

© Telecommunications and Information Highways

Interoute Telecommunications

1. SYNOPSIS

Interoute is a privately owned pan-European telecommunications group. It offers a range of communication services to business customers, residential users and other carriers, operates its own international network with major switches in London and New York and continues to build national networks in selected countries. It has full operating licences and interconnect agreements in most major European countries. Interoute's i-21 network is the largest in Europe today. Products and services include bandwidth, VPNs, high-speed internet access and transit, managed hosting, communications services and media streaming. Alcatel forced Interoute into liquidation in November 2002, but the company emerged from liquidation two weeks later following agreement with Alcatel.

2. COMPANY INFORMATION

Exhibit 1 – Interoute at a glance

Shareholders	Private, majority owner - Fondation de Famille Sandoz
CEO	Alan Lowe
Year Established	1995
Headquarters	London
Branches	<ul style="list-style-type: none"> • Belgium • Denmark • France • Germany • Ireland • Italy • Netherlands • Portugal • Spain • Switzerland • United Kingdom • United States of America

(Source: Paul Budde Communication, based on company data)

Interoute is a privately owned pan-European telecommunications group. It offers a range of communication services to business customers, residential users and other carriers, operates its own international network with major switches in London and New York and continues to build national networks in selected countries. Interoute has more interconnects in the UK than any other carrier except BT and has full operating licences and interconnect agreements in most major European countries.

In 2000, the group began constructing the i-21 network, the largest terrestrial and submarine fibre optic cable network in Europe. It was complete and operational by mid-2001.

By 2002, Interoute's i-21 network connected 45 cities in 9 countries across 18000 cable kilometres (11250 cable miles). Interoute also owned and operated dense city networks in Amsterdam, Frankfurt, London, Madrid, Milan, Paris, Rome, Zurich and Vienna.

See separate report: [Europe - Major Market Players](#) for other major pan-European operators.

2.1 HISTORY

- 1995**
- Interoute UK founded by John Mittens and Nicholas Razey.
 - First switch delivered to the Group's switching centre in Telehouse, London.

- Interoute France founded.
- Launch of Gateway, Interoute's wholesale telephony service.
- Interoute UK granted an International Simple Resale (ISR) License.
- 1996**
 - Interoute Switzerland founded.
 - Interoute floats on the Alternative Investment Market (AIM).
 - Interoute UK granted an International Facilities License (IFL).
- 1997**
 - Interoute Germany founded.
 - Interoute Netherlands founded.
 - Interoute Denmark founded.
 - Interoute Spain founded.
 - Interoute Belgium founded.
 - Interoute withdraws from the AIM and is once again a private company.
 - Vista Telecom acquired in the USA.
- 1998**
 - Interoute Portugal founded.
 - Interoute expands into the retail business in the UK with the acquisition of First National, renamed Interoute Telecom Services.
 - ATI Telecom acquired in the USA.
 - La Fondation de Famille Sandoz takes majority stake in Interoute Communications Group Ltd.
 - Interoute Telecommunications founded in the USA.
 - The Mobile Phone Company acquired in the USA.
 - La Fondation de Famille Sandoz takes a majority stake in the pan-European ISP World Online, widening its investment in the telecommunications industry.
 - Interoute Italy founded.
 - Interoute announces plans to provide an IP-based value added services network.
 - Interoute Ireland founded.
- 1999**
 - New switch site in London Telelinks.
 - American International Telephone acquired in the USA.
 - Galaxy Long Distance acquired in the USA.
 - Worldwide Mobilecom Corporation acquired in the USA.
 - Telegroup Inc acquired in the USA.
 - Interoute acquires Flute, pan-European network.
- 2000**
 - Flute launched the first ring in its dark fibre Concerto Network.
 - Interoute signed up Telia on the first submarine ring of the i-21 network.
 - Interoute completed a project with Eurotunnel to lay two high-speed, fibre-optic cables through the Channel Tunnel.
- 2001**
 - Interoute's Denmark subsidiary installed ITXC-owned and operated equipment on its premises to connect the Danish switch directly to ITXC.net.
 - Interoute exchanged building contracts on sites in Amsterdam and London to house equipment for continuous monitoring, management and maintenance of i-21.
 - Interoute and Virtuebroadcasting partner to deliver largest Broadband Internet Video Streaming Network in Europe.
 - Interoute was awarded a contract by TyCom Ltd to provide dark fibre in Italy, connecting the TyCom Global Network (TGN) to Interoute's PoP in Milan and linking TyCom's landing station in Acilia via Interoute's PoP in Rome.
- 2002**
 - Interoute established a North American operation, Interoute Americas.
 - Interoute launched a rescue package to take over KPNQwest customers following that company's recent financial difficulties.
 - KPNQwest sold its Brussels-based Ebone network to Interoute.
 - Interoute won a contract to provide comprehensive network connectivity to support Megabeam's expansion of its wireless hotspots in airports, hotels and railway stations across Europe.
- 2003**
 - Interoute launches first commercially available 802.11g Wireless Internet Service in London.
 - Interoute acquires Virtue Broadcasting's Media Services division.
 - Ethernet services launched on Interoute's metropolitan area networks in Europe.

3. TEMPORARY LIQUIDATION – DECEMBER 2002

Interoute was put into liquidation in November 2002. Its network holding company, i-21 Holdings was put into administrative receivership in the UK earlier in the same month. This was the final stage in the company's attempts to restructure in 2002 following massive investments in its pan-European network. High investment costs could never be met in the face of dramatically falling voice and data transfer costs across such networks, and a great oversupply of network capacity. Vendor financing formed a key part of the company's restructuring plan. However, despite Interoute's request for the continuation of discussions, Alcatel, the key vendor-financer, reportedly rejected a management-buyout offer and withdrew support. Alcatel had originally taken the company into administration to protect its own interests but had indicated it would support the business.

By December 2002, Interoute and Alcatel had settled all outstanding issues between the two companies, with Interoute emerging from receivership after only two weeks. Under the terms of the agreement, Interoute re-acquired all the assets taken into receivership by Alcatel, and re-launched its full network and range of services.

4. SERVICES

Interoute offers a range of services, including:

- **Bandwidth** – fibre, wavelengths, Synchronous Digital Hierarchy (SDH);
- **Virtual Private Networks** – Internet Protocol (IP VPN) using Multi Protocol Label Switching (MPLS);
- **Internet Services** – access, transit, managed application hosting;
- **Communications** – carrier services, business communications.

4.1 BANDWIDTH

4.1.1 SDH

Interoute's bandwidth services of SDH circuits are fully protected G707 compliant SDH channels for full-duplex transmission of optical data traffic. The following SDH capacities are supported: STM-1, STM-4.

4.1.2 Wavelengths

Interoute wavelength services provide multi-protocol wavelengths at speeds of 2.5Gb/s or 10Gb/s.

4.1.3 Dark fibre

Dark fibre is a glass fibre optic thread with nothing attached to it (ie no light being sent through). In this unlit condition it is available for use without the intermediation of service provider electronics or intelligent services.

Interoute has deployed Corning LEAF G.655 fibre across the entire i-21 network footprint. Its dark fibre services offer a target availability of 99.3% for terrestrial network. The i-21 network has been designed as a series of eight rings with a minimum of two interconnect points between each ring to avoid single points of failure.

The Interoute dark fibre timeshare service allows an existing dark fibre customer to gain temporary access to a fibre pair enabling major upgrades to be performed on existing dark fibre without affecting service. When upgrades are complete, the customer is switched back to their original fibre pair.

Customers may wish to extend the fibre infrastructure to connect directly into their own site or a telehouse facility using the metropolitan access element of the i-21 network offering. Interoute is implementing a metropolitan fibre strategy in major European cities as part of the i-21 network.

4.1.4 Metropolitan access networks

Interoute's metropolitan access service is a tailored offering that delivers pan-European capacity services from the Interoute backbone to the customer's city location. Interoute's own metropolitan fibre ring networks take i-21's pan-European fibre optic backbone into Europe's key cities, allowing Interoute to supply a fully managed end-to-end service. Dark fibre, wavelengths (2.5 and 10Gb/s) and SDH (DS3, STM-1 to STM-4) services can all be provided to a city location by either Interoute or a local access carrier.

Metropolitan access rings have been designed to provide access to optical and IP customers. This minimises the need for third-party metropolitan access and ensures an end-to-end, high-capacity service supplied direct from Interoute.

4.1.5 Co-location

The company offers co-location space to supplement dark fibre, wavelength and SDH services across traffic node, amplifier and regenerator sites, and has designed five options to match individual customer requirements with service guarantees. With over 100 000 square metres of co-location space available across Europe, and an average size of 2000 square metres at traffic nodes, Interoute offers large scale co-location to customers.

4.2 VIRTUAL PRIVATE NETWORKS

Interoute's IP VPN services offer multiple logical networks, end-to-end live Service Level Agreements (SLAs) and strong quality of service control from a single European vendor. Based on a fibre optic IP backbone, the VPN service combines the flexibility of IP with security and privacy. The VPN caters for Internet, intranet, remote access and extranet services.

4.3 INTERNET SERVICES

Interoute provides high-speed guaranteed access to the i-21 network with guaranteed availability and access speeds in excess of 100Mb/s. The infrastructure is based on fibre optic IP technology and pricing is available on flat rate and usage-based rates.

4.4 COMMUNICATIONS SERVICES

Interoute offers a pan-European voice network that offers a range of services from wholesale minute termination and premium rate Internet billing to business communications packages. Interoute's platform is focused on delivering comprehensive voice services and combines Voice over Internet Protocol (VoIP) development over a strong multi-billion minute voice platform with one of the largest levels of interconnection agreements across Europe.

5. NETWORKS

5.1 OVERVIEW

By mid-2003 Interoute's fibre optic network – i-21 – connected nine countries across 18,000 cable kilometres. The group's existing country voice networks and combined network assets represent one of the largest and most advanced voice and data networks in Europe.

5.2 i-21

Interoute' fibre optic network, i-21, is the largest telecommunications project in Europe. Phase 1 connects 46 cities in nine countries across 14,500 route kilometres (18,000 cable kilometres) and has the capacity to carry a petabit (a billion megabits per second) of traffic as at mid-2001. The infrastructure layout is in eight rings.

The i-21 network incorporates a submarine ring connecting UK-Belgium-Netherlands, previously known as Concerto #1 on the Flute network (Flute was acquired by Interoute in May 1999). Flute and i-21 have combined to form the current network. The submarine section uses G.652 fibre to achieve the longer spans between regenerators required avoiding underwater amplifiers.

Because the network is so big, prices are extremely competitive taking advantage of economies of scale. By using the latest technology, and building across a wide geographical footprint, Interoute can offer network services that provide as much or as little management as required.

The prime contractor for the i-21 network is Alcatel and the principal supplier of G.655 optical fibre is Corning.

In 2003, Interoute's i-21 network covered:

- network down to the ducts;
- 18,000 cable km;
- 48 pairs;
- 80 lambda;
- 10 Gb/s;
- 45 PoPs;
- 9 countries;
- 3-12 ducts;
- 100,000m² co-location.

In March 2002, Interoute launched Metropolitan Area Networks (MANs) in seven European cities: Amsterdam, Frankfurt, London, Madrid, Milan, Paris and Vienna, with Zurich coming into service in June 2002. Dark fibre was available immediately with Interoute's full range of SDH (up to STM-16) and wavelength (up to 10Gb/s) services available from 2nd quarter 2002.

By May 2003, it had further expanded its MANs in Europe into Barcelona, Berlin, Brussels, Dusseldorf, Geneva, Hamburg, Munich, Nice, Rotterdam and Stuttgart.

5.3 VOICE NETWORK

Interoute sells carrier grade voice services to over 70 other carriers and service providers around the world. It supports this service with a pan-European voice network that interconnects with local carriers, and connects local operations to a hub in London.

6. CONTACT DETAILS

Interoute Telecommunications (UK) Ltd
Barnard's Inn
86 Fetter Lane
LONDON EC4A 1EN
UNITED KINGDOM

Tel: +44 20 7025 9000
Fax: +44 20 7025 9888
Website: www.interoute.com

7. RELATED REPORTS

For information relating to:

- worldwide activities in the telecommunications industry, see [Global Overviews](#).
- the global telecommunications industry, see [Technologies, Terminology and Glossary](#).
- telecommunication companies in Europe, see [Companies in Europe](#).
- activities in Europe, see [Europe](#).

Copyright Paul Budde Communication Pty Ltd, 2003. All rights reserved.

This material is subject to the laws of copyright and is restricted to registered licence-holders who have entered into a Corporate, a Multi-User or a Single-User licence agreement with BuddeComm. It is an offence, punishable by AU\$250,000, for the licence-holder to make the material available to any unauthorised person, either via e-mail messaging or by placing it on a network. We offer very attractive multi-user and Intranet services. To arrange for additional user licences please contact us.

2643 George Downes Drive, BUCKETTY NSW 2250 AUSTRALIA
Telephone: +61 2 4998 8144 Fax: +61 2 4998 8247
E-mail: pbcbudde.com.au Web: www.budde.com.au