Business Impact of UC

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Enterprise Automation eventually leads to Business Networking (or e-Business)...

Phase 1
Computerization of individual functions (support of island functions such as invoicing)

Phase 2
Computerization of functional areas (integrated functional areas, such as financial accounting)

Phase 3
Design of integrated processes (internally from customer to customer, such as e.g. order processing)

Phase 4
Individual 1:1 integration of cross-enterprise processes

Phase 5
Consistent m:n integration of cross-enterprise processes with the establishment of a networking infrastructure
...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

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

1. Sticker is written on a RFID tag
2. Tags are attached to the inner side of the shelf
3. Labels are read automatically by an RFID reader
4. Readings are transmitted to the supplier
5. Information is updated in the backend
6. Information is transmitted to the distribution center or supplier
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 proxis will help to innovate products, services and processes

(3) Active proxy
Procurement system: please order 10 new colleagues to be delivered to Mike on 7/3

(3) Passive proxy
Drilling machine was removed on 7/3 6:30 a.m.

On 7/3 Mike used me for 3 h at his Zürich site

Still have 109 min to drill until I need a shave

(2) Sensoric

(1) Identification

ePC 01.0001A72.000024.000005R673

ePC 01.0002437.000A375.00000Z376

ePC 01.001114R.004534.0003543AQ1

procurement system: please order 10 new colleagues to be delivered to Mike on 7/3.
On 7/3 Mike used me for 3 h at his Zürich site. Still have 109 min to drill until I need a shave.

Mike: In 109 min I am gone. In your bag you soon find 10 new colleagues, otherwise dial 0844 84 84 85 for next service provider with global maintenance contract.

Procurement system:

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