

# ***SOLVE FOR X.***

## ***Match Making Tasks, People and Tools***

Presented by:

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**Jim Galante – Southworth Products**



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# WELCOME!



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# Helping solve the ergonomic challenges in the workplace



- **Equipment solutions** 17 companies + 50 technologies
- **Case studies**
- **Work shops**
- **Equipment photos – huge library**
- **Ergonomic trends, news articles and events**
- **Information – check lists , white papers, technical reports**
- **Resources – both private & governmental organizations**
- **Presentations ....and speakers to present them**
- **Guidelines – ergonomic best practices**
- **Ergonomic & productivity enhancements**
- **Downloads – over 100 available – FREE**



*Reinventing Unit Load Technology*



**HAMILTON**  
Casters ★ Trucks ★ PRONTO



THE  
ERGONOMICS  
CENTER  
OF NORTH CAROLINA



**UNIFIED INDUSTRIES, INC.**

A Columbus McKinnon Company

**DEMAG**  
A TEREX BRAND

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**SMART LIFTING**



THE TRACK TO BETTER PICKING

**BOSTONtec**



**SOUTHWORTH**  
making work faster, safer, and easier



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## Products available - solutions to material handling problems

**Ergonomic research services**  
**Engineered Wood Flooring**  
**Wheels**  
**Casters**  
**Jib Cranes**  
**Full power stackers**  
**Positioners (automatic and manual)**  
**Manipulators**  
**Balancers**  
**Work station cranes**  
**Pneumatic hoists**  
**Electric hoists**  
**Tilters (portable & fixed)**  
**Manual turntables**  
**Bridge cranes**  
**Stainless steel gondolas**  
**Work positioners**  
**Below hook slings**  
**Adjustable height work benches**

**Vacuum lifts (portable & fixed)**  
**Vacuum positioners**  
**Pallet inverter/rotators**  
**Industrial platform trucks & carts**  
**Modular cranes**  
**Pillar & wall mounted cranes**  
**Carton flow rack**  
**Intelligent assist devices**  
**Conveyance systems**  
**Vertical reciprocating conveyors**  
**Manual stackers**  
**Transfer cars**  
**Pillar mounted cranes**  
**Personnel lifts**  
**Work stations**  
**Two wheel hand trucks**  
**Powered & manual hand pallet trucks**  
**Industrial magnets**  
**Scissors lifts**

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## Match Making Tasks, People and Tools



## **Why Now?** *The manual material handling issues simply can no longer be ignored because of:*




- *More obese workforce*
- *Aging workforce*
- *Escalating Workman's Compensation costs*
- *Little training & limited supervision (especially retail)*
- *Higher shelving, tightly packed and flimsy packaging*
- *Heavier unit loads (FedEx & UPS)*
- *Increased volumes of goods being moved*
- *Market pressure to do more with less (foreign pressure)*



## The Aging Workforce

In 1972, average age of a US worker was 28. Today it's 47

- ✓ Maximal Strength
  - ✓ Muscle Mass
  - ✓ Bone density
  - ✓ Visual and Auditory, Acuity
  - ✓ General Fitness
  - ✓ Aerobic Capacity
  - ✓ Cognitive Speed/Function
- 

- ✓ Obesity
  - ✓ Arthritis
  - ✓ High BP
  - ✓ Diabetes
  - ✓ Depression/Heart Disease
  - ✓ Menopausal Issues
- 





## Obesity in the Workforce

- More than one-third (34.9% ) of U.S. adults are obese.
- Their annual individual medical cost \$1,429 higher
- They file twice as many WC claims
- They average 13 more lost workdays.



*The effects of manual material handling represent the biggest single contributor to:*

- *Lost time injuries*
- *The most WC claims*
- *Highest cost of WC claims*

Ergonomic initiatives and  
engineering interventions can  
significantly reduce the impact of  
these manual MH issues

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## Manually loading & unloading containers

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**Bending**  
**Lifting**  
**Carrying**





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**Pick & place manual tasks exist  
throughout industry**



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## The manual loading of pallets .....



**...which are  
sitting on the floor**





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## Manually.....



## ...loading conveyors

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These manual material handling  
issues simply  
can no longer be ignored

**Matching the right tools to the worker is key to:**

- Reducing the physical stressors
- Improving the ergonomics
- Increasing productivity

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# Dave Lippert

## Hamilton Caster and Mfg.



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## Freestanding workstation cranes



Effortless and precise control  
Articulating hanger assemblies  
Enhanced structure stability – no cross bracing





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## Single & Double girder cranes





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## Monorail Systems and Aluminum Modular cranes





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## Manipulator and Stacker Cranes

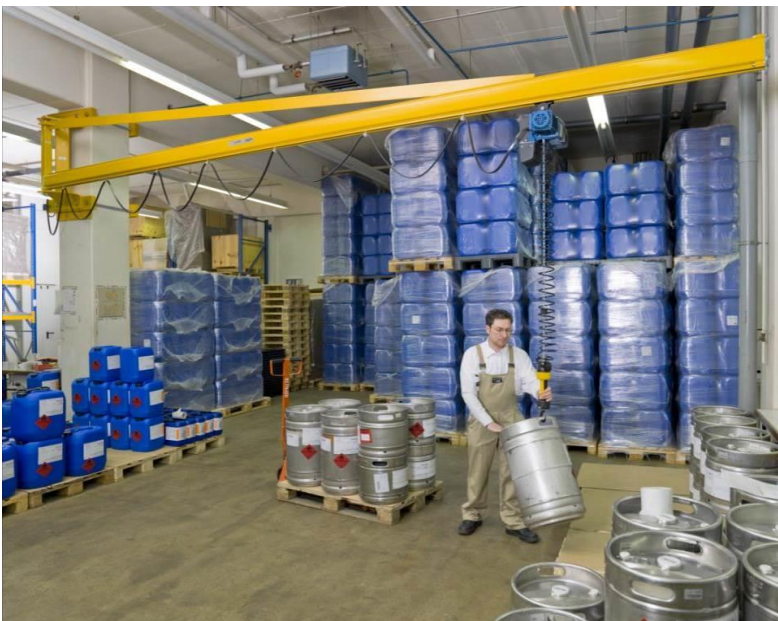


Optimum ergonomic load handling



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## Pillar & Wall Mount Jib cranes



## Vacuum Technology





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## Vacuum Technology

Maneuver & rotate  
large assemblies

### Benefits

1 operator vs. 4 to 8 manually

Reduction in ergonomic risks



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## Vacuum Technology

Permits access to  
tall loads for  
Palletizing & de-  
palletizing large or  
awkward to handle  
boxes





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## Vacuum Technology

Keg  
palletizing

50%  
productivity  
increase



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## Work Stations

Providing the right work station improves productivity



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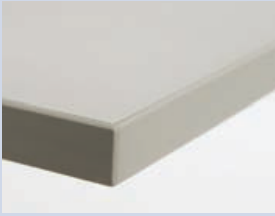




These are  
adjustable  
height  
benches

Properly placed supplies and tools eliminates walking around and promotes a highly efficient work space

## Laminate Work Surfaces

- Electrostatic discharge option
- 1-1/8" high-density core a layer of plastic laminate
- Industrial grades (very durable)

	Description	Notes
	Edged with high-impact-resistant PVC	Economical; most popular laminate
	Edge rounded at 90°; Cleanroom has laminated underside	Edge provides significant comfort for operators resting hand or arm on edge
	1-1/4" rounded radius black molded bumper edge	Edge resists damage; rounded edge provides some arm/hand comfort



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## Manipulator Technology



GLASS HANDLING – 30 to 130 lbs.



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## Manipulator Technology



Handling large sheets

From a two man job to a one man job

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## Intelligent Assist Device (IAD)

Precise  
and  
rapid  
movement





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## Lifting & Positioning



Inexpensive stackers  
to transport pallet  
loads can also double  
as a positioner.





# Lifting & Positioning

Positioners respond to the load.....



Leaving the operator to concentrate on the task



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**EASE**  
Ergonomic Assist Systems & Equipment

# Lifting Technology

Lightweight highly efficient electric lifts allow older or out of shape workers to effectively move material





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## Lifting & Positioning



The right tools to get the job done safely and efficiently





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High hinge  
tilters are ideal  
for gaining  
access to the  
bottom and  
back of  
containers



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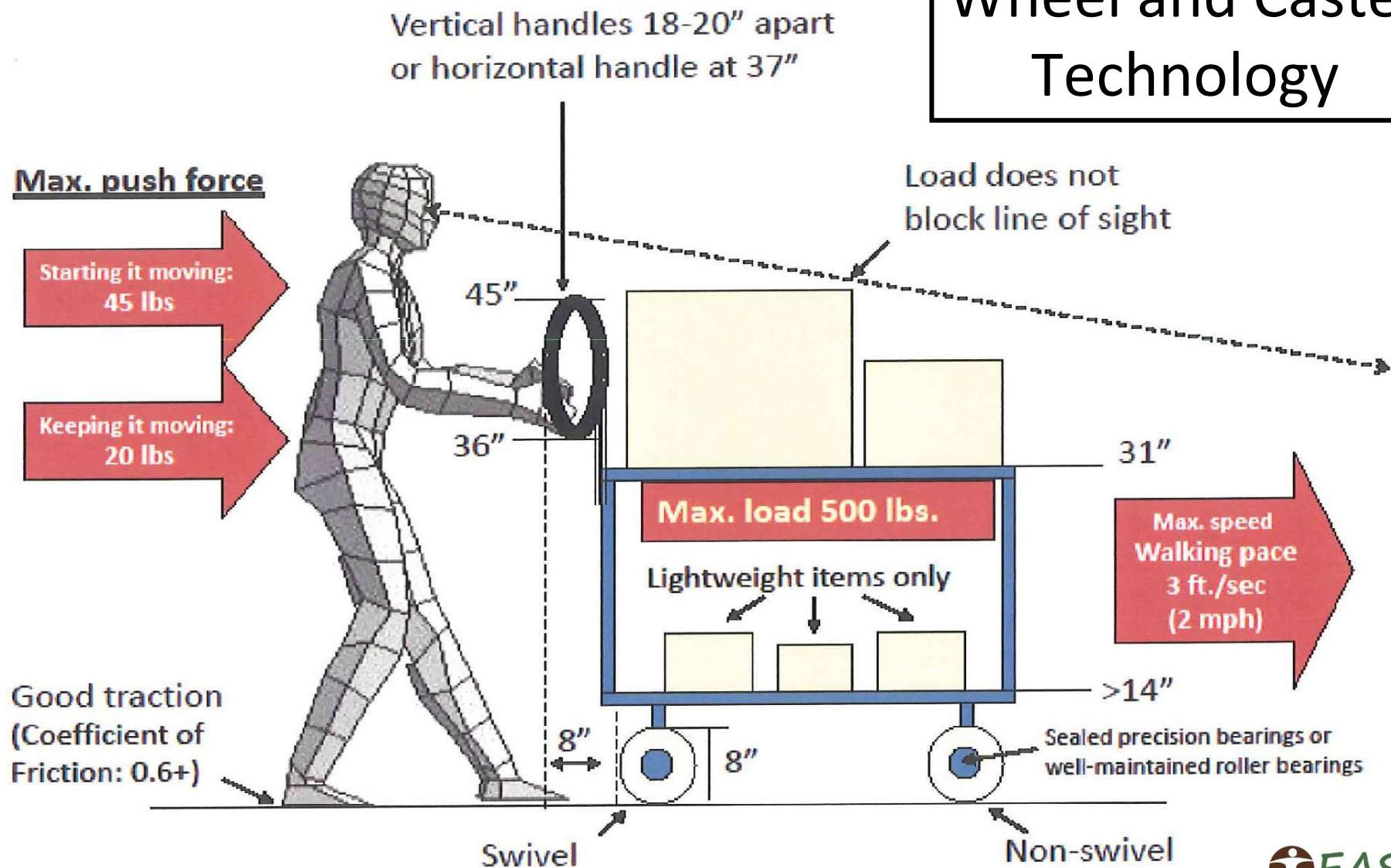
## Lifting & Positioning





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## Wheel and Caster Technology





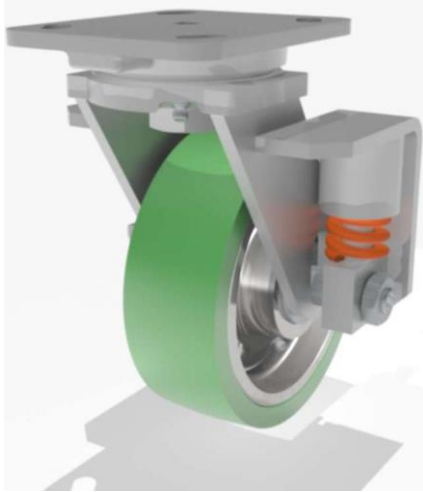
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## Wheel and Caster Technology

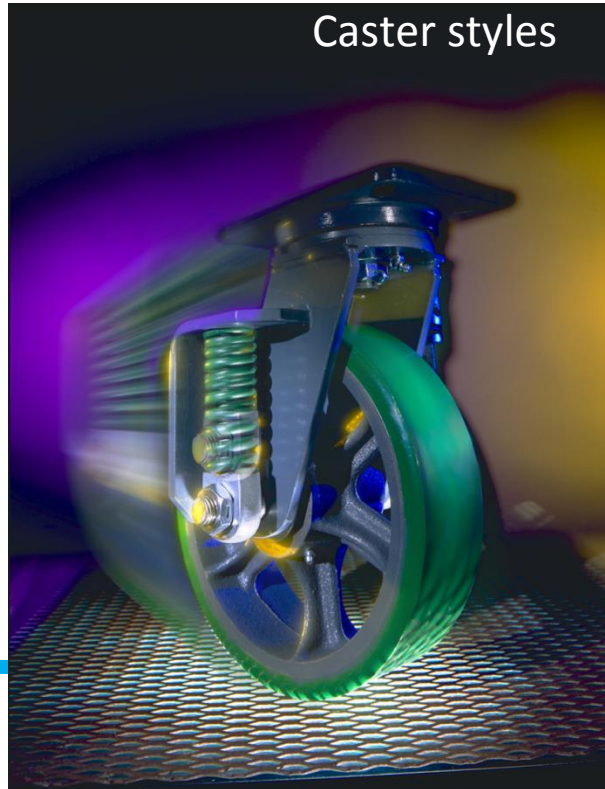


Solid metal,  
Pneumatic, Soft  
faced, molded  
and composition

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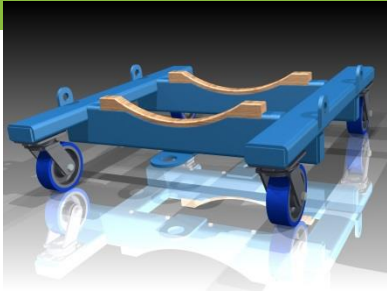
Caster styles



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Light duty  
specialty carts  
and industrial  
trucks



CHAINS WORK®



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## Wheel and Caster Technology



Indoor and outdoor applications

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## Examples of good applications



Platform elevated



Correct push bar height



Larger wheels

## Examples of poor applications



Platform too low



No push bar



Wheels too small



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## Carton Flow

- SKU density reduces walking
- Reduces reaching and bending.
- Ergonomic presentation angle





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## Flow Rack

Increased density  
reduces walking

Assisted pick  
reduces overexertion

Improved organization  
for a safer workplace





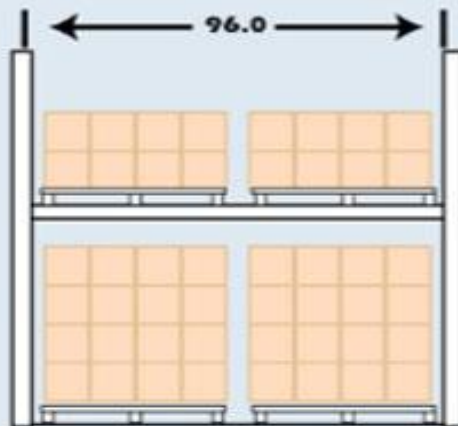
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## ROI

### Convert From Pallet Rack to Carton Flow

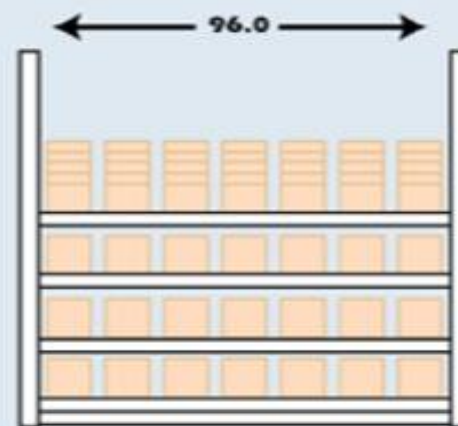
#### TYPICAL BAY

Pallet Rack Pick



4 SKU's per Bay  
96 Bays  
384 SKU's

Carton Flow



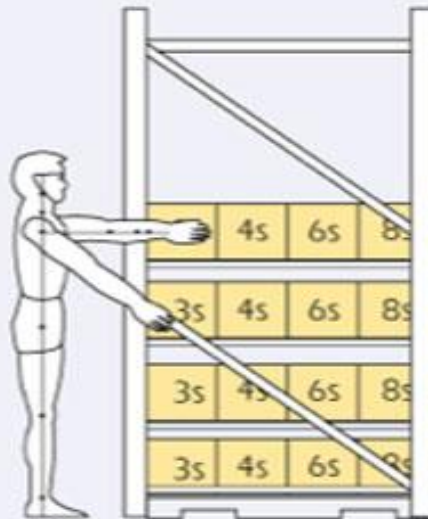
28 SKU's per Bay  
14 Bays  
384 SKU's

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## Pick Rates

## Carton Flow (Retrofit)

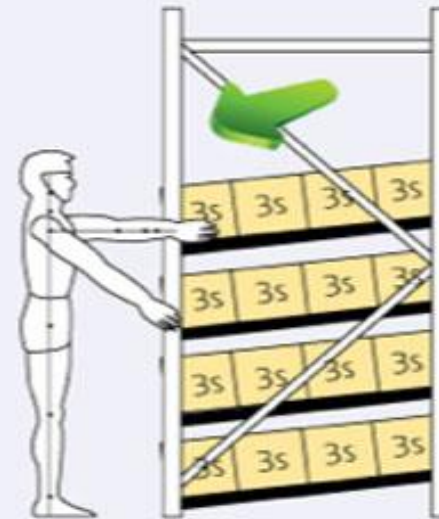
Pallet Rack  
Static Storage



Average Pick

5.2 Sec

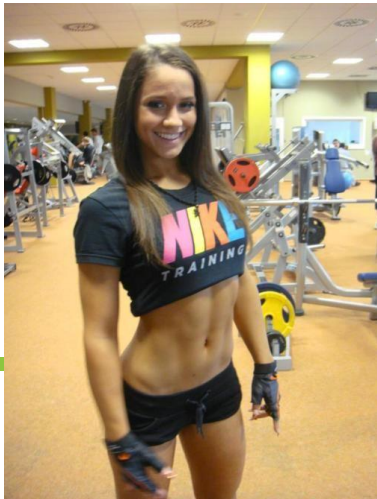
Carton Flow  
Dynamic Storage



3.0 Sec



**So unless all your employees  
look like this ...you need to  
match the tools to the workers**



# ***MATCH MAKING***

## ***Tasks, People and Tools***

Thank you - Questions



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