# Wandel bei Diensten und Anwendungen.

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Berlin, September 24, 2009

# Technology Trends.
## Trends and demands according to the digital value chain.

| value chain | content | end-user services | platform services | transport | devices |
|---|---|---|---|---|---|
| **trends** | • Ongoing digitalization<br>• User generated content | • Ongoing trend for network centric computing<br>• Real-time messaging<br>• Social networks | • Upcoming new business model (Telco 2.0)<br>• Mobile internet beginning to rise<br>• Social aggregators<br>• Rising importance of security | • Ongoing demand for bandwidth<br>• Green IT<br>• Always-On connectivity (Flat-rates) | • Lots of new devices with IP connectivity (AAA)<br>• Increasing functionalities in mobiles<br>• Increasing M2M-communication |
| **new demands** | • Improve personal content mangement (personalize, search, navigate)<br>• Support targeting (profiling) | • Enlarge network centric computing / "webware"<br>• Services for "Connected Home" | • Support open platforms (From "telco" to "softco")<br>• Enhance IPTV<br>• Extend network centric security | • More bandwidth (fixed, mobile)<br>• Reduce costs (GreenIT, Self-X)<br>• Support ABC (Mobility, etc.) | • Setup M2M-communication<br>• Support access to personal content by "Any Device (AA**A**)" |

# Technology Trends.

Trends

# Technology Trends .
## Content: Direct, unfiltered and in realtime.

trends

- User generated content
- Ongoing digitalization

**Applications & Technologies**
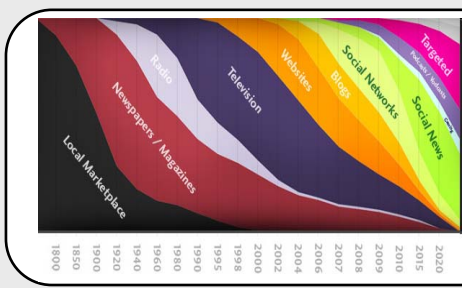


**User generated content**: Fundamental shift towards unfiltered access to information / news directly from the source by bypassing the traditional media channels. Targeted information upcoming.



**Microblogging**: Twitter et. al.: Publish news in SMS style; Real-time blogging in text, video- and audio.



**Social Radio**: Uploading and streaming own music. Downloading or streaming of online content, share playlists within social networks for recommendation.



**(Mobile) broadcasting**: Live video streaming from a camera-enabled mobile phone to audience), but also Web-based live video/radio channels



**ePaper**: Substitution of printed media (Amazon, Sony)

# Technology Trends .
# End-user services: Everything browser-based.

**trends**

- Ongoing trend for network centric computing
- Real-time messaging
- Social networks

## Applications & Technologies
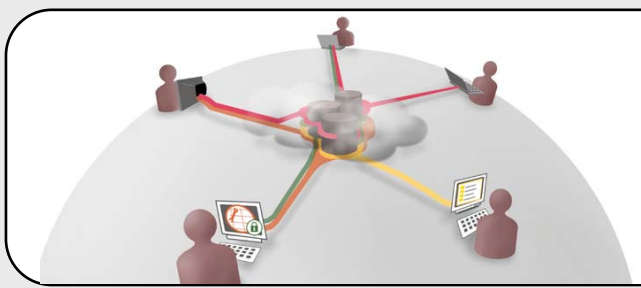


**Network centric computing**: Webware – office tools, image processing, video, audio, security, mail, search, messaging, gaming, etc.



**Network centric storage (cloud storage)**: Store content in the net – get access anytime, any device.



**Real-time messaging:** Instant messaging (IM), chat, video, conferencing and VoIP services.



**Social Networks**: Online and/or mobile services for connecting people or groups of people for communication, media sharing, recommendation, etc.



**Social Travel**: Combining travelling with social aspects such as recommendation and rating in communities.

# Technology Trends .
## Platform services: Open platforms as a new opportunity.

trends

- Upcoming new business model (Telco 2.0)
- Mobile internet beginning to rise
- Rising importance of security

**Applications & Technologies**
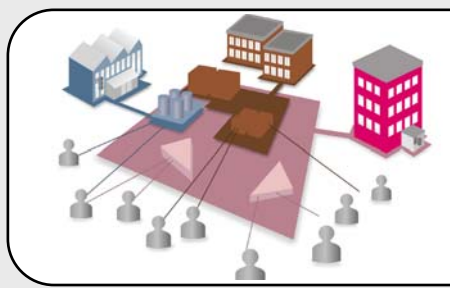
**Open-Platforms** (Identity, advertising, payment & billing, customer-care, etc.). Platforms for enabling B2B2C business. Examples are: single-sign-on, cross-platform profile management, Blyk, micropayment, mobile payment, CRM (salesforece), etc.

**Open Innovation:** Offering open APIs for third parties or developer communities to develop additional services.

**Social Aggregators**: Cross-linking social services (e.g. Flickr, twitter, Facebook, ...) for enabling communicating with others across different platforms.

**Security**: As smartphones become more vulnerable for security attacks. Mobile security gains momentum.

**Mobile Internet:** Mobile surfing, mobile streaming most popular.

# Technology Trends .
# Transport: Ongoing demand for bandwidth.

**trends**

- Ongoing demand for bandwidth
- Green IT
- Always-On connectivity (Flat-rates)

## Applications & Technologies
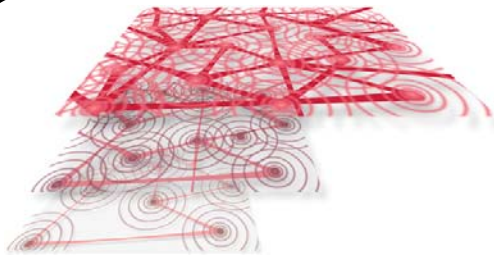


**UMTS / HSDPA & LTE:** Ongoing development of infrastructure supporting high bandwidth (LTE up to 170 Mbps (max. peak)).



**Flat-rates:** Reduce cost per bit without additional active nodes.



**Always-On:** 100% coverage and flatrate tariffs enable always-on connectivity, pushing new services like web-radio.



**Green IT:** Reduce costs and improve sustainability by using "Green IT". Support evaluation of personal carbon footprint.

# Technology Trends .
## Devices: More functions, various devices.

- Lots of new devices with IP connectivity (AAA)
- Increasing functionalities in mobiles
- Increasing M2M-communication

## Applications & Technologies



**Increasing functionality in mobiles:** Mobile devices will not only be used for communication, but also for navigation, payment, monitoring, remote control, digital-live logging, etc.



**New class of mobile devices:** Netbooks, eBooks, image frames, internet radios, portable gaming consoles etc. are demanding for connectivity.



**AAA:** Anything, anywhere, any device: Access to personal content from any device.



**Mobile-Onlys:** Mobile-only broadband will see rapid growth. (Forrester Research: 1.5 million in 2007 to 28 million in 2013, Western-Europe)



**M2M-communication:** Upcoming demand for M2M-communiction (logistics, e-metering, etc.). However, B2B-business.

# BackUp.

Platform services

# Platform services.
# From closed systems to platform business.



**Consolidation:**
Same functions are separated and executed on an internal platform. (Technologies: SOA, Virtualization)

**Open platforms:**
Internal platforms are opened for external usage. (Technologies: Web-service, Open APIs)
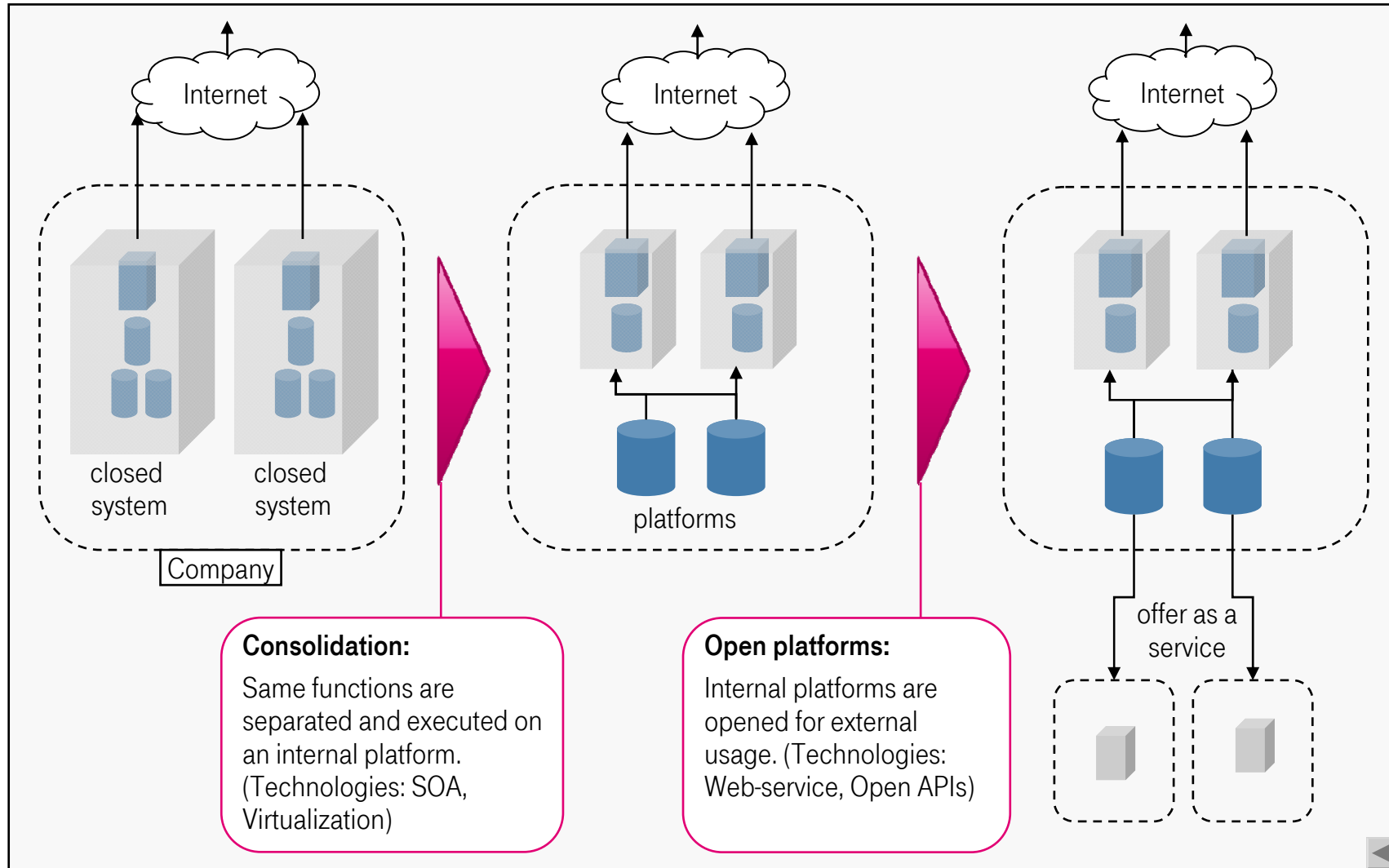
# BackUp.

Telco Assets

# Telco Assets.
# Seven core value-added B2B value-added services.

### Platform Services

- Identity, Authentication & Security
- Advertising, Marketing Services & Biz Intelligence
- E-Commerce Sales
- Order Fulfilment - Offline
- Order Fulfilment – Online (E-content)
- Billing & Payments
- Customer Care

- Identity, Authentication & Security: Management of user access to products and services.

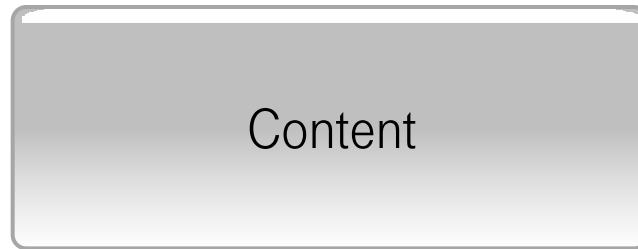- Advertising, Marketing Services & Business Intelligence: Provide merchants and advertisers with customer profiling information and contextual/behavioural data to enable targeted advertising. Ad-serving capabilities. Performance metrics.

- E-Commerce Sales: Managing of sales transaction.

- Order Fulfilment – Off-line: Processing of order and logistic/delivery support.

- Order Fulfilment – On-line: Electronic content delivery – games, music, TV, video, etc.

- Billing & Payments: Billing for products and services and cash collection.

- Customer Care: Remove friction & improve customer services by enabling other services to be better integrated with communication.
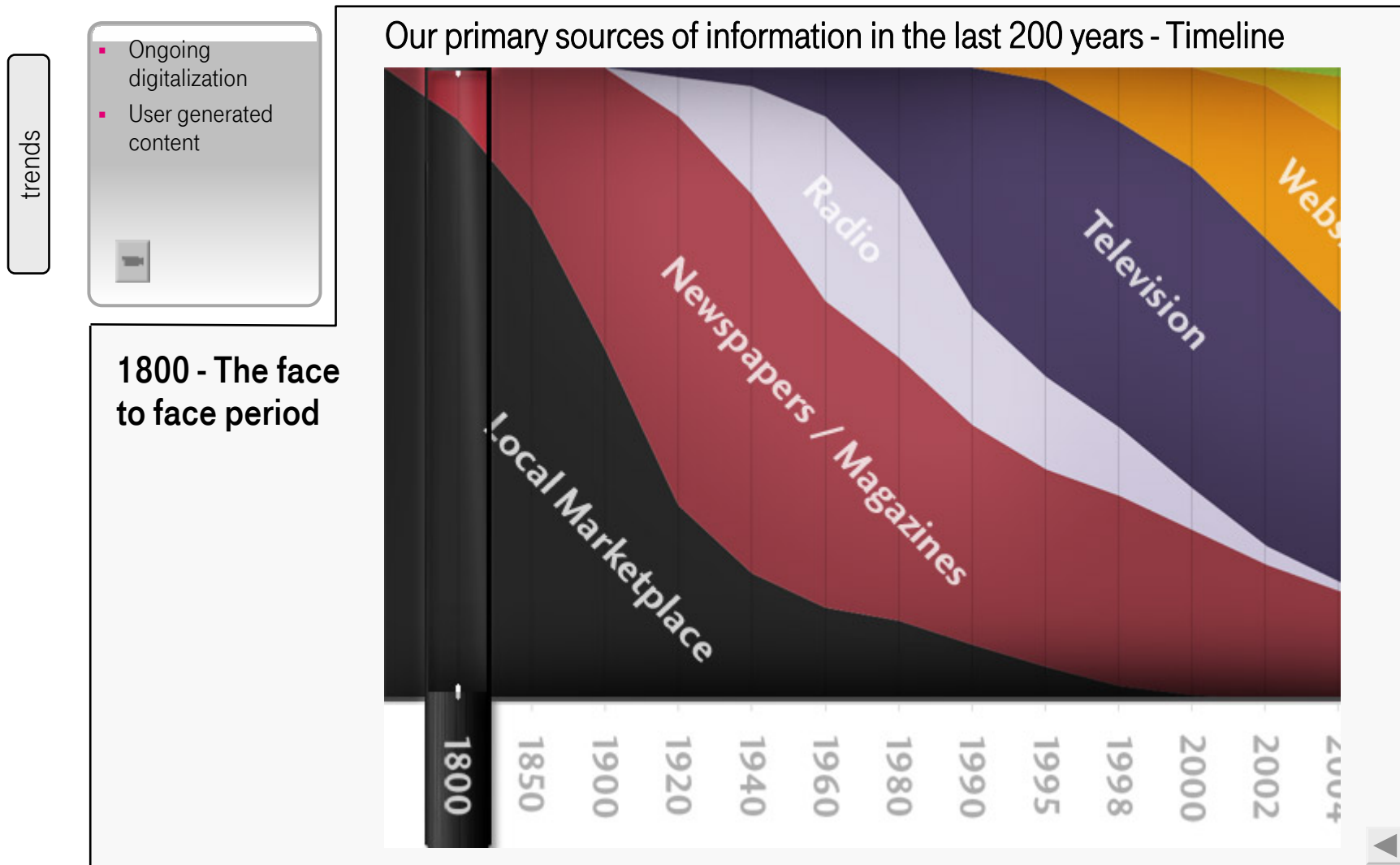
*Source: http://www.telco2.net/manifesto/

# BackUp.

Content

# Technology Trends .
## Content.

trends

- Ongoing digitalization
- User generated content

**1800 - The face to face period**

Our primary sources of information in the last 200 years - Timeline



Local Marketplace

Newspapers / Magazines

Radio

Television

Webs

1800 1850 1900 1920 1940 1960 1980 1990 1995 1998 2000 2002 2004

*Source: http://www.baekdal.com/articles/Management/market-of-information/

# Technology Trends .
## Content.

**trends**

- Ongoing digitalization
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**1900 - Read all about it!**

## Our primary sources of information in the last 200 years - Timeline



Radio

Television

Webs

Newspapers / Magazines

Local Marketplace

1800  1850  1900  1920  1940  1960  1980  1990  1995  1998  2000  2002  2004
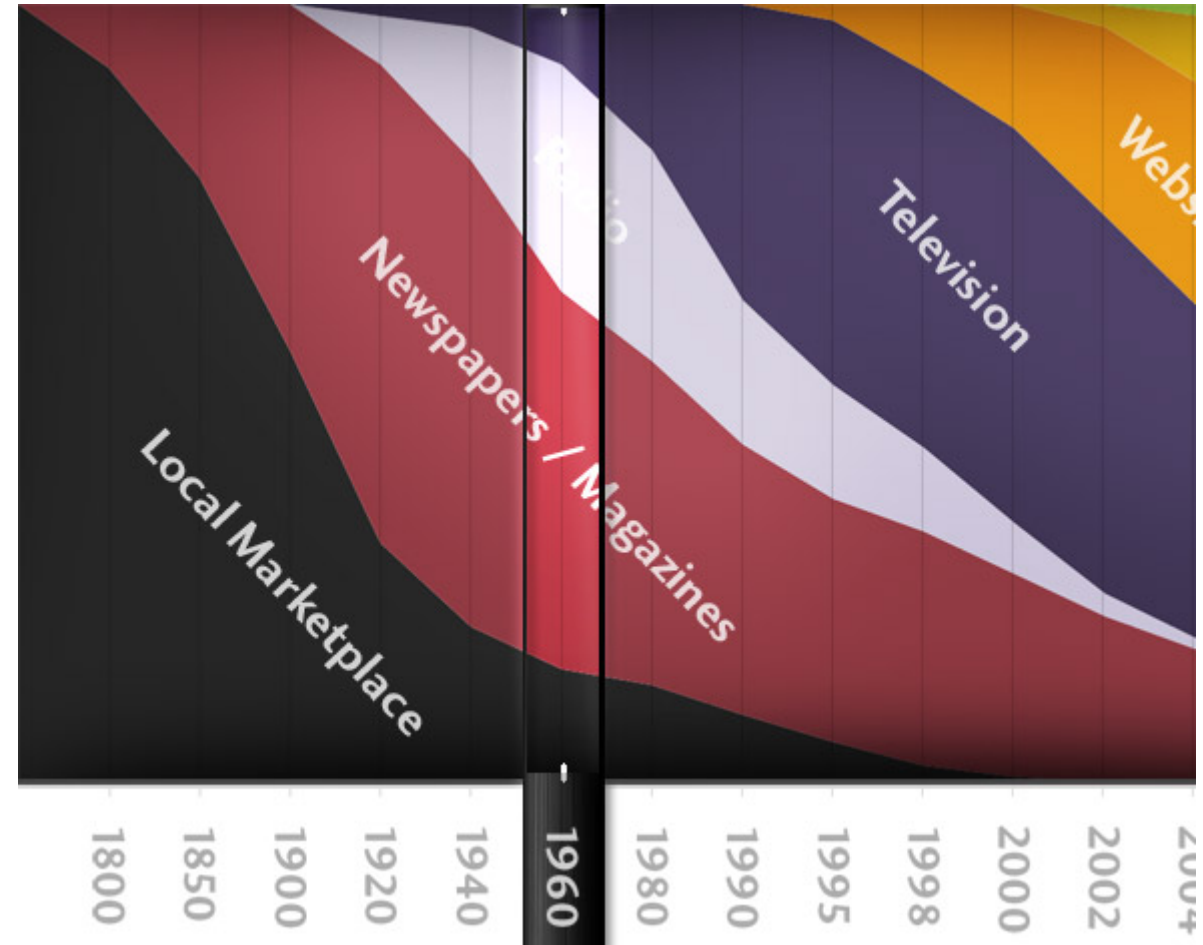
# Technology Trends .
## Content.

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**1960 - We will be right back after these messages**

Our primary sources of information in the last 200 years - Timeline
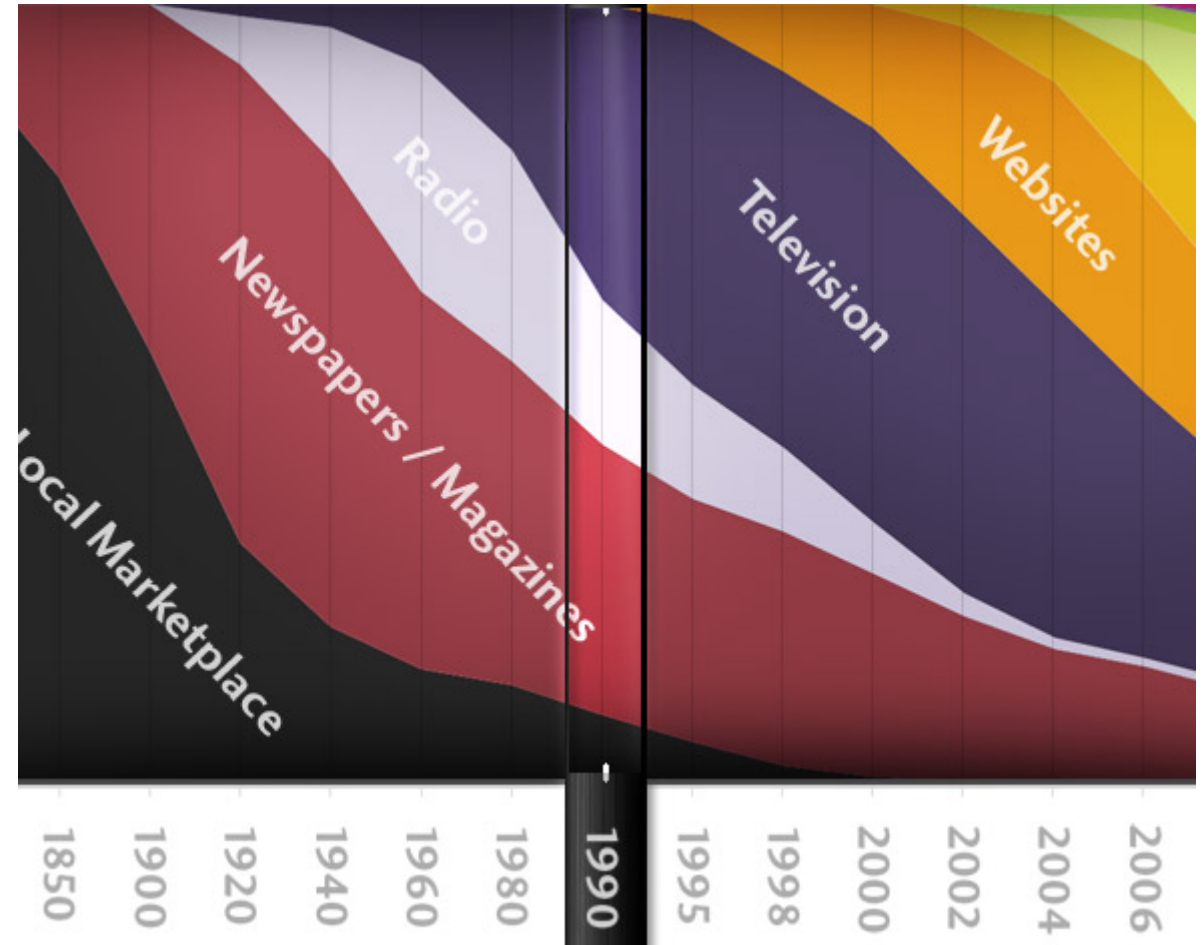
# Technology Trends .
## Content.

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**1990 - Tune in Tomorrow**

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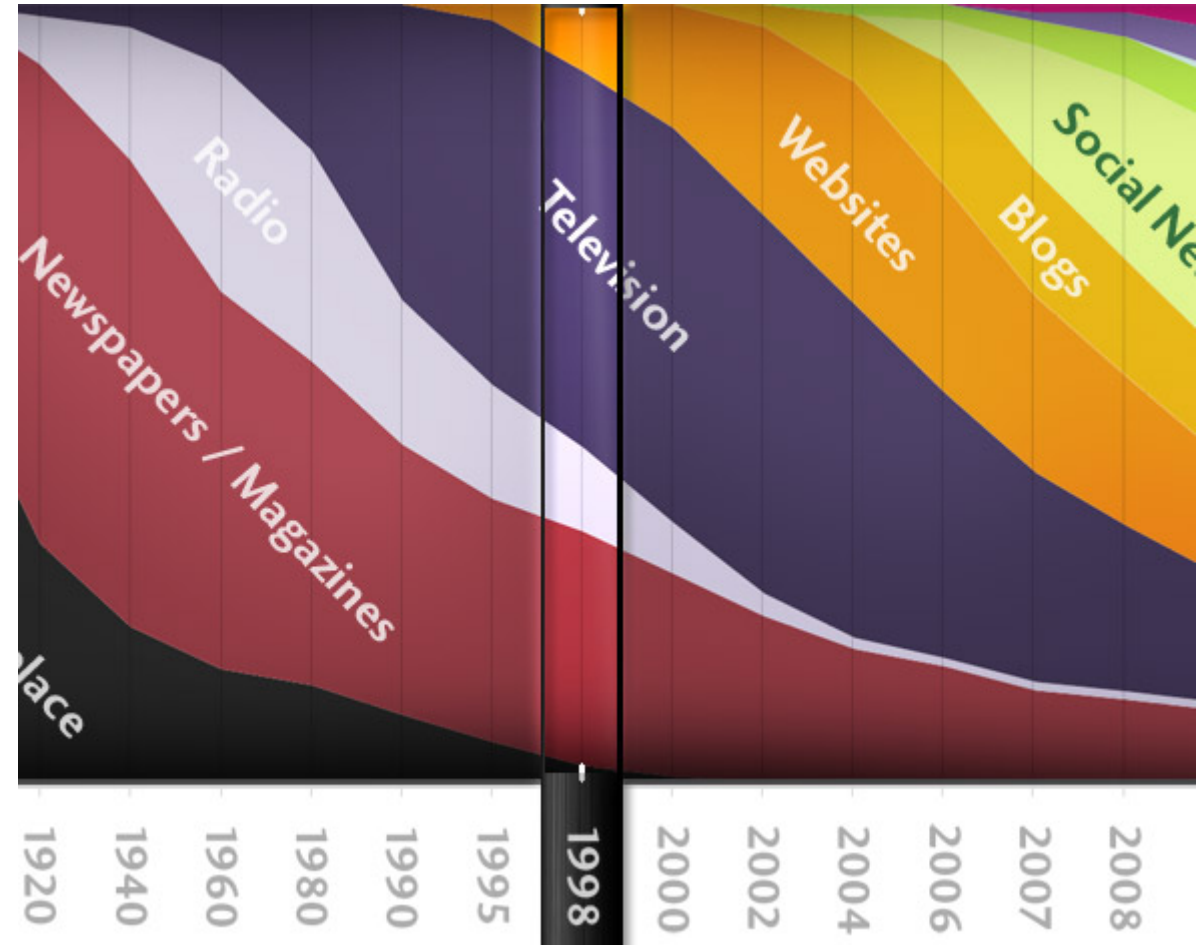
# Technology Trends .
## Content.

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**1998 - The dawn of the Internet**

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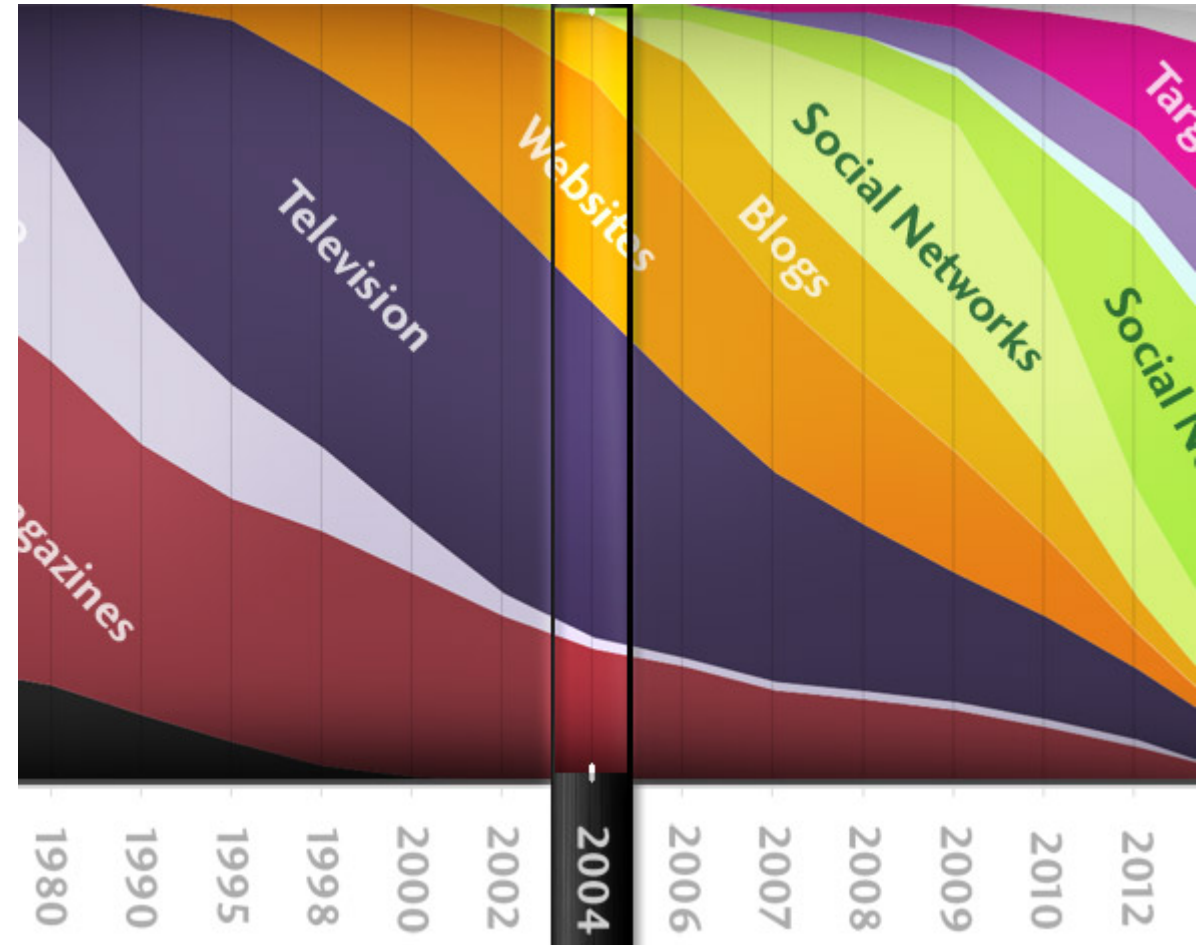
# Technology Trends .
## Content.

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**2004 - I decide what to do!**

Our primary sources of information in the last 200 years - Timeline
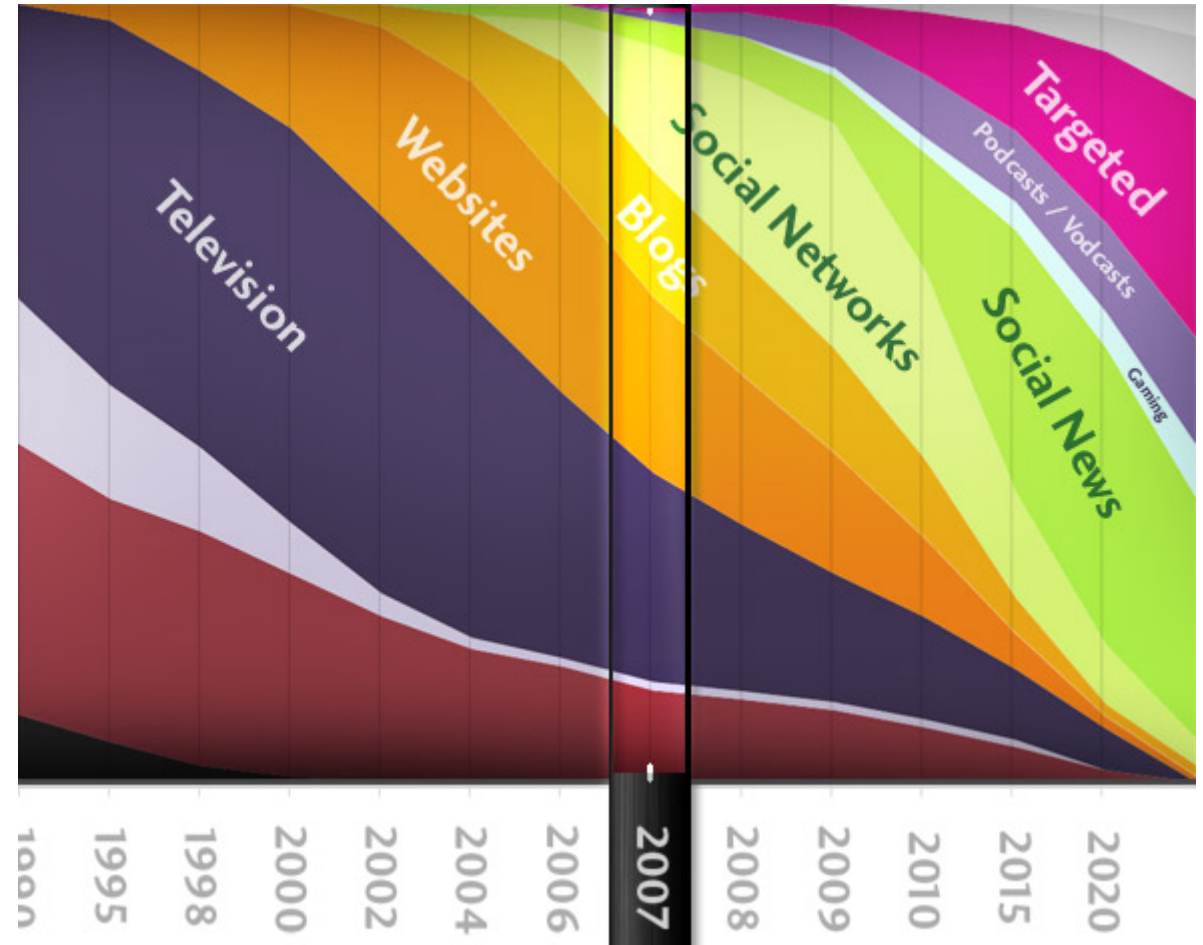
# Technology Trends .
## Content.

- Ongoing digitalization
- User generated content

**2007 - Me too**

Our primary sources of information in the last 200 years - Timeline



Television · Websites · Blogs · Social Networks · Social News · Targeted · Podcasts / Vodcasts · Gaming

1990 · 1995 · 1998 · 2000 · 2002 · 2004 · 2006 · 2007 · 2008 · 2009 · 2010 · 2015 · 2020
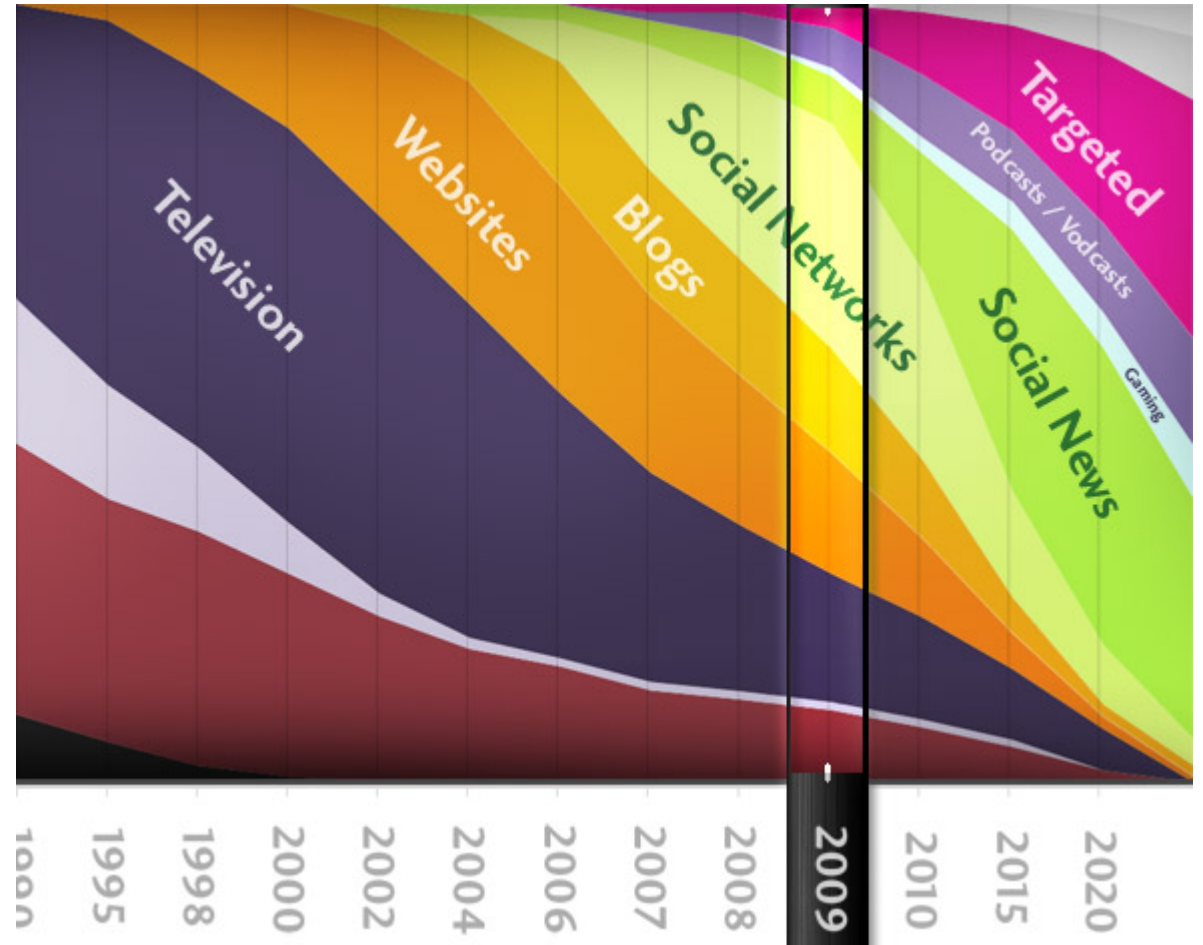
# Technology Trends .
## Content.

trends

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**2009 - Everything is Social**

Our primary sources of information in the last 200 years - Timeline



Television

Websites

Blogs

Social Networks

Targeted

Podcasts / Vodcasts

Gaming

Social News

1990  1995  1998  2000  2002  2004  2006  2007  2008  2009  2010  2015  2020

# Technology Trends .
## Content.

- Ongoing digitalization
- User generated content

### 2020 - Traditional is dead

**Social News:**
- Real-time
- Direct & unfiltered
- Everyone

**Targeted:**
- Profiled, e.g. region, glender, age, etc.

**Podcasts / Vodcasts:**
- OnDemand



Our primary sources of information in the last 200 years - Timeline

Television · Websites · Blogs · Social Networks · Social News · Targeted · Podcasts / Vodcasts · Gaming

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