



**Future Technologies I: Communication
Session 2
Hannover, 3 November 2010**

Opening: Future Information & Communication Technologies

Wolfgang Wahlster

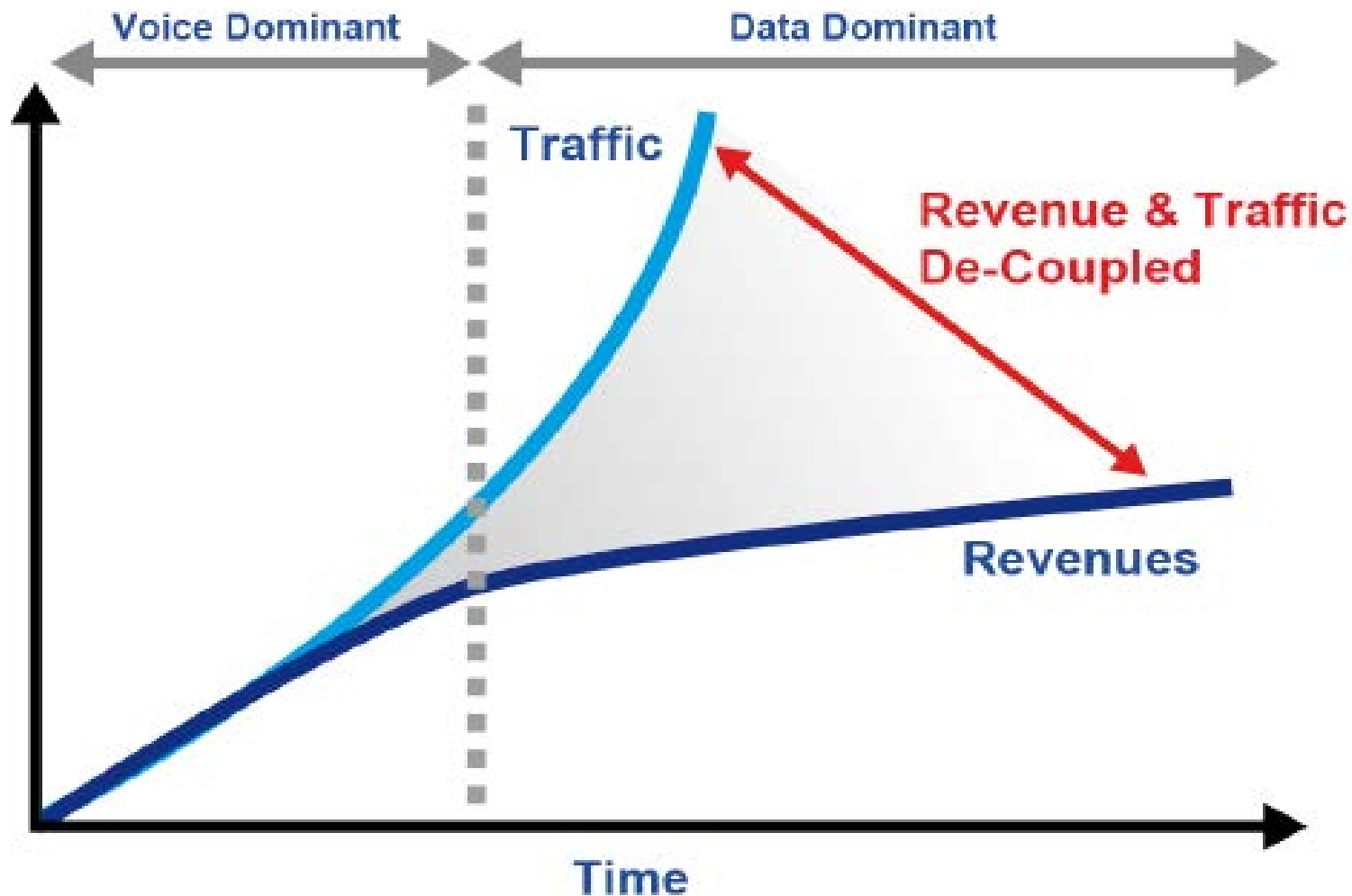


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Communication: Anytime, Anywhere for Everybody?



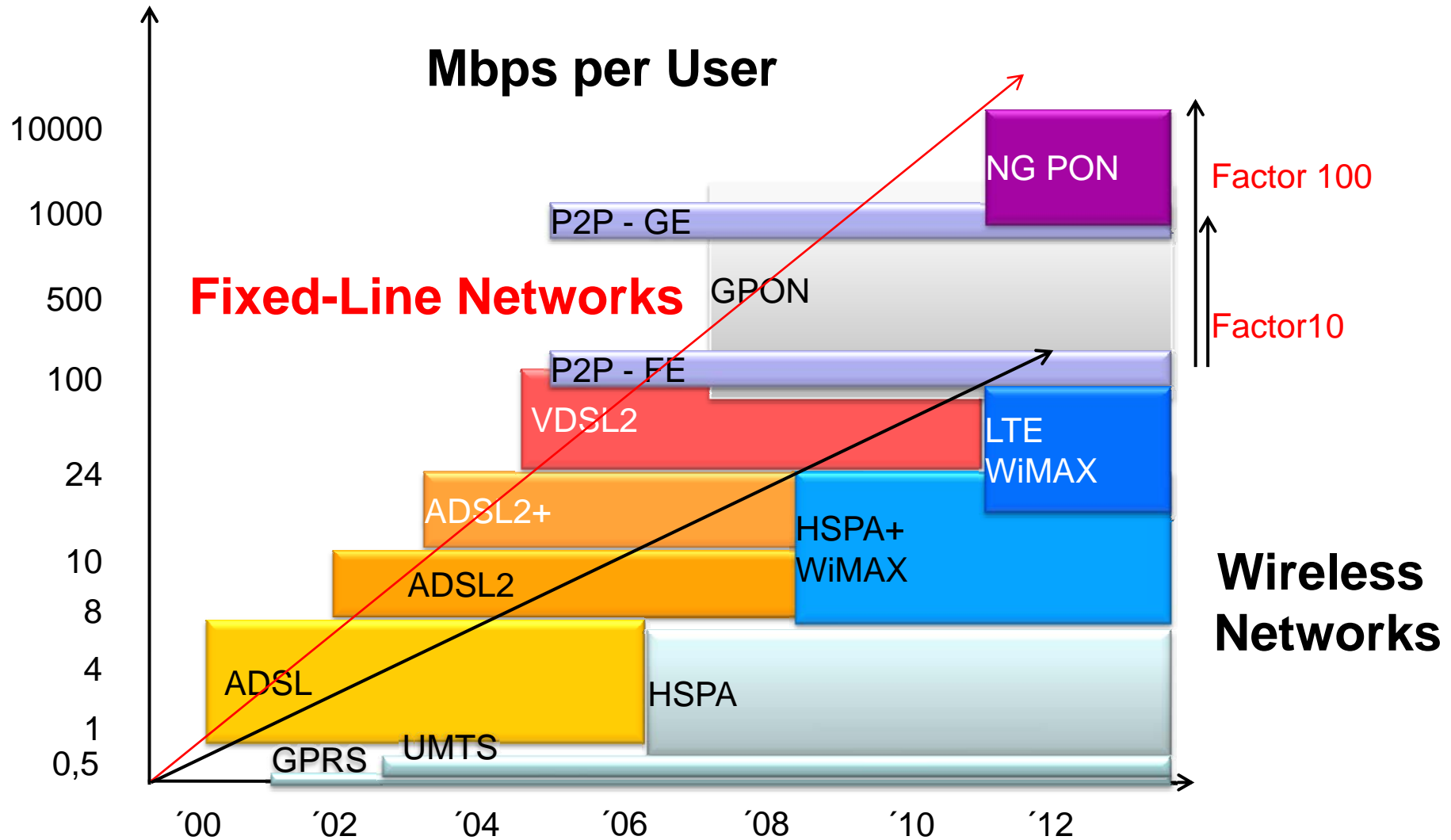
The Economy of Digital Communication



1. Massive traffic increase (-> Anja Feldmann)
2. Flat rate pricing schemes
3. Revenues go to services (eg. Google, Facebook)

Source: Unstrung Insider

Fixed-Line and Wireless Bandwidth are Increasing Rapidly, but at different Pace



Challenge: Mobile 3D-Video Streaming

Combining all Senses - Getting Rid of Keyboard and Mouse



Speech



Graphics



Gesture



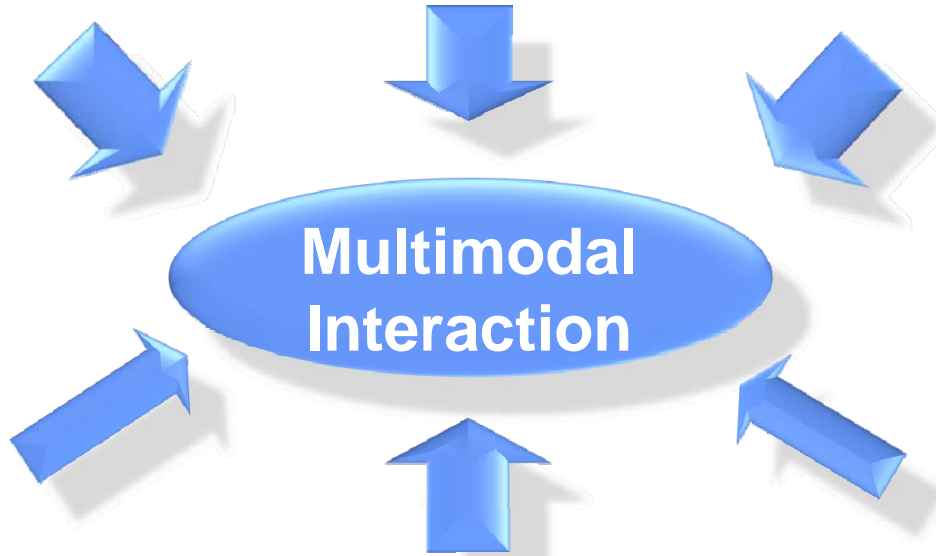
Biometrics



Physical Action



Facial Expression
Body Language

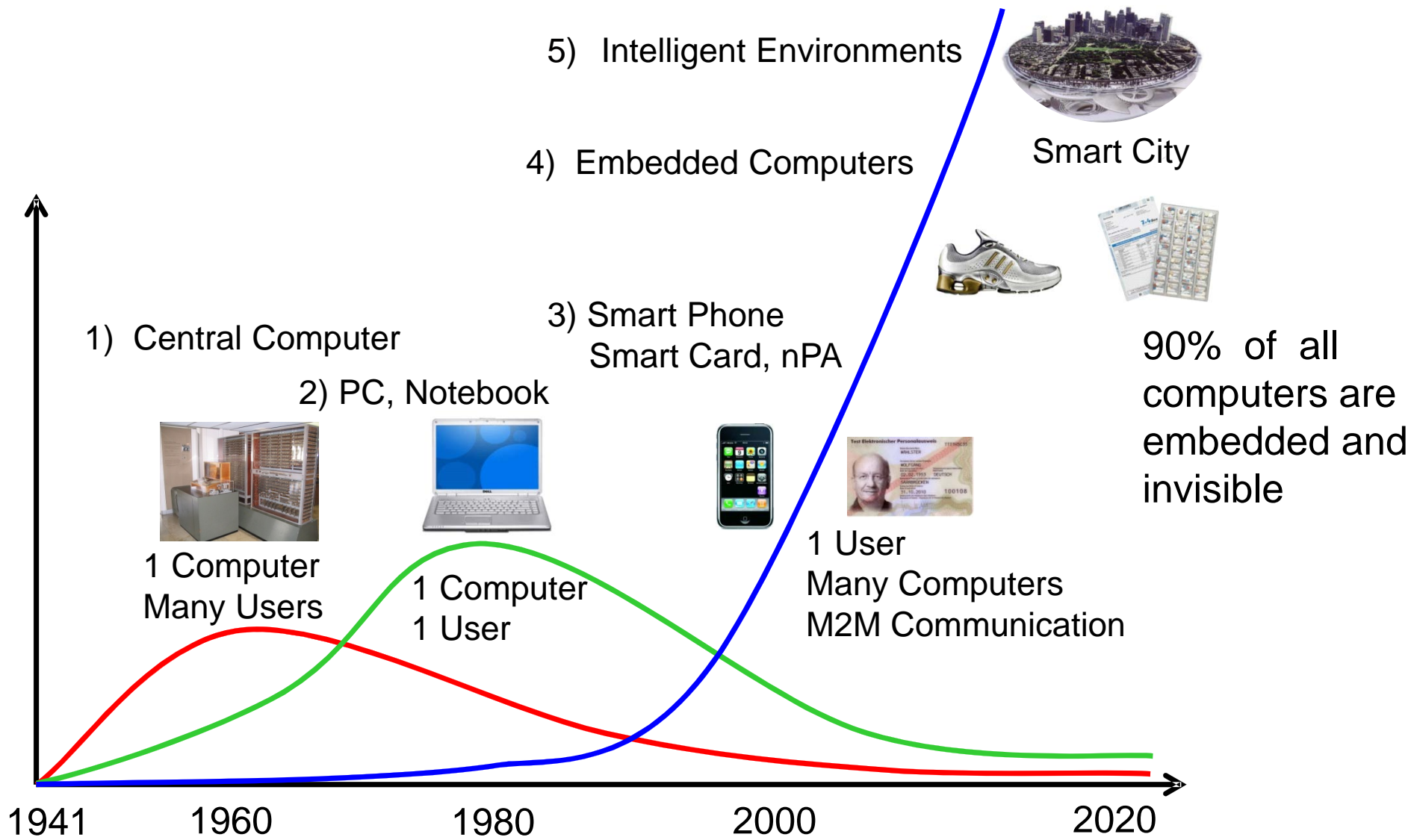


Embodied Interaction with Emotional Virtual Characters (-> Keynote Justine Cassell)



Lifelike conversational partner with emotional tearing

70 Years of Computer Technology: From Zuse's Z3 to Smart Spaces



Smart Spaces, Instrumented Environments and Ambient Intelligence (-> Keynote Hideyuki Nakashima)

Smart Home



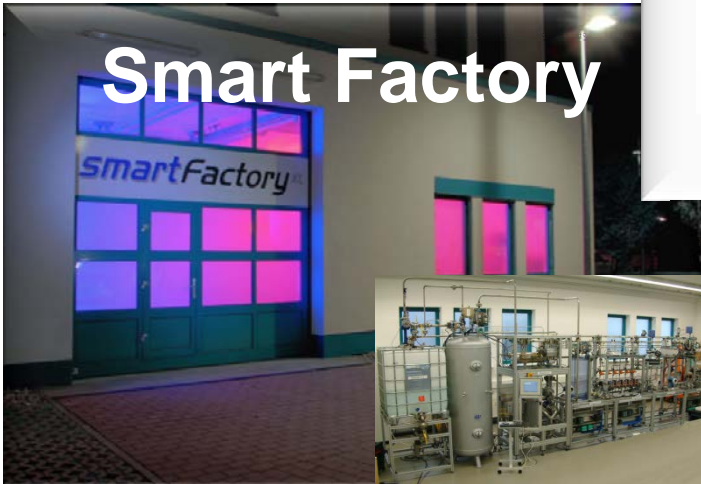
Smart Spaces



Smart Class Room



Smart Factory



Smart City

Smart Shop



Digital Agenda: Bridging the Digital Divide

Young



Workshop 2.1: Internet of Services for Developing Countries
Workshop 2.2: Ambient Assisted Living



Rich



Poor

Old

Breaking Communication Barriers

Communication between



German

Human

Human



Chinese



Chinese

Human

Machine



Java



OWL

Machine

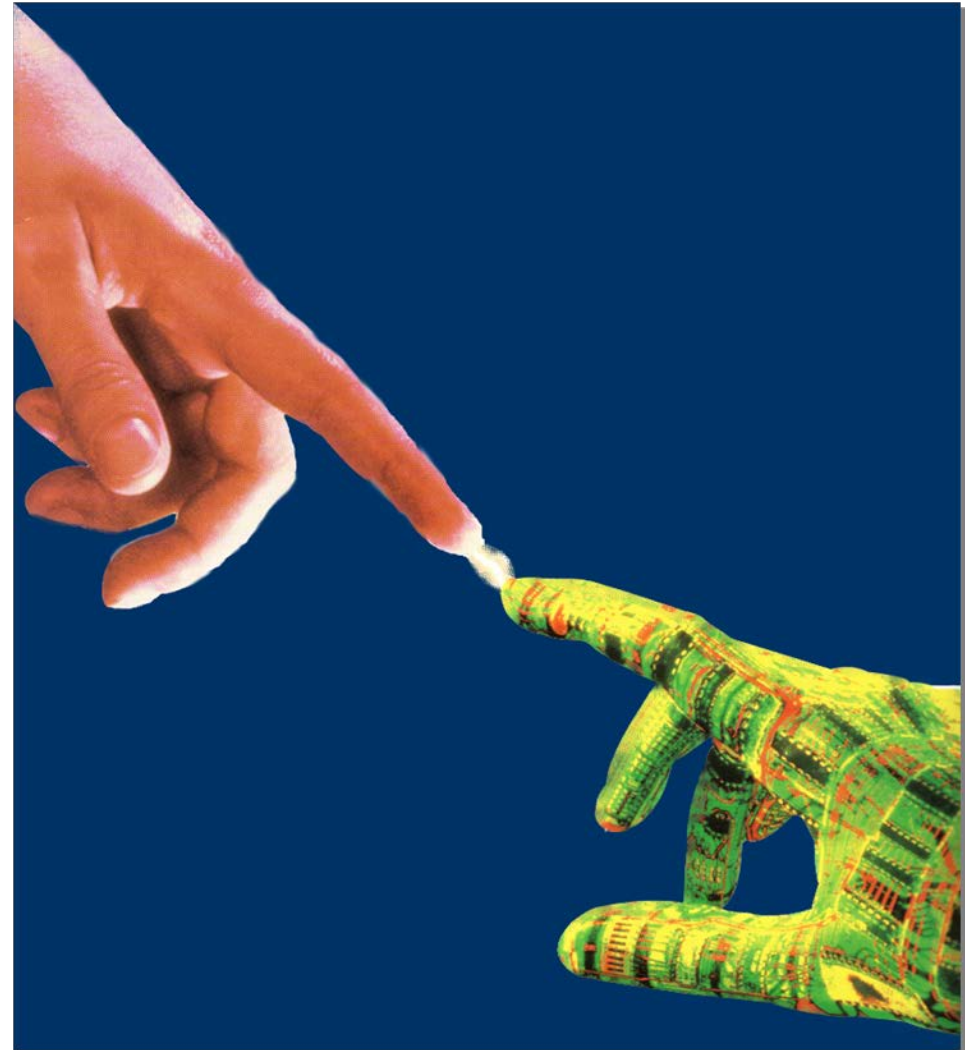
Machine



RDF

Digital Agenda 2020: Use ICT to make human-machine interaction more user-friendly, intuitive and accessible for every citizen.

Human users should not be forced to adopt to the language of the machines, but the machines should adopt the language of their users



A Bold Vision: Back to an Oral Society?



1450
Mainz

-560 Years
Oral Society

2050

+40 Years

Simultaneous
Speech Translation Systems
Summarization Systems

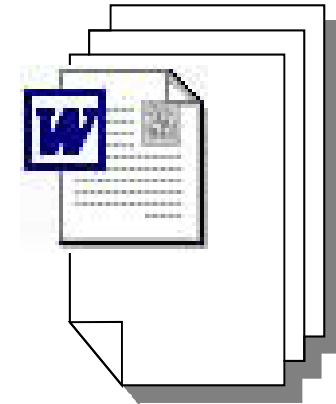


Store
Retrieve
Copy
Edit



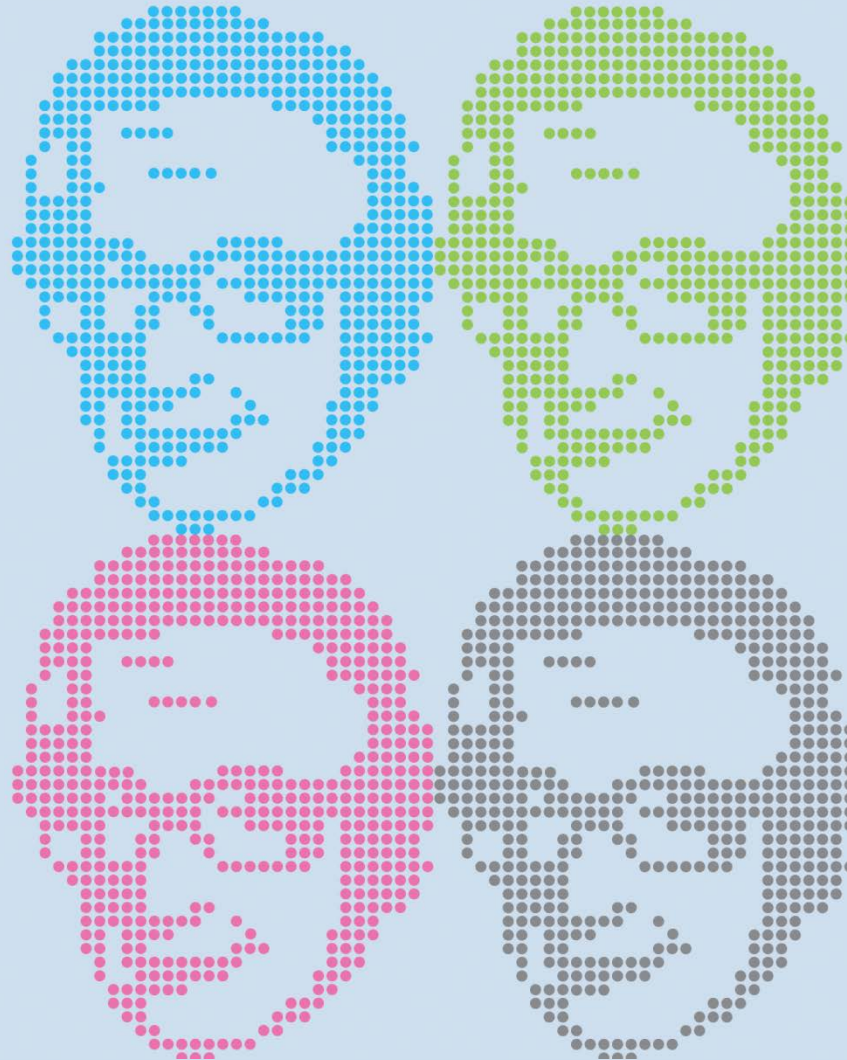
today

Textual Society
today



Digital Voice Recording
Voicemail
Speech Retrieval

Thank you for your attention



Zuse Year 2010