

Satellite Communications

On April 6 1965 the world's first commercial communication satellite, Early Bird, was placed in orbit. This single satellite had almost the same capacity as all the trans-Atlantic cables laid at that time.

Today communication satellites provide a complex mix of services including long distance trunking, telephony, video and audio broadcasting, mobile communication, on-demand narrowband data and broadband multimedia and Internet.

THE CHALLENGE

The information revolution has driven a bandwidth demand explosion, a step-change in consumer expectations and increased competition from terrestrial service providers with fast expanding networks.

Satellite operators, service providers and broadcasters are therefore continually pushing the boundaries of service delivery. They offer an increasingly sophisticated range of communications and value-add content delivery services, to extend their footprint within the end-to-end value chain, and ensure that capacity is optimally used.

Modern technologies such as dynamic resource allocation, high throughput satellites and innovative constellations present new demands on the ground segments which control the communications satellites. More mobile, machine-to-machine (M2M), hybrid satellite-terrestrial and content services require better network and service management techniques.

A key challenge is to deliver the ground networks, management systems and delivery platforms that are needed to meet the ever increasing requirements in terms of scale, complexity and flexibility.

OUR CAPABILITY

CGI has decades of experience and understands the software and systems needed to meet these challenges. We provide innovative, secure, cost-effective, mission-critical solutions for the satellite communication industry.

Satcom Management Systems

CGI is a leading systems integrator of OSS/BSS for the telecoms market, supporting over 150 installations for large mobile operators and top tier fixed telecoms businesses. This experience was central to our delivery of the ground management segment for Skynet 5, the UK military satcom system. We are a key partner in the Airbus Defence & Space team.

We have also delivered solutions, including major bespoke billing and capacity management platforms, to a variety of leading commercial satellite operators and service providers.



OUR CREDENTIALS

- Over 20 years heritage in defining, developing and integrating systems for satellite communications operators and satellite service providers.
- A client portfolio of key industry players including the European Space Agency, Inmarsat, SES, Eutelsat, Globalstar, Iridium and Airbus Defence & Space.
- Projects range from market and technology consultancy through to very large scale network and software systems integration
- We bring world class commercial telecommunications experience to the satcom sector – having supplied systems to over 100 telecoms operators on 5 continents
- Leading satcom management system provider – for example as prime software contractor for Skynet 5, the UK military satcom system

We develop satcom management systems which provide:

- service ordering, planning and provisioning
- satellite capacity management and radio network planning
- radio and baseband network management
- over-the-air network control and monitoring
- billing, inventory, workflow, CRM and ERP solutions.

In addition to the custom standards-compatible systems we supply, CGI can provide a low cost OSS/BSS capability based on open source products. This solution can assist a new entry operator to manage services and support customers with a low initial investment and a clear upgrade path.

Systems Engineering & Business Consultancy

CGI business consultants have helped Inmarsat, SES and other operators define new service and market strategies, and develop state-of-the art technical solutions. We leverage our presence in multiple market verticals such as transport, maritime, financial services and energy to help create and deliver new value-added services and applications. For example, we have undertaken European studies on the use of satcom in fields as diverse as mobile public safety networks, railway M2M systems and maritime e-Navigation platforms.

Ground Network Design and Development

CGI has designed and delivered a variety of satellite ground network and terrestrial gateway systems, for example, for consumer broadband and specialist safety critical services. We provide support across the systems lifecycle from concept through to integration, verification and validation. An example was the system engineering support we delivered to assist the introduction and extension of the high profile Inmarsat BGAN network – a satellite mobile service based on terrestrial 3G standards.

We have also developed a Secure Multicast product that enables delivery of a rich mix of services cost-effectively over a single wide-coverage channel whilst reliably controlling subscriber access with minimal network overhead.

Safety and Security

CGI has extensive experience with safety and security critical systems. We can assist with security architecture definition, accreditation and penetration testing, as well as safety case development, reliability and fault analyses. This heritage was crucial for our work for the European Space Agency and Inmarsat to develop the capability of the SwiftBroadband system to deliver next generation Air Traffic Management datalink services for the future European airspace.

WHY CGI?

We are one of Europe's leading companies specialising in software and network systems for satellite communications. We have successfully delivered major projects in both the public and private sector, and can bring a wealth of experience to help you meet your business and technical challenges. No matter how complex the system or services, you can rely on us to deliver.

ABOUT CGI

With over 68,000 professionals in 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors.

Founded in 1976, CGI applies a disciplined delivery approach that has achieved an industry-leading track record of on-time, on-budget projects.

For over 35 years we have worked in the Space industry delivering complex, mission-critical space systems. Our solutions are secure, often in complex technical environments, proven to work first time, every time, ultra-reliable and delivered on time to avoid costly delays.

We work on the major European navigation, communication and earth observation programmes and are specialists in space security and ground control systems. We share innovative uses of space and satellite technology with commercial organisations to help them solve their business problems effectively. Our software has supported the missions of more than 200 satellites.

Our high-quality business consulting, systems integration and outsourcing services help clients leverage current investments while adopting new technology and business strategies that achieve top and bottom line results.

As a demonstration of our commitment, our average client satisfaction score for the past 10 years has measured consistently higher than 9 out of 10.

For more information about CGI, visit www.cgi-group.co.uk/space or email: space@cgi.com or tel: +44 (0)845 070 7765

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