

Status: approved

Place: London
Date: 1984.11.12 - 1984.11.16
Participants: see annex 1
Agenda: see annex 2
Documents: see annex 3

1 OPENING OF THE MEETING

Mr Temple welcomed the delegates on behalf of the Department of Trade and Industry to the the 6th meeting of GSM in London. He expressed his belief that mobile communications is an area of growing importance and expansion comparable to that which has been observed in the fixed telephone network.

Mr Temple identified three areas to which particular attention should be paid, namely the coverage of the future system, the economics and the services to be offered to the customers.

2 APPROVAL OF THE AGENDA

(ref. annex 2)

After adding item 8 "General System Questions", the agenda - as presented in Annex 2 - was approved.

3 LISTING OF RELEVANT DOCUMENTS

(ref. annex 3)

The documents to be considered during the meeting were GSM Doc 57/84 - 91/84. Annex 2 shows to which agenda item the documents belong.

4 REPORT FROM GSM MEETING No 5

After certain modifications of the draft report, which was sent out before the meeting, the report was approved. The report bears the document number GSM Doc 85/84.

5 COOPERATION WITH INDUSTRY

The chairman introduced Doc 68/84 which is a letter from Bell Telephone Manufacturing Company containing considerations both to services and facilities as well as technical issues.

The delegation of France proposed that Annex 1 of the document should be submitted to SF3 for consideration. SF3 will meet next time in april 1985. Before this a special Working Party should discuss the document in order to produce some guidelines for SF3. Annex 1 was handed over to Mr Wallingford during a short visit to the GSM-meeting.

Annex 2 of the document should be dealt with by the Working Parties in relevant parts.

The chairman went on introducing Doc 72/84 which is a letter from Bell Communications Research (BCR) proposing a liaison between BCR and GSM. He also reminded of the earlier decision that contacts with non European industries should be approved by CCH.

Mr Fisher explained the background of the document telling that BCR played an active role in an attempt to have a CCIR SG 8 recommendation on the AMPS-system. From the CCIR discussions it became clear that the North American countries are not likely to accept the GSM-system as a CCIR-standard in the future unless they are allowed to participate in the development somehow. In order to solve the problem BCR has now proposed a collaboration by having a liaison between GSM and BCR.

Due to the political nature of the question the meeting agreed to bring the question further to CCH for decision. However a preliminary discussion in GSM should take place in order to give some guidance to CCH particularly concerning the technical consequences of the proposed collaboration.

Some concern was expressed regarding the time schedule in the case of an extended cooperation as proposed. Further on, some delegates questioned both the possibility and the need for a world standard.

Mr Gagliardi informed - through the Italian delegate - that he expected BCR to address him directly on this matter and the Chairman undertook to inform BCR accordingly in his reply to them.

6 REPORT ON THE COST ACTIVITIES CONCERNING LAND MOBILE COMMUNICATIONS

Mr Failli informed about the latest developments in COST 207. Three Working Parties have been set up, namely:

- WP A "Propagation" (Report in Doc 79/84)
- WP B "Baseband processing" (Report in Doc 82/84 Rev.1)
- WP C "Modulation" (Report in Doc 78/84)

Doc 82/84 contains a number of questions on which the opinion of GSM is sought.

Due to difficulties to evaluate the various modulation techniques without firm decisions on other system parameters, WP B has also started studies on access schemes. This has given rise to some discussions in COST 207 during which the representatives of Finland and Sweden have claimed that this work is outside the mandate of COST 207 expressed in the Memorandum of Understanding and that the work duplicates the work of GSM.

Mr McFarlane drew the attention to question 3a of Doc 82/84 Rev. 1, announcing that BT has carried out investigations leading to a requirement of maximum 5 ms delay for speech generated in networks outside the PSTN. He also told that a subband coder, comprising both channel coding and speech coding, which meets this requirement has been developed in the UK. Further information on the matter can be expected at the next meeting.

Mr Cheeseman informed of a number of study contracts between BT and the UK universities concerning speech quality in land mobile networks. The studies will go on for 3 years. However Mr Cheeseman offered to inform continuously about the progress of the work.

Mr Failli reported that measurements on narrowband FDMA SCPC systems will be carried out in Italy. Mr Hovi informed that the Propagation WP is also studying diversity techniques to some extent.

WP2 was asked to consider all of the COST reports and WP3 to consider in particular Doc 82/84 Rev. 1.

7 MATTERS RELATED TO THE R-GROUP

Mr Fremin introduced Doc 67/84 which describes measurements of time dispersion in urban and suburban environments. The measurements were limited to measurements of amplitude, i.e. phase shift measurements were not included.

Similar measurement have been carried out by Dr Parson and Dr Cox. Comparison with the results of Dr Cox shows good accordance.

8 GENERAL SYSTEM QUESTIONS

Mr Fisher introduced Doc 70/84 which is an advance information of a UK contribution to CCH on studies on land mobile satellite services. Although the document does not call for any action by GSM the chairman suggested that GSM should express an opinion on the matter. This could be done during the next meeting which will take place well before the next CCH-meeting in May 1985.

Some preliminary views were expressed concerning the poor spectrum efficiency of satellite systems, the frequency problems in the 900 MHz band, the concern for the GSM time schedule and - on the other hand - the necessity for the GSM-system to be modern and flexible at the time it will be put into operation.

Mr Spindler introduced Doc 76/84 which presents the outline of a joint Franco-German experimental program. In particular he underlined the purpose of the program to contribute to the GSM-work.

During the discussion on the document the following information was added:

- The first phase of the program comprises fundamental system studies including practical experiments. The results of the studies will be made available to GSM.
- The second phase of the program, when the system has been defined, consists of a cooperation in the development of equipment and practical implementation of the system. Through this effort France and FRG expect to be the first nations to implement the system, which explains the words "....the service will progressively be extended to other European countries." (Bottom of annex to Doc 76/84).
- The study contracts during phase 1 of the program will be limited to companies in France and FRG.
- The description of the studies themselves will probably be made available to GSM.
- The studies will be based on the requirement that the system shall work equally well in urban and rural areas.
- France and FRG do not have any intention to limit the use of their findings by patents or similar commercial obstructions.
- Also network aspects and overall implementation costs will be studied. However it is difficult to define adequate evaluation criteria for these study items.
- No common 900 MHz "early system" will be established in France and FRG.

9 MARKET STUDIES

The secretary introduced Doc 62/84, which gives a summary of the market surveys of the Nordic countries. The surveys are limited to professional users. The figure of the total market (more than 1 million users) does not include paging services and does not take the price of the equipment into account. However the threshold prices for the start of a penetration into the consumer market have been identified. (SEK 7000 for mobile telephone and SEK 600 for paging receivers).

10 ASPECTS ON PROTECTION AND SECURITY

Mr Ghillebaert presented Doc 63/84 which reports the discussions in WG CD on security aspects in a land mobile system. The conclusion of the document is that a common CD/GSM expert meeting has to be arranged.

Apart from some concern regarding the increasing number of expert groups GSM supported the suggestion of WG CD, and decided that the

GSM chairman should arrange a meeting. This meeting will be held in Stockholm probably in March 1985. The precise date will be agreed with Mr Coolen from the Administration of Netherlands. France, FRG, Norway, Sweden and UK announced their intention to participate.

NOTE: After the meeting, there have been contacts between the Chairmen of GSM and WGCD with the result that the meeting will probably not be held until May.

The next meeting of WG CD will be in the early autumn 1985.

Mr Audestad told the meeting that some useful input could be expected from a special working party of CCITT dealing with interworking between PLMN and PDN. This group will meet in Dec 1984.

Doc 63/84 was further discussed in WP3.

WORKING PARTIES

Set-up of Working Parties

Chairmen of the WP's were appointed as follows:

WP1	Mr Nilakantan
WP2	Mr Verhulst
WP3	Mr Audestad

Before starting the Working Parties, Doc's 64/84, 80/84 and 86/84 were discussed in plenary on the WP2 chairmans request.

Doc 64/84 was introduced by Mr Loeken. During the following discussion it was clarified that:

- Section 10: It is not the intention of the document to propose a study of Time Division Duplex, TDD (compare Doc 65/84). However it is still possible to draw benefit of the advantages of TDD, using certain configurations of TDMA-channels and SFH/CDMA-channels. These configurations are presented in the document.
- The meeting confirmed that no other access schemes than those identified earlier in Doc 51/84 should be studied.
- Section 3.2: The view was expressed that all services should occupy the same bandwidth (i.e. the same bit rate) and that the discussion should thus be focused on the allocation of the appropriate amount of time required for each type of service.
- Section 3.3, second paragraph: All multiple access schemes cannot handle all sorts of mobile stations.

Mr Fisher mentioned that UK has a cordless telephone demonstration system using TDD.

Doc 80/84 which is a letter from TR3 was introduced by Mr Verhulst. TR3 proposes a joint expert meeting which should deal with questions concerning speech coding.

Since COST WP B is working on the same subject, the GSM-group once again faced the problem of duplication of work. This gave rise to a lengthy discussion which ended up in a decision to write a letter to TR3 that summarizes the problem. The letter (Doc 91/84) was drafted and approved. A copy of the letter will be sent to COST 207.

Mr Cheeseman objected to the conclusion in Annex 6 section 3.1.2.b which is based on the very rare case of a mobile-to-mobile call within the same cell requiring switching facilities in the base station.

Mr Verhulst introduced Doc 86/84 which did not give rise to any comments.

11 ACTIVITIES IN THE FIELD OF LOW BIT RATE SPEECH, ENCODING, MODULATION AND MULTIPLE ACCESS TECHNIQUES

(Report of WP 2)

Mr Verhulst presented the report of the working party, Doc 88/84. The questions of BTM (Doc 68/84, Annex 2) have been discussed, but no answers could be given for the time being.

The WP has identified the need for a more detailed traffic model in the future, which takes the variance of the traffic intensity/user into account.

Mr Verhulst went on introducing Doc 83/84. A few corrections were made.

The meeting agreed to work out a new document based on Doc 64/84 and the amendments indicated in Doc 88/84 and send it to COST 207. This document should not be sent to the industry. Doc 51/84, which has been sent to the industry is still valid.

Since Mr Verhulst will soon leave the Administration of France for other tasks the chairman thanked him for his valuable contribution to the work of GSM.

The meeting noted with gratitude the offer of Mr Maloberti to take on the task of WP 2 chairman and Special Coordinator.

12 NETWORK AND SIGNALLING QUESTIONS

(Report of WP 3)

Mr Audestad presented the report (Doc 90/84) of the working party. A few amendments were mentioned. A typed version will be worked out by Mr Audestad.

The following comments were made:

- Annex 2: Hunt Group is a new service, not considered earlier by SWG SF3. In order not to delay the work, the WP has chosen to study the implications of the service before asking SF3 if the service is needed. Information about the service should be sent to SF3.
- Annex 3: The Terminal Adaptor in the mobile station is used for data input only (i.e. not for speech input). The corresponding function on the fixed network side is usually spread on several separate physical units of which the Interworking Unit is likely to be the most important.
- The possibility of solving the problem of the speech codec transparency to voiceband data by using the Terminal Adaptor was discussed.

Annex 4 of the document will be sent to SWG TR3 and COST 207. Annex 3 needs some further consideration before it is distributed to other groups.

13 COEXISTENCE OF VEHICLE-BORNE AND PORTABLE STATIONS

(Report of WP 1)

Mr Nilakantan presented the report of WP1, Doc 58/84 Rev. 1.

An extensive discussion arose regarding i.a. the implications of a possible use of hand-held stations inside buildings, the need for diversity, penetration losses, transmissions from hand-held stations from high buildings and cochannel interference in TDMA-systems vs. FDMA-systems. Different views were expressed regarding the approach to the problems of hand-held equipment. However the meeting agreed that the GSM mandate (Doc 2/82) clearly states that hand-held stations should be catered for in the system.

After a coordination meeting between WP1 and WP2 Doc 58/84 Rev. 1 was amended and approved. The meeting agreed to treat the document as an internal document not for use outside the GSM-group.

14 TRAFFIC MODELS

Mr van Beveren introduced Doc 81/84. A few corrections were made, which will be included in the final report on the traffic in existing systems. The following comments were made:

- Page 3; the way of measuring annual growth (units per 1000 telephone connections) has been chosen assuming that people who do not have a fixed telephone connection are not interested in mobile communications either.

- Page 5; the concentration factors:

C_{dy} is the percentage of the total traffic during a year which is generated during a normal working day;

C_{hd} is the percentage of the total daily traffic which is generated during the busy hour.

Mr van Beveren went on introducing Doc 89/84, in which a model for calculating the traffic density expressed in E/km^2 is presented. In this document tentative values have been used. The traffic density should be understood as both-way traffic. A substantial difference appears between the "GSM-model" and the Japanese model presented in the annex of the document, in so far that the traffic/subscriber is only 11 mE in the Japanese model compared to 30 mE in the GSM-model. This is due to the fact that the GSM figure is based on statistics from 2 countries only. Now that more statistics are available a more accurate figure can be chosen.

15 TARIFF STRUCTURES

Mr Klingler introduced Doc 84/84. The table is not complete since replies to the questionnaire are still missing from some Administrations.

The last line of page 1 of the document was deleted.

As for the traffic model, once the investigation has been finalized the source information will be put together into one GSM-document.

Mr van Beveren presented a first draft of a diagram showing the system growth in various countries. Administrations were invited to check and complete the diagram. The intention of the diagram is to investigate whether there is any relationship between system growth and the subscribers costs.

Doc 87/84 did not need to be discussed.

16 RADIATION HAZARDS

Except for some remarks in the report from WP 2 regarding the fact that all present regulations on radiation hazards refer to continuous transmissions which is not relevant in the case of TDMA systems, no contribution on the item was available.

17 ANY OTHER BUSINESS

The chairman informed the meeting about an offer from SSA to coordinate the work of GSM. He also proposed that SSA should assist GSM by analysing the problems of mutual recognition of type approvals, presently under consideration by WG R.

Mr Temple informed about the ongoing liberalization process in the UK. This development will lead to a more complicated UK representation in the CEPT in the future.

Mrs Alverne introduced Doc 73/84 which reports the activities going on within SWG SF3 in the field of mobile communications. The comment was made that preseizure dialing - being a capacity saving and safe technique - should be a mandatory function and an inherent quality of the system. Mrs Alverne was asked to bring this point of view to the attention of SF3.

The chairman reminded the delegates of the need to bring copies of late contributions to the meetings in order to ease the task of the secretariat on the first day of the meeting.

18 NEXT MEETING

The following meeting schedule was agreed:

- | | |
|---------------|--|
| Meeting no 7: | 1985-02-25--03-01, Oslo
The meeting will start at 1300. |
| Meeting no 8: | 1985-06-10--14, (preliminary)
Mr Dupuis will look into the possibilities to host this meeting in Paris. |
| Meeting no 9: | 1985-09-23--27, Munich. |

On the agenda for the Oslo-meeting will be i a Services and Facilities Requirements and Criteria for a Decision on Analogue or Digital Modulation.

An expert meeting on network- and signalling aspects will be held in FRG during week 8516 after the CS-SIG-meeting. Mr Ghillebaert and Mr Audestad will attend this meeting. Information about this meeting will be sent to all GSM-delegates.

19 CLOSING OF THE MEETING

The chairman closed the meeting by thanking the UK Department of Trade and Industry for their generous treatment.

CEPT-CCH-GSM
Meeting no 6
London, 1984.11.12 - 1984.11.16

List of participants

Chairman:	T. Haug
Secretary:	T. Beijer
Austria:	E. Tallowitz
Belgium:	L. Taghon
Denmark:	M. Jacobsen G. Nilakantan H. K. Andersen
Finland:	T. Hahkio M. Hovi
France:	P. Dupuis D. Verhulst M. Alvernhe A. Maloberti B. Ghillebaert C. Vernhes
FRG:	K. Spindler W. Fuhrmann H. W. Lawrenz F. Pernice F. Hillebrand
Italy:	R. Failli M. Sentinelli
Netherlands:	M. van Beveren B. Wajer
Norway:	J. Audestad H. Myhre B. Loeken
Spain:	G. Lluch

Sweden:	Ö. Mäkitalo G. Fremin A. Heidermark
Switzerland:	R. Klingler
United Kingdom:	D. S. Cheeseman K. Fisher M. C. Pinches D. M. Barnes P. J. Munday L. W. Barclay D. McFarlane R. Fudge J. Pearce R. Stewart

AGENDA

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EXTRACT FROM GSM DOCUMENT LIST

<u>Doc No</u>	<u>Title</u>	<u>Source</u>
57/84	Report of WP3 during meeting no 5 (Berne)	GSM
58/84 Rev.1	Responsum from ad-hoc group WP1	GSM
59/84	Reply from CS-SIG	CS-SIG
60/84	Extract from CCITT Plenary Assembly Document	
61/84	The general philosophy of hand portable stations in the TACS system	UK
62/84	Summary of a market survey for Land Mobile Communication	Denmark, Finland, Norway, Sweden
63/84	Letter from Chairman of WG CD	WG CD
64/84	Viewpoints on modulation methods and multiple access techniques	Denmark, Finland, Norway, Sweden
65/84	Analysis of time division duplex (TDD)	Denmark, Finland, Norway, Sweden
66/84	Use of CCITT Recommendations E.212 and E.213 for identification and numbering of mobile station in the GSM system	Denmark, Finland, Norway, Sweden
67/84	Measurements of some characteristics of multipath propagation at 900 MHz in the city of Stockholm	Sweden
68/84	Letter from Bell Telephone Manufacturing Company	
69/84	Impact of the hand-portable on the pan-european cellular radio system	UK
70/84	The pan-european radio telephone system	UK
71/84	Application of spread spectrum to cellular radio	UK
72/84	Liaison GSM-BCR	BCR
73/84	Liaison with CEPT sub working group SF3	France

<u>Doc No</u>	<u>Title</u>	<u>Source</u>
74/84	Information contained in the location registers	France
75/84	Structure of the MS-BS interface in a digital cellular mobile communication system	France
76/84	Franco-German cooperation in the field of mobile radiocommunication services	France, FRG
77/84	Speech coding standardisation	Netherlands
78/84	1st report of working group on modulation methods	COST 207
79/84	1st report of working group on propagation	COST 207
80/84	Preliminary views on speech coding requirements for digital mobile radio	CEPT TR3
81/84	Report on traffic data from existing mobile telephone systems	Rapporteur
82/84 Rev.1	1st report on base band processes	COST 207
83/84	1st report on the comparison of different multiple access scenarios for a digital GSM-system	WP2 chairman
84/84	Tariff structures in existing national mobile telephone networks	Rapporteur
85/84	Report from GSM meeting no 5 (Berne)	GSM
86/84	Digital modulation for mobile radio	France
87/84	Traffic data on existing public mobile telephone systems	Austria
88/84	Report of WP2 (London)	WP2 chairman
89/84	Traffic model	Netherlands
90/84	Report of WP3 (London)	WP3 chairman
91/84	Letter to TR3	GSM