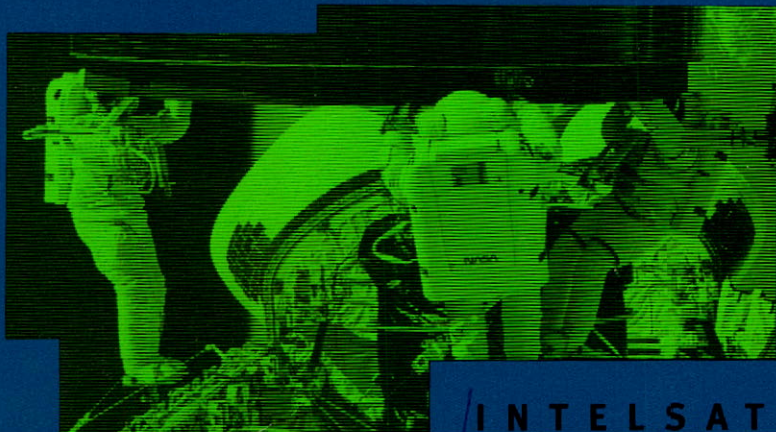


C



INTELSAT

1991.2

addressing global telecommunications
needs

report

1991.2

contents

2 MESSAGE FROM
the Director General
and CHIEF EXECUTIVE OFFICER

3 HIGHLIGHTS
of the
YEAR

6 expanding
telecommunications services
for a CHANGING WORLD

14 providing the resources for
global communications

20 managing and financing
A COMPETITIVE
GLOBAL ENTERPRISE

28 MEMBER COUNTRIES,
SIGNATORIES AND
INVESTMENT SHARES



Communications are the vital component molding a global society from a disparate world. The global availability of telecommunications links — via INTELSAT — brings all of us closer to the emotional power of political changes, the thrills of sporting events, the ravages of natural disasters — wherever they may happen. In a sense, we are all neighbors in the global village.

INTELSAT is proud to be the leader in providing expanded global telecommunications services. We will continue to pursue aggressively our goal of high-quality, cost-effective telecommunications available to all nations on a non-discriminatory basis.



McGill
University
Libraries

Howard Ross Library
of Management



HOWARD ROSS LIBRARY
OF MANAGEMENT
SEP 29 1997
MCGILL UNIVERSITY

a r
o 1

I am pleased to submit this annual report on INTELSAT activities as the organization's new Director General and Chief Executive Officer.

INTELSAT's actions over the past year provide the momentum to continue the vigorous pursuit of business opportunities and to position INTELSAT strategically for enhanced provision of global telecommunications services. Operating results for 1991 were good and reflect INTELSAT's sound financial status. Revenue for 1991 was U.S. \$563.4 million, an increase of 13 percent over that of 1990.

Growth in revenue reflects continuing growth in demand for INTELSAT services. Once again, global television services set new records as the INTELSAT system provided coverage of tumultuous political news and spectacular sporting events. More INTELSAT capacity was used for domestic

and regional systems, and INTELSAT responded to the requests of regional groups in Africa and South America for assistance in developing and expanding their communications networks. Both these service segments present opportunities for expansion that INTELSAT is pursuing energetically.

INTELSAT's traditional area of service, international public switched telephony, remained strong, even as fiber optic cable systems increased the competition for this market. Overall, demand for INTELSAT services continues to thrive.

Providing sufficient capacity to satisfy this demand remains a major challenge, and one for which INTELSAT is seeking creative and cost effective solutions. For example, in May 1992, a joint team of INTELSAT, the National Aeronautics and Space Administration (NASA), and Hughes Aircraft Company, successfully completed the first ever dual active rendezvous in space, resulting in retrieval and reboost of the INTELSAT 603 satellite that had been stranded in a low-earth orbit. More information on this unique and exciting mission can be found in the Highlights section that follows.

Director General and CHIEF EXECUTIVE OFFICER

Last year, two INTELSAT VI satellites were successfully launched and deployed, and with these successes came the first INTELSAT VI operation in the Indian Ocean Region. Progress was made in the production of the INTELSAT VII and VII-A series, and delivery and launch of the first of these spacecraft will occur next year.

This year we launched and deployed the INTELSAT K satellite for service in the Atlantic Ocean Region. To ensure capacity availability in the longer term, INTELSAT solicited proposals for the design and construction of additional spacecraft, and received bids from four major manufacturers. A decision on the procurement of the type and the number of additional spacecraft will be taken later this year.

INTELSAT has the resources—operational, financial, organizational, and technical—to provide satellite telecommunications competitively and effectively. The changing world of the 1990s offers opportunities which INTELSAT will pursue vigorously. The year 1992 marks INTELSAT's 28th anniversary and its 27th year of providing communications via satellite. It is a benchmark from which we can look back with a sense of great accomplishment and from which we can look forward to renewed strength and continuing achievement. As we survey the future, our goal is clear and our aims direct: to do what it takes to remain the global telecommunications system of choice.

Irving Goldstein

June 1992



highlights OF THE YEAR

1991 2

rendezvous in space

In May 1992, NASA's Space Shuttle *Endeavour* embarked upon an enthralling and daring mission on its first flight: the retrieval and repair of the INTELSAT 603 satellite that had been stranded in low-earth orbit for more than two years after a failed launch attempt. As millions of viewers watched on television, astronauts Pierre Thuot, Rick Hieb and Tom Akers captured the satellite with their hands, maneuvered it into the shuttle bay, and attached the new rocket motor.

INTELSAT's Launch Control Center and worldwide tracking, telemetry, and control network played a pivotal and crucial role in the mission's success. Key achievements of the mission were the first three-man space walk, the longest space walk, and the first active dual rendezvous of spacecraft. The expertise of the joint INTELSAT, Hughes Aircraft Company (manufacturer of the INTELSAT VI series), and NASA team was critical to the mission's accomplishment.

In May 1992, INTELSAT Mission Control successfully fired the new rocket motor, sending INTELSAT 603 a quarter of the distance to the moon in a super-synchronous transfer orbit. This unusual maneuver was chosen to conserve the satellite's fuel and prolong its lifetime. The spacecraft reached geostationary orbit, and its solar drum and communications antennas were deployed. INTELSAT 603 is undergoing in-orbit testing and is expected to begin commercial service in the Atlantic Ocean Region in time to join other INTELSAT spacecraft for transmission of the Summer Olympic Games from Barcelona, Spain.



International Space Year

The reboost mission was a notable highlight for 1992, which has been designated International Space Year. The year 1992 has been chosen as International Space Year to commemorate the 500th anniversary of Christopher Columbus's voyage to the new world and the 35th anniversary of the beginning of the space age, with the launch of the first man-made satellite, Sputnik. Although separated by almost 500 years, these two events reflect humanity's continuing desire to seek and explore new worlds, new concepts, and new ideas—in order to enhance our understanding of each other and of the environment in which we live.

Both earth and space exploration were catalysts for change, generating new ideas and challenging traditional beliefs. Those with the vision and the drive to take advantage of new opportunities prospered. International Space Year comes at a time when our own world is experiencing dramatic change—political, economic, cultural, and technical.

The INTELSAT global satellite communications system has played a significant role in helping to bring about this metamorphosis. The availability of global telecommunications networks has transformed forever the way in which the world sees and reacts to change, as we have witnessed in the unfolding of dramatic news events throughout the past year.

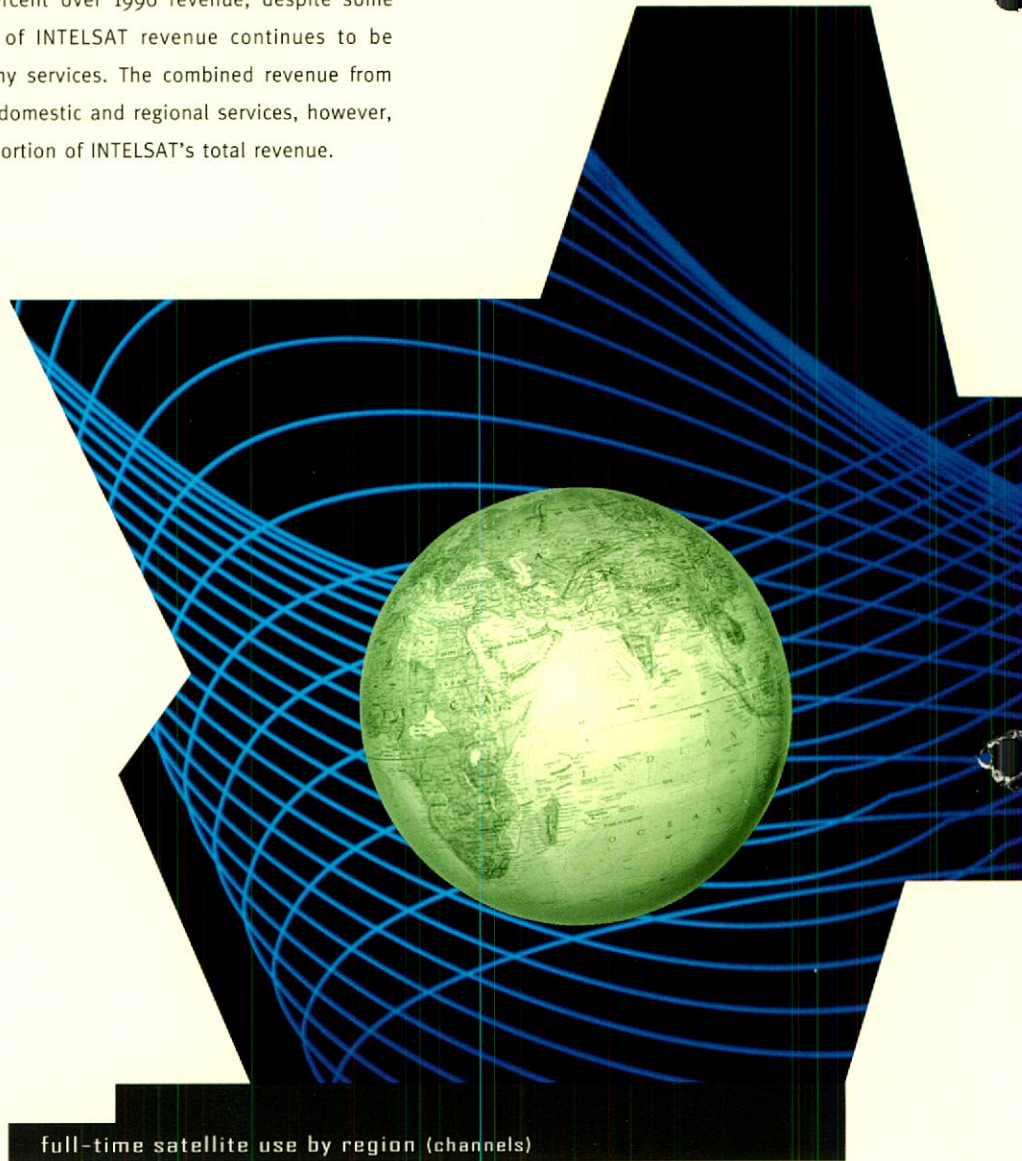
INTELSAT has been a catalyst for change and, in turn, is affected by the changes it has helped set in motion. Transformations in how the world lives, works, and communicates present INTELSAT both with new challenges and with new opportunities.

financial results

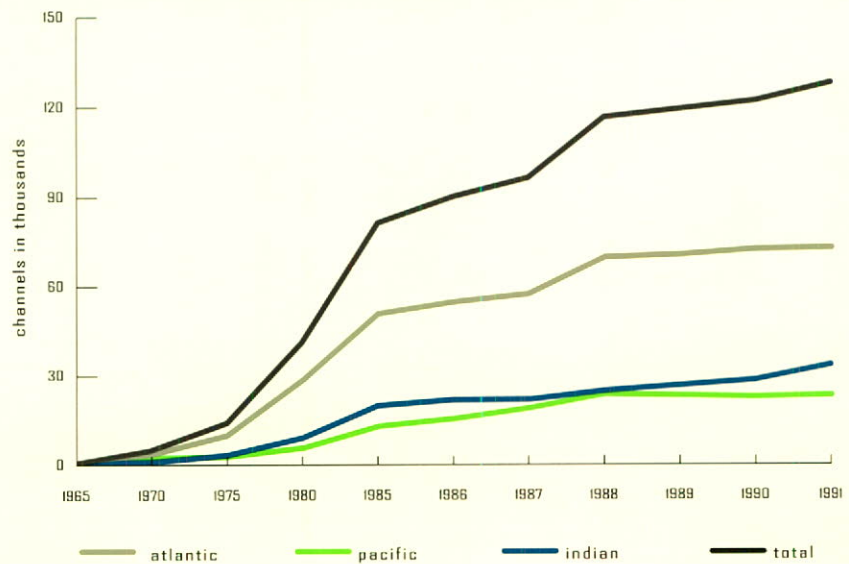
INTELSAT's revenue for 1991 was U.S. \$563.4 million, an increase of 13 percent over 1990 revenue, despite some tariff reductions. The major source of INTELSAT revenue continues to be international public switched telephony services. The combined revenue from business, broadcast distribution, and domestic and regional services, however, continues to assume a larger overall portion of INTELSAT's total revenue.

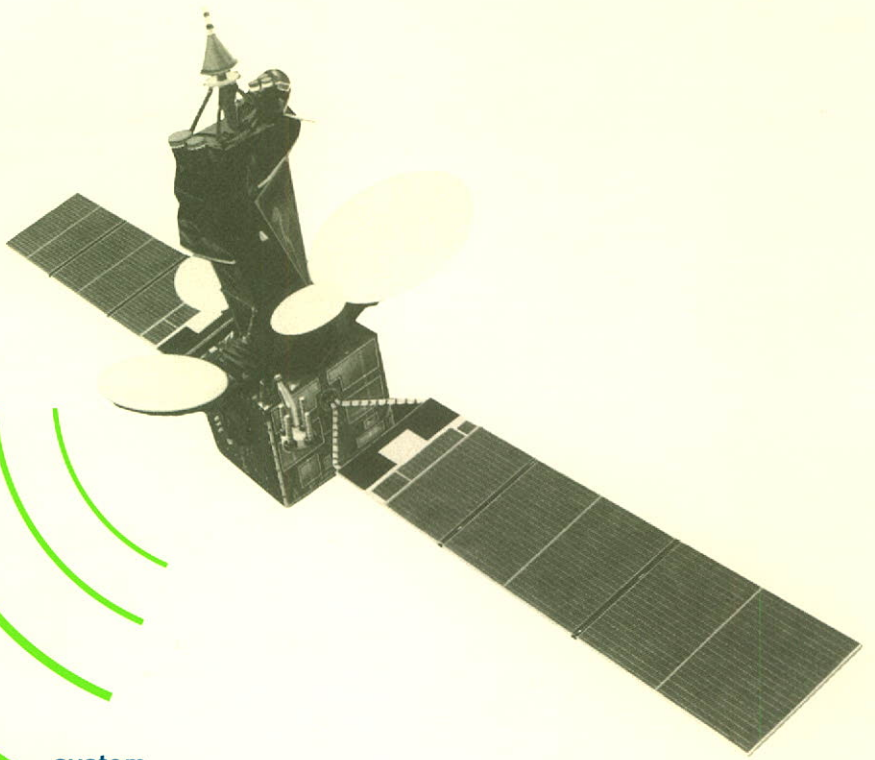
traffic growth

The amount of traffic carried on the INTELSAT system continued to grow. Both the number of full-time channels and the number of full-time leases increased. Full-time channel use grew five percent over 1990, and the number of long-term, full-time leases reached its highest level in INTELSAT's history. The largest portion of INTELSAT leased services is for domestic services, followed closely by international video services. Other leased services include private business applications and submarine cable restoration.



full-time satellite use by region (channels)





system expansion

The INTELSAT global satellite system is the only comprehensive network in the world. By 1992, the number of satellites providing service was the largest in INTELSAT's history: a fleet of 18 spacecraft.

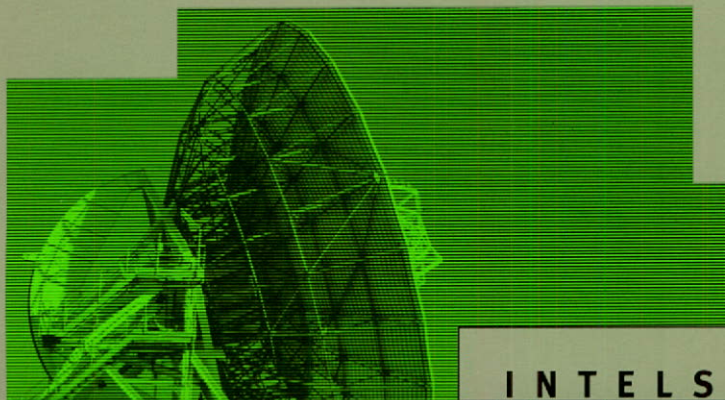
INTELSAT successfully launched and deployed two additional INTELSAT VI spacecraft during the past year. On 14 August 1991, the INTELSAT 605 was successfully launched from Kourou, French Guiana, by Arianespace. On 27 October 1991, the last of the INTELSAT VI series, the INTELSAT 601 was also successfully launched by Arianespace. With these two successful launches, the first INTELSAT VI satellite was deployed to the Indian Ocean Region in January 1992, enabling the introduction of satellite-switched time division multiple access (SS/TDMA) in that region.

a new Director General and Chief Executive Officer

Mr. Irving Goldstein (United States) became INTELSAT's fourth Director General on 24 February 1992 for a term of six years. Mr. Goldstein's appointment, made by the Board of Governors at its 91st Meeting, was confirmed by the Assembly of Parties at its 17th (Extraordinary) Meeting.

The appointment was to fill the vacancy caused by the death of the previous Director General, Mr. Dean Burch, on 4 August 1991. Mr. Burch made notable and significant contributions to INTELSAT during his tenure as Director General. His leadership and counsel were instrumental in moving the organization forward and enhancing its ability to compete in a changing telecommunications environment.

INTELSAT successfully launched and deployed two additional INTELSAT VI spacecraft during the past year.



INTELSAT

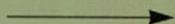
1991.2

U
N
I
T
E
S

expanding telecommunications services

FOR A CHANGING **world**

report



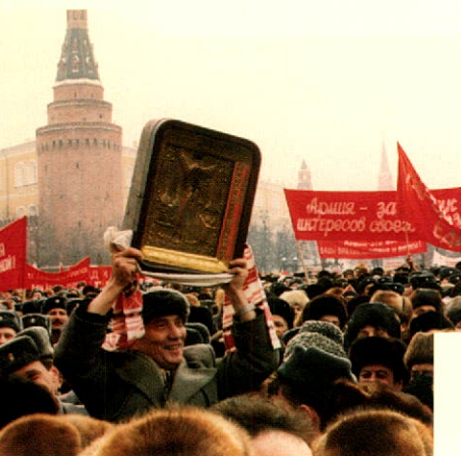
Images that inform, images that excite, images that entertain — billions of people throughout the world are joined together, via live instantaneous transmission of news, sports, and entertainment events through the INTELSAT system. In 1992, INTELSAT's worldwide transmission of the Olympic Games brought enjoyment to audiences on every continent.



Flexibility and the ability to meet spontaneous demands were hallmarks of INTELSAT service over the past year. Real-time coverage of political, sporting, and other news events requires tremendous resources and rapid response times.

global broadcasting services

INTELSAT faces the future with a renewed dedication to use its technological creativity, its competitive spirit, and its visionary enterprise to help international broadcasters inform, entertain, and educate a diverse and growing global audience. No instrument of modern communication has had greater influence on strengthening human awareness than the medium of television.



In 1991, television took on new meaning. With tremendous speed, explosive events transformed the order and shape of the world. Television was the instrument to which an anxious global community turned as history unfolded. Via INTELSAT's global satellite network, a watching world experienced some of the most momentous events of the 20th century.

If it happened in the world, it happened via INTELSAT. INTELSAT set new records bringing coverage of

diverse events—political, sporting, entertainment, human interest—to global audiences in a changing world. These included: the Persian Gulf Conflict; World Ice Hockey Championships; conflict in Yugoslavia; the Cannes Film Festival; hostage releases; the Middle East Peace Conference; the World Economic Summit; Wimbledon Tennis; the Pan American Games; the coup attempt in the former Soviet Union; the All African Games; the Papal visit to Poland; World Cup Rugby; volcano eruption in the Philippines; the cyclone in Bangladesh; the eclipse of the sun.

This year, the Winter and Summer Olympic Games dominate global video transmissions. From Albertville, France, the breathtaking spectacle of the Winter Olympics was held from 8-23 February 1992. The spirit of a 24-year Olympic broadcasting tradition continued as INTELSAT brought the world the 1992 Winter Olympics competition. In 1968, INTELSAT carried the very first internationally telecast coverage of this closely followed quadrennial event. A television audience estimated at two billion watched the 1992 Winter Games. This number underscored the impact of satellite television when compared to the first Winter Olympics held in 1924 in Chamonix, France, when only 5,000 spectators, at the site, were able to witness the events as they happened. France Telecom, INTELSAT's French Signatory, and official partner of the organizing committee of the XVIth Winter Olympic Games, provided a full range of media and telecommunications services to 7,000 world broadcasters and journalists.

Over the four-year period preceding the event, INTELSAT worked closely with France Telecom to plan the complex satellite services required by world broadcasters covering the games. INTELSAT staff representatives were on-site

in Albertville to provide technical and scheduling assistance throughout the 16 days of live television coverage, which included a new record for Winter Olympics coverage of 10 short-term leases over 10 INTELSAT satellites.

The Summer Olympic Games, to be held in Barcelona, Spain beginning in July, will again set records in global broadcasting. INTELSAT received the first television orders for the 1992 Summer Olympics in 1986. INTELSAT has become the hub for planning and organizing international Olympic TV coverage, because it is the only organization capable of distributing these live broadcasts globally.

The demand to serve a growing world broadcasting community at events such as the Winter and Summer Olympics has created an ever-increasing role for small, transportable antennas. Initially viewed as a means to obtain live news from locations which were considered remote from fixed uplinks, international satellite news gathering (SNG) from small transportable earth stations is now a day-to-day method for transmission of material from virtually



any location in the world through the INTELSAT system. The use of transportable SNG antennas is a rapidly growing facet of international television, with over 300 SNG terminals authorized for use by 28 countries on the INTELSAT system.

INTELSAT's broadcast services encompass not only video, but audio as well. In September 1991, INTELSAT introduced



its Digital Audio Broadcasting Service. This offering is a radio distribution service via satellite used by cable operators to transmit programming anywhere in the world. Using digital transmission, the signal quality is preserved to the end user, the home subscriber, with compact disc-like sound. A key aspect of the new Digital Audio Distribution service is flexibility. Users can access the INTELSAT system using small C- or Ku-band antennas, located on premises at AM/FM radio stations, or via international gateway earth stations. Because the service is carried by satellite, it provides point-to-multipoint or multipoint-to-multipoint options and the ability to add any number of downlinks inexpensively.

Rapid and easy booking and scheduling of television capacity is essential in a fast-paced world of live news and special events coverage. In 1992, INTELSAT introduced its computerized Integrated Booking and Information Service (IBIS-

TV) so that Signatories and authorized users can schedule and reserve service directly. On-line users, from anywhere in the world, can access real-time information on space segment availability directly, request new service, amend or cancel existing services, and obtain information on earth station capabilities or other reference information.



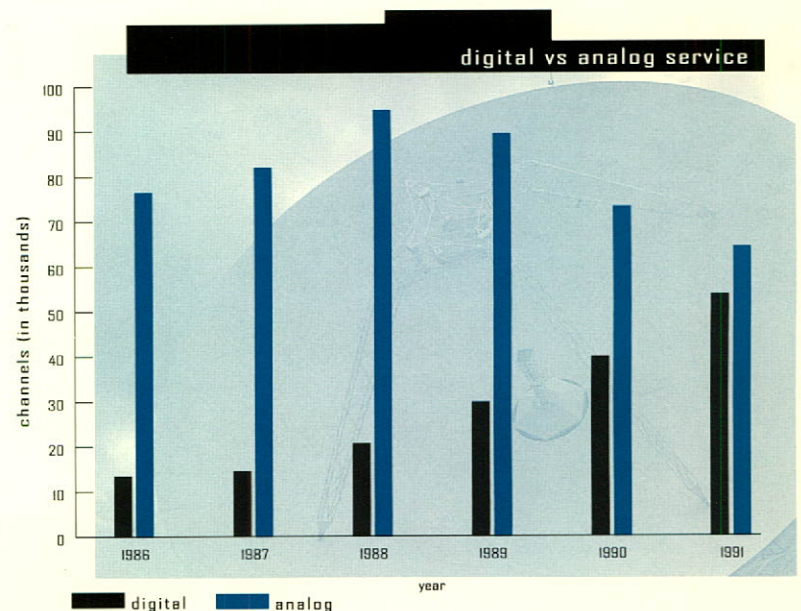
Lowest-cost service is another goal and feature of INTELSAT's broadcast services. To this end, INTELSAT recently introduced a tariff reduction of 20 percent for basic occasional-use TV service. Also introduced was a new flat rate for multiple uplink and/or downlink users, which will be very attractive for news distribution. A 75 percent reduction was implemented for off-peak occasional-use TV.

public switched services

Conversion to digital systems is a major trend in the development of INTELSAT's public switched services. INTELSAT's goal is to have an all-digital network by the end of the decade, and INTELSAT's users are realizing the efficiencies of digital operation. Cost savings, higher quality, and more efficient use give INTELSAT's digital users strong returns on their investment. During 1991, the momentum of change continued at unprecedented rates, with digital public switched traffic on the INTELSAT system as a whole increasing by 24.8 percent.

INTELSAT's public switched services are the backbone of the global satellite communications system, and the greatest percentage of public telephony services today, and in the future, will be carried by INTELSAT's integrated digital communications services, IDR and TDMA. INTELSAT's public switched services provide continuous, reliable links between and within nations.

For example, INTELSAT played a key role in providing communications during the 1990/91 Persian Gulf crisis. INTELSAT's public switched services were





available immediately, and the need for increased communications to the region was met with 816 analog channels and 135 IDR channels, 20 percent of which were high speed, high capacity, multiple capability links. Eventually, a total of 12 transportable earth stations was used to provide temporary services for telephone, facsimile, and high-speed data networks between oil fire fighting crews, environmental engineers, construction firms, and families that had been displaced around the globe. Today, many of these services and transportable earth stations are still operational, and IDR continues to play a pivotal role in providing the telecommunications services that are key to a rebuilding region.

Even with the advent of sophisticated, high speed digital communications, telex is still an important service in many parts of the world. Dramatic evidence of this came to light during the attempted coup in the former Soviet Union in August 1991. At that time, an on-line database service using one of INTELSAT's analog services was the only means by which the residents of Togliatti City (500 miles east of Moscow) were able to obtain news about the

unfolding situation within the former Soviet Union. For these people, the use of an INTELSAT-based telex network kept them as well informed as television and radio audiences in the rest of the world.

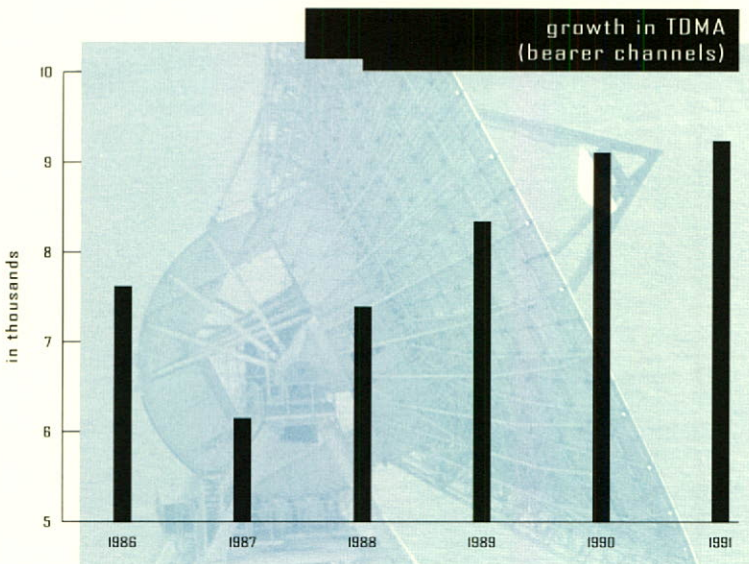
Throughout 1991, the emergence of independent states and the constantly changing political situation in Eastern Europe focused attention on satellite communications and the advantages of this technology for easily established direct communications links.

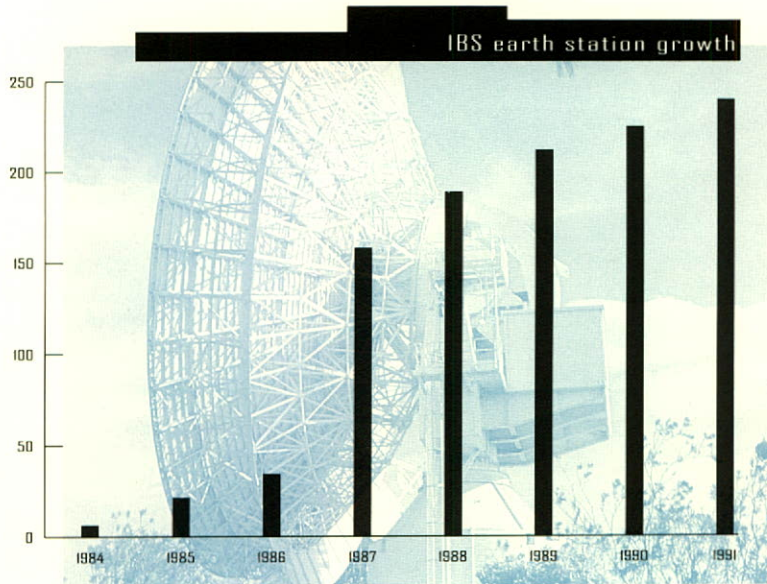


private network services

Business interests embrace the world, as do the telecommunications networks they use. As a result, the INTELSAT system plays an important part in providing commercial telecommunications service around the world. Two INTELSAT offerings have been custom designed for such business applications: INTELSAT Business Service (IBS) and Intelnet.

IBS has been implemented successfully on a full-time basis in all ocean regions for INTELSAT's commercial users'





wide range of business communications needs. For example, INTELSAT's Japanese Signatory, Kokusai Denshin Denwa (KDD) offers HI-BITLINK, a high speed digital leased service for voice, electronic funds transfer and image data transfer for remote printing. Malaysia's Signatory, Syarikat Telekom Malaysia Berhad (STM) uses IBS to link a number of electronic manufacturing companies located in Malaysia with their headquarters in the United States. In Africa, one oil company is using IBS to communicate between its offshore drilling and coastal production

facilities and its offices in Zaire and its facilities in the United Kingdom and the United States, while another uses the service for voice, data and digital video requirements between Angola, Zaire, the United Kingdom and the United States. In Latin America, a credit card company is using IBS to provide voice and data links between its offices in Chile and the United States. In 1991, Costa Rica initiated IBS service to provide banking and credit companies with communications links for electronic funds transfer and credit card verification.

Occasional-use IBS has seen even more spectacular growth, as more companies recognize the benefits of videoconferencing. By year-end 1991, 30 countries were using occasional-use IBS for their videoconferencing requirements.

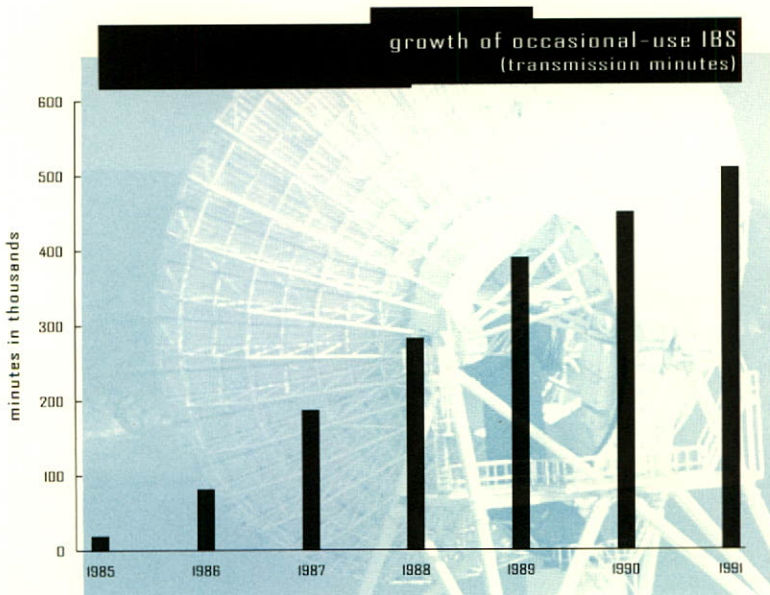
For example, Singapore Telecom is operating hundreds of hours of service via special videoconferencing links to Australia, Finland, France, Germany, Hong Kong, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States.

Technical advances have made the equipment and service itself less costly. Transmission costs are reduced by using low data rates, while new international standards for digital videoconferencing equipment have increased demand for this service via occasional-use IBS.

Another INTELSAT service used extensively for business communications is Intelnet. Intelnet capitalizes on the point-to-multi-point capability of satellites and their ability to transmit and receive from very small aperture terminals (VSATs). News agencies, in particular, have found Intelnet to be a fast, reliable, and cost effective means of providing worldwide networks.

Today, the Reuters, Agence France-Presse (AFP), ITAR-TASS, and ANSA news agencies use Intelnet networks to transmit news, news photos, and financial data to every continent in the world except Antarctica. Indeed, ITAR-TASS, the main news agency of Russia and other members of the Commonwealth of Independent States, has established a new satellite network via INTELSAT which will be expanded by the end of 1992 to provide interactive connections among its bureaus and subscribers via more than 200 VSATs in all parts of the world.

Domestic services using VSATs and transportable antennas are also increasingly being provided on Intelnet leases. Germany, for



Today, the Reuters, Agence France-Presse (AFP), ITAR-TASS, and ANSA news agencies use Intelnet networks to transmit news, news photos, and financial data to every continent in the world except Antarctica.

example, is using a number of small antennas to meet the urgent demand for communications in its eastern region where virtually no infrastructure existed before 1991.

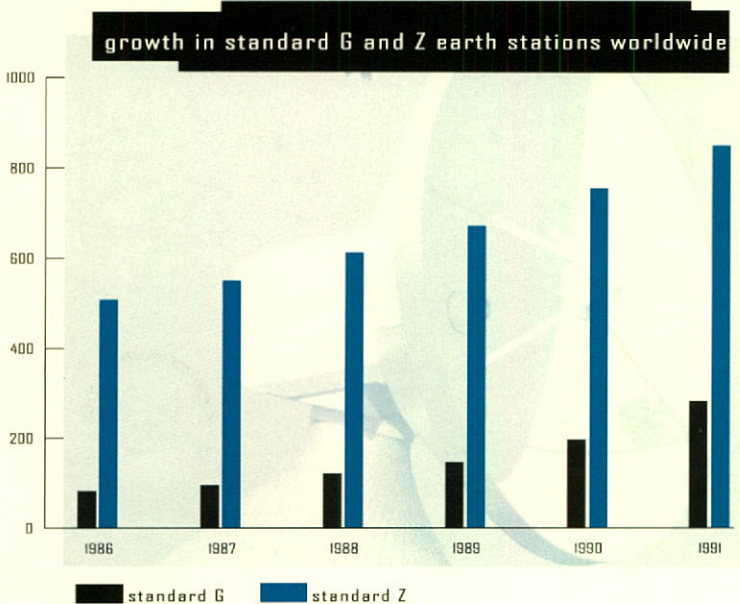
Intelnet is also becoming a key tool in environmental monitoring, disaster relief, and other critical areas requiring remote terminal operation. The European Space Agency (ESA) is operating an Intelnet network for an environmental project in Africa. ESA's Direct Information Access Network for Africa, Project DIANA, uses Intelnet to exchange data on droughts, crop failures and desert locust movement between Ghana, Kenya, Zimbabwe and the Food and Agriculture Organization (FAO) in Italy.

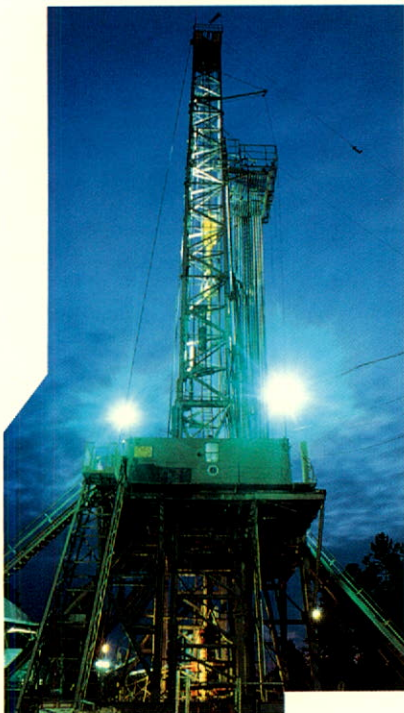
domestic, regional, and unrestricted use services

INTELSAT's domestic, regional, and TUU (Transponders for Unrestricted Use) services continue to be important parts of many nations' telecommunications infrastructures. Many countries, both developed and developing, are using TUUs for a mix of traffic, as existing international public switched, private network, and domestic services are aggregated into TUUs.



During 1991, ASETA (the Association of Telecommunications' State Enterprises of the Sub-Regional Andean Agreement) decided to use a combination of INTELSAT domestic leases and TUUs as a stepping stone towards implementation of a regional Andean satellite communications system. The five countries involved in the project, Bolivia, Colombia, Ecuador, Peru, and Venezuela, will use leased capacity from INTELSAT while building regional traffic utilization and their terrestrial infrastructures. Through the use of INTELSAT leased capacity, ASETA members have minimized their own financial investment and opted for a flexible approach to meet their needs incrementally, as traffic increases and the earth segment is established.





RASCOM, the Regional African Satellite Communications Project, is also looking to INTELSAT as a solution for improved regional interconnectivity. For RASCOM, INTELSAT has proposed consolidation of the fourteen leases already used for domestic services in Africa and expanding their use for a mixture of domestic and regional services. Through INTELSAT, RASCOM's 51 participating countries will be able to merge their requirements, a major step forward in enhancing their regional communications.

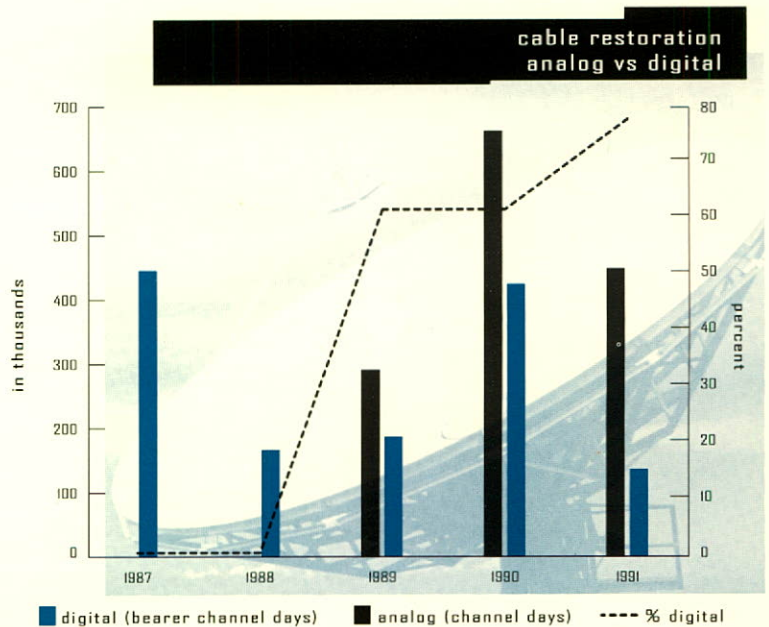
In Germany, INTELSAT's domestic and regional services are providing vital communications capacity which is helping reunite the country. Key to Germany's reunification plans was the need to establish compatible digital communications links between the former East and West sectors on an immediate basis. Satellite communications using smaller, transportable antennas and VSAT networks, which could be operational within a week, proved crucial.

Norway is using its INTELSAT capacity for business applications to meet the needs of several Norwegian companies: vital communications to off-shore oil and gas production sites; remote printing of newspapers; voice and data links to branch offices in other countries.

As many countries are discovering, TUUs provide the flexibility and the capacity for more varied types of service and for more responsive business applications.

cable restoration

Cable restoration is a key focus of INTELSAT's strategy to coexist with fiber optic technology, to remain an integral part of its users' telecommunications planning, and to ensure international technical standards compatible with satellite links. Whether the cable is analog or digital, INTELSAT can and does restore service almost immediately and for any length of time required. During 1991, INTELSAT restored four major fiber optic cables: TAT-8 in the Atlantic, once; TCS-1 in the Caribbean, once; and HAW4/TPC3 and NPC in the Pacific, once and three times respectively. These cable failures accounted for 447,120 digital bearer channel days of restoration.





INTELSAT

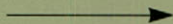
1991.2

U
N
I
T
E
D
S
T
A
T
E
S

providing the resources

FOR **global** TELECOMMUNICATIONS

report



The INTELSAT satellite fleet increased with the successful launch and deployment of two INTELSAT VI spacecraft and the spectacular reboost of INTELSAT 603 by NASA's space shuttle Endeavour. Space segment reliability achieved a level of 99.999 percent as INTELSAT continued its tradition of the highest quality service, applying state-of-the-art technology.

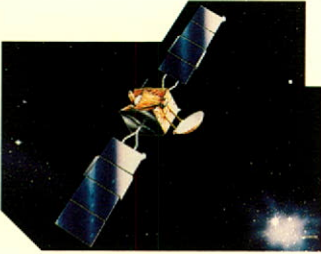


current
operations

INTELSAT currently provides global telecommunications service via 18 satellites, 13 INTELSAT V/V-A satellites and five INTELSAT VI satellites. Satellite system reliability in 1991 was 99.999 percent, continuing the high level of service that sets the standard for quality in global communications. The quality and health of this extensive system is monitored and evaluated 24 hours a day, 365 days a year, by INTELSAT's Satellite Control Center and its worldwide tracking, telemetry, command, and monitoring network.

Thousands of earth station antennas use the system via thousands of links that create and provide a unique global resource: an instantaneous, global communications network with unmatched worldwide connectivity. The INTELSAT Operations Center monitors access and use of INTELSAT's satellites by all these earth stations to ensure and maintain overall service continuity and quality.

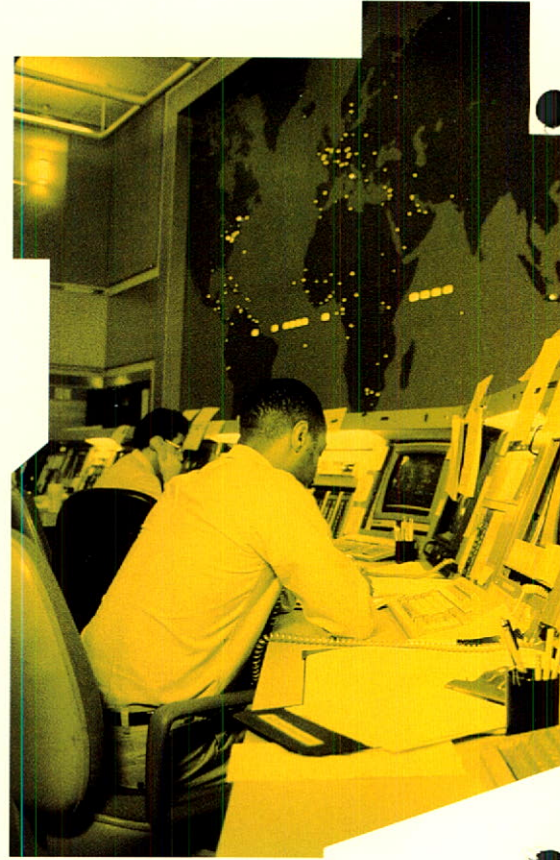
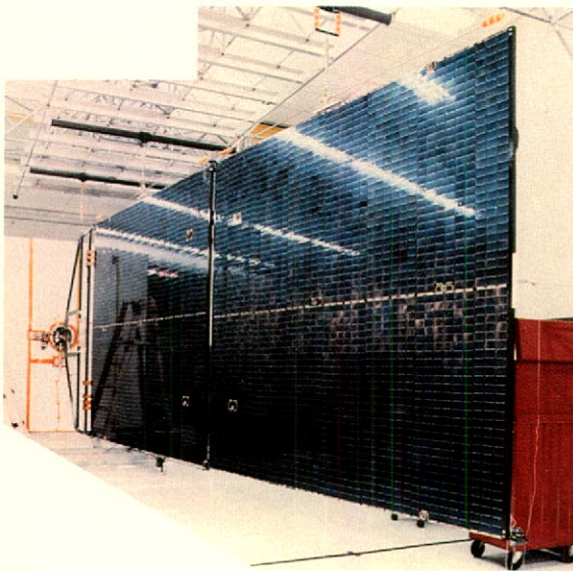
During 1991-1992, significant steps were taken to augment space segment capacity and to enhance system operations.



INTELSAT K

The INTELSAT K is an all Ku-band, higher powered, spacecraft that will provide broadcasting, domestic, and international

services in the Atlantic Ocean Region. Integration and testing of the INTELSAT K by its manufacturer, General Electric Astro Space, was completed in December 1991. Launch of the INTELSAT K was by an Atlas IIA launch vehicle in the second quarter of 1992.



INTELSAT VII/VII-A

Five INTELSAT VII spacecraft are currently in production. Integration of the first spacecraft commenced in mid-1991. Environmental and performance testing will begin in 1992 to enable a launch in 1993. Delivery of subsequent spacecraft will follow at intervals of a few months.

The INTELSAT VII-A spacecraft, based on the INTELSAT VII design, successfully completed its preliminary design reviews in November 1991. Two spacecraft are currently on order with an option for more.

Launches of INTELSAT VII spacecraft, using Atlas IIAS and Ariane 4 launch vehicles, are to begin in the second half of 1993. Launches of the two INTELSAT VII-A spacecraft will also be accomplished using Ariane 4 launch vehicles.

new INTELSAT spacecraft

In December 1991, INTELSAT's Board of Governors approved the release of a Request For Proposal for the next generation of INTELSAT spacecraft. On 14 February 1992, bids were received from: GE Technical Services Company; Hughes Aircraft Company; Matra Marconi Space; and Space Systems/Loral. A potential contract award for the new satellites could be made in September 1992 at which time a decision would be made on the mix of spacecraft to be ordered.

Standard	Antenna Size (Meters)	Service Range	Frequency Band (GHz)
A	15-18	International voice, data and TV, IBS and IDR	6/4
B	10-13	International voice, data and TV, IBS and IDR	6/4
C	11-14	International voice, data and TV, IBS and IDR	14/11
D1	4.5-6	Vista	6/4
D2	11	Vista	6/4
E1	3.5-4.5	IBS	14/11, 14/12
E2	5.5-7	IBS and IDR	14/11, 14/12
E3	8-10	IBS and IDR	14/11, 14/12
F1	4.5-5	IBS and IDR*	6/4
F2	5.5-7	IBS and IDR	6/4
F3	9-10	International voice and data, IBS and IDR	6/4
G	All sizes	International lease services	6/4, 14/11, 14/12
Z	All sizes	Domestic lease services	6/4, 14/11, 14/12

*IDR subject to approval on a case-by-case basis.

current and future INTELSAT spacecraft

INTELSAT Designation	INTELSAT V	INTELSAT V-A	INTELSAT VI	INTELSAT K	INTELSAT VII	INTELSAT VII-A
Year of First Launch	1980	1985	1989	1992	1993	1995
Prime Contractor	Ford Aerospace	Ford Aerospace	Hughes	GE Astro Space	SS/Loral*	SS/Loral
Launch Vehicles	Atlas Centaur Ariane 1, 2	Atlas Centaur Ariane 1, 2	Ariane 4, Titan	Atlas IIA	Ariane 4, Atlas IIAS	Ariane 44L
Lifetime (Years)	7	7	13	10	10-15	10-15
Capacity	12,000 circuits and 2 TV	15,000 and 2 TV	24,000 and 3 TV (up to 120,000 with digital circuit multiplication equipment, DCME)	16 54 MHz Ku-band responders; can be configured to provide up to 32 high quality TV channels	18,000 and 3 TV (up to 90,000 with DCME)	22,500 and 3 TV (up to 112,500 with DCME)

*Formerly Ford Aerospace

The new generation INTELSAT spacecraft has been designed to meet the needs of INTELSAT users for improved coverage and service in the C-band. Similar to the INTELSAT VI series, it would incorporate six-fold frequency reuse in C-band, in addition to two-fold frequency reuse of the expanded C-band capacity. C-band performance would be at the highest power level ever for an INTELSAT satellite. With 52 percent more bandwidth and higher power than the INTELSAT VII/VII-A series, the new spacecraft would provide significantly more C-band capacity for public switched telephony and INTELSAT Business Service, better quality for video services, and encourage new international VSAT applications. It would have Ku-band capabilities similar to those of the INTELSAT VII/VII-A series.

The superior C-band payload of the new spacecraft, in combination with the high Ku-band capacity of the INTELSAT VII/VII-A series, will give INTELSAT planners significant flexibility in designing networks to meet global user demands throughout the 1990s.

the ground network

During 1991-1992, major activity focused on completion of the transition to the new tracking, telemetry, command, and monitoring (TTC&M) earth station network. This new network comprises six TTC&M stations located at: Perth, Australia; Raisting, Germany; Fucino, Italy; Beijing, People's Republic of China; Clarksburg, United States and Paumalu, United States. The new stations provide upgraded TTC&M



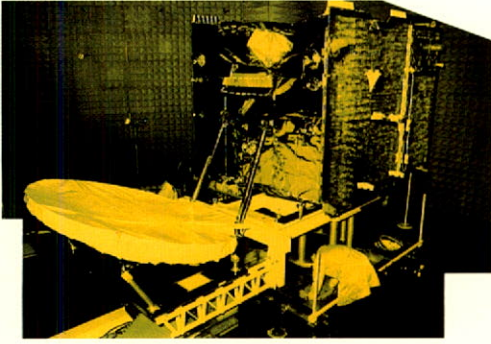
Each TTC&M station is linked to INTELSAT Headquarters via two independent paths for reliability.

network capability, streamlined operation, and reduced operating costs.

The communications network linking the Satellite Control Center to the TTC&M sites completed its transition from an all-analog to an all-digital network in 1991. This transition is necessary to accommodate requirements for increased voice and data capacity and higher quality operation. Each TTC&M station is linked to INTELSAT Headquarters via two independent paths for reliability. A key element in the network is the 6.1 meter Ku-band earth station, located at Headquarters, that is linked to dedicated small communications antennas at the TTC&M sites via the INTELSAT network.

The Integrated Satellite Control Systems project plan has been expanded to meet operational requirements for future satellites, such as INTELSAT VII/VII-A and the INTELSAT K. This system, currently in use for operation of INTELSAT V/V-A and INTELSAT VI spacecraft, is the basis for the entire INTELSAT TTC&M system. Two key subsystems are the Command Coordination System and the Alarm and Control Consolidation System.

The Command Coordination System is used to automate and improve the effectiveness of satellite commanding operations, an important requirement for maintaining and enhancing system quality and reliability. This system became fully operational for the new TTC&M network in August 1991.

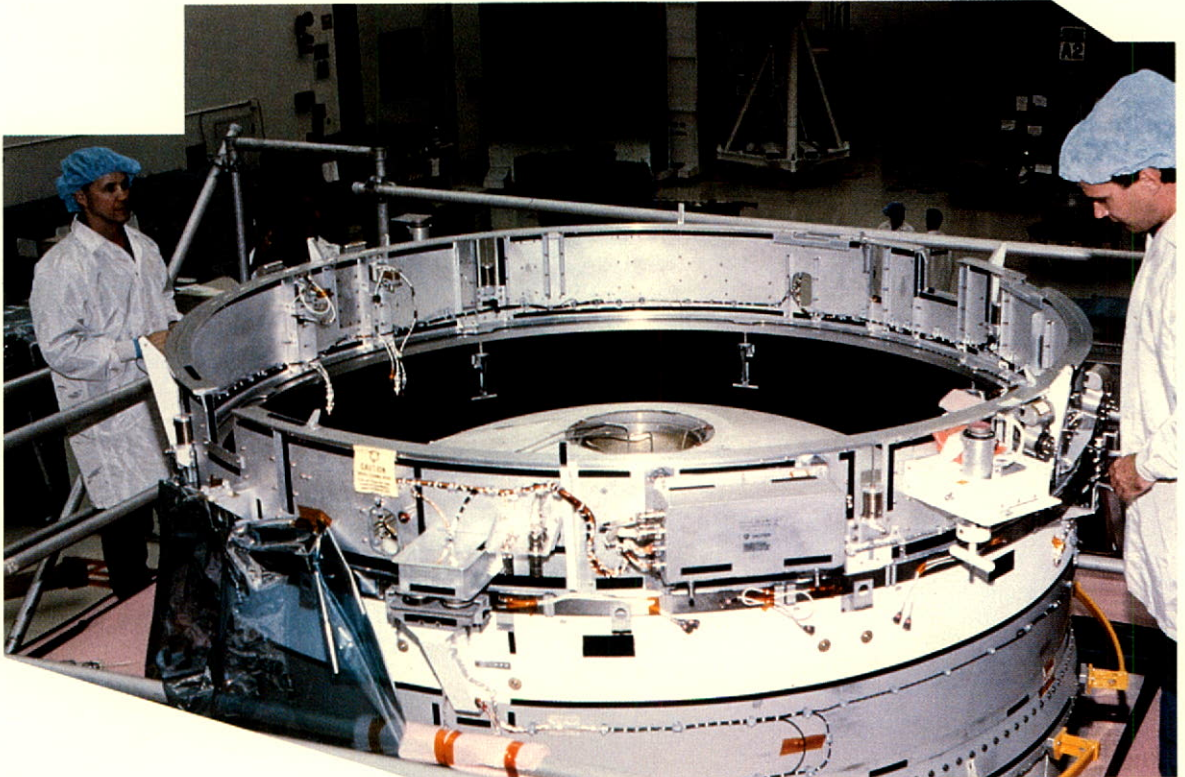


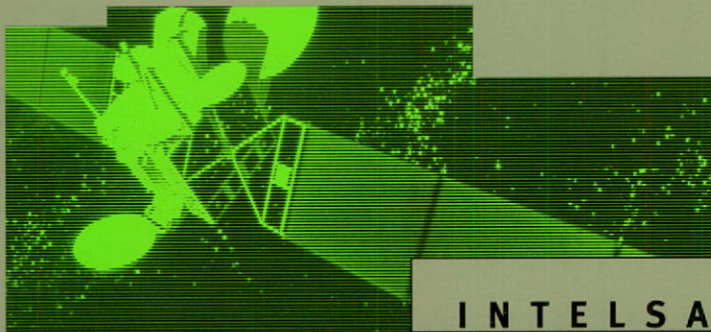
The Alarm and Control Consolidation System has been designed to manage and condense in one workstation the huge volume of information that is available to satellite system operators. By presenting operators with the more critical information first, INTELSAT satellites will be better protected from possible harmful events. Significant progress was made in 1991, leading to planned system deployment in 1992.

research and development

INTELSAT's research and development (R&D) activities have been structured to focus resources and to generate near-term benefits. These evolving goals for funded R&D contracts involve a distinct concentration upon areas of substantial competitive advantage to INTELSAT. The most significant effort is being applied in the areas of advanced spacecraft antenna technology, on-board digital signal processing, the development of high speed modems for earth station use, and the analysis of propagation impairments in signal transmission through the atmosphere. Given the prospective growth in competition from separate satellite systems, and recognizing the very large R&D investments which continue to support competing fiber-optic systems, this pursuit of primary R&D targets represents the most beneficial use of a resource unique to INTELSAT.

Developmental engineering efforts in the Technical Laboratories have continued to focus on testing and evaluation of INTELSAT transmission parameters and analysis of service impairments, the evaluation of new voice, video and data processing techniques, and the life testing of spacecraft components.





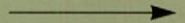
INTELSAT

1991.2

managing and financing a

COMPETITIVE **global** ENTERPRISE

report



INTELSAT is a successful international commercial space enterprise of 122 sovereign nations that have joined together to provide the resources to meet the communications requirements of all nations on a non-discriminatory basis.



effective management

In this time of volatile global change, it is reassuring to know that INTELSAT's members continue to work together for the provision of worldwide telecommunications services on a non-discriminatory basis. Observance of this commitment is made possible only through a shared sense of purpose among INTELSAT members that is distinctive in the world of telecommunications and, indeed, in the world of international organizations.



And INTELSAT continues to grow as more countries make this commitment. On 27 April 1992, the Russian Federation formally assumed the membership of the Union of Soviet Socialist Republics, which became the 121st member in July 1991. INTELSAT welcomed Azerbaijan as its 122nd member on 13 April 1992.

INTELSAT has a unique management structure, which accommodates the many kinds of decisions made at different levels by both governments and operating entities. Each member nation can participate through three decision-making bodies: the Assembly of Parties, the Meeting of Signatories, and the Board of Governors. INTELSAT Management maintains the daily operation of the system and is responsible to the Board.

Assembly of Parties

The Assembly of Parties comprises representatives of all the governments which have signed the INTELSAT Agreement. The Assembly normally meets once every two years to consider overall policy and long-term objectives for the organization. Extraordinary meetings are convened for special purposes; on 12 February 1992, the Seventeenth (Extraordinary) Meeting of the Assembly of Parties confirmed the Board of Governors' election of Mr. Irving Goldstein as INTELSAT's new Director General and Chief Executive Officer. The Eighteenth Meeting of the Assembly will be held 3-6 November 1992 in Sydney, Australia.

Meeting of Signatories

Representatives of all the Signatories to the Operating Agreement (member governments or their designated telecommunications entities) convene for the Meeting of Signatories. The Signatories normally meet once a year to consider financial, technical, and operational aspects of the system. The Twenty-first Meeting of Signatories was held 15-18 April 1991 in Kobe, Japan, with Mr. Mitsuo Kojima, representative of the Signatory of Japan, presiding as Chairman. In 1992, the Signatories met in Santiago, Chile.

Board of Governors

The Board of Governors oversees the design, development, construction, procurement, establishment, operation and maintenance of the INTELSAT space segment, as well as approving many other activities undertaken by INTELSAT.

As of February 1992, the Board consisted of 28 governors representing 103 of INTELSAT's then 121 Signatories. Governors represent an individual Signatory or a group of Signatories which meet a minimum investment share for Board membership, determined each year by the Meeting of Signatories. A Governor may represent a group of five or more Signatories from within an administrative region of the International Telecommunication Union (ITU), regardless of total investment share.

The Chairman and Vice-Chairman of the Board, respectively, for 1991-1992 are Mr. Mohamed J. Mulla (Saudi Arabia) and Mr. Len Dooley (Australia). The Board of Governors is assisted by four Advisory Committees covering technical matters, planning, budget and audit.

other INTELSAT meetings

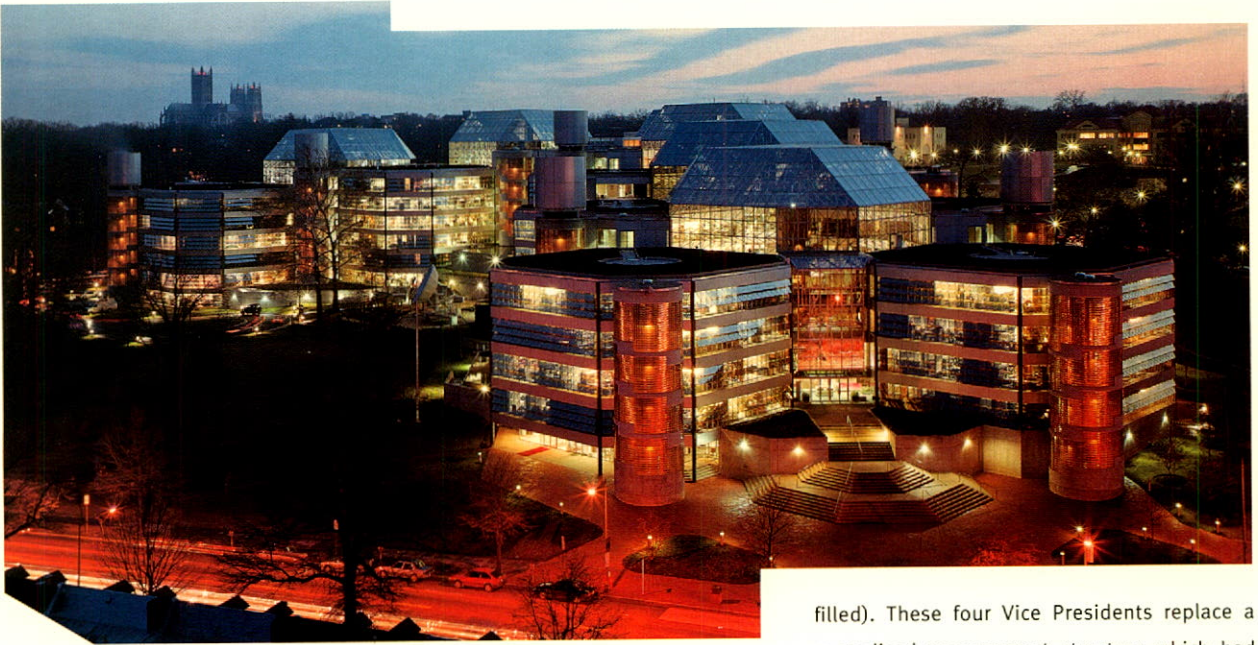
Representatives of INTELSAT user organizations as well as earth station owners and operators meet to forecast and plan their service and system requirements. From 29 April - 6 May 1991, over 700 participants from 170 telecommunications providers and administrations, including INTELSAT Signatory members, attended the 17th annual Global Traffic Meeting held at Headquarters. The number of participants from 150 countries and territories represented a 20 percent increase over attendance at the previous year's meeting.

In October 1991, 249 representatives from 93 Signatories and user organiza-

Similarly, the Overseas Telecommunications Services Co., Ltd. of Mauritius hosted a meeting in January 1992 for 185 representatives from 81 operating entities in the Indian and Pacific Ocean Regions. A key topic of consideration was the need to convert from analog to digital modulation services to alleviate near-term congestion in those areas.

INTELSAT management

At its meeting in March 1992, the Board of Governors approved major organizational changes recommended by Director General Irving Goldstein to reflect a new, more commercial orientation for the organization. The new structure consists of four Vice Presidents reporting to the Director General: Executive Vice President, Operations and Services, Mr. John Hampton (Australia); Vice President and Chief Financial Officer, Mr. David Tudge (United Kingdom); Vice President, Engineering and Research, Mr. Pierre Madon (France); Vice President, Information Systems and Administration (to be



tions in the Atlantic Ocean Region gathered at Headquarters to review and plan the region's operational needs through the end of 1996. Under the direction of the chairman, Mr. Mawdo Ka of Senegal, participants discussed technical and service issues of interest to the region's users.

filled). These four Vice Presidents replace a centralized management structure which had featured two Deputy Directors General.

The Executive Vice President of Operations and Services oversees three activities that are key to INTELSAT's ability to respond to its customers: Operations, Marketing, and External Relations. The Vice President and Chief Financial Officer directs the related activities of Finance, Accounting, Procurement, and Headquarters Building Management. The Vice President of Engineering and Research administers these important technical activities, including the future planning of INTELSAT's engineering and research programs. The Vice President of Information Systems and Administration will oversee Information Management, including computer and electronic data processing services, Conference Services, and Language Services.

As of March 1992, INTELSAT Management comprised 778 staff employees at Headquarters, INTELSAT Spacecraft Program Offices in California, New Jersey and France, and at various TTC&M sites around the world.

assistance and training programs

INTELSAT maintains special programs to provide experience and training in the management of satellite communications systems. These programs benefit the individual, the sponsoring Signatory and INTELSAT.

INTELSAT's Assignee Program was created to give technical personnel nominated by Signatory organizations the opportunity to gain experience at INTELSAT Headquarters and a different perspective on the management of the INTELSAT system. The Young Professionals Program helps those who are beginning their careers gain valuable experience in a stimulating environment. In recent years, over 100 individuals have participated in these two programs.

The INTELSAT Intern Program is designed to give undergraduate and post-graduate university students an opportunity to acquire practical work experience in many departments of the organization. Fifty-one students from 24 countries participated in last year's program.

The INTELSAT Assistance and Development and Signatory Training Programs (IADP and ISTP) continued to offer valuable support to users in applying the benefits of satellite communications to their own communications needs. Over the past year, 26 IADP projects have been completed and 36 are on-going or planned. The majority have focused on the implementation of digital services and the development of technical specifications for INTELSAT earth stations. The IADP also sponsors regional seminars on INTELSAT services, financial and accounting practices, and digital technology. In 1991, five regional seminars were held in Gabon, Pakistan, Nicaragua, Singapore, and Uganda. Four seminars are planned for 1992.

The INTELSAT Signatory Training Program held five Train-the-Trainer courses in 1991 at regional training centers in Chile, Cyprus, India, Kenya, and Senegal. Sixty countries sent a total of 86 participants to these courses. The objective of this training program is to prepare the participants to conduct earth station and digital satellite technology courses at their own facilities. The ISTP is also developing course materials on earth station operation and maintenance, traffic planning and forecasting, and INTELSAT financial and accounting practices. The ISTP also manages the On-the-Job Training Program to ensure that earth station engineers and technicians throughout the system are familiar with existing and new technology, services, equipment, procedures, and management. To date, trainees from eleven Signatories were able



to participate in a six-month practical training program at seven host earth station facilities.

cooperation with parties, signatories and other international organizations

In 1991, INTELSAT continued to pursue a wide range of objectives consistent with the needs of its Party and Signatory members with respect to the coordination of separate satellite systems and vis-à-vis the work of the International Telecommunication Union (ITU) and other technical bodies.

coordination of separate satellite systems

A Working Party established by the 15th Assembly of Parties to assist the Board of Governors in its review of the Article XIV(d) consultation process was reconvened at the request of the 16th Assembly in 1990. The Working Party met in conjunction with the last two Board meetings of 1991, and will continue to do so through June 1992. The Working Party is examining what further improvements and streamlining can be achieved in that process. Its objective is to issue a final report at the Board's June 1992 meeting for consideration by the Assembly in November 1992.

During 1991-1992, INTELSAT concluded consultations for eight domestic and 51 international networks.

International Telecommunication Union (ITU)

At the invitation of the ITU, INTELSAT participated in meetings of the Voluntary Group of Experts, established by the ITU to study the allocation and improved use of the radio frequency spectrum and simplification of the Radio Regulations. Two meetings were held in 1991. The direction of the Group's work is satisfactory to INTELSAT, in that it has reaffirmed that space services should be retained in a worldwide regulatory framework.

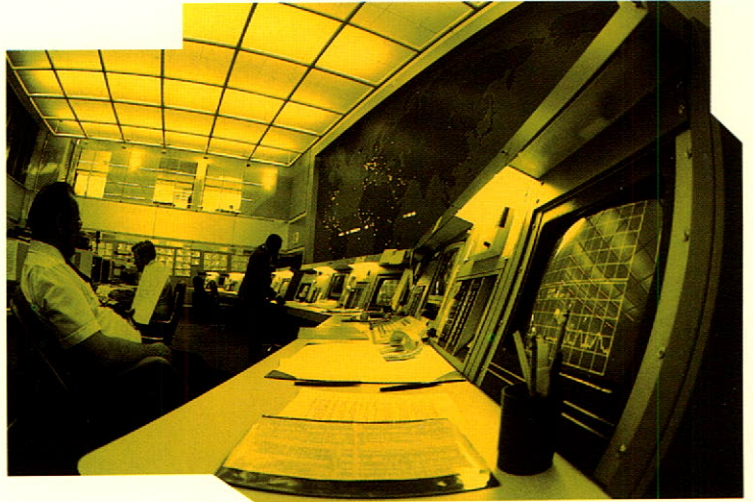
INTELSAT also followed closely the work of the High Level Committee, which is examining the structure and function of the ITU. The Committee has recommended that INTELSAT, and other similar intergovernmental organizations, be recognized for their importance to space-related activities and granted a provisional status similar to that of Regional Telecommunications Organizations. This newly acquired status would allow INTELSAT to participate as an observer at the Extraordinary Plenipotentiary Conference to be held in late 1992.

To assist Signatory members and users through the technical work of the International Radio Consultative Committee (CCIR), INTELSAT attended 16 CCIR meetings in 1991 and continued its contribution to the CCIR Handbook on Satellite Communications. In the latter regard, two computer programs developed by INTELSAT were made available to ITU members.

INTELSAT made recommendations to the International Telephone and Telegraph Consultative Committee (CCITT) to ensure the compatibility of satellite transmission with emerging services, including broadband integrated switched digital networks (B-ISDN) and synchronous digital hierarchy (SDH). The implementation of SDH is pivotal to INTELSAT's future role in public switched networks since many network operators

have decided to use SDH as the common transport network for all future digital networks such as B-ISDN and Metropolitan Area Networks including the signaling network. Consequently, INTELSAT is defining its role within SDH as the network standards evolve.

At its March 1992 meeting, the Board of Governors decided to initiate the International Frequency Registration Board registration process for the next generation of satellites at the following orbital locations: 174° E, 177° E, 180° E and 183° E in the Pacific Ocean Region; 57° E and 66° E in the Indian Ocean Region; and 319.5° E, 325.5° E, 338.5° E and 342° E in the Atlantic Ocean Region.



World Administrative Radio Conference

The World Administrative Radio Conference for dealing with frequency allocations in certain parts of the frequency spectrum (WARC-92) was held in Malaga-Torremolinos, Spain, 3 February-3 March 1992. At this Conference, additional spectrum was allocated to the fixed satellite service in the earth-to-space direction in the band 13.75 to 14.0 GHz. The allocation of this additional spectrum will help to redress the imbalance which presently exists in the Ku-band portion of the spectrum between uplink and downlink allocations to the fixed-satellite service and will enable INTELSAT to expand by up to 50 percent the Ku-band capacity of its satellites.

International Organization For Standardization (ISO)

INTELSAT has expanded its participation in ISO by focusing on issues related to the development and maintenance of the operating standards interface reference model, specifically the standardization of services and protocols. The objective of INTELSAT's participation is to influence the development of the protocol standards so that satellites will remain a viable transmission medium for computer communications.

European Telecommunications Standards Institute (ETSI)

By special invitation, INTELSAT attended the ETSI Technical Committee meeting on Satellite Earth Stations in October 1991. Various standards for small terminal applications and land mobile terminals are being developed pursuant to the policy enunciated in the recent European Community Green Paper on satellite communications. Since some of these standards will apply to the INTELSAT system in Europe, the organization will closely follow their development.

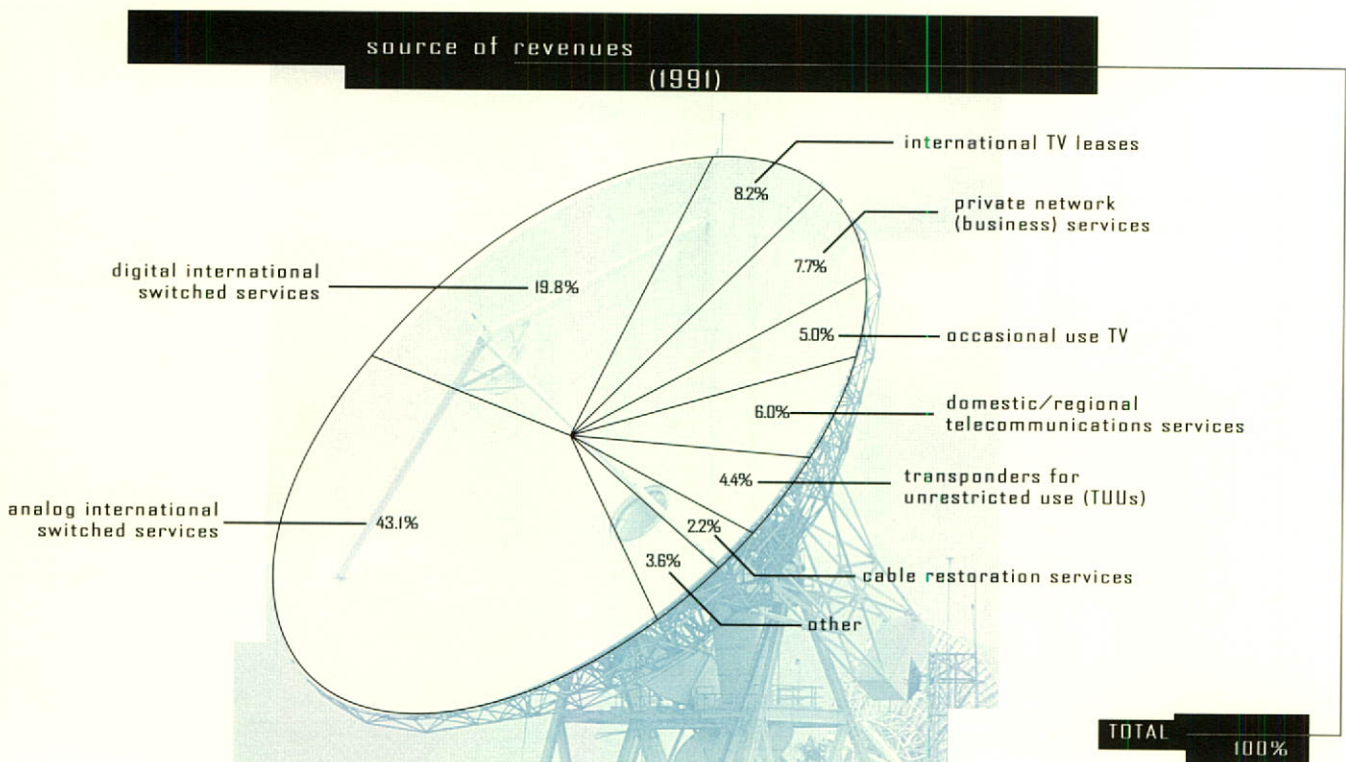
Protocol on Privileges, Exemptions, and Immunities

Pursuant to the requirements of Article XV of the Agreement, the Protocol was established to grant appropriate privileges and immunities to INTELSAT, its officers, employees, and representatives of Parties, Signatories and those participating in arbitration proceedings. Belgium is the most recent member country to ratify the Protocol, bringing the total number of Parties to 43.

financial operation

INTELSAT's 122 Signatories make capital contributions based on their investment (i.e., ownership) shares and pay space segment charges to finance INTELSAT operations. Non-member users pay only space segment charges.

Each Signatory contributes to INTELSAT's capital requirements and receives capital repayment and compensation for the use of capital in proportion to its investment share. Each Signatory's investment share is equal to its percentage of all utilization of the INTELSAT space segment, subject to a minimum investment share of 0.05 percent. Signatories can request investment shares greater or less than their relative utilization percentage. The relative utilization percentages, and hence, investment shares, are based on Signatories' utilization charges for the 180-day period preceding each investment share determination. Investment shares are determined annually on 1 March or when a Signatory joins or withdraws.





INTELSAT space segment charges have the objective of covering: operating, maintenance and administrative costs; provision of operating funds as determined by the Board of Governors; amortization of Signatories' investment; and compensation for the use of capital. The sum of these four cost components represent INTELSAT's revenue requirement. The Board determines the rate of compensation for the use of Signatories' capital; in March 1992, it raised the rate from 14 to 16 percent per year effective 1 June 1993.

Historically, INTELSAT has relied exclusively on Signatories' revenues and capital contributions to fund operating expenses and capital expenditures. However, INTELSAT's Board of Governors approved the establishment of a commercial paper program in 1991 as a cost effective, short-term borrowing mechanism to balance the cash flow between the Organization and its Signatories. INTELSAT's commercial paper program was implemented in April 1991 with a ceiling of US \$100 million. In March 1992, the Board of Governors approved the extension of the commercial paper program until year-end 1996 with an increase in the ceiling to US \$150 million.

The Board further endorsed the strategic importance of the early introduction of medium-term and long-term debt into INTELSAT'S capital structure in order to reduce the effective average cost of capital. In particular the Board authorized steps leading toward an initial Eurobond offering in the third quarter 1992. Director General and CEO Irving Golstein will present his recommendations on this and medium-term debt to the Board at its June 1992 meeting.

INTELSAT's total revenue for 1991 was US \$563.4 million, an increase of 13 percent over 1990 total revenue of US \$498.6 million. During 1989 and 1990, INTELSAT adopted a range of new services and tariff reductions, including free-use incentives for commitments to long-term utilization of INTELSAT capacity. As of 31 December 1991, approximately 74 percent of the traffic in service was covered by long-term commitments of fifteen years; about 80 percent of the traffic was under long-term commitments of five years or longer.

INTELSAT's total revenue
for 1991 was US \$563.4 million, an increase
of 13 percent over 1990 total revenue
of US \$498.6 million.



INTELSAT

1991.2

statements in financial
position

annual
report

**International Telecommunications
SATELLITE Organization**

BALANCE SHEETS

31 DECEMBER 1991 AND 1990

ASSETS	1991	1990
Communications plant and other property, less accumulated depreciation	\$2,223,329,124	\$1,910,828,855
Cash and short-term investments, at cost, which approximates market	98,867,840	85,488,979
Receivables:		
Accrued satellite utilization	141,520,926	124,479,029
Billed satellite utilization	21,549,419	23,768,000
Other	1,724,108	1,099,606
Prepaid expenses and deposits	1,606,048	1,512,722
	<u>\$2,488,597,465</u>	<u>\$2,147,177,191</u>
DWNERS' EQUITY AND LIABILITIES		
Owners' equity	<u>\$1,872,049,023</u>	<u>\$1,539,985,355</u>
Accumulated repayments of capital - excess compensation	<u>324,195,842</u>	<u>320,533,025</u>
Liabilities:		
To Signatories:		
Undistributed revenues:		
Current quarter:		
Repayment of capital	44,210,602	39,037,527
Compensation for use of capital	64,042,137	55,357,359
Prior quarters:		
Amounts withheld to meet future expenses	-	69,000,000
Other	111,841,492	41,975,004
Accounts payable and accrued liabilities	48,258,369	55,788,921
Long-term debt	<u>24,000,000</u>	<u>25,500,000</u>
Total liabilities	<u>292,352,600</u>	<u>286,658,811</u>
	<u>\$2,488,597,465</u>	<u>\$2,147,177,191</u>

**International Telecommunications
SATELLITE Organization**

STATEMENT OF REVENUES, EXPENSES AND
DISTRIBUTIONS TO SIGNATORIES

YEARS ENDED 31 DECEMBER 1991 AND 1990

	1991	1990
Revenues:		
Satellite utilization	\$557,491,926	\$485,915,852
Investment income	516,536	2,146,259
Other revenues	<u>5,430,585</u>	<u>10,563,418</u>
Total revenues	<u>563,439,047</u>	<u>498,625,529</u>
Expenses:		
Executive Organ	77,806,894	72,115,118
Tracking, Telemetry, Command and Monitoring (TTC&M) services	25,940,996	20,466,270
Time Division Multiple Access (TDMA) reference and monitoring stations' services	5,480,089	6,774,005
Satellite performance incentives	9,414,417	11,810,407
Research and development contracts	4,026,800	3,319,134
Technical support contracts	5,255,598	5,978,349
Interest	8,095,301	4,248,616
Other	<u>(124,950)</u>	<u>(698,283)</u>
Total expenses before depreciation	<u>135,895,145</u>	<u>124,013,616</u>
Excess of revenues over expenses before depreciation	427,543,902	374,611,913
Distributions to Signatories:		
Repayments of capital - depreciation	<u>144,273,515</u>	<u>148,903,315</u>
Excess of revenues over expenses after depreciation	283,270,387	225,708,598
Reduction of capital - INTELSAT VI (F-3) launch failure (notes 3, 7 and 8)	<u>-</u>	<u>125,563,486</u>
	<u>283,270,387</u>	<u>100,145,112</u>
Repayments of capital		
Excess compensation	3,662,817	140,180,129
Reversal of excess compensation - INTELSAT VI (F-3) launch failure	<u>-</u>	<u>(125,563,486)</u>
	<u>3,662,817</u>	<u>14,616,643</u>
Compensation for use of capital	<u>\$279,607,570</u>	<u>\$ 85,528,469</u>

**International Telecommunications
SATELLITE Organization**

STATEMENTS OF CHANGES IN
FINANCIAL POSITION

YEARS ENDED 31 DECEMBER 1991 AND 1990

	1991	1990
Funds provided from:		
Operations - excess of revenues over expenses before depreciation	\$427,543,902	\$374,611,913
Capital contributions from Signatories	480,000,000	395,000,000
Increase in liabilities to Signatories	14,724,341	-
Proceeds from sales of satellite transponders - net	2,890,009	-
Increase in accounts payable and accrued liabilities	-	16,954,769
Proceeds from NASA refund - capital	-	<u>9,534,204</u>
 Total funds provided	 <u>925,158,252</u>	 <u>796,100,886</u>
Funds used for:		
Property additions:		
Satellites (including launch services)	437,836,349	379,185,215
TTC&M, TDMA, SPADE and minor equipment	9,827,076	7,437,875
INTELSAT headquarters	<u>12,000,368</u>	<u>9,479,288</u>
 Total property additions	 <u>459,663,793</u>	 <u>396,102,378</u>
Distributions to Signatories:		
Repayments of capital - depreciation	144,273,515	148,903,315
Repayments of capital - excess compensation	3,662,817	140,180,129
Compensation for use of capital	279,607,570	85,528,469
Distribution of NASA refund - capital	-	<u>9,534,204</u>
 Total distributions to Signatories	 <u>427,543,902</u>	 <u>384,146,117</u>
Retirement of long-term debt	1,500,000	1,500,000
Increase in receivables, prepaid expenses and deposits	15,541,144	267,630
Decrease in liabilities to Signatories	-	5,955,432
Decrease in accounts payable and accrued liabilities	<u>7,530,552</u>	<u>-</u>
 Total funds used	 <u>911,779,391</u>	 <u>787,971,557</u>
 Increase in cash and short-term investments	 <u>\$ 13,378,861</u>	 <u>\$ 8,129,329</u>

A complete set of INTELSAT Financial Statements may be obtained by contacting the Public and External Relations Department at (202) 944-7500.

**member countries, signatories
AND INVESTMENT shares**

COUNTRY	SIGNATORY	INVESTMENT SHARE
Afghanistan	Ministry of Communications of the Democratic Republic of Afghanistan	0.050000
Algeria	Government of the Democratic and Popular Republic of Algeria	0.313398
Angola	Empresa Pública de Telecomunicações (EPTTEL)	0.127391
Argentina	Comisión Nacional de Telecomunicaciones	1.313707
Australia	OTC Limited	2.787103
Austria	Government of Austria	0.489891
Azerbaijan	Aserbaidshan PhoneSat Communication-System Ges.m.b.H.	0.050000
Bahamas	The Bahamas Telecommunication Corporation (BATELCO)	0.100456
Bangladesh	Telegraph and Telephone Board of Bangladesh	0.242658
Barbados	Barbados External Telecommunications Ltd.	0.050000
Belgium	Régie des Télégraphes et des Téléphones	0.777604
Benin	Office des Postes et Télécommunications de la République Populaire du Benin	0.050000
Bolivia	Empresa Nacional de Telecomunicaciones (ENTEL)	0.158412
Brazil	Empresa Brasileira de Telecomunicações S.A. (EMBRATEL)	1.799084
Burkina Faso	Office des Postes et Télécommunications du Burkina Faso	0.068010
Cameroon	Société des Télécommunications Internationales du Cameroun (INTELCAM)	0.345284
Canada	Teleglobe Canada Inc.	2.253752
Cape Verde	C.T.T. - Empresa Publica dos Correios e Telecomunicações	0.050000
Central African Republic	Government of the Central African Republic	0.050000
Chad	Société des Télécommunications Internationales du Tchad (T.I.T.)	0.050000
Chile	Empresa Nacional de Telecomunicaciones S.A. (ENTEL)	0.654975
China, People's Republic of of China	Ministry of Posts and Telecommunications of the People's Republic of China	1.590957

Colombia	Empresa Nacional de Telecomunicaciones de Colombia (TELECOM)	1.282447
Congo	Government of the People's Republic of the Congo	0.050000
Costa Rica	Instituto Costarricense de Electricidad	0.050000
Cote d'Ivoire	Government of the Republic of Cote d'Ivoire	0.200060
Cyprus	Cyprus Telecommunications Authority	0.234556
Denmark	Tele Danmark A/S	0.549720
Dominican Republic	Compania Dominicana de Teléfonos, C. por A.	0.289647
Ecuador	Instituto Ecuatoriano de Telecomunicaciones (IETEL)	0.393215
Egypt	Government of the Arab Republic of Egypt	0.649338
El Salvador	Administración Nacional de Telecomunicaciones (ANTEL)	0.050000
Ethiopia	Telecommunications Service, Provisional Military Government of Socialist Ethiopia	0.129015
Fiji	Fiji International Telecommunications Limited (FINTEL)	0.050000
Finland	General Directorate of Posts and Telecommunications of Finland	0.182260
France	FRANCE TELECOM	4.240515
Gabon	Société des Télécommunications Internationales Gabonaises (T.I.G.)	0.050000
Germany	Federal Ministry for Post and Telecommunication	4.197863
Ghana	Ministry of Transport and Communications	0.089954
Greece	Hellenic Telecommunications Organization (OTE) S.A.	0.495059
Guatemala	Empresa Guatemalteca de Telecomunicaciones "GUATEL"	0.050000
Guinea	Secrétariat d'Etat aux Postes et Télécommunications	0.059877
Haiti	Télécommunications d'Haiti S.A.	0.141279
Honduras	Empresa Hondureña de Telecomunicaciones HONDUTEL	0.050000
Iceland	Government of Iceland	0.171861
India	Videsh Sanchar Nigam Limited	1.877491
Indonesia	PT INDOSAT	0.575707

Iran, Islamic Republic of	Telecommunication Company of Iran	0.773224
Iraq	Government of the Republic of Iraq	0.246610
Ireland	The Irish Telecommunications Board	0.199898
Israel	"BEZEQ" The Israel Telecommunication Corp. Ltd.	0.665429
Italy	Società Telespazio	2.475500
Jamaica	Jamaica International Telecommunications Limited (JAMINTEL)	0.379821
Japan	Kokusai Denshin Denwa Company Ltd.	4.500624
Jordan	Government of the Hashemite Kingdom of Jordan	0.279862
Kenya	Kenya Posts and Telecommunications Corporation	0.328774
Korea, Republic of	Korea Telecom	1.421507
Kuwait	The Ministry of Communications, The State of Kuwait	0.950249
Lebanon	Government of Lebanon	0.050000
Libya	Government of the Great Socialist People's Libyan Arab Jamahiriya	0.148688
Liechtenstein	Government of the Principality of Liechtenstein	0.050000
Luxembourg	Government of Luxembourg	0.050000
Madagascar	Société des Télécommunications Internationales de la République Malgache (STIMAD)	0.050000
Malawi	The Department of Posts and Telecommunications of the Government of the Republic of Malawi	0.112693
Malaysia	Syarikat Telekom Malaysia Berhad	0.729971
Mali	Télécommunications Internationales du Mali (T.I.M.)	0.103231
Mauritania	Government of the Islamic Republic of Mauritania	0.050000
Mauritius	Overseas Telecommunications Services Co. Ltd. of Mauritius	0.190338
Mexico	Government of Mexico	0.745446
Monaco	Government of the Principality of Monaco	0.050000
Morocco	Office National des Postes et Télécommunications	0.179084
Mozambique	Empresa Nacional de Telecomunicações de Moçambique	0.062527
Nepal	Nepal Telecommunications Corporation	0.090267
Netherlands	PTT Nederland NV	1.219379
New Zealand	Telecom Corporation of New Zealand Ltd.	0.661044

Nicaragua	Instituto Nicaraguense de Telecomunicaciones y Correos (TELCOR)	0.050000
Niger	Government of the Republic of Niger	0.050000
Nigeria	Nigerian External Telecommunications Limited	0.894590
Norway	Norwegian Telecom (Televerket)	0.699644
Oman	Sultanate of Oman	0.208125
Pakistan	Government of the Islamic Republic of Pakistan	0.726073
Panama	Instituto Nacional de Telecomunicaciones (INTEL)	0.050000
Papua New Guinea	Post and Telecommunication Corporation of Papua New Guinea	0.050000
Paraguay	Administración Nacional de Telecomunicaciones (ANTELCO)	0.161000
Peru	Empresa Nacional de Telecomunicaciones del Peru (ENTEL PERU)	0.812826
Philippines	Philippine Communications Satellite Corporation (PHILCOMSAT)	0.640919
Portugal	Companhia Portuguesa Radio Marconi	0.619760
Qatar	Qatar Public Telecommunications Corporation (Q-TEL)	0.295682
Romania	Ministry of Posts and Telecommunications of Romania	0.050000
Russian Federation	Ministry of Posts and Telecommunications of the Russian Federation	0.050000
Rwanda	Ministère des Transports et des Communications de la République Rwandaise	0.050000
Saudi Arabia	Government of Saudi Arabia	1.870299
Senegal	Government of the Republic of Senegal	0.109776
Singapore	Telecommunication Authority of Singapore	2.007955
Somalia	Ministry of Posts and Telecommunications of the Somali Democratic Republic	0.050000
South Africa	Telkom SA Ltd.	1.144476
Spain	Telefónica de España, S.A.	2.442714
Sri Lanka	Government of Sri Lanka	0.050000
Sudan	Government of the Democratic Republic of the Sudan	0.119662
Swaziland	Posts and Telecommunications Corporation (Public)	0.050000
Sweden	Swedish Telecom	0.643207

Switzerland	Direction Générale de l'Entreprise des Postes, Téléphones et Télégraphes Suisses	1.091446
Syria	Government of the Syrian Arab Republic	0.086840
Tanzania	Tanzania Posts and Telecommunications Corporation	0.064473
Thailand	Government of Thailand	0.999491
Togo	Office des Postes et Télécommunications du Togo (OPTT)	0.149696
Trinidad & Tobago	Trinidad and Tobago External Telecommunications Company Limited (TEXTEL)	0.050000
Tunisia	Administration for Post, Telegraph and Telephone of Tunisia	0.050000
Turkey	Government of Turkey	0.399796
Uganda	Ministry of Power, Post and Telecommunications of the Government of the Republic of Uganda	0.064038
United Arab Emirates	Ministry of Communications of the Government of the United Arab Emirates	1.130136
United Kingdom	British Telecommunications public limited company	12.057422
United States of America	Communications Satellite Corporation	21.864515
Uruguay	Administración Nacional de Telecomunicaciones	0.050000
Vatican City State	Government of the Vatican City State	0.050000
Venezuela	Venezuelan Telephone Company (Compañía Anónima Nacional Teléfonos de Venezuela)	0.938148
Viet Nam	Direction Générale des Postes et Télécommunications de la République Socialiste du Viet Nam	0.050000
Yemen	Government of the Republic of Yemen	0.161255
Yugoslavia	Community of the Yugoslav Posts, Telegraphs and Telephones	0.277053
Zaire	Office National des Postes et Télécommunications du Zaire (O.N.P.T.Z.)	0.153676
Zambia	Government of the Republic of Zambia	0.118595
Zimbabwe	Government of Zimbabwe	0.050000



INTERNATIONAL TELECOMMUNICATIONS SATELLITE ORGANIZATION
ORGANISATION INTERNATIONALE DE TELECOMMUNICATIONS PAR SATELLITES
ORGANIZACION INTERNACIONAL DE TELECOMUNICACIONES POR SATELITE

3400 International Drive, N.W. Washington, D.C. 20008-3098
Telex 89-2707 Telephone (202)944-6800

© 1992 by the International Telecommunications Satellite Organization. All rights reserved.