



RFID as an enabler of the ubiquitous

Luigi Battezzati Ph.D.

Visiting Professor di Operations al Politecnico di Milano
Osservatorio sulle applicazioni del RFID del Politecnico di Milano

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Features and Trends

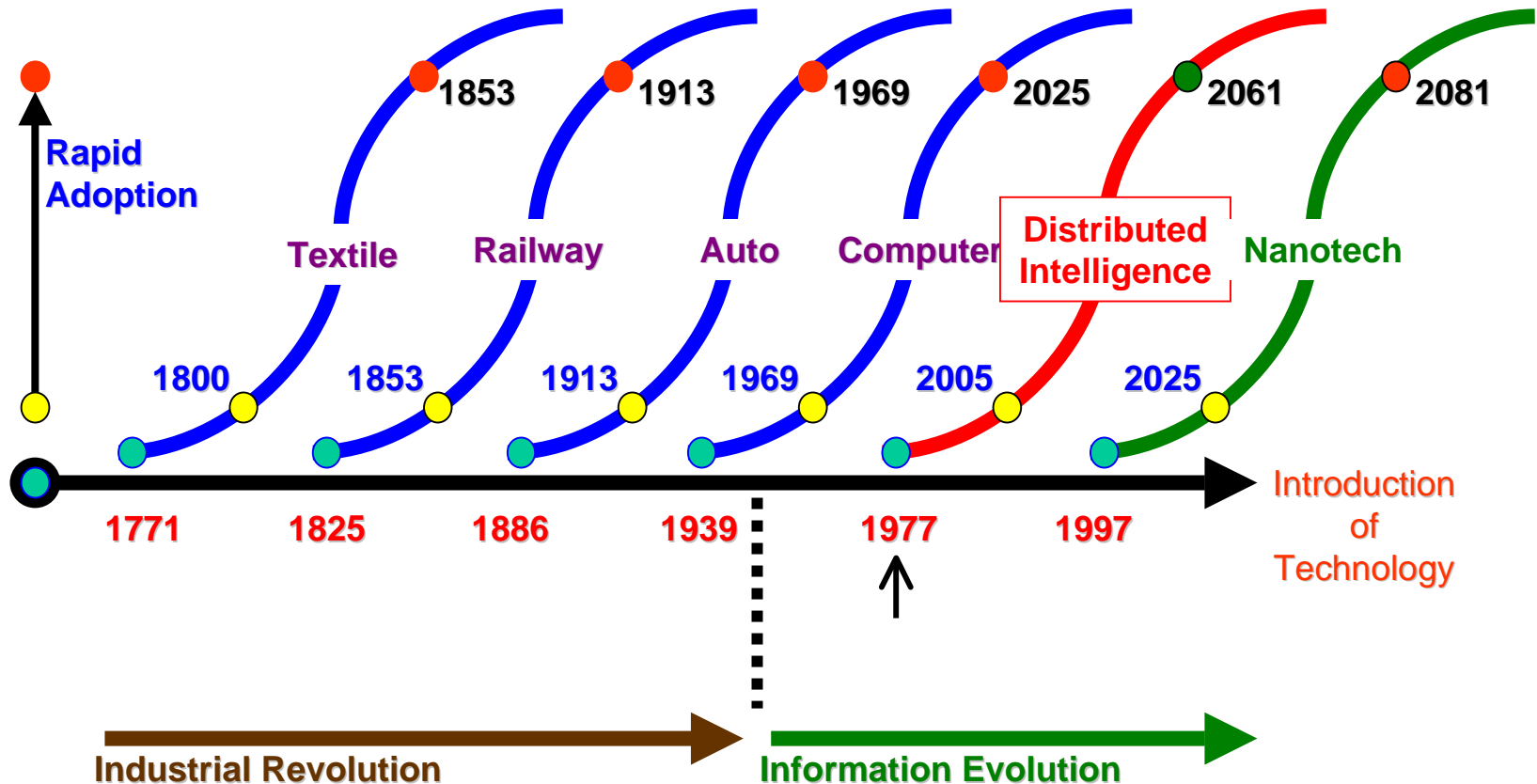
***Impacts on
Computers
and people***

***Innovation Process
and Barriers***

RFID technologies are ready for changing the world

- Identify individual items
- Line of sight not required
- Store and modify information on transponder
- Stable in variety of conditions
- Read through most non-metals
- RFID transponder costs are dramatically reducing
- Evolution of different types of transponder: active passive, intelligent....

RFID is a building block of Distributed Intelligence



Source: Norman Poire MIT

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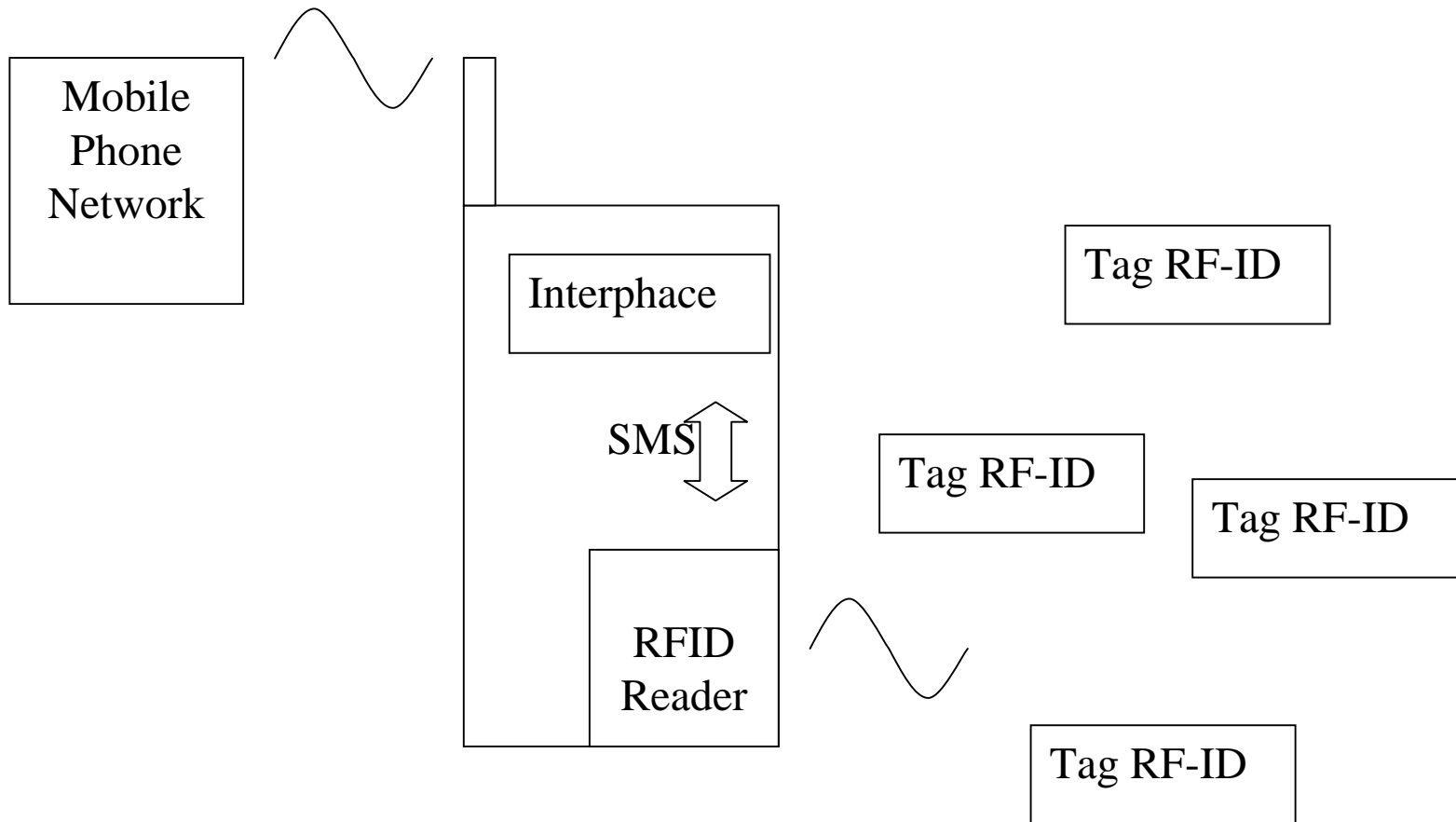
Basically RFID changes material flows but it can impact on the information flows also: the MIS architectures could become really distributed and...

- “Old” centralized MIS architectures
 - ◆ Item identification coupled with object (ex bar code)
 - ◆ Information in Database of MIS coupled with item identification
 - ◆ MIS reliability is necessary for capturing the data changes

- “New” “Distributed MIS Architectures”
 - ◆ Item identification and real time transactions on the object (ex RFID transponder with memory)
 - ◆ Information in Database of MIS updated when it's possible and useful
 - ◆ Data communication and data base reliability is not necessary for capturing the data changes

...so you can saving money and improving MIS reliability in the same time

Human RFID interaction is not natural but it could be helped by a tool friendly for everybody: the mobile phone



RFID - A COMBINATION OF CONNECTIVITY AND USABILITY



29.11.2004

- Very short reading distance (a few cm)
- Short distance can be turned into a benefit
 - easily select services by a simple touch gesture, instead of browsing menus
- Service related data is stored into RFID tag:
 - Reading the tag places a phone call
 - sends an SMS
 - opens a related web page...
- No typing or menu browsing required
- Battery-free operation of tags is a huge benefit, considering the large amount of nodes in Aml environments



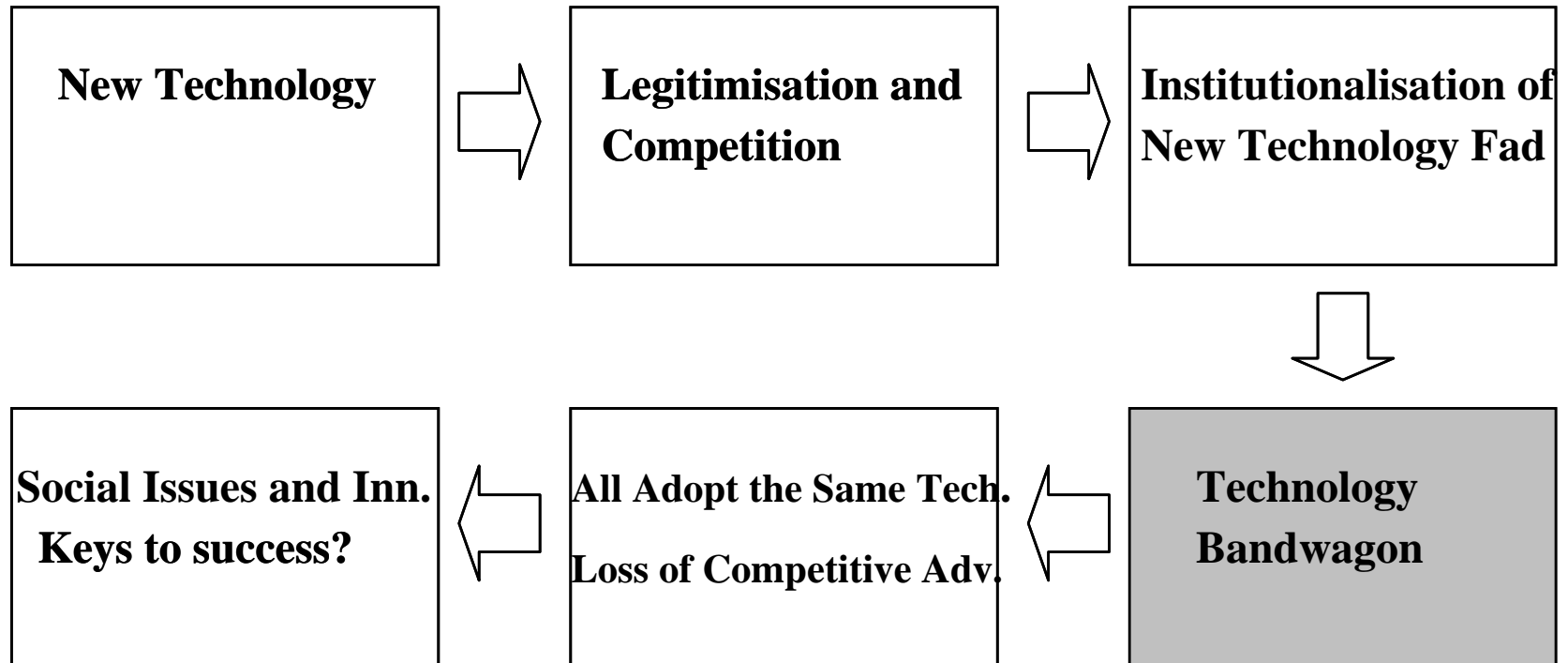
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Features and Trends

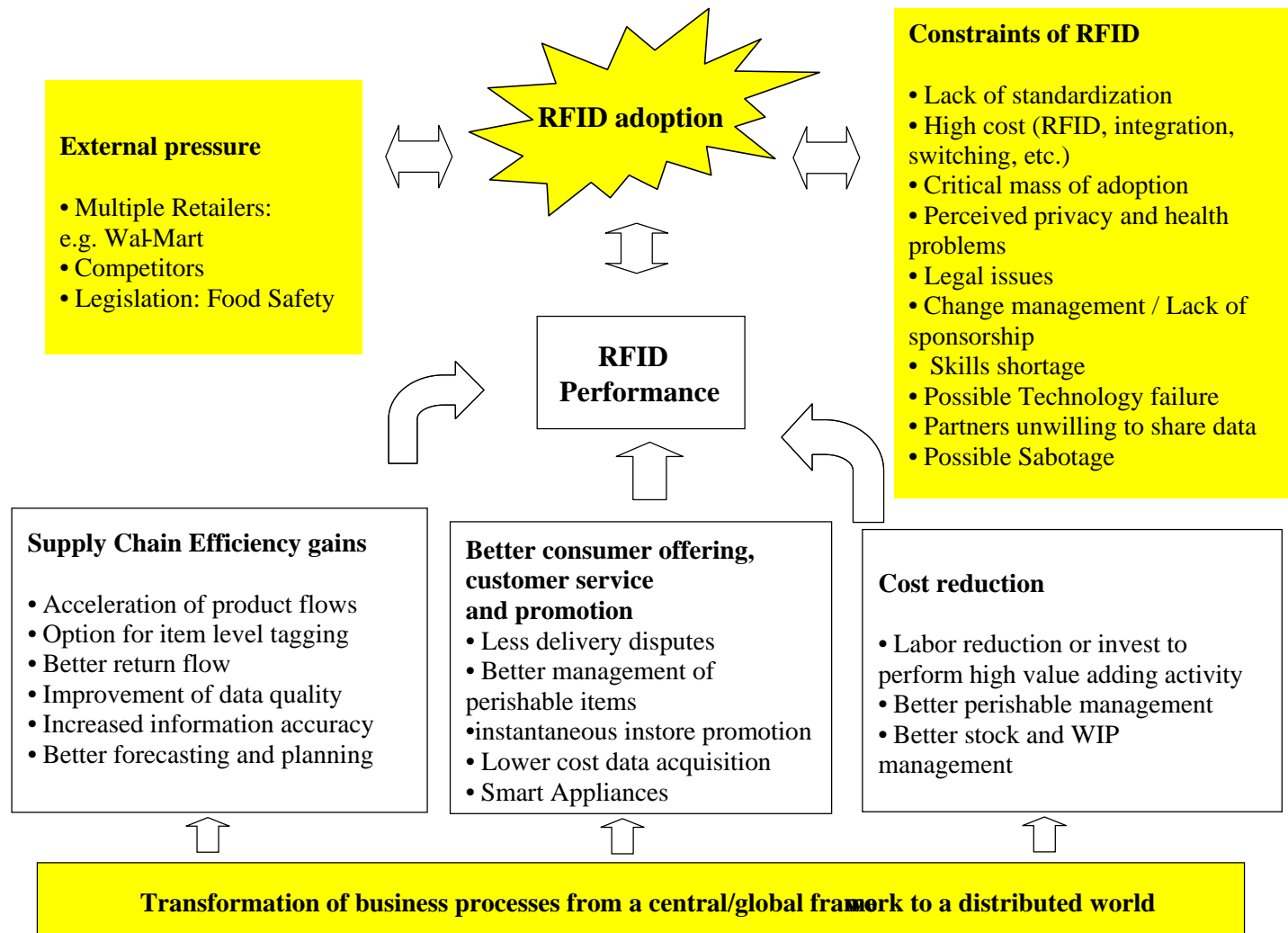
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But the new technology adoption is not automatic....



..due to structural and infrastructural barriers: infrastructural constraints, internal and external pressures*



*Source: Battezzati, Piccirillo Tamminen, Insead, Euroma2004

Conclusions

- RFID is not plug and play technology.
- It's not about collecting data, it's about making use of the new information.
- It's about fundamental business change, not about automating existing processes.
- Change will be difficult to manage top-down. Innovation spawns from inside each individual organisation from bottom up.
- Entrepreneurial organisations should be set up to innovate with RFID within a larger organisation. Organisational learning will be crucial to facilitate knowledge diffusion and innovation.
- Social implications of technology such as privacy concerns and staff resistance due to deskilling should not be underestimated..