

Welcome

Rexroth
Bosch Group



Bosch Rexroth Lean Seminar Series

Your Presenters:

Steve Yardley

James Pettifer

Lean Seminar Agenda

9:30 Welcome, Intro to Lean (70 min)

- Lean Principles
- Lean tools
 - Waste Walks, Kaizen, Kanban, 5 Why's, 5S

10:40 Break (10 min)

10:50 Lean Simulation (Box Game) (90 min)

12:20 Lunch (40 min)

13:00 Toast Kaizen Video (30 min)

13:30 Workstation Design (25 min)

- Right sizing
- ESD control
- Ergonomics

13:55 Material Delivery & Storage (10 min)

- Benefits
- Warehouse case study
- Flow racks and carts

14:05 Factory Wide Implementation (10 min)

- Information Flow
- Workstation Linking
- Plant Layout

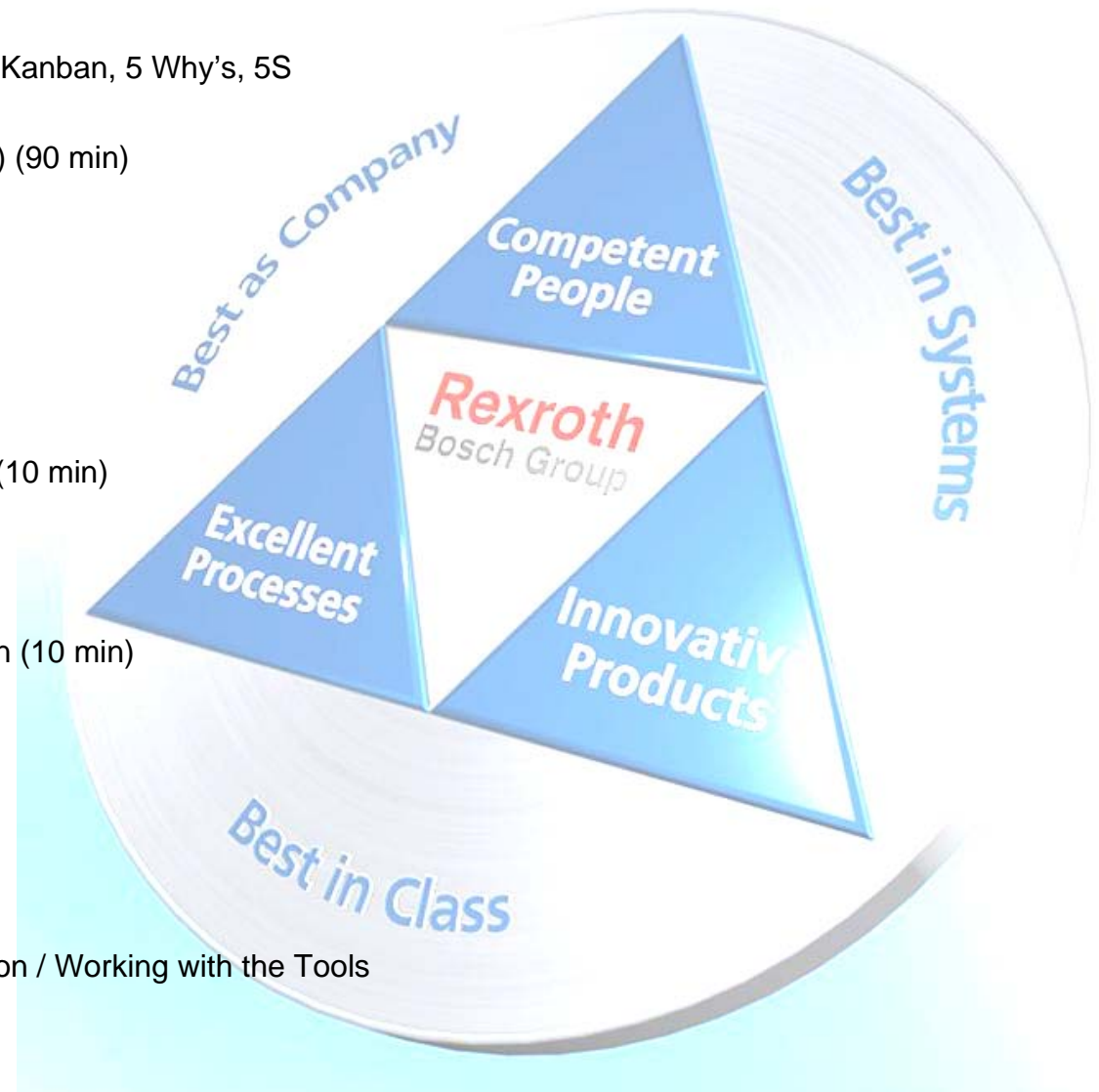
14:15 Lean Tools (15 min)

14:30 Break (10 min)

14:40 Automation In Lean (30 min)

15:10 Next Steps / Q&A / Discussion / Working with the Tools

15:30 End



Lean Manufacturing - Defined

“Lean Manufacturing” means ...

... Increase of efficiency and standardization by continuous improvements.

... *a management system originating from the Japanese way of doing business.*

... a philosophy leading to processes with minimized waste.



Ohno*

“Just produce what is requested by the customer”

... a staff which thinks, decides, supports and works with each other and for one another.

... the introduction of a pull system, by means of just-in-time-delivery ...

... *customer orientation, quality orientation and cost reduction.*



* Ohno: Founder of Toyota Production system



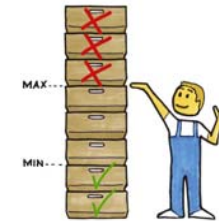
What are the forms of waste?



Waiting



Overproduction



**Excess
Inventory**



**Excess
Transportation**



Overprocessing



**Errors
and Defects**



**Excess Motion
and Movement**

- Quality Circles / Perfect Quality / Quality Tools
- Kaizen / continuous improvement
- 5Y
- 5S
- Waste walks
- Standardization
- Direct observation of work (2-I's)
- Time studies
- Changeover reductions
- Poka-Yoke
- Chaku Chaku
- Value Stream Mapping
- Lean line design
- Process leveling
- Supermarket
- Milkrun
- Jidoka

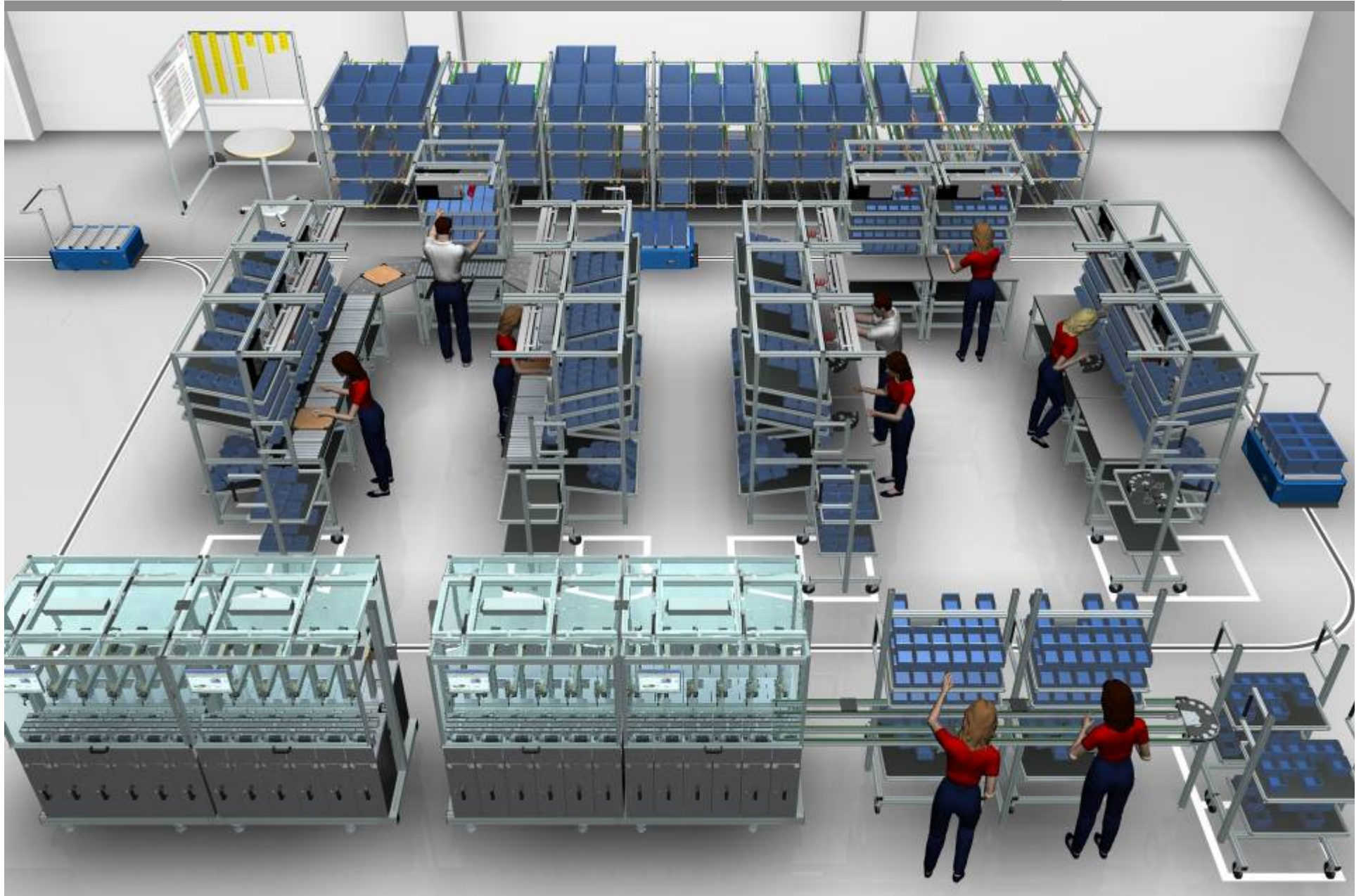
Box Game Fun!

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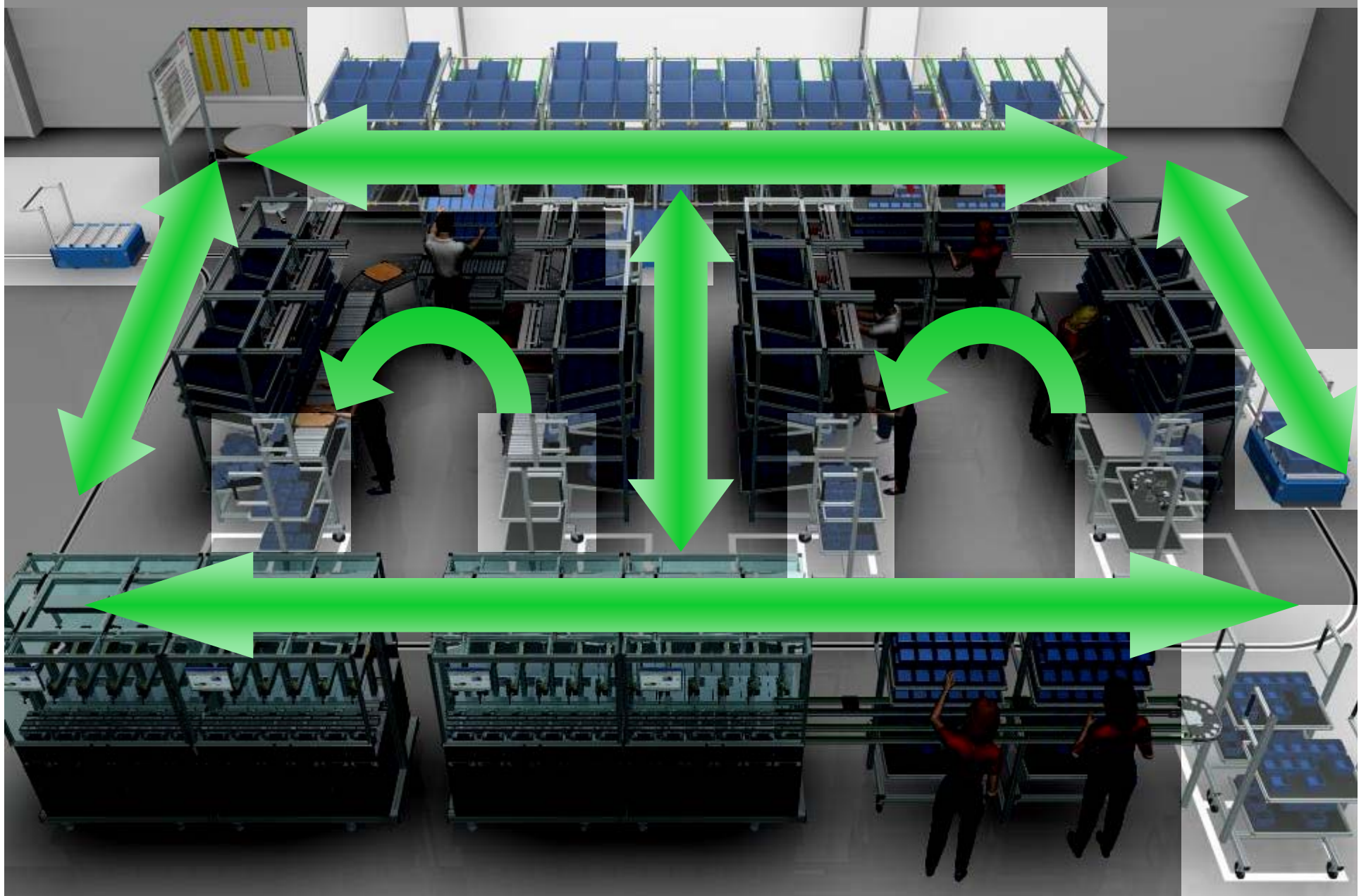


BRL Assembly Technology Provider of Lean Solutions

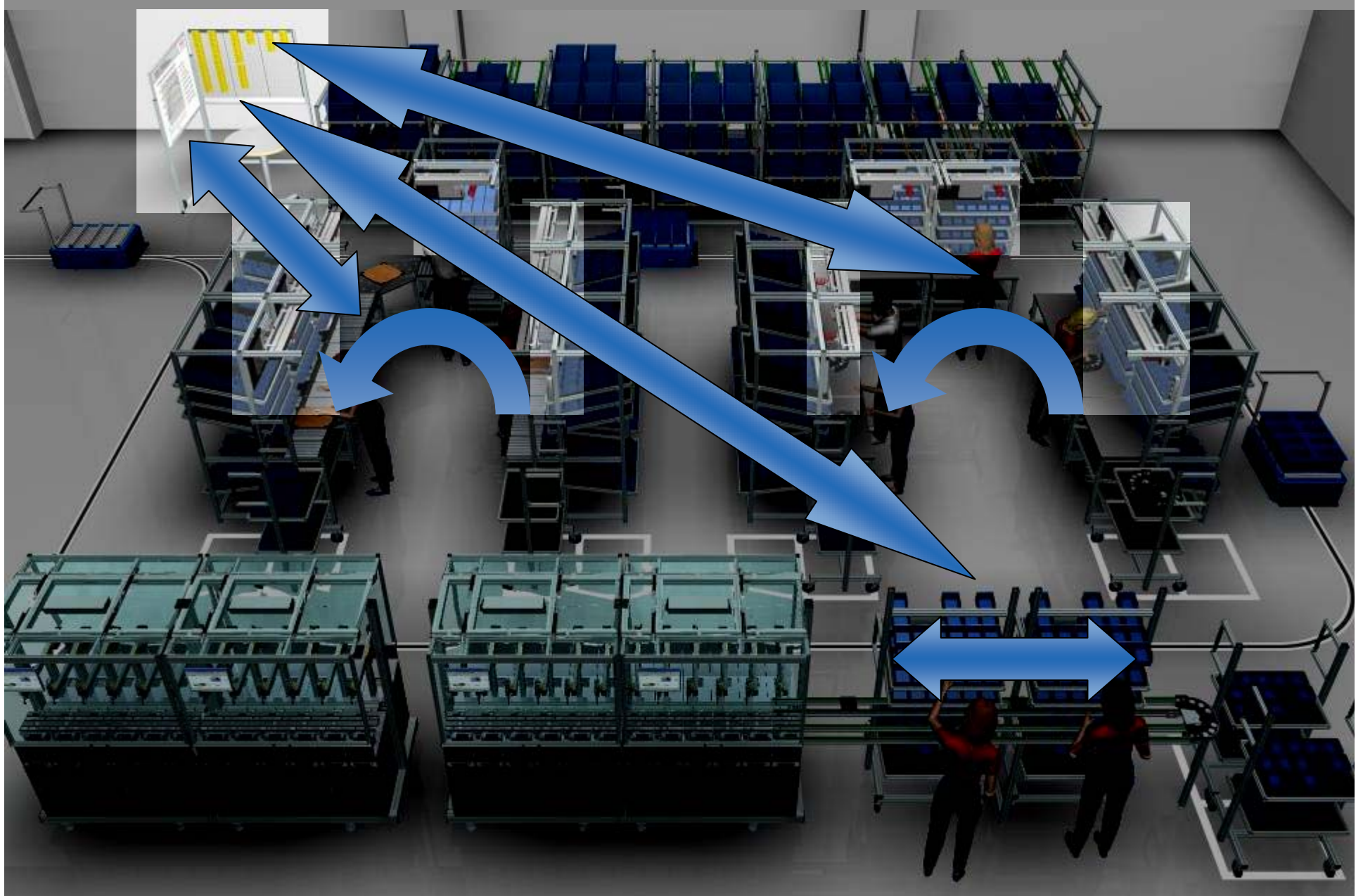
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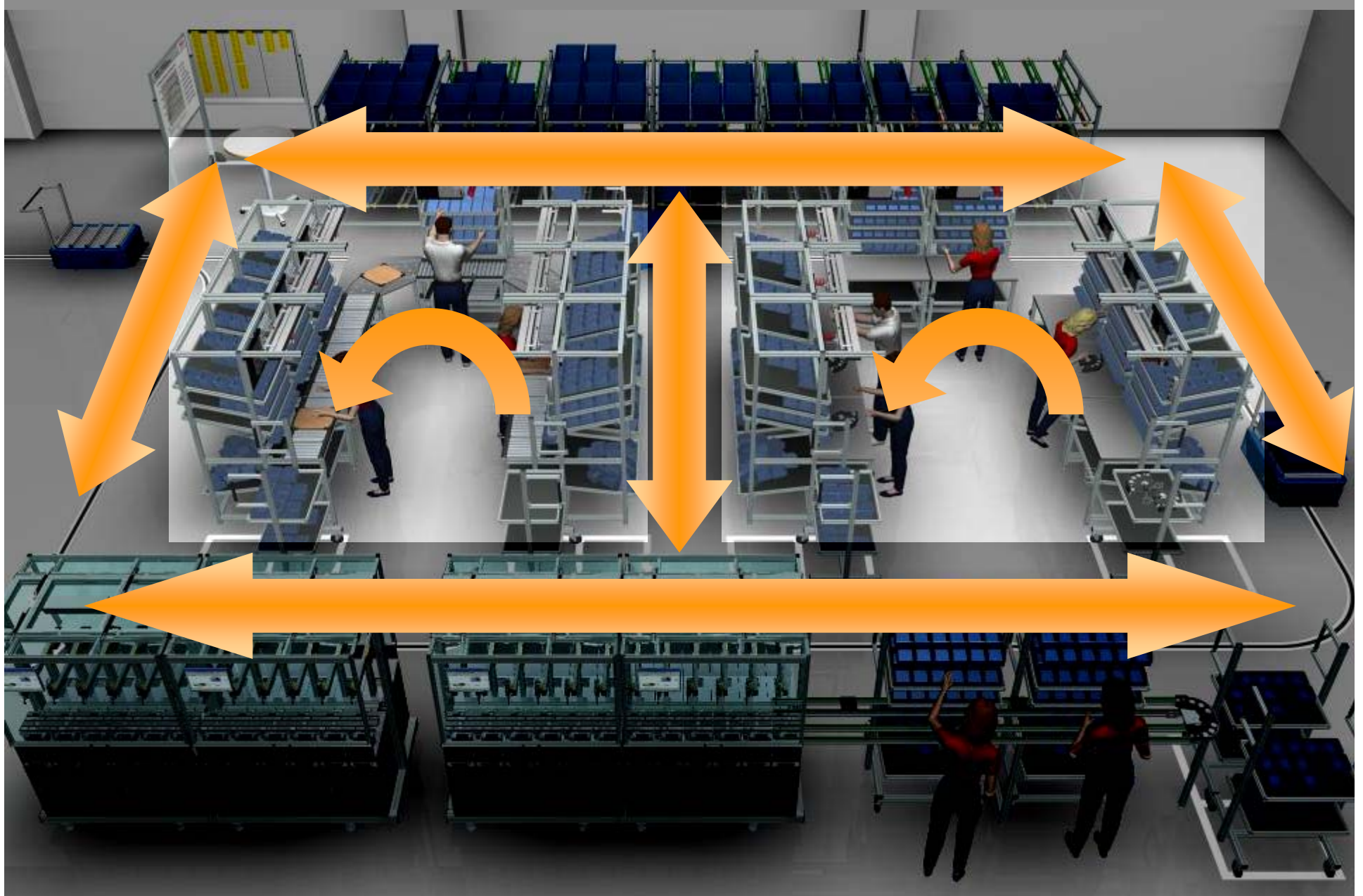
Material Flow



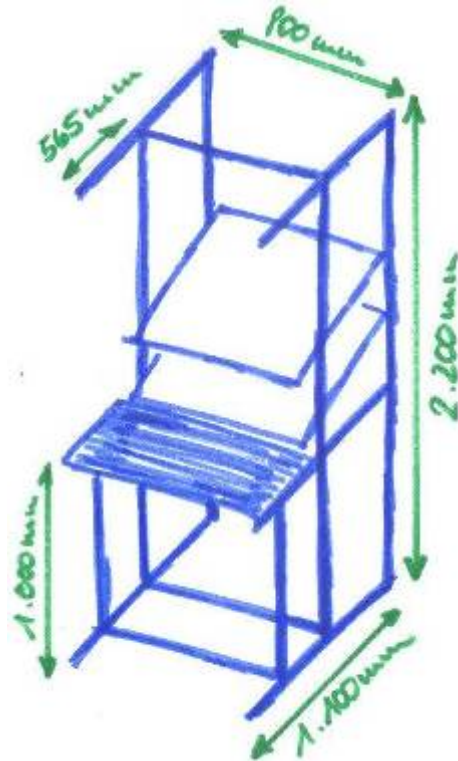
Information Flow



People Flow



1. Request



2. MPScalc

- Choose parameters

Workstation, part no. 3842998110	
Profile model (P)	45x45L
Design (A)	1 (assembled)
Conductivity (ESD)	0 (no)
Table design (PK)	Pu (desk type construction)
Foot type (FU)	GF (leveling foot)
Workstation width (BA) / mm [410 - 2000]	800
Workstation height (H1A) / mm [300 - 1500]	1000
Rear strut height (H2) / mm [1000 - 2500]	2200
Reinforced 1/2 rear strut (2V)	0 (no)
Workstation depth (T1A) / mm [410 - 1000]	600
Bracket T2	Yes
Bracket depth (T2) / mm [100 - 800]	565
Table top (TP)	1 (Economic)
Uprights T3	Yes
Uprights depth (T3) / mm [250 - 800]	500
Number of material shelves (RM) [0 - 4]	2
Material shelf material (M)	2 (PP)
Material shelf depth (interior) (TM) / mm [410 - 1000]	700

3. Result

- Order form
- Part number
- Price
- 3-D model
- CAD drawing

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 Email: boschrexroth-mt-customerservice@boschrexroth-us.com

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MPScalc 3.1

Order form:

Please fax to: +1 (269) 695-3446

Date: 3/13/2007
 Buyer: Mr. Peter Loveland
 Company: Bosch Rexroth
 Billing address: 816 East Third Street
 Buchanan, MI 49107

Customer no.:
 Order no.:
 Description: complete MPScalc workstation
 Quantity:
 Part Number: 342588110
 Price:

Ordering parameter:
 A Version:
 ESD Conductivity:
 PK Table construction:
 P Profile model:
 FU Foot type:
 BA Workstation width:
 H1A Workstation height:
 H2 Rear strut height:
 T1A Workstation depth:
 T2 Bracket depth:
 TP Table top model:

