



GLOBAL SUPPLY CHAIN GROUP

Winning Global Supply Chain Advantage

The New Supply Chain Parameters in Europe

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Background & Market



Approach

Business Case

Conclusion & Outlook



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The Supply Chain World Changed

- Supply Chains are fragile:
 - They break more often than in recent years
 - They have been mistreated from the original strategic vision – to be a weapon for higher competitiveness in the market and for higher customer service and satisfaction
 - Instead of this ultimate goal Supply Chains have been shrunk in costs by lean management attempts to a not acceptable level



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Example

- **BOSCH**

The inability to deliver diesel injection devices just in time broke the supply chain to BMW and Mercedes Benz causing unanticipated costs of more than **100 million Euro**



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The Supply Chain World Changed

- Supply Chains are global:
 - They are more vulnerable than in recent years
 - They are preferred targets of terrorists for attacks with fatal consequences
 - Supply Chains can break easily along complex distribution chains (at average there are potentially 14 breakpoints in international supply chains)



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Example

- **U.S. West Coast docker lock-out**

The supply chain interruption of shipments to the west coast mainly from China caused unanticipated costs of more than **2 billion U\$ per day** and a recovery time of exceeding half a year to manage the backlog



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The Supply Chain World Changed

- Supply Chains are not transparent:
 - Lack of supply chain visibility increases costs
 - Lack of supply chain integration along all channel partners increases vulnerability against failures and attacks
 - EDI was designed for document exchange, not process integration
 - Web Services take advantage of real-time communication
 - Backward tracing of single products along the entire chain is getting mandatory, but is insufficiently managed today



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Example

- **Daimler Chrysler**

Total Recall of 1.3 million passenger cars, which is more than a full years production and will erode profits of exceeding **1 billion Euro**



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Example

- **Food**

A well known German brand for baby food exported faulty lots of products causing many casualties. They were not able to allocate the production lots with their present location



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Example

- **Beverage**

A leading German brand of mineral water implemented a secure supply chain and was able to avoid three public recalls since then



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The Ultimate Threat – A Public Recall

The screenshot shows a CNN Money news article. The headline is "Coke 2Q net drops 21%". The sub-headline reads "European product recall, Kosovo war, monsoon cited for woes abroad". The article text states: "NEW YORK (CNNfn) - Coca-Cola Co. posted a 21 percent drop in second-quarter net income Thursday, matching downwardly revised analysts' estimates, as the company chronicled a long list of sales woes in Europe, China and elsewhere. The Atlanta-based beverage maker earned \$942 million, or 38 cents per diluted share, in the quarter ended June 30, down from \$1.19 billion, or 48 cents per share, a year earlier. 'This past year can be characterized as a period of volatility and uncertainty in the global economic environment,' CEO M. Douglas Ivester said. 'Looking back, the depth of the economic downturns in many markets has been greater than we had originally anticipated,' he said. The results were on target with analysts' estimates of 38 cents per share, according to the consensus forecast reported by the First Call Corp. Analysts recently adjusted their projections after the company warned that earnings would be hurt by a contamination scare in Europe, which resulted in a product recall of millions of cans and bottles of soft drinks in Belgium, France and the Netherlands that was the biggest in company history."

- SCS enables companies to **save money by buying security.**

An example case: Coca Cola Corp.

- Estimated loss **USD 1 billion**
- Estimated overall image costs: **USD 10 billion**
- Estimated investment in SCS necessary to prevent the crisis: **USD 13 million**



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The Supply Chain World Changed

- Supply Chains are not compliant with legal requirements:
 - EU Law 178 (Tracking and “backward” Tracing including documentation) for all companies and brands for human consumption (food, beverage, pharmaceuticals, chemicals, etc.) exporting to the EU and distributing within the European Union
 - C-TPAT, Sarbanes Oxley Act, etc. – Similar laws and regulations are in final stage to be released by the EU in Brussels for Europe
 - Fulfillment and reconciliation of EU laws into domestic and local regulations



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Example

- **Food**

200+ Czech food producers and distributors are banned from delivery into other EU-countries, because they are not compliant to the EU Law 178/2002



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The Supply Chain Challenge

- Today we are in transition from conventional Supply Chain Management to secure Supply Chains
- International and intercontinental Supply Chains must be: agile, robust, resilient, fast, responsive and secure



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What is Supply Chain Security?

**Supply Chain Security offers
highest service
at lowest costs
in a secure way.**

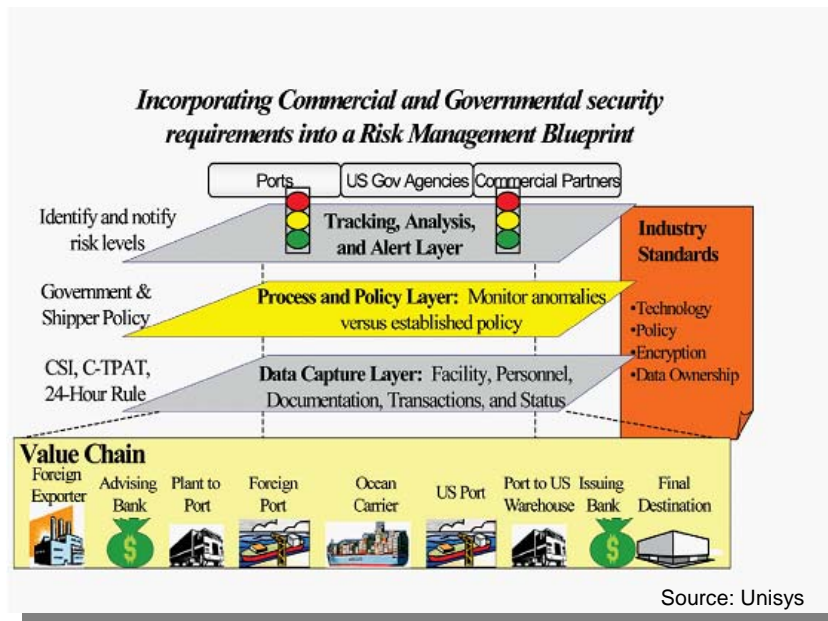
- Supply Chain Security (SCS) is the ability to secure the main flows in Supply Chain Management:
 - Information
 - Material
 - Cash
 - Process
- Supply Chain Security therefore adds the aspect of *security* to traditional Supply Chain Management with its two components *savings and service*.



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The SCS Market - Overview



- The Market
- The Need-Firms
- The Partners
- The Stakeholders



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The SCS Market – The Market

- In the post 9/11 world, security is the **fastest growing industry** world wide.
- Internationally, more than **400 laws** enforce the need for supply chain security in all industries which ship products across borders.
Some examples:
 - C-TPAT
 - EU Law 178/2002
 - Basel 2
 - Sarbanes Oxley Act from SEC
 - Bioterrorism Act and many more
- Investments in security can be justified only if cost reductions in the supply chain lead to significant **returns on investment**.



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The SCS Market – The Need-Firms

- Most companies in Europe are inappropriately prepared for attacks against their supply chains.
- The most crucial attack vectors for supply chains are:
 - Brands and brand names
 - Mono product structures
 - Fragmented and extended supply chains
- SCS affects all companies shipping goods, especially across borders and in the following industries:
 - Food and beverage
 - Pharmaceuticals and cosmetics
 - Car suppliers
 - Textiles
 - Chemicals, in particular hazardous goods
 - Biotechnology



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The SCS Market – The Partners

- Currently, there is **no single service firm offering an *integrated approach*** to SCS. The potential competition is therefore a mix of service or solution partners:
 - Service partners:
 - Logistics service providers (K&N, DHL, FedEx, UPS, et al.)
 - Risk management firms (AON, CRG, Marsh, Protiviti, et al.)
 - Audit firms (Deloitte, KPMG, E&Y, et al.)
 - Lawyers
 - Banks
 - Insurances
 - Solution partners:
 - Software solution providers (Unisys)
 - IT service providers (CSC)
 - Technology providers (Accenture)
 - Consulting services (logistics, processes, production...)



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The SCS Market – The Stakeholders

- There are many stakeholder groups for security with diverse interests:
 - Trade / Industry users and customers
 - Governments
 - Port Authorities / Terminal Operators
 - Suppliers of security solutions
 - Universities, training institutes, R&D centres for RFID



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Key Elements of Supply Chain Security

- Risk Analysis
- Physical Security
- Access Control
- Personnel Security
- Education and Training Awareness
- Procedural Security
- Information Security
- Incident Reporting and Investigations
- Documentation Processing Security
- Trading Partner Security
- Conveyance Security
- Crisis Management and Disaster Recovery



Action-Steps to Supply Chain Security

- **Supply Chain Security Audit**
 - Status Quo diagnosis and analysis using a diagnostic tool
 - Workshops
 - Interviews
 - On site visits
 - Tiger teams
 - Mapping of risks onto controls and suggestions for closing the gaps
- **Strategic Concept** for efficiency improvements and security enhancements
 - Cost/benefit/risk analysis
 - Design of draft concept, ready for management buy-in



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Action-Steps to Supply Chain Security

- **Implementation Phase**
 - Design of detailed concept
 - Change management program
 - Project management
 - Training and coaching
 - Networking with solution and service partners

- **Auditing and Monitoring**
 - Design and setup of reporting structures
 - Periodic checks of availability and efficiency of measures
 - Management reports of assessments



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A Business Case

Food Industry



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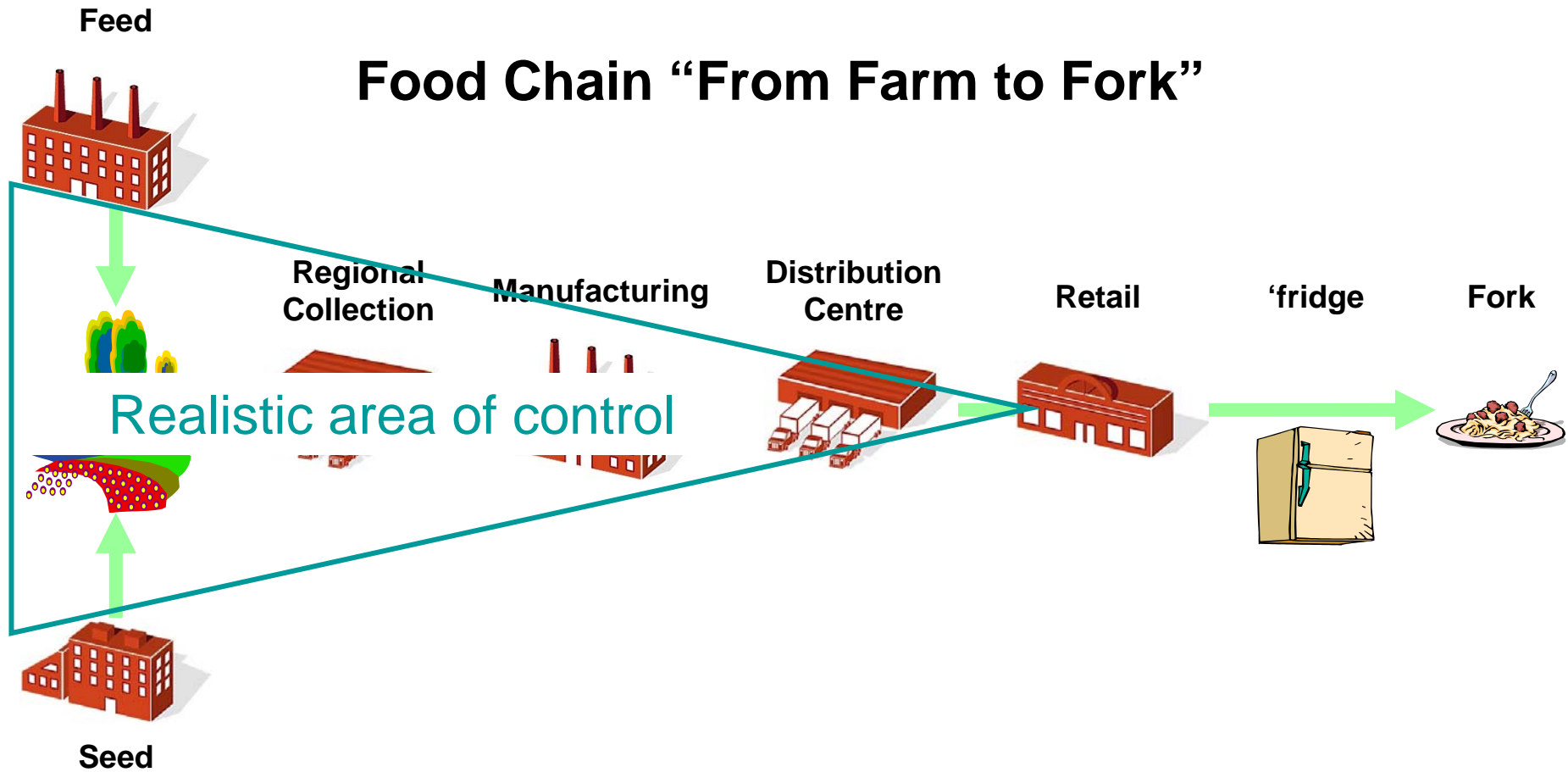
Business Case: A Jam Manufacturer

- **Client:** International jam manufacturer, production sites in Germany and Switzerland, exporting to the US and many other countries. Turnover €400m.
- **Situation:** Export risks, recall risks, increasing costs for logistics.
- **Audit results:**
 - Credible risks with potentially high impact.
 - No security for the supply chain, including lack of seamless traceability of products.
 - No crisis management organisation.
 - No information security.
 - Forecast accuracy inadequate.
 - Excess inventories in the pipeline.



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Business Case: A Jam Manufacturer (2)

- **Concept:** To bring the company to global supply chain excellence.
 - Eliminate attack vectors in the areas of physical and information security and build up a trained organisation.
 - Increase total supply chain visibility across all channel partners (logistics, shipping...)
 - Install seamless tracking and tracing modules on individual lot bases.
 - Improve forecast accuracy by real-time marketing inputs.
 - Reduce excess inventories.
 - Improve ability to react to pending crises by continuous monitoring and reporting of issues for the company.
 - Reach compliance with C-TPAT, EU 178, Sarbox, FDA in order to reduce the vulnerability against distribution delays, fraud and terrorist attacks.



Control the Production GLOBAL SUPPLY CHAIN GROUP

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4000 data for fertilizer, herbicide, machines and equipment, methods etc. including costs
- EXPERT SYSTEM

Orthophoto w/wo cadastre as base layer for maps; OO(geo)db WinGIS

1 click „Where to grow what?“ for: Documentation, EU subsidies, fertilizer balance, product profitability, traceability, agro-map, logistics, precision farming,

The screenshot shows the 'Anbau' software interface. At the top, there's a menu bar with 'Anbau' and 'Feldstücke'. Below it is a map of agricultural fields with various colored overlays (green, red, yellow) and a grid. A legend on the left lists 'Kulturen' (Cultures) and 'Widmung' (Designation) with items like 'Winterweizen', 'Körnermais', and 'Roggen'. Below the map is a calendar view from 2001 to 2004, showing planting and harvest cycles for different crops. A small window on the left shows a table of data, and another window on the right shows a list of items with prices and quantities.

EU subsidy form

Item	Value	Unit
1	7045.85	A
-1	7002.39	
-1	76	
2	14248.00	A
-1	14248.00	
3	12252.00	G
-1	6222.53	



profitability calc

Time-management for planning and documentation, activities linked

... but use the software or add-on modules also for: Forestry, Pipeline Management (water, wastewater), Irrigation, Community Management, Meteorology-sensors-link, Ecology planning, Rural Area Planning and much more with

Relational database for activities, db-Export





Identify the Shipping Unit

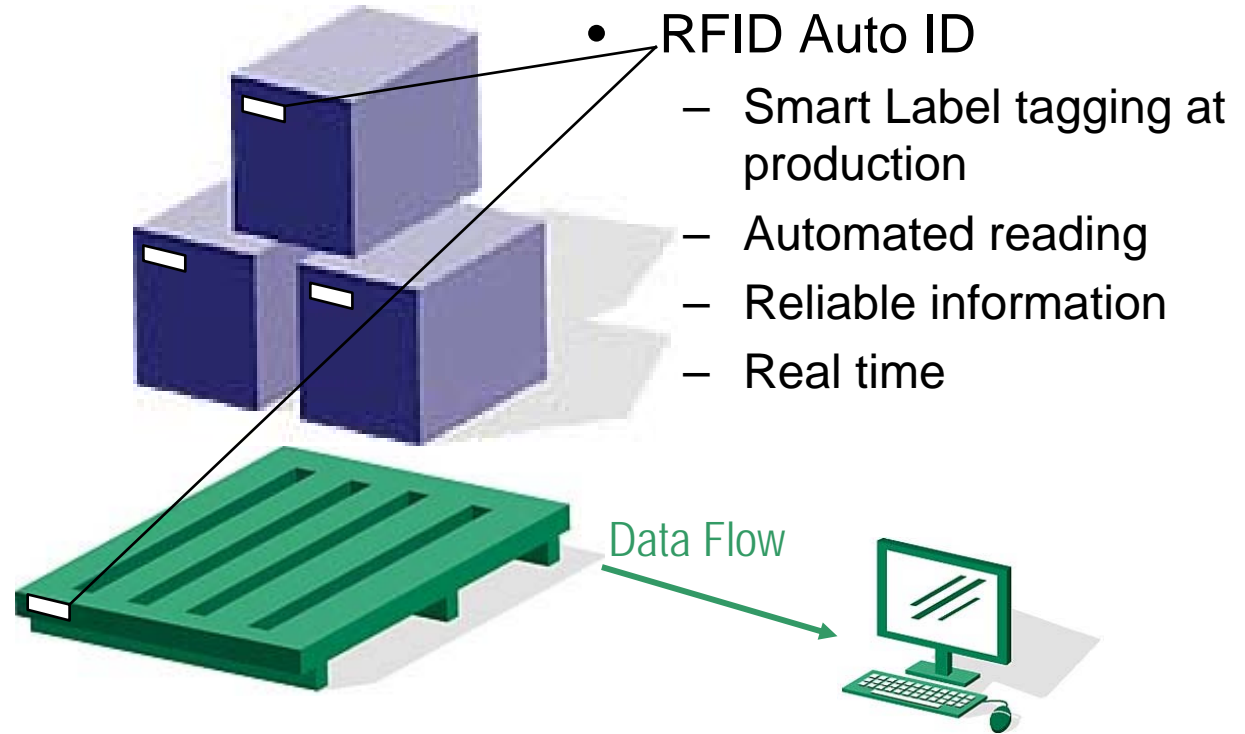
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- Auto ID Methods
 - Optically (OCR)
 - Barcode
 - RFID

- Tagged Units
 - Product
 - Case
 - Pallet
 - Container

- One tagged unit is sufficient





Track in Locations

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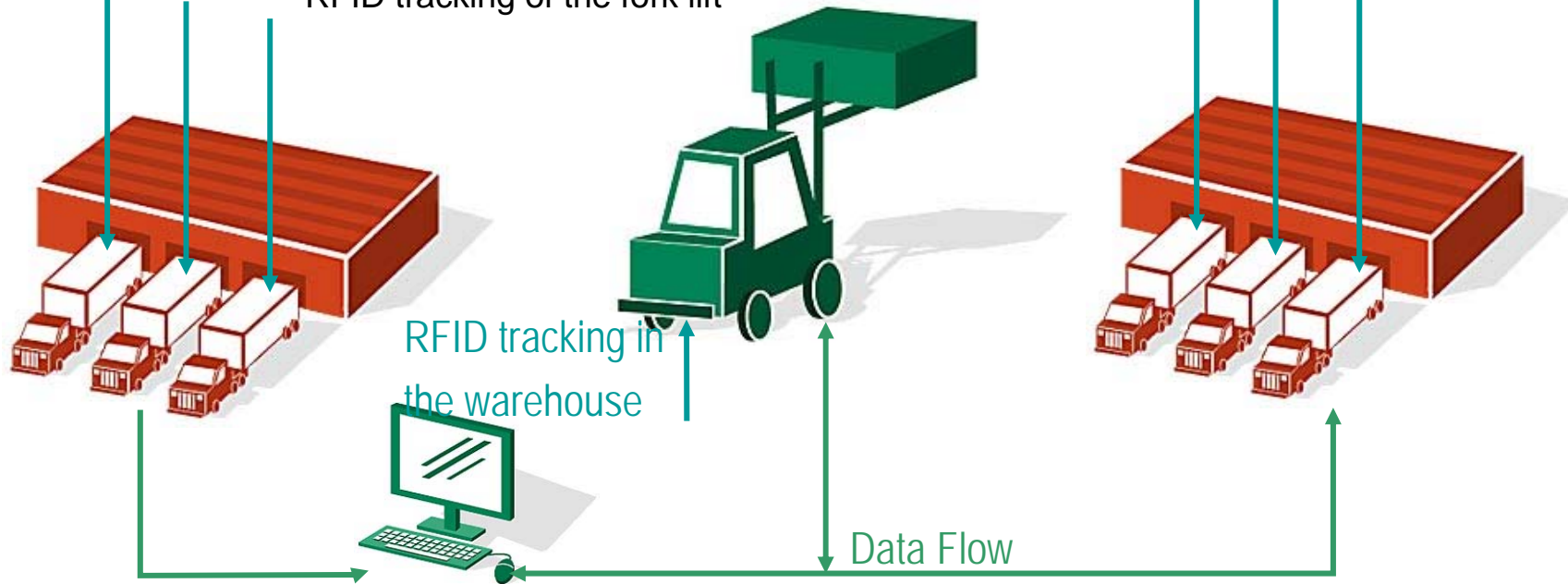
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- RFID Auto ID in the warehouse
 - RFID Reading the cases/pallets on arrival and delivery
 - Tracking the product locations inside the warehouse

RFID reading arrival

- Knowledge of fork lift loading
- RFID at each storage position
- RFID tracking of the fork lift

RFID reading delivery



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Visibility, Track & Trace, Supply Chain Event Management

- Visibility
 - SKU visibility
 - Cost visibility
- Track & Trace
 - Just In Time replacing Just In Case
- Supply Chain Event Management (SCEM)
 - Pro-active Notification
- Benefit
 - Inventory Reduction
 - Improved Shelf Availability



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Business Case: A Jam Manufacturer (3)

- **Cost/Benefit/Risk:**
 - **Implementation costs:** €3m (including 3rd parties and software)
 - **Benefits:**
 - 2% logistics costs = **€8 million**
 - 38% inventory reduction
 - 13% optimization of transport
 - 12% costs of employees in all departments
 - 12% collaboration/partnerships with suppliers
 - 10% reduction of theft and shrinkage
 - 8% faster import, less inspections
 - 7% less checks & questions
 - **€50 – 100 million** in case of a recall
 - **Risks:** None, because the company has the adequate ability to change



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Business Case: A Jam Manufacturer (4)

- **Implementation:**
 - Detailed concept with project plan, tasks and responsibilities, and a project team with steering committee.
 - Evaluation of potential partners to close the identified gaps.
 - Development of requirement specifications for the selection of software vendors, 3rd party logistics providers and security companies.
 - Support in the selection process for solution partners.
 - Overall project management and guidance of the client during the implementation phase.
- **Monitoring and Reporting:**
 - Set-up of a monitoring service for issues identified in the risk analysis following the implementation. Delivery of monthly status reports with alerts for the client as soon as issues develop.



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Conclusion & Outlook

- Situation in Europe today:
 - Europe is facing a congestion peril similar to that afflicting the U.S. West Coast
 - “We are increasingly talking not of just in time but of managing the mess” (statement of the VP of sea-freight at Schenker)
 - Sourcing and selling internationally is an alarmingly inefficient process today
 - Cross-border supply chains are
 - strapped together with manual processes
 - highly unpredictable
 - confronted with continually evolving regulatory demands



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Conclusion & Outlook

- Global supply chains are increasingly out of control based on benchmark surveys and interviews with 170 companies
(Source: Aberdeen Group, March 2005)
 - Global logistics costs are exploding, are critical to corporate profitability and getting a major concern. Logistics costs compared to revenues are:
 - 6 % for products bought or sold offshore (average)
 - 11 % and more (one third of respondents)
 - plus x % for unanticipated international costs (e.g. container inspections)
 - 3 % or less for best-in-class domestically sourced products
 - More than 10 % of international shipments are late or incomplete and more than 20 % are not compliant to order or routing instructions
 - Over 60 % of companies manage their global trade process using paper and spreadsheets with a hodgepodge of department-level homegrown software (“Automation is a goal, but not a reality!”)



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Conclusion & Outlook

- Pressures driving companies to improve their Global Trade Process:
 - 62 % Long and unpredictable lead times inhibit our ability to respond to market demands
 - 52 % Product cost savings eroded by unanticipated supply chain costs
 - 34 % Compliance and documentation errors cause delays and fines
 - 29 % Slower cash flow, greater working capital and higher financial settlement costs than anticipated
 - 28 % Global security requirements and threats



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Conclusion & Outlook

- Winning Trade & Security Compliance Strategies
 - Significant shift in the way companies view their trade compliance departments - Former tactical form fillers and product classifiers are increasingly transforming to
 - Strategic Advisors
 - Global Trade Competency Centers or
 - Centers of Excellence in Global Trade Management
 - A billion-dollar industrial manufacturer stated:
 - “A year ago, trade compliance was viewed as a tactical, necessary evil.”
 - “Now we are seeing **compliance as strategic!**”



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Conclusion & Outlook

- Winning Trade & Security Compliance Strategies
 - Heightened awareness of the role that document issues play in causing
 - Service level failures
 - Lead time variability
 - Unanticipated costs
 - More sensitivity to regulatory compliance risks
 - Customs fines
 - License withdrawals
 - Corporate brand equity risk
 - Enterprise responsibility for compliance issues – regardless of whether a forwarder or other party is used for compliance and documentation



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Conclusion & Outlook

- Winning Trade & Security Compliance Strategies
 - Increased focus on lowering total delivered cost by using trade agreements for NAFTA, CAFTA and EU by improving
 - product origin declarations
 - classification of products for customs purposes
 - Growing understanding that Sarbanes-Oxley and other regulations require process and risk management excellence
 - Freeing more budgets to organize and automate global trade processes
 - Trade compliance departments reporting to C-level executives rather than to the logistics function have more strategic impact on the total enterprise



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Conclusion & Outlook

- Winning Trade & Security Compliance Strategies
 - More focus on new management directions
 - Outsourcing
 - Collaboration & Partnerships
 - Application Service Providers (ASP)
 - Security and Risk Management Strategies
 - More focus on advanced technologies
 - Smart containers, Satellite Tracking
 - RFID, Laser Tattoos (e.g. on fruits and vegetables), other advanced electronic memories (liquids, paintings, etc.)
 - Track & Trace, End-to-end visibility, Web-based open IT-systems, etc.



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The Secure Supply Chain

- The transition from SCM to SCS calls for new ways of doing business – especially in intercontinental trade.
- If you want more or support do not hesitate to contact me at: wpartsch@sceaglobal.com