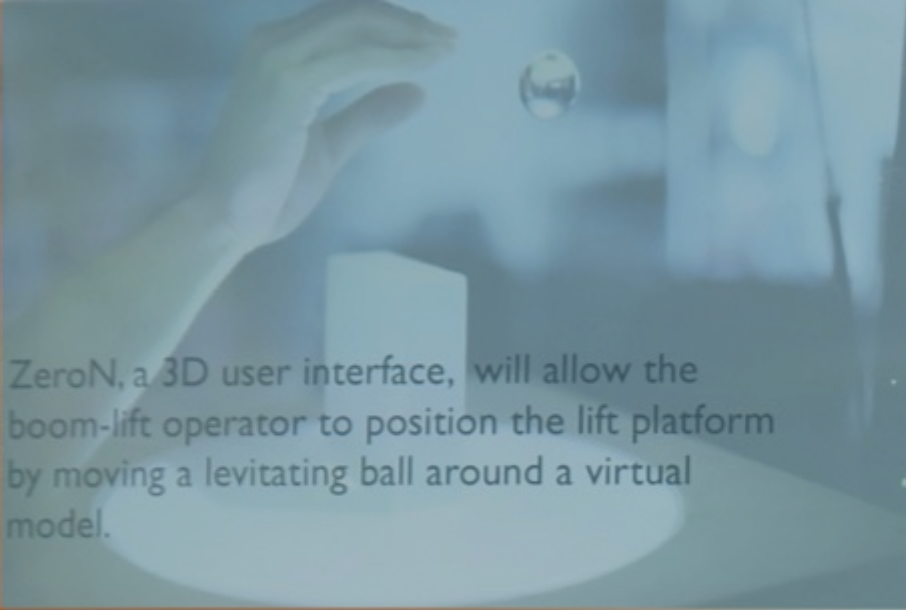




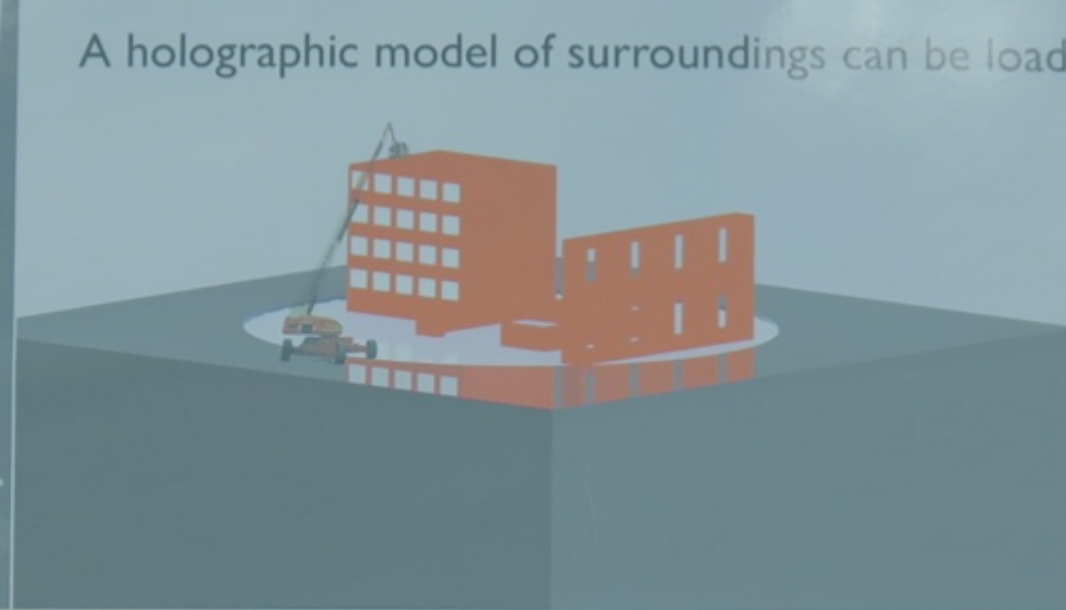
- Extensive Voice of Customer (VoC) based trade study
- Multiple configurations built for physical VoC evaluation
- Modern controls/switching

**MINI-JOYSTICK CONTROLS  
& A STABLE BASE**

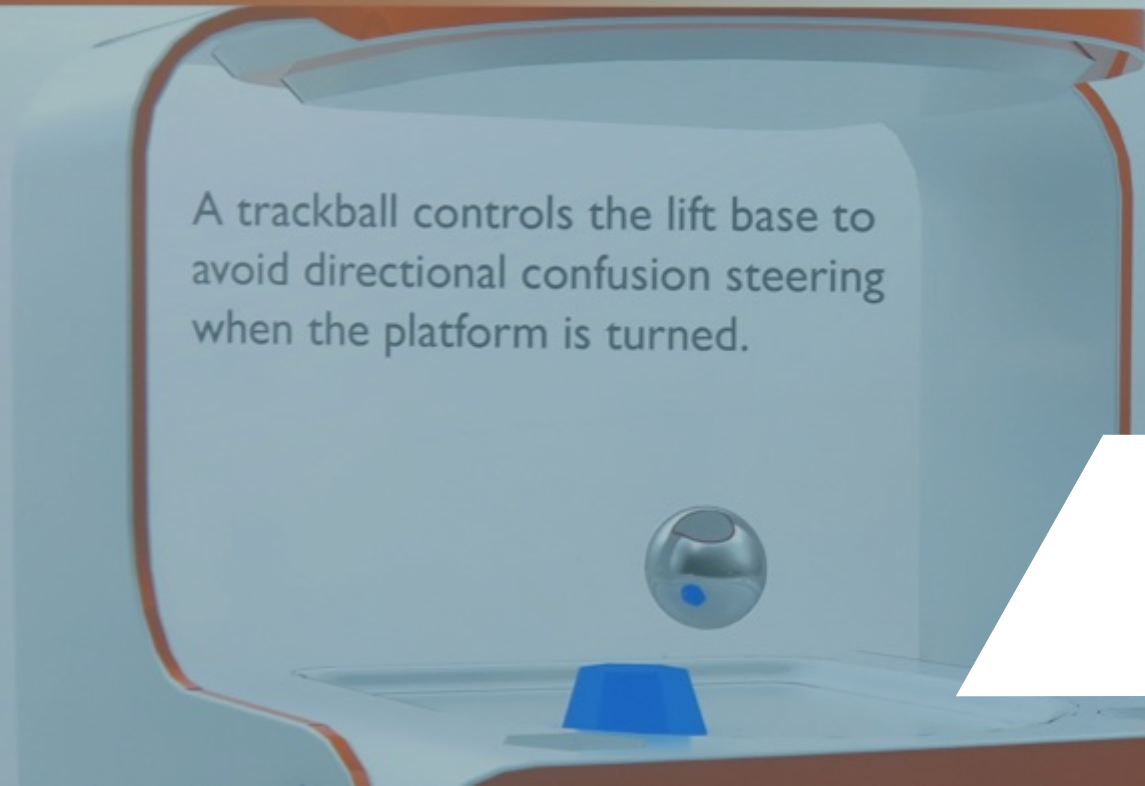
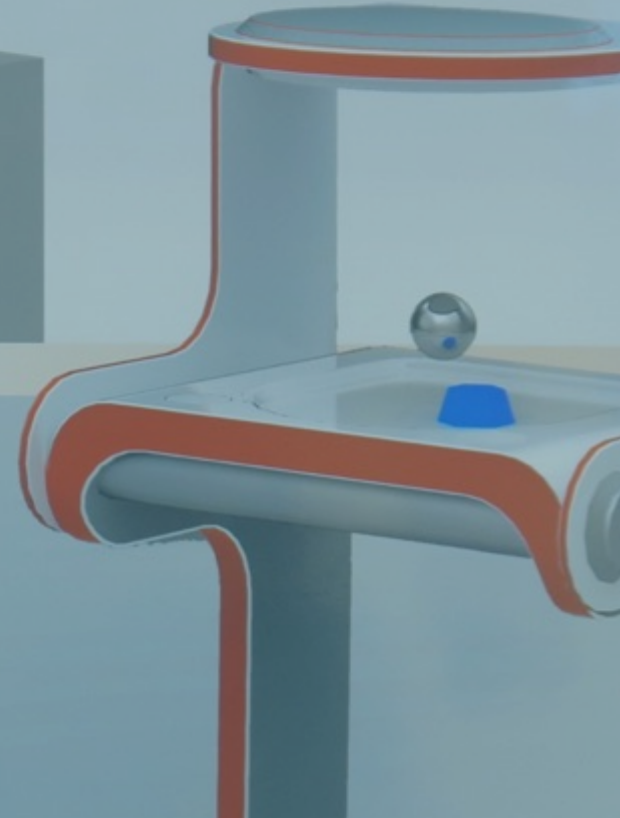




ZeroN, a 3D user interface, will allow the boom-lift operator to position the lift platform by moving a levitating ball around a virtual model.



A holographic model of surroundings can be loaded onto the console.



A trackball controls the lift base to avoid directional confusion steering when the platform is turned.

**POINT & GO CONTROLS**



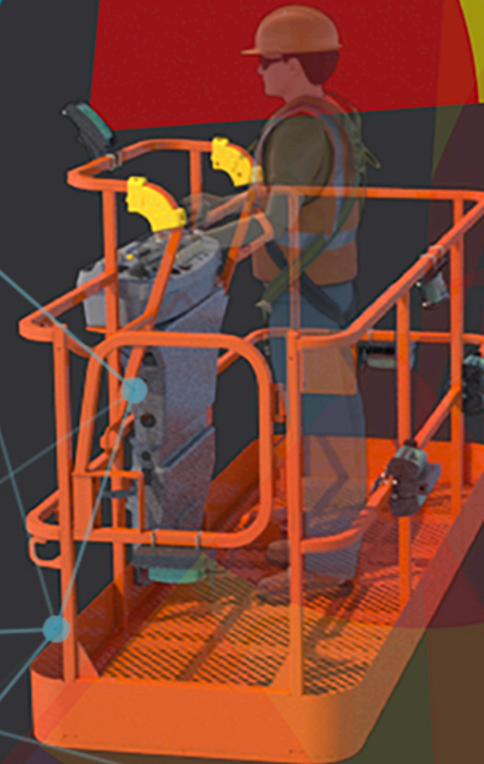
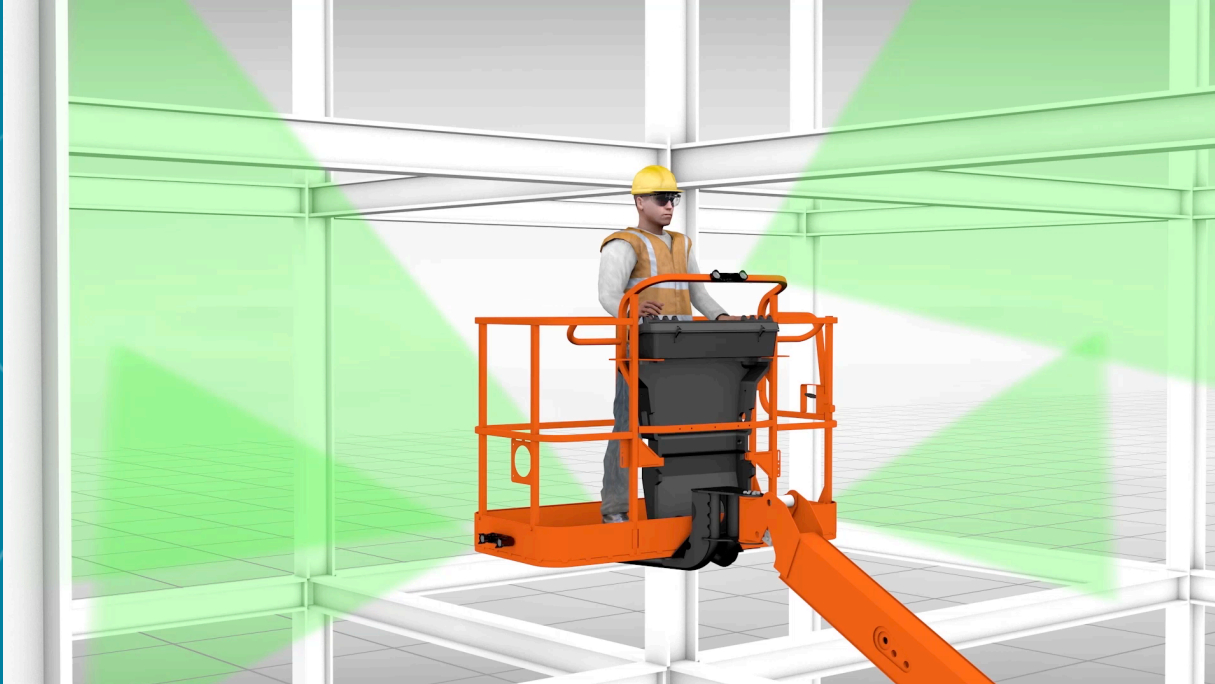


**PLATFORM-TO-ENVIRONMENT**



# SITUATIONAL AWARENESS

- Continuing to evaluate and deploy improved sensing suites based on rapidly evolving technology

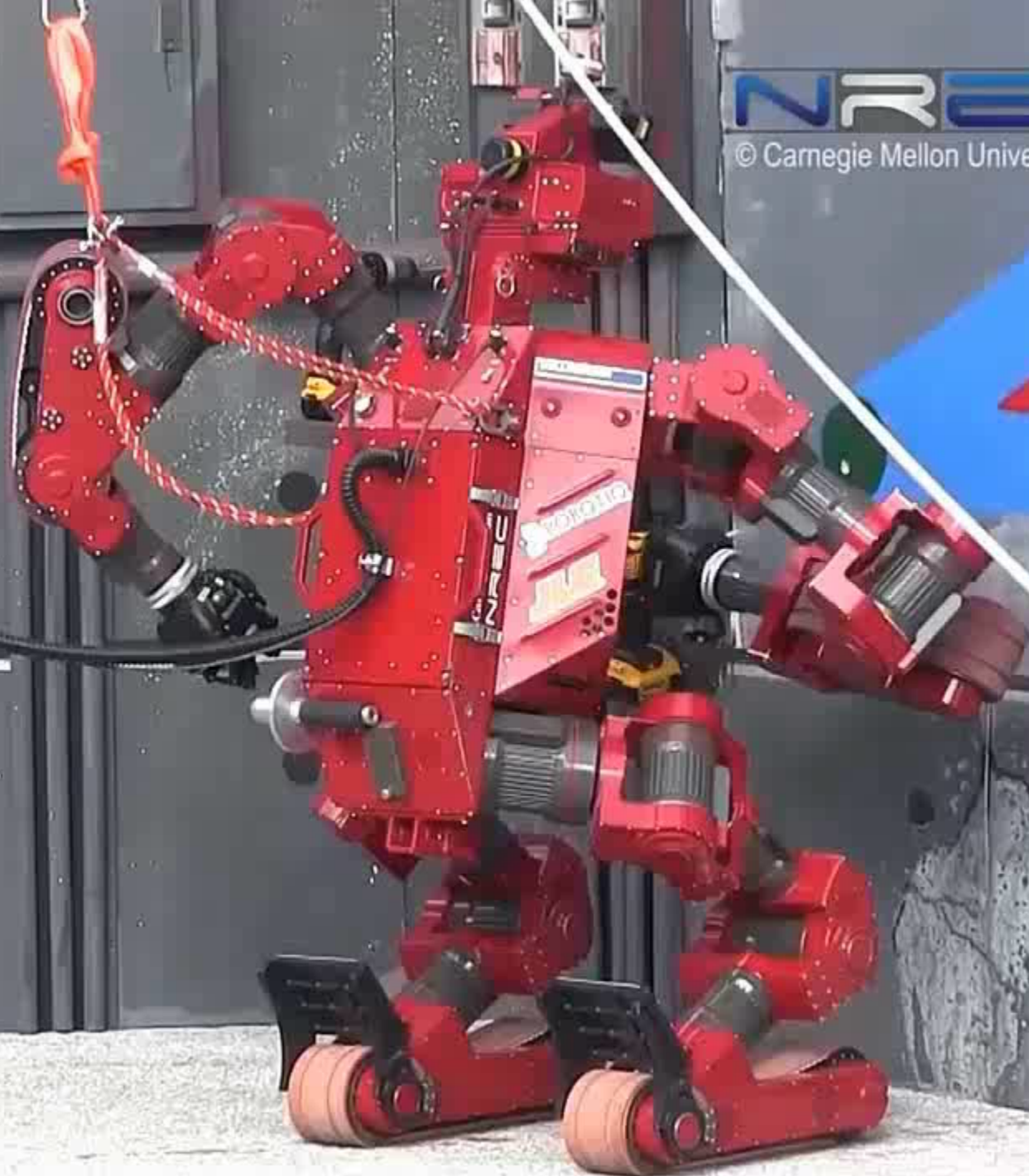


ELECTROSTATIC HAZARD  
KEEP CLEAR  
"NOT TO BE USED FOR ANY OTHER PURPOSE"

WHAT'S NEXT

NREC

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# EVOLUTION OF SAFETY: FINAL THOUGHTS

Changing attitudes will lead to  
a desire to see new  
technologies integrated into  
our industry

