

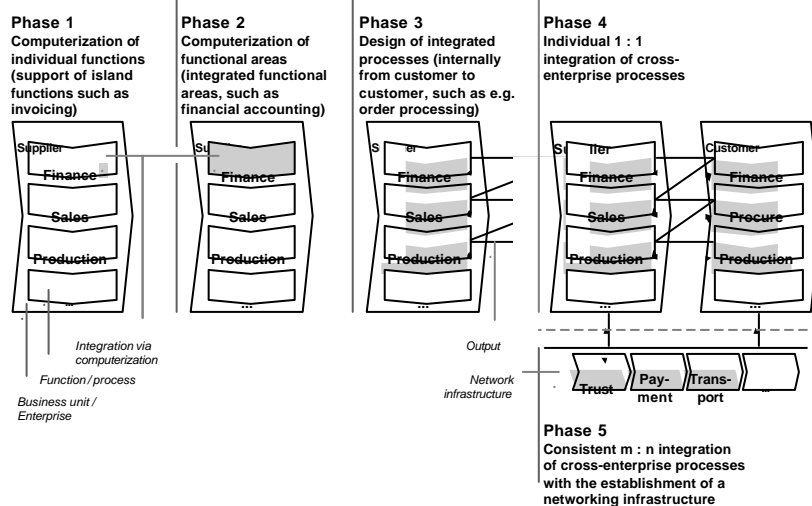
Business Impact of UC

Prof. Dr. Elgar Fleisch

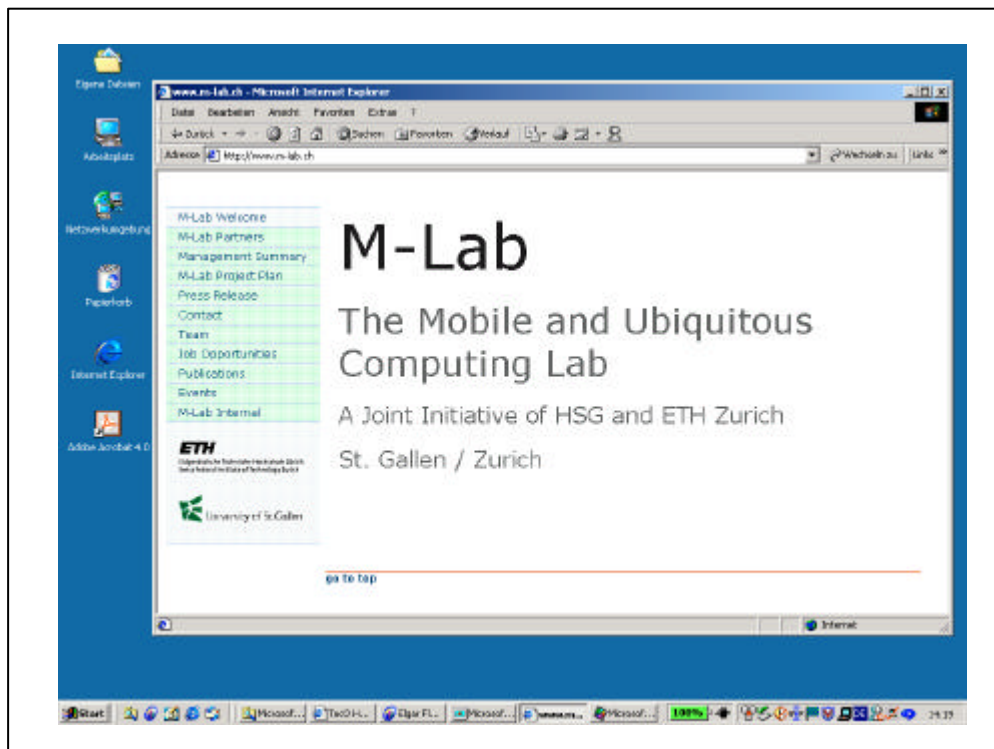
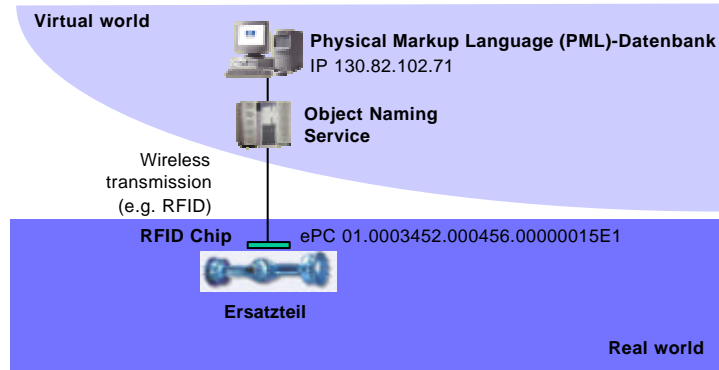
Dagstuhl Retreat, September 2001

E. Fleisch
 When things
 become smart
 29.8.2001
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Enterprise Automation eventually leads to Business Networking (or e-Business)...



...but (for full automation) there is still one link missing: the one between atoms and bits



UC has the potential to create new business opportunities

- Life Sciences
- Logistics
- Retail
- Automotive
- Services

Increase in sales

- Source verification
- Counterfeit protection
- New services / smart products
- 1:1 marketing / mass customization



Reduced costs

- Maintenance / repair
- Theft and shrinkage
- Recall actions
- Safety and liability
- Surveillance
- Supply chain management
- Disposal / re-use / recycling

The main source of business opportunities is - like in the old ERP and e-Business days - the avoidance of media breaks

Time

- immediate digitalization allows immediate processing
- location independent immediate integration and distribution of information
- ... translates to fast centralized as well as decentralized decision-making

Information and decision
generation

Costs:

- automation leads to low
- measurement costs
- low information processing costs
- low information integration costs
- helps to avoid human errors

Quality

- more measuring points on object and time axis
- higher precision in measuring
- mobility
- immediate digitalization reduces errors
- ... translates to more and precise basis for decisions

Food tracking Campofrio



- **Problem:**
 - Customers demand for more information about meat products
 - Traditional barcode based systems fail under hot and wet conditions
- **Solution based on RFID-chips:**
 - Chips get attached to every piece of meat
 - Informations about origin, percentage of fat, weight, etc. are stored on the chip and updated during production
 - Readers at production line enable positioning
 - All informations are online available
- **Benefits:**
 - Improved control of quality
 - Proof of origin



Shelf life time management at Sainsbury



Waste collection in Sweden

- Customer number is attached to waste bins 
- Collection vehicles are equipped with weighing machines
- The system charges per weight 
- Handheld terminals collect customer IDs and weights, and generates billing information
- Central computer does invoicing, statistics about vehicles, visited places and amount of garbage collected

Patient Monitoring at Sutter Hospital

- Problem:
 - Critical care units are filled to capacity (peak seasons)
 - Personal monitoring is costly and unreliable
 - Two-campus medical center
- Solution:
 - High-end medical bedside appliances for measuring body functions
 - Wireless LAN infrastructure
 - Control center
 - Enterprise-wide viewing stations
- How it works:
 - Wireless transmitters send physiological data to ceiling antennas
 - Information is relayed to workstations in Mission Control
 - Access to patients real-time status at Enterprise-wide viewing stations
- Benefits:
 - Quicker response time to patient events
 - More complete information available to caregivers
 - Increase in monitoring capacity by double
 - Save in salary costs of \$ 160,000 a year

The road from identification to active proxies will help to innovate products, services and processes

