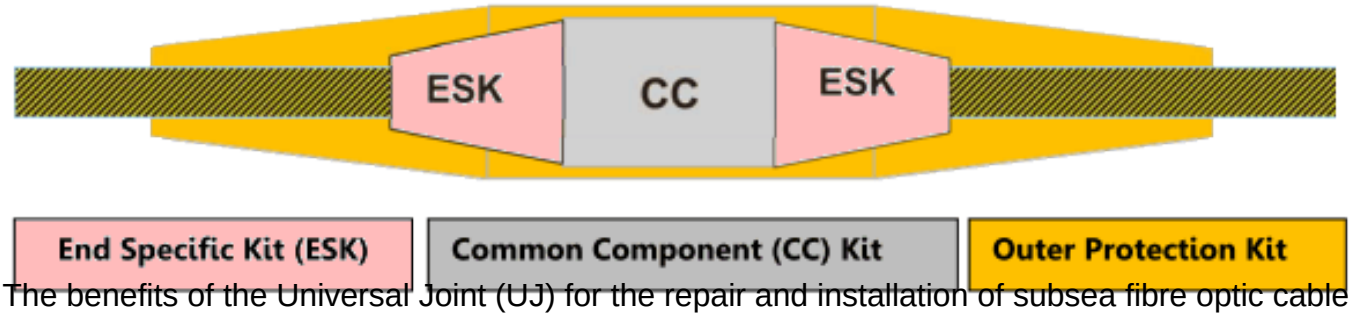
Universal Jointing is a method of connecting all types of submarine optical tele-communication cables with a common set of construction equipment & methods.



The benefits of the Universal Joint (UJ) for the repair and installation of subsea fibre optic cable systems are widely acknowledged within the Telecommunication Industry. Since its first installation in 1990 the technology has proven its reliability in-service and provides an efficient and cost effective method of connecting most types of submarine optical telecommunication cables, using a common set of equipment and standardised piece parts.

Benefits - System Owner

Low cost capital expenditure in jointing tools, piece-parts and services - only one technology, eliminating the added cost of acquiring all proprietary technologies relating to the system cables.

Lowest cost operating expense – Common standard for training and re-qualification.

More options for cable sparing - Inter cable connectivity means that for multi-supplier systems, competitive purchase and sharing of spare cable are possible.

Wider choice of service providers:
Competitive procurement of jointing piece-parts, training and maintenance services from independent vendors.

Time proven:
UJ is a technology based on sharing industry expertise which has offered outstanding performance for over thirty years.

Benefits - Maintenance Provider

Lowest cost of capex/opex with only one technology to support. The added cost of acquiring all proprietary technologies relating to the cable in the system is eliminated, greatly reducing the variety of kits to be kept in inventory and the mount of shipboard equipment and operator training required.
Ability to operate on most cable systems maximises ship flexibility.

Benefits - To the Industry

Optimised cost of system maintenance
Common philosophy and standards.

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Universal Joint Pedigree

For **TAT-8** (commissioned **1988**) the system suppliers, Cable de Lyon, AT&T and STC, cooperated to integrate their own proprietary Interconnection Devices ~ integrating three separate designs was costly and troublesome.
As **TAT-9** progressed a single joint concept was developed by AT&T (now SubCom) and BT (now Global Marine) to simplify future maintenance ~ this became the UJ technology.
In **1990** Câble de Lyon (now ASN) joined the consortium.
In **1992**, after the success of UJ in the Atlantic, KDD (now KDDI Cableships & Subsea Engineering Inc.) joined the agreement as it was introduced into the Pacific.
In **1996** a new product, the Universal Quick Joint (UQJ) and agreement was developed for the short-haul non-repeatered market.
In **2000** The predecessor organisations of **SubCom**, **KDDI Cableships & Subsea Engineering Inc. (KCS)**, **Alcatel Submarine Networks (ASN)** & **Global Marine** combined agreements for the UJ and the UQJ to form a single agreement under the

Universal Jointing Consortium (UJC)

recent cable systems where UJ has been used as the maintenance solution include: 'TOPAZ', 'GRACE HOPPER' and many more.

UJC ruling principles

- **Advance** the state of the submarine cable jointing arts, through sharing of the expertise for the mutual benefit of the submarine cable industry.
- **Optimize** customer return on investment in the technology
- **Assure** the uniform introduction of new and tested improvement to this technology in a cost-effective way.
- **Maintain common** technical, manufacturing and engineering information:

Quality Plan & Training Standards
Common technology & Qualification Specifications
Joint Piece Parts Design & Qualification
Equipment & Specific Tools Design
Engineering Data Repository (HDB)
Comprehensive Joint assembly instructions (UJCM and UQJCM)
Consistent technology transfer to UJC Member Schools
Communication through Bulletins & Web Site

Independent Supply Chain

As **independent companies**, in commercial competition, the consortium members offer

Jointing Kits, Equipment and Tooling
Jointer Training & Certification

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Qualification of cables and cable variants

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