**Best Practice Series**

**Warehouse Safety**

Kevin Collins, Director Product Marketing, SmartTurn

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Agenda

SmartTurn Background
Best Practices Intro
Warehouse Safety
Product Demo
Q & A
Company Background

SmartTurn Inc.

- Founded in 2004 as a division of Navis, (acquired by Zebra: Nasdaq ZBRA)
- Spun Off December 2007
- Quality investors: NEA and Emergence Capital
- Seasoned executive team
- Deep engineering talent
- Strong supply chain domain knowledge
- Leader in Software as a Service WMS
- Headquartered in San Francisco, CA

Domain Experience

- Software-as-a-Service
  - Jim Burleigh, CEO
    (ex VP Products & Marketing of Salesforce.com, Remedy, Oracle)
- Technology Excellence
  - Miguel Pinilla, CTO
    (ex VP Engineering, Informative, Navis LLC., Stanford PhD)
- Sales Execution
  - Mike Pyle, Sales VP
    (Citrix, Stanford AB, 8-YR SaaS)
- Marketing
  - Jim Bell, Marketing VP
    (ex VP Electric Cloud, Actuate Corp., Kellogg MBA)
- Chairman of the Board
  - John Dillon, Chairman
    (original CEO of Salesforce.com, Navis, Hyperion)
What is a Best Practice Series?

A series of Best Practices for Inventory & Warehouse Management Software (WMS)

- **Pain Points** – Tips, Recommendations, Guidance
- **Experience** – Seasoned, Professional SmartTurn Team
- **Preparation** – Help You to Engage, Plan and Execute
- **Access** – SmartTurn Forum & Blog, Community Sharing
- **Leadership** – Trusted Advisor, Facilitator
- **Tools** – Leading SaaS WMS, eBook, Test Drive
Warehouse Safety

What You Will Learn From This Series

- General Housekeeping
- Falls and Other Preventable Mishaps
- Material Handling Safety
  - The Human Body, Forklifts
- Fire and Chemical Safety
- Training, Education & Compliance
- Safety in Your Workplace
- Resources
General Housekeeping

**Basics**
- Make sure that flooring surfaces are non-slippery and free of pits and dents
- Report loose or damaged flooring or other tripping hazards that need repair
- Don’t leave box cutters or other sharp tools lying around
- Keep cords and wires off the floor
- Clean all spills immediately
- Don’t leave items in aisles, on the floor, or stacked insecurely on flat surfaces
- Don’t block extinguishers, sprinklers, or fire exits
- Create designated areas to store empty pallets and limit the stack height to six feet

**Tips**
- Buy enough Trash Bins to avoid debris accumulation and employee walk time
- Make sure someone is in charge of emptying trash bins regularly
- Battery charging areas - safety codes demand specific safety measures, including ventilation, eye wash first-aid stations, acid neutralization, and spill control systems.
Falls and Other Preventable Mishaps

- **Decision Factors**
  - Heed the good housekeeping to maintain a clutter-free floor absent of hazards such as electrical cords
  - Block access to exposed or open loading dock doors
  - Permit access to above-floor racks and shelves only if portable ladders or appropriate lifting devices are available
  - Use personnel safety cages when lifting employees with forklifts
  - Enforce speed limits for forklifts and lift trucks

“641 Fatal Injuries from falling in the workplace. - 2008
http://www.bls.gov/iif/”
Material Handling Safety: The Human Body

**Manual Lifting**
- Know what you are handling
- Test the load before lifting it. If it is too heavy or bulky, get help
- Keep your back straight; don’t bend over
- Use your legs—not your back—to lift
- Lift cartons by holding opposite top and bottom corners
- After lifting, be sure you can see over the load
- Don’t twist your back while carrying a load. If you need to turn, take small steps in the direction you want to go
- Use equipment (like drum trucks) to move barrels and drums

**Tips**
- Teach employees that items can often be moved with equipment such as a dolly, a hand-truck, or a forklift.
- Use mechanical help wherever possible.

> Cases involving injuries to the back: 235,960 in 2007

Material Handling Safety: Forklifts & Equipment

- **Forklifts and Material Handling Equipment**
  - Encourage employees to immediately report (anonymously if needed) unsafe conditions or behavior
  - Use striping to delineate aisles and passageways, including doorway and loading dock areas
  - Keep aisles and passageways clear at all times
  - Don’t assume that the equipment operator can see you or react in time to stop. Assume that you are in his blind spot at all times
  - Look both ways and move slowly when emerging from aisles, doorways, or offices
  - Prohibit walking on pallets and using forklifts and pallet jacks for rides
  - Be careful around conveyors, making sure not to get body parts or clothing caught in the machinery’s moving parts.
  - Teach employees to push manual material handling equipment whenever possible, rather than pull loads

- **Tip**
  - Make sure employees know where the on/off and emergency stop buttons are on equipment they work on or around.

“Every three days someone is killed in an accident involving a lift truck.”

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Fire & Chemical Safety

- **Fire Codes & Inspections**
  - The aim is minimum level of safety (you can’t cover every possible event)
  - Used to determine building access, aisle widths, fire walls, smoke and heat removal systems, flue space and sprinkler density (in racks)
  - Also confirms absence of hazards, blocked exits, missing fire extinguishers, exit lights and damaged sprinklers

- **Your Local Fire Department**
  - Maintain a dialogue
  - Invite them for coffee and an inspection
  - Keep them in the loop when you add hazardous material

- **Chemical Safety**
  - Store to manufacturers recommendations and fire codes
  - Make sure you have MSDS sheets available
  - Include usage, storage requirements and first aid procedures
  - Maintain

- **Tips**
  - If you don’t already do it, or your state still allows smoking on-site, do your employees’ health a favor and outlaw smoking. Prohibit smoking in your warehouse and post no smoking signs.
  - Pay attention to changes in packaging material as they can have a substantial impact on the flammability of materials in your warehouse.
  - Hazardous materials include a range of industrially-produced materials such as solids, gases, flammable liquids, explosives and oxidizers. Not surprisingly, they have their own codes.
Training, Education & Compliance

- **Fire Drills**
  - Procedures for reporting incidents to management (and other appropriate emergency resources such as 911), including after-hours telephone numbers and what types of incidents to report
  - Location and use of fire extinguishers and other emergency equipment
  - Emergency exit locations and evacuation procedures and collection points outside the building for all employees
  - Procedures to account for all employees and visitor

- **Crime & Punishment**
  - Safety is for all employees
  - Compliance should be a condition of employment
  - Implement a progressive disciplinary program that, while punitive, is not overbearing

- **Tips**
  - Give pre- and post-training tests to confirm that employees have retained the information.
  - Educate senior management about occupational safety and health so they will understand how it helps achieve business objectives.
  - As part of training, ensure that employees responsible for shutting down certain equipment understand the conditions when they should perform the task or immediately leave.
  - Make safety part of employment reviews. In addition to penalizing employees for not following safety rules, reward them for making your operation a safer place to work.

http://www.forkliftacademy.com
Safety in Your Workplace

- **Making Your Workplace as Safe as Possible**
  - Conduct a safety audit
  - Invite an outsider to visit your facility
  - Designate floor storage and staging areas with striping
  - Encourage employees to report unsafe conditions – err on the side of caution
  - Pay attention to “Near Miss Accidents”
  - Accidents will happen to good people – investigate cause – look beyond the incident
  - Do more than the minimum
    - Look to the future
    - Consider a design to allow for expansion to handle higher hazard classes

- **A Final Word on Safety**
  - Working in a warehouse is one of the 100 deadliest jobs in the United States
  - Don’t let anyone claim they don’t have time for safety. Make sure that management is aware of the importance of safety and incentivized to reduce and eliminate hazards

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Nonfatal injuries and illnesses, private industry
Total recordable cases:
4,002,700 in 2007
http://www.bls.gov/iif/
Resources

- **National Institute for Occupational Safety and Health (NIOSH)**
  A federal agency that helps prevent work-related injuries and illnesses. NIOSH publishes a number of publications on workplace safety, including a guide to safe lifting practices. 800-232-4636.
  [http://www.cdc.gov/niosh/](http://www.cdc.gov/niosh/)

- **Ergonomic Guidelines for Manual Material Handling**
  This booklet is for managers and supervisors in industries that involve the manual handling of containers with a systematic approach to improve handling of containers, sacks, and bags.

- **For thorough, practical advice on preventing forklift injuries, see the 1999 NIOSH Alert**
  “Preventing Injuries and Deaths of Workers Who Operate or Work Near Forklifts”:
  [http://www.cdc.gov/niosh/docs/2001-109/default.html](http://www.cdc.gov/niosh/docs/2001-109/default.html) (This is somewhat dated but still provides a sobering reference for the lethality of the modern workplace).

- **Occupational Safety and Health Administration (OSHA)**
  As part of the Department of Labor, OSHA creates and enforces workplace health and safety regulations. 800-321-6742  [http://www.osha.gov](http://www.osha.gov)

- **Warehousing Education and Research Council**
  An international warehouse managers association, WERC distributes “Warehouse Safety Program Guidelines” and has up-to-date information on OSHA regulations for managers and employees. 630-990-0001  [http://www.werc.org](http://www.werc.org)
### SmartTurn WMS – RF

**SmartTurn RF**
- Memory (MB) – 512MB–1GB
- CPU – 1 GHz Intel Processor
- Operating System – Microsoft Windows CE 5.0 or Mobile 6.0
- Web Browsers – IE 6.0 for CE or Microsoft Pocket IE

- Display – 3.8 in QVGA, Touch screen
- Color – 16 Bit (65536 colors)
- Keyboard – 52/53 Key Alpha/Numeric
- Barcode – 1D
- Wireless Internet Connection

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**Compare the Total Cost of Ownership for a typical warehouse** between a traditional licensed WMS and SmartTurn over 5 years:

#### SmartTurn 5 Year Cost
- Starting at $500 Per Month
- Days/Weeks Implementation
- No software licenses
- No hardware or servers
- No maintenance fees

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<thead>
<tr>
<th>$500/Month Subscription IMS</th>
<th>$30,000</th>
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<tr>
<td>Grand Total</td>
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<table>
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<th>$800/Month Subscription WMS</th>
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<tr>
<td>Grand Total</td>
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#### Traditional WMS 5 Year Cost
- Perpetual licenses
- Computers, servers required
- 3 – 12 month implementation
- Dedicated project resources
- Recurring maintenance fees

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<td>Hardware</td>
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<tr>
<td>Implementation</td>
<td>$120,000</td>
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<tr>
<td>Project Management / IT</td>
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<tr>
<td>Maintenance</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$418,000</strong></td>
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*Typical Warehouse*
- 100,000 Square Feet
- $500,000 Inventory Value
- 100 Outbound Shipments/Week
- Integration Low End ERP

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SmartTurn Customers and Industry Pundits

“SmartTurn will shake up the WMS Industry.
✓ Enterprise-class functionality
✓ Lowest TCO
✓ Perfect for small, medium business”

Steve Banker, ARC Analyst

“SmartTurn has been a true pioneer in this space.....users of on-demand warehouse applications are twice as likely to have the ability to quickly change or modify business processes in their software”

Ian Hobkirk, Aberdeen Analyst

Prior to SmartTurn we lost a lot of trade discounts with our old system....in the order of $40,000 a month!

Carlos Rubio, Director of Finance for Grayling Industries

This new capability has helped us win new customers. SmartTurn’s web-based system has kept our initial investment costs down...

Carol Runnels, President Prologistics

Accuracy went from 91% to 99%, allowing us to provide better customer service and avoid expensive errors.

We only lost one box last quarter reducing shrinkage costs by thousands of dollars.

Judy Harris, Delivery & Warehouse Manager, AAdvantage NorthAmerican

SmartTurn has the right functionality we need to optimize and account for $5-to $6-million-dollars worth of inventory materials.

David McKechnie, Materials Procurement Director, XWP

With SmartTurn, we have fewer stock-outs. I know what I have coming and how to prepare for spikes in demand.

David McDaniel, Warehouse Manager, Frozen Gourmet

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Product Demo
For a FREE test Drive visit: SmartTurn Test Drive

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Thank you!

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1 281-218-4892

Question & Answer

For a copy of the Q&A and this Presentation visit: SmartTurn Forums

All questions and answers will be posted anonymously on our forum. Visit our forums here: www.smartturn.com/forums.