

# Repeatered System - 1st Generation

(Regenerator System by 1.31 micron wavelength)

System	Landing Countries	Capacity	Route Length	Maximum Water	Delivery
TPC-3 (Note 1)	Japan, USA (Guam, Hawaii)	560Mbps (280Mbps x 2fp)	3,760km	-	Dec. 88
Honk Kong-Japan-Korea	Hong Kong, Japan, Korea	560Mbps (280Mbps x 2fp)	4,700km	6,400m	Apr. 90
Kuantan-Kota Kinabaru	Malaysia	840Mbps (420Mbps x 2fp)	1,570km	2,650m	Dec. 90
North Pacific Cable (NPC)	Japan, USA (Mainland)	1,680bps (420Mbps x 4fp)	9,400km	4,950m	Apr. 91
Surabaya-Banjarmasin	Indonesia	280Mbps (280Mbps x 1fp)	410km	70m	Dec. 91

**Note 1: The very first Branching Units deployed in the Pacific**

## Repeatered System – 2nd Generation (Regenerator System by 1.55 micron wavelength)

System	Landing Countries	Capacity	Route Length	Maximum Water	Delivery
UK-Germany No.5 (Note 2)	UK, Germany	3.6Gbps (1.8Gbps x 2fp)	500km	70m	Oct. 91
Brunei-Singapore	Brunei, Singapore	1,120Mbps (560Mbps x 2fp)	1,500lm	2,500m	Nov. 91
Brunei-Malaysia-Philippines (BMP)	Brunei, Malaysia, Philippines	1,120Mbps (560Mbps x 2fp)	1,500lm	5,000m	Jan. 92
TPC-4	Japan, USA (Mainland)	1,680bps (560Mbps x 3fp)	5,000km	-	Oct. 92
APC	Japan, Hong Kong, Taiwan, Malaysia, Singapore	1,680bps (560Mbps x 3fp)	7,600km	6,400m	Aug. 93
Malaysia-Thailand (incl. Petchaburi-Sri Racha)	Malaysia, Thailand	1,120Mbps (560Mbps x 2fp)	1,500lm	-	Aug. 94
Russia-Japan-Korea	Russia, Japan, Korea	1,120Mbps (560Mbps x 2fp)	1,700km	-	Nov. 94
Thailand-Vietnam-Hong Kong	Thailand, Vietnam, Hong Kong	1,120Mbps (560Mbps x 2fp)	3,400km	3,500m	Nov. 95

**Note 2: The very first Giga bit submarine cable system in the world**

## Repeatered System – 3rd Generation (Optical Amplifier System)

System	Landing Countries	Capacity	Route Length	Maximum Water	Delivery
Malaysia Domestic (Southern Link)	Malaysia	10Gbps (5Gbps x 2fp)	2,300km	2,300m	Jul. 95
Malaysia Domestic (Northern Link)	Malaysia	10Gbps (5Gbps x 2fp)	1,800km	2,500m	Mar. 96
APCN	Korea, Japan, Taiwan, Philippines, Hong Kong, Thailand, Malaysia, Singapore,	10Gbps (5Gbps x 2fp)	11,800km	-	Sep. 96
TPC-5	Japan, USA (Mainland)	10Gbps (5Gbps x 2fp)	24,500km	-	Dec. 96
Jasuraus	Indonesia, Australia	10Gbps (5Gbps x 2fp)	2,800km	-	Sep. 96
Fiber Optic Gulf (FOG)	Bahrain, Qatar, U.A.E, Kuwait	20Gbps (5Gbps x 4fp)	1,300km	80m	Mar. 98

## Repeatered System – 4th Generation (Optical Amplifier System with WDM Technology)

System	Landing Countries	Capacity	Route Length	Maximum Water	Delivery
SEA-ME-WE 3 Segment S3 (Note 3)	Singapore, Indonesia, Australia	40Gbps (2.5Gbps x 8wl x 2fp)	4,600km	6,450m	Apr. 99
SEA-ME-WE 3 Segment S1 (Note 3 & 4)	Korea, Japan, Taiwan, China, Hong Kong	40Gbps (2.5Gbps x 8wl x 2fp)	4,600km	5,400m	Sep. 00
Southern Cross Cable Network	Fiji, New Zealand, Australia, USA	640Gbps (10Gbps x 16wl x 4fp)	29,400km	7,600m	Nov. 00
North Asia Cable System (NACS)	Hong Kong, Taiwan, Japan	2.52Tbps (10Gbps x 42wl x 6fp)	3,600km	-	May 01
Japan-US Cable Network	Japan, USA (Mainland)	640Gbps (10Gbps x 16wl x 4fp)	22,000km	4,850m	Jul. 01
China-US Cable Network	China, Japan, Taiwan, Guam, Hawaii, USA(Mainland)	80Gbps (2.5Gbps x 8wl x 4fp)	31,000km	-	Sep. 01
SEA-ME-WE 4 Segment S1	Singapore, Malaysia, Thailand, Bangladesh, Sri Lanka, India	1.28Tbps (10Gbps x 64wl x 2fp)	8,000km	4,400m	Oct. 05
SEA-ME-WE 4 Segment S4	Egypt, Italy, Tunisia, Algeria, France	1.28Tbps (10Gbps x 64wl x 2fp)	3,400km	-	Oct. 05

**Note 3 The very first WDM submarine cable system in the world.**

**Note 4 The very first submarine cable system in the world employing O-ADM Branching Units.**

# Unrepeated System

System	Landing Countries	Capacity	Route Length	Maximum Water	Delivery
National Digital Transmission Network	Philippines	15Gbps (2.5Gbps x 6fp)	1,300km	3,800m	Feb. 99
Korea-Japan Cable Network (KJCN)	Korea, Japan	2.88Tbps (10Gbps x 24wl x 12fp)	500km	190m	Feb. 02
Fiber Optic Backbone Network	Philippines	3.84Tbps (10Gbps x 32wl x 12fp)	1,300km	3,400m	Jul. 03

# WDM In-Service Capacity Upgrade (1/4)

System	Landing Countries	Original Capacity	Capacity post Upgrade	Delivery
SEA-ME-WE 3 1st 10Gbps Upgrade	China, Hong Kong	40Gbps (2.5Gbps x 8wl x 2fp)	55Gbps (2.5Gbps x 7wl x 2fp plus 10G x 1wl x 2 fp)	Jan. 03
Capacity Upgrade Project (Phase 1)	Egypt, Jordan, Saudi Arabia, UAE	10Gbps (5Gbps x 1wl x 2fp)	20Gbps (5Gbps x 1wl x 2fp plus 10G x 1wl x 1fp)	Sep. 03
Capacity Upgrade Project (Phase 3)	UK, Italy, Egypt	15Gbps (5Gbps x 1wl x 2fp plus 10Gbps x 1wl x 1fp)	25Gbps (5Gbps x 1wl x 1fp plus 10G x 2wl x 1fp)	May 05
SEA-ME-WE 3 2nd 10Gbps Upgrade	Portugal, Italy, Greece, Turkey, Cyprus, Egypt, India, Sri Lanka, Thailand, Malaysia, Singapore, China	35Gbps x 5fp	Various (Original Capacity plus 25Gbps to 55Gbps x 5fp)	Dec. 05
Capacity Upgrade Project (South East Pacific)	Hong Kong, Taiwan, Japan, Korea	80Gbps (10Gbps x 4wl x 2fp)	290Gbps (10Gbps x 17wl x 1fp plus 10Gbps x 12wl x 1fp)	Jan. 06

# WDM In-Service Capacity Upgrade (2/4)

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System	Landing Countries	Original Capacity	Capacity post Upgrade	Delivery
Capacity Upgrade Project (Phase 4)	UK, Spain, Italy, Egypt	10Gbps (5Gbps x 1wl x 1fp plus 2.5Gbps x 2wl x 1fp)	25Gbps (5Gbps x 1wl x 1fp plus 10G x 2wl x 1fp)	Jan. 06
Capacity Upgrade Project (Phase 5)	Egypt, India	5Gbps (5Gbps x 1wl x 1fp)	15Gbps (5Gbps x 1wl x 1fp plus 10G x 1wl x 1fp)	Oct. 06
Capacity Upgrade Project (Atlantic North)	USA, UK	320Gbps (10Gbps x 16wl x 2fp)	320Gbps (10Gbps x 16wl x 2fp plus 230Gbps (10Gbps x 23wl x 1fp)	Nov. 06 Jan. 07
Capacity Upgrade Project (Atlantic South)	USA, France	320Gbps (10Gbps x 16wl x 2fp)	320Gbps (10Gbps x 16wl x 2fp plus 230Gbps (10Gbps x 23wl x 1fp)	Nov. 06 Jan. 07
Capacity Upgrade Project (South East Pacific)	Hong Kong, Taiwan, Japan, Korea	290Gbps	450Gbps	Feb. 07

# WDM In-Service Capacity Upgrade (3/4)

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System	Landing Countries	Original Capacity	Capacity post Upgrade	Delivery
SEA-ME-WE 3 3rd 10Gbps Upgrade	Portugal, Morocco, Italy, Egypt, Djibouti, UAE, Pakistan, India, Indonesia, Malaysia, Singapore, Vietnam, Philippines, China, Taipei, Japan	25Gbps to 85Gbps x 8fp	Various (Original Capacity plus 7.5Gbps to 42.5Gbps x 8fp)	Apr. 07
Capacity Upgrade Project (Stage 2 Phase 1)	UK, Spain, Italy, Egypt	25Gbps	110Gbps	May. 07
Capacity Upgrade Project (South East Pacific)	Hong Kong, Japan	450Gbps	610Gbps	May. 07
Capacity Upgrade Project (Stage 2 Phase 2)	Egypt, Jordan, Saudi Arabia, UAE, India	25Gbps	90Gbps	Jul. 07
Capacity Upgrade Project (South East Pacific)	Hong Kong, Japan	610Gbps	870Gbps	Aug. 07

## WDM In-Service Capacity Upgrade (4/4)

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System	Landing Countries	Original Capacity	Capacity post Upgrade	Delivery
SEA-ME-WE 4 1st Upgrade	Singapore, India	240Gbps (10Gbps x 12wl x 1fp plus 10Gbps x 12wl x 1fp)	520Gbps (10Gbps x 23wl x 1fp plus 10G x 29wl x 1fp)	Sep. 07
Japan-US CN Upgrade	USA, Japan	400Gbps	960Gbps	Mar. 08
PC-1 Upgrade	USA, Japan	220Gbps	520Gbps	Mar. 08
Capacity Upgrade Project (South East Pacific)	Hong Kong, Japan	870Gbps	1,030Gbps	June 08