

European Regulation of Competitive Satellite Services: Battling the Cartel and the Monopolies

by
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Abstract

The European satellite services market ranges from television broadcast, to private business networks, to voice telecommunications. This entire market has been negatively impacted by cartel like practices and the monopoly telephone companies that have controlled access and pricing of satellite capacity to service providers. Business needs, technological changes and regulatory trends suggest that the cartel and monopoly structures are currently being threatened. By examining these developments a strategy for bypassing the cartel can be formulated. Once applauded as models of international space cooperation, Eutlesat and its monopoly signatories, as constituted, represent a historical aberration. While these organizations have provided benefits to European nations in the past they are now responsible for blocking progress in the area of satellite services.

I. Introduction

The IAF conference theme "challenges of space for a better world," was primarily envisioned to spark discussion about how remote sensing activities from space can improve our world in which we live. It is no doubt the hope

of many attendees at this conference that remote sensing will become as mature an industry as the satellite telecommunications industry which this paper is focused.

The title of this paper "European Regulation of Competitive Satellite Services: battling the Cartel and Monopolies," is appropriate for a forum focused on adjudication and arbitration of space activities. As competitive satellite service providers attempt to conduct business in cartel and monopoly environments disputes will inevitably arise and solutions will invariably be sought.

If it does not seem out of place, it may at minimum appear arrogant for an American to address a largely European audience about the subject of European satellite regulations. It is exactly this difference in perspective, a view from the other side of the Atlantic, that I believe may be of interest to this audience.

In 1988 the Director of Telecommunications for the EC Commission declared, "Europe has again become number one in telecommunications."¹ From a European perspective it can only be disappointing that he was clearly wrong on at least one account. The statement could have perhaps been more accurately rephrased as two questions: why isn't Europe number one in telecommunications? And Can Europe become number one in telecommunications?

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The European, Karl Marx argued that there was a "specter haunting Europe." Marx predicted the collapse of capitalism, imploding from its own internal contradictions, and the inevitable replacement by a historically superior force called communism. One can only ponder what Marx would say today were he to survey the field of European space law. Marx always believed that law was simply a reflection of the interests of those who owned the means of production.² In Europe the monopoly telephone companies own and operate the means of production. The regulations and laws which prevail in the satellite services industry protect the ownership and interest of the monopoly telephone companies.

II. Market

a. Space Segment

The commercial satellite space segment market has been increasing since it dropped to a low between 1985-1986. From 1989-1992 between 12 and 17 satellites were launched around the world (excluding the former Soviet Union). According to the "World Space Industry Survey," the growth in C/Ku-band satellite transponder capacity will slow to a minimum annual average of 4.1 percent during the next five years. By the end of 1997 world transponder capacity is forecasted at 3,839.³

In Europe there has been a dramatic increase in both the supply and demand of satellite capacity. European satellite operators earned \$1 billion in revenue in 1992. Primarily this revenue was generated from the T.V. and radio broadcast. Another \$1 Billion was generated from the direct-to-home satellite receiving equipment industry.⁴ In Europe there are between 11-14

Geosynchronous satellites operating. At the end of 1987 there were 64 transponders over Europe. By the end of 1992 there were 418 transponders over Europe and by the end of 1997 there is estimated to be an increase in transponders of between 523-571. Transponder leases in Europe rose to 459 ECU (\$591) in 1992, an increase of 40% over 1991.⁵ Between 1981-1991 Europe had 18.7% of global satellites and it is projected that between 1992-2003 this will grow to about 23.4% of global satellites.⁶

Despite this dramatic growth in space capacity it is important to note that in Europe businesses are implementing telecommunications networks at a slower rate because of the high cost of satellite space segment. While transponder time in Europe is generally cheaper than it is in Japan, it is three times more expensive than in the U.S.⁷

b. Ground Segment--VSATs

The emergence of Very Small Aperture Terminal (VSAT) technology will dramatically impact the European satellite telecommunications market. These small satellite dishes offer a cost-effective way of transmitting and receiving data.

Currently, many satellite experts are comparing the immature VSAT market in Europe to the mature market in the U.S. and concluding that the European regulatory structure is not only threatening Europe's ability to remain competitive in the telecommunications industry, but also its ability to remain competitive economically as well. For instance there are 1,600 two-way VSATs in Europe and 8,200 one way VSATs. The good news is that in Europe 3,300 two-way VSATs are on order and 10,000 one-way VSATs are

on order. The bad news is that this does not come close to U.S. VSAT penetration rates.

In the U.S. Hughes alone has installed over 50,000 dishes.⁸ Of course these statistics have to be seen in the context of fewer businesses that are pan-European then are pan-U.S. But, again telecommunications regulations may be partially responsible for this.

Examples of restrictive regulatory regimes hindering VSAT development can be seen in Germany. Recently the German telecommunications users group called the Association of Private Telecommunications Operators (APTO) challenged the governments approach to regulating satellite terminals. The group argues that the Deutsche Bundespost Telekom hinders competition by both subsidizing its data networking group Datex-P and also charges:

"private satellite operators a DM 400 satellite segment booking fee, while demanding to know the details about each operator's network planning and customers...Although the German Minister of Posts and Telecommunications this month [May 1993] lowered earth-segment licensing fees to DM 1,000 per dish for the first year and DM 100 per dish there-after, from DM 1,900 per dish per year, these fees are still high by international levels. Establish operators in Sweden and Denmark charge no fees, while those in the France and the United Kingdom charge low, one-off licensing fees."⁹

III. Anatomy of the European Telecommunications Monopoly & Cartel

To better understand the anatomy of the European telecommunications cartel and monopolies there are five major institutions that require

examination:

1. Monopoly Telephone Operators
2. Eutelsat
3. Inmarsat
4. European Space Agency
5. European Community

It is important to realize that the interests of these organizations sometimes coincide, but many time their interests are in conflict.

Important Dates

1975: Actual establishment of ESA, with Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Spain, Sweden, Switzerland and the U.K. and member states.

1979: Creation of INMARSAT

1982: Creation of EUTELSAT

1983: EC: Senior Officials Group--Telecommunications

1987: Green Paper on Telecommunications Services & Equipment published

1990: Green Paper on Satellite Telecommunications published.

A. Definition of Terms

In a previous paper.¹⁰ I argued that the International Telecommunications Satellite Organization (INTELSAT) was moving from a monopoly structure to a cartel structure. Intelsat moved away from a monopoly as it began permitting separate satellite systems. However, it demonstrates cartel like behavior by following Article XIV (d) of its Operating Agreement which required other

proposed satellite systems to "coordinate" their proposed satellite projects with INTELSAT in order to prevent "significant economic harm" to the satellite organization.

However, in Europe there currently exists simultaneously monopoly and cartel like structures in telecommunications services. In satellite data and T.V. broadcast Europe resembles a cartel structure. In the area of voice telecommunications Europe remains predominately a monopoly structure.

A monopoly is defined as:

"a single seller who has exclusive control of the supply and marketing of some product or service. This exclusivity frequently enables the monopolist to set a selling price that is likely to be higher than it would be if competition with other sellers of the same product existed. A telephone company serving a community is an example of a monopolist."¹¹

A cartel is defined as:

"an organized group of producers formed to obtain higher prices, restrict production, or divide the market. To achieve its ends, the cartel must usually control production and thus limit the market supply, particularly in times of slack demand. As long as the members of the cartel maintain discipline, their price objectives are likely to be met."¹²

The argument that the voice telecommunications services (including voice satellite services) and often other satellite services, are dominated by monopolists is evident by examining the various national laws of European member countries.

The argument that broadcast satellite services is dominated by cartel practices can be established by examining Article XVI a of the Eutelsat Convention and the European Broadcast Directive.

One of the problems in discussing Europe as a whole, is the difficulty one encounters in making generalizations. For instance in the U.K., while BT (formerly called British Telecom) is a signatory to Eutelsat, Mercury (the original duopoly competitive carrier in the U.K.), who is not a signatory, is guaranteed equal access to both the Eutelsat and Intelsat satellite systems. Therefore, the term Monopoly that I use throughout this paper must be qualified.

In the U.K., since 1982, there exist no legally sanctioned telephone monopoly. In fact the U.K. is one of the most progressive European countries in liberalizing its telecommunications markets for open competition. Despite the leadership role played by the U.K., BT remains the undisputed dominant player in the marketplace. For the purposes of this paper I will include dominate players under the umbrella category of monopoly provider. While referring to a large and diverse universe, it can never-the-less be said, that in nearly all other European countries formal legal voice telephone monopolies flourish at the local, international, and satellite services level.

Of course in a number of other countries including the U.S., monopolies flourish at one or more levels of telecommunications services. The issue that must be raised is how such artificial monopolies impact consumers.

B. Monopoly Telephone Providers

The cornerstone of the European telephone cartel is the monopoly telephone providers in each of the European countries. For many years the monopoly telephone providers were referred to as PTTs (Post Telephone and Telegraph). The current term in vogue is PTOs (Public Telephone Operators). This is a more accurate term because many of the monopoly PTOs are no longer in the telegraph business or postal business. In nearly every continental European country the PTO remains the legal monopoly for voice telecommunications service.

According to an expert on European satellite regulations interviewed in a recent article in Space News, "Regulatory barriers have kept the satellite telecommunications market in Europe relatively weak and ill-prepared for the next century. The regulatory authorities have feared satellites would compete with their protected ground networks and they have done their best to limit the growth of the satellite market. In the process they may have killed the chances for European manufactures to compete."¹³

C. Eutelsat

The 36 nation Eutelsat organization generates about 28% of the total European satellite revenues. All Member States of the Community are members of Eutelsat. The investment share of European Community Member States are approximately 90% with 15 other Signatories controlling the remaining shares.¹⁴

Eutelsat currently has eight satellites in orbit and plans to launch two more in 1994.¹⁵ Four of these are Eutelsat 1 series satellites and four of these are

Eutelsat 2 series satellites. The majority of Eutelsat's \$218 million in revenue is earned by the leasing of transponders for television distribution.¹⁶

For a user to purchase service on the Eutelsat system he generally cannot go directly to Eutelsat but they must purchase service through one of the signatories who then marks-up the price from 7 percent, as in the case of the U.K., to several hundred percent, as in the case of Greece.¹⁷

Communications Week International described a clear and conspicuous abuse of monopoly power by the German Eutelsat signatory who attempted to double charge a video broadcaster:

"..DBP Telekom wanted Brightstar to pay a 35% administrative fee for the access, even though Brightstar had previously paid Eutelsat a \$250,000 fee for the right to access capacity from any European country."¹⁸

DBP obviously was attempting to gouge Brightstar for 35% despite the fact that the monopoly phone company absolutely added no value whatsoever to the transaction.

The cornerstone of the Eutelsat cartel resides in Article XVI a of the Eutelsat Convention which forces potential competitors to get permission to compete with Eutelsat from Eutelsat itself. The Article states:

"Any Party or Signatory which intends, or becomes aware that any person within the jurisdiction of that Party intends, individually or jointly, to establish, acquire or utilize space segment equipment separate from the EUTELSAT Space Segment service area to provide

services within the EUTELSAT Space Segment area to provide services in accordance with paragraphs a) and b) of Article III of the Convention shall, before such establishment, acquisition or utilization, furnish all relevant information to the Assembly of Parties through the Board of Signatories which shall establish whether there is likely to be any significant economic harm to EUTELSAT. The Board of Signatories shall submit its report and conclusions to the Assembly of Parties. The Assembly of Parties shall give its views within six months from the start of the foregoing procedure. An extraordinary meeting of the Assembly of Parties may be convened for this purpose."¹⁹

In the area of T.V. broadcast Eutelsat has allowed limited competition including SES of Luxembourg, BSKYB of the U.K. and national systems such as Kopernikus in Germany and TDF 1 & 2 in France.

Eutelsat has the potential to impact the marketplace without having to even enter into it. Recently Eutelsat developed the Europesat 1 satellite business and technical concept which could use DBS frequencies to provide 14 VSAT channels. Eutelsat then turned the concept over to monopoly signatory France Telecom, Deutsche Bundespost Telekom and the Swiss PTT who intended to commercialize the project. For those in the private sector interested in this segment of the market there was a sense of relief when Deutsche Telekom could not come up with the funds and the project died..²⁰

Liberalization is being embraced slowly by Eutelsat as reflected by the disappointing results of the recent Assembly of Parties, which met in Florence May 11-13, 1993. The organizations announced:

"The Assembly also discussed the report of the Study Group on Improved Access to the EUTELSAT satellites. The Study Group was set up in May last year, and comprises representatives from Parties as well as Signatories. The Assembly concurred with its conclusions on the need to monitor arrangements for improved access, which have already been introduced by some Parties and Signatories, with the aim of identifying possibilities for further access improvements. A final report will be presented to the Assembly in spring of 1994."²¹

Beyond the words of the press release is the fact that it is not seen to be in the best interests of the monopoly signatories to liberalize access to satellite space segment.

D. Inmarsat

Inmarsat is really not an important player in discussing European cartels and monopolies. Nevertheless the European Commission has put together its own compelling description of why Inmarsat warrants mention when discussing the area of European satellites:

"With the exception of Ireland and Luxembourg all Member States of the Community are members of INMARSAT. European states have made a major contribution to the development of this service--almost 52% of the share holdings in INMARSAT are held by authorities of European states. The Community Member States investment shares total about 34 percent. MARECS satellites, developed in cooperation with European industry by the European Space Agency (ESA), are currently used by INMARSAT (one as prime satellite for the Atlantic Ocean Region, a second as a back-up in the Pacific). In addition, British Aerospace

heads the consortium constructing the INMARSAT second generation satellites, scheduled to come into operation in 1990. The overall European industrial content of this contract is some 60 percent."²²

Despite the enthusiasm of the EC document quoted above, GE Astro received the contract to build the 3rd generation Inmarsat satellites. Later in this paper I will explain in greater detail the tensions created by pressuring signatories to "buy European."

Some industry experts also note the European cartel like support for Arianespace launch vehicles by European member countries of both Inmarsat and Intelsat.

E. European Space Agency and Industrial Policy

The European Space Agency (ESA) is an organization seeking to assert Europe's independence in the development and exploration of space. ESA has a complex history in terms of attempting to develop European satellite telecommunications and services.

One of the principles of the agency is to help create a space industry in Europe. According to ESA telecommunications expert Rene Collette:

"The history of Europe's telecommunications satellites is a study of political determination, of industrial motivation and of high-tech employment. It is also a story of technological leapfrogging we were at least ten years behind the United States when we started. Today, I think Europe has acquired an amazing competence in this sector; reason enough to continue a path chosen over 25 years ago.

"Since the mid 1960s ESA's

telecommunications activities have been dominated by two overriding principles: firstly, ESA is a R&D organization, whose role is not to exploit satellites and to market transponder capacity to users; this task has to be taken over by dedicated operators. Thanks to this principle, ESA had a role to play in the creation of EUTELSAT and INMARSAT.

The Second principle, too, is laid down in the ESA Convention, which says that ESA development programs must aim at the creation of industrial structures that are competitive worldwide. Today there are two such structures in Europe, competing fiercely in the field of space telecommunications; both have succeeded in gaining contracts from overseas, and can be considered as among the world leaders."²³

Rene Collette has made the argument for monopoly telecommunications providers to essentially cross-subsidize the telecommunications hardware industry: "European industry will not be helped by the operators who make profits as first priority and look for attractive conditions to purchase their systems. ESA through the support of governments, is obliged to finance the development of advanced systems. PTT administrations have to understand our role and to help the European industry in this technological development."²⁴

ESA is involved with the following satellite projects that could be argued to constitute industrial policy in the commercial satellite industry:

1. ARCHIMEDES: High-inclined broadcast satellites. ESA has discussed with other countries the development of a multi-regional system of high quality broadcast via these satellites.
2. Project 21: Inmarsat's proposed LEO satellite system. ESA has studied

platforms for the experiment and demonstration of this technology.

3. Prodat: Telespazio mobile voice satellite project. ESA has been cooperating in determining the feasibility of this project.²⁵

Other space agencies including NASA can also be accused of promoting industrial policies. The issue that should be raised, I believe, is such a policy desirable, and how does it effect businesses and consumers?

F. The European Community: From Protection to Competition

1. Movement Away From Protection

In the early 1980s "The EC wanted to seize the opportunity to steer the modernization process in a common direction and, at the same time, fulfill the aims of the 'Community' for the 1990s: creating both a true common market and globally competitive European high-tech corporations. Telecommunications seemed to be especially well suited for EC intervention since it constituted a sector traditionally dominated by public decisions and not by market forces. It seemed to be quite clear that the overall justification for more action did not spring from a desire for deregulation or market competition as such. The driving momentum was concern about the future of European industry and its perceived inability to cope with a new and challenging situation."²⁶

2. Movement Toward Competition

With the release of the "Green Paper on the Development of the Common Market for Telecommunications

Services and Equipment" the goals of the Commission shifted.

"The final aim [of the Green Paper] was to develop a European market in a direction that would offer the European user telecommunications services of a greater variety and better quality at lower cost. This is a change of emphasis, when compared to the first telecommunications initiatives. No longer was propping up European industry the prime motivating factor, but rather a new regulatory environment was to be achieved, from which European industry might profit later on. At this point the conflict between deregulation on the one hand and an interventionist industrial policy on the other was discussed but was not conceived as a major impediment to the realization of the network plans."²⁷

More specifically in the area of satellite telecommunications the European Commission has released a Green Paper entitled: "Towards European-wide systems and services--Green Paper on a common approach in the field of satellite communications in the European Community."

Some observers called the Green Paper the most important satellite communications document since the original Intelsat convention. Among other things the document argued:

...The best solution to avoid distortion of competition and to allow full use and the best allocation of the existing international, national and private space segment would be to ensure that users obtain direct access to space segment capacity, while providers of this space segment should obtain the right to market space segment capacity directly to users.

The fact that EUTELSAT offers space

segment directly to the European Broadcasting Union shows likewise that the direct lease of space segment without any intervention of national telecommunications organizations is not only feasible, but already practiced.²⁸

Some have argued that the European Commission has not provided users with direct access to space segment and that EC initiatives lack a credible enforcement mechanism. In Spain and Italy it remains illegal to independently establish a two-way VSAT dish.

One of the great multilateral breakthrough in satellite service provider licensing is the recent agreement between the Netherlands, France, the U.K. and Germany in which all countries have pledged to respect licenses granted in any one of the other countries. The initial proposal only included European satellite operators.²⁹

3. The European Broadcast Directive

Perhaps the most current and controversial issue dealing with the cartel relate to the European Broadcast Directive issued by the European Community in 1989.

In what may become known as the "Bugs Bunny War"³⁰ Ted Turner of CNN is battling with the European Community (and primarily the French) to be able to broadcast his Cartoon Network into Europe. According to French Culture Minister Jacques Toubon American T.V. programs, bring "the Coca-Cola/ McDonald's/ Disney World lifestyle."

The European Broadcast Directive suggests that at least 50% of broadcast programs "where practicable" should be

of European origin. French law requires that national stations broadcast a minimum of 60% EC made programs.³¹

According to the London Times:

"Under the terms of the EC Broadcast Directive, any channel licensed in Britain is suppose to have automatic access to all EC member states. But in Paris, officials are crying foul. The French have so far been able to stomach MTV's non-stop rock and roll and the Discovery Channel's natural history documentaries, but Turner's new offerings, they say, go too far..."³²

In the U.K. the perspective is different:

"...the growing number of American broadcasters establishing European bases in Britain is good news and will help keep Britain in the fast lane of the emerging European information network."³³

History will have to determine the success of these cartel efforts.

IV. Direct Victims of the European Satellite Cartel and Monopolies

a. Europe

Rarely to the interests of the monopoly telephone operators, ESA, the EC, and Eutelsat correspond with each other. Certainly it would be unlikely that the interests of these organizations and consumers and tax payers would be consistent.

A recent Satellite News article highlights the conflict between these organizations:

"Paramount in the minds of some European satellite builders is the direction

the upcoming Eutelsat 3 procurement will take. There has been a definite move on the part of some national delegates to the regional European satellite operator and services provider to consider strongly the possibilities of cutting costs with highly capable, generally less expensive U.S.-built birds. Others contend buying abroad would not be in the best long-term interests of Eutelsat's signatory shareholders.

"With the recent introduction of Aerospatiale's new Spacebus 3000, the debate has taken on new life. While some in Europe, particularly the French, support an unspoken industrial policy that will direct Eutelsat toward a European-built satellite line, others--including Germany and the U.K.--have expressed little patience with such an approach. (Emphasis in the original text.)

"So far, the Spacebus 3000 has been selected for the Arabsat 2 program; Aerospatial Space Systems Director Michel Delaye told Via Satellite European correspondent Chris Bulloch here that the Arabsat 2 program will not recoup the development costs invested in the new satellite bus, and that other customers will have to be found. The most likely candidate appears to be Eutelsat.

"The ability of Astra to procure satellites on the open world market further complicates Eutelsat's position. The phenomenally successful Luxembourg-based direct-to-home (DTH) satellite services operator has purchased satellites from GE Astro-Space (now Martin Marietta Astro-Space) and Hughes Space and Communications; it does not operate a European-built satellite.

"The imperative of competing with Astra for the lucrative cable programming delivery and DTH markets places the proponents of a non-European satellite procurement for Eutelsat in a much stronger position."³⁴

b. Astra

Eutelsat's primary competitor is the private Societe Europeene des Satellites

of Luxembourg which operates the Astra satellites. Like Eutelsat SES accounts for about 28% of European satellite revenues.³⁵

The formative history of SES shows the cartel like practices in Europe:

"Tom Whitehead who had run President Nixon's Office of Telecommunications Policy, now appeared. By 1983, Whitehead was running the satellite communications department at Hughes Aerospace. He went to Luxembourg to persuade the government that it should fill the slot it had been given on the Clarke Ring at WARC 77 conference with a medium-powered satellite rather than a high-powered DBS. He chose Luxembourg partly because it had a tradition of international broadcasting and because it is, in effect, an offshore banking center.

"But there was still massive opposition from other European governments, including France and West Germany, to the concept of an international and private "bird" on the Clarke Ring. What Whitehead called 'the most violent and the most ridiculous' opposition came from Francois Mitterrand, who angrily dismissed the Luxembourg plan as 'the Coca Cola satellite' because it had Whitehead and other American business interest behind it. He declared that the French government would do everything it could to obstruct Luxembourg's plans, in order to protect the integrity of French borders and French television culture. At the same time, France and Germany signed an agreement to manufacture two direct broadcast satellites to service their two countries with national programs.

"Threats came from other governments, from Eutelsat and from the post offices..."³⁶

Today the private SES competes directly with the government sanctioned treaty organization Eutelsat. A recent

article in Satellite News, demonstrates the high competitive level that these organizations compete: "Astra may have garnered most of the market so far for English-language television, but with its cultural diversity, Europe offers a variety of smaller markets based on language and nationality. As a result, Eutelsat is targeting German, East European and Middle Eastern television audiences. Guiliano Berretta, Eutelsat's commercial director, said the consortium is broadcasting four Arabic, nine Turkish, five East European and six German channels..."³⁷

c. SKY

The background of Sky television also reflects aspects of the European cartel structure. "[Brian] Haynes persuaded the European Space Agency (ESA) to allow him to use its Orbital Test Satellite (OTS)--which had been intended for telecommunications only. With some difficulty he then induced Eutelsat, an intergovernmental organization which controlled European satellite use, to allow him to broadcast. 'They had visions of the horrible Haynes beaming pornography and Coca-Cola down onto purist European families' recalled Haynes. The satellite had several more years of life to run, but the space agency's funds were running low and it needed to find new income to keep the satellite going."³⁸

d. Consumers

Consumers are conspicuous victims of the European telecommunications monopolies. Consumers of telecommunications services are paying higher prices than their counterparts in competitive marketplaces. There are a number of studies that demonstrate this, but one only has to compare the

prices of private leased lines.

e. Competitive Providers

Competitive providers of telecommunications voice services are economically harmed by being excluded from the European market place. It is difficult to prove exact damages but certainly looking at the annual revenues of MCI and Sprint competing in the smaller U.S. market place one could guesstimate that the monopolies are restricting a least \$20 billion a year from the competitive industry.

V. Conclusion

a. By-Pass

Legislation dealing with telecommunications services in Europe remain unclear. The EC has attempted to add clarity by defining key terms such as "voice telecommunications," "public networks," and "closed user groups." However, member countries have chosen to interpret and implement these EC directives in an uneven fashion.

As a result some competitive providers are even ignoring national legislation. However, there are legal strategies for by-passing the European cartels and monopolies.

There are several elements to examine when putting together a strategy for by-passing the cartel and monopoly structures. Any strategy will likely include a combination of these elements:

1. National Level: In most European countries the Ministry of telecommunications is now separated from the monopoly operators. This

allows service providers to approach the ministry to resolve disputes.

2. European Level: If national appeals do not bring results, a service provider can appeal (both formally and informally) to both the European Commission Directorate General XIII (telecommunications) and DG IV (competition) for issues that can not be resolved at the national level. Other remedies may include appeals to the European Court of Justice.

3. Political Approaches: These may include a variety of approaches such as leaks to the press, diplomatic intervention (this is particularly effective when there may be accusations of violation of free trade in services).

4. Legal Approaches: This is the old fashion method of building legal cases based on existing legislation. Filing formal legal complaints with the appropriate regulatory and legal bodies.

A successful mixture of these approaches have been used by SES, Columbia Communications and Pan Am Sat.

b. Future

One of the difficulties that Europe has faced in the satellites industry is an international and regional technology that have transcended the whims of national bureaucrats and regulators.

Karl Marx was right. Those who control the means of production (in the European satellite market we are primarily talking about the monopoly phone companies) will not walk away without a fight. The European Commission has to wield Article 90 of the Treaty of Rome in order to impose a new European satellite order in which

users will have direct access to space segment.

The European Commission and large business users of telecommunications are aware that cartels and monopolies in the area of telecommunications services are not in the best interest of Europe's economy. As a result one can predict an impending dissolution of the existing cartel and monopoly structures.

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²⁷ Fuchs, Gerhard, "ISDN--the telecommunications highway for Europe after 1992," Telecommunications Policy, Volume 16, Number 8, November 1992, pg. 639-640.

²⁸ Commission of the European Communities, Doc. COM (90) 490 final, Brussels, 20 November 1990, pg 104. My appreciation to Sylvia Ospina who has pointed this clause out to me.

²⁹ Regulatory Watch, "Europe May Restrict Satellite Service," Data Communications, April 1993, pg. 64.

³⁰ "Whats Up Doc?" Europe Going Looney Over Sat-Fed Toons" Space Fax Daily, October 8, 1993. p.1.

³¹ "French try to protect Europe from Hollywood," Financial Times, September 15, 1993. pg. 18.

³² Miller, Jonathan, "French spoiling for Flinstones fight," The Sunday Times, September 12, 1993.

³³ Miller, Jonathan, "French spoiling for Flinstones fight," The Sunday Times, September 12, 1993.

³⁴ Satellite News, "...Eutelsat 3-series Procurement will Be Key," June 21, 1993, pgs 2-3.

³⁵ de Selding, Peter B., "Satellites Serving Europe Show Big Earnings in 1992," Space News, July 19-25 1993, pg. 26.

³⁶ Shawcross, William, Murdoch, Simon & Schuster, NY, NY, 1992 pgs 208-209.

³⁷ Satellite News, "Eutelsat Coming From Behind" April 19, 1993, pg. 5.

³⁸ Shawcross, William, Murdoch, Simon & Schuster, NY, NY, 1992 pgs 207.