

## SubCom's Undersea Optical Project Experience

The table below details the Fiber Optic Undersea Cable Systems supplied by SubCom, in whole or in part, since 1986. Note that systems operating with 10Gb/s equipment are shaded yellow. Repeaterless systems are shaded blue.

RFS	SYSTEM	TERMINAL LOCATIONS	OWNERS	Length (km)	Total/ Partial
1986	OPTICAN-1	Tenerife-Gran Canaria, Spain	Telefonica	119	T
1988	TAT-8	NJ, USA -UK-France	AT&T, BT, MCI, Sprint, CICI, France Telecom, MFS Worldcom, IDC, ITJ, Belgacom, Telecom Eireann, Telecom Denmark, Turk Telecom, Swiss Telecom, Teleglobe, Telstra, Korea Telecom and others	6,705	P
1989	TPC-3	HA, USA - Japan; with branch to Guam	AT&T, KDD, BT, Sprint, MCI, ITT, DBP Telekom, Dacom, Chunghwa Telecom, TCNZ, ITJ, IDC, Entel (Peru), PLDT, Teleglobe, Telstra, SingTel and others	9,000	P
1989	HAW-4	CA, USA – HA, USA	AT&T, KDD, BT, Sprint, MCI, ITT, DBP Telekom, Dacom, Chunghwa Telecom, TCNZ, ITJ, IDC, Entel (Peru), PLDT, Teleglobe, Telstra, SingTel and others	4,238	T
1990	KOREA DOMESTIC	Cheju Island to Kohung, Korea	Korea Electric Power Corp.	182	T
1990	GPT	Guam-Philippines-Taiwan	AT&T, KDD, ITJ, IDC, Sprint, MCI, Chunghwa Telecom, PLDT, Teleglobe, Telstra, BT, SingTel and others	3,728	P
1990	FLORICO 2	FL, USA - Puerto Rico	AT&T	1,911	T
1990	HJK	Hong Kong-Japan-Korea	KDD, Hong Kong Telecom, Korea Telecom, AT&T, SingTel, ITJ, IDC, MCI, PLDT, Sprint, Teleglobe, Telstra, BT and others	4,566	P
1990	TCS-1	Puerto Rico-Dominican Republic – Jamaica – Columbia	AT&T, MCI, Sprint, C&W, MFS Worldcom, TSTT, Telefonica, PTTs of Jamaica, Colombia, Haiti, Barbados, and the Dominican Republic, Teleglobe, TresCom and others	2,648	T
1992	TAT-9	NJ, USA - Canada-UK-France-Spain	AT&T, France Telecom, Telefonica, MCI, Telstra, Sprint, BT, Mercury, Comsat, IDC, ITJ, Teleglobe, Belgacom, Telecom Eireann, Telecom Denmark, PLDT, KDD, Turk Telecom, Swiss Telecom, MFS Worldcom, SingTel and others	9,305	P
1992	TAT-10	RI, USA-Germany	AT&T, DBP Telekom, BT, MCI, Sprint, KDD, MFS Worldcom, KPN (Netherlands), IDC, Telstra, Korea Telecom, Chunghwa Telecom, Telmex, Telefonica, TCNZ, Hong Kong Telecom, Belgacom, Telecom Denmark, PLDT, Turk Telecom, Teleglobe and others	8,962	T
1992	TAINO-CARIB	Puerto Rico-St. Thomas-Tortola	AT&T, TLD (Puerto Rico), MCI, Sprint, C&W, Embratel, GTE, Teleglobe, TSTT, Telecom Italia, KDD, Telmex, Telefonica, Teleglobe, CANTV, Telintar (Argentina), Telecom (Colombia), TresCom, and PTT of Haiti	186	P
1992	MAT-2	Italy - Spain	Telecom Italia, AT&T, KDD, MCI, PLDT, Sprint, Swiss Telecom, Telefonica, Teleglobe, Turk Telecom, Telstra, BT and others	1,988	P
1993	HAW-5	California-Hawaii	AT&T, Sprint, MCI, OTI, MFS Worldcom, Chunghwa Telecom, GTE Hawaiian Tel, Telstra, Teleglobe, France Telecom, DBP	4,757	T

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			Telkom, KDD, Long Distance/USA, Belgacom, Fedex Intl, Entel (Chile), PLDT, BT, SingTel, WorldExchange, and others		
1993	PACIFIC RIM EAST	HA, USA -New Zealand	Telstra, TCNZ, AT&T, Sprint, IDC, Entel (Chile), Clear, Telecom Eireann, BT, CAT, DBP Telekom, Swiss Telecom, JTB, GTE, Hong Kong Telecom, ITJ, Chunghwa Telecom, Telecom Italia, KDD, Korea Telecom, MCI, Mercury, France Telecom, PLDT, PT Indosat and others	7,810	P
1993	Q-C-C	Qualo-Chemlu-Cameron Lake	Teleglobe, British Columbia Telephone	177	T
1993	APC	Singapore-Malaysia-Hong Kong-Taiwan-Japan	AT&T, Sprint, KDD, MCI, IDC, Hong Kong Telecom, Chunghwa Telecom, Mercury, Telekom Malaysia, PLDT, SingTel, Turk Telecom, Teleglobe, Telstra, BT, MFS Worldcom and others	7,517	P
1993	TAT-11	NJ, USA -UK-France	AT&T, Sprint, MCI, BT, France Telecom, Mercury, MFS Worldcom, C&W, Telecom Eireann, Telecom Denmark, Chunghwa Telecom, PLDT, KDD, Teleglobe, Belgacom, SingTel and others	7,105	P
1993	TURMEOS-1	Istanbul -Izmir-Mararis, Turkey	Turk Telecom	1,225	P
1993	CHINA - JAPAN (CJOFS)	Miyazaki, Kyushu, Japan; to Nanhui, China	AT&T, KDD, China Telecom, ITJ, IDC, MCI, Sprint, Teleglobe, Telstra, BT, SingTel and others	1,302	T
1994	SEA-ME-WE 2	Southeast Asia-MidEast-Western Europe	AT&T, SingTel, France Telecom, Batelco, Tunsie Telecom, VSNL (India), Saudi Telecom, Chunghwa Telecom, Turk Telecom, PLDT, PT Indosat, KDD, Infonet, Telecom Italia, Teleglobe, Sprint, MCI, Telstra, Belgacom, BT and others	21,000	P
1994	HICS	Oahu-Kauai-Maui, Hawaii	HTC	482	T
1994	UNISUR	Brazil-Uruguay-Argentina	Telintar (Argentina), Embratel (Brazil), Antel (Uruguay), Entel (Chile), AT&T, KDD, ITJ, IDC, Telefonica, Teleglobe, Sprint, MCI, Telstra, BT, SingTel et al	1,714	P
1994	AMERICAS 1	FL, USA-St. Thomas – Trinidad – Venezuela – Brazil	All America Cables & Radio (D.R.), Antel (El Salvador), Antel (Uruguay), Antelco (Paraguay), Austria PTT, AT&T, Belgacom, BET (Barbados), BT, C&W, CANTV, Codetel (D.R.), CPRM, Dacom, DBP Telekom, Embratel, Entel (Chile), France Telecom, GT&T and others	8,116	T
1994	COLUMBUS-2	FL, USA - Mexico-St. Thomas	All America Cables & Radio (D.R.), Antel (El Salvador), Antel (Uruguay), Antelco (Paraguay), Austria PTT, AT&T, Belgacom, BET (Barbados), BT, C&W and others	12,165	P
1995	TPC-5	CA, USA – HA, USA - Hawaii-Guam-Japan-CA, USA	AT&T, KDD, Entel (Peru), Chunghwa Telecom, PLDT, MCI, Sprint, Globe Telecom, Telefonica, Teleglobe, Telstra, Belgacom, BT, MFS Worldcom, SingTel, Turk Telecom and others	24,441	P
1995	CYPRUS-ISRAEL (CIOS)	Israel-Cyprus	Bezeq, CYTA, AT&T, Sprint, MCI, Belgacom, BT and others	400	T
1995	CANUS 1	NJ, USA-Nova Scotia	Optel Communications, Teleglobe. More than twenty-five carriers have bought capacity on the cable, including DBP Telekom, Telecom Finland, SPT Telecom (Czech), Rostelecom, Korea Telecom, Telecom Denmark, Telia, PTT of Iceland,	1,360	T

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			Ukrtec, AT&T, MCI, Sprint and others		
1995	CADMOS	Cyprus-Lebanon	CYTA, Lebanese PTT, Syrian Telecom Establishment, AT&T, Teleglobe, MCI, Belgacom, BT and others	260	T
1995	LK. MICHIGAN	MI, USA	AT&T	97	T
1995	FLAG CHINA EXT	Shanghai, China	NYNEX, Marubeni, Dallah-Al Baraka (Saudi), and Gulf Assoc. (USA), Telecom Holding Co. (Thailand), the Asian Infrastructure Fund. 53 carriers are buying capacity on the system including Teleglobe, AT&T, Belgacom, KDD, DBP Telekom, Telefonica, IDC, ITJ and others	620	P
1996	TAT-12/13	NY, USA -RI, USA -UK-France-NY, USA	AT&T, KDD, BT, France Telecom, Telecom Eireann, MCI, Sprint, Telefonica, Telecom Denmark, Chunghwa Telecom, PLDT, Turk Telecom, Teleglobe, Telstra, Belgacom, MFS Worldcom, SingTel, WorldExchange, Korea Telecom, Viatel, Primus and others	12,307	P
1996	ITUR	Sicily-Turkey-Ukraine-Russia	Telecom Italia, Iritel, Rostelecom, Turk Telecom, BT, DBP Telekom, France Telecom, Telefonica, AT&T, MCI, Sprint, Ukrtec, SingTel, Bezeq, Romtelecom, BTC (Bulgaria), Belgacom, Beltelecom and others	3,466	P
1996	BRAZIL FESTOON	Aracaju to Sitio, Brazil; Campos to Vitoria, Brazil	Embratel	2,552	P
1996	PALAU	Palau	Palau National Communications Corp.	201	T
1997	APCN	Korea-Japan-Taiwan-Philippines-Malaysia-Singapore	KDD, AT&T, Korea Telecom, Chunghwa Telecom, PLDT, HKT, CAT, Telekom Malaysia, SingTel, PT Indosat, Globe Telecom, Celcom, Telefonica, Teleglobe, Telstra, BT, Worldcom, China Telecom, IDC, Dacom, Vietnam Telecom, DBP et al	11,813	P
1997	FLAG	Europe-Mid-East-Indian Ocean-Far East	NYNEX, Marubeni, Dallah-Al Baraka (Saudi), and Gulf Assoc. (USA), Telecom Holding Co. (Thailand), the Asian Infrastructure Fund. 53 carriers buy capacity on the system including Teleglobe, AT&T, Belgacom, KDD and others	26,203	P
1997	ANTILLAS	San Juan, PR to Punta Cana, Dominican Rep.	AT&T, MCI, Sprint, Telefonica Larga Distancia, TresCom, Codetel and Tricom of the Dominican Republic and others	585	T
1997	BAHAMAS II	Nassau and Freeport, Bahamas; to FL, USA	AT&T, Batelco (Bahamas), Telefonica, Teleglobe, MCI, Sprint, TresCom and others	473	T
1997	BUS-1	Bermuda to NJ, USA	TeleBermuda	1,310	T
1997	HIFN	Hawaii Inter-Island	GST Telecom	744	T
1997	St. Thomas - St.Croix (C1)	St. Thomas to St. Croix, U.S. Virgin Islands	AT&T and others	75	T
1998	AUFS	Seattle to Whittier, Alaska and to Anchorage	GCI	3,200	T
1998	FARLAND	UK-Netherlands	BT	150	T
1998	LEV	Italy-Israel-Cyprus	Telecom Italia, KAMA (Israel), Telrad (Israel), Aurec (Israel) and Globescom (Israel)	2,500	P
1998	PANAM	Chile-Peru-Ecuador-Panama-Columbia-Venezuela-Aruba-St Croix	AT&T, Sprint, KDD, MCI, Entel (Chile), Telefonica de Peru, Telecom Italia, Telmex, Telecom Columbia, ICE (Costa Rica), Intel (Panama), Antel (El Salvador), Entel (Bolivia), Telcor (Nicaragua), Telefonica, CANTV and others	7,000	P

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1998	AC-1	U.S.-UK- Germany- Netherlands	Global Crossing Ltd.	14,000	T
1998	PETROBRAS	Connects Petrobras oil platforms	Petrobras	451	T
1999	REMBRANDT	UK-Netherlands	PTT Telecom	420	T
1999	SEA-ME-WE 3	W.Europe- MidEast-Indian Ocean-SE Asia	Arento, AT&T, BT, CAT, CYTA, DBP Telekom), Etisalat, France Telecom, Hong Kong Telecom, PT Indosat, JTB, KDD, Korea Telecom, China Telecom, ONPT (Morocco) and others	37,000	P
1999	COLUMBUS 3	FL, USA - St.Croix-Azores, Portugal-Spain- Italy	AT&T, Telecom Italia, Telefonica, CPRM and others	11,000	P
1999	FIBER WEB	Gulf of Mexico Oil Platform	Petrocom	1,250	T
1999	FLAG Extension	Aqaba, Jordan	FLAG Ltd.	276	P
1999	FLAG Extension	Jeddah, Saudi Arabia	FLAG Ltd.	232	P
1999	GUAM- PHILIPPINES	Guam- Philippines	AT&T, KDD, ITJ, IDC, Sprint, MCI, Chunghwa Telecom, PLDT, Teleglobe, Telstra, BT, SingTel and others	3,598	P
1999	ESAT II	Ireland-UK	ESAT Telecom	240	T
2000	AMERICAS II	FL, USA -St.Croix- Curacao- Venezuela- Trinidad-Fr. Guyana-Brazil	Embratel, AT&T, Sprint, MCII, CANTV, Antelcom, NV., France Telecom, TSTT, GT&T and TELESUR	9,000	P
2000	BSFOCS	Bulgaria-Ukraine- Russia	ARMENEL, BTC, CYTA, OTE, TELECOM SLOVENIA, UKRTELCOM, Westelcom, AT&T, DTAG, HT, KDD	1,300	P
2000	CHINA-US	China-OR, USA - Japan-Korea- China-CA, USA - OR, USA-Japan- Guam	AT&T, MCI, Sprint, KDD, SBC, China Telecom, NTT, Korea Telecom, Hong Kong Telecom and SingTel	30,241	P
2000	MAYA 1	US-Mexico- Cayman Islands- Honduras-Costa Rica-Panama- Columbia	AT&T, Cable & Wireless Cayman, Cable & Wireless Panama, Hondutel, ICE, Telecom, and Telmex	4,506	P
2000	PAC/ Cook's Crossing	CA, USA - Mexico - Panama, Venezuela, St. Croix (USVI).	Global Crossing Ltd	8,500	T
2000	PC-1	Ajigaura & Shima, Japan -CA, USA - WA, USA	Global Crossing Ltd	21,000	P
2000	YELLOW	NY, USA - UK	Level-3 Ltd.	5,977	T
2001	HIBERNIA	Canada - UK - Ireland - Canada	WORLDWIDE FIBER Inc.	12,111	T
2001	SAM-1	FL, USA- Puerto Rico - Brazil - Argentina -Chile - Peru -Guatemala - FL, USA	Telefonica (Spain)	19,964	T
2001	SAFE	South Africa - Reunion- Mauritius-India-	France Telecom, Mauritius Telecom, MCI International, Telekom Malaysia Berhard, Telkom Communications International,	13,000	T

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		Malaysia	Videsh Sanchar Nigam Limited.		
2001	ARCOS	FL, USA – Bahamas- Turks and Caicos - Dominican Republic - Puerto Rico - Netherlands Antilles – Venezuela - Columbia – Panama - Costa Rica – Nicaragua – Honduras – Guatemala - Belize - Mexico	AAC&R DR, Alestra, Avantel, BatelCo, Belize Telecom, Ltd, Cable Onda, CANTV, Caribbean Cable Links Inc., Centennial Puerto Rico Operations, Centennial Undersea Cable Corp., CODETEL, Concert Ltd., Genuity, HonduTel, IMPSAT-USA, ISA, MCII, New World Network, NICATEL, Orbinet Inc., TRICOM-USA, TRICOM-DR, UltraCom	1,994	P
2001	Australia Japan	Japan – Guam - Australia	Concert, WorldCom, Japan Telecom, NTT Communications, Telstra	12,224	P
2002	C2C	Philippines - Hong Kong – Taiwan- China – Korea - Japan - Singapore	C2C	17,000	P
2002	TGN Atlantic	NY, USA – UK	SubCom	13,025	T
2002	TGN West Europe	Portugal – Spain – UK	SubCom	3,578	T
2002	TGN Pacific	Japan –Guam; Japan – OR, USA - CA, USA	SubCom	22,134	T
2003	Svalbard Submarine Optical Fibre Transmission System	Svalbard, Norway - Norway	Norsk Romsenter Eindom AS (Norwegian Space Centre)	2,800	T
2004	Tata Indicom India-Singapore Cable System	Chennai India – Singapore	Tata Indicom	3,350	T
2005	TWA-1	Al Fujarah – Karachi	Transworld Associates	1,241	T
2005	Antilles Crossing	Barbados – St. Croix	Antilles Crossing International, LP, Antilles – St. Croix Inc., Antilles Crossing (St. Lucia) Limited	972	T
2005	BDSN-i	Nassau to Port au Prince	The Bahamas Telecommunications Company, Ltd.	2,817	T
2007	British Petroleum Gulf of Mexico Fiber Optic Network	BP GoM FON Pascagoula, MS, USA and Freeport, TX, USA via a network of offshore oil platforms in the Gulf of Mexico	BP America Production Company	1190	T
2007	NWN-Trinidad Curacao	Trinidad and Curacao	New World Network, Ltd	1031	T
2008	Trans-Pacific Express	Qingdao (Shandong); Keoje (Korea); Tanshui (Taipei); Chongming (Shanghai); Nedonna (Oregon, USA)	China Network Communications Group Corporation; China Telecommunications Corporation; China United Telecommunications Corporation; Chunghwa Telecom Co., Ltd. KT Corporation Int'l & Satellite Telecommunication Department MCI International, Inc.	26,333	T
2007	EXTENSIONS to the SAm-I	Puerto Rico to Colombia.	TELEFONICA INTERNATIONAL WHOLESALE SERVICES AMERICA S.A.,	2511	T

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	CABLE SYSTEM		TELEFONICA INTERNATIONAL WHOLESALE SERVICES COLOMBIA S.A., TELEFONICA INTERNATIONAL WHOLESALE SERVICES ECUADOR S.A., TELEFONICA INTERNATIONAL WHOLESALE SERVICES PERU S.A.C., T I WHOLESALE SERVICES PUERTO RICO, INC.,		
2008	Matrix Cable System	Singapore to Jakarta; Batam and Pontianak	MATRIX NETWORKS PTE. LTD.	1438	T
2008	PAC-Costa Rica	Parrita, Costa Rica	Global Crossing International Networks Ltd. and Global Crossing Costa Rica S.R.L.,	155	T
2008	Columbia Florida Express-1	Boca Raton (USA), Cartagena (Colombia) and Bull Bay (Jamaica)	New World Network, Ltd.	2423	T
2008	Caucasus Cable System	Poti and Varna	Caucasus Networks. Ltd.	1187	T
2008	DANICE Cable System	Landeyjasandur, Iceland to Iceland Blaabjerg. Denmark	Eignarhaldsfélagið Farice ehf (E-Farice)	2248	T
2009	Middle-East North Africa Submarine Cable System Segment 1	Jeddah, Saudi Arabia and Suez, Egypt. There is at least one Branching Unit near Jeddah for future connection southwards from the Jeddah area.	Orascom Telecom Holdings SAE	1221	T
2008	AKORN Cable System	Anchorage and Nikiski, plus a repeatered cable system between Homer and Florence	ACS Cable Systems, Inc.	3087	T
2008	TATA Intra Asia	Singapore and Toyohashi, Japan. Initially landed branches are provided to Vung Tau, Vietnam; Chung Hom Kok, Hong Kong; and Aparri, Philippines.	VSNL International (Bermuda) Ltd.	6485	T
2009	SEA Cable System	South Africa, Mozambique, Madagascar, Tanzania, Kenya, India and Egypt	SEACOM, Ltd	13740	T
2009	Middle-East North Africa Submarine Cable System Segment 1 Extension to Oman	The existing MENA Red Sea System (Suez to Jeddah with BU) is extended to connect with Al Seeb, Oman	Orascom Telecom Holdings SAE	3971	T
2009	PPC-1 CABLE	Sydney	PPC 1 Limited	7185	T

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	SYSTEM	(Australia), Guam (USA) and Madang (Papua New Guinea)			
2010	EIG		AT&T Corp.; Cable & Wireless UK Communications; Global Network Services Ltd.; Communications Networking Services (UK); Djibouti Telecom S.A.; Republic of Djibouti; Emirates Integrated Telecommunications Company; Gibtelecom Limited; Mauritius Telecom Ltd; MCI International, Inc. MTN International (Mauritius) Limited; Oman Telecommunications Company SAOG; PT Comunicações, S.A.; Saudi Telecom Company; Terrasse Boieildieu La Defense VERIZON FRANCE Telecom Egypt; Telkom SA Limited	6,737	P
2010	UNITY	Landing points in Japan and the United States.	Bharti Airtel Limited Global Transit Ltd Google Cable Bermuda Ltd KDDI Corporation Pacnet Limited (Registration Number: 38611) Singapore Telecommunications Limited (registration# 199201624D)	9,486	P
2010	THE KWAJALEIN CABLE SYSTEM	KCS connects cable stations on the islands of Guam and Kwajalein	Hannon Armstrong KCS Funding LLC (Purchaser); TKC Technology Solutions, LLC (Operator)	2,887	E
2011	Gulf Bridge International Cable System	GBICS connects cable stations in and among Iran, Iraq, Kuwait, Saudi Arabia, Bahrain, Qatar, the United Arab Emirates.	Gulf Bridge International	4,719	T