



Ministry of the Interior
FINLAND



REPORT

**Workshop on
Information to the Public – Warning and Alarm System,
Technical Aspects**

FINLAND

2000



TABLE OF CONTENTS

Foreword	2
Workshop programme	3
Welcome and introduction	3
Presentations	5
Future broadcast services, <i>Jorma Laiho</i>	6
Addressing public through cellular networks, <i>Mikko J. Salminen</i>	20
The national steering committee for public warning and informing the public, <i>David Hay</i>	34
Aspects of using modern technologies for informing and warning the public, <i>Hannu Rantanen</i>	41
The Swedish warning and alarm system, <i>Hans Berged & Enrico Lundin</i>	44
(Supplementary) Warning and alert system (for people hard of hearing and deaf people), <i>Paul Geerlings & Joop Boor</i>	48
Digital authority radio network in Finland, TETRA-standard, <i>Peteveikko Lyly</i>	56
The information and warning system in the Grand-Duchy of Luxembourg, <i>Charles Bruck</i>	71
Experience after using early warning systems, <i>Ib Bertelsen</i>	73
Swiss alarm system, <i>Daniel Haefliger</i>	100
Results of the group work	107
Remarks	110
List of participants	112
Questionnaire summary	



Foreword

Three workshops were organized in 2000 with the aim of providing a basis for creating and identifying mutual interests and joint actions at the European Community level within the major project "Information to the Public".

The three workshops concentrated on different aspects of informing and warning the public:

- information to the public during and after an accident (Germany)
- accident prevention and training and informing the public when no accident is at hand (Sweden)
- possibilities offered by modern technology and new innovations when warning and informing the public (Finland).

The purpose of the Finnish workshop was to bring together experts from Member States of the European Community to discuss and exchange information related to public warning, information and alarm systems. Other objectives of the workshop were to evaluate the impact of new information technologies on warning and alarm systems as well as their influence on the public. The workshop concentrated on technical aspects and new innovations in warning and information systems. Discussions also centred on how to harmonise the signals, signs and ways of informing the public and especially how to take care of special groups, for example tourists, the old and people with disabilities.

The workshop was organized by the Finnish Ministry of the Interior and the Emergency Services College and was supported by the European Commission.

A questionnaire on technical systems and arrangements for warning and informing the public was sent to participants in advance, and the organizers produced a summary on



the basis of the answers. The purpose of the questionnaire was to find out what kind of technical systems and arrangements are in use in Member States and what plans there are for developing them in the future.

Some observations based on the questionnaire were:

- public information and warning systems and methods differ between Member States
- some countries have no national warning system at all
- radio and TV are very important for informing and warning the public
- expectations concerning the use of new technologies and applications in the future are high.

A summary of the responses is enclosed.

The organizers would like to thank all participants, speakers and all those who contributed to the success of the workshop as well as its financial sponsors.

Workshop programme

28th – 29th September 2000

Chairmen: Mikko Jääskeläinen, Finland
Ray East, United Kingdom

Welcome and introduction

The workshop was opened by Janne Koivukoski, Director of the Telecommunications Unit, Ministry of the Interior, Finland, and Heikki Uusitalo, Deputy Principal of the Emergency Services College. Both extended a warm welcome to the participants and stressed the importance of the workshop in creating a secure future in Europe.



As the world becomes smaller and with increasing free movement and international contacts between people increasing, it is becoming necessary to harmonize the warning and alarm systems in use. For example, in certain situations the same acoustic and warning signals could be used, which would induce the same reaction everywhere. In future, increasing use should be made of the possibilities offered by new technology and media in co-operation throughout Europe, taking into account special groups, such as tourists, old people and people with disabilities.

Reference could be made to the implementation of the European emergency number throughout the EU. In Finland, the 112 emergency number was introduced in 1993.

Workshops of this type are excellent fora for exchanging information and experiences between experts from different countries and create a good basis for further work on the “Information to the Public” project, which is necessary for the creation of a common secure future.



Presentations



Future broadcast services



Kuopio 28.10.2000
Jorma Laiho
Deputy Managing Director
Digita Oy
FINLAND
www.digitv.fi




14.3.2001

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1

Digita Oy




-  Digita is a subsidiary of Yleisradio Oy (Finnish Broadcasting Company). Digita, which was spun off the distribution technology of Yleisradio, started as an independent company in 1.1.1999. The ownership basis of Digita will be expanded.
-  Digita is in charge of reliable distribution of radio and television programmes to all Finns. Broadcasting networks of Digita cover the whole country.
-  The turnover of the company in the year 2000 will be about FIM 400 million, employees about 385.




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Digita Oy




Digita brings digital television and radio with all its possibilities to Finland. Constructing and operating the digital terrestrial broadcasting network is one part of this function.



Transmission networks and digital information networks are becoming closer to each other in the next few years. Digita is participating in this development by offering its technical expertise and solutions.

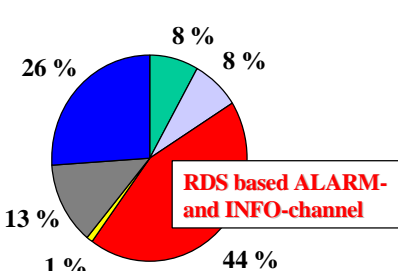


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3



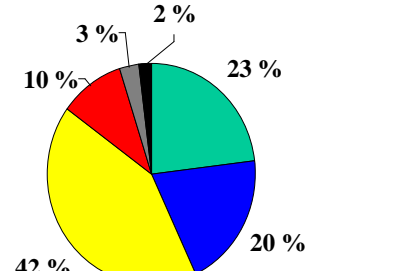
Where the Finns get daily information ? How they are using Radio- and TV ?

Radio listening 1999
tot. 3t 10min



RDS based ALARM- and INFO-channel

TV wiewing 1999
tot. 2h41min



Daily newspaper circulation is 2.3 milj., 2hr./day

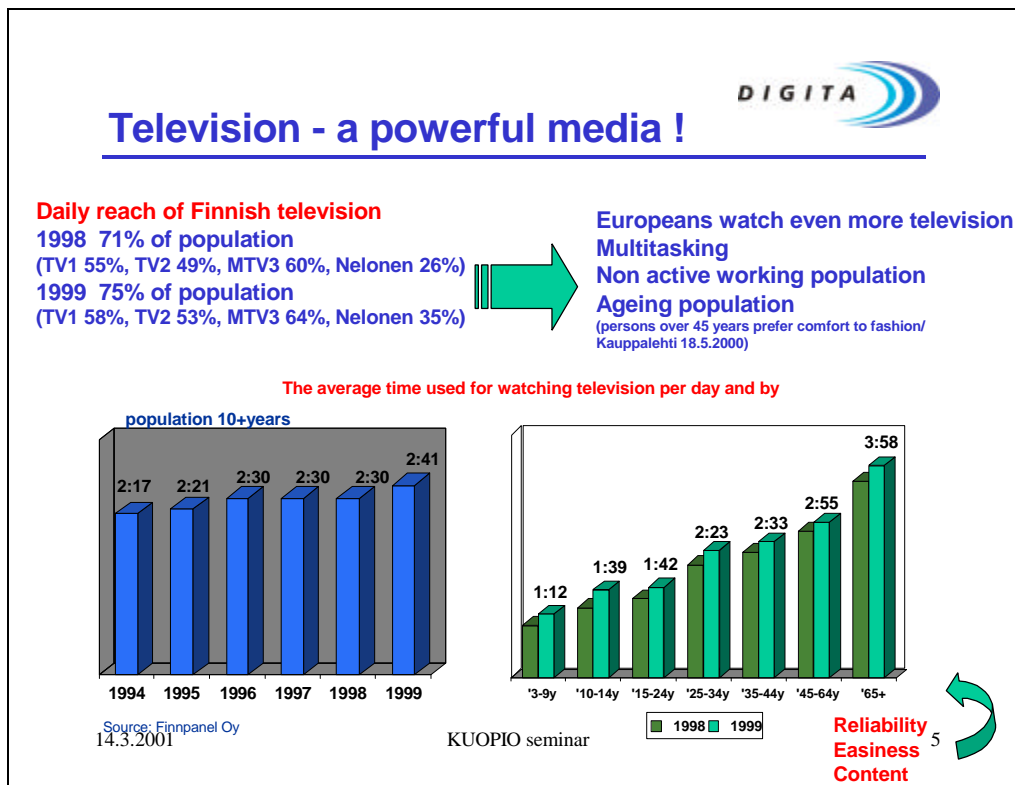
■ YLE 1	■ YLE 2	■ Radio Suomi
■ YLE S	■ Nova	■ Private

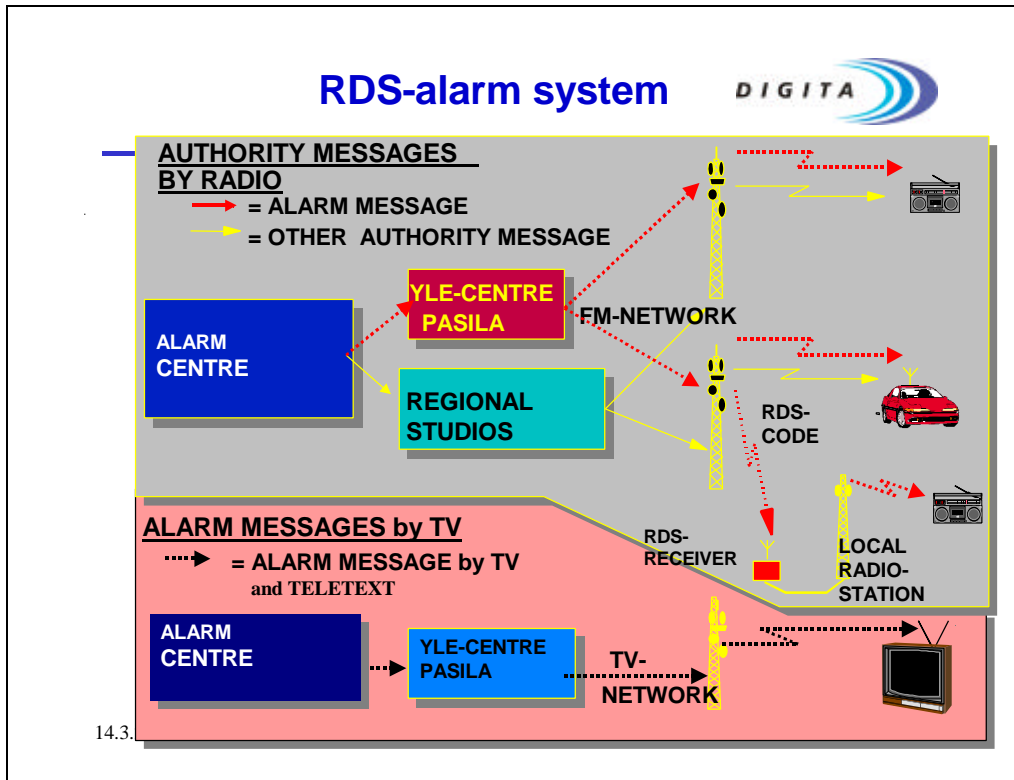
■ TV 1	■ TV 2	■ MTV3
■ "4"	■ Satel.	■ Other

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4



People are using mainly major TV channels and listening main radio programs but private radio sector is very fragmented. All important notices are using RDS-system, which is connected to Radio Suomi. Private stations use a simple relay system to forward very important emergency messages in their network. System is tested regularly and is very reliable and jamming resistant.

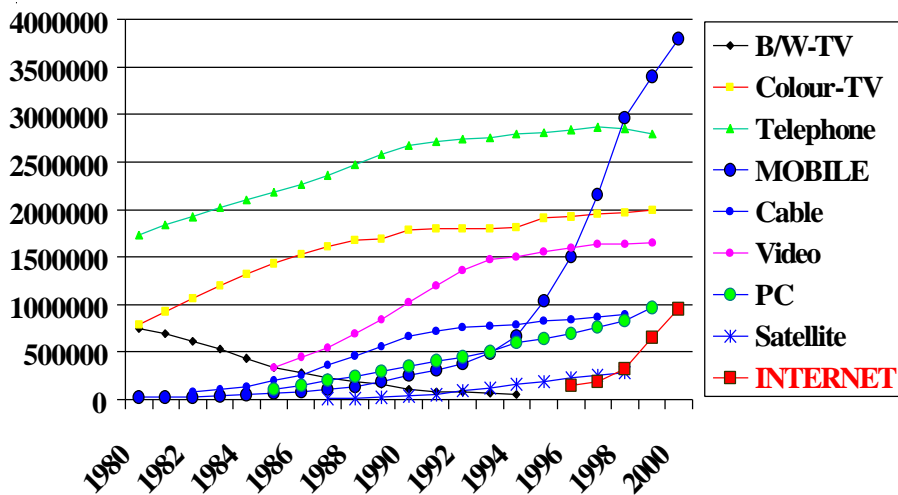




Some other ways to get information: consumer electronics devices in Finland



(still most popular is RADIO, ca. 20 milj. receivers !)



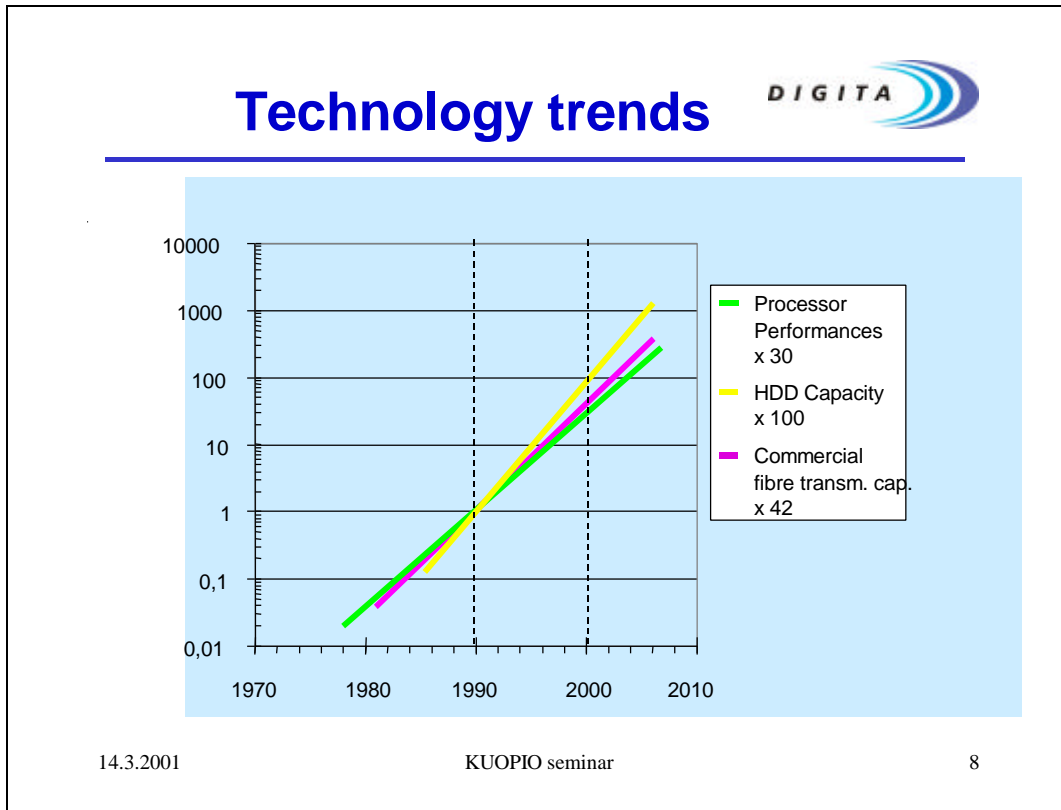
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7



Nowadays there are also other very popular devices and systems available, but they are mainly for personal or very private use and not so important at this moment as a mass media. However, internet is very important on the other way, people are using e-BANK systems very much.

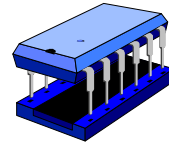




Some facts....



- Moore's law is still valid 10-15 years
- More and more capacity:
 - work stations
 - portable PC and networks
 - fully optical transmission
 - radio technology (fully wireless)
- Adaptive transceivers (now dual and triple mode mobile phones)
- Digital signal processing and transmission is everywhere



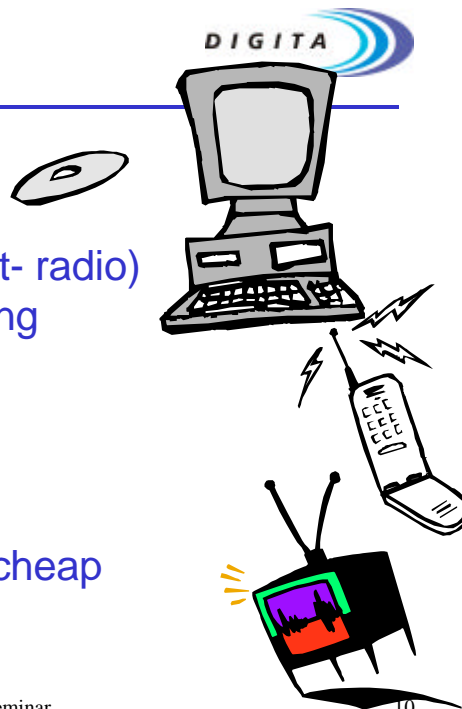
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9

Some drivers....

- technology
 - displays
 - RF-section (soft- radio)
 - signal processing
 - miniature size
- deregulation
- globalisation
- customer needs
 - easy, portable, cheap
- convergence



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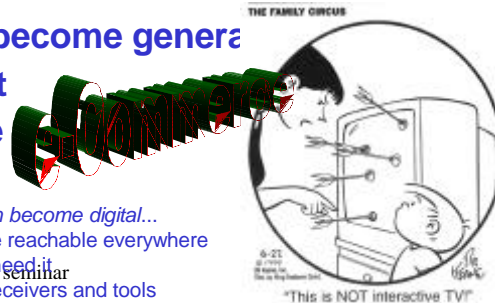
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Trends



- Deregulation/ harmonization
- Globalization
- Convergence
- Integration (mergers, "major players")
- Internet will be an essential part of our everyday life
- Online and offline services/functions complement each other
- Broadband connections become general
- Freedom - Mobile Internet
- Increasing rate of change
- Hybrid services



Information become digital...
...and it should be reachable everywhere
...whenever you need it
...using various receivers and tools

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All information is digital...

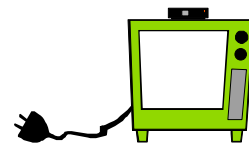


...and it must be available everywhere and
anytime

...using different terminals

Web and e-mail boundaries...

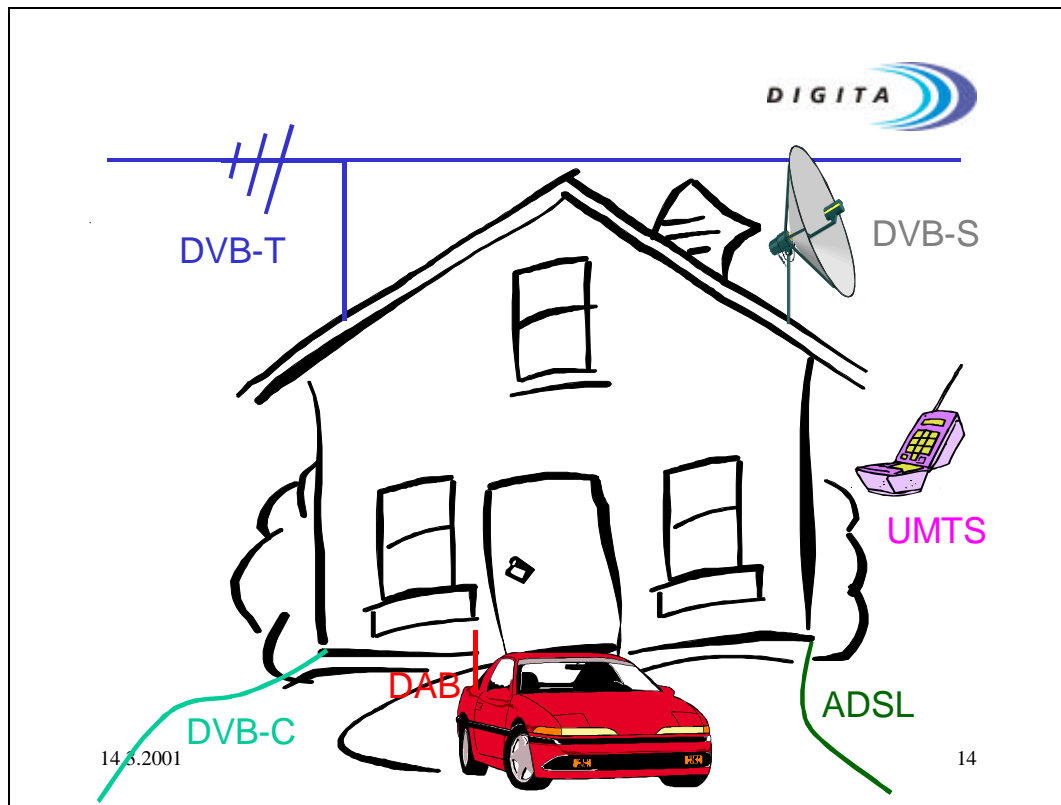
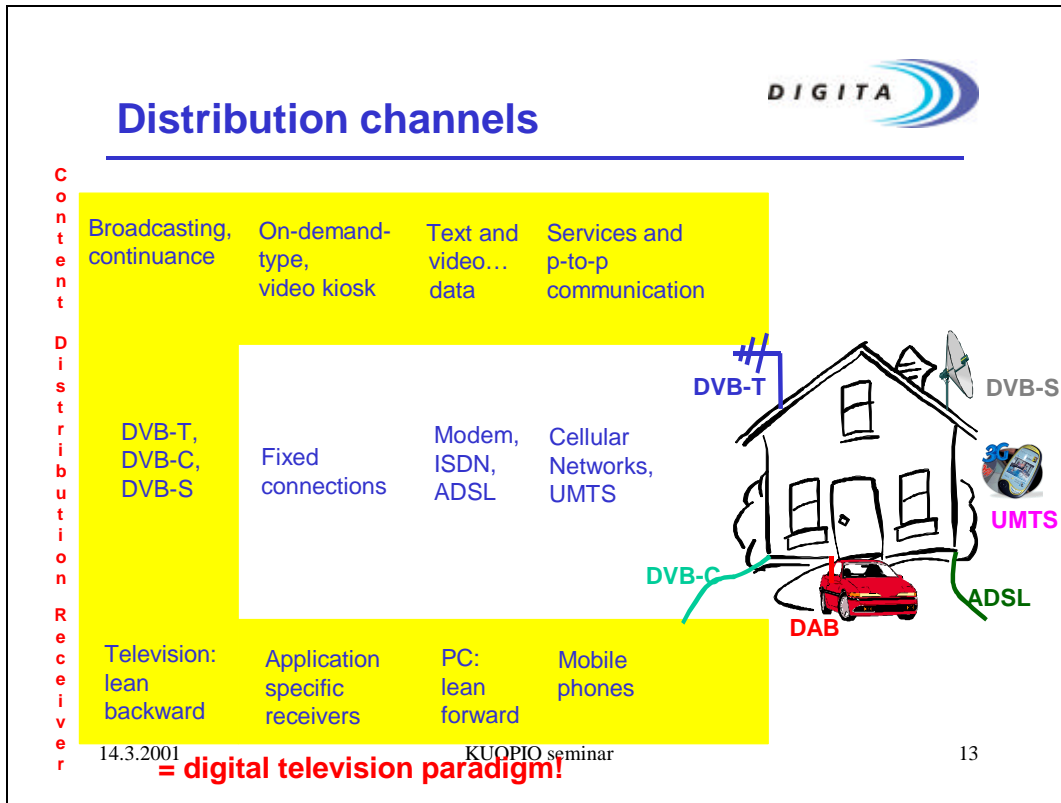
- Fixed lines
 - ISDN, ADSL, xDSL, fibres
- Mobile
 - cellular networks: GSM, GPRS, WAP, UMTS
 - wireless LANs
- Digital-TV (DVB), terrestrial, cable, satellite
- Digital radio (DAB)

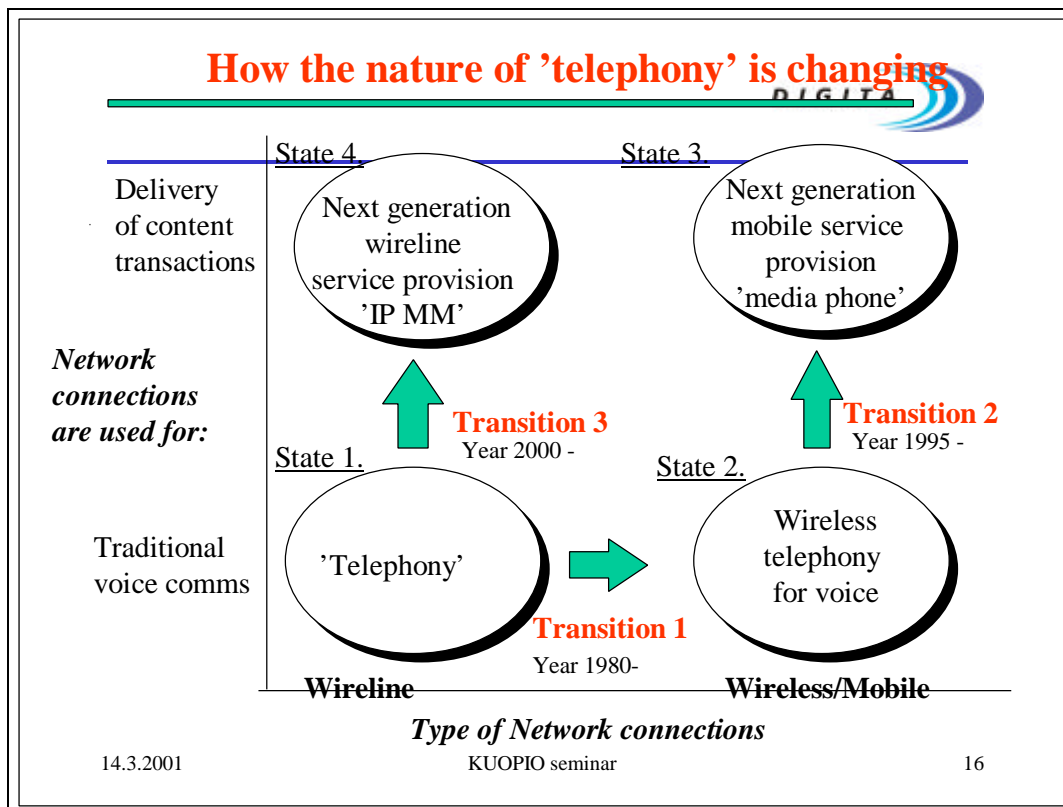
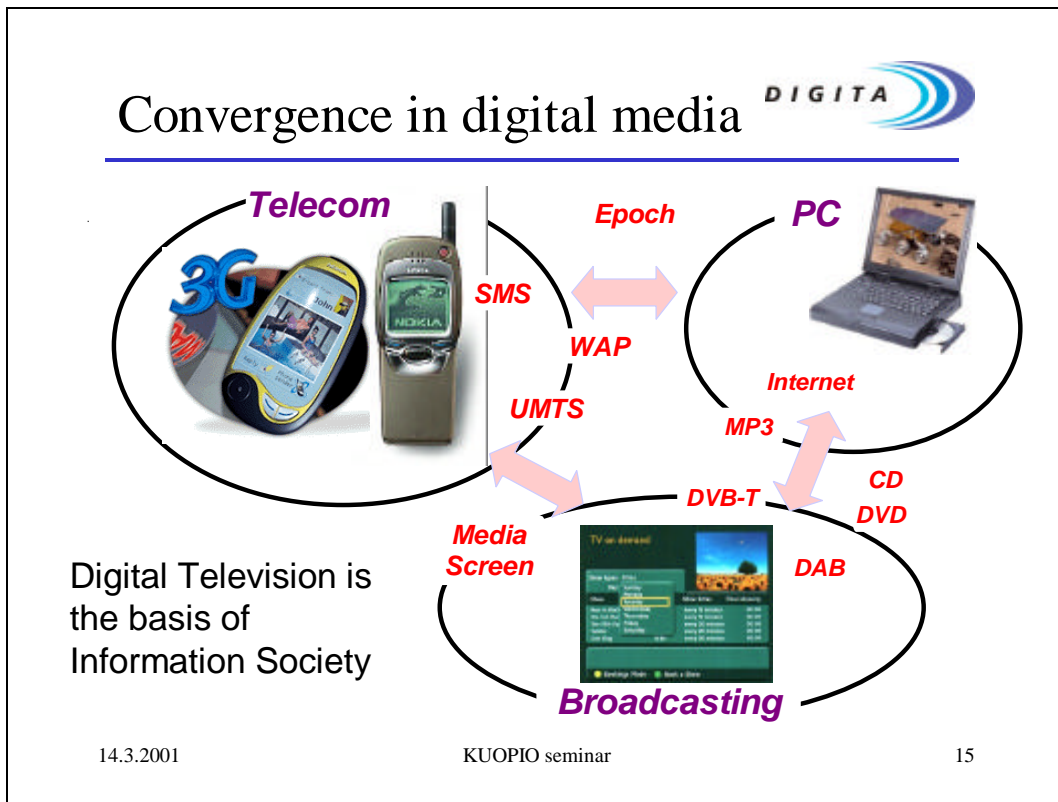


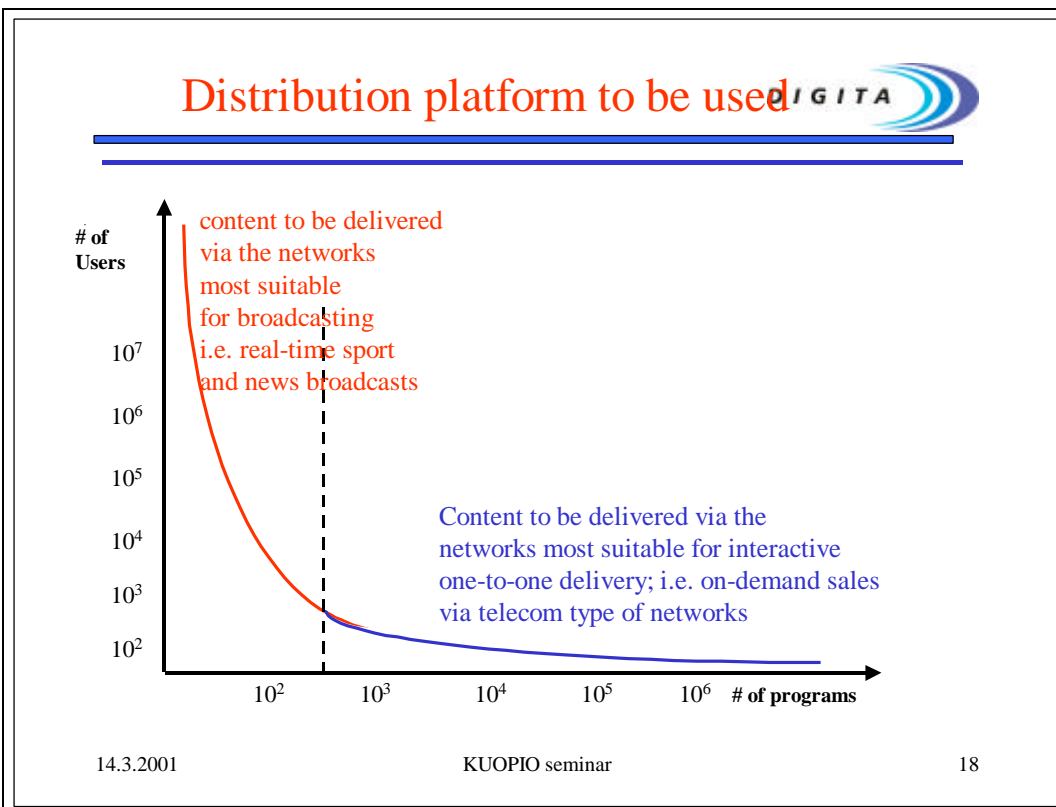
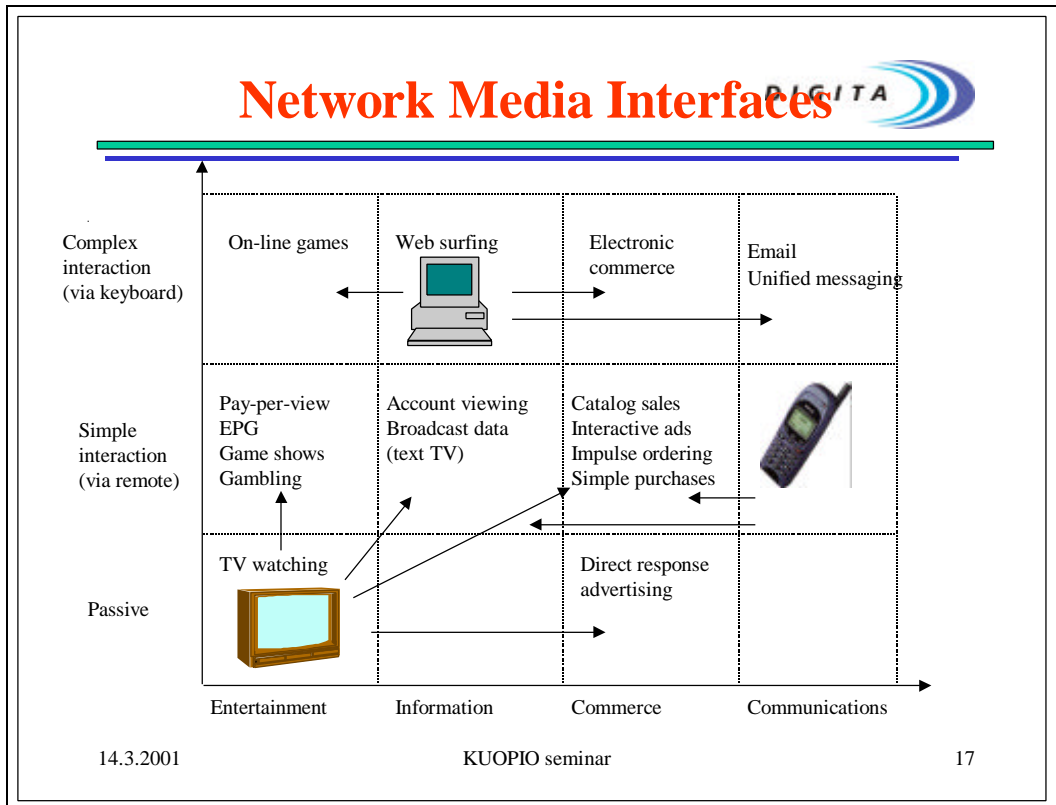
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12









Feature	DVB-T	DVB-S	DVB-C	DAB	ADSL	UMTS
Broadcast	+	++	+	+	-	-
Point-to-Point	-	-	+	-	++	++
Capacity	+	++	++	+	++	+
Urban areas	++	+	++	+	++	++
Rural areas	++	++	-	++	+	+
Regionally Ok	+	-	++	+	++	++
Mobile	+	-	-	++	-	++
Weather	+	-	++	+	++	+
Crisis resistant	+	-	+	+	+	+

Competition between different transmission routes is very hard but there is no clear winners.

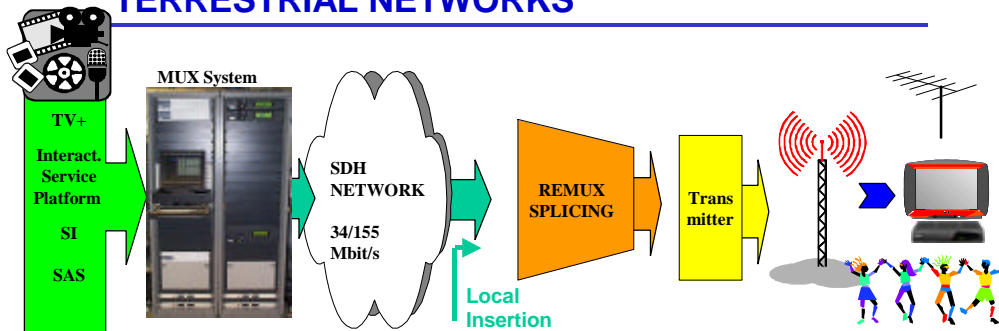
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19



TERRESTRIAL NETWORKS



National Center

- Encoding
- statistical multiplexing
- DVB-subtitling
- SI editing and insertion
- multiplexing and scrambling
- System management
- Data insertion (value added services etc.)
- network adapters
- monitoring

Regional sites

- Local encoding
- remultiplexing/ local insertion
- SI insertion
- SFN synchronization
- network adapters
- monitoring

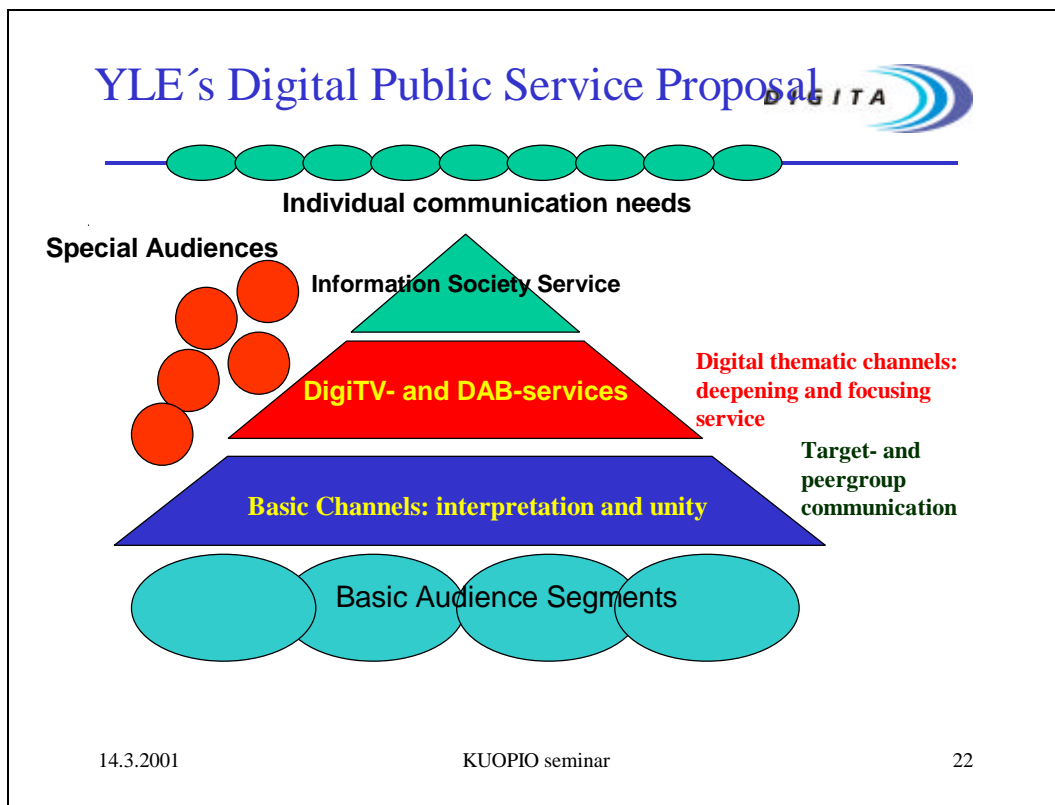
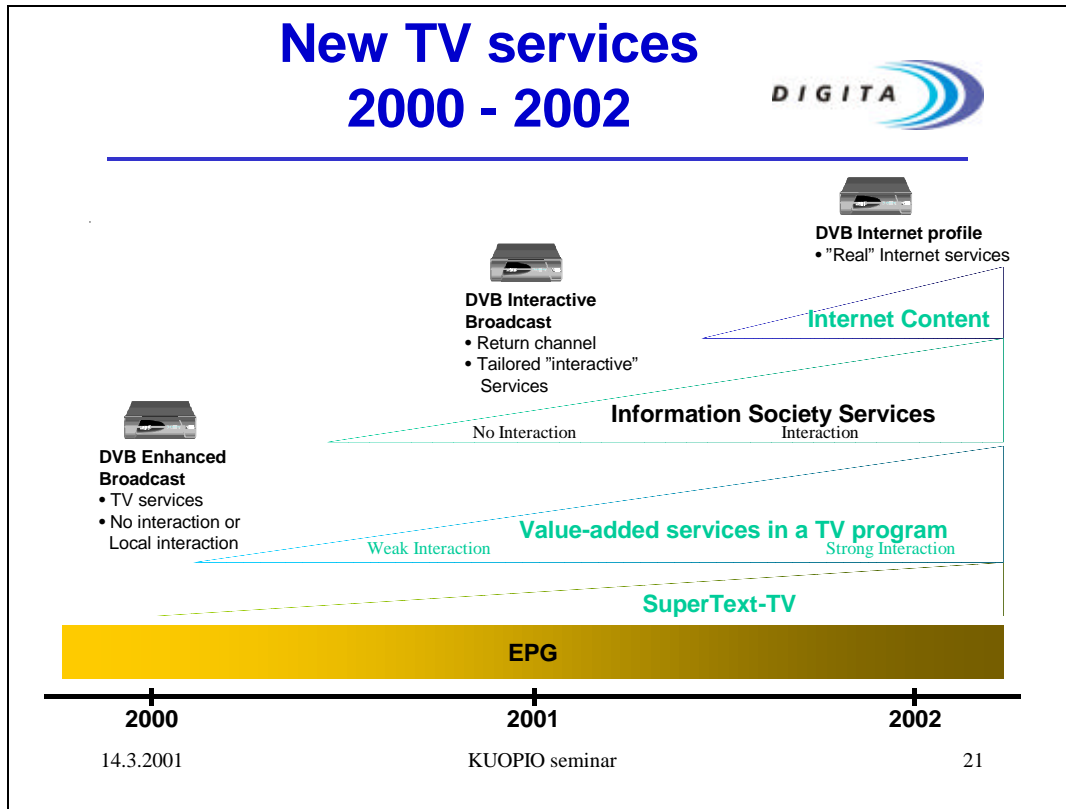
Transmitter sites

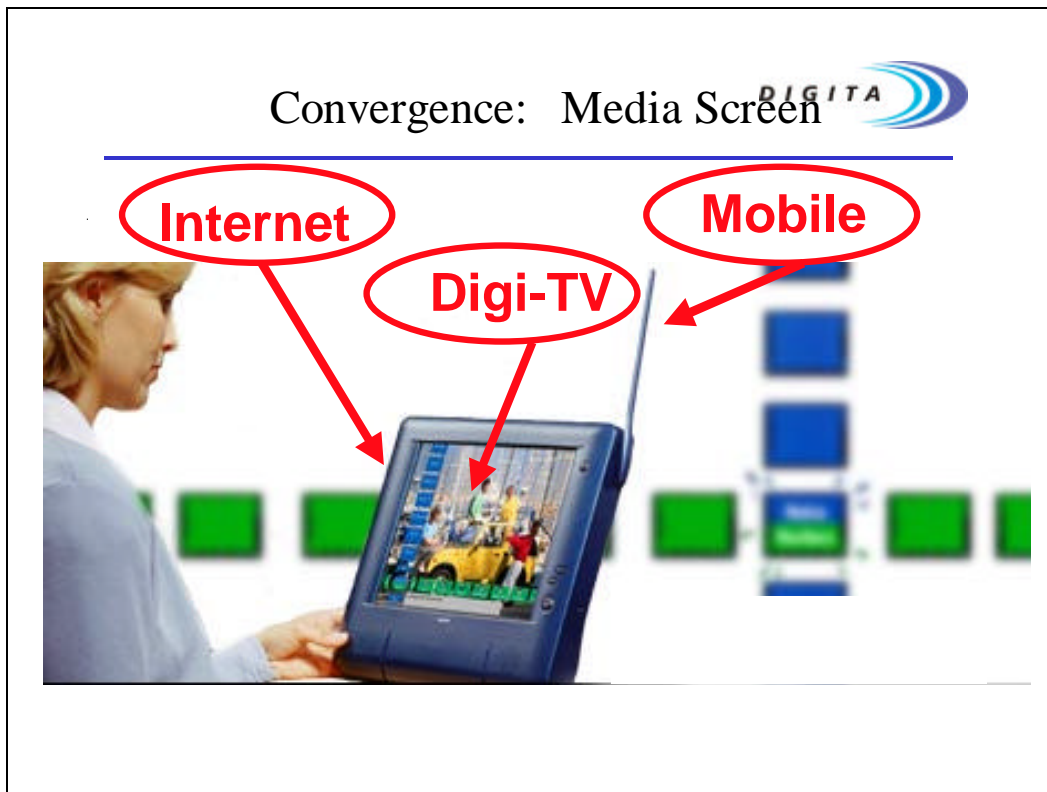
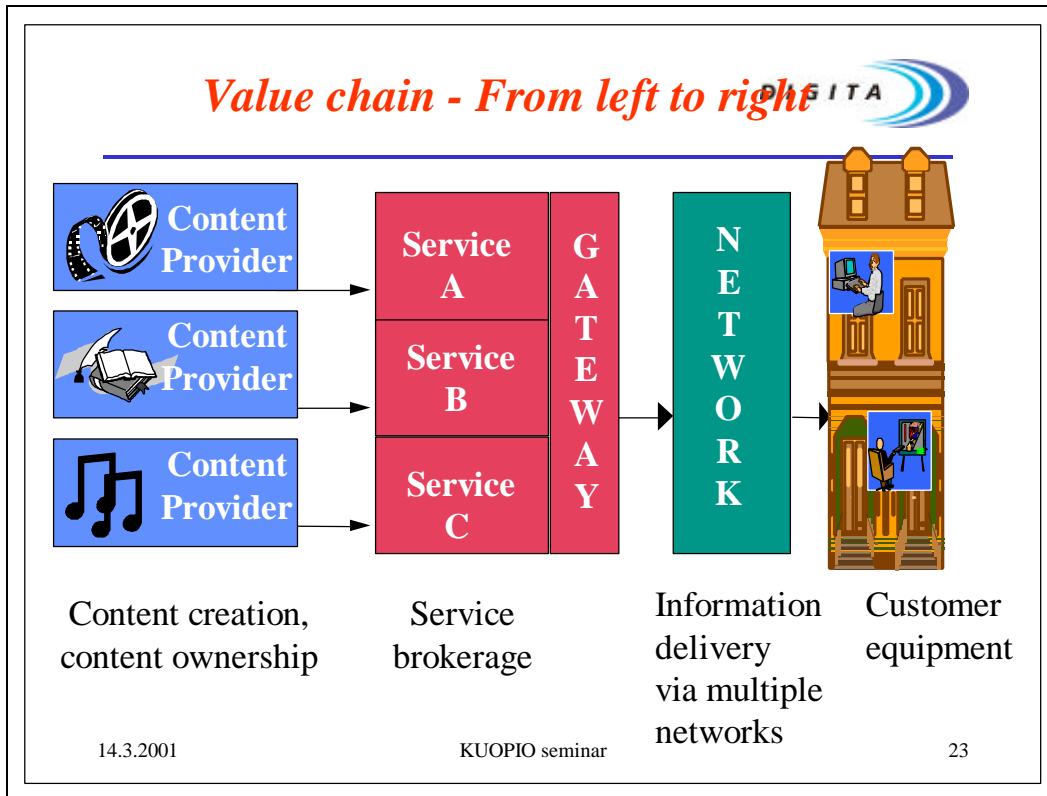
- transmitters
- antennas
- channel combiners
- network adapters
- modulators
- simulcast analog services
- monitoring

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20







Media Screen - still a prototype - but a good example of convergence. New possibilities, new services, new infowar threats.



... for further information



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14.3.2001 KUOPIO seminar 25



Addressing public through cellular networks

Mikko J. Salminen
Kuopio, 28.09.2000

mikko.j.salminen@kolumbus.fi

Cellular networks

- Analog networks (NMT, TACS, AMPS, Netz C) closing down
- GSM 900/1800/1900 global leader
- Growth path from GSM to GPRS, EDGE and UMTS
- Penetration in Finland over 70%, basically everybody between 15 and 65 has a mobile phone
- Penetration over 100% by 2003 due to telematics applications



Voice services

- ***Point-to-point phone calls***
- ***Point-to-multipoint calls***
 - ***Server based***
 - ***Switch based***
 - ***To replace closed radio systems***
 - ***Prioritization problem***

Messaging services in the mobile network, such as the Short Message Service (SMS), play a crucial role in value added (information) services. An innovative network capability has recently been introduced in addition to SMS; Cell Broadcasting. Cell Broadcasting enables the end-user to receive different kinds of push information from different originators.

CMG has developed the Cell Broadcast System. The unique service model of this system allows content providers to fully control real-time, location based information services, whereas the operator keeps full control of the network topology.

The resulting environment offers benefits for all three parties: the content providers, network operators, and subscribers. The first party can work with various operators (and vice versa). The second is able to generate additional network traffic for very little effort or investment. The third gets a wide range of information services from a single source.



Circuit switched data services

- ***Point-to-point***

- ***9.6 kbit/s***

- ***HSCSD***

- ***n*9.6-14.4 kbit/s***

- ***2+2 or 1+3 today in some networks
(28.8+28.8 or 14.4+43.2)***

- ***4-5 max timeslots i.e. with single radio***

GPRS

- ***General Packet Radio System***

- ***“Mobile IP Network”***

- ***Bearer for WAP and internet applications***

- ***1Q/2001 probable launch***

- ***max 30-40 kbit/s***



EDGE, UMTS

- ***Same services***
- ***More speed 100-384 kbit/s***
- ***Launch 2002-2004***

Location based services

- ***Tracking***
 - ***Vehicles***
 - ***People***
 - ***Any valuable object***
- ***Info services***
- ***Navigation***
- ***Several technologies***



Short message service (SMS)

- ***30 messages/user/month in Finland***
- ***Teenagers: more SMS than call charges***
- ***Point-to-point***
 - ***MS-MS***
 - ***SMSC-MS, “mass delivery” (<60 msg/s)***
 - ***MS-SMSC-MS, information services***
 - ***SMSC-MS-SMSC, information gathering, positioning***

Short message service (SMS)

- ***Applications***
 - ***Personal communications***
 - ***Info services, request***
 - ***Info services, push***
 - ***M2M, Machine-to-machine***
 - ***Icons***
 - ***Ringling tones***
 - ***Bearer: WAP, File transfer***



Cell broadcast service

Functional Concept (1)



Cell Broadcast Entity



Cell Broadcast Centre



Mobile Network



A Cell Broadcast System distributes content to mobile phones located in a certain area, as specified by the content provider. The smallest area an operator may address is a single radio cell, the largest area is the complete mobile network. The functionality of the Cell Broadcast System is similar to that of a Short Message Service Centre. In both cases an originator sends a message to the display or the memory of a mobile phone. A significant difference is that Short Messages are addressed to an individual phone whereas Cell Broadcast messages are addressed to an area; all mobile phones that have activated reception of the applicable type of Cell Broadcasting information will receive and present the message.

Cell Broadcasting has currently been standardised for GSM only, for other mobile technologies standardisation of Cell Broadcasting is underway. The GSM standards define the following functional entities for Cell Broadcasting.

Content providers work off line on the so-called Cell Broadcast Entity or CBE in order to create and maintain the messages to be broadcast. Once created, the CBE sends the message text, broadcast area and additional parameters such as time of broadcast to the Cell Broadcast Centre (CBC).

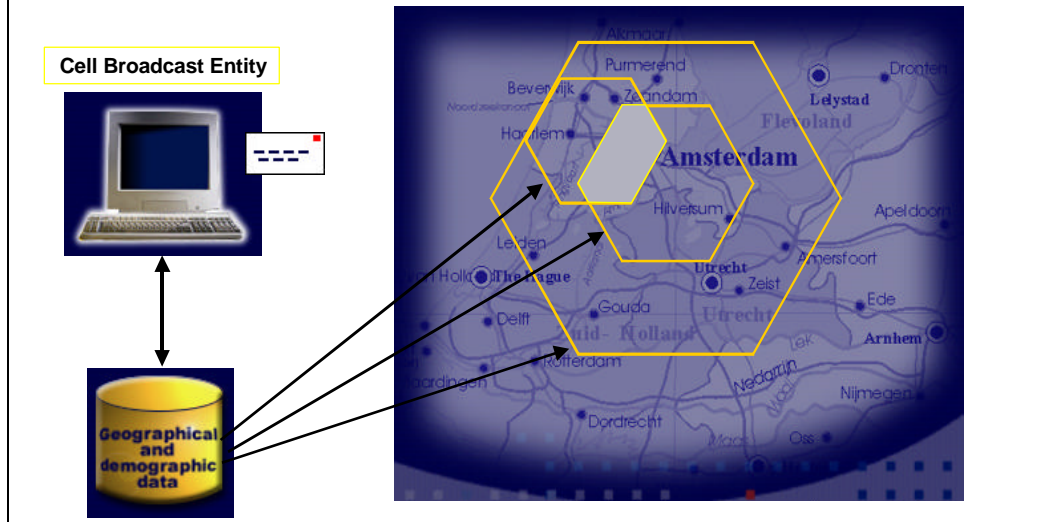
The CBC holds the relevant information on network topology and geographical location of each base station (in ETSI terminology: Base Transceiver Station, BTS). The operator manages the CBC, and ensures that it is kept up to date with any changes of BTS location in the actual network.

The CBC determines which BTSs need to broadcast the message in order to cover the area defined by the content provider, and instructs the Base Station Subsystem of the mobile network to broadcast the message, with the appropriate parameters. The BTSs then are loaded with the appropriate information and perform the actual broadcast.



Functional Concept (2)

- Criterion A = Driving distance to Amsterdam is less than 30 minutes
- Criterion B = Over 20% of the families earn more than 50 K \$ per year
- Criterion C = Over 10% of the families have 2 or more children under the age of 4

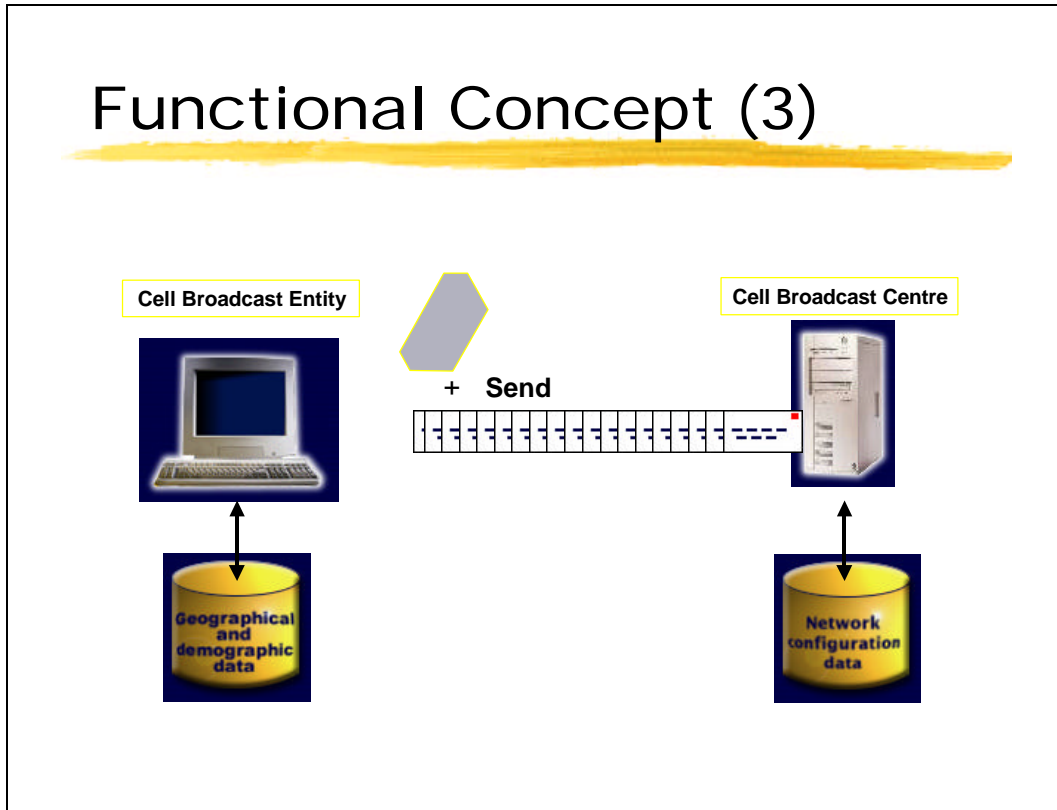


For content providers Cell Broadcasting is a unique way of distributing their (existing) information in real time to a location-specific audience. By combining geographical information with demographic information, the content provider can address target groups in a very advanced manner. Areas are selected through a powerful Geographical Information System, with an intuitive GUI for entry of message text and parameters. In the example shown in this slide, the demographic database in the Geographical Information System is queried using three criteria.

The resulting area is then used as a broadcast area.



Functional Concept (3)

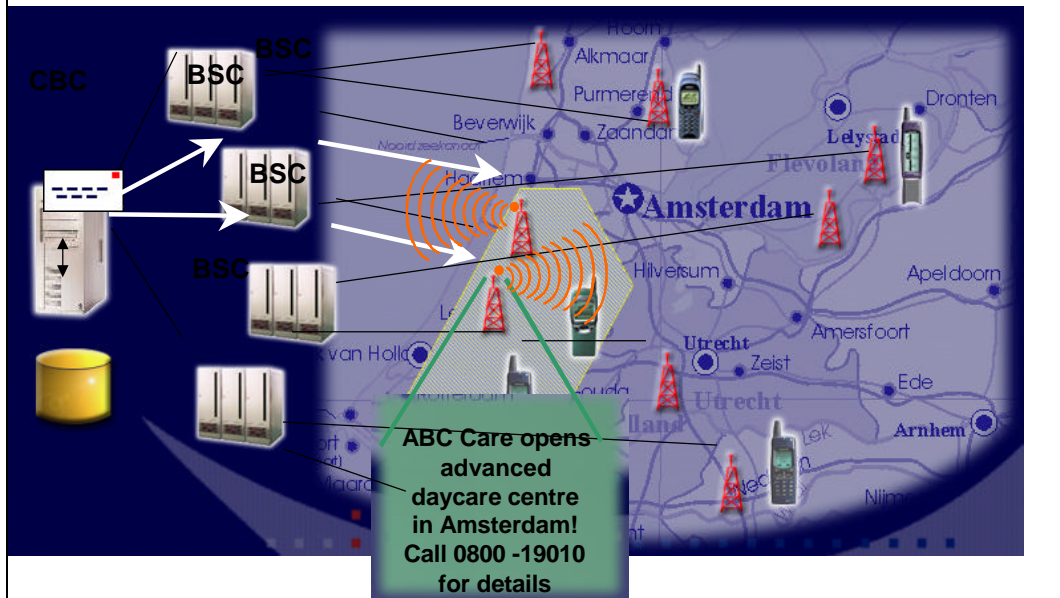


Besides the broadcast area, the content provider defines message content, the Message Identifier (also called channel number) and several other parameters. The Message Identifier is used by the end user to select the broadcast information they want to receive; it typically corresponds to a certain type of information.

This slide shows how the complete message definition is sent from the CBE to the Cell Broadcast Centre (CBC).



Functional Concept (4)



The CBC receives the geographical definition of the broadcast area from the content provider, selects the relevant base stations for the area and stores the CB message until the specified start time arrives. Or, if the content provider has specified that broadcast must start as soon as possible, the CBC starts the broadcast immediately.

The CBC transmits the broadcast message to the Base Station Controllers that control the base stations that need to broadcast the message. This process is automatic and seamless.

The Base Station controllers then load the relevant data to the BTSs who start broadcasting the message accordingly.

The Cell Broadcast system supports messages in several languages, coded in the ETSI Default Alphabet and UCS2, as defined in GSM specification 03.38. Cell Broadcast information can be broadcast in binary format as well, for handling by automated end user applications.



Service characteristics of Cell Broadcasting



- Efficient distribution of information to large groups
- Text and binary messages
- End user control over available "channels" (Message Identifiers)
- Location specific
- Real time
- Push information in defined area
- Address the area, not the user
- Cost-effective for high volumes

Cell Broadcasting is often referred to as the mobile equivalent of Videotext. To a large extent, this comparison is justified:

Like Videotext, Cell Broadcasting distributes information to a high numbers of users. The effort required to distribute information is completely independent of the number of users that (have chosen to) receive the information.

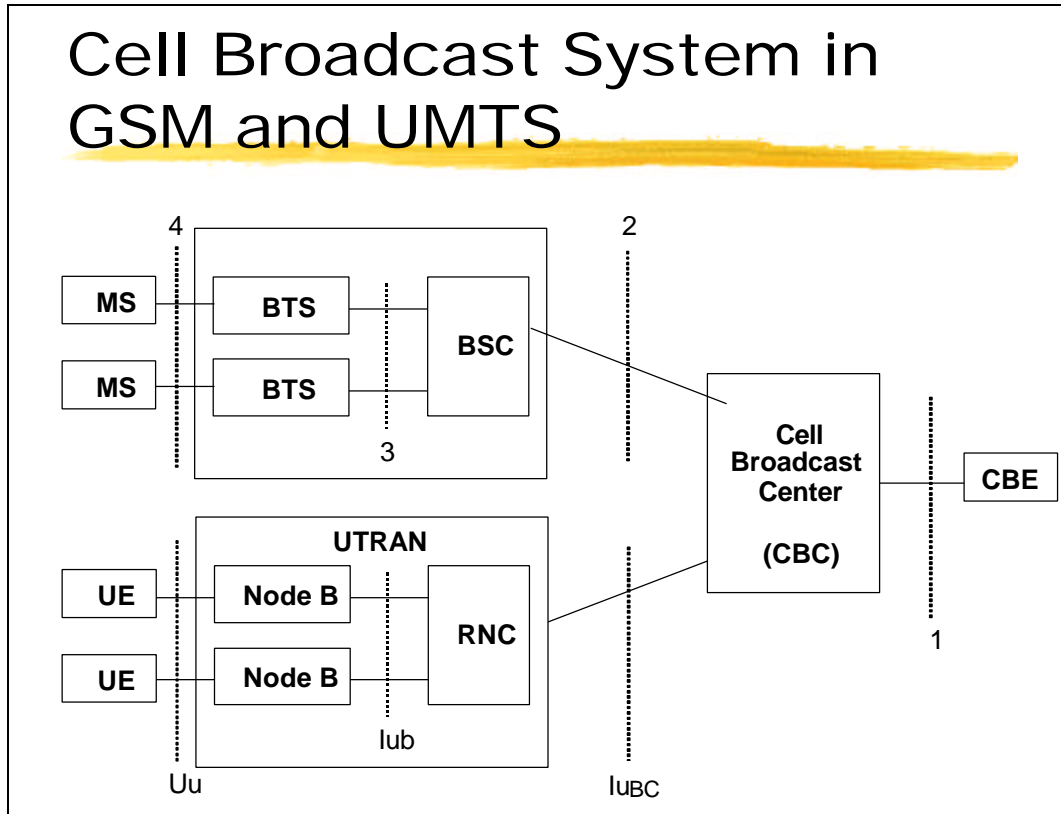
Cell Broadcasting distributes information in the form of messages, very similar to the well known Short Messages. These messages can be in text as well as binary form. The length of a Cell Broadcast messages is between 1 and 15 pages of 82 octets (93 characters in the default alphabet).

Also like Videotext, it is the end user who determines whether and if so, which information is presented. More than 65,000 channels (or, in ETSI terminology: Message Identifiers) are available, each corresponding to a specific type of information. The user activates and deactivates the reception of Cell Broadcast channels individually.

Cell Broadcasting also offers a number of features that videotext cannot offer.

Cell Broadcasting enables sending of location specific information. With an accuracy of individual base stations, the content provider specifies the area in which each message is to be broadcast.

Cell Broadcast is more suitable for real time applications than Videotext. Not that the broadcast mechanism itself offers a better real time behavior, but the terminal required to receive Cell Broadcasting information is a terminal that the user carries with him all the time, whereas people do not carry TV sets.

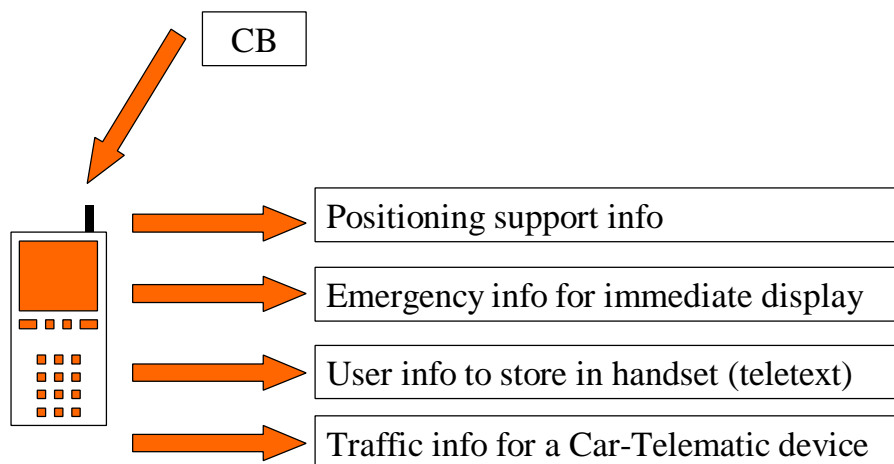




Drivers for Cell Broadcast

- Local emergency warnings
- Push consumer information
 - e-coupons
 - triggers, causing users to start calling
 - enhancement of handset MMI, user perceives “pull”
 - WAP push

What should the handset receive via Cell Broadcast ?





What can be improved in handset?

- 23.041: *“The CBS service is analogous to the Teletex service offered on television, in that like Teletex, it permits a number of unacknowledged general CBS messages to be broadcast to all receivers within a particular region...”*
- Easy MMI to receive and display localized information
- PUSH, where user perceives PULL on handset

THE NATIONAL STEERING COMMITTEE FOR PUBLIC WARNING AND INFORMING THE PUBLIC

DAVID HAY

The National Steering Committee for Warning and Informing the Public is a multi-agency group, set up in 1997, established by representatives of central and local government, emergency services, statutory undertakings, professional bodies and the media. Its creation was one of the by-products of a national workshop, held in 1996, which addressed concerns about the effectiveness and efficiency of public warning and information systems in the U.K.

The broad purpose of the National Steering Committee (N.S.C.) is to provide an advisory body capable of reviewing existing systems, and coordinating the development of both improvements to existing methods and new systems of warning and informing the public, and improving public education and awareness.

The 1996 workshop produced numerous recommendations, and so the newly formed N.S.C. nominated a small task force to produce clear terms of reference and to identify objectives.

Over the subsequent months, an action plan was established.

Four working groups were created:

Public Education Group

Media Issues Group

Sirens and Public Address Group

New Technology Group

These groups are all working to the following N.S.C. aim and objectives:

AIM:

To encourage improvements in the arrangements for warning members of the public of an imminent or actual threat to life, health or property and to inform them of the appropriate action to take.

OBJECTIVES:

1. To identify what exists now, any possible improvements and potential developments to maximise the extent of the warning;
2. To clarify the responsibilities for initiating processes and issuing messages in a timely manner;
3. To identify statutory responsibilities and/or codes of practice;
4. To establish a mechanism to ensure that warnings and information are transmitted by the media in a timely manner;
5. To measure the effectiveness of the processes.



The N.S.C. intends to produce an interim report, for wide circulation, this Autumn. The report will contain recommendations for further work into specific areas.

This paper will focus on three areas of work on which the N.S.C. has concentrated since its creation.

SCOPING PAPER:

From the outset, it was recognised that there needed to be an understanding and appreciation, among the member organisations representatives on the Committee, of the scope and potential scale of the problem in the U.K. A consultation paper was produced, in a very straightforward and simple matrix style, identifying examples of the incidents and emergencies which may require alerting messages to be issued, the lead agency for initiating the alert and the most likely type of advice/warning to be issued to the public, and the "parent" Government Department most closely associated with that process (where known). The paper is reproduced at appendix 1. This has helped to frame and inform many of our discussions.

NATIONAL VIDEO:

It was also recognised that, in the U.K., there is no public warning culture within the community and, therefore, it would be desirable and advantageous for the N.S.C. to score an early success in its programme of work, if possible, in order to raise awareness of our work in a positive way. Full support was given to an initiative from the Public Education Group to produce a national video. Sponsorship and financial support was achieved for the first stage of the project, to meet the design and production costs. 'GO in STAY in TUNE in' is the message behind the video, which is aimed at the 7-11 year age group within the National School Curriculum. It lasts just over 7 minutes and seeks to convey the message that during the initial stages of all emergencies, it is best to go indoors, close the windows and listen to local radio for further information. As well as dealing with chemical incidents, it also covers other emergencies, explaining that you may be advised to leave your property eg during floods.

Using a group of small children who remember the visit of a fire officer to their school, the video carries a brief but forceful storyline and gets the main message across very clearly. It makes it very clear that if the emergency is inside you get out; but if it's outside you get in, close doors and windows. Then, taking a portable radio with you, go upstairs to the side of the property away from the emergency.

The video was officially launched by the Home Office Minister at the annual conference of the Emergency Planning Society in July. Copies are currently being despatched to every local authority emergency planning unit. At this stage, it is envisaged that only people who are familiar with, and who can answer questions on the subject, particularly in respect of local hazards and issues, will use the video. The intention is to develop supporting material to enable the video to be used by teachers as a 'stand-alone' teaching aid. The N.S.C. is exploring every



means of promoting this film, which has been very well received by all who have seen it.

NATIONAL SURVEYS:

The third area of the N.S.C's work which is nearing completion is the implementation of two rounds of national surveys. The first round was achieved in the Spring of this year (2000) and focussed on industry and utility companies in the U.K. The second round, which focussed on local authorities in England and Wales, has now been achieved and the results are being evaluated. The survey questions required information on experience of incidents in the last five years, whether a system of public warning by telephone (P.W.I.T.) would have been used if it had been available, and the nature of any warning systems already in place and their intended use...particularly the potential numbers of people who might need to be informed at any moment in time. The collated results of both surveys will be extremely valuable to the N.S.C's working groups. The New Technology group will use the data to help develop the specification for a public warning by telephone system. It will then work with representatives from Oftel (the telephone service regulatory body in the U.K.) to discuss with the telephone industry the best way of introducing such a system within the U.K. The group will also consider other uses of new technology such as digital broadcasting, mobile telephony, mass telephony etc. The Sirens and Public Address group will use the data to develop a national database on the use of sirens for public warning, and this will help to determine the requirement for standard specifications for such equipment.

NEW TECHNOLOGY GROUP

We are currently concentrating our efforts on five areas:

- Public warning by telephone....using the national surveys to assist in dialogue with the main stakeholders to produce a business case, or proposals for regulation in terms of licensing requirements.
- Cellnet broadcasting....investigation of the technical possibilities of broadcasting cell-wide data messages to digital mobile telephones. Also, to identify the protocols that may be required with the cellular telephone companies.
- RDS....identification(with BBC colleagues) of technical requirements for certain possibilities eg use of the currently existing emergency code to activate RDS for public warnings
- Call Centres....developing current technologies and protocols for handling large volumes of public enquiries to the emergency services. A prototype developed by BT is currently being progressed by the group, in conjunction with the national police professional body (ACPO).
- The Internet....ongoing investigation of the use of the Internet web sites for public warning and information.

The group is currently working on the production of a matrix spreadsheet which will be the subject of intense consultation. It is being designed as a tool to enable us to identify all available methodologies,

and to address the appropriate questions to each method, identify their advantages and disadvantages, quantify costs where possible, examine their compatibility etc This work is intended to form the basis of a report to the national group, and must be, of course, defensible against close scrutiny. We have set ourselves a considerable challenge, but through close networking and consultation, we hope to contribute some important data and facilitate the development of improvements to our national systems.

THE FUTURE:

There is much work ahead in the U.K. in the field of public warning and information, and the N.S.C. expects to play an important advisory role in the future. Technology is developing rapidly, while the needs and perceptions of society are constantly changing. There are rarely, if ever, any 'quick fix' solutions to the sort of issues which we are addressing. However, the N.S.C. feels it has made a positive start in terms of raising awareness of the issues, and providing a focal point for future discussion and development.

NATIONAL STEERING COMMITTEE ON WARNING AND INFORMING THE PUBLIC
Examples of incidents/emergencies that may require alerting messages to be issued

TYPE OF INCIDENT	LEAD AGENCY FOR INITIATING THE ALERT	TYPE OF ADVICE/WARNING LIKELY TO BE ISSUED TO THE PUBLIC	PARENT GOVERNMENT DEPARTMENT
Public Incidents			
Major fire	Fire & Rescue Service	Need to get people to go indoors and close windows or evacuate	Home Office
Chemical release - static location	Site Operator or Fire & Rescue Service	Need to get people to go indoors and close windows	Home Office
Chemical release - in transport	Fire & Rescue Service	Need to get people to go indoors and close windows	Home Office
Explosion threat from chemical incident both in transit or static	Police	Evacuation and/or shelter instructions to be issued.	Home Office
Flood Warning	Environment Agency	Flood Warning information to be disseminated, in extremecases evacuation recommendations to be issued.	MAFF
Water Pollution	Water Companies	Instructions either to boil or not drink water to be issued	DETR
Gas Leak	Transco or other pipeline operator	Instructions to switch off pilot lights, not use electricity and/or evacuate.	DTi
Electricity disruption	Electricity Company	Information on rota cuts or length of disruption	DTi
Hostage	Police	Information to stay away from a certain location, preferably without the inhabitants being aware of the instructions	Home Office

TYPE OF INCIDENT	LEAD AGENCY FOR INITIATING THE ALERT	TYPE OF ADVICE/WARNING LIKELY TO BE ISSUED TO THE PUBLIC	PARENT GOVERNMENT DEPARTMENT
Public Incidents			
Unexploded World War 2 bomb/Terrorist bomb or threat of	Police	Need to evacuate an area and inform people to stay away from that area, or to get people to stay indoors and away from windows.	Home Office
UK Nuclear power station incident	Police	Need to get people to go indoors and close windows	DTi/Scottish Office
Overseas Nuclear power incident	Police	Need to get people to go indoors and close windows	DTi/Scottish Office
UK Nuclear transportation incident	Police	Need to get people to go indoors and close windows	DETR/Scottish Office/Dept of Env (NI)
UK Nuclear incident involving transport of Nuclear weapons or nuclear incidents at defence establishments.	Police	Possible dual need of evacuation up to 400m and shelter 5km downwind	MOD
Illegal asbestos or radiation dumping	Environment Agency or District Council EHO	Possible need to shelter/stay away from affected area	DETR
Public Health outbreak e.g. Ecoli/scabies outbreaks	Director of Public Health or District Council EHO	Not to eat certain types of food or drink water	Dept of Health
Stand down of incident	The lead agency for that particular incident	Information on rota cuts or length of disruption	The parent department for that particular incident

TYPE OF INCIDENT	LEAD AGENCY FOR INITIATING THE ALERT	TYPE OF ADVICE/WARNING LIKELY TO BE ISSUED TO THE PUBLIC	PARENT GOVERNMENT DEPARTMENT
Public Incidents			
Satellite	Police	Advice to shelter if immediate danger of satellite crashing or danger from radioactivity from crashed satellite.	Home Office
Severe Weather	Met Office	Advice not to travel/go inside	Home Office
Transport disruption	Transport Company	Advice not to travel or to take alternative method of transport	DETR
Blood shortage	Blood Transfusion Service	Message to blood donors living in a certain area to attend an emergency blood donor session.	Dept. of Health
Asbestos	Company	To disseminate information e.g. to parents of a school	
"Political Incidents"		E.G. To inform members of the organisation as to actions being taken	
Blackmail	e.g. Bank, Supermarket	To warn members of the organisation of the threat and actions being taken	
Health Incidents		E.g. outbreak of Scabies within a Home Care Organisation.	
Cancellation of event/closure of a facility		Need to inform customers/staff of the cancellation of an event or closure of an establishment.	



Aspects of using modern technologies for informing and warning the public

Hannu Rantanen
Head Instructor, M. Sc.
Emergency Services College



Warningand Alarm

1 - 1



Current Trends in Society

- Modern society heavily dependent on information technology
- People are mobile
- Complexity of emergencies
- Great demand for information
- Different needs of people, growing individuality
- Competing ideas/solutions also in the public sector

Warningand Alarm

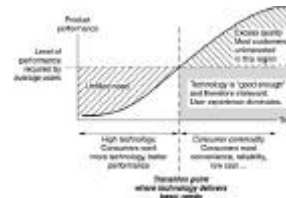
1 - 2





Disposition of the planning procedure

- Domain&Task Analysis
 - monitoring, warning, alarming, dissemination of information
 - decision making, *timely warning vs. quick warning*
- Information
 - What information is involved, standardization
- Application planning
- Media and technology selection
 - There is always the next generation in the s-curve



Warning and Alarm

1 - 3



Some questions to be asked

- Do we want to reach the area or the individuals
 - same risk to everybody=> area
 - different risk=>individuals
- Do we want to implement Yesterday's, Today's or Tomorrow's technology?
- Do we really need to try to reach the people listening to a Walkman?

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1 - 4





Pilot project considerations

- defined aims
- temporarily short
- simple organisation
- versatile
- starting with mainstream functionality
- note the difference between testing and experimenting

Warning and Alarm

1 - 5



Conclusion

Many exciting technology innovations are becoming available that have great potential for improving the use of information to save lives

The use of modern technology in the disaster area should however be determined by the problems that need solutions, and not vice versa

The development of information technology and its extensive use may unfortunately lead to new kinds of disasters, that is *IT-system disasters*.

Warning and Alarm

1 - 6

