

Lecture Notes in Business Information Processing

46

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Advanced Manufacturing and Sustainable Logistics

8th International Heinz Nixdorf Symposium, IHNS 2010
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Proceedings

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Preface

In times of declining economic growth, companies have to control their costs more than ever to save resources needed in the future. Regardless of the economic size of the company, the processes of production and logistics play a decisive role in stabilizing procedures and avoiding waste. Both are important cost drivers in manufacturing companies and therefore they offer large potential savings. Pervasive networking in the last years has contributed to a hitherto unknown transparency of global markets. This harmonization opened up new possibilities of entering foreign markets for procurement and sales to the companies. The emerging global procurement strategy was understood as a chance to rethink the relocation of existing production facilities to profit from existing differences in price and performance as a resource-saving factor. Many companies tended towards a reduction of their vertical integration by outsourcing sections of their value chain. These contracted services of production result in higher transport volumes, increased complexity of supply processes and new requirements on logistic networks. This trend of outsourcing has not stopped, but is slowing down noticeably. Additionally, there is an increasing proportion of companies restoring business units that were outsourced before. Reasons for turning back decisions are often to be found in missed goals. It is not unusual that important cost factors were disregarded in the original basis of decision-making. In the meantime many companies have realized that it is easier to achieve stability of processes and therewith a control of costs by increasing their own contribution to production. Especially in times of under-utilized capacities like in the current crisis, insourcing can be a strategic option. Manufacturing and logistics undergo changes incurred by the development and implementation of advanced information technologies. Network-wide cooperation is required in order to take advantage of these shifting paradigms. Existing potentials such as intra-company knowledge, which are inadequately used so far, can contribute to the development of sustainable master-plans leading to new, learning companies. Corporate networks are strengthened by the application of best practices and by sharing their experience with supply chain partners for achieving integral improvements. Ecological awareness influences existing processes by the application of green principles to logistics and supply chain management. Eventually, everyone will benefit from the fact that the transfer of knowledge by practitioners and researchers is leading to a new quality in cooperation, planning and control.

During April 21–22, the 8th International Heinz Nixdorf Symposium took place in Paderborn. Under the title “Changing Paradigms: Advanced Manufacturing and Sustainable Logistics,” the Heinz Nixdorf Institute enabled the discussion between researchers and practitioners about present challenges and

possible solutions. On the first conference day, ten speeches were given by the following keynote speakers:

W. Dangelmaier	Heinz Nixdorf Institute
A. Köhler	Knorr-Bremse AG
H. A. Flegel	Daimler AG
E. Gericke	Festo AG & Co. KG
S. Schwinning	Miele & Cie. KG
W. Delfmann	University of Cologne
W. Sihn	Fraunhofer Austria
M. Schenk	Fraunhofer IFF
W. Stölzle	University of St. Gallen
G. Klink	A.T. Kearney GmbH

On the beginning of the second day, six speeches of invited researchers gave insight into the main topics of the symposium:

E. Müller	Chemnitz University of Technology
D. Van Oudheusden	Katholieke Universiteit Leuven
G. Zülch	Karlsruhe Institute of Technology
J. Zak	Poznan University of Technology
S. Wenzel	University of Kassel
A. Blecken	Heinz Nixdorf Institute

Subsequently, international authors presented their contributions in four parallel tracks. Main topics were:

- Production Logistics
- Industrial Engineering
- Operations Research Techniques
- Simulation
- Humanitarian Logistics
- Supply Chain Management

The volume at hand contains the contributions to “Advanced Manufacturing and Sustainable Logistics” presented at the 8th International Heinz Nixdorf Symposium.

April 2010

Wilhelm Dangelmaier
Alexander Blecken
Robin Delius
Stefan Klöpfer

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