

Mobility of our Society due to ICT

CERN Summerschool

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1

ICT - Informations- and Communicationstechnologies - Influences every job and very profession

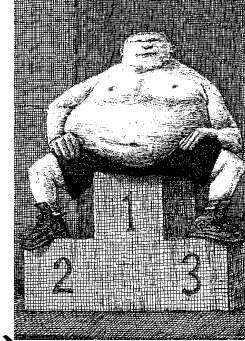


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2

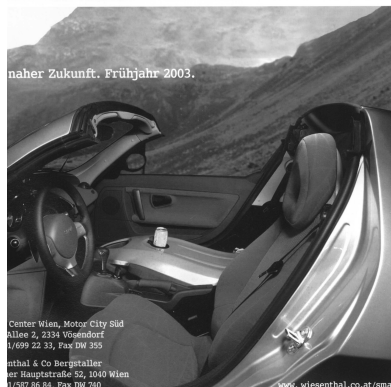
Our lifestyle changed

- We are networked Egoists
- We want everything



- **HERE** (where ever it is)
- **NOW** (nobody wants to wait)
- **JUST FOR ME** (not sharing with someone)

The networked Egoist wants everything alone





Change Process

**Telecommunication in Europe has
2 change-problems**

- * privatisation**
- +**
- * liberalisation**



Monopole for Production

**Monopole in the 19. Century was a privilege and
positive!**

**Telecommunication at the beginning was liberaliced
and private**

**beginning of 20th century state owned and
monopolistic (exepete some northern countries like
Finland)**

**R&D needs 15% of World Market = max 3 or 4
producers**



• Worldcommunication

	1991	1996	2001	2005
• Telefonlines	545	741	1000	
Mobilphones	16	135	900*	1500*
Personalcomputer	123	245	450	
Internet Server	0,7	16	110	
Internet User	4,5	60	300	

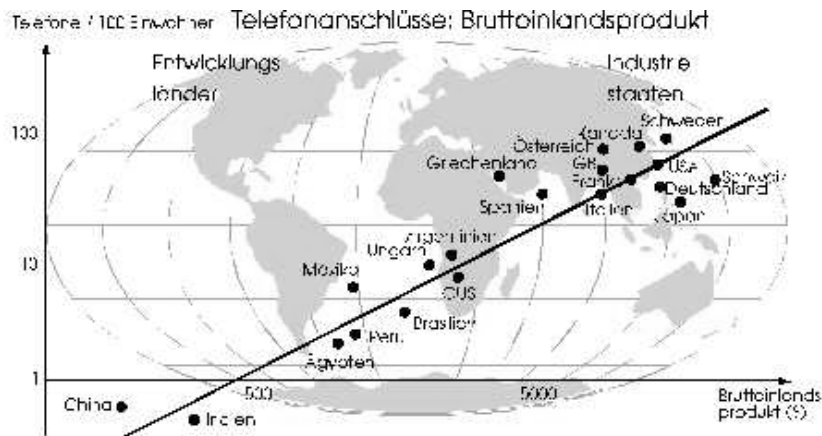
n Millions

Source:ITU

• *) Displaysearch, 2.2002



Telephonindensity : GNP





Productivity in Telecommunications

US	100
Germany	52
France	62
England	54
Japan	77

Quelle: McKinsey-Analyse; McKinsey Global Institute



Mobil Communication - Worldmarket

Year	sold Mobile Phones
2001	400
2002	512
2006	900

*Source: Displaysearch, 2/2002
Sold Mobile Phones in millions*



Communication Technologies

- * Digitalisation
- * wired will be wireless



- * more software in all our products



Situation in Austria

	1984	1991	1999	2000
Telefonlines	2,6	3,3	4,4	4,1
Mobilphones	0,003	0,07	4.2	5,8

User in Millions



What do we Work?

50% voice communication
30% writing
20% manipulation with data

but !!!!!

90% for internal use !



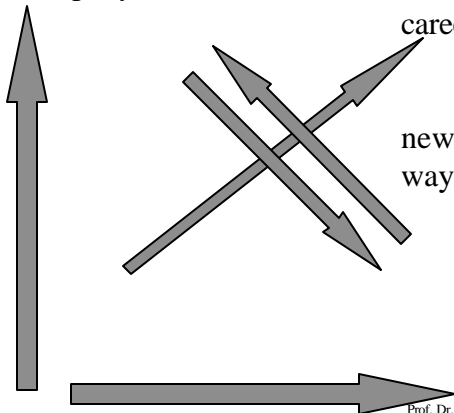
Mobility in hierarchy

years of
belonging to a
company

traditional
career

new
ways of careers

position in hierarchy



Traffic Automation



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People were always

- 1 – 1 ½ hours a day
- Telecommunications does not reduce travelling
- 1970 – 1990 traffic doubled in Europe



Transport of People

	USA	EU	Japan
Individual	86,5	80,0	51,5
Train	0,6	6,0	33,4
Public Bus	1,2	9,0	8,7
Airplan	9,5	5,0	5,3

Quelle: US Department of Transportation, Washington DC 1997



Transport of Person

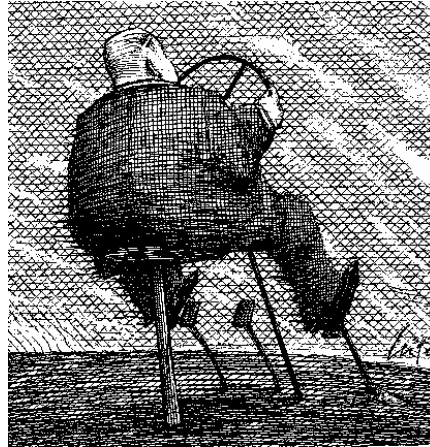
	Western Europe	USA
1970	2100	3500
1990	4000	6700

Angabe in Milliarden Personenkilometer

Worldwide Cars

	1970	1990
Cars	200	500
Truks	50	150

Millions



Cars in Austria

	2002	2010	2030
	3,8	4,5	5,5

Millions



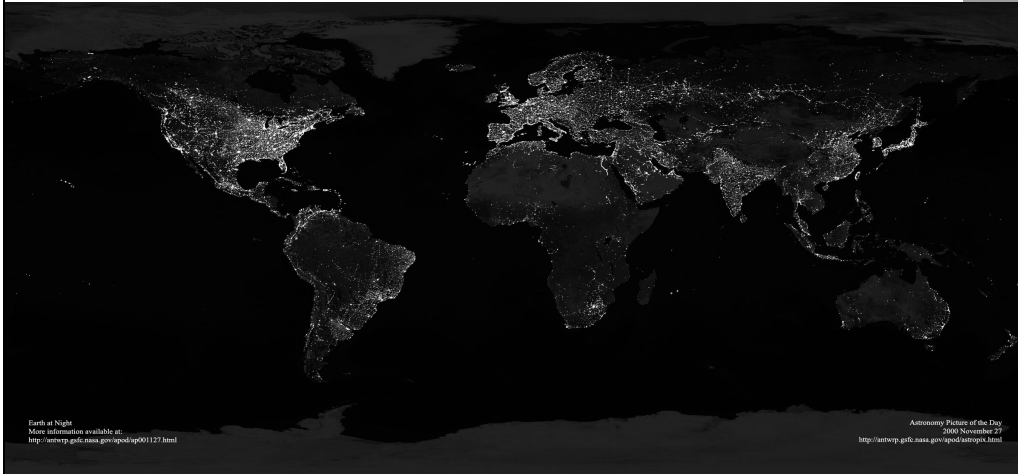
Traffic

- **We lose individualism**
- **78 hours a year traffic stops (Austria)**
- **(Platooning)**
- **2010 all cars in the net**

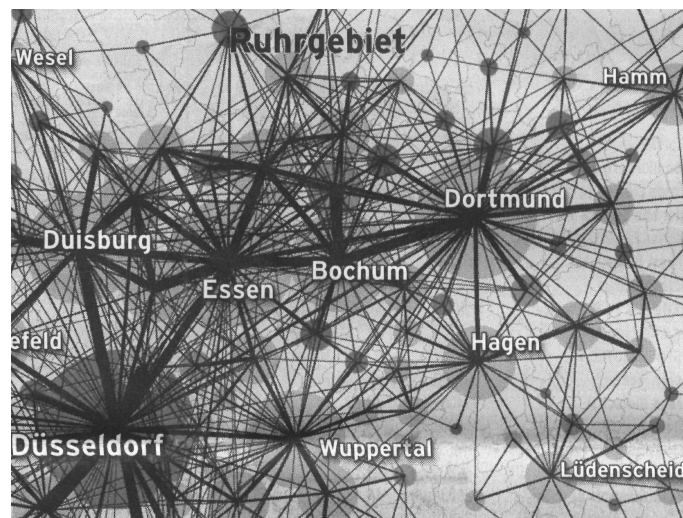


Car and Internet

2010 all cars are part of a communications network

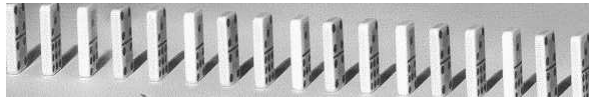


Networked Cities



Mobil Companies

- * Mobile Traders we had all the time
- * Car makes people more mobile
- * many professions make their business out of their car
- * Physical Office buildings became different
- * The building becomes a "Wireless Zone"



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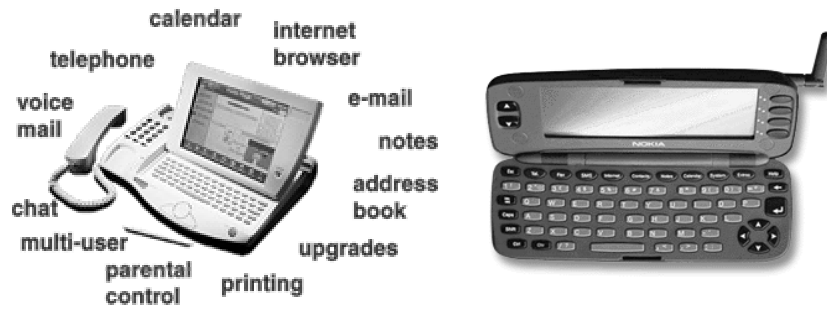
M Commerce

**Networking between
banking
and
telekom industry**



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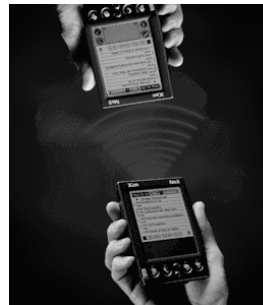
Internet Trends New Terminals



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27

Internet Trends New Terminals



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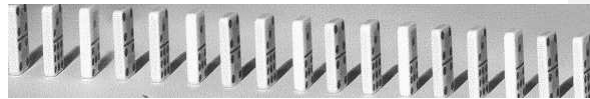
28



M-Commerce

	2000	2003	2005
Northamerica	10	700	3500
Western Europe	15	1.700	7800
Asia	400	5.000	9.400
Japan	400	3.500	5.500
others	0	300	1.500
total	425	7.700	22.200

Turnover in Mill. US\$



Food-prices are decreasing

costs	1950	1985	1998	2001
Food	51 %	27 %	26 %	19%
clothing, furniture	17 %	16 %	14 %	12%
living, heating	9 %	18 %	32 %	34%
others	23 %	39 %	28 %	35%

(20% telecommunications and traffic)

average spending of a working person

Telemedicine

- * virtual guardian angel
- * expert systems
- * robots
- * data bases
- * telemedicine
- * chipcard
- * technology versus medicine



Social Mobility

- * overly aged society
Germany: 2030 more than 50% over 50 years
- * Digital Homeless (30 - 45)
- * with Internet larger communication region
- * more women in working process
- * single households
1998 = 1/3 in Austria
- * Screenager
- * mobility in groups
- * new grouping
- * virtual neighborehoods
- * home
- *



Learning

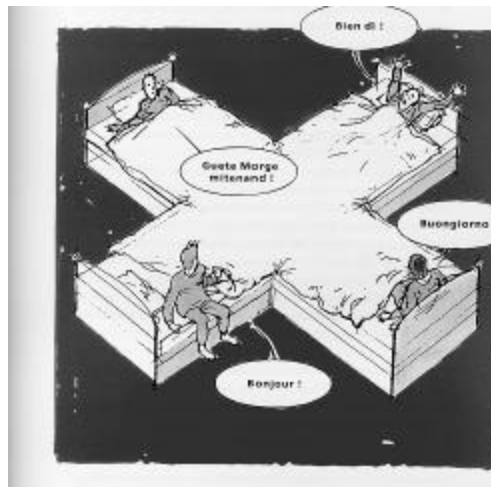
- * Life long learning
- * change in learning
 - teacher = Programmmer
 - co-operative self qualification
 - language
 - ethic
 - elitist
 - first Hand Information

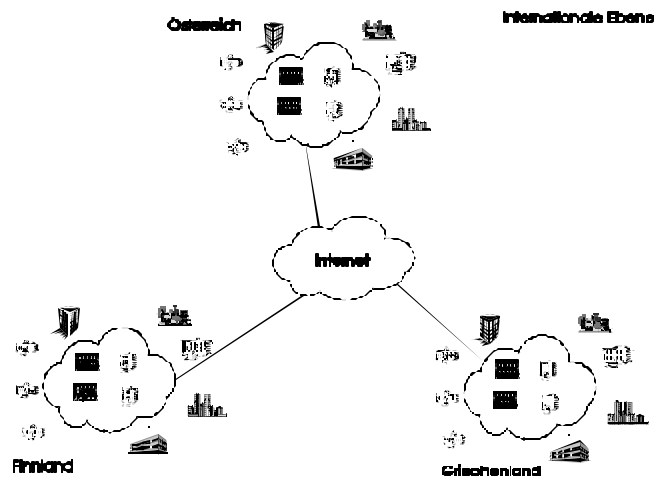
Language is
no obstacle

WORLDI

and

Local language





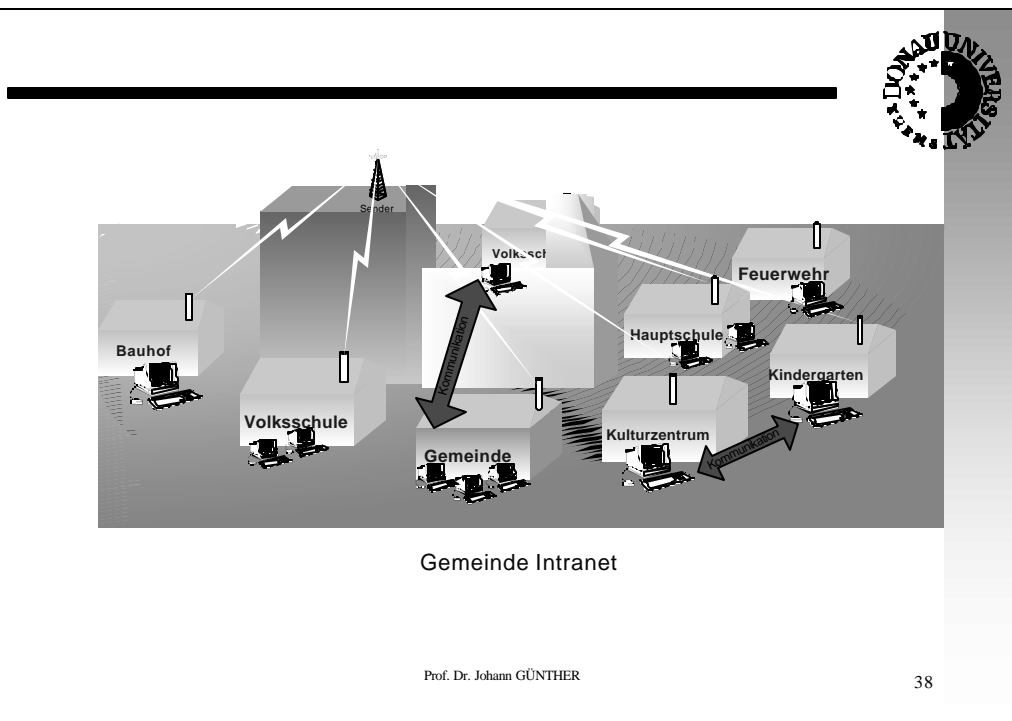
Shift of Skills

- * 300 before.Chr. Change from speaking to writing culture
- * today: change to multimedia culture
- * technologies like
 - voice mail
 - videoconferencing
 - speech recognition
- * new qualifications needed





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WLAN Use Mobile Telephone Aerials



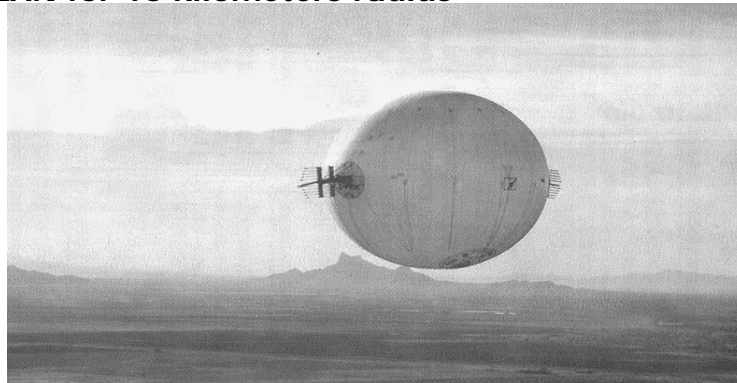
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Airship Used for the Transmission of Data

Diameter 18 meters

Reaches 6 kilometers

WLAN for 16 kilometers radius



Quelle: *Luftschiff als Handymast*

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Feldversuch „21st Century Airships“. Kanada



More and more intensive communication

time	media consumption in hours/day	confrontation advertisements/day
1942-1964	4,4	76
1987-2000	9,0	150

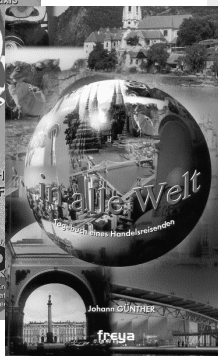
consumption in USA:
(Quell: Advertising Research Foundation)

people with high TV-consumption also have high Internet-consumption

On-Line minutes	TV-minutes
180	197
100	156



You want to know more? Read!



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Die neue Mobilität der Gesellschaft



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StudienVerlag

StudienVerlag