

Eyewitness Report: Larry's Path to Innovation...

~1979 - 2006

Ron Nelson

Larry Coldren Symposium

UCSB

March 2018

← Larry's Path To Innovation →



Bell Labs
~1979-84

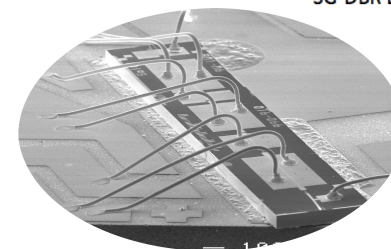
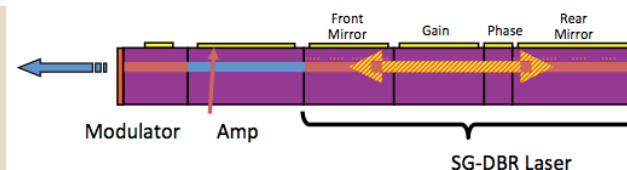
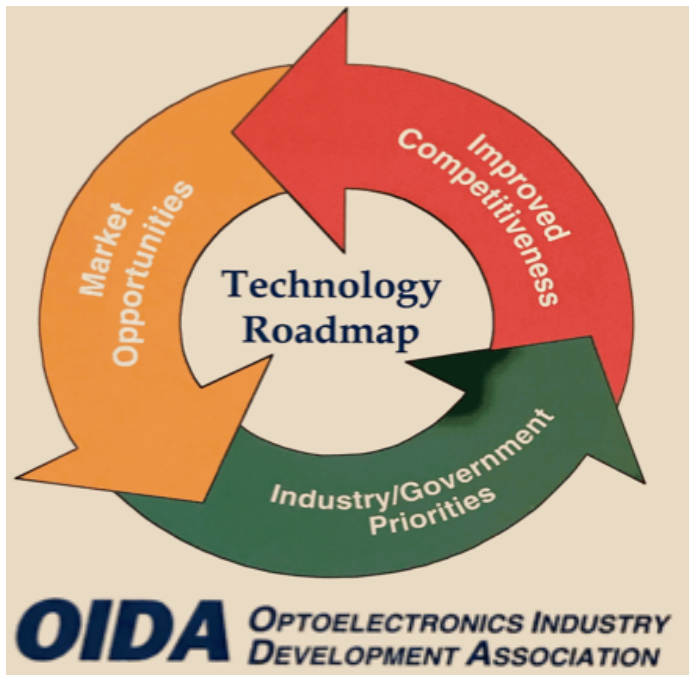
UCSB/Motorola
1st OIDA Roadmaps
1990-99



1999-2006

InP Building Blocks

- RIE Mirrors
- Vapor Transport
- CC TL ~5nm
- Possible—
- Wafer Testing
- Known Good Die
- Wafer Burn In!



2.5 Gb/s Laser/Amp/Mod
40nm

SGDBR In Service '03

High Priority Technologies '93 (OIDA) Optical Communications

APPLICATIONS

Telecom

Long Haul/
Undersea/
Interoffice
{Cost per Mb/s}

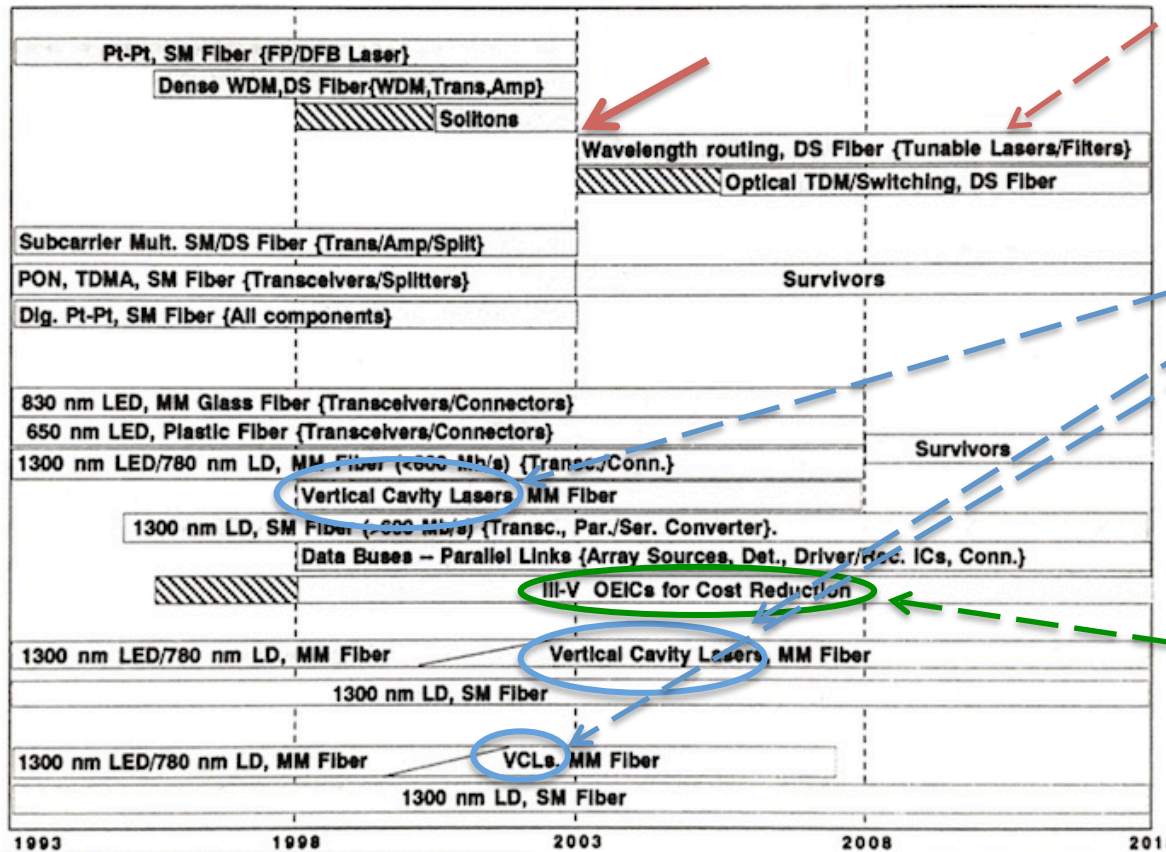
Local Loop/
CATV/FTTX
Alternatives
{Cost per Subscriber,
Backward Compatibility}

Datacom/Premises

Horizontal/
Desktop/
Other short distance
<100meters
{<\$100 per duplex link
component cost}

Vertical/Backbone
100-500 meters
{Acceptable \$ per
Mb/s}

Campus/Inter-
building <2 km
{Acceptable \$ per
Mb/s}



Tunable Lasers

VCSELs

"PICs"