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(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلاً.

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# 17 May 1976 World Telecommunication Day

## “Telecommunication and mass media”



**On 17 May World Telecommunication Day was celebrated by the 148 Member countries of ITU. This year the theme was “Telecommunication and mass media”. Last month we published two articles on this theme and two others are published below.**

### The importance of telecommunication in the operation of a press agency transmission network

*The dpa, Deutsche Presse-Agentur GmbH, is one of the biggest and leading international news agencies of the Federal Republic of Germany. Having some 800 employees and a total staff of about 3200, it is a world-wide operating agency. dpa by its constitution is completely independent of political parties, religious opinions or commercial interests. According to a survey in the British magazine The Economist dpa ranks number 5 in the western independent news agencies.*

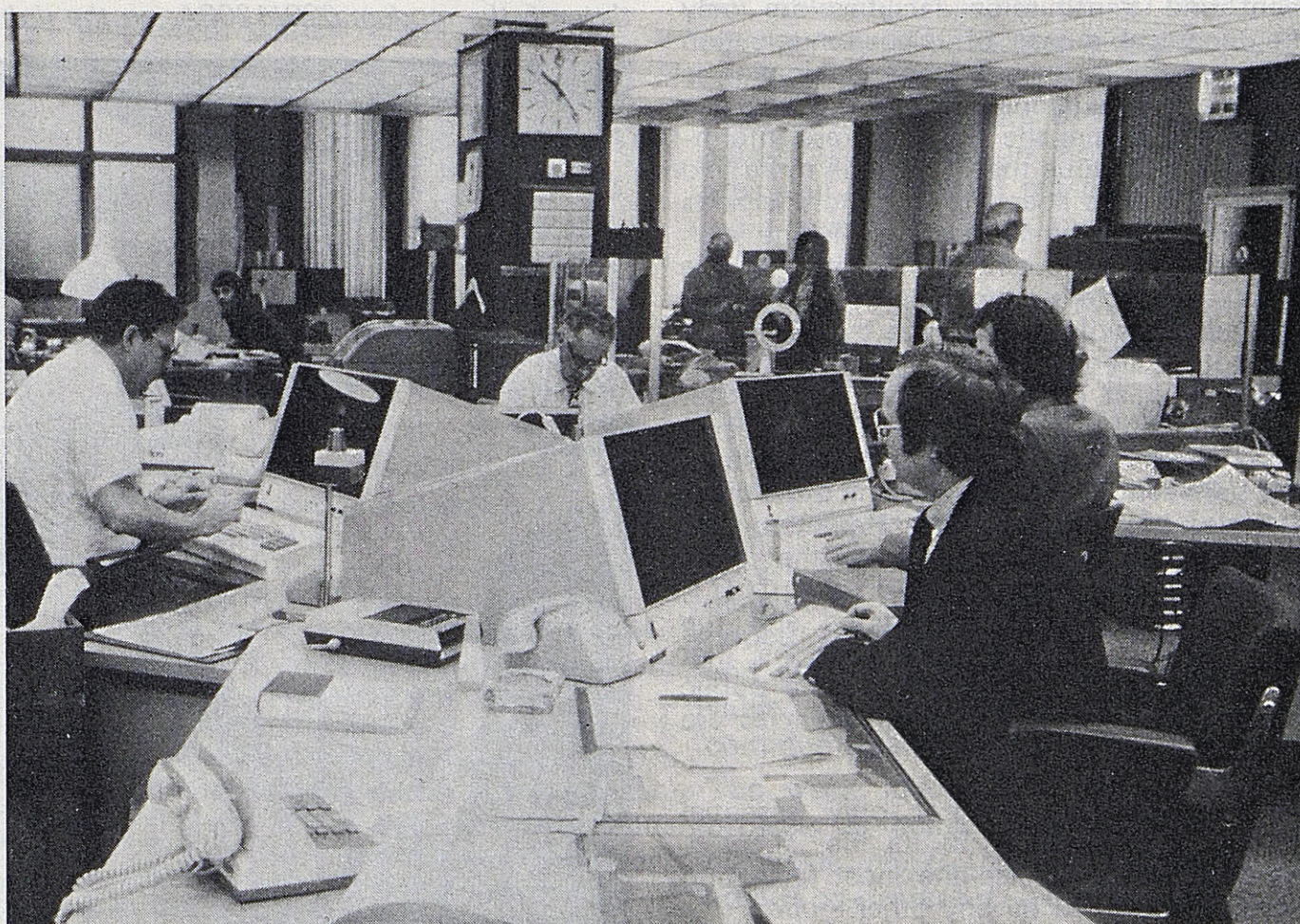
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One comment on the title would be very simple: without telecommunication there is virtually no transmission network as no press agency can exist without telecommunication. Of course, there is much more to say about this, in particular because the technical achievements in telecommunications of the recent years have brought about communication facilities which in the past were only dreamt of by journalists.

News agencies with world-wide operations today make use of global telecommunication networks comprising terrestrial radio, satellite and cable communications, ranging from half-speed 50-baud telegraph channels to medium-speed data links. The information transmitted over these networks is news, photo, data, sound and facsimile. Very often the networks are computer-controlled

and messages are automatically routed to their destinations. Gone are the ancient days when editors shouted, messenger boys ran breathlessly and operators feverishly tore tape. Telecommunication of today changed all that into the cool and controlled environment not unlike data processing centres. A change which took place without regrets.

*Editors at work with VDUs on line to a computer system editing news. The photograph is taken in the main editorial room at dpa headquarters in Hamburg*





Of the developments of the past decade we appreciate the communications satellite providing reliable transmission paths to almost every point in the world, usually at more favourable costs than the old facilities. The communications satellite is only one example of the revolutionary new developments of communication systems meeting the requirements of press agencies. There are two further technical achievements a press agency has to mention which have had an enormous impact on the use of telecommunication facilities, i.e. the computer and the visual display unit (VDU). These developments indeed made it possible for the journalist's report, written on the spot, to be instantaneously transmitted to a world audience—thus enabling the press agencies to fulfil their task more efficiently.

Text composition and transmission was, conventionally, a two-level process. There was the journalist writing or typing his story and later an operator punching the information onto tape and transmitting it along a telegraph channel. Computers and VDUs have changed this scene drastically. Reporters of today and tomorrow have at their command tools which are more efficient, easier to operate and faster than those of their colleagues a couple of years ago. The story typed on the keyboard and appearing on the screen of a VDU is checked and edited by the originating reporter or journalist and virtually every station in the press agency transmission network is at his fingertips. He simply instructs the computer where to route the message and by one keystroke transmits his message. Computers check, relay and route the copy, adhering to the priorities allocated and deliver the news to the public in the fastest fashion.

Developments in telecommunication equipment and transmission facilities are only the technical means of telecommunication—there is more to it. Telecommunication is also rules, regulations and tariffs which can support or hinder the flow of press information. It is obvious that it became more and more difficult to keep the regulatory aspects of modern telecommunications in line with the technical achievements. The efficient use of all available communications facilities, as made possible for instance by VDUs and computers, does not always meet the approval of post offices despite the fact that the equipment is, technically, perfectly acceptable. There exists, on some occasions, a gap between rule and reality which the press agencies have to live with. However, it is more and more appreciated by the international bodies like the ITU, the CCITT, etc. concerned with regulations and the administration of telecommunications that the press has a role to play in the public interest, whether or not press agencies are privately owned and operated.

Telecommunication is not only essential to any press agency, to its life, success, public service; it is also the most fascinating world, unmatched by any other.—*dpa.*

## Linking the news to the people

There is a two-stage process in what is commonly called a "news event". First, there is a certain development that is of interest or importance. Then, a response to that development. The second stage of the process takes place when those who were not present in the initial stage read or hear about what has taken place—and react.

The United Press International (UPI) is deeply involved in the process of linking news events and human response to those events. It is one of a relative handful of private and independent organizations providing a "connection" between the two elements of the news process. On the one hand are the correspondents, photographers and editors at UPI's 200 news bureaux on six continents, and on the other, the 6740 newspaper, radio, television and national

news agency subscribers in over 100 countries and territories. The UPI news bureaux and its subscribers are tied together by a global telecommunications network of over 1 600 000 km of satellite, cable and telegraph circuits, and a series of intercontinental radio-teleprinter channels totalling more than 177 000 km. It is a two-way complex that speeds news to and from every part of the world in a matter of seconds.

The agency's first involvement with telecommunications began back in 1907, when United Press was organized by the late E. W. Scripps. The new wire service's news dispatches were transmitted by Morse code. One legacy of this era is the fact that, even today, the person responsible for handling news agency copy on a North American newspaper is known as the "telegraph editor". However, UPI operations in the 1970s, utilizing frequency division multiplex circuits (FDM) tied to a computer storage and retrieval (IS&R) system with lightning-fast input and output capability (some North American subscribers receive UPI's service at 1200 words a minute), bear about the same relationship to the Morse telegraphy of the organization's beginning that a *Concorde* bears to a child's kite.

To perform its overall mission of covering the world today, UPI processes an estimated 4 to 4.5 million words each day. This wordage, along with several hundred telephoto (newspicture) transmissions, and 125 to 150 audio reports (for use on broadcasting stations) must be handled by UPI's international telecommunication network. There are over 30 outgoing circuits, including general, business and the sports

*United Press International communicates extensively by use of video display units, similar to the one shown here. This particular model is a Siemens connected to the telephone line through the modem 600/1200A, on the right*





wires, newspaper and broadcast wires, and international circuits in four languages. At some point, most of this traffic flows through New York City, where the heart of UPI's information handling system is located.

There, on the 11th floor of a Manhattan skyscraper a few blocks from the United Nations, a trio of Univac *Spectra 70/45* computers are "on line" with over 400 video display units (VDUs) for story origination, editing and distribution. These include

terminals at the major European bureaux (except London, where labour has not yet accepted the innovation). The VDUs in Europe are connected to the New York computer through an ITT *ADX* switching computer located at UPI's Brussels editing centre and leased transatlantic FDM circuits. There is a similar *ADX* located in Hongkong, connecting Asian, Australian and Pacific UPI bureaux to New York.

The computers, the terminals, and world-wide telecommunications make it possible

for UPI to operate as though it were one huge global newsroom. Nearly any UPI bureau can send news directly to any other UPI bureau or subscriber, and the information in the computer database is instantaneously and randomly retrievable from almost anywhere. In fact, UPI is currently experimenting with a system called "demandnews" that will give its subscribers direct access to the computer, allowing them to interrogate it and retrieve only that portion of the overall database that they require—news on demand.—UPI.

## radio amateurs

### Propagation research

has been subject to the greatest amount of study. This is partly due to the large number of ionospheric observatories located in the northern hemisphere, most of whom have concentrated their work in the region below 30 MHz. Little work has been done concerning the appearance of sporadic-E phenomena in the VHF band (30-200 MHz), possibly due to the lower percentage of appearance in relation to the lower frequencies.

Scientific observation of the E layer may be made by means of:

- a) vertical soundings,
- b) backscatter soundings,
- c) incoherent scatter radars, and
- d) radioelectrical measurements.

The latter appears to be the only method able to bring rapidly usable results by permitting the detection of the clouds, to track them during their lifetime and to determine their point of disappearance. Radio amateurs can supplement the work of the observatories as they are always present on the air and their equipment, which often has a high performance, costs much less than the equipment used by the observatories. Measurements may be made by either:

- a) recordings of received fields on a fixed frequency, i.e. television or FM stations and aeronautical or amateur beacons, and
- b) observation of the drift of the sporadic-E clouds by listing the traffic using this medium for communication or hearing long-distance television or FM broadcasts.

Two projects concerning the study of the sporadic-E layer in the VHF bands were submitted by France to the 1975 International Amateur Radio Union (IARU) Region 1 Conference. First of these is the southern Europe beacon project which envisages the setting up of 144 MHz beacons in the south of Europe, an area where few such stations now exist. These beacons will greatly add to the possibility of obtaining valuable scientific data. The second, the North Atlantic project, covers the study of VHF propagation above this area, particularly in the amateurs' bands 28 and 50 MHz. Observations would be made by amateurs in those countries not able to transmit on 50 MHz and beacons would be located along the eastern coast of North America. Little work has been done concerning the study of sporadic-E propagation in the North Atlantic area and for several reasons the 50 MHz band seems to be a most suitable one to use.

Both these projects could have an important effect on the knowledge of highly ionized media. Therefore the resources of the amateur service will be used to obtain a large number of operational reports of sporadic-E activity. In order that these reports shall have a common basis suitable report sheets have been prepared and distributed throughout Region 1. It is hoped that the results, when analysed and published, will once again show the value of the amateur service to the community.

The work involved in supervising these projects is being undertaken by Mr. S. Canivenc, *F8SH*, the IARU Region 1 sporadic-E co-ordinator.—IARU Region 1.

**D**URING the past fifteen years or so a great deal of work has been done in the investigation of the abnormal ionization of the E region of the ionosphere. During this time various theories have been put forward and partly verified concerning the nature and formation of the sporadic-E layer. The differing behaviour and evolution following the latitude of the observation point has meant that these theories, although having a common basis, often differ in detail. The mid-latitude sporadic-E layer is the type which