

english

**MICROSENS**  
fiber optic solutions  
a company of the euromicron group

Optical Transport  
CWDM / DWDM



**Optical  
Transport  
Networks**

**CWDM  
DWDM**

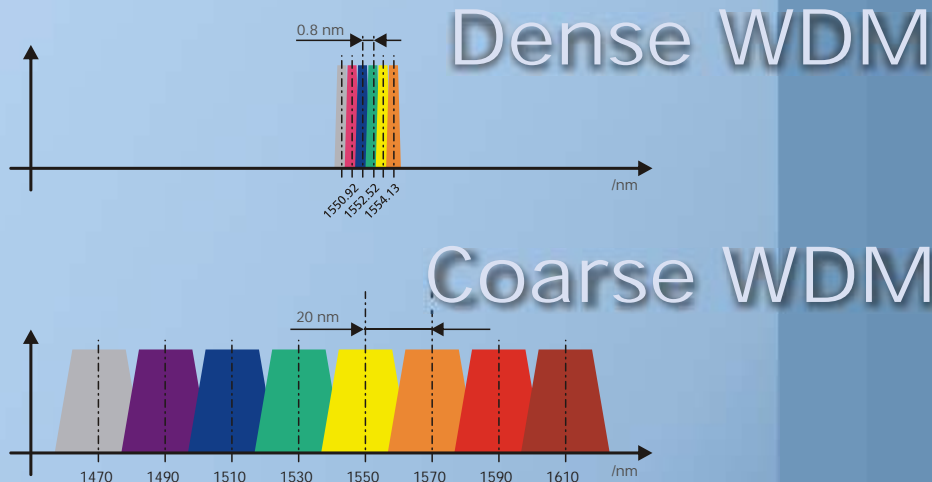
# Wavelength Division Multiplexing

High capacities and the increasing bandwidth demand through Metro Access and Enterprise network applications such as GbE, SAN, Video on demand or Storage over IP at the access site, are pushing the end user bandwidth needs far beyond the existing limits at this "First Mile".

Today, the focus on this "First Mile" applications have dramatic influenced the technology used in the past, to achieve the highest cost optimization in terms of investment cost (Capex) and operation costs (Opex).

Coarse Wavelength Multiplexing Technology (CWDM) offers the most cost efficient solutions for this Metro Access and Enterprise applications where additional bandwidth is required over the existing Fiber infrastructure.

## WDM-Technology



The parallel transmission of multiple channels on a single fiber using different wavelengths for each channel offers a nearly unlimited increase in transmission capacity for fiber optic networks.

## Modularity

## ITU G.694.2

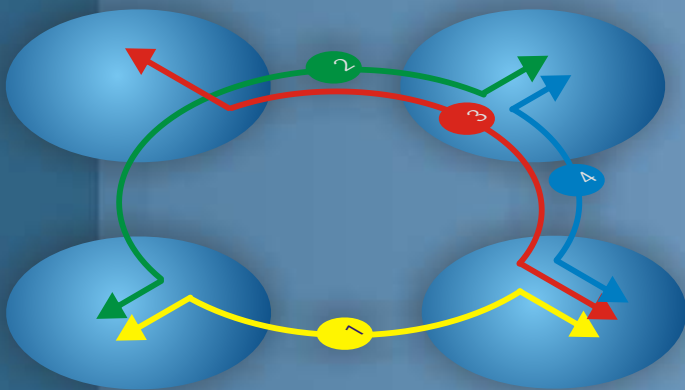
# Scalability

## Flexibility Pay as you grow...

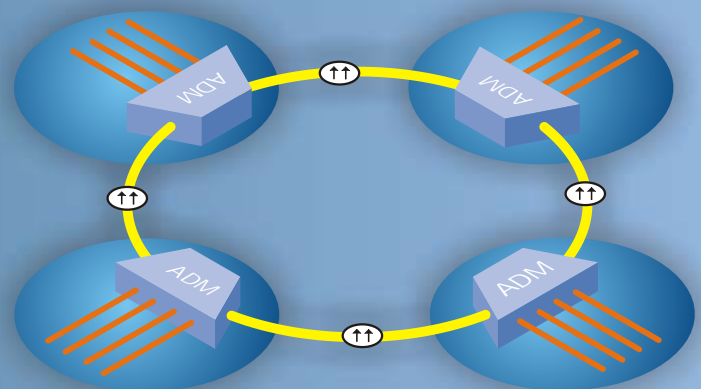
To ensure the highest flexibility and economical effectiveness, optical multiplexers must be designed in that way, that the capacity can grow together with bandwidth demands.

A modular approach at channel level gives the flexibility to add transmission channels to increase capacity on demand.

The optical add/drop multiplexers, which can be integrated into the system, allow flexible network structures from point-to-point to meshed ring topologies.



Users will only invest in the transmission capacity actually required. The number of channels can easily be expanded at any time.



## Protection

Automatic optical path and channel protection can optionally be installed for maximum fail-safe systems.

The status of each transmission channel is monitored by a centralized management module. Alarm messages are generated automatically in the case of failure.



# Multifunctional CWDM/DWDM

The use of the CWDM technology permits the construction of cost effective wavelength multiplexers.

The multifunctional system in a very compact design can transmit up to eight independent high-speed services via a fiber optic route. Optimized design allows an optical budget for transmission distances of up to 100 km.

Due to the transparent transmission, different protocols such as Fast Ethernet, SDH/Sonet, STM-1, STM-4, 1x and 2x Gigabit Fibre Channel, Gigabit Ethernet and STM-16 may be used.

This system provides very low initial cost since its modularity allows to install only the number of channels that are actually used.

For increased availability requirements, optional line, channel, and system protection can be provided.

The local optical interfaces of the individual data channels are designed as pluggable transceiver modules (SFP's - Small Form Factor Pluggable.)



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# xWDM Platform 4 Gbps/channel



## Modular Chassis System

The modular CWDM/DWDM system, joins MICROSENS existing modular Access Platform. This flexible system fits to the needs of telecommunication providers, metropolitan carriers or sophisticated backbone applications.

19" chassis 4/7 HU with 28/54 module slots

Compact desktop chassis options

Easy migration from Access Platform to CWDM/DWDM

Supports Fast Ethernet, GbE, OC-3/OC-12/OC-48, ESCON, FICON and 1x/2x/4x Gigabit Fibre Channel

Optical budget covers distances up to 120 km

SNMP management module with web based management and Telnet

Provides full 3R signal regeneration for longer distances

The modular design provides maximum flexibility for configuration, expansion and maintenance.

The system supports a multitude of functionality modules, including protocol-transparent converters, wide-range retimers for full signal conditioning, optical multiplexers and demultiplexers, line-protection modules and add/drop multiplexers.

Channel protection with free programmable 4-Channel Crossbar

Highest system availability with redundant power-supply modules and automatic controlled fan system.





# MICROSENS

## fiber optic solutions

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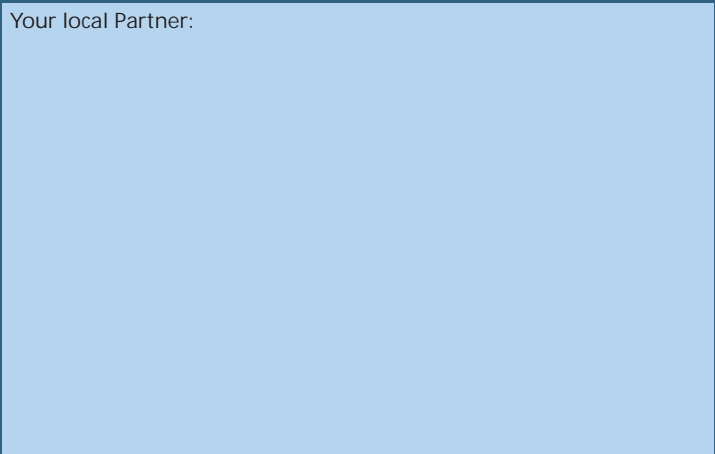


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