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The attached report has been prepared by the UMTS IPR Working Group and has been updated following the Industry Reflection Period.

PCG may wish to pass this report to the TSGs for their information.

Third Generation Mobile Communications: The Way Forward for IPR



Industry Reflection Period Report
of the UMTS IPR Working Group

January 1999

Foreword

In his "FORWARD" to the Interim Report, the former Chairman of the UMTS IPR Working Group, Brian Kearsley, stated that an opportunity exists to do something innovative and positive for the benefit of the global telecommunication industry. The UMTS IPR Working Group had proposed a way forward to address the "patent concerns" associated with third generation mobile communications, however applicable to all IMT-2000 technology. He wrote all that is required is a bit of old fashioned pragmatism and realism on the part of senior industry executives to collectively set the industry on a path towards the definition of a fully fledged operational approach. This goal is attainable: the fact that we made a significant breakthrough in defining a single Patent Evaluation Entity (an Essential Patent Certifying scheme) and that two new innovative approaches were proposed is a very good example of "when there is a will there is a way".

Before a workable industry-wide approach could be fully defined, an industry dialogue would be required on several taboo issues which were precisely articulated in the Interim Report. A three month Industry Reflection period (October – December 1998) provided an industry mechanism for understanding the issues and the choices available. Without the pro-active involvement of industry Senior Executives, the UMTS IPR Working Group could not progress fruitfully beyond the first Phase of which the Interim Report was the deliverable. The resolution of the patent concerns needed to be a shared responsibility between the industry Senior Executives and the UMTS IPR Working Group. Therefore, the industry Senior Executives (the decision takers) were invited to participate in the Industry Reflection Period.

To enable the Senior Executives to participate in a free and open environment, I was elected to be the independent Chairman of the UMTS IPR Working Group.

I would like to thank the Senior Executives of the companies with whom I have had dialogue for making time in their very busy schedules to discuss the Interim Report with me and to indicate their preferences for the ultimate solution of the patent concerns. I must also thank the members of the Coordination Team without whose help it would have been difficult to arrange the meetings with the Senior Executives and for their constructive support without which the analysis of the issues and the results of the dialogue upon which this Reflection Period Report is based would have been less competent. I offer my apology to the member companies who wanted to participate in the dialogue and whom I was not able to meet because of the pressure of time and incompatible diaries.

The dialogue included matters which were sensitive and the commercial confidentiality of such matters has been strictly observed.

The Interim Report foresaw that the Industry Reflection Period dialogue might initiate a proposal for a fourth option which optimised the likelihood of achieving the support of enough, if not all, of the member companies to establish a consensus, i.e. the "critical mass" referred to in the Interim Report, for an innovative but realistic approach to resolving the patent concerns.

Based on the dialogue with the Senior Executives, it is my firm opinion that the necessary critical mass exists to support the fourth option which is detailed in this Report. There remain some member companies which continue to be supportive of Option 1 and have expressed the belief that market forces will create the right environment for third generation mobile communications and those views have not been discounted in arriving at the recommendation of a fourth option. It will be for the member companies to adopt or reject the proposed fourth option and they will be guided in that decision by the legitimate business interests of their company. I am convinced that the willing desire to be flexible which was expressed to me during the dialogue will provide the necessary critical mass support for the fourth option and recommend the UMTS IPR Working Group to adopt this Industry Reflection Period Report, and to approve the actions required for its implementation.

John MacNaughton
Chairman
UMTS IPR Working Group

NOTE: The UMTS IPR Working Group is currently supported by the UMTS IP Association, a non-profit association registered in France. The President is Brian N. Kearsey, the Secretary and Treasurer is Serge Raes.

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Industry Reflection Period Report of the UMTS IPR Working Group

September - December 1998

1. Introduction

The UMTS IPR (Intellectual Property Rights) Working Group, an independent “grouping” of 40 of the world’s leading wireless companies actively contributing in global standardisation under the auspices of ETSI (Europe), ARIB (Japan), TTA (U.S.A.) and ITU, is proposing a novel way forward for IPR.

The UMTS IPR WG Interim Report, which was approved by the members at the Plenary Meeting held in Paris on 3 September 1998, provides a positive and optimistic view of how best the global telecommunication industry (the Industry) could handle the IPR concerns of the Industry.

The title of the Interim Report “Third Generation Mobile Communications. The Way Forward for IPR” was not chosen by accident; it reflects a realistic assessment that an innovative but realistic approach could be implemented immediately if there is a strong commitment and will on the part of Industry Senior Executives to compromise on a generally supportable agreement.

2. IPR Concerns

The IPR concerns were listed as:

- will the potential essential patent owners grant licenses for the “standardised” technology, and
- will the cumulative maximum license costs (royalties) be consistent with the commercial viability of service provision, and
- will Industry establish a collective arrangement for the cost effective management and administration of all of the essential patents ?

3. Goal of the UMTS IPR Working Group

The goal of the UMTS IPR WG is to ensure that an equitable balance is maintained between rewarding the patent holders and, at the same time, maintaining the commercial viability of their usage.

The UMTS IPR WG was created by the need to address the IPR concerns in the ETSI UMTS Terrestrial Radio Access (UTRA) Agreement of January 1998. An important element of this Agreement was an undertaking to work together to provide guidelines for handling essential IPR. The cumulative cost of the IPR needed to meet the UMTS standard(s) is the key for catalysing rapid growth and achieving a cost effective solution for third generation mobile communication systems.

Building on the foundation of the IPR policies of ETSI and other standards bodies, an approach is needed to obtain certainty that IPR essential to the third generation mobile communication systems will be licensed to anyone wishing to obtain a license and that the cumulative cost of licenses will be fair and reasonable.

This has been, and remains, the goal of the UMTS IPR WG.

4. Scope

The approval and publication of the interim report marked the end of the first stage of the UMTS IPR Working Group activity and confirmed the very strong commitment from all member companies to find a commonly agreed approach which addressed not only the radio access interface but also the network aspects of third generation mobile communication systems. Also the defined approach, being of a generic nature, could be applied to other (mobile) communication systems with such further adaptation as may then be found necessary.

The UMTS IPR WG is not able, directly, to resolve the situation where a holder of a potential essential patent refuses to grant licenses for standardised technology. The right of the owner of a patent to refuse use by others and the resolution of such issues lies in the domain of the IPR policies of standards bodies, competition rules and the appropriate Courts. The UMTS IPR WG has not attempted to resolve this issue, but has endeavoured to pave the way for a pragmatic approach for the management of the IPR dimension of a specific standard from the early stage of its definition.

5. Outcome of the UMTS IPR Working Group, Phase 1

The Phase 1 was subdivided in two stages, as follows.

5.1. Phase 1, Stage 1 (February-September 1998)

The UMTS IPR WG identified and substantially defined three approaches for handling the IPR issues of third generation mobile communication systems:

- Option 1: ETSI IPR Policy (maintaining the existing policy),
- Option 2: Patent Pool (based on the structure of MPEG-2 Pool),
- Option 3: Patent Forum (new concept).

Both Options 2 and 3 are compatible with ETSI IPR policy and are effectively “ETSI +” approaches, and most members have expressed a strong preference for an “ETSI +” approach.

The three Options are described in full in Sections 7 (ETSI IPR Policy), 8 (Patent Pool) and 9 (Patent Forum) of the Interim Report.

The Patent Pool is a joint licensing programme for essential patents, a so called one-stop-shop clearing house with a cap (maximum) on royalties.

The Patent Forum is a framework within which bilateral agreements are negotiated in accordance with established fair and reasonable benchmarks and with broad agreement on a royalty structure compatible with a consensus on the economics of licensing for both the licensor and the licensee.

Both the Patent Pool and the Patent Forum would be supported by a unique scheme certifying essential patents, i.e. a Patent Evaluation Entity (PEE). The agreement for a PEE represents a substantial step forward, and, regardless of the Option eventually adopted, is considered indispensable.

The Interim Report noted that further work would be required to explore the possibility of creating a commonly agreed approach combining the best features of the Patent Pool (Option 2) and the Patent Forum (Option 3) as this should attract a critical mass from the companies participating in the UMTS IPR WG.

5.2. Phase 1, Stage 2 (September-December 1998) - the Industry Reflection Period

The UMTS IPR WG resolved to enter into an Industry Reflection Period (the Stage 2) to catalyse the creation of a commonly agreed scheme during the period from September to December 1998.

During this period it was decided to:

- promote and review the Options with the objective of identifying a preferred Industry choice;
- address the outstanding commercial, business and economic aspects with the Senior Executives of the participating companies.

The objective of this Reflection Period was to achieve prepared guidelines which would enable the UMTS IPR WG to define fully and to implement a widely supported scheme for the licensing of essential patents during 1999.

The key issues to be addressed during this Reflection Period were agreed to be:

- what is judged to be a fair and reasonable maximum cumulative royalty rate,
- are the traditional licensing notions and past royalty rate practices still valid considering the forecast significant increase to the number of essential patents and patent holders necessary to achieve the third generation mobile communication systems,

- ❑ can the flexibility sought by many participating companies, particularly those with a wide range of manufacturing interests who potentially will be the holders of essential patents, to enter into arrangements for compensation in a form best matching the patent holder's priorities, whether in the same field of technology or in neighbouring or remote fields of application, in forms not related to IPR while satisfying anti-trust and competition laws and regulations,
- ❑ what factors are considered important and necessary to the Industry Senior Executives to attract a critical mass of the participating companies?

6. Implementation of the Industry Reflection Period (Phase 1, Stage 2)

To implement the dialogue required during this Stage, the UMTS IPR WG elected John MacNaughton to be the independent Chairman of the Working Group from 1 October 1998 to June 1999 to be responsible for the actions required during the Industry Reflection Period and for any follow up actions resulting from this Reflection Period. The Chairman is tasked to deliver a Report by mid-December 1998 to reflect the results of the dialogue with the participating companies Senior Executives on the key issues and other matters pertinent to the objective of the UMTS IPR WG and from this dialogue to make recommendations for a viable, i.e. widely supported, scheme for the licensing of essential patents on fair and reasonable terms and, where appropriate to identify any issues which might require further action.

During the Industry Reflection Period, a Coordination Team was responsible for directing the activities under the leadership of the Chairman. The composition of the Coordination Team is listed in Annex 1.

7. Conduct of the Industry Reflection Period

On election the Chairman advised the delegates of the participating companies that he would visit as many participating companies as possible to meet the Senior Executives who would ultimately take the decision(s) necessary to their company's support of the scheme with particular reference to the innovative elements of the scheme.

All dialogue between the Senior Executives and the Chairman would be regarded as commercially sensitive and where necessary the matters discussed would be treated as confidential; however, without breach of any confidentiality, what was discussed may influence and determine the scope of the Industry Reflection Period Report.

In addition to the Chairman's visits to participating companies which are listed in Annex 2, there have been a large number of

other actions which have included distribution of a 1000 copies of the Interim Report plus 1500 copies of the Executive Summary to participating companies and to others wishing to be informed about the activity of the UMTS IPR WG, copies have been made available on publicly accessible web sites, e.g. ITU, ETSI, etc., presentations at commercial conferences, a press release on 14 October 1998. Full details are listed in Annex 3.

The Coordination Team met in Stuttgart on 4 November, hosted by Bosch, and in New York on 4 December 1998, hosted by InterDigital.

8. Dialogue re Options

Because of the confidential nature of some of the dialogue between the Senior Executives of the participating companies and the Chairman, the length of the statements appearing in this section will vary.

Q.1. Will your company, as a potential essential patent owner, grant licenses for the “standardised Technology ?

A.1. Most Senior Executives have replied YES to this straightforward question, but some of the YES answers were qualified as follows:

- the freedom to enter into arrangements for compensation other than royalties must be retained without infringing anti-trust or competition laws and regulations;
- there will need to be alternative courses of action open to the holder of essential patents if a potential licensor is unwilling to enter into negotiation for compensation other than royalties;
- the relevant standards bodies have already been advised that, if we hold essential patents, we are prepared to license these on fair and reasonable terms that are also non-discriminatory;
- some Senior Executives replied YES without qualification.

Q.2. Will you join a collective arrangement for the cost effective management and administration of all essential patents ?

A.2. Again most Senior Executives replied YES to this question with the following qualifications:

- it will be necessary for a significant number of holders of essential patents to make the same commitment covering 70% or more of the essential patents that emerge when the standards are promulgated;

- there can be no agreement to be bound into any arrangement which enabled the holders of essential patents not participating in a collective arrangement which enabled them to acquire licenses for the essential patents of participants on the terms available under the collective arrangement if these were more favourable than the terms offered by the non-participating companies.

Q.3. What is judged to be a fair and reasonable maximum cumulative royalty rate so that the cumulative cost is consistent with the commercial viability of service provision ? (This Q.3. incorporates the 2nd bullet point from Section 2 of this Report)

A.3. Most Senior Executives were not inclined to be specific on this question, but three views can be refined from the discussions held:

- this might be considered on a case-by-case basis;
- a payment (royalty) stream of less than X% would not be acceptable, but in response to a supplementary question – X% of what? – there was no clear indication of what the Base Multiplier would need to be to achieve this result;
- this could range from 5% to 15% depending on the product(s) to which the license applies, but the mean would need to be in single figures. Some Senior Executives suggested that a mean of 5% is probably the maximum the market will bear, but there was insufficient input on what the maximum mean should be to place any reliance on this figure of 5%.

Q.4. Are the traditional licensing notions on past royalty rate practices still valid considering the forecast significant increase to the number of essential patents and patent holders necessary to achieve the third generation mobile communication systems ?

A.4. Senior Executives are almost unanimous in their response to the question and generally agreed that, whatever the perceived tradition might be, it is imperative that a collective arrangement is created to contain the total amount of royalties to be paid by any one licensee.

In response to a supplementary question – *Would you support a scheme which established differential rates for different groups of products ?* – this became a circular discussion with Q.3. which elicited the response under the second bullet point of A.3.

However some Senior Executives offered the following comments:

- it might be difficult, or even impossible, to secure agreement to the definition of the product groups into which specific essential patents should fall;
- some essential patents might fall into more than one product group and to have different maxima for the same essential patent would be unnecessarily complicated and confusing;
- there could be an incentive to achieve categorisation of the essential patent in a product group which carried a higher maximum;
- it would be necessary to establish an entity similar to the Patent Evaluation Entity charged with the categorisation of essential patents into the relevant or most appropriate product group. It was apparent to all that the remit of the PEE should not be extended to carry out this work.

Q.5. Can the flexibility sought by companies with a wide range of manufacturing interests, who potentially will be holders of essential patents, to enter into arrangements for compensation in the form best matching the essential patent holder's priorities, whether in the same field of technology or in neighbouring or remote fields of application, in forms not related to IPR while satisfying anti-trust and competition laws and regulations ?

A.5. The Senior Executives of participating companies who are confident that their companies will be holders of a significant number of essential patents when the standards are promulgated responded as follows:

- if the requirement for flexibility is inhibited, it will not be possible to participate in any collective arrangement;
- there are cross licensing agreements in existence or in the course of negotiation with companies both within and outside the UMTS IPR WG which obviate the need for a scheme for the majority of the licenses which might be required by this company;
- our interests are safeguarded under the previous bullet point, but we would like to take advantage of beneficial rates for licenses not covered by existing, and likely to exist, agreements and would not have any reservation about licensing others under the terms of the scheme always provided that the points made in the first and second bullet points in A.1. and in A.2. are an integral part of that scheme, i.e. flexibility to seek other permissible forms of compensation, critical mass participation, and reciprocity.

Q.6. What factors are considered important and necessary to you to attract a critical mass of the participating companies ?

A.6. The responses were consistent across a wide range of Senior Executives and these are given in no particular order of priority:

- low and cumulatively affordable royalty rates;
- equality of treatment for all participants;
- simple and easy to manage scheme;
- flexibility maintained;
- the scheme must be open to all who wish to participate;
- ways must be found to provide a scheme which includes the above points and is attractive to the potential holders of essential patents who are not currently participating members of the UMTS IPR WG;
- there must be certainty for both licensor and licensee.

Under this last bullet point, there has been discussion about the position of the potential holders of essential patents who are not manufacturers of the products to which their patents relate. For ease of reference, these patents are called “paper patents” for the purposes of this Report: this is not intended to be pejorative and is used only to distinguish these from other patents where the patent holder is a main stream manufacturer of products pertinent to the patent(s) as well as licensing the patent(s) to others. This is discussed in Section 9 of this Report.

9. “Paper Patents”

It is acknowledged and accepted by the Senior Executives of the participating companies that the holders of paper patents¹ do not have manufacturing revenues of any significance to be derived from third generation mobile communication systems and are therefore dependent upon a satisfactory royalty stream to maintain their legitimate business interests.

It is also accepted that the low royalty rates envisaged as necessary by the majority of the participating members will not meet these legitimate business requirements, but it is in the wider interests of the Industry that a way, or ways, should be found, if at all possible, for the holders of these paper patents to participate in the scheme.

The consideration of this issue has led, through an iterative process, to the consideration and development of a proposal for a

¹ The 5th Plenary of the UMTS IPR Working Group agreed that the concept of paper patents require further consideration.

way by which this may be resolved through the creation of a separate category of licences specific to paper patents which would be licensed at a higher royalty rate than other patents at a level which meets the legitimate business requirements of the holders on fair and reasonable terms.

If this separate category is implemented, it should be both practical and possible for the holders of essential paper patents to establish a common maximum rate of royalty for those patents. For the avoidance of doubt, the maximum royalty rate for paper patents would not be amalgamated with the maximum royalty rate for all other patents as this would lead to the charging of a cumulative rate of royalty unacceptable to the holders of patents in both categories.

The discussions of this proposal have produced some provisions which are now listed:

- ❑ an equitable concomitant to the setting up of a separate category for the essential paper patents would be that, if the owner of such patents decides to become a manufacturer of products for the third generation mobile communication system utilising either the essential paper patents or other essential patents, the relevant paper patents would cease to be subject to the royalty rates under the separate category and would be incorporated into the basic scheme;
- ❑ it follows that licenses granted for a paper patent whilst it was and remained in the separate category would have to be amended to reflect the royalty rates chargeable under the basic scheme, however the variation of the royalty rate would not apply retrospectively.

This proposal merits serious consideration as it would resolve a matter which has exercised the minds of both paper patent and non-paper patent holders, if it can be mutually accepted by both of the parties. It is likely also to encourage wider support for and participation in establishing a generic regime for managing complex multi-ownership essential patent portfolios necessary for realising global communication systems.

Further, this proposal would provide the certainty referred to in the last bullet point in subsection 8.A.6 and also provide an answer to the qualification expressed in the second bullet point of subsection 8.A.2, of this Report, that is fair conditions based on reciprocity between companies inside and outside the arrangement scheme.

10. Opinion of Senior Executives on the three Options

A comparison between the features of Patent Pool (Option 2) and Patent Forum (Option 3) was published as Annex 7 to the Interim Report and is repeated in Annex 4 to this Report for ease of reference.

Full details of Patent Pool and Patent Forum can be found in Sections 8 and 9 respectively of the Interim Report.

It should be noted that the Senior Executives of the participating companies visited by the Chairman confirmed that they were conversant with the matters set out in the Interim Report. Therefore, it is necessary to examine the impact of the Dialogue (see Section 8 of this Report) on the Options to identify the preferences of the participating companies in order to arrive at a generally supportable agreement for an innovative but realistic approach to enable the Industry to handle the IPR concerns it has expressed and to meet the goal of the UMTS IPR WG set out in Section 3 of this Report.

The review and examination now follows.

10.1. Patents

Patent Pool and Patent Forum cover essential patents only.

Dialogue confirmed that only essential patents should be covered by the scheme and this was not considered to be an issue.

10.2. Participants

Patent Pool is open to the holders of essential patents on a voluntary basis and subject to acceptance of the Licensor Companies Agreement, and to any licensee who agrees to grant back to the Pool essential patents (if any) held by the licensee or to join the Pool.

Patent Forum is open to the holders of essential patents willing to license in accordance with certain benchmark licensing terms and royalty rates, and to licensees who, by entering into a license granted by a member of the Patent Forum, become member of the Patent Forum committed to the same benchmarks.

Dialogue did not consider this in any depth since the elements of Patent Pool and Patent Forum are the same in principle.

10.3. Form of License

Patent Pool provides a single license for the essential patents required by a licensee.

Patent Forum proposes bilateral license agreements between each holder of essential patents and each licensor for any such patents i.e. multiple licenses.

Dialogue Subsection 8.A.1 (first bullet point) and 8.A.5 of this Report identifies the underlying reason for the Option 3 proposal. However, there was wide agreement that if a way could be found to enable the companies the opportunity to enter into bilateral / cross licensing arrangements without infringing the anti-trust and competition laws and regulations, they would be able to support a proposal which achieved this.

10.4. Licensed Products / Royalties

Patent Pool defines broad product groups with the royalty rates calculated on a different base multiplier for each product group.

Patent Forum leaves the choice of royalty rates to the holder of each essential patent within self imposed maxima set in accordance with “Patent Formula Rules”.

NOTE: Subsection 9.5 of the Interim Report identifies the principles which will govern these Rules which were not developed at the date of the Interim Report.

Dialogue Subsection 8.A.3 encourages the establishing of a maximum cumulative royalty rate to be paid by any one licensee, and subsection 8.A.4 considers the pros and cons of creating product groups utilising base multipliers that are specific to each product group which would enable a maximum cumulative royalty rate to be set for each product group. The adoption of the concept of product groups may also provide a solution to the issue of paper patents set out in Section 9 of this Report even if there are only two product groups identified, i.e. one related to essential paper patents and the second to all other essential patents.

10.5. Royalty Share

Patent Pool promotes a constant royalty rate regardless of the number of essential patents available from the Patent Pool, and for the royalty rate to be reviewed periodically. This implies that if additional holders of essential patents opt to join the Patent Pool (Note: they will be required to do so as a reciprocal to obtaining licenses for essential patents from the Patent Pool), the royalty stream of the participants in the Patent Pool will reduce over time, at least until the date of the next periodic review.

Patent Forum relies on self imposed Patent Formula Rules which are referred to in subsection 10.4 above.

Dialogue encourages the establishing of a maximum cumulative royalty rate to be paid by any one licensee.

10.6. Licensing Agent

Patent Pool requires the appointment by the members of the Patent Pool of a Licensing Agent authorised to sub-license essential patents to licensees, receive royalty payments from licensees and to disburse these to the members. The cost of the Licensing Agent are to be met by the members.

Patent Forum does not require a Licensing Agent to implement its proposal for a self imposed maximum cumulative royalty rate to be paid to the holders of essential patents so that the licenses would be bilateral.

Dialogue Subsection 8.A.2 supports establishing a collective arrangement for the cost effective management and administration of all essential patents that we refer to as Licensing Administration.

10.7. Adjustment of Royalty Rate

Patent Pool requires the periodic review of the royalty rate. Refer to Patent Pool in subsection 10.5 above.

Patent Forum relies on the self imposed maximum cumulative royalty rate determined separately by the holders of essential patents to achieve adjustments to the royalty rate, but makes no proposal for the frequency of any review.

Dialogue does not address this item directly.

10.8. Non-Essential Patents

Patent Pool excludes non-essential patents from the Patent Pool, but does consider the formation of a separate “pool” to provide access to these for licensees. Currently non-essential patents are covered by bilateral agreements.

Patent Forum allows non-essential patents to be included in licenses for essential patents as an element in a bilateral agreement and proposes an appeal procedure to ensure that the terms of any license are fair and reasonable.

Dialogue seeks to define a collective scheme for essential patents, but the requirement for flexibility described in subsection 8.Q.5 and 8.A.5 of this Report for bilateral or cross license agreements, which may also include non monetary compensation, would allow non-essential patents to be included in such agreements.

10.9. Assertion of Patents

Patent Pool allows the holder of essential patents to withdraw from the Patent Pool; however, remaining licenses already entered into are left in force for the life of the licenses.

Patent Forum makes a proposal similar to that for the Patent Pool to be part of each bilateral agreement,

Dialogue does not address this item directly.

10.10. ETSI IPR Policy (Option 1)

Having considered the Interim Report, the majority of Senior Executives expressed their willingness and flexibility to consider a fourth option (see subsection 13.1) which would achieve the goal of the UMTS IPR Working Group in preference to the Options 1-3 tabled in the Interim Report.

However, there are some member companies with a preference for Option 1, ETSI IPR Policy, stating that this has worked well for GSM and is therefore “tried and tested”. These same member companies have also stated their view that market forces, despite the assumed increase to the number of essential patents, will create the right environment for third generation mobile communications.

It is recognised that the member companies holding this opinion will be holders of essential patents and may be, when the standards are promulgated, the numbers of these essential patents will

be significant in the wider context of third generation mobile communications, but at this time these views of themselves do not create the critical mass for this Report to recommend the endorsement of Option 1 as the preferred way ahead.

It is hoped that the member companies preferring Option 1 will participate in the proposed actions after the 5th Plenary Meeting (see Section 14 of this Report) to represent the opinions that have been given by them as it is seen as important by the Industry to achieve a consensus view, if possible and practical, on a simple to implement and cost effective scheme to resolve the Industry's shared IPR concerns.

11. Patent Evaluation Entity

During the Chairman's dialogue with Senior Executives of the participating companies, some points of detail were raised which in no way diminished the view of the members of the UMTS IPR WG that the Patent Evaluation Entity (PEE) is indispensable to any collective arrangement and strongly confirmed the opinion that, even if it is not possible to devise a scheme to which the majority of the participating companies could agree, the PEE is indispensable in its own right.

The points of detail raised and the consideration of these points are:

- How can the independence of the Evaluators be assured ?
 - It will have to be accepted that the Evaluators will be provided by the participating companies. Therefore, because complete independence cannot be guaranteed, it is essential that the company providing an Evaluator to the PEE should have no direct interest in the patent submitted for evaluation, e.g. if the Evaluator's company had itself submitted a competing patent for evaluation, this would be deemed a conflict of interest and the Evaluator should withdraw from that specific evaluation.
 - If it was decided to use the services of patent agents as Evaluators, it is unlikely that they will not be acting, or have acted, for one or more of the participating companies and the same criteria should be used to ensure as far as possible that there is no conflict of interest on the part of such patent agents.
 - Complete independence cannot be assured: therefore, there will have to be a presumption of good faith.
 - It has been suggested that the U.S.A. National Patent Board could carry out this function as a credible independent third party.

- **Will the Evaluators have the necessary technical competence to evaluate patents embodying “leading edge” technology ?**

- The holder of the patent submitted for evaluation can request the Evaluator(s) to provide a list of technically competent persons willing to act as experts from which list the holder can select a maximum of three persons and the Evaluator(s) shall call upon one or more of the persons selected, as may be necessary in the opinion of the Evaluator(s), to provide expert advice to the Evaluator(s). The cost of the expert(s) is to be met by the holder.

- **Should prior art be a factor in the evaluation ?**

- On receipt of a patent for evaluation, the Evaluator(s) shall immediately inform the participating companies of the submission and stipulate the time allowed, which it is suggested should normally be six weeks from the date of receipt, for the recipients to notify the Evaluator(s) of the existence of prior art which should then be taken into account in the evaluation.
- When confirming the essentiality of a patent, the form of certification should state that all prior art notified to the PEE has been taken into account in the evaluation.
- If prior art subsequently comes to notice, it will be for the owner of the prior art to claim infringement in the normal way, and, until the claim of infringement is resolved, the certification of essentiality will be suspended temporarily and without prejudice, and no further royalties shall be payable until the claim of prior art has been settled.
- If the claim of prior art is upheld, the certification will be withdrawn permanently, but royalties paid or due up to the date of the temporary suspension shall be paid in full on the assumption that the licensee has enjoyed the benefit of the royalty rate available under the scheme, and at 50% of the rate that would otherwise have been paid for the period between temporary suspension and permanent withdrawal.
- If the claim of prior art is rejected, the licensee shall pay the balance of 50% of the rate due to the holder.
- The right of the licensee to the continued use of the patent remains for the duration of the life of the license.

12. Other factors

The following factors are likely to influence the decision of Senior Executives.

12.1. Maximum Cumulative Royalty Rate (MCR)

This Section of the Reflection Period Report considers the factors relevant to the concept of the MCR, or “cap” as it has also been called in the Interim Report.

Option 2 (Patent Pool) could lead inevitably to a reduction to the royalty streams of the holders of essential patents (refer to subsection 10.5 of this Report).

Option 3 (Patent Forum) promotes the self imposition of a MCR by each company.

The outcome of adopting Option 2 for third generation mobile communications, where it is expected that there will be a significant increase to the number of holders of essential patents compared to the number participating in the form of Pool arrangement for MPEG-2, increases greatly the prospect of reducing royalty streams for the holders of essential patents which cannot be regarded as equitable.

Consideration of the self imposition of MCR proposed by Option 3 poses a number of problems which were not part of the Interim Report and are now specified:

- Self regulation on a company by company basis is adopted; fitting these into an overall MCR will be extremely complex !
It can be done by each company stating a preferred royalty rate which it believes to be fair and reasonable, whether or not there are separate product groups to which different MCR would apply (refer to subsection 10.4 of this Report), and then by all companies agreeing to discount their preferred rate to achieve a MCR.
This could prove to be unnecessarily cumbersome to administer and would certainly take more time than desirable. Also the MCR would need to be reviewed constantly as further essential patents emerge with the passage of time.
- If it is practical to identify product groups, it should be possible to establish fair and reasonable royalty rates for each product group or to confirm that a single royalty rate is appropriate for all product groups. However, it is important to recognise the position of the holders of Paper Patents: therefore, it is axiomatic that there should be at least two separate product groups as suggested in subsection 10.4 of this Report.
- Strong circumstantial evidence can be adduced from the participating companies that the inherent concern underlying the Patent Forum (Option 3) is the maintenance of the flexibility to enter into agreements for compensation other than royalties, where the wide range of manufacturing interests of companies who will be holders of essential patents for third generation mobile communications should be leveraged in the legitimate business interests of the holder.
- Some companies have said, in confidence, that they could not be able to support a proposal which does not provide this flexibility and, without that support, it is most unlikely that the necessary critical mass will be achieved.

- ❑ Some companies have also said, in confidence, that they would be able to support a zero royalty proposal, but this is also most unlikely to secure the necessary critical mass.
- ❑ Legal opinions have been obtained from Japan, Europe and U.S.A. which advise that the negotiation of license agreements beyond the scope of the essential patents for third generation mobile communications would not contravene anti-trust or competition laws and regulations, provided always that the licensor and the licensee were prepared to show that proper allowance had been made for the royalty that would have been payable for a licence restricted to essential patents for third generation mobile communications.
- ❑ Receipt of this advice means that the legitimate business requirements referred to above can be met.

Turning now to the topic of MCR there still remains the problem posed by the first bullet point above which is now considered.

- ❑ Reference to subsection 8.A.3 shows that there may be a wide range of expectations for the royalty rate that is “affordable” and it is self-evident that if the royalty rate set by each company for a license for each essential patents was at the 5% level and the participating companies were to agree that the MCR per company was restricted to 10%, it would only require a small number of licensees to require two or more licenses from more than one holder for the cumulative royalty rate to become unaffordable.
- ❑ The same rationale can be applied if a royalty rate of 1% is adopted.
- ❑ Different royalty rates for the same patent or bundle of patents carries a high risk that this would be deemed discriminatory under the anti-trust and competition laws and regulations: therefore, it becomes obligatory to consider a common royalty rate for a licence for each essential patent.
- ❑ The first step in this obligatory consideration is the recognition that there is only one criterion for the weighting of essential patents and that is their essentiality, and it is this principle which justifies each patent attracting the same standard royalty rate.
- ❑ Two variants might be introduced to the above principle and these are:
 - ➔ by introducing product groups each with a standard royalty rate royalty specific to licenses for products within the group;
 - ➔ by utilising different Base Multipliers for different product groups along the lines used by the Patent Pool and described in subsection 10.4 of this Report.

- ❑ In any case the principle of a standard royalty rate needs to be accepted.
- ❑ If based on the foregoing scenario, a standard royalty rate of 1% for a license for each patent is accepted, any licensee requiring 10 licenses would be required to pay royalties of 10%, whereas some Senior Executives believe that the mean royalty rate will need to be in single figures with some offering 5% as the mean (refer to subsection 8.A.3 of this Report).
- ❑ To overcome this problem, one member has suggested that the standard royalty rate should be as low as 0.01% with the added incentive that, if the standard royalty rate were agreed to be as low as this, the MCR would only be invoked in a very limited number of special circumstances. However, apart from the companies who have suggested that they would support a zero royalty rate for essential patents, it is most unlikely that a royalty rate as low as 0.01%, regardless of the Base Multiplier used, will attract critical mass support.
- ❑ It is argued that a standard royalty rate of 0.1% bridges the gap between the two extreme examples cited above in that a licensee would require 50 licences to reach an aggregate royalty payment of 5% and, if 5% were adopted as the MCR, each license within the bundle of licenses would be subject to the same percentage discount to achieve the MCR payable by the licensee.

By means of the rationale in this Section of this Report, the proposal most likely to secure critical mass support is for a low standard royalty rate combined with a single figure MCR.

12.2. Licensing Administrator

The Patent Pool (Option 2) utilises a Licensing Agent for management and administration.

Considering the complexity of any scheme involving MCR leading to selective discounting of standard royalty rates – referring potential licensees to the holders of essential patents for them to decide between a straightforward license under the terms of the scheme or to seek a bilateral or cross licensing agreement – referring licensees to the holder where the licensee wishes a bilateral or cross licensing agreement to be considered, the issuing of licenses, etc..

It might also be productive for the Licensing Administrator to undertake the administration associated with the Patent Evaluation Entity (refer to Section 11 of this Report which outlines some of the administrative mechanisms required to meet the comments made by some Senior Executives).

Organisations already exist with expertise relevant to this requirement.

12.3. Base Multiplier

Subsection 8.6 of the Interim Report shows how the Patent Pool (Option 2) recognises that more than one Base Multiplier can be introduced for ease of calculation and to adjust the royalty rate for different product groups to obtain fair and reasonable royalty stream.

The examples quoted in the referenced Section are:

- Terminals: fixed or percentage rate per unit;
- Base station: fixed or percentage rate per channel;
- Intermediate products, e.g. IC chips: royalty free if incorporated in licensed product;
- Test(ing) Equipment: fixed or percentage rate per unit.

There are other Base Multipliers in common use in other industries which might also apply to third generation mobile communications such as:

- percentage of sales value per X,000 units (see NOTE);
- percentage of gross margin of products sold (see NOTE);

NOTE: These may require disclosure of commercially sensitive information and are probably not applicable to third generation mobile communications.

- input cost: i.e. the cost of components, materials, and direct labour (or "machine hours" if automated). Where a licensee uses components / materials of own manufacture, the cost of these is determined by the price paid for like volumes by third party purchasers, or the average of prices paid if volume discount prices apply.

13. Conclusions and Recommendation

This Industry Reflection Report has been prepared in accordance with the requirements of Section 6 of this Report and reflects the results of the dialogue between the independent Chairman of the UMTS IPR WG and the Senior Executives of the participating companies on the key issues as stated in the Interim Report and other matters pertinent to the object of the UMTS IPR Working Group.

The conclusions and recommendations below are made in good faith.

13.1. Conclusions

Recipients of this Report are reminded of the traditional warning of an independent Chairman which is:

“ An independent Chairman can please some of the people all of the time, he can please all of the people some of the time, BUT, he cannot please all of the people all of the time ! ”

The Chairman has endeavoured to be impartial to all parties, now and in the future, and equitable in the treatment to be afforded to the holders of essential patents, including “Paper Patents”, and to recognise the declared interests of the Industry including, but not by way of exemption, manufacturers, licensees in general, operators and the total market for third generation mobile communications.

From the dialogue with Senior Executives, the pros and cons of the Patent Pool (Option 2) and the Patent Forum (Option 3) have been reviewed and the strengths and weaknesses of the positions adopted in these Options have been exposed to consideration of how these strengths might be combined and the weaknesses resolved.

Ideas have been advanced and it is the combination of these ideas with the concepts in Options 2 and 3 that lead to the conclusion that there is a fourth option which is most likely to attract a critical mass of support as the preferred solution to the Industry IPR concerns.

Before considering the fourth option, the indispensability of the Patent Evaluation Entity (PEE) is recognised as a pre-requisite to any “ ETSI+ ” approach, and this is true for the fourth option.

The cardinal features of OPTION 4 - let us call it the Patent Platform - deal with the points raised by the Senior Executives and are listed below. The relationship of this Patent Platform (Option 4) to the formerly defined Options is illustrated in figure 1. The Patent Platform requires further definition.

- Flexibility to enter into bilateral or cross licensing agreements is retained.
- Definition of at least two product groups could satisfy requirements of the holders of “Paper Patents” whose inclusion in the scheme would enhance its viability.
- Agreement to the principle that the sole weighting for essential patents is their essentiality.
- Acceptance of standard royalty rates (with or without separate product groups) for each patent licensed will simplify the application of MCR.
- MCR should be set in single figures to meet the perceived view of what is “affordable”.
- A Licensing Administrator should be appointed (or set up) to manage and administer the scheme.

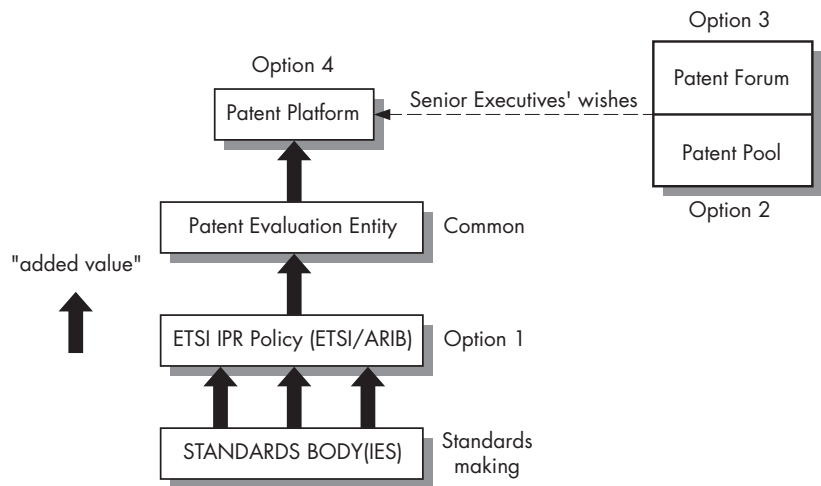


Figure 1: The benefits of the Platform as an "ETSI + " approach

The cost of a scheme which simplifies the licensing process will be substantially less than the cost of the bilateral agreements proposed in the Patent Forum (Option 3) and reflects the lower cost of licensing under the Patent Pool (Option 2) net of the cost of the Licensing Administrator.

13.2. Recommendation

Members are recommended to further consider the definition and benefits of Option 4, the Patent Platform, which relies on the best features of Patent Pool (Options 2) and Patent Forum (Option 3), and takes full account of the dialogue between Senior Executives and the Chairman of the Working Group: it provides a platform for a genuine regime which can be extended in its applications.

14. Phase 2 Actions

14.1. The Way Forward

It is desirable to expedite progress towards the detailed implementation of the Patent Platform (Option 4) with the object of leaving a detailed scheme in place by mid 1999, and for that scheme to have the support of a critical mass of the Working Group members sufficient to encompass 70% or more of the essential patents together with approval of the scheme by the standards bodies and the authorities responsible for the enforcement of anti-trust and competition laws and regulations.

The Coordination Team will continue during Phase 2 to advise and assist the Chairman in the implementation of the defined work programme. To achieve this, it will be necessary to form Teams to carry out detailed tasks as defined in the subsections below.

It will be important for the Patent Platform (Option 4) proposal to be open to discussion with, among others, the standards bodies, the GSM Association, etc., and it is proposed that these should be coordinated by Brian Kearsey and supported by members of the UMTS IPR Working Group. The Chairman should be authorised to enter into a dialogue with the GSM Association to discuss the proposition contained in Annex 5 of this Report (titled "Think The Unthinkable") if this Annex is approved as suitable for such discussion.

14.1.1. Team 1 on Licensing Administrator

Team 1 will define the way in which the Licensing Administrator will operate, including:

- ❑ how to make potential licensees aware of the scheme through which licenses for essential patents can be obtained;
- ❑ treatment of license applications:
 - ➔ in first instance, referral to holder of essential patent;
 - ➔ calculation of aggregate royalties to identify MCR cut-in;
 - ➔ actions if holder or licensee wish to make bilateral or cross-license agreement;
 - ➔ issue of unilateral license when neither bilateral nor cross license sought by either party;
 - ➔ notice of temporary/permanent withdrawal of essentiality certification.

14.1.2. Team 2 on Royalty Rates

Team 2 will detail the elements of royalty rate(s), product groups and the maximum cumulative royalty rate to respond to the matters set out in subsection 12.1 of this Report.

To maintain continuity of dialogue with Senior Executives, Team 2 will be led by the independent Chairman.

14.1.3. Team 3 on Patent Evaluation Entity

Team 3 will define the way in which the Patent Evaluation Entity will operate from receipt of essentiality claim to certification or rejection, appeal procedure, temporary suspension, permanent withdrawal.

14.1.4. Team A on Licensing Administrator Rules

On completion of the above tasks 1-3, Team A will draft all necessary legal documentation pertaining to the role of the Licensing Administrator and the guidelines for the step-by-step procedures governing the operations of the Licensing Administrator.

14.1.5. Team B on Contracts

On completion of the above tasks 1-3, Team B will draft all necessary contractual documentation and commercial guidelines arising from them.

14.2. Work Programme for Phase 2 (Implementation)

The Phase 2 (implementation) comprises two distinct stages. During each stage, the Chairman will maintain a dialogue with the Senior Executives.

14.2.1. Phase 2, Stage 1: January 1999 - 25 March 1999

Phase 2 Stage 1 is concerned with the completion of the preparatory work prior to full implementation, i.e. resolution and/or clarification of the outstanding issues defined below:

- approve the recommendation contained in subsection 13.2 (15 January 1999);
- establish three Teams as defined in subsections 14.1.1 to 14.1.3 (15 January 1999);
- Teams 1, 2 and 3 make available their written report to the Coordination Team meeting of 25 March 1999 in Paris (hosted by Alcatel). The draft report should be circulated one week before the Coordination Team meeting;
- maintain contact with Senior Executives e.g. by telephone, correspondence and meetings (if necessary).

Assuming Teams 1, 2 and 3 produce positive results, the Coordination Team will proceed with the creation of Teams A and B as defined in subsections 14.1.4 and 14.1.5, pending the availability of competent persons from member companies. The outcome of Teams 1, 2 and 3 will be officially approved by the 6th Plenary of the UMTS IPR Working Group and/or the Inaugural General Assembly of the UMTS IP Association on 15 April 1999 in Paris.

14.2.2. Phase 2, Stage 2: 26 March 1999 - 30 June 1999

Phase 2 Stage 2 is concerned with the drafting of the necessary legal and contractual documents. This may require considerable manpower resource working either part or full time as part of a collective team effort. The member companies should consider whether they are willing to make available a resource during this period. The exact resource level has not yet been quantified.

Phase 2 Stage 2 can only proceed if member companies make available an adequate number of competent persons necessary to undertake a time consuming and intellectual challenging task. Member companies must pledge a serious commitment for a six to eight weeks period (April-May 1999). This may be extended into June 1999.

Also during Phase 2 Stage 2, consideration should be given to the creation and/or selection of a Licensing Administrator.

The identified tasks for Phase 2 Stage 2 are as follows:

- ❑ convene the 6th Plenary of the UMTS IPR Working Group and/or the Inaugural General Assembly of the UMTS IP Association on 15 April 1999;
- ❑ establish officially two Teams A and B defined in subsection 14.1.4 and 14.1.5 (25 March 1999). Define resource level, type of competence, obtain resource commitment from companies, etc.
- ❑ constitute physically Teams A and B to review objectives and tasks (early April 1999);
- ❑ Teams A and B make available their written report one week before the Coordination Team meeting of 20 May 1999 (Kyoto). Teams A and B may continue beyond this date in order to substantially finish all documentation;
- ❑ prepare Phase 2 Implementation Report based on Phase 2 activities and a continued dialogue with Senior Executives (15 June 1999), responsibility of the Chairman;
- ❑ convene the 7th Plenary of the UMTS IPR Working Group and/or the 2nd General Assembly of the UMTS IP Association on 30 June 1999.

14.3. Beyond Phase 2

The successful completion of Phase 2 should permit the concrete implementation of a generally supportable industry-wide approach. Of course, beyond Phase 2 (> 1 July 1999), some coordinated industry efforts will be required to define the details, maintain the momentum of implementation and to provide a focus point for addressing arising issues.

The utility of the UMTS IPR Working Group beyond this time-frame needs to be considered: it should not continue unless a specific necessary role is defined collectively. A review should be undertaken during the planned Plenary of the 30 June 1999.

15. Concluding Remark

The work is progressing slowly but surely; there appears to be no fundamental reason as to why a unified approach cannot be introduced as planned. The Senior Executives have played their role in providing the necessary pragmatism and realism leading to the definition of a fourth option (Patent Platform, Option 4) which attracts the necessary Industry critical mass of committed supporters.

Nevertheless, we should not be complacent that an agreed proposal will just fall into place: many obstacles remain. Phase 2 will only reach fruition if the shared responsibilities of the "partnership" between Senior Executives and UMTS IPR Working Group members is maintained.

Annex 1: Coordination Team

Members of the Coordination Team as defined in the Interim Report, subsection 4.3:

Given name	Name	Company
John	MACNAUGHTON	Consultant
Brian	KEARSEY	Alcatel
Harry	IBBOTSON	Motorola
Hisashi	KATO	Mitsubishi
Timo	RUIKKA	Nokia
Howard	GOLDBERG	InterDigital
Göran	NORDLUNDH	Ericsson
Howard	GREENBERG	Nortel
Koichi	YAMADA	Matsushita
Bertram	HUBER	Bosch
Serge	RAES	Alcatel

First Meeting, 4 November 1998, Stuttgart, hosted by Bosch, attended by:

Name	Company
John MacNaughton	Chairman
Brian Kearsay	Former Chairman (Alcatel)
Harry Ibbotson	Rapporteur (Motorola)
Hiroaki Horai	representing Hisashi Kato, Rapporteur, (Mitsubishi) and Koichi Yamada (Matsushita)
Timo Ruikka	Rapporteur (Nokia)
Howard Goldberg	InterDigital
Göran Nordlundh	Ericsson
Bertram Huber	Bosch
Serge Raes	Secretary (Alcatel)

Second Meeting, 4 December 1998, New York, hosted by InterDigital, attended by:

Name	Company
John MacNaughton	Chairman
Brian Kearsay	Former Chairman (Alcatel)
Kirk Dailey	representing Harry Ibbotson, Rapporteur (Motorola)
Hisashi Kato	Rapporteur (Mitsubishi)
Koichi Yamada	Matsushita
Hiroaki Horai	Invited (Matsushita)
Howard Goldberg	InterDigital
Göran Nordlundh	Ericsson
Bertram Huber	Bosch
Howard Greenberg	Nortel
Serge Raes	Secretary (Alcatel)

Annex 2: List of Chairman's visits to member companies

Date	Meeting	Venue	Notes
29/09	Sony	Tokyo	
30/10	Fujitsu	Tokyo	
30/10	Mitsubishi	Tokyo	
1/10	NTT DoCoMo	Tokyo	
1/10	Matsushita	Tokyo	
2/10	Oki	Tokyo	
2/10	Nec	Tokyo	
8/10	Motorola	Basingstoke	
19/10	InterDigital	King of Prussia	
19/10	Lucent Technologies	New Jersey	
20/10	Golden Bridge Technology	Newark	
21/10	Nortel	Dallas	
22/10	AirTouch	San Francisco	
19/11	Ericsson	Stockholm	
20/11	Nokia	Helsinki	
23/11	Alcatel	Paris	
24/11	Bosch	Stuttgart	
26/11	Siemens	Munich	
2/12	GSM Association	Dublin	
16/12	Motorola		Teleconference
	Sipro Lab Telecom	Québec	Teleconference

Annex 3: Promotion of UMTS IPR Working Group Interim Report

The following promotion activities took place after the 4th Plenary meeting:

- copies of the Interim Report and the Executive Summary (including a Japanese translation as appropriate) were distributed to the following persons/bodies:
 - Members of UMTS IPR Working Group; Presidents and identified Decision Takers of all member companies; ETSI, UMTS Forum, GSM Association, ARIB, T1, TIA, ITU-R, European Commission, ECTEL, and ETNO received copies via the Secretary;
 - the ETSI Director General, the ITU former Secretary General, the ITU TG8/1 (IMT-2000 Coordination Group) Chairman, and the ECTEL Policy Board were provided with copies by the former Chairman (Brian Kearsey).
- copies of the Interim Report and the Executive Summary were also made available during the ITU/ETSI/TIA sponsored informational session in Minneapolis and to the management of the TIA;
- copies of the Executive Summary were made available to delegates at the 3G Seminar held in Beijing on 25-26 October.
- Presentations were given as follows:
 - 17-18 September, IIR Conference in Hong Kong on W-CDMA Technology, Applications and Services, (Serge Raes);
 - 28-30 September, IBC Conference on 3G mobile systems in Tokyo (Stéphane Ducable, Alcatel), at which John MacNaughton was introduced on 27/10 to delegates as the newly elected Chairman of the Working Group;
 - 14 October, Press Release on the outcome of the 4th Plenary of the Working Group;
 - 27 October, Delegation of 15 professors from South West/Centre University of Political Science and Law of China in Antwerp (Serge Raes);
 - 3 December, TIA, Washington, USA (Brian Kearsey and Howard Goldberg);
 - 4 December, French National Experts sent on secondment to the European Commission (G. Buty, Alcatel);
- Delivered in electronic form:
 - to delegates at IBC Conference on UMTS 98: the next generation of mobiles, in Rome on 23-25 September and, for display on ITU-R, ETSI, ETSI SMG CD-ROM (t.doc 98-xxx) and GSM Association;
 - to the Chairman of ETNO Working Group on Future Mobile Communications in order to get the feedback from the operators included in the Industry Reflection Period Report, if possible.

Annex 4: Comparison of Patent Pool and Forum Features

(Extracted from the Interim Report of the UMTS IPR Working Group, Annex 7)

Table 1: Structure and Licensing features of Patent Pool and Forum

	Patent Pool	Patent Forum
Patents	Technically Essential Patents (TEP)	
Participants	Essential patent holders (licensors); Manufacturers (licensees)	Any potential licensor and licensee
License	Single agreement through Licensing Agent (LA)	Bilateral license agreements
Licensed products/ Royalties	Terminal: percentage; Base station: percentage rate per channel; Intermediate products: royalty free; Testing equipment: ? per unit	Scope of agreement and royalties are up to the parties / Self imposed limitation of royalty according to Patent Forum rules
Royalty scheme	Rate remains constant irrespective of the number of TEP; Review royalty every x years	Self imposed limitation of royalty according to Patent Forum rules
Licensing Agent (LA)	Licensing of pooled patents; Administration; Costs borne by licensors;	No LA Bilateral negotiations
Adjustment of royalty	PAM (Payment Adjustment Method)	Self imposed " cap "
Non TEP	Not be put in same pool; Presently: bilateral negotiations	Bilateral license agreements, Combination with TEP permit flexibility subject to appeal procedure as a safeguard for licensees
Assertion of patents	See MPEG-2 arrangement; patent holder may withdraw its patents	Bilateral license agreements

NOTE: Both the Pool and Forum may be supported by the same Patent Evaluation Entity.

Annex 5: Think the Unthinkable

The Interim Report makes frequent reference to the opportunity to develop an innovative but realistic approach to the patent concerns and the mission of the UMTS IPR WG is to catalyse market growth through a favourable but fair IPR regime. It also emphasises that *a good solution is better than a perfect solution never achieved*.

In the context of these exhortations, it is desirable to put to one side existing customs, practices and conventions many of which have withstood the passage of time and to THINK THE UNTHINKABLE.

This has been done by the WG in the Interim Report with its proposals for a Maximum Cumulative Royalty Rate (MCR) and the Patent Evaluation Entity and by the constructive views of Senior Executives during the Industry Reflection Period. There is at least one approach which will undoubtedly cause many to purse their lips and shake their heads, not necessarily in disapproval, but more out of concern about its reception by the Industry at large.

First it is necessary to consider what is meant by the "Industry".

Traditionally the Industry has been interpreted to mean the manufacturers, and consequently, it is the manufacturers who have had to deal with IPR matters such as licensing, royalties and so on and to recoup the costs associated with these in the prices charged for the products and services sold by them.

This tradition should be challenged !

It can be seen from Section 9 of this Report that the holders of "Paper Patents" are an integral part of the "Industry", and it would seem logical to claim that the Operators are also an integral part of the "Industry". There must surely be an element of co-destiny between the manufacturer and the operator since they are totally interdependent. Accordingly, it can be argued that the "Industry" should encompass all parties and that the issue of IPR and its concomitant cost should be a matter of concern and action for the "Industry" as re-defined.

It should be noted that competition has reduced the margins of both manufacturers and operators. Assuming the proposals of the UMTS IPR Working Group are implemented, the cost of licensing will be lower per license, but with the increase in the number of licenses that will be needed, there is little likelihood, even with a maximum cumulative royalty rate in place, that the overall cost will reduce significantly. In essence, the proposals contained in this Report will prevent the cost of licenses from running wild and inhibiting the introduction of UMTS and the growth of the market.

The introduction of UMTS will provide greater functionality through additional features and the capacity to carry increased traffic will greatly increase the air-time purchased by the users.

This increase to air-time will undoubtedly lead to increased revenues for the operators, but it is important for all parties to recognise that the operators will incur the cost of the infrastructure necessary for UMTS and will face increased competition from the award of operating licenses to a greater number of players, and from new entrants.

The operators want to see a multi-vendor market and the Working Group proposals will make this more realisable with further pressure on manufacturers' margins, and this will flow down to the operators in lower infrastructure costs. In some circumstances, this would be called a "virtuous circle", but a more appropriate description might be to describe this as a "decreasing spiral".

There is almost unquestioned acceptance of the view that the growth of the market will somehow be inhibited by the "wrong" pricing approach. If this view is correct, it is worthwhile examining the entire chain from concept to market which flows from the technology comprised in patents, into manufacture of products, which are then sold to the operators or service providers who, in turn, sell products such as mobile phones and access to the network to the end-user.

There are several points in this chain that might be more appropriate to consider as the source of revenue for the patent owner than the current convention.

Why not consider the benefit that flows down when the manufacturer obtains licenses for the right to manufacture or incorporate the patented technology at a low overall cost and how that cost might be reduced still more in the early stages of the introduction of UMTS ?

One way in which this might be done could be for the leasing to the operator of discrete elements of the system, e.g. the air interface. This could be done in a number of ways, the most appropriate of which could be selected to meet the needs of the parties, i.e. the patent holder and the lessor. Here are some suggestions all based on air- time

*NOTE: The **leasing** aspect should maybe be mentioned, but not as prominently as is the case. Even **without** the leasing idea, license fees could be paid by the operators only (or at least a substantial share).*

EXAMPLE:

Assume three basic scenarios A, B, and C, where the rate will vary step-wise after defined air-time consumption levels a, b, and c. A fourth scenario D shows the flexibility that can be achieved by combination of any of three basic scenarios A, B and C. The definitions are given in the following tables, whereby figure 2 illustrates the net effect of any basic scenario on the actual cost paid in function of air-time consumption.

A	B	C	D
starts low, increases as air-time increase	starts high, reduces as air-time increases	flat rate per month or quarter	flat rate per month or quarter (see NOTE)

NOTE: Rate can be varied by negotiation so that this can be converted at a pre-agreed stage to option A, B or C

A	B	C	D
\$ X @ a,000 hours	\$ Z @ a,000 hours	\$ G per month or quarter	\$ H per month or quarter
\$ Y @ a,000 hours	\$ Y @ a,000 hours		at agreed threshold, change to either A, B or C scheme
\$ Z @ a,000 hours	\$ X @ a,000 hours		

NOTE: X < Y < Z

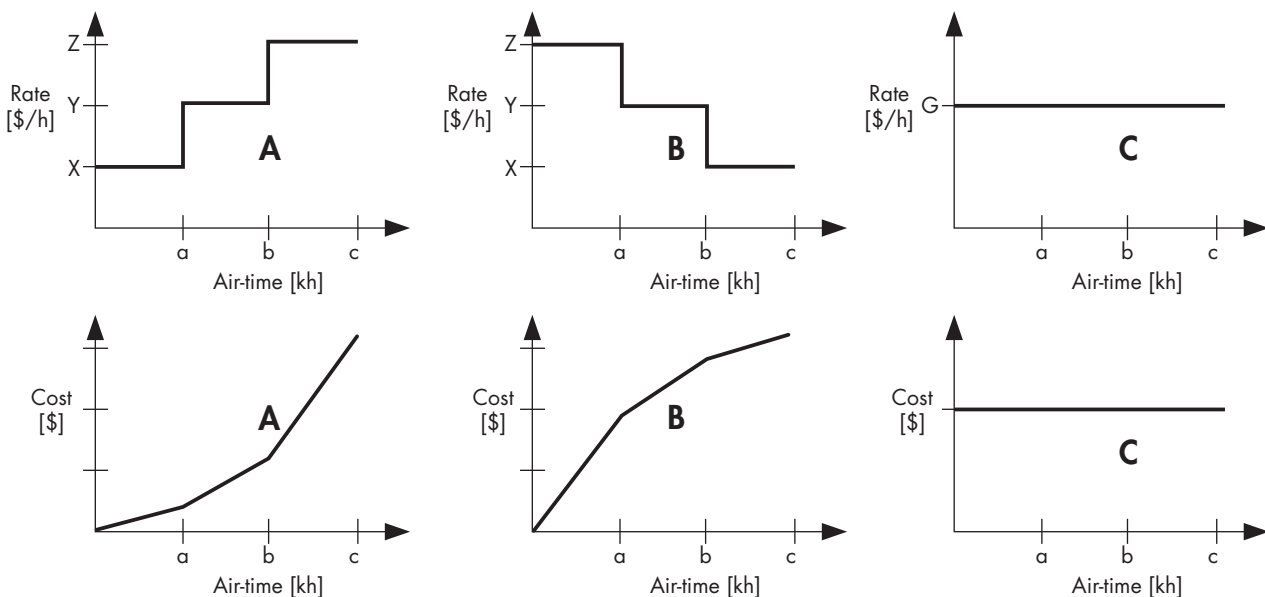


Figure 2: Three scenarios (A, B, C) for air-time rate and cost

Each option could be subject to a pre-agreed ceiling.

This or similar arrangement might prove acceptable to the owners of “Paper Patents” and to operators and could enable the Royalty Rate for “Paper Patents” to fall into line with a common Royalty Rate for other licenses and may provide a more economical solution to the operators.

It must be recorded that the manufacturers might see this as harmful to the relationship they wish to have with their customers, i.e. the operators, but PLEASE REMEMBER that this Annex is titled THINK THE UNTHINKABLE.

About the UMTS IPR Working Group and the UMTS IP Association

The UMTS IPR Working Group is an independent grouping of the world leading wireless companies.

As from December 1998, the UMTS IP Association, a non-profit association under the French law, exists to support the UMTS IPR Working Group. During early 1999, it is anticipated that the members of the UMTS IPR Working Group will become member of the UMTS IP Association.

Further copies can be obtained from the Secretary:

Serge RAES

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