CONTROL DYNAMICS INC.

CDI

PIRANHA SAFETY®

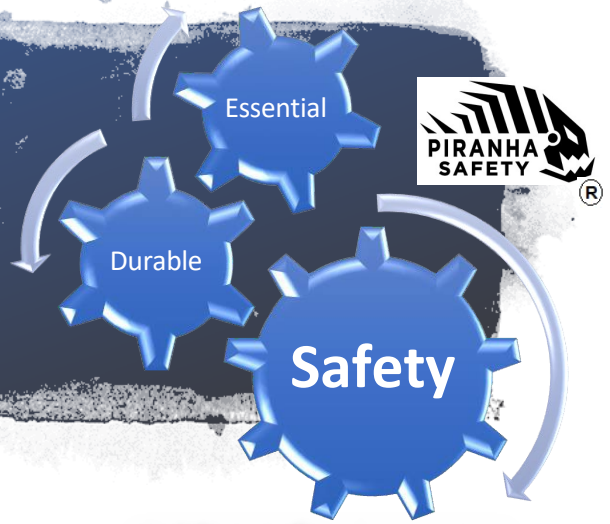
CDI Introduction and history

- Control Dynamics, Inc. (CDI) provides highly innovative electrical and mechanical engineering solutions for critical production initiatives in diverse industries from aerospace to pharmaceuticals. With a focus on modification, repair and service, CDI designs modifications to existing manual and automated tooling to support production and safety initiatives.

- Partnerships with Fortune 500 companies like Boeing and Skanska and various governments and universities provide long term growth and opportunity.

- Since 1994, CDI has worked on every Boeing program including the 737, 747,757,767, 787, 777, and 777X programs as well as Boeing's host of global customers for machine tool installations.

CDI Introduction and history



Eric Moran the founder of Control Dynamics Inc (CDI) .

A lifelong inventor, Eric has solved tough challenges in personnel safety and complex manufacturing for some of the world's largest companies.

James Schram
Operations & Business Development

Supporting the daily running of CDI & subsidiary businesses, utilizing his skills & experience in production management, customer service and project delivery to all CDI customers

Joe Fletcher
Director of Technology Integrations and College Relations

Associate Tech. Fellow with 35 years of Aerospace Mfg R&D, Joe integrates complex systems with innovation clusters and college labs to improve factory and airport sustainability goals

James Samuel
Engineering & Overseas Business Development

Based in the UK, providing engineering & product support and project management to all regions outside of North America.

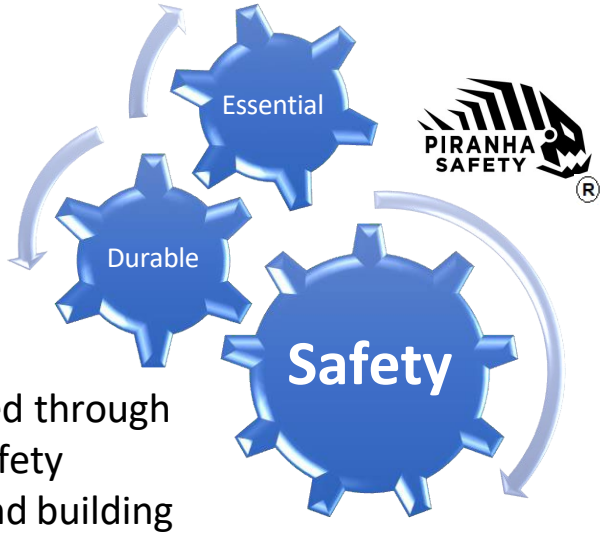
CDI Core Values

- **Safety**: Our “Don’t walk by, say something” is a commitment to providing safe, reliable products and service to our clients. As an industry leader our approach is “Safety First”
- **Service:** We deliver the highest level of service no matter the size of project and work with our partners in the industry.
- **Integrity:** As a company, we pride ourselves in providing the highest level of integrity to our clients. “Treat other as you want to be treated”
- **Engagement:** Confidence in our approach engaging team members and clients.
- **Respect:** Respect and appreciate each person’s opinion and beliefs.
- **Quality:** Always deliver the best service and product the first time.
- **Accountability:** “Do what you say” Our focus on accountability from start to finish.

CDI success with Boeing Beyond Electrical

- CDI began as an electrical contractor who retrofitted all 737, 747, 757, 767, and 777 Gemcor wing and body panel fastening systems, spar mills, and all infrared ovens, multi opening presses, among many other critical Boeing processes since 1994. And took over maintenance contracts to provide reliable service to Boeing system.
- With a consistent onsite crew of licensed electricians and mechanics to serve Boeing.
- Onsite at Boeing with experience and access of knowledge with daily interactions with tooling, production and equipment engineering.
- Anywhere and anytime Boeing asks for CDI assistance and process improvements. CDI has welcomed the challenge and has developed unique solutions.
- CDI provided training to the Boeing Renton wing riveter crew which has allowed them to be self-sufficient for the last 10 years.
- CDI has a very good track record of successful process improvements to all commercial programs including F22 and other military programs.

CDI awards and products



CDI is an award-winning company featuring patented, innovative engineered products and brands offered through its subsidiary companies. Piranha Safety (www.piranha-safety.com) specializes in designing innovative safety solutions for industrial workers. At the heart of CDI is a diverse, seasoned staff utilizing best practices and building pro-active relationships with our customers. The CDI team leverages its relationships, electrical, mechanical and manufacturing capabilities to deliver projects on-time, in budget and to specifications. Whether in-house or on-site, CDI's customized solutions solve customer's problems without compromising quality, safety and productivity.

CDI has been granted several patents and trademarks and won several awards including:

- 2018 International Award for Powered Access Innovation Award
- 2017 Green Cross for Safety Innovation Award
- 2016 Boeing Supplier of the Year Nominee

Fall Protection Systems

Boeing Everett Safety Promotional Center

PIRANHA SAFETY®

Boeing News Now article describing the Piranha LOX.

737 painters Diego Magallanes (left) and Brian O'Donnell prepare a wing for painting while wearing a fall protection system that features the Piranha Lox True Interlock Harness, named the most innovative safety project in the United States by the U.S. National Safety Council. The system prevents a painter's platform from rising unless the painter is securely connected to the safety harness. (Marian Lockhart photo)

Painter Brian O'Donnell holds the latch that must be securely connected to his safety harness before the platform will rise. The latch is part of the fall protection system that won an award from the U.S. National Safety Council. (Marian Lockhart photo)

CONTROL CDI DYNAMICS INC.

XRAIL by Piranha Safety

PIRANHA SAFETY'S XRail creates a safety barrier that is functional at various heights and when fully extended becomes a safety handrail. In its collapsed position the safety rail is flush with the ground or platform, making loading and unloading of equipment and individuals easy. Once it is raised, the safety XRail provides a complete safety barrier and handrail again.

30% Gained Efficiency


Boeing 777X Final Body Join
PHOTO PROVIDED BY 'BOEING NEWS NOW'
There are currently over 325 XRails installed in various places in the Everett Boeing factory at this time.
Exit full screen (f)
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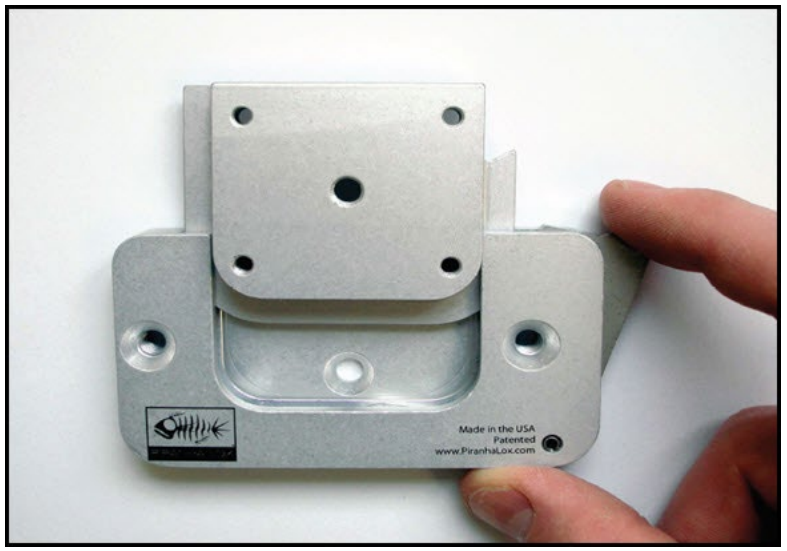
Scroll for details

Powered Access Solutions

Material Handling Attachments

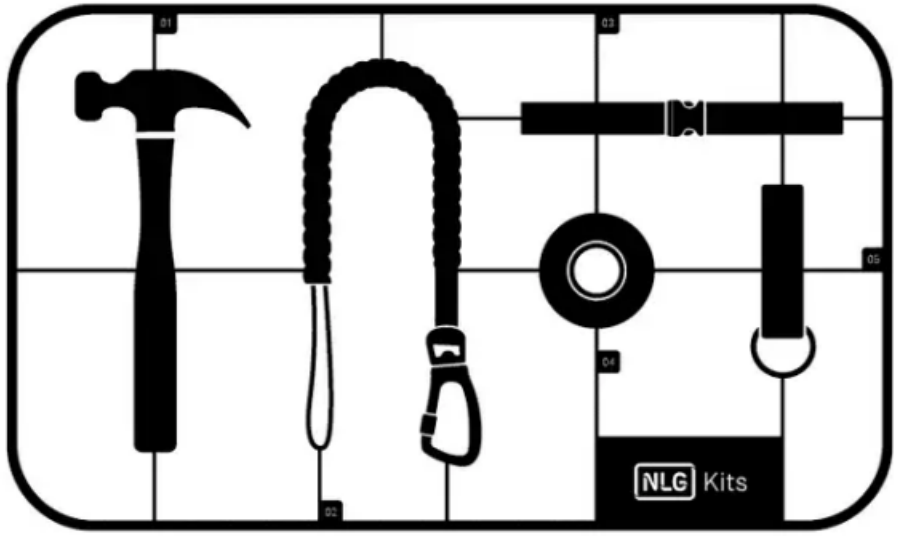
Secure removable tool tray



Pro-Lox Mount

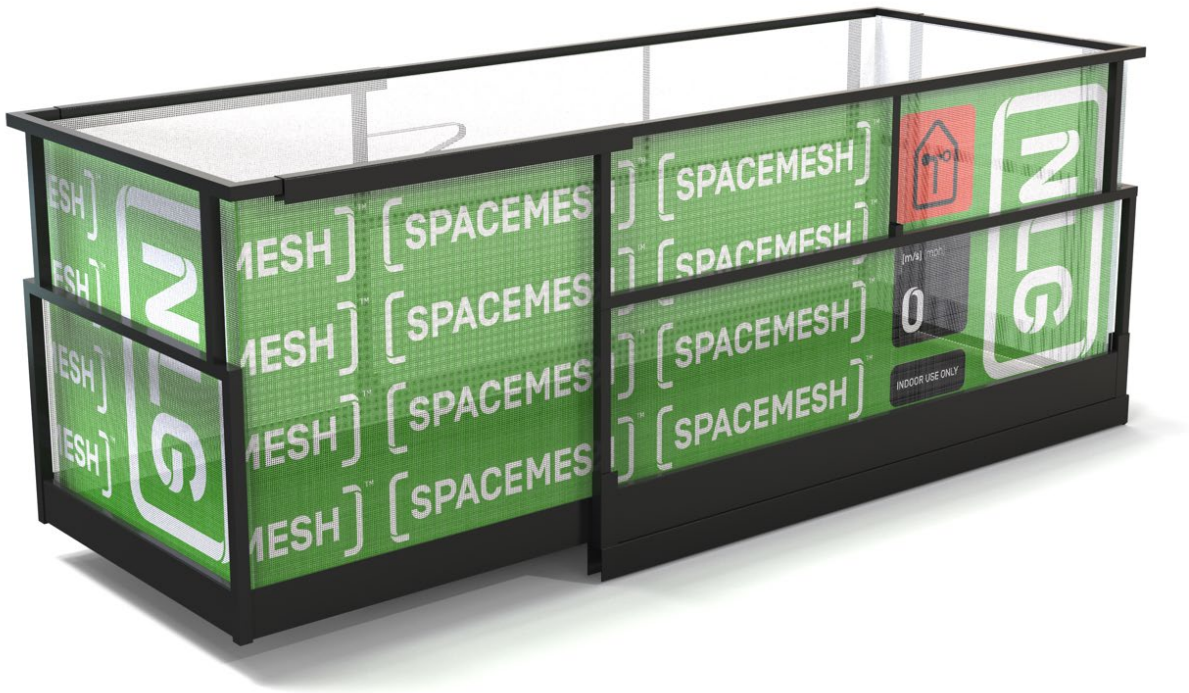
Fire Extinguisher Mount

Dropped Object Prevention



- Partnered with NLG – Never Let Go
- Tool Tethering
- Custom Bags
- Workshop / Training Session
- On-Site assessments
- Custom branding for company or customer

Dropped Object Prevention



- Partnered with NLG – Never Let Go
- Tool Tethering
- Custom Bags
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Exclusion Zone Lighting

- Highlight clear working areas
- Multiple Color options
- Working with OEMs for Approval
- Multi-attachment options
- Alignment with other plant standards

Asset Protection

- Contact based bumper system
- In use in Aviation Sector
- Tilting fore-deck for access to windows etc.
- Allows close working against sensitive objects
- Immediate stop allowing only reverse of last function

Pedestrian Protection

- Alerts operator to obstructions
- RADAR Technology
- Non-Contact based system
- Links with Telematics

Range Of Motion Control

- Total working envelope control
- Network Rail Approved
- National Highway Minimum Standard
- Can be integrated with Telematics systems

OFFICIAL

NetworkRail

Certificate of Acceptance PA05/07159

Manufacturer: Xwatch Safety Solutions Ltd

Issue : 1
Valid From : 19-01-2021

Xwatch XW Series Safety Systems

Product Description
XW Series Safety Systems
The scope of this certificate includes:

1. XW1 – Height Limiter;
2. XW2 – Rated Capacity Indicator (RCI) and Height Limiter;
3. XW3 – Slew Limiter and Virtual Wall;
4. XW4 – Height and Slew Limiter;
5. XW5 – RCI, Height and Slew Limiter;
6. XWTele – Height Limiter;
7. XWFork – Height Limiter.

The scope also includes the following optional features of the XW Series:

- Remote dead-man input (for a banksman);
- Track lock (travel inhibit function when a limit is set);
- Data logger.

The Xwatch XW Series Safety Systems are for operation on non-railborne (construction) plant and equipment used on or near Network Rail Infrastructure.

Product Image

Height Limitation

Operation is fail safe and fully automatic with function selection never more that two key presses away.

All potential machine high points are monitored and appropriate motions controlled. Full power is always available to move away from a limit.

Motions are controlled with ramped slow down on approach and soft-stop. There is no machine 'bounce', overshoot, or undershoot. An optional chassis sensor can be installed to correct for terrain slope.

Slew Limitation

Single/dual parallel wall or angular limitation are available. When walls are in use, the front end equipment is also monitored and controlled for limit breach.

Limits can be either manually keyed in or set by positioning the machine. If both limits are active, the system will automatically flip to the appropriate display should a hazard approach occur. Set up is simple, quick, and can be protected with an optional access key switch. All settings are retained and will be active on start-up.

1.8 Mobile elevated working platform

Minimum requirement

Plant - all MEWPs

- Report of thorough examination within the previous 6 months
- Power failure safe lowering system
- When boom type MEWPs are used in situations involving a risk of crushing against overhead structures or equipment, specific control measures must be implemented and the use of anti-trapping secondary guarding devices must be used.
- Travel alarm to be fitted, working and audible
- SWL displayed in platform
- Outrigger/wheel loading details
- Controls must be shrouded and be fitted with anti-crush protection measures
- Door lock keys in cabs of lorry mounted booms
- Direction of travel must be clearly indicated
- If used under overhead cables or obstructions:
  - Height restrictors with indication on machine
  - Health and Safety Executive's GS6 avoidance of danger from overhead electric power lines must be followed
- If used adjacent live lanes control measures must be put in place that in the event of operator error the machine will be prevented from striking passing traffic.

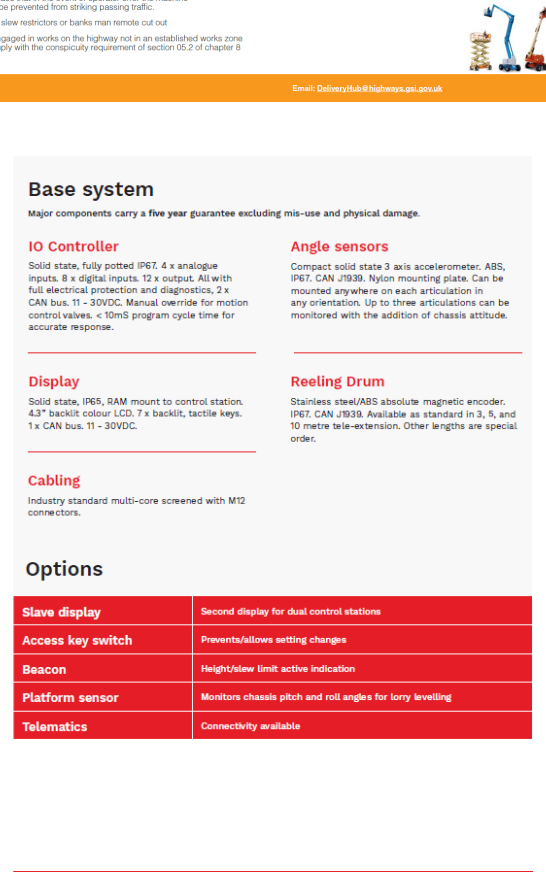
  E.g. slew restrictors or banks man remote cut out
- If engaged in works on the highway not in an established works zone comply with the conspicuity requirement of section 05.2 of chapter 8

Boom type MEWP's only

- Flashing amber beacon
- Harness anchorage points in boom platform

Operator

- Daily inspection signed off
- CPCS card with category of MEWP to be operated; A25 – scissor; A26 – boom A:vehicle mounted B: Self-propelled; A27 – mast climber; or
- IPAF certification (1a – static vertical; 1b – static boom; 3a – mobile vertical; 3b – mobile boom)
- Trained in use of harness as appropriate
- Evidence of familiarization training on the type of MEWP being used, including second/safety man on the ground to operate emergency lowering system
- Evidence of having signed on to the appropriate risk assessment and lift plan for the task
- Compliance with pre-use, daily and weekly defect reporting system
- Competency assessment by site supervisor prior to being put to work
- Evidence of familiarisation training for the particular type of MEWP to be operated, including emergency recovery from the ground
- Use of harness – harness to be worn in boom type MEWP or in the scissor lift if travelling and to be appropriate for specific use
- Be briefed on the site plant and vehicle management procedures and check for overhead obstructions and hazards



Base system

Major components carry a five year guarantee excluding mis-use and physical damage.

IO Controller

Solid state, fully potted IP67. 4 x analogue inputs. 8 x digital inputs. 12 x output. All with full electrical protection and diagnostics, 2 x CAN bus. 11 - 30VDC. Manual override for motion control valves. < 10mS program cycle time for accurate response.

Angle sensors

Compact solid state 3 axis accelerometer. ABS, IP67. CAN J1939. Nylon mounting plate. Can be mounted anywhere on each articulation in any orientation. Up to three articulations can be monitored with the addition of chassis attitude.

Display

Solid state, IP65, RAM mount to control station. 4.3" backlit colour LCD. 7 x backlit, tactile keys. 1 x CAN bus. 11 - 30VDC.

Reeling Drum

Stainless steel/ABS absolute magnetic encoder. IP67. CAN J1939. Available as standard in 3, 5, and 10 metre tele-extension. Other lengths are special order.

Cabling

Industry standard multi-core screened with M12 connectors.

Options

Slave display	**Second display for dual control stations**
Access key switch	**Prevents/allows setting changes**
Beacon	**Height/slew limit active indication**
Platform sensor	**Monitors chassis pitch and roll angles for lorry levelling**
Telematics	**Connectivity available**

Secondary Guarding for scissor lifts

- AUDIO CONFIRMATION OF MOVEMENT
- OPERATOR POSITION IS ALWAYS IN THE PLATFORM
- ENCOURAGES SMOOTH OPERATIONS
- PROMOTES WALKING ALONGSIDE SCISSOR LIFT
- ACTIVE SYSTEM MONITORING TO PREVENT TAMPERING

- IMMEDIATE CUTOUT MINIMIZING HARM
- LOWERING IS ALWAYS AVAILABLE
- GROUND CONTROLS & EMERGENCY LOWERING ARE AVAILABLE
- PRONE OPERATOR ALARM

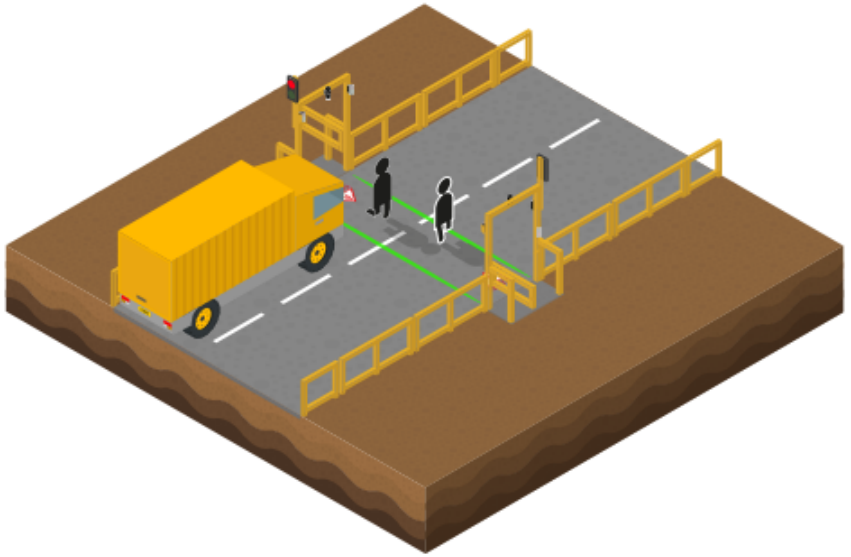
Work Access Safety System Platform

Safety Walkway System

In Use

The FHOSS Illuminated Safety Walkway system is hard wired into its environment and allows workers and patrons to clearly identify exclusion zones in a variety of colours.

Once the system is installed, focused beams of light will signify not only the crossing zone for workers but also when said crossing zone is safe to use.

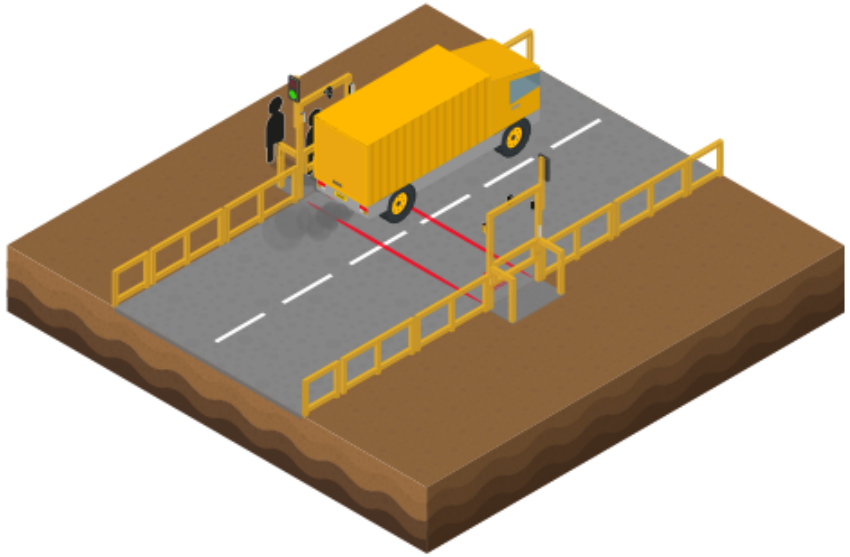


Walkway HALO Lights:	Green	Safe to cross.
Traffic Light:	Red	Unsafe to proceed.
Siren:	Active	Signals to pedestrian that it is safe to cross.

Standby

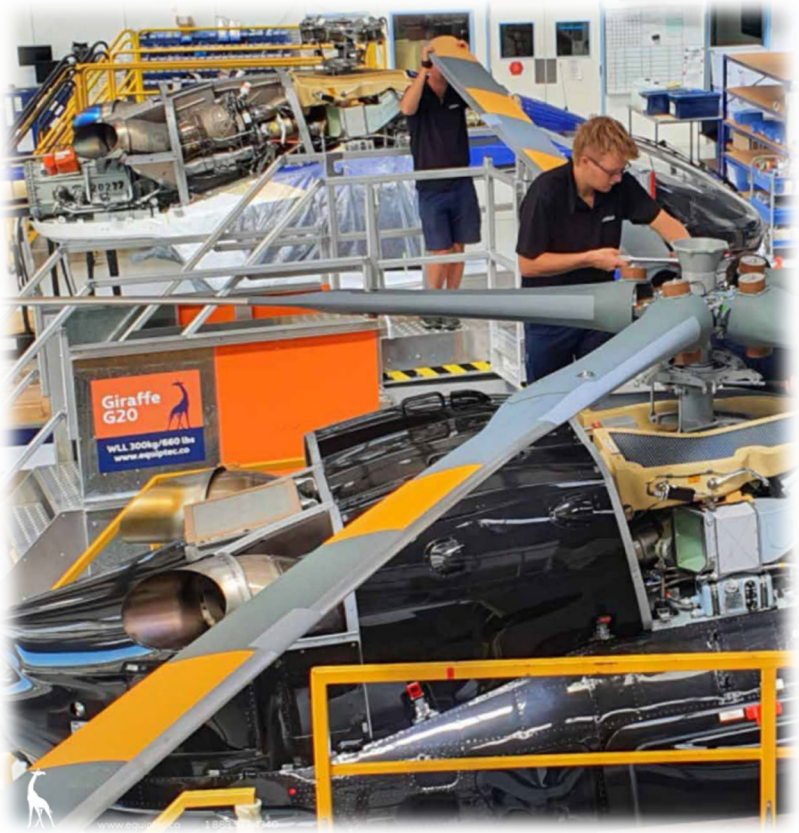
The system will simultaneously convey the opposite message to any oncoming drivers. Letting them know that the crossing is in use.

Each side of the system is wireless, therefore no trenches need to be dug up to install the system, meaning no down time for your site.



Walkway HALO Lights:	Red	Unsafe to cross.
Traffic Light:	Green	Proceed when safe to do so.
Siren:	Inactive	Signals to pedestrian that it is unsafe to cross.

Mobile Adjustable Height Platforms



CONTROL CDI DYNAMICS INC.

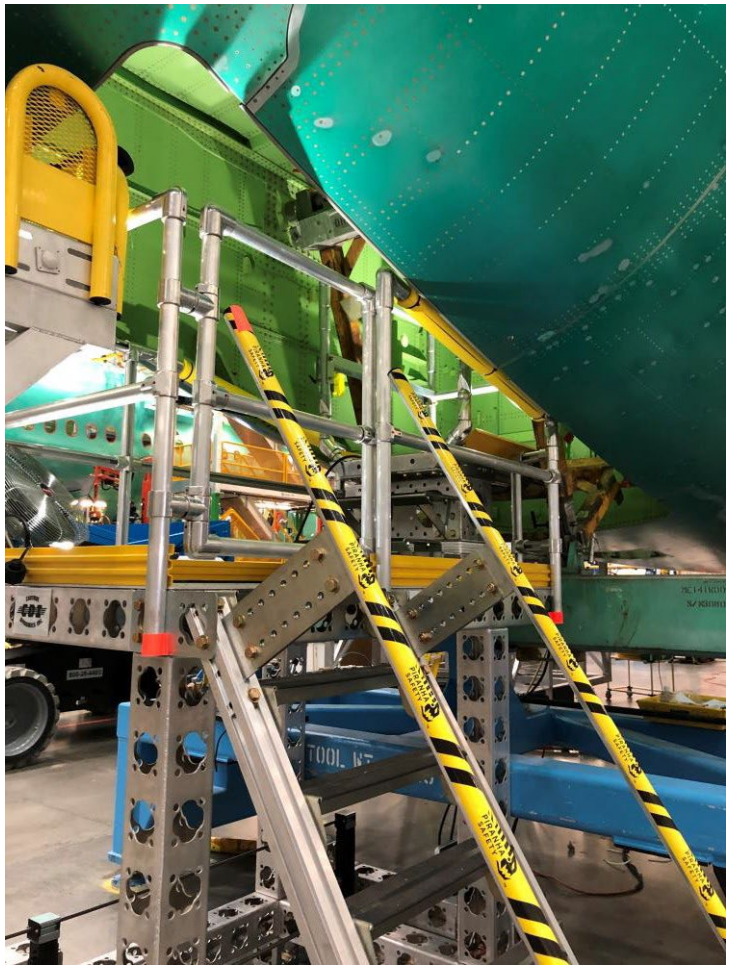
WASSP

ModTruss INC
Modular Building Components

1st ModTruss used in response to a SHEAR

With WA Stress Stamped approved document from Clark Reder.

When the Boeing 777 team needed access to the 777 Nose Wheelwell, CDI was contracted to deliver a ModTruss solution from design to install and in use in less than 3 months.



CLARK REDER ENGINEERING

Stever Walton
ModTruss
463 Cedar Street
Fond du Lac, WI 54935-5558

8/22/2019

Structural Analysis for
Wheel Well 19-1244
Everett, Washington
CRE Project # **19.419.13**

We have completed our analysis for the above referenced project for conformance to the structural provisions of the current Washington Building Code. The enclosed calculations are a representation of our analysis and results. The engineering seal on this cover letter shall apply to all calculations contained herein.

Table of Contents for Analysis Package

The wheel well stand has been reviewed according to client design specifications and loads. Design loads are based on the code required forces for a temporary structure. Clark Reder Engineering Inc. should be consulted for applied loads in excess of those stated within the submittal.

We trust this information is suitable for your needs at this time. If you have any questions, please do not hesitate to contact our office.

Regards,
Clark Reder Engineering Inc.

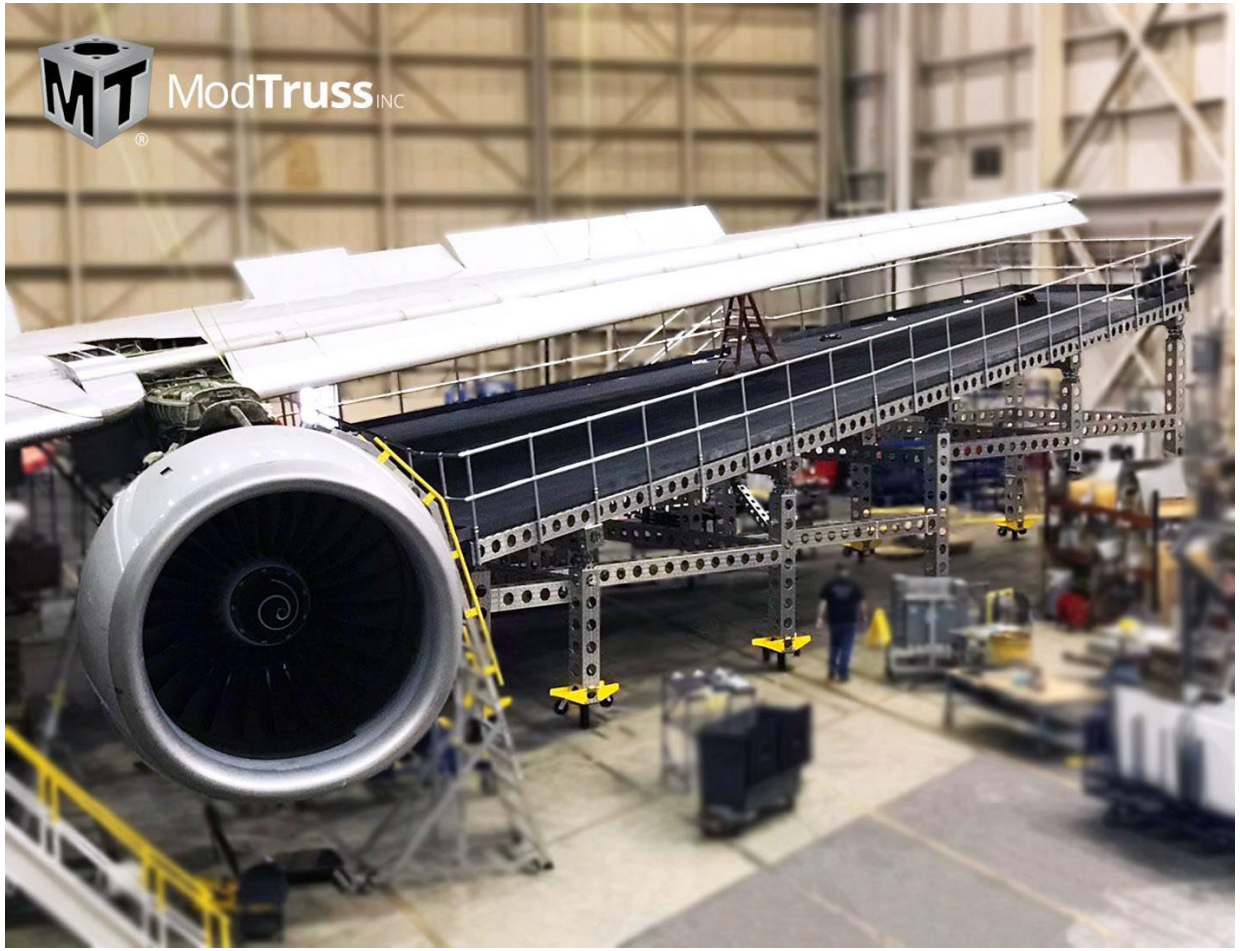
JEFFREY M. REDER STATE OF WASHINGTON 56469 REGISTERED PROFESSIONAL ENGINEER 08/22/2019

Jeffrey M. Reder, P.E.
WA Registration #: 56469

Tyler Fannin, E.I.T.

ModTruss is adaptable, customizable, reusable, engineered and stress approved and therefore safe to use.

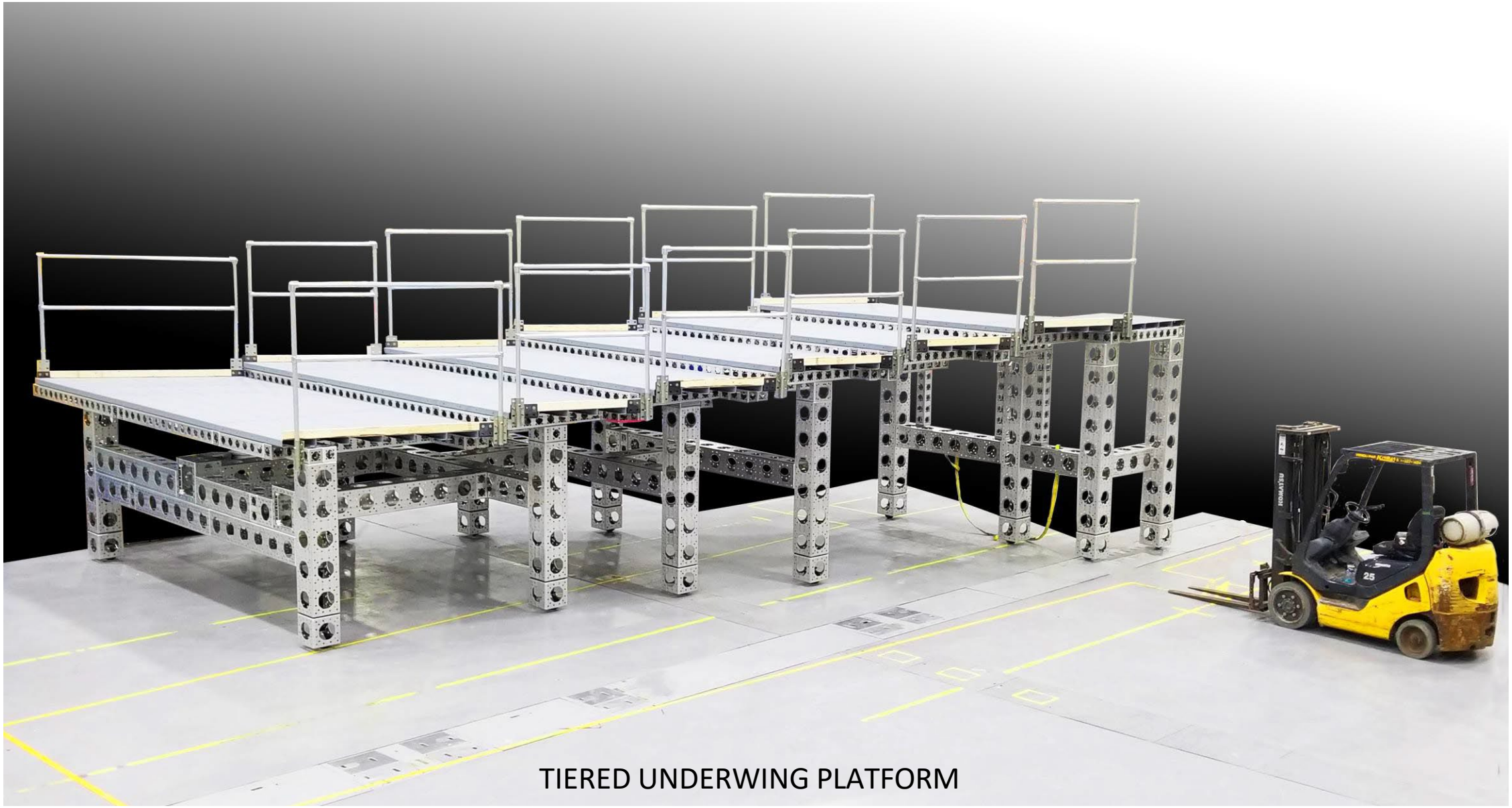
PROVEN SOLUTIONS APPLIED TO NEW MARKETS



WASSP

ModTruss INC
Modular Building Components

WIDEBODY UNDERWING TOOLS



TIERED UNDERWING PLATFORM

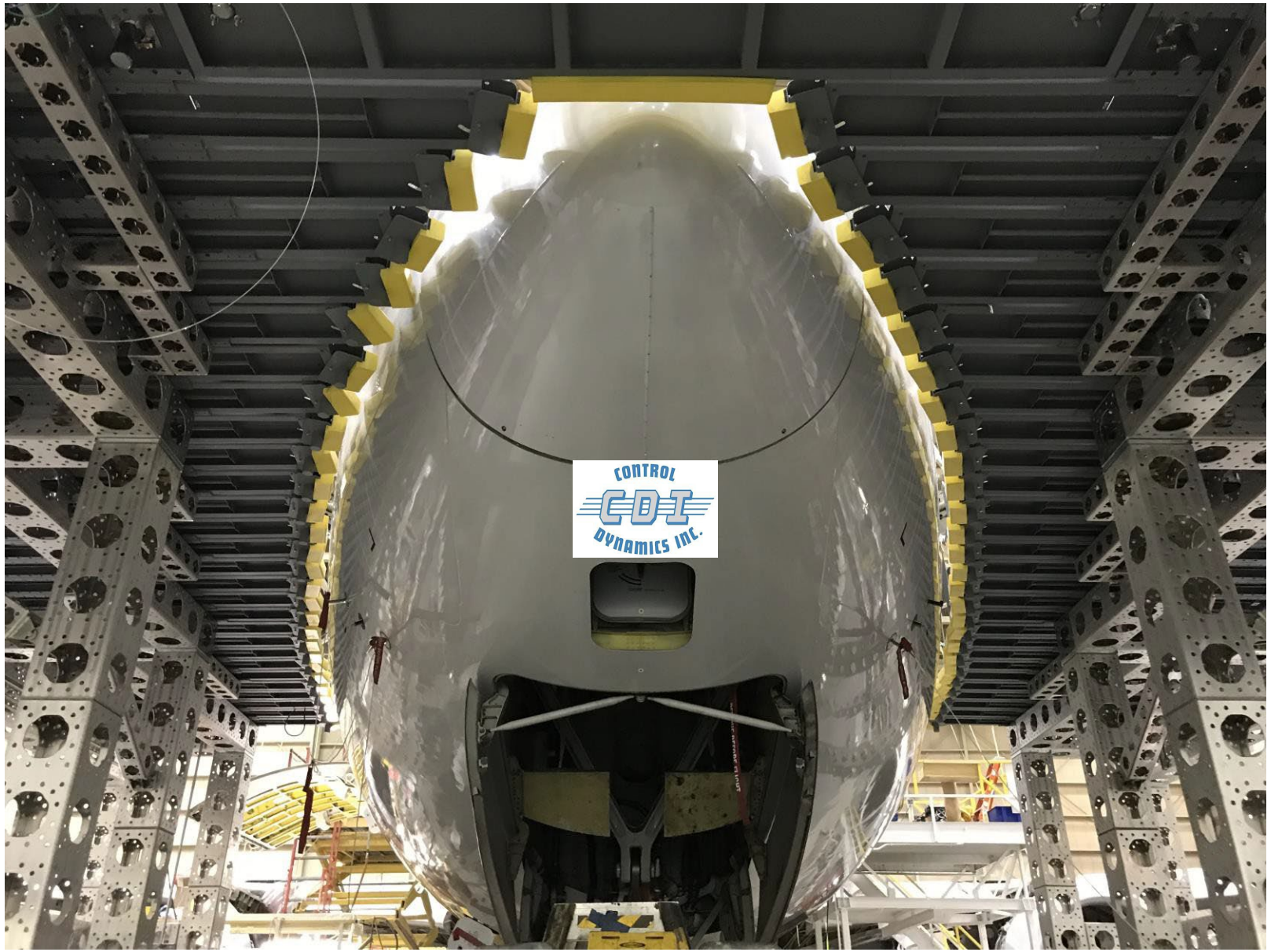
WASSP

ModTruss INC
Modular Building Components

GEAR DRIVEN AERO SLIDERS

WASSP

ModTruss INC
Modular Building Components



AERO SLIDER
BOTTOM VIEW

WASSP

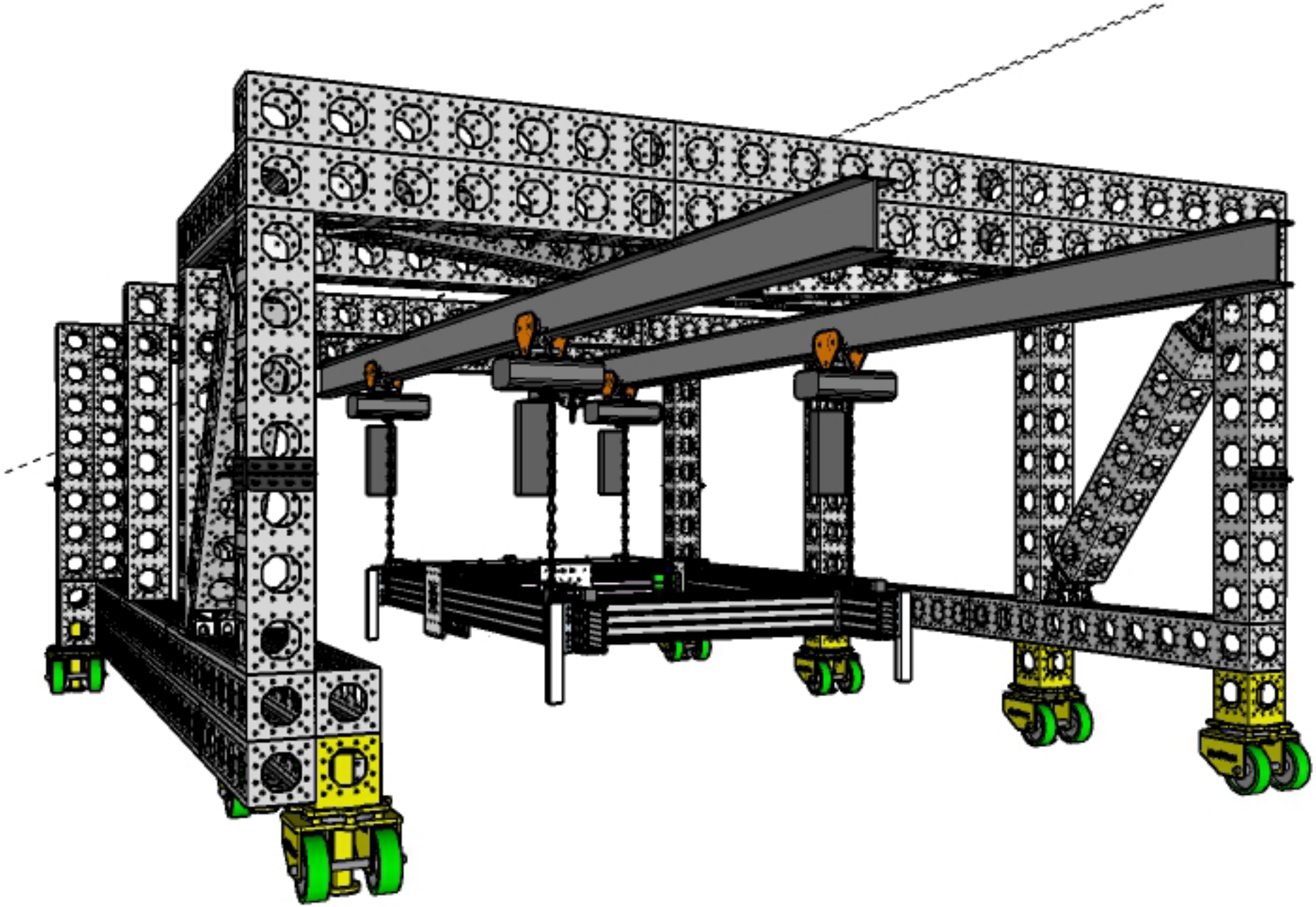
ModTruss INC
Modular Building Components

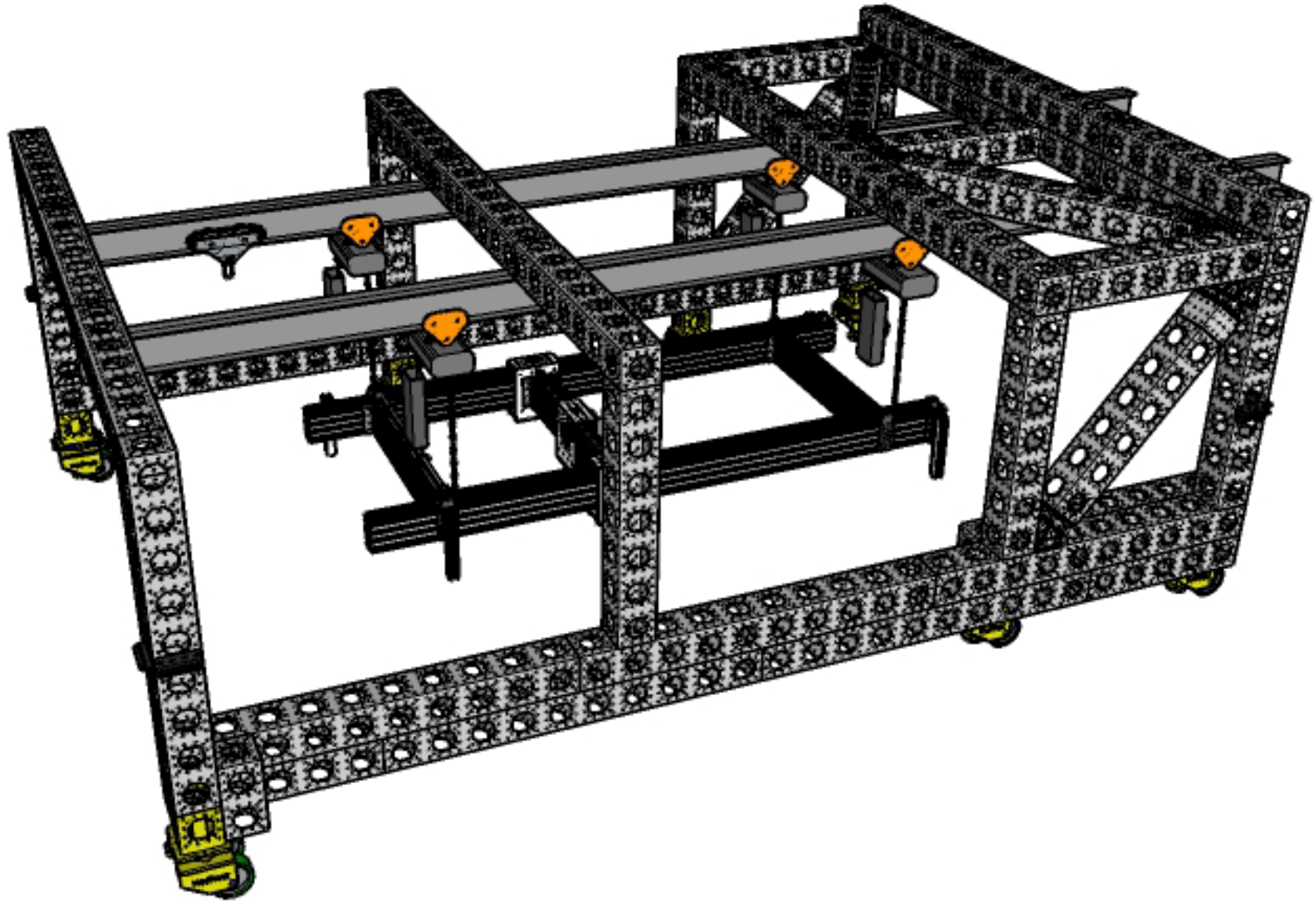
RADOME
INSTALL TOOL

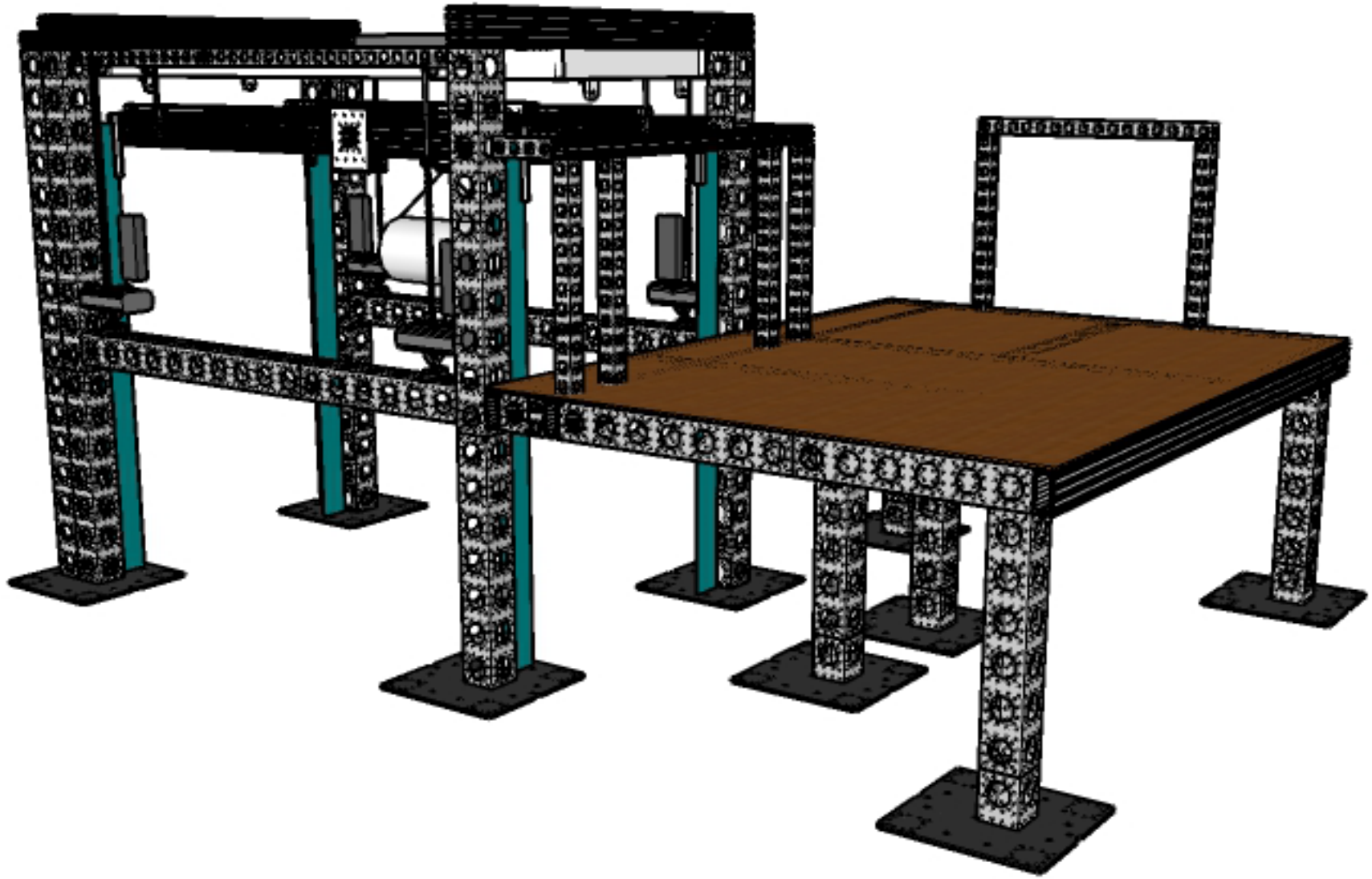
WASSP

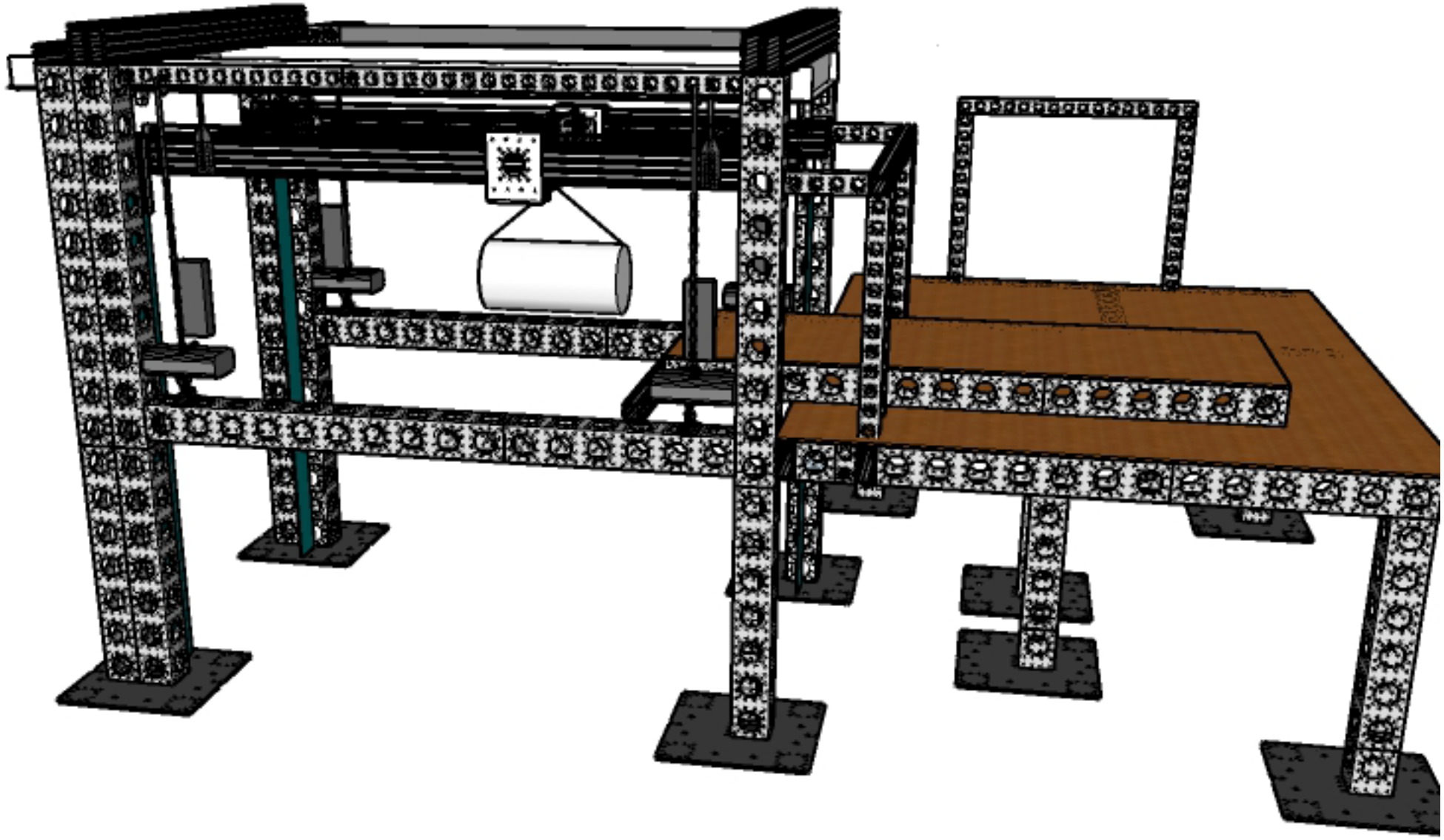
ModTruss INC
Modular Building Components

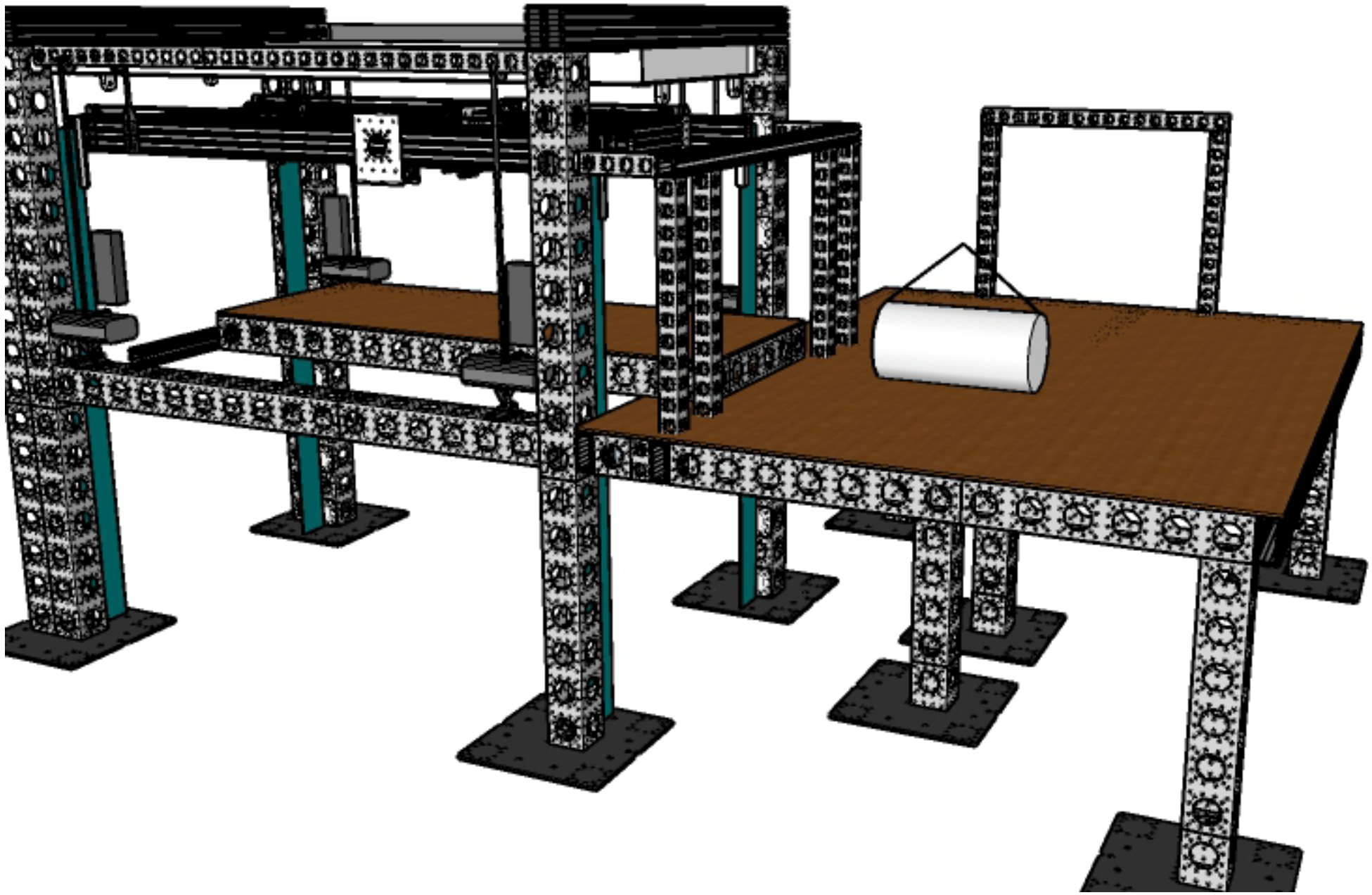
GENEDGE CVN-78 AWE
“Advanced Weapons Elevator” PROJECT











CDI Testimonials

”CDI has been extremely responsive to our needs. They always have innovative ideas. I think their years of service to this company give them an advantage to our challenges, the shape of the aircraft when working at different angles and heights; and safety is always the first conversation they have with us. I would like to find a way to streamline the utilization of some more of their services, like the WASSP system for instance. We need rapid solutions to our safety issues, and I think they understand that because of their dedication to safety themselves.” Mary E. Phillips Everett EHS

“Super excited to see what is in the future for all of us working together on more of these and other projects and as the Safety DOJO manager I will always look forward to sharing more and more of your innovative solutions to not only our Everett Site but also to the Boeing Company Enterprise. Working with CDI has really opened my eyes to what we can achieve together so let’s keep driving to complete more projects like this. I am all in.” Craig Morgan Everett EHS Senior Manager

From Boeing News Now: “They found a solution by installing CDI X-Rails on the front of the paint stackers. The new rails were easy to deploy and did not require heavy lifting and bending associated with the old system. They are adaptable to the needs of painters and do not hinder mobility during the paint process. The team installed the rails on 26 paint stackers beginning in 2018. All paint stackers now have this added safety feature and the paint team has embraced the added safety measures. This team of dedicated and committed employees exemplify the Boeing Behavior of Innovation. They found a solution to a long-standing problem through commitment and creative problem solving. “

CDI Contact Details

Eric Moran, CDI President
Cell: 206-510-3413
Email: Eric@cdinw.com

James Samuel, Business Development Engineer (UK/Europe/RoW)
Cell: +44 (0)773-606-2714
Email: James.Samuel@cdinw.com

Office Address:
21 East Marine View Drive
Suite G
Everett
WA
98201

Tel: 1-877-568-2346

W: www.cdinw.com

E: contact@cdinw.com

BEST Code 10053590 CPA# CW2253453
DUNS# 157052395 CAGE Code 1QB89
Primary NAICS Codes: 332322, 332439, 332313, 332323, 332420, 332431, 332312
Secondary NAICS Codes: 332999, 332812, 339950, 337124, 423510, 323113, 337215, 332996, 332722, 332813