Finding and Utilizing Your Space

Presented by:

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Our agenda today:

To help you find answers for working “**smarter not harder**” by unlocking the power of your existing space.

We’ll discuss how to . . .

- “Use your cube” to get more out of your existing facility
- Provide easy access for your facility team
- Find smarter ways to transport loads between floor levels
- Keep personnel – equipment – infrastructure safe!
What are the reasons you may need to find more space at your present facility?

- Landlocked?
- Cost / timeline of new building construction?
- Consolidating multiple facilities?
- Your business is growing and you need space now!
What’s holding you back from using your cube?
Start by looking at your facility and recognize how it could be better…
Perform a “facility audit”
Do you have overhead space that could be used for:

- Product storage – stock or WIP inventory?
- Product processing – product picking, packing, weighing and labeling for outbound shipment?
- Product assembly or “kitting”?
- Installation of facility equipment – air compressors, electrical cabinets, etc.?
- 2nd level offices for facility operations?
Remember... this is space that you are already paying to ...

- Light
- Heat / AC
- Pay Taxes $
So...based on knowing your needs and performing a facility audit, it may be time to "move up and not out"
Use a free-standing, bolt-together mezzanine platform to increase the usable floor space in key parts of your building.
It all starts with a plan:

1. Where
2. How Large
3. How High
4. Location of Stairs
5. Access Gates
6. Designing around obstructions or floor-based equipment
7. Flow of Operations
8. Employee Safety
Enlist the help and guidance of an experienced material-handling professional to help you through the “nuts and bolts” planning steps.
Mezzanine Platform advantages:

❖ Maximum utilization of existing space
❖ Quick, bolt-together installation
❖ Minimum disruption to your current operations
❖ Can be designed for future expansion, or moved
❖ Can be depreciated like a piece of capital equipment (7 years versus 31 for permanent building structures)
Today’s bolt-together mezzanine systems are just like a giant “Erector Set”
Commonly used framing members include: Beams, Bar Joists, C-Joists, and Truss Girders.

- Beam and C-sections
- Beam and Beam
- Beam and Bar Joist
- Bar Joist and Truss Girder
Different types of framing combinations result in various spans and capacities for your application:

**Light Duty:**
- General storage
- Personnel access walkways / equipment access
- Records storage

**Medium Duty:**
- 2nd level office
- Shelving system with product storage
- 2\textsuperscript{nd} level assembly or kitting operations

**Heavy Duty:**
- Heavy/bulky item storage
- Tanks: chemicals, oils, powdered goods
- Equipment installation
Capacity and loading on mezzanines are expressed by their “psf” rating (pounds per square foot)

**C-SECTION SYSTEMS**
- Up to 75-125 psf Capacity
- Small to Medium Sizes
- Up to 20 ft. Spans
- Smaller Bay Sizes
- Combines with Beam Systems

**BAR JOIST SYSTEMS**
- Up to 125-200 psf Capacity
- Large Size
- Wide Spans
- Clearance for electrical and sprinkler systems
- Combines with: Beam and Truss Girder Systems

**BEAM SYSTEMS**
- 300 psf and Higher Capacity
- Small, Medium, & Large Sizes
- Wide Spans
- Heavier Loads
- Combines with: C-Section, Beam, and Bar Joist Systems
A variety of decking options are available:

- 3/4” Resin Board in Unfinished or Gray finish installed over 20-gauge corrugated-metal sub-deck
- Poly-coated 3/4” thickness decking installed over 20-gauge corrugated metal sub-deck
- “ESD” (anti-static) coated Resin Board over 20-gauge corrugated-metal sub-deck
- Metal Bar Grating
- Diamond Plate or plain metal decking over 20-gauge corrugated-metal sub-deck
- Concrete finished deck with corrugated sub-pan
Some things to think about when designing your mezzanine . . .

Obstructions at floor level / where can columns go?

- Floor-level equipment
- Existing building columns - floor drains
- Stay out of the way of key traffic aisles
- Allow adequate space for stairways
- Identify designated load / unload areas for overhead access gates
Some things to think about in designing your mezzanine...

Additional costs:

- Need for additional lighting and sprinklers
- Wide spans may create need for concrete footers in the floor to handle loading
- Overhead fans if personnel will be working on the 2nd level
- Obtain a review from your Building Dept. - file for an installation Permit
- Specify “platform” instead of mezzanine to reduce future property tax liability
Safety and access for your new space . . .

**Kick-plate:** guards against objects falling from floor

**Handrail:** guards perimeter areas to prevent personnel falls

- 2-rail through 5-rail systems
- Must meet OSHA / IBC requirements
- Besides cross-rail, options can include: Expanded Metal, Plexiglas, Vertical Picket Barriers
Safety and access for your new space . . .

Product loading and unloading

Many gate options are available. Specify a “Safety Gate” where possible; or add an Open Gate Alarm . . .

- Swing Gate
- Slide Gate
- Lift-out Gate
- Tilt Gate
- Double-Drop Safety Gate
- Overhead Safety Gate
- Pivot Safety Gate
Safety and access for your new space . . .

You can also use mezzanine gates for Pick Module applications:

Impact Gates

Net Gates
Open Gate Alarms for safer gate operation (on new gates & retrofits)

Gate Alarms allow access gates to remain open for short periods, then audible and visual alarms are triggered.

Alarms can stop “open gate” accidents!
Safety and access for your new space . . .

Stairways - locate in key access areas

- Straight run
- L-shaped
- U-shaped

Stairs can be designed for “external” or “internal” access to mezzanine
Stairways -

➢ In addition to a fully welded design, “knock-down” or “modular” stair units can be shipped flat and bolted together on site.

➢ Ideal where space is limited (pick modules)
Safety and access for your new space . . .

Crossovers and Ladders

Get “up and over” conveyors or other obstructions

Ladders for maintenance or roof access
Utilize your new space . . .  

Vertical Reciprocating Conveyors (VRCs)

Achieve safe and efficient material transport between levels

- VRCs offer a safer, controlled, and more efficient method for material transport than forklift loading / unloading
- VRCs are for material transfer only – **No Riders** (per ANSI B20.1 Code)
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

- VRCs are available in different capacities, configurations, and custom designs to match your needs

Heavy Duty
Medium Duty
Light Duty
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

➢ VRCs can be manually loaded / unloaded; or part of an automated conveyor system

➢ Select a supplier who can meet your needs

Auto-Loading and Off-Loading via conveyor

Manual Load / Unload operation
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Hydraulic drive models can be custom designed to fit your requirements

**HYDRAULIC DRIVE**

- Lower initial cost
- Redundant dual-cylinder lifting system
- Ground plus one stop
- Handles heavy loads at moderate cycle rates
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

MECHANICAL DRIVE

- Electric motor / gear box / roller chain drive
- Handles the most demanding applications
- Lower maintenance cost
- Multiple stops (up to 10 levels)
- Handles heavy loads at faster cycle rates
- Automated systems available
- Advanced control options

Mechanical drive models can be custom designed to fit your requirements
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Safe loading and operation

GATES

- A variety of manual or motorized gate options are available

- Single swing
- Bi-parting swing
- Vertical acting
- Horizontal slide
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Safe loading and operation

Electro-mechanical Gate Interlocks prevent VRC operation until gates are fully closed at each level
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Safe loading and operation

RAMPS

- VRCs can be pit-mounted or installed at ground level with an optional ‘standard’ or ‘winged’ loading ramp
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Control and protection

- Operator controls at each floor level allow “push-to-call” to bring or send the VRC carriage for loading or unloading.

Key or digital lock options are available to control access for VRC operation.
Utilize your new space . . .

**Vertical Reciprocating Conveyors (VRCs)**

**Control and protection**

**CONTROLS**

- “Smart” controls with PLCs can protect your VRC from damage caused by unstable loads, product jams, or mechanical / electrical errors
- Allow fast / easy trouble-shooting & error resolution

**Deck Locks** prevent carriage descent during maintenance or inspection times
Utilize your new space . . .

**Vertical Reciprocating Conveyors (VRCs)**

Plan the best location for your VRC – where and how to load/unload material?

**LOADING**

- Different carriage designs provide solutions for various loading / unloading operations

- "C" • "Z" & "90-degree" load / unload patterns
- "C" & "Z" load / unload patterns
- "C" • "Z" • "90-degree and 4-side access"
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

VRC applications are anywhere you need to:

- Safely move finished products between levels for inbound replenishment or outbound shipments
- Free up forklifts typically used to move material between levels
- Transport product between levels as part of an automated conveyor system
Utilize your new space . . .

Vertical Reciprocating Conveyors (VRCs)

Whether you need a manual or automated system, consult a material handling professional for a lift design that will fit your application.
Utilize your new space . . .

Type-B Rideable Material Lifts (RML)

The latest generation of “rideable” material lifts are now hitting the market

- In a class by themselves (not a VRC)
- No need to climb stairs to follow your material
- One operator can ride with cargo to upper level
- Licensed Elevator Contractor required for lift installation - check your local and State codes
- Lift meets A17.1 Elevator & Escalator Code
Now that we’ve “found” your new space… let’s protect it!
Protect your investment in personnel, equipment, and facilities with Safety Guarding Products
Guard against forklift damage

Has your operator been trained?

Support column damage

Protect main traffic aisles
Prevent damage to valuable equipment, inventory, and facilities

Conveyors • Racking • Mezzanines • VRCs • Loading Dock Doors, etc.
Personnel are your most valuable resource
Make sure they can “work safe”!

Protect pedestrian walkways and install guardrail pass-thru gates
Avoid OSHA fines - Make sure your facility is in OSHA compliance for safety and worker protection

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<th>TYPE OF VIOLATION</th>
<th>PENALTY (as-of January 2018)</th>
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<tr>
<td>Serious</td>
<td>$12,675 per violation</td>
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<tr>
<td>Other-Than-Serious</td>
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<td>Posting Requirements</td>
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<td>Failure to Abate</td>
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<td>Willful or Repeated</td>
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April 2018

Dear Employer:

Enclosed you will find citations for violations of the Occupational Safety and Health Act of 1970 (the Act) which may be accompanied by proposed penalties. Also enclosed is a booklet entitled, “Employer Rights and Responsibilities Following an OSHA Inspection”, (OSHA 3000) revised 1990, which explains your rights and responsibilities under the Act. If you have any questions about the enclosed citations and penalties, I would welcome further discussions in person or by telephone.

Sincerely,

Kurt Petermeyer
Kurt Petermeyer
Region IV – Atlanta, GA
Occupational Safety & Health Administration
Guarding applications are everywhere!

- Personnel walkways, lunch, or break areas
- Floor level offices close to traffic aisles
- Facility storage equipment such as rack, shelving, mezzanines
- Equipment protection: pipes, conveyors, lifts, carousels, stretch wrappers, palletizers, assembly equipment, CNC lathes, robots
Put it all together to stay ahead of your competition

Find your space...
Put it all together to stay ahead of your competition

Access your space...
Put it all together to stay ahead of your competition

Utilize your space...
Put it all together to stay ahead of your competition

Protect your space...
Find it all at Modex 2018!

Talk to the material handling equipment manufacturers and experienced professionals who can help you:

➢ Find
➢ Access
➢ Utilize, and
➢ Protect your space!
Questions?
For More Information, contact:

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Or visit Modex Booth #4747