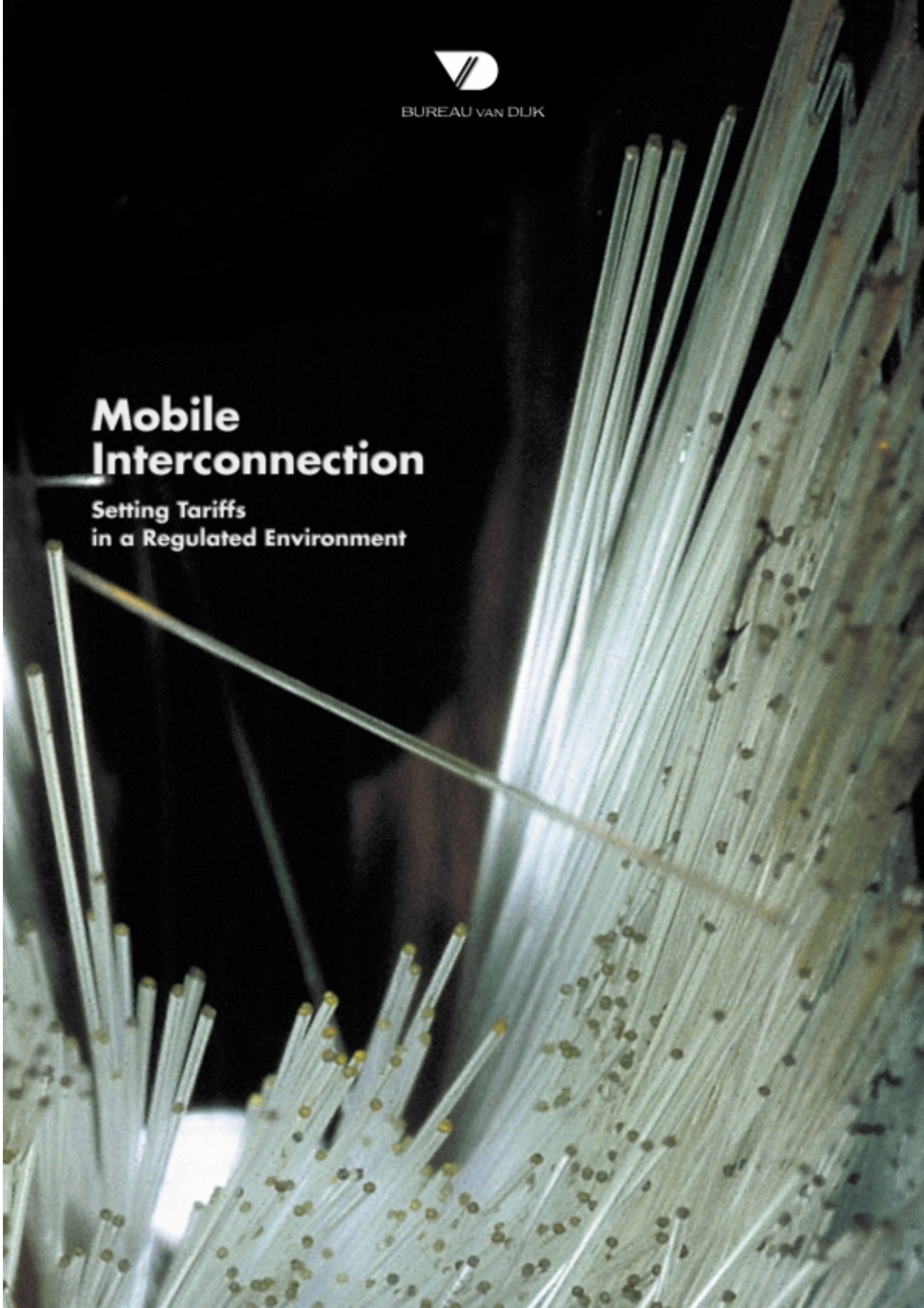


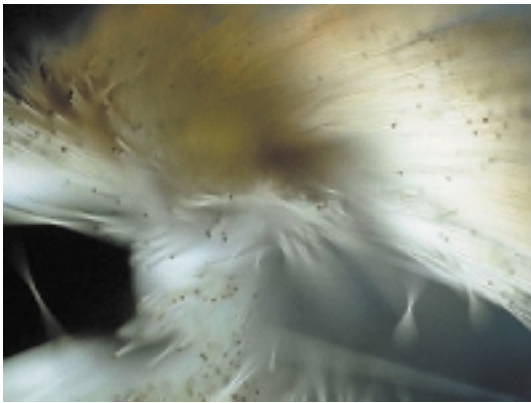


BUREAU VAN DIJK

# Mobile Interconnection

Setting Tariffs  
in a Regulated Environment





## The Mobile IC Environment

### Introduction

The last few years were very important for mobile network operators (MNOs). During this period, in many countries all over the world, the number of mobile telephone users overtook the number of fixed-line users. Many new users have massively turned their back to fixed telephony, a trend that will most probably continue in the future. All this illustrates the incredible success that MNOs have experienced in just a few years time.

This strong growth is partially fuelled by strong competition in the retail market amongst the mobile operators, resulting in relatively low tariffs for on-net mobile-to-mobile calls. However, the picture looks very different for mobile termination services, i.e. the termination of voice calls on a mobile network.

The market of mobile terminating services is far less competitive. The mobile terminating service has become a bottleneck service for anyone who wants to reach a mobile user. This has been welcomed by many MNOs who prefer to compete in the retail market and use the termination market as the so-called cash cow.

The increased market share of MNOs in the total telecommunications market, combined with large flows of interconnection revenues towards MNOs, has triggered an increase in regulatory interference. As a consequence, one of the main challenges MNOs and National Regulatory Authorities (NRAs) face today, is the setting of mobile termination tariffs that will neither financially discriminate other network operators, nor harm the interests of the mobile and fixed end-users.

### The European Regulatory Framework

At the European level, an Interconnection (IC) Directive was published in 1997. Although this Directive clearly focuses on the opening of the fixed telephone networks of the incumbent operators, it imposes obligations to all market players with Significant Market Power.

#### Significant Market Power (SMP)

Until recently, an operator was deemed to have SMP in a geographical area when he had a market share of more than 25% in a telecommunications market (e.g. the national interconnection market). The new telecommunications Framework Directive however, will re-define SMP without direct reference to market share<sup>1</sup>. The proposal for the new Directive states that *'An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position of economic strength, affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers'*. Moreover,

<sup>1</sup> COM(2000) 393 final 2000/0184 (COD) - Proposal for a Directive of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services – Article 13.



the Relevant Product and Service Markets (RPSM) will be redefined with a greater participation of the NRAs.

### Pricing principles

With regard to pricing, the IC Directive imposes that the interconnection charges of those operators notified by NRAs as having SMP follow the principles of transparency and cost orientation<sup>2</sup>. However, the proposal for the new Directive leaves more freedom for interpretation by the NRA. Impositions by the European Commission of price controls, as well as of obligations for cost orientation of prices and cost accounting systems, will no longer exist<sup>3</sup>. It will be up to the NRA not only to assess the need for controls, but also to define these controls and the obligations in such a way that efficiency and sustainable competition is promoted and that consumer benefits are maximised. The burden of proof that charges are derived from actual costs, including a reasonable rate of return on investment, will lie with the operator that provides interconnection to its facilities. National regulatory authorities may request an operator to provide full justification for its interconnection charges, and where appropriate, they may require charges to be adjusted.

## Characteristics of the Mobile IC Market and its players

The mobile interconnection market has some specific characteristics, which distinguishes it very clearly from the fixed telecommunications and interconnection market. By consequence, a different approach is needed when it comes to regulating mobile terminating charges. At least the following characteristics have to be kept in mind when regulating mobile interconnection charges.

### Number of operators with SMP

In the interconnection market, more than one MNO can have significant market power. The proposal for the new Framework Directive provides the possibility to designate an MNO as an SMP operator jointly with other operators. By consequence, it is not excluded that interconnection charges must be set for several operators that do not necessarily have the same cost structure.

### Revenue structure of MNOs

The terminating service is in general much more important to the MNOs than to the Fixed Network Operators (FNOs). The share of terminating revenues in the total revenues of an MNO can easily amount to more than 25%. The reason for this is twofold: first, the mobile terminating services are more important in volume; second, the terminating charges are not subject to strong market competition that could lower terminating tariffs. Therefore, terminating services are in general more profitable than originating services; in some cases, terminating services may actually be cross-subsidising originating services. This means that revenue from terminating services is an important

<sup>2</sup> Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in Telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP).

<sup>3</sup> COM(2000) 384 final 2000/0186 (COD) – Proposal for a Directive of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities – Article 13.

financing source for MNOs. As a consequence, a decrease in terminating revenues can have a drastic impact on the company's ability to invest and even on its chances of surviving.

### Uncertainty about the success of new technologies

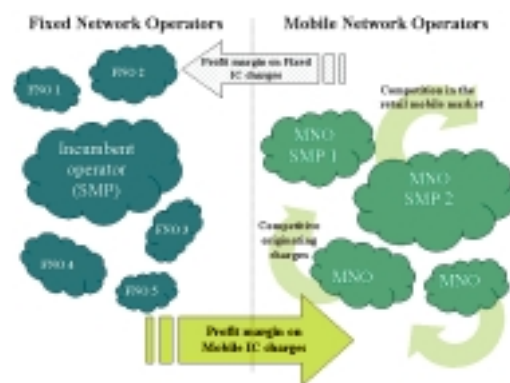
Most mobile network operators have invested millions, sometimes even billions of euros in 3G UMTS licences. Today, these companies are facing the challenge of financing the roll-out of the 3G infrastructure itself. At the same time however, it can be questioned whether these MNOs will ever be able to recuperate their 3G investments by 3G services, even in the long run. Therefore, many operators today hope to fund their 3G costs with 2G revenues, partly with income from terminating services. This aspect is of crucial importance when setting tariffs and when interconnect policy issues are being decided. With reference to this, the proposal for the new Framework Directive explicitly mentions that the NRAs will take into account the investment made by the operator and the risks involved<sup>4</sup>.

### Mobile operators' interest versus fixed operators' interest

In the case of fixed interconnection charges, both mobile and fixed new operators are in favour of regulating the incumbent operator. In the case of mobile interconnection charges however, especially the fixed operators are taking advantage of lower charges.

The figure below illustrates the dynamics between the fixed and the mobile network

operators. Fixed operators usually pay large amounts of money to mobile operators. In a non-regulated environment, these funds can be used to finance on-net mobile-to-mobile originating charges. In many countries, this has led to very competitive on-net retail charges, often at the expense of the users of other networks that have no other choice than to pay excessive off-net terminating tariffs when calling mobile users.



The result of this dynamic picture is that quite often, fixed operators are in favour of lower mobile terminating charges while MNOs are not, because figures show that the fixed network operators, i.e. their customers, are financing the mobile sector.

### Current Situation

NRAs in several countries have experienced difficulties in applying the current regulations imposed by the Commission when setting mobile terminating charges. The specific characteristics of the mobile market make that certain regulatory decisions can have rather perverse effects on the global telecommunications market, which is unfavourable for the end-users.

<sup>4</sup> COM(2000) 384 final 2000/0186 (COD) – Proposal for a Directive of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities – Article 13, §1.

### Identifying the MNOs with SMP

At this moment, the most commonly defined relevant markets for MNOs are the national interconnection market and the mobile telephony market. Different relevant markets are currently defined by different NRAs, with a different number of SMP-operators as a consequence. The UK, probably shortly followed by Sweden, are at this moment the most ambitious, attempting to define each network of a mobile operator as a distinct interconnection market.

### Determining the level of the mobile terminating charges

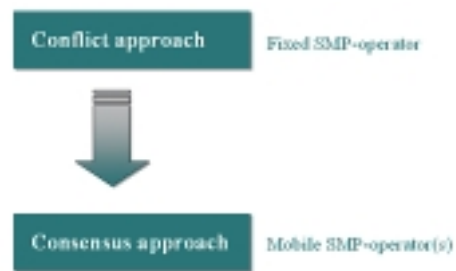
NRAs experience that, under certain circumstances, it is justified not to apply the imposed principles (e.g. cost orientation) in one stroke. Sometimes, a transitional arrangement is more effective to promote sustainable competition. However, one of the main challenges regulators today face is to find the right mix between stimulating the mobile sector and investment in next generation networks, the non-discrimination towards fixed users, and finally the interests of mobile network users who do not benefit from the return to a quasi-monopoly.

#### The Experience of Bureau van Dijk in the regulation of mobile terminating charges

The Bureau van Dijk Management Consultants have assisted the Belgian regulator when fixing the mobile interconnection charges. During this process, it became very clear how the SMP-operator and the regulator both took advantage of a constructive collaboration when dealing with the mobile interconnection issue.

### Relationship between the SMP-operator and the regulator

Fixed Network Operators and NRAs often have a turbulent track record with regard to the negotiations of fixed interconnection tariffs. Many incumbents have in the past 'strategically' opted for a 'conflict approach' whereby a smooth exchange of information was never regarded as a top priority. This is indeed a very understandable approach from the point of view of the incumbent, since it brings about a slowdown of the liberalisation process and thus of income loss.



However, the adoption of a conflict approach by the MNO during the process of determining mobile interconnection rates may be a risky decision. NRAs tend to take a certain liberty when regulating mobile interconnection tariffs, since a strict implementation of current European legislation can lead to extremely low tariffs that may have a devastating impact on the financial situation of the operator. Moreover, regulators are often very experienced with the setting of fixed interconnection rates and tend to use the same principles in the mobile sector, although this may not always be appropriate given the mobile market characteristics.

Therefore, it is recommended for the MNO to work in close cooperation with the NRA during the process of determining and applying



interconnection tariffs. A proactive approach by all parties involved when selecting the appropriate cost modelling approach, developing the actual model and interpreting the results of the model is required in order to obtain results that are acceptable to all parties

### Selecting the appropriate IC cost model

Before starting the development of an IC cost model for mobile termination services, a consensus has to be reached concerning the type of cost model that will be built and the exact definition that will be given to cost-orientation. Several options are possible. It is important that a lot of thought is put into this decision process since the impact of the cost model on the final results is very significant.

First of all, a decision has to be made to whether the *actual* market share of one or more (joint) SMP-operators will be taken into account (= an operator-specific cost model), or whether calculations will be made on *theoretic* market shares whereby market share is equally divided amongst all players (= a generic cost model). In other words, a decision will have to be taken concerning the extent in which economies of scale will be taken into consideration in the calculation of the costs of the individual MNO. The generic cost model can be a viable option when market shares of the different operators are not too different<sup>5</sup>. This may also be the best approach when the NRA considers that all MNOs control a market in the supply of mobile termination to its own network. According to this point of view, the same cost model will regulate the mobile termination charges of all

MNOs. However, when there is only one very dominant player, the assumption of equal market shares may turn out not to be appropriate in the short term, allowing the SMP-operator to over-recover systematically its costs.

Next, the cost modelling approach has to be defined. The cost model can calculate tariffs based on fully distributed historical costs (FDC-HCA), fully distributed current costs (FDC-CCA) or based on long run incremental costs (LRIC). Whereas the two first costs bases are generally at the basis of top-down modelling approach, LRIC-charges are mostly calculated by using a bottom-up model<sup>6</sup>. The different modelling approaches will also entail quite different mobile interconnection charges. After all, the modelling approach will not only determine how costs are allocated to the mobile interconnection service. In some cases, it will also affect what costs are taken into account. An example is the cost related to futures services not yet available today such as UMTS. However, the relevance or treatment of some other costs (e.g. commercial costs) will depend on the exact definition of cost-oriented charges and their treatment will be independent of the cost modelling approach chosen.

<sup>5</sup> This approach was adopted in the UK by Ofcom in its document 'Review of the charge control on calls to mobiles' of September 26th, 2001.

<sup>6</sup> A detailed description of the different cost modelling approaches is part of the document on the Bureau van Dijk Fixed IC Modelling Solutions. This document can be obtained upon request.



### Customised Advice of the Bureau van Dijk Management Consultants

As the new Regulatory Framework allows more participation of the national regulator, the challenge for both regulators and mobile operators of creating a competitive mobile IC-market increases. Next to a large experience in dealing with interconnect issues, the Bureau van Dijk Management Consultants have a profound knowledge of business finance and economics which enables them to fully understand the market mechanisms in the mobile telephony sector and to assess the impact of regulatory decisions. The use of this experience guarantees the regulators and operators to meet the challenge of an optimal regulation the mobile interconnection market.

### Abbreviations

2G	2nd Generation (GSM or Global System for Mobile communications)
3G	3rd Generation (UMTS)
CCA	Current Cost Accounting
FDC	Fully Distributed Costs
FNO	Fixed Network Operator
HCA	Historical Cost Accounting
IC	Interconnection / Interconnect
LRIC	Long Run Incremental Cost
MNO	Mobile Network Operator
NRA	National Regulatory Authorities
RPSM	Relevant Product and Service Markets
SMP	Significant Market Power
UMTS	Universal Mobile Telecommunications System

For further information on the presented services and / or on the projects that were realised, please contact Ms. Tine Debusschere, consultant in Brussels ([tdb@bvdm.com](mailto:tdb@bvdm.com)) or Mr. Michel Vajou, consultant in Paris ([mva@bvdic.com](mailto:mva@bvdic.com))

Bureau van Dijk  
Management Consultants, Brussels  
250, Avenue Louise, boîte 14  
B-1050 Brussels (Belgium)  
Tél. : +32 2 639 06 06  
Fax : +32 2 648 82 30  
<http://www.bvdm.com>

Bureau van Dijk  
Ingénieurs Conseils, Paris  
57, Boulevard de Montmorency  
75016 Paris (France)  
Tél : + 33 1 45 24 49 10  
Fax : + 33 1 45 25 08 04  
<http://www.bvdic.com>

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