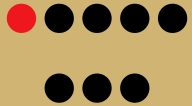


**More than TV –  
simpler as Web:  
Insights and outlooks  
on iDTV**

Interactive television  
is no vision but a challenge for  
electronic media

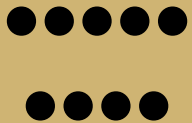
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## Insights



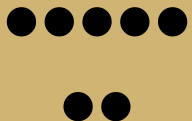
2

## Why TV?



3

## Outlooks



# Multimedia technologies

- Animations (animated GIF)
- VRML
- Streaming (Real, MMP, Quicktime, the MPEG family, ...)
- A/V download
- A/V integration (Flash ...)

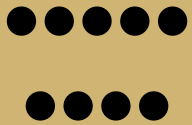
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Insights



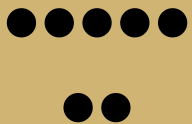
2

Why TV?



3

Outlooks



# Do technologies match with the content?

|                 | Web (narrow) | Web (broad) | TV  |
|-----------------|--------------|-------------|-----|
| Text            | xx           | xx          | —   |
| Images (stills) | x            | x           | x   |
| Animations      | xx           | xx          | xx  |
| Audio           | —            | x           | xx  |
| Video           | —            | x           | xxx |

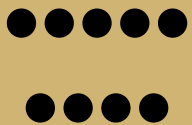
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## Insights



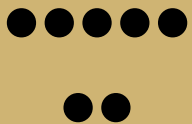
2

## Why TV?



3

## Outlooks



# Attacks on viewers

Quicktime commercial:  
visibility 15 %



Source: <http://www.fif.de/Default.asp?URL=http://www.fif.de/videogal.htm>

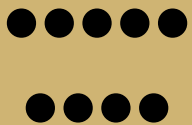
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Insights



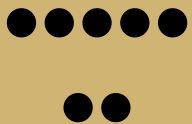
2

Why TV?

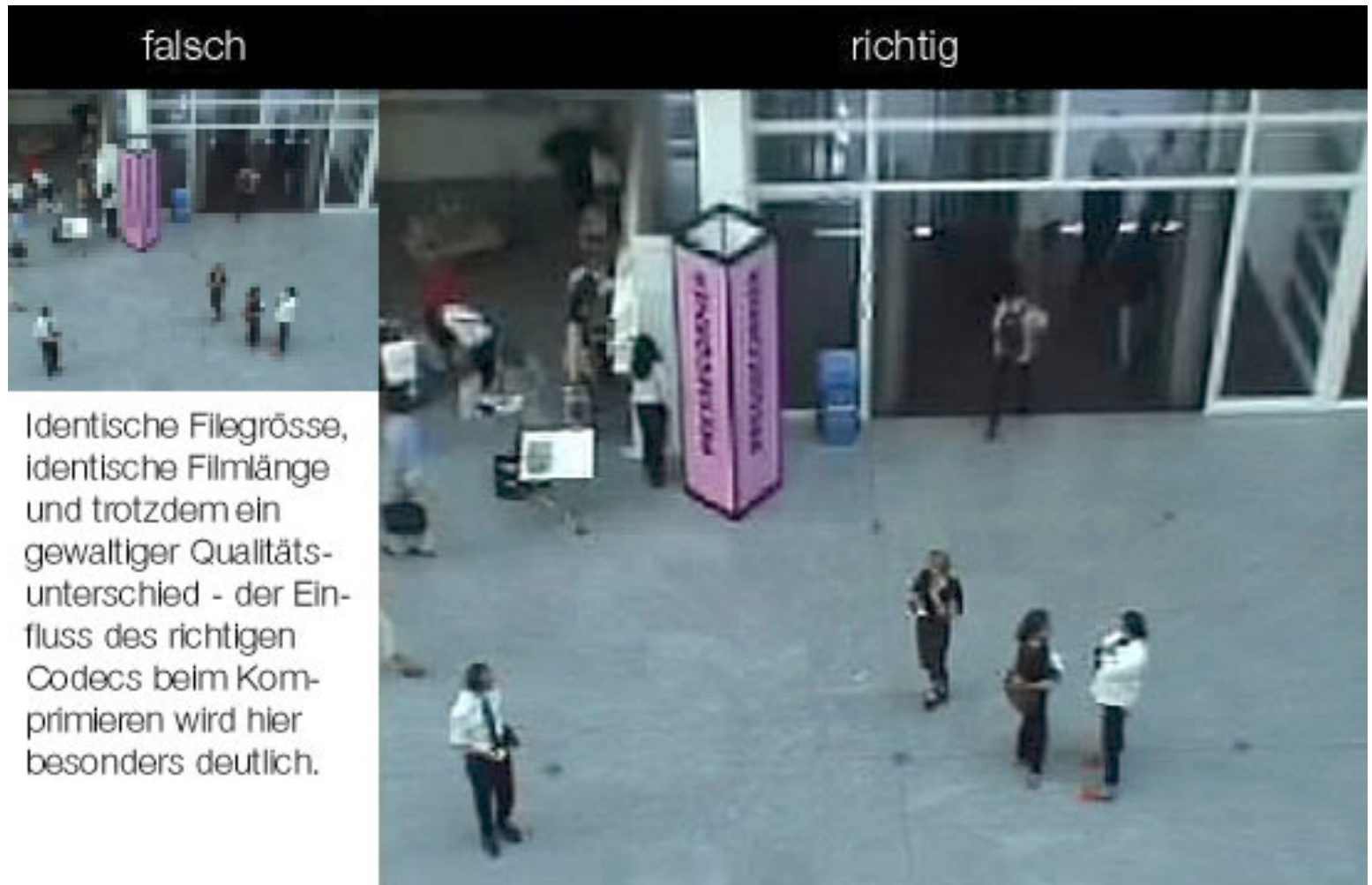


3

Outlooks



# Optimization of artifacts



Source: [http://www.solutionpark.ch/pages/streaming\\_compression.html](http://www.solutionpark.ch/pages/streaming_compression.html)

1

Insights



2

Why TV?



3

Outlooks



# Low bandwidth web

ca 45 kbps

Back Forward Stop Refresh Home AutoFill Print Mail

Kontraste TV

heise Telepolis Goldmedia Fireball Macnww MacNN GMX ARD OK Kmodell

Die Themen vom 26. Oktober 2000 **KONTRASTE**

**1. Tod eines Soldaten im Kosovo: Versagt die Bundeswehr beim Schutz der Truppe?**  
Den Kampfeinsatz im Kosovo haben die Bundeswehrsoldaten ohne Todesopfer überstanden, nicht aber den friedenssicheren Einsatz. Eine Todesursache: Krankheit, die durch eine vorsorgende Impfung gar nicht aufgetreten wäre. Ein Vater klagt die Bundeswehr an.

**2. Die "schwarze Liste" der deutschen Wirtschaft: Kein Geld für Zwangsarbeiter?**  
Noch immer fehlt der "Stiftungsinitiative der deutschen Wirtschaft" einiges an den 5 Milliarden, die sie für die ehemaligen Zwangsarbeiter aufbringen wollte. Kontraste meint: Das ist ein Skandal.

*Weil uns die laufende Aktualisierung der Liste nicht möglich ist, haben wir sie am 6.11.2000 aus dem Netz genommen. Bitte haben Sie dafür Verständnis. In unserer nächsten Sendung am 7.12.2000 beabsichtigen wir, das Thema noch einmal aufzugreifen.*

**3. Lebensgefährliche Bahnübergänge: Was ist der Bahn ein Leben wert?**  
Jährlich sterben in Deutschland rund 100 Menschen an Bahnübergängen, die offensichtlich nicht ausreichend gesichert sind. Die Bahn sieht keine Priorität für eine bessere Sicherung und macht nur vage Versprechungen.

**4. Schmiergeldmillionen der Rüstungsindustrie: Wie bestechlich ist die Politik?**  
Noch immer ist der Spendenskandal der CDU nicht restlos aufgeklärt und nur scheinbarweise wird deutlich, wer in welche Zahlungen und Schiebereien verwickelt ist. Eine heiße Spur ist Holger Pfahls, ehemals Staatssekretär im Verteidigungsministerium. Kontraste zeigt die Verwicklungen.

**5. Spurensuche: Was ist Deutsche Leitkultur?**  
Friedrich Merz, Vorsitzender der CDU/CSU-Fraktion im Deutschen Bundestag fordert für die Einwanderer nach Deutschland eine Orientierung an der "Deutschen Leitkultur". Kontraste fragte in der Bevölkerung nach: Was ist das? Die Antworten sind überraschend!

zurück Redaktion Archiv Links Hilfe eMail

Das Video zum Beitrag 1

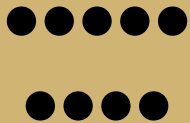
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# Insights



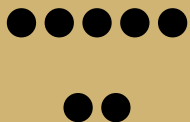
2

# Why TV?



3

# Outlooks



# High bandwidth web

The screenshot shows the Big Brother website interface. At the top, there's a navigation bar with the 'Big Brother' logo and a list of contestants: EBRU, HANKA, HARRY, STEFANIE, WALTER, ALIDA, FRANK, CELINE, CHRISTIAN, ALEXANDER, LINDA, LILLIAN, and DRAUSSEN. The date is 6. Dez. 2000, 82. Tag, with 24 Tage remaining. A 'Live' indicator is present. Below this, there's a 'Übersichtsplan' (overview map) and a '360° High-Speed-Cam' advertisement. A 'RealPlayer Plus' window is open, showing a live video feed of a man with a beard and tattoos. A red circle highlights the bandwidth indicator in the RealPlayer window, which shows '300.1 Kbps'. A red arrow points from this indicator to the text '300 kbps!' on the right. Below the video player is a 'Cams' section with a table listing camera locations and functions.

| Kamera    | Ort                  | Funktion                  | realplayer                       |
|-----------|----------------------|---------------------------|----------------------------------|
| Regie-Cam | Alle Räume           | Vorauswahl des Regisseurs | <a href="#">modem-isdn T-DSL</a> |
| 01        | Küche bis Wohnzimmer | schwenkbar                | <a href="#">modem-isdn T-DSL</a> |
| 02        | Esstisch und Küche   | Weitwinkel                | <a href="#">modem-isdn T-DSL</a> |
| 03        | Wohnzimmer           | schwenkbar                | <a href="#">modem-isdn T-DSL</a> |
| 04        | Wohnzimmer Durchgang | schwenkbar                | <a href="#">modem-isdn T-DSL</a> |
| 05        | Esstisch             | schwenkbar                | <a href="#">modem-isdn T-DSL</a> |

300 kbps !



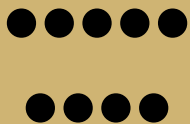
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## Insights



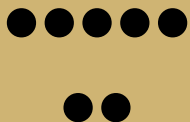
2

## Why TV?



3

## Outlooks



# Low-level usage

Results from the online studies of ARD and ZDF (April 2000) show low interest in streaming content

|                                        | I am interested | I did already use |
|----------------------------------------|-----------------|-------------------|
| Live streams                           | 26%             | 59%               |
| Radio/TV programs on demand            | 20%             | 59%               |
| in comparison to                       |                 |                   |
| World news                             | 64%             | 73%               |
| Regional news                          | 50%             | 62%               |
| Service information (stock market ...) | 50%             | 78%               |

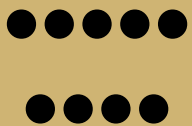
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## Insights



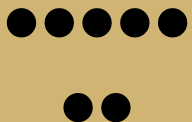
2

## Why TV?



3

## Outlooks



# Codec engineering

[Real Networks Real System 8.0]

Just for fun, we tested some of the more outrageous claims in the company's press release, finding significant reality buried in the hype. At 500 Kbps, where RealNetworks claimed "VHS quality," RS8 was clearly superior to MPEG-1 video encoded to VideoCD rates, a standard that is often equated with VHS.

More impressively, at 1 Mbps, where RealNetworks claimed "full-motion near-DVD quality," RealNetworks was generally artifact-free and clearly superior to MPEG-2 video encoded to the same bit rate. Simply stated, we've never seen a video codec that could compete so strongly at such a diverse range of delivery bandwidths.

*PC Magazine*

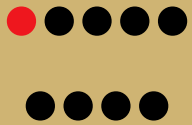
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Insights



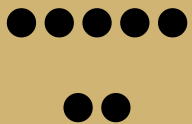
2

Why TV?



3

Outlooks



# Why TV?

Two interactive devices – two business models



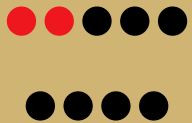
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## Insights



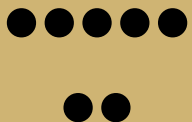
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## Why TV?

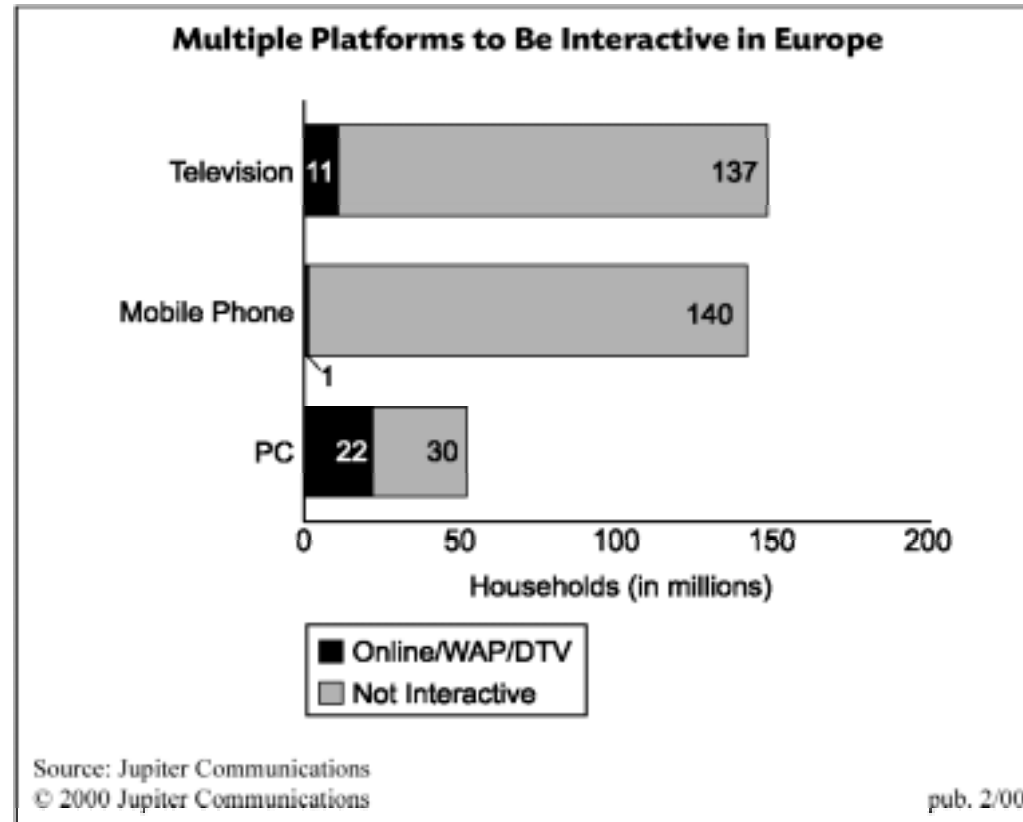


3

## Outlooks



# Interactivity potential



# The user environment

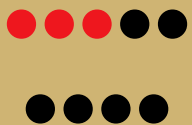
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Insights



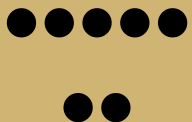
2

Why TV?



3

Outlooks



„Lazy interactivity“ = leisure oriented

Living room, not home office

Communication with family and friends

Comprehensive from the beginning

Relative low cost efforts

High acceptance, great trust

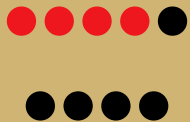
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Insights



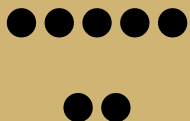
2

Why TV?



3

Outlooks



# Why stay offliners offline?

I would be interested to go into the internet, if

|                                                     |     |
|-----------------------------------------------------|-----|
| it would be as easy to connect as radio / TV        | 82% |
| it would be as easy to handle as the remote control | 82% |
| there would be free training and courses            | 78% |
| PC equipment would be cheaper                       | 75% |
| one could use it on the TV set                      | 74% |
| there would be radio and tv programs on demand      | 50% |
| one could use internet on the mobile phone          | 45% |

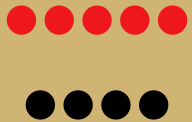
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Insights



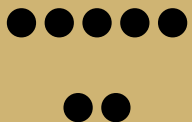
2

Why TV?



3

Outlooks



# Convergence of technologies

IP-based connections

Multicast

...

- T-Commerce
- T-Banking
- T-Government
- T-Education

are using web technology

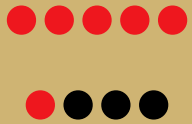
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Insights



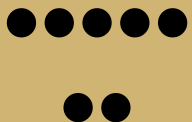
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Why TV?

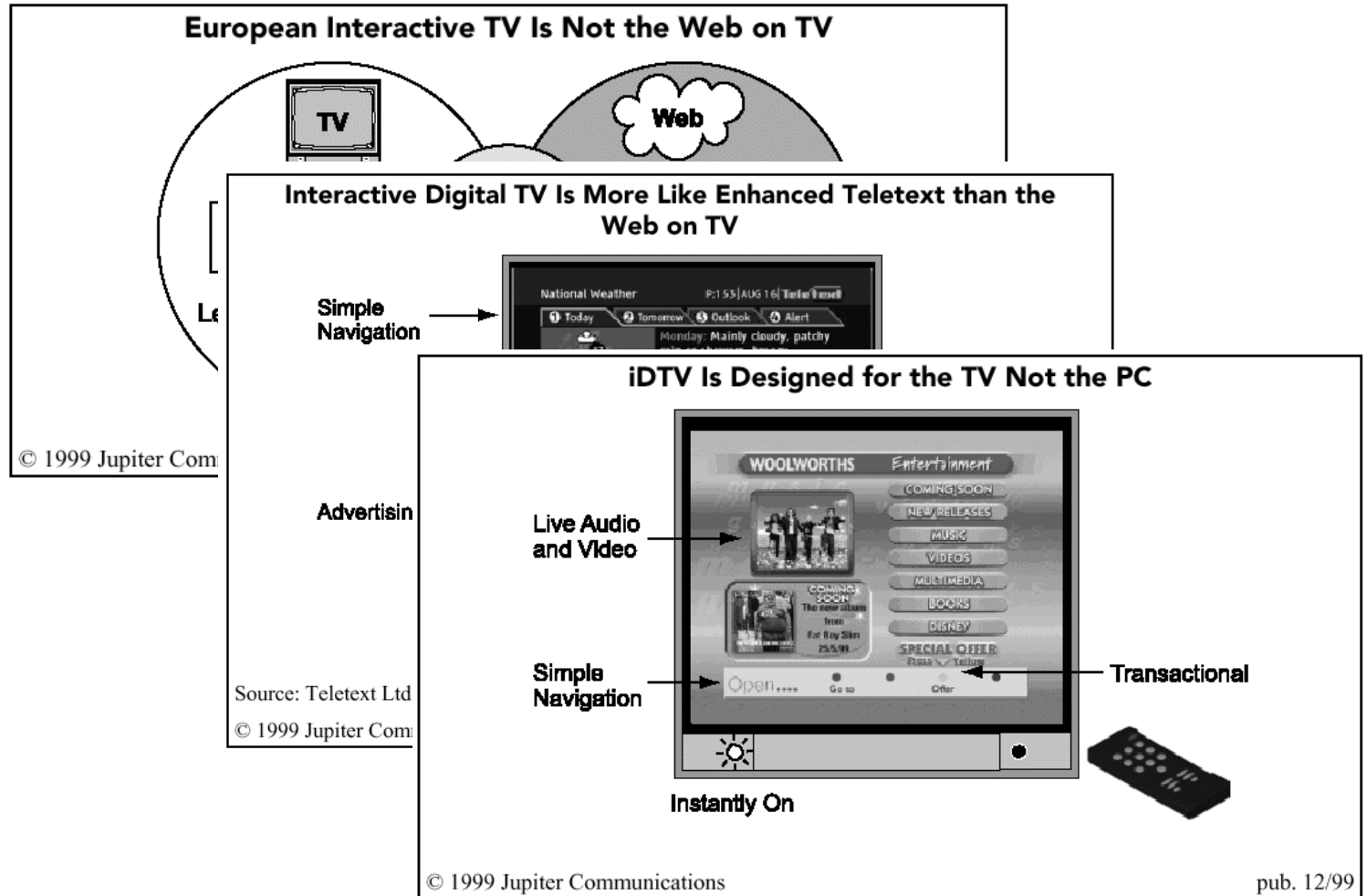


3

Outlooks



# Divergence of contents





# iDTV in Germany

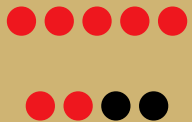
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## Insights



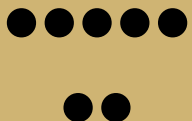
2

## Why TV?



3

## Outlooks



- Digitalisation of the cable network
- Set-up of regional cable companies
- Selection of interactive platform (PC versus TV set)
- iDTV standard decision (MHP?)
- Search for killer applications
  - building management / security?
  - pay-per-view channels (porn / sports / interest groups)?
  - T-commerce?
  - T-government?
  - ...

# iDTV in Great Britain

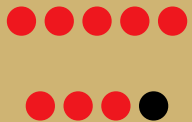
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## Insights



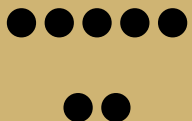
2

## Why TV?



3

## Outlooks



- Two third of the former DTV subscribers are using the interactive packages.
- Interactivity is the full realization of the possibilities of DTV.
- Simple games and e-mail is popular on iDTV too.
- Banking und shopping are more comfortable than on the internet PC.
- Interactive advertising is successfull (click-through-rate of 9 % in comparison of 2 % in the internet).

# Public TV

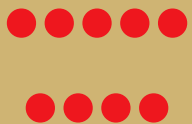
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## Insights



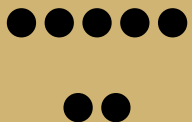
2

## Why TV?



3

## Outlooks



- At least in Germany the public broadcasters play a special role in the development of the new media:
  - enough money but legal restrictions
  - large audience but no possibility to create subscriptions
  - and therefore no commercial partnership with manufacturers
- They are not allowed to produce more than 50% online content which is not closely tied on the radio and tv programming.
- No advertisement, no e-commerce
- Does that mean: restriction in the development of interactive formats?

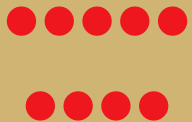
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## Insights



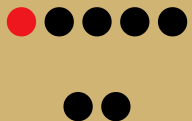
2

## Why TV?



3

## Outlooks



# The turn to interactive media

- More users of interactive TV than internet users in 2005.
- 2001: 5 mill. units with MediaHighway, 6 mill. units with OpenTV and 3 mill. units with Betanova, Liberate TV Navigator and Microsoft TV. MHP will begin to sell in 2001 and gain market share in the following years.
- Internet access will be cheaper but restricted in bandwidth in comparison to digital cable. As soon as this problem is solved there could be another turn in 2008/10.

# Supplier platform or user platform?

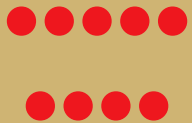
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Insights



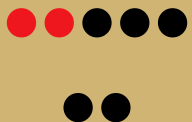
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Why TV?



3

Outlooks



Media development follows a simple rule:

- Technology first
- Development of business models
- Development of content
- Study and research of the user situation

# Content Management

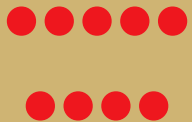
1

## Insights



2

## Why TV?



3

## Outlooks



- Broadcasters have to think about the multimedial distribution of digital content.
- Multimedial products force multimodal producing
- Identical content for several play-out platforms?
- How to produce appropriate content for different media and formats?
- What is the purpose of content management systems?

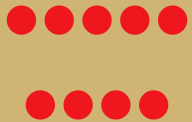
1

## Insights



2

## Why TV?



3

## Outlooks



# Skills and qualifications

- The interactive future of TV demands a new set of skills and qualifications in the domain of electronic publishing
- Application development will be a part of format development
- Multimodal / multimedial production is an economic need

# Forms of interactivity

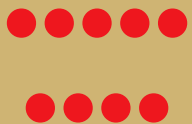
1

Insights



2

Why TV?



3

Outlooks



simple interactions:

- Multiple choice
- Input fields and simple forms
- order forms

communicative functions:

- E-mail?
- SMS
- Multi user games
- Chat

interventive functions:

- MUD
- control of actions in live programs
- ...



# Digital cable

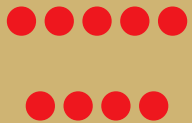
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## Insights



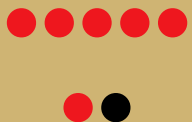
2

## Why TV?



3

## Outlooks



Digitalisation of the cable network plus implementation of switches, proxy servers and other means for the interactive operation of the cable network.

Video on demand over cable modem ist the target installation

Multimedia Home Platform (MHP)

# iDTV with or without TV?

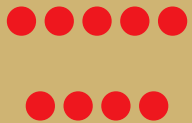
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Insights



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Why TV?



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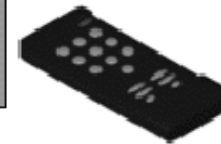
Outlooks



## Interactive Content Will Supplement, Not Replace, Video Entertainment

Complementary  
Data and Commodity  
Information, not  
Original Programming

Remote  
Control  
Navigation



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pub. 12/99

# Thank you

– for your attention, the highest value in the world of the media economy.

<mailto:Hermann.Rotermund@goldmedia.de>