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# Material Handling Logistics Summit

*A gathering of material handling logistics professionals initiating solutions to industry trends and challenges*

The 2007 Material Handling Logistics Summit held in Whitefish, Montana on June 26-28 was a meeting of industry professionals from four groups (leading academics, end users, industry consultants, and industry solution providers). The focus of the Summit was on active face-to-face participation by individuals over three days of facilitated group working sessions. A group of editors representing material handling and logistics trade publications moderated the breakout sessions. The event was sponsored by the Material Handling Industry of America (MHIA) and the College-Industry Council on Material Handling Education (CICMHE).

During the event participants discussed the current trends and challenges facing material handling and logistics, discussed the impact of those trends and challenges, and developed a prioritized list of initiatives to address those trends and challenges.

What follows now is a short summary of each day's activities and the consolidated results from the variety of small group breakout sessions.

## **Day 1 – June 26**

**Objective: Identify the trends and challenges affecting material handling, facility logistics and material flow throughout the supply chain**

Day 1 began with an overview of the purpose of the summit and expected outcomes. Eight panelists (two from each of the participant categories of academics, users, consultants and solution providers) presented their view on the trends and initiatives faced by the industry. All the other participants then had an opportunity to ask questions and discuss the trends and challenges with the panel. The participants then broke into assigned groups with an equal mix from each category to refine and prioritize a list of trends and challenges. Each session began by brainstorming a large list, clarifying/consolidating the lists into fewer items, then rank ordering to obtain a list of only ten trends and challenges. Finally, the forty (40) total trends and challenges generated by the four groups were consolidated into a single set of ten to use as input for Day 2 on Impacts.

## Day 2 – June 27

**Objective:** Given the trends and challenges generated from the previous day, determine the impact of those trends and challenges

Day 2 began with an overview of the trends and challenges generated on Day 1 along with an overview of Day 2 activities and expectations. The participants broke out into four groups by category with the goal of identifying, quantifying and qualifying the top ten and top three most important impacts that the Day 1 findings will have on each group. The results of the first category-based session were then taken into a mixed-category breakout session. The goal was to consider the category impacts from the previous breakout session and identify, quantify and qualify the top ten and top three most important cross-category impacts. The participants then reassembled as a large group to report on each breakout group's list and entertain questions from the audience with an emphasis on cross-category impacts.

## Day 3 – June 28

**Objective:** Given the outputs of the two previous days, develop initiatives that will best position the entire industry, the four attendee categories, plus each participant for future challenges and opportunities

Day 3 began with an overview of the impacts information generated on Day 2 and an overview of Day 3 activities. The participants then broke out into four groups by category to identify the top ten and top three most important initiatives that best address future challenges and opportunities. The output of the first session was then used in a second breakout session of mixed-category groups to consider cross-category and industry wide initiatives based on the printed category initiatives identified in the first breakout session of the day. Everyone reassembled as a whole group to report their group's cross-category lists and entertain questions with emphasis on cross-category impacts. The summit closed with a working panel luncheon. Each panelist provided a short opening statement about the summit discussions, outputs and directions, followed by Q&A with all participants.

# 2007 Material Handling Logistics Summit

## Day 1 Trends & Challenges - Consolidated List

### Top Three Trends & Challenges

Item	Mentions	Points	Description
1	18	725	Growing importance of demographics, labor and people <i>How do we attract, retain and continuously develop people?</i>
2	15	505	More demanding stakeholders (customers / employees / shareholders) with higher expectations in ever more turbulent markets <i>How do we profitably meet the evolving higher expectations of our stakeholders?</i>
3	13	458	Demand and supply chains are becoming more global <i>How do we innovate with the big picture in mind, to enable global business models?</i>

### Next Seven of the Top Ten Trends & Challenges

Item	Mentions	Points	Description
4	13	385	Material handling and logistic systems are more complex to design, optimize, control and operate, exceeding best practice knowledge and theory <i>How do we enhance our capability to understand, create, model, simulate, test and evaluate next generation systems?</i>
5	12	385	Material handling has a growing identity crisis, wanting to get away from being perceived as legacy, tactical, technical and commodity <i>How do we redefine our core value proposition, position it relative to SC and logistics, brand it and collaborate with others?</i>
6	10	343	Transportation infrastructures are becoming more stressed, bottlenecking supply chains and logistics <i>How do we contribute to increase transportation capability and availability or adapt to growing transportation constraints?</i>
7	8	328	Ever stronger regulatory, cost and social pressures to be energy efficient and greener <i>How do we design and operate sustainable systems, meeting the energy and green goals while being profitable?</i>
8	8	235	Supply chain security is a growing concern due to the rise of terrorism, piracy and theft <i>How do we design and operate systems that are both secure and efficient?</i>
9	7	190	Growing perception that lack of integration across supply chains is leading to huge inefficiencies <i>How do create integrated, easy-to-use, interconnected, industry-wide, high-benefit material and information flow systems?</i>
10	5	115	Growing demand and regulation for greater product and asset visibility, tracking and traceability across supply chains and lifecycles <i>Do we embed smart connective technologies in our systems and create visibility enabling processes and protocols?</i>

## MHL Summit - Day 2

### Second Breakout Session – Top Cross-Category Impacts

#### The Top Three Impacts (tie for third)

Item	Points	Impact Description
1	95.1	Trends in demographics, labor and people affect MHL in multiple ways. The current blue collar and professional labor environments, with an aging and diverse workforce, have forced industry to do more with less, to become flexible and accommodating, which has led to increasing costs, but also to an opportunity to produce technology-related solutions. Attention to working conditions will get more important over time. The industry will have to get involved proactively in education, insuring adequate visibility and preparation at all levels. Furthermore, growing demographic concentration calls for deployment of smaller technology-intensive facilities in metropolitan areas.
2	70.6	Globalization hits the industry two ways. One, in the customer marketplace, the rise of global demand and supply chains increases the importance of logistics, in a strategic sense. It creates both threats and opportunities, and requires research and innovation to master the emerging complexity. Two, the competitive landscape for the industry and its stakeholders is going global, with pressure to be globally present and to be able to compete dead on with providers from low-cost countries.
3a	50.3	The MHL community, through proactive collaboration of all industry stakeholders (providers, users, consultants, academics), must show greater leadership in jointly driving innovation and new business models at all planning horizons, embedding leanness and agility, and meeting higher expectations for efficiency, cost and profitability from shareholders as well as for speed, flexibility and service from customers. The kinds of labor & technologies required to support these innovations and business models may be vastly different and more complex in the future.
3b	50.3	Security/Traceability/Visibility/Environmental/Green regulations, standards and social pressures will require great change from the MHL community, (1) promoting innovation in business models, technology, processes, packaging and products, (2) leading to investments and costs for additional measures, processes and products without direct value outcome and (3) requiring the industry stakeholders to proactively collaborate with government agencies and other stakeholders. The industry stakeholders must proactively design and implement sustainable systems throughout the global supply chain that address these issues.

#### Next Six of the Top Ten Impacts

Item	Points	Impact Description
5	40.6	The industry stakeholders need to invest and innovate in developing models and solutions for next-generation systems that are easy-to-use, interconnected, integrated with real-time decision making and optimization, and conceived from a multi-supply chain, cross industry, perspective. Innovation is needed to develop solutions that address growing system complexity and manage risk.
6	21.5	Failure to resolve problems in transportation infrastructure will result in poorly performing and unsecure supply chains with high cost, high inventory, high complexity and poor service, leading to potential business failures and shifting geographical deployment. Addressing transportation infrastructure extends beyond the material handling industry and requires collaboration with the transportation industry.
7	21.1	Unless all stakeholders reposition and better define the material handling industry, we will continue to suffer from an ill-perceived value proposition and will find it difficult to act strategically and to attract the talent needed to drive growth and innovation.
8	17.8	There is a growing conflict between globalization and fuel costs. It will challenge strategic decisions about sourcing, integration, location, inventory deployment and facility sizing. This will transform demand and supply chains and likely change the business models that work in an environment with growing turbulent fuel costs and accessibility constraints.
9	12.5	The current business model for research has led to irrelevance to the industry. There is a perception of a disconnect between research and industry problems. Research must become more inter-disciplinary and involve multiple stakeholders.
10	9.9	Margins are under pressure. This leads providers to differentiate themselves, trying to get out of the commodity trap, which works against standardization and integration. Margin pressures on clients may limit capital available for investment in material handling solutions or lead them to seek productivity improvements through material handling.

# 2007 Material Handling Logistics Summit

## Themes and Initiatives

**Theme 1:** Powerhouse funding source to support large initiatives such as MH research, education, innovation and development.

*T1.1 Establish large powerhouse funding source to support large initiatives such as MH research, education, development, etc.*

*T1.2 An \$X million research foundation to sustain the production of Ph.D.s with MHL knowledge.*

**Theme 2:** Cross industry standards for open integration and interoperability

*T2.1 Design and provide standards for documentation and training for operating and maintaining equipment and systems.*

*T2.2 Integrate automation/software using standard transactions.*

*T2.3 Work with recognized, standard-setting organizations to help drive establishment of standards and requirements, notably on software and interfaces, for system interoperability (get 80% solution that works for everyone and still allows easy end-user customization).*

*T2.4 Exploit and expand use of web-based software that can be easily deployed in disparate, geographically distributed (and perhaps unsophisticated) supply bases.*

**Theme 3:** Comprehensive modeling and unified digital representation for MHL systems and solutions design.

*T3.1 Help steer development of comprehensive design models for material flow that include sustainability, energy, etc. in the context of risk.*

*T3.2 Help steer development of a unified, digital representation of material handling systems and facilities for design.*

**Theme 4:** Vision and roadmap for next-generation supply chains and associated MHL innovation challenges, steering key projects.

*T4.1 Develop vision and models for future supply chain by exploring intra-facility and inter-facility issues, identify gaps in state-of-the-art and knowledge, and generate a research and development roadmap, perhaps through a think tank.*

*T4.2 Develop a clear research agenda/vision that will define direction and serve as poster child for soliciting funding.*

*T4.3 Develop a model of the distribution center of the future.*

*T4.4 Creation of a think-tank that addresses big issues facing the MHL industry, which would explore issues, define 2020 challenges, identify gaps in knowledge, generate a research and development roadmap, act as a research clearinghouse. Potentially funded by corporations.*

*T4.5 Sponsor a feasibility study for a multi-company pool for catalyzing, supporting and funding important pre-competitive innovation and research.*

**Theme 5:** Industry & academia collaboration and alignment through internships, webspace, events, forums and scholarships.

*T5.1 Facilitate internships/coops/scholarships/site visits/sponsorship for industry events/plant trips/guest lectures, etc. to better integrate industry & academia. This should be driven by MHIA or MHEDA.*

*T5.2 Create a virtual MHL community (i.e., Web 2.0) targeting young people.*

**Theme 6:** Educating, helping and influencing government about MHL

*T6.1 Find opportunities to help educate government legislators and other officials about the current state of technology, what is possible and over what timeframe in terms of regulations toward security and tracking issues.*

*T6.2 Become an influencer of government action on key issues affecting MHI.*

**Theme 7:** Worker-centric distribution center design as workplaces of excellence

- T7.1 Create a research center focusing on humans in MHL work.*
- T7.2 Develop the “workplace of excellence” concept for DCs, including ergo, software, equipment, management, culture, etc., to help leverage new labor populations.*
- T7.3 A Center for Worker-Centric Warehouse Design, including LEED issues, internal environmental concerns, ergo issues, architecture, etc. The eventual goal could be a working model of such a working environment.*
- T7.4 Provide education for cultural issues in the workplace and develop creative delivery platforms. Provide language training.*
- T7.5 A Center for Work Design (incl. ergo and human-computer interface) for Aging and Multi-Lingual Workers.*

**Theme 8:** Demographics evolution: Identifying and understanding potential MHL labor populations, their needs and availability.

- T8.1 Identify potential labor populations by region, understand their needs for integrating them into the workforce, provide forward looking recommendations, and disseminate this information to the companies; with the help of the government, agencies and the industrial real-estate community.*
- T8.2 Benchmark similar groups to determine how they approached similar demographic issues.*
- T8.3 Find & publish industry retention rates. Get this & other favorable industry information to High School guidance counselors.*

**Theme 9:** People value chain of MHL industry; attracting, educating, recruiting, training and retaining high quality personnel.

- T9.1 Create programs for informing, educating, recruiting, and retaining MHL workers, in collaboration with human resource and ergonomics professional organizations.*
- T9.2 Partner with state education and employment agencies to develop educational and promotional materials (including videos and facility*

*tours) that can provide information about the industry to junior high and high school students as well as a process to aid companies in outreach efforts.*

*T9.3 A program to promote MHL and SC down to HS level.*

*T9.4 Build a Wikipedia entry for the industry.*

*T9.5 Develop educational materials that can help facilitate introduction of material handling logistics and distribution processes into business school courses and curriculum.*

*T9.6 Use intra-company rotation schemes to expose employees to all aspects of the business.*

*T9.7 Expand programs for education at high school, trade school and junior college levels.*

*T9.8 Increase career training & develop better paths for advancement. Document career availability.*

*T9.9 Create a vocational education program and curriculum and implement for high school and possibly junior college for education, recruitment and retention.*

*T9.10 An industry-wide initiative to improve the "people supply chain", which includes all skill sets.*

**Theme 10:** Outreach to and collaboration with other MHL/SC associations to build awareness and foster synergies.

*T10.1 Outreach effort and/or a Summit aimed at collaboration with organizations related to MH & L directly (APICS, WERC, CSCMP, etc.) and indirectly (e.g. in HR) to build a federation to address common issues and interests, and build awareness.*

*T10.2 Involvement with the American Logistics Aid network (ALAN).*

**Theme 11:** Summit sequels: steering initiatives, maintaining momentum and going global.

*T11.1 Create a global summit to discuss & understand trends & market entry methods. Include IT personnel in this effort.*

*T11.2 Continue this Summit effort but expand to include global perspective.*

*T11.3 Sustain efforts of Summit initiatives (perhaps through web presence).*

*T11.4 Hold international forums to exchange ideas, knowledge, and "summit-like" experiences.*

**Theme 12:** Networking for intelligence on global trends, best practices, market entry methods and barriers.

*T12.1 Develop better methods for getting industry data from other countries & for understanding entry barriers.*

*T12.2 Hold international panels at industry trade shows & events to discuss global trends & market entry methods.*

*T12.3 Obtain data on global supply chain trends and practices and worldwide suppliers.*

**Theme 13:** Fostering synergistic win-win industry-university research collaboration and technology transfer.

*T13.1 Develop a template to describe collaborative university and industry projects, as a means to facilitate such projects.*

*T13.2 Establish collaborative research projects lead by universities with significant company involvement over short time frames.*

*T13.3 An International Center for MHL. Multi-institutional, multi-disciplinary organization to foster community identity, joint meetings, interchange of ideas. Must include business and engineering, at least.*

*T13.4 Develop a technology transfer mechanism to establish and maintain the connection between academia and industry, and translate the outcome from research initiatives. Trade pubs can help with this.*

*T13.5 Reinvent International Materials Handling Research Colloquium to foster better industry representation.*

**Theme 14:** Focused research and development on MHL hot topics.

*T14.1 A research initiative to develop energy-efficient material handling systems.*

*T14.2 Develop a “mechanism” to import and develop lean concepts in logistics and distribution.*

*T14.3 Sponsor an investigation into industry-wide contingency planning and business continuity in the presence of SC disruptions, including security issues, pedigree, tracking and recovery.*

# Material Handling Logistics Summit Participants

## MHL Summit Moderator

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## Publisher Facilitators for Breakout Sessions

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