



# **Virtual Analyst Event**

Optical Communications

*November 8, 2007*

# Safe Harbor Statement

Certain statements in this presentation constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1934. “Forward-looking” statements are all statements made by us, other than those dealing specifically with historical matters and any statements we make about the conduct of our business or finances up to this moment. All other statements made by us are forward-looking statements which include any information provided on future business operations and guidance regarding our future financial performance. Actual results may differ materially from those projected in the forward-looking statements. Factors that could cause actual results to materially differ from those in the forward-looking statements are discussed in the Company’s Securities and Exchange Commission Filings, particularly the risk factors section of our form 10-Q for the quarter ended September 29, 2007.

This presentation includes non-GAAP financial measures where indicated. These non-GAAP financial measures complement the Company’s consolidated financial statements presented in accordance with GAAP. However, these non-GAAP financial measures are not intended to supersede or replace the Company’s GAAP results. A detailed reconciliation of historical GAAP results to the historical non-GAAP results is provided in the “Non-GAAP Condensed Consolidated Statement of Operations” schedule to our news release announcing the financial results of the second quarter of fiscal 2007. A discussion of the GAAP measures excluded from the forward-looking non-GAAP measures is provided in the “Business Outlook” paragraph of the news release. The news release is located in the Investor Relations section of our web site at [www.jdsu.com](http://www.jdsu.com).



# Optical Communications

Introduction by Kevin Kennedy

# JDSU Financial Performance

	FQ1'06	FQ1'08	Near-Term Targets	Longer-Term Targets
Revenue	\$259.2M	\$357.2M	-	-
Gross Margin	31.6%	41.3%	≈40%	43 to 47%
Operating Expenses	38.2%	39.1%	35 to 38%	≤35%
Operating Margin	(6.6)%	2.2%	2 to 5%	≥10%
Adjusted EBITDA	(2.0)%	6.6%	6 to 9%	≥ 14%

All numbers are non-GAAP. For a detailed reconciliation, please see the press release announcing our Q108 results, available at [www.jdsu.com/investors](http://www.jdsu.com/investors).



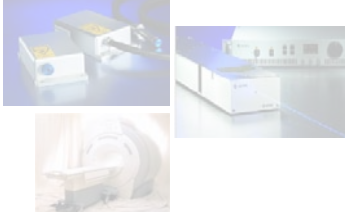
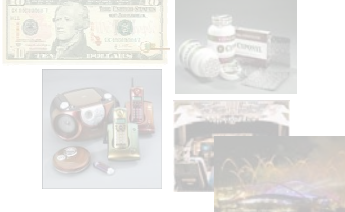
# Objective of Today's Webcast

**To highlight how JDSU's Optical Communications business is contributing to revenue growth and the achievement of these business model targets. (market, strategy, directions)**

Near-Term Targets	Longer-Term Targets
-	-
≈40%	43 to 47%
35 to 38%	≤35%
2 to 5%	≥10%
6 to 9%	≥ 14%

All numbers are non-GAAP. For a detailed reconciliation, please see the press release announcing our Q108 results, available at [www.jdsu.com/investors](http://www.jdsu.com/investors).

# Enabling Broadband & Optical Innovation

	Optical Communications	Communications T&M	Commercial Lasers	Advanced Optical Technologies
<b>Business Segments</b>				
Total Market Size (Annual)*	\$3.9B	\$2.6B	\$300M	\$1.5B
Annual Growth Rate*	5-15%	6-12%	5-10%	5-10%
JDSU Market Position*	#1	#1-3	#1-2	#1-2
Markets	Telecom, Datacom, Submarine, Long Haul, Metro, Access	Telecom/Cable Access, Metro, Core & Home Networking	Diverse Commercial	Currency, Defense Authentication, Instrumentation
Sample Customers	Alcatel-Lucent, Ciena, Cisco, Ericsson, Tellabs, Huawei, Nortel, NSN, Fujitsu	Bellsouth, British Telecom, China Telecom, Comcast, Telmex, Verizon		

\* Sources: Ovum-RHK, Prime Data, Frost & Sullivan, Infonetics Research, Optics Coating: A Strategic Business Report, January 2005, and internal analysis

# Expectations for Today's Webcast

## Previous Disclosures (Optical Communications Segment)

- Optical Communications market growing at 8-10% post-pause
- Non-GAAP gross margin ranges:  
Two of three businesses at or above 25% gross margin in FQ1'08
- Internal formation advanced to a single leader – David Gudmundson in FQ4'07

## Today's Webcast

- Sub-segments of Optical Communications: approach to market and segmentation
- Portfolio overview, strategy & highlights
- Margin expansion potential

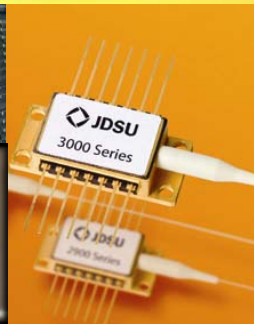


# Optical Communications

David Gudmundson

# Agenda

- Industry Drivers and Trends
- Structure and Segmentation of Industry
- Organization Design
- Strategic Principles
  - Technology Leadership
  - Cost Leadership
  - Functional Integration
- Summary
- Questions





# Industry Drivers and Trends

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# Optical Communications Drivers

Convergence  
Of Services



Next Generation  
Broadband



Video  
Distribution

**You Tube**™ Broadcast Yourself




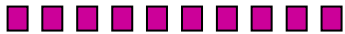










# Agile Optical Networking (AON) Drivers

Convergence  
Of Services

Next Generation  
Broadband

Video  
Distribution



The "Old" Network	The "Agile" Network
Predictable Traffic Patterns	Chaotic Traffic Patterns
TDM-based 	Packet-based 
SONET/SDH 	DWDM 
Ring-based Topology 	Meshed Topologies 
2.5 Gbps 	10 Gbps 
10 Gbps 	40/100 Gbps 
Networks 	Sessions 



# Structure and Segmentation of Industry

By Geography and Distance (Ring Size)

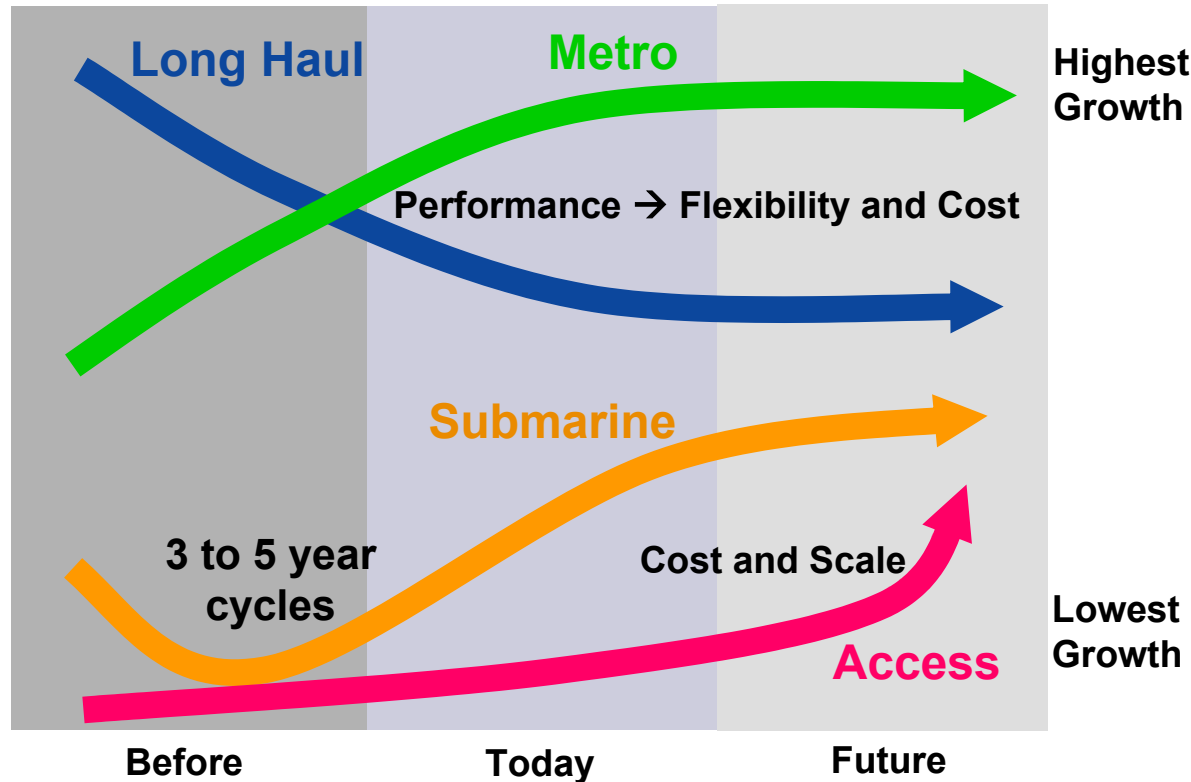
By Transport and Transmission (Architecture)

# Industry Structure and Growth Trends

## Critical Large Scale Deployment Criteria

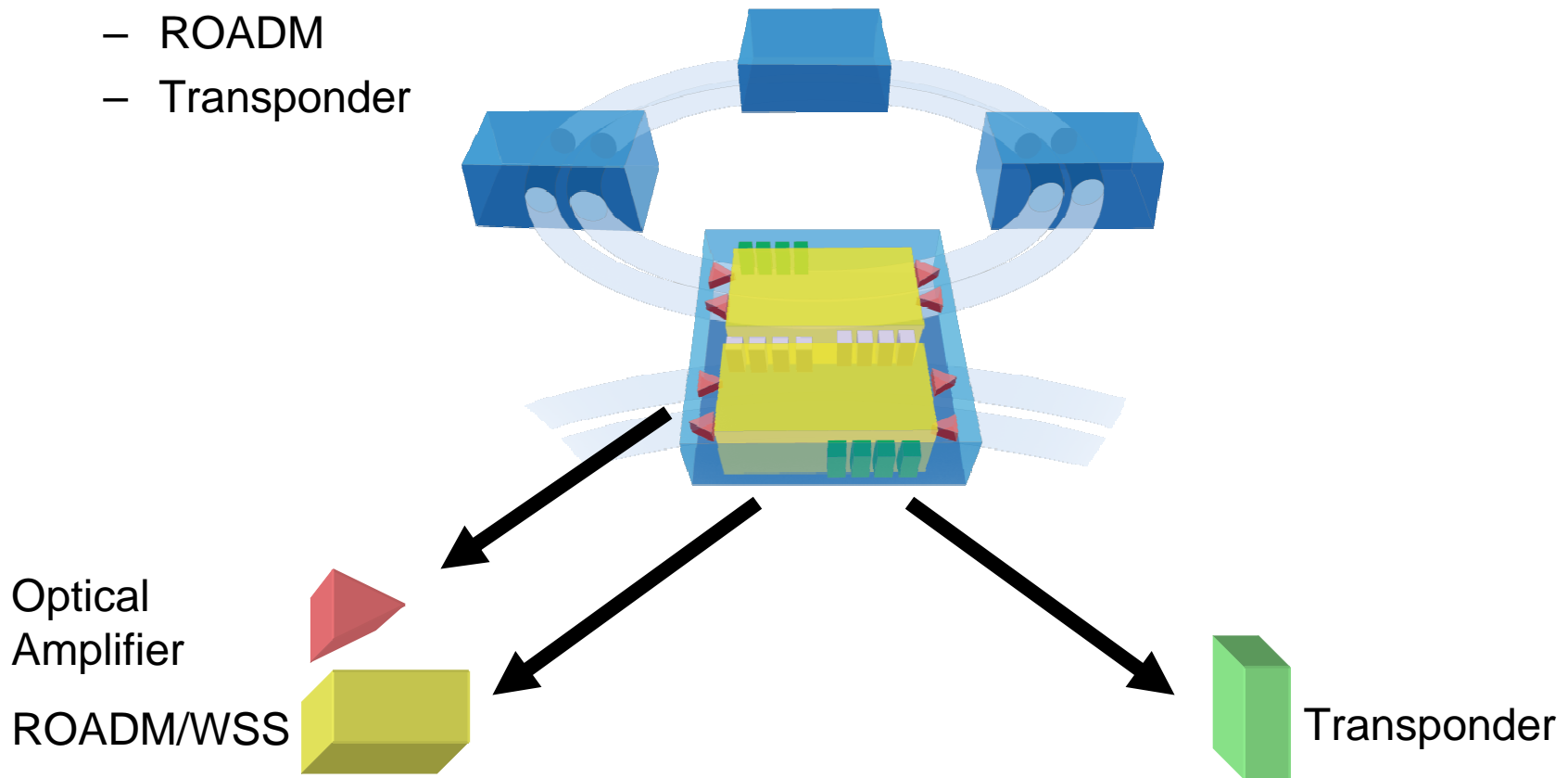
Long Haul	Performance
Metro	Flexibility Cost
Access	Ultra Low Cost High scale
Submarine	Performance High Reliability

## Network Segment Growth Trends



# The Architecture of an Optical Network

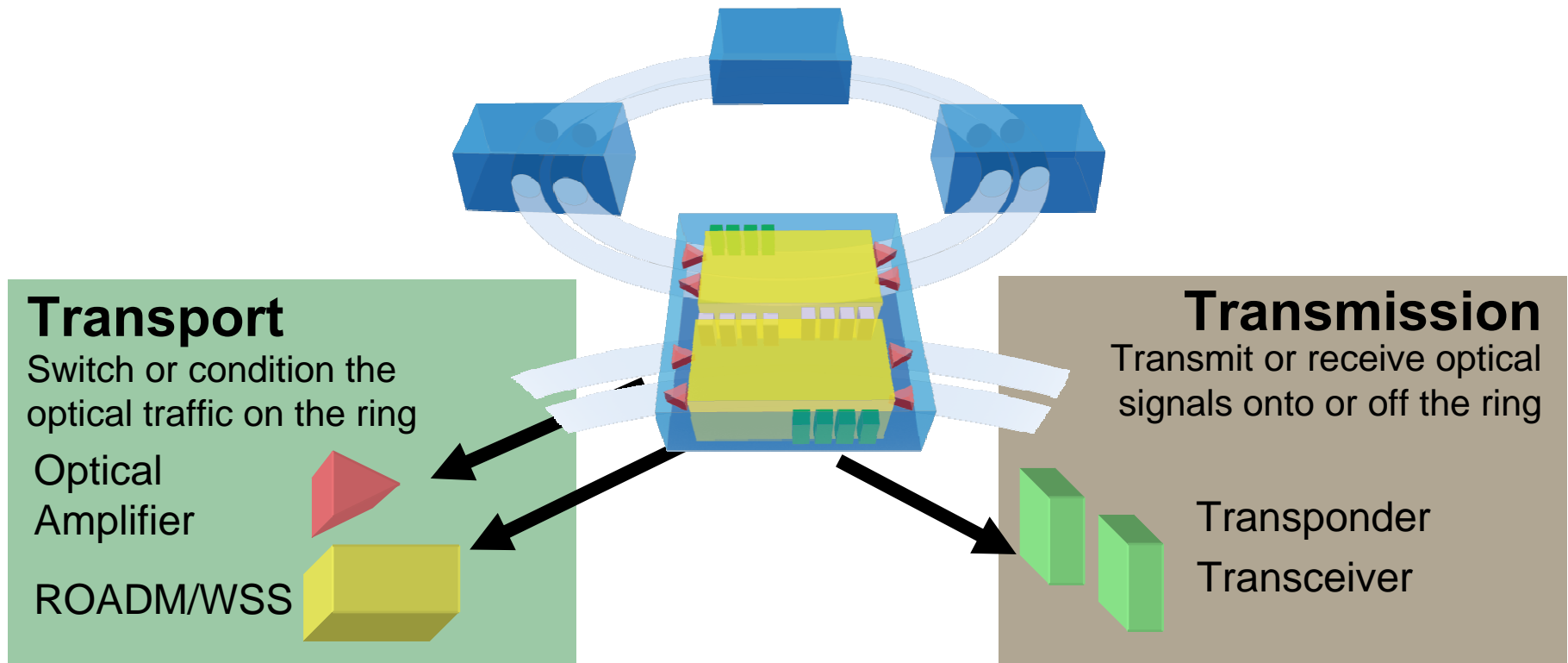
- DWDM Networks contain Optical Nodes
  - This is true for Long Haul, Metro, and Access Networks
- Each Optical Node can be broken down into 3 fundamental modules
  - Optical Amplifier
  - ROADM
  - Transponder



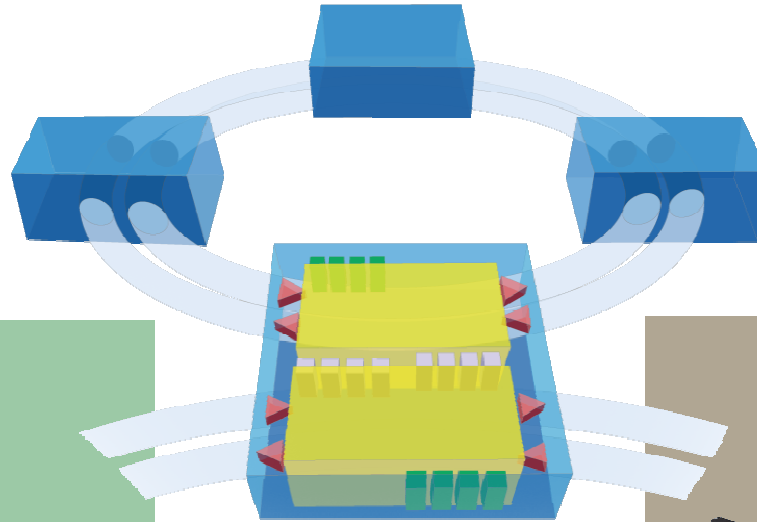
# Market Segmentation of the Node

Two segments that handle traffic

- Transport Segment: Switching and conditioning optical traffic
- Transmission Segment: Transmit or receive optical signals onto or off of the ring



# Third Segment – Foundational



## Transport

Switch or condition the optical traffic on the ring

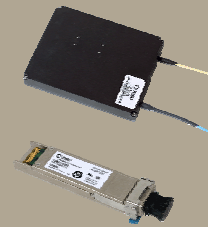
Optical Amplifier

ROADM/WSS



## Transmission

Transmit or receive optical signals onto or off the ring

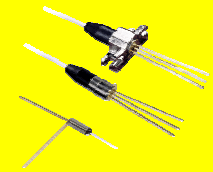
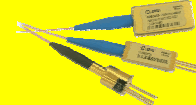
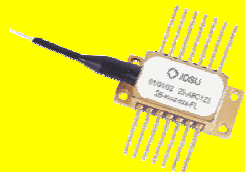


Transponder

Transceiver

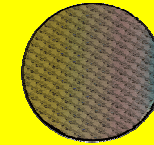
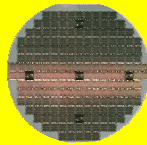
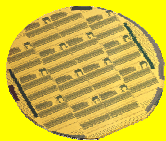
## Photonics

### Components



### Chips

### Process Engineering



# Segment Attributes

## Transport

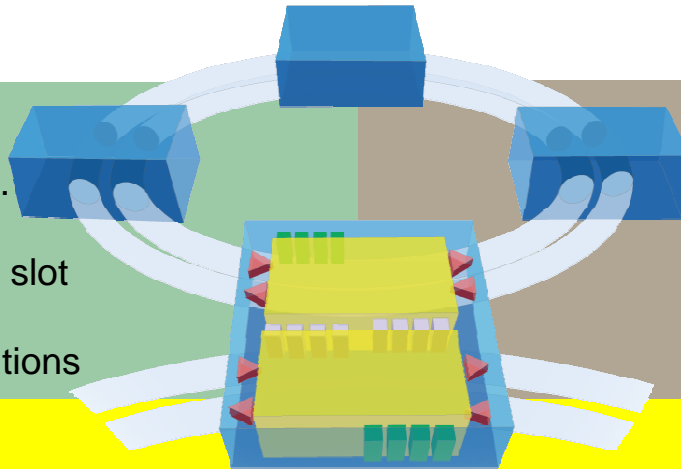
- Network Equipment Mfg.
- Custom designs
- 1-2 suppliers per design slot
- High mix, low volume
- Driven by network transitions

## Transmission

- Network Equipment Mfg.
- Multi-source Agreements
- 2-4 suppliers per design slot
- Low mix, high volume
- Driven by speed, size or specs

## Photonics

- Critical to every technology transition
- Foundational to supply chain integrity
- Fabrication expertise – GaAs, LiNbO<sub>3</sub>, InP, TFF, PLC
- Requires deep optical, process and chip engineering expertise
- 10x customers of Transport or Transmission – whole optical industry





# Organization Design

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# Organization Design

## Transport

- Network Equipment Mfg.
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## Organization Strategy

- ✓ Dedicated Business Units aligned with Node Segmentation
- ✓ Guarantee Photonics Leadership with Integrated Business and Operational Teams
- ✓ Maximize Cost Leadership through Vertical Integration
- ✓ Develop Sales and Solutions for all Four Network Segments

# Business Units Aligned with Node Segmentation

## Deliver Agile Optical Network Solutions

**Transport BU**  
ROADMs, EDFAs,  
Circuit Packs

**Transmission BU**  
Datacom Transceivers,  
Tunable Transponders

Maximize Vertical  
Integration

**Integrated Photonics BU**  
Chip design and development,  
Pump lasers, Passives, Modulators

**Innovation Begins with Integrated Photonics**



## **Strategic Principles**

Technology Leadership

Cost Leadership

Functional Integration



## **Strategic Principles**

Technology Leadership

Cost Leadership

Functional Integration

# Technology Leadership

- **ROADM Leadership**
- **SFP+ Transition**
- **Chip Development and Process Engineering**
- **40G**



# ROADM Leadership (Transport)

## Highlights

- JDSU is the #1 Market Leader
- Engagements with all Tier-1 Network Equipment Manufacturers
- Shipping and carrying live traffic since 2003
- Broadest portfolio in the industry
- Growth driven by network agility
- Flexible technology
- Strongest IP portfolio >75 patents
- In 2008, the ROADM market is expected to be \$220M annually with a CAGR of 33% \*



## Vertical Integration

- Embedded channel monitor options
- Highest level of functional integration
  - Photonic integration of 491 components into 5 chips



## Key Product Features

- Module or Subsystem-level formfactors
- Long Haul, Metro, and Access solutions
- Liquid crystal, PLC, or MEM-based switching engines
- 100 and 50 GHz solutions
- C & L band for international deployments
- Colored and colorless port options
- 2D and Multi-dimensional for network flexibility

\* Source: Ovum/RHK 3/2007, CAGR is 2006-2009

# Leading the SFP+ Transition (Transmission)

## Highlights

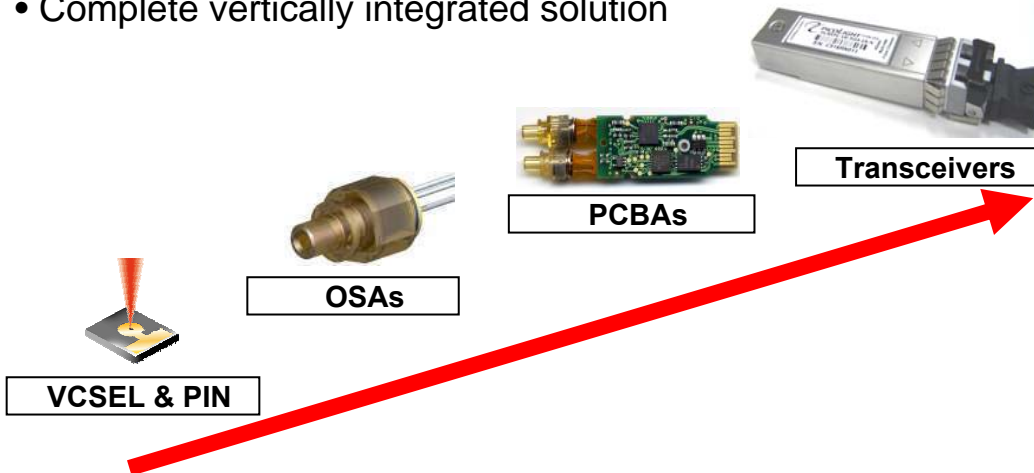
- Growth driven by speed, power and size
- First to volume with SFP+
- High reliability VCSEL
  - 107 Million field hours with no field failures
  - Semiconductor-level reliability
- SFP+ shipments expected to grow from 200K units in CY08 to 2.8M units in CY11\*



XENPAK X2 XFP SFP+

## Vertical Integration

- Complete vertically integrated solution



## Key Product Features

- 8G Fiber channel and 10G Ethernet
  - Complements existing 2-4G FC portfolio
  - Expands Ethernet portfolio
- Excellent Product Reliability
  - Best material quality and process control
- SFP+ Performance Matched to Requirements
  - Optical, electrical, and packaging specifications optimally matched

\* Source: Ovum/RHK 11/2007

# JDSU is the Industry Leading Chip Provider (Photonic)

## 5 state-of-the-art fabs

- GaAs – 1310nm VCSEL process capability
- InP – CD control < 0.1  $\mu\text{m}$
- PLC – high-refractive index uniformity CVD process
- LiNbO<sub>3</sub> – Ti Diffusion & Annealed Proton Exchange
- TFF – Dielectric coating on glass, fiber and lenses

## Industry leading performance

- Pump lasers - Over 8 billion field hours with FIT < 3
- Lowest insertion loss for PLC ROADM
- 10G Mod – Over 10.7 billion field hours with FIT < 5
- Leader in 850nm 10G Tx reliability and performance (FIT < 10)
- Passives – Over 2 million WDM channels shipped, over 20 Billion field hours

## 13 component product families

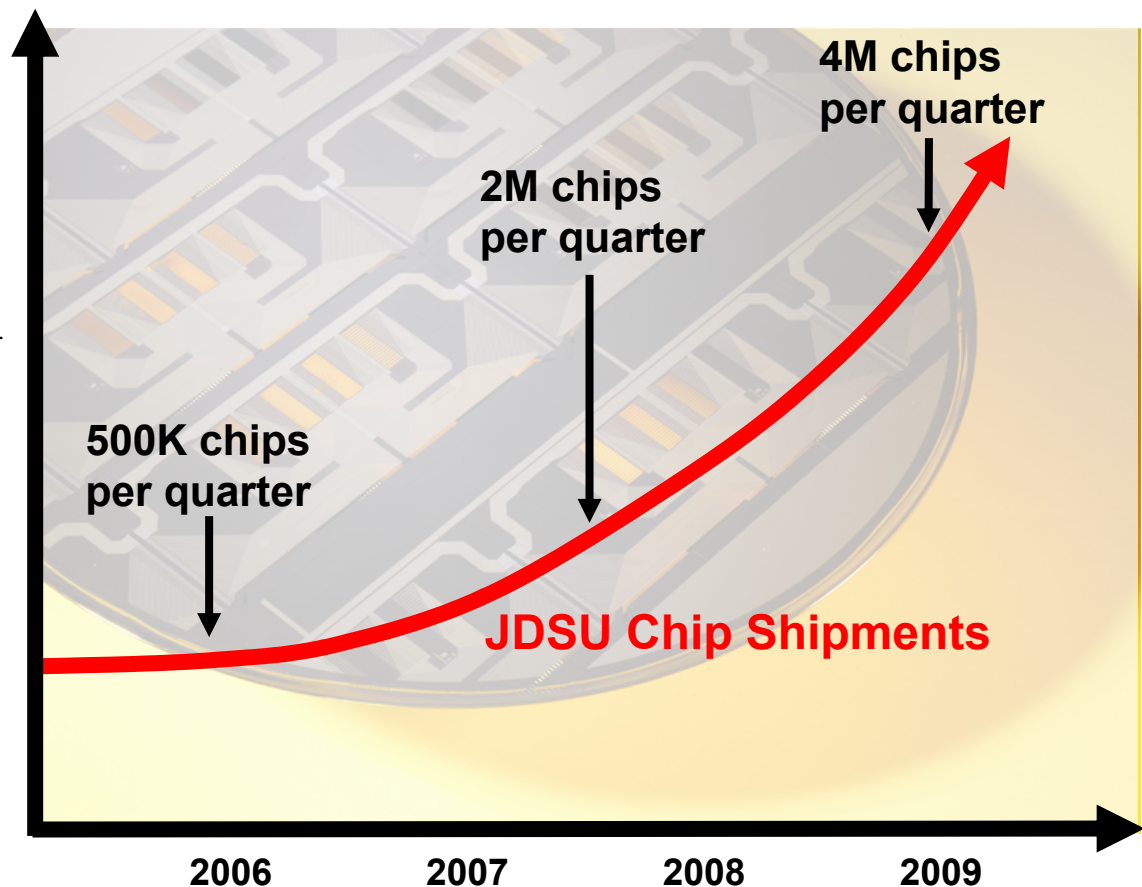
- AWG, modulators, mux/demux, OCM, pump lasers, receivers, ROADM, switches, tunable filters, tunable lasers, WDM modules, VCSEL, VOA

## Enables market leading positions:

- Pump lasers
- ROADM
- 10G Modulators
- Tunable transponders
- SFP+
- Broadest and best VOA portfolio

## Over 25 new designs in last 12 months

Optical modules are increasing the demand for chips



# JDSU's 40G Strategy



- JDSU and Mintera will jointly develop, manufacture, and deliver a 300-pin DWDM 40Gbps Adaptive-DPSK Transponder
  - Leverages Mintera's core competencies in 40G Transmission
  - Leverages JDSU's core competencies in 40G Transport
  - Leverages JDSU's supply chain and scalable manufacturing expertise

A Successful 40G Strategy must address 40G Transport and 40G Transmission, they work together

# Complete 40G Solution

Solution Components	JDSU and Mintera	Competitors						
		A	B	C	D	E	F	G
ROADM		In Development						
EDFA								
Transmission								
Test & Measurement								

\* Data from public information on company websites and SEC filings



## **Strategic Principles**

Technology Leadership

**Cost Leadership**

Functional Integration

# Cost Leadership

- Vertical Integration
- Chip Development and Asia Manufacturing
- Lean



# Vertical Integration Strategy



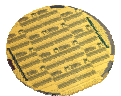
Circuit Pack



Module



Component



Chip

- Starts at the chip-level
- Lowers cost to end customer
- Increases utilization of whole vertical chain
- Guarantees integrity of supply chain
- Key competitive advantage

**Continuously increase the use of JDSU optical content**

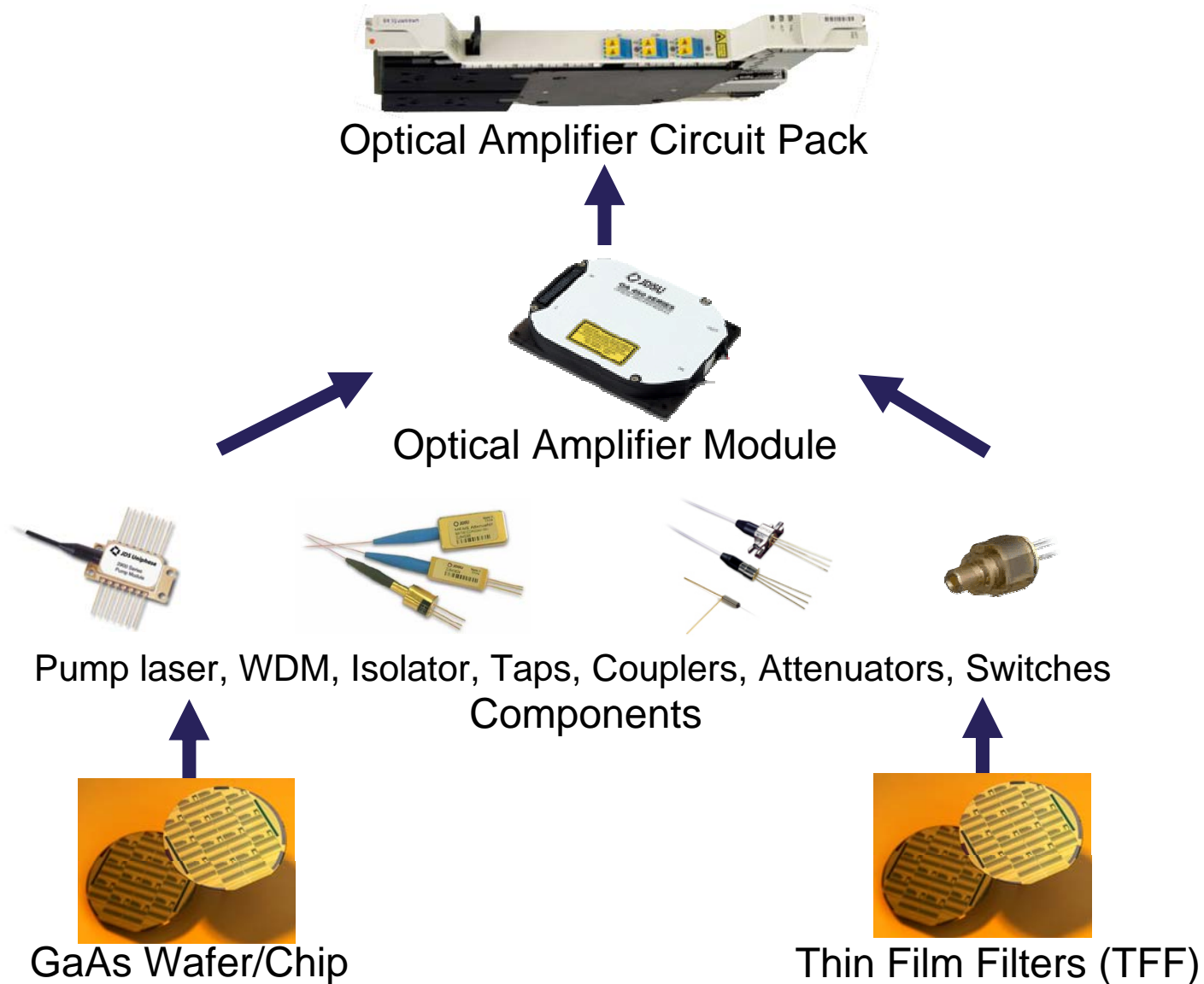


2007

2008

2009

# Vertical Integration Example

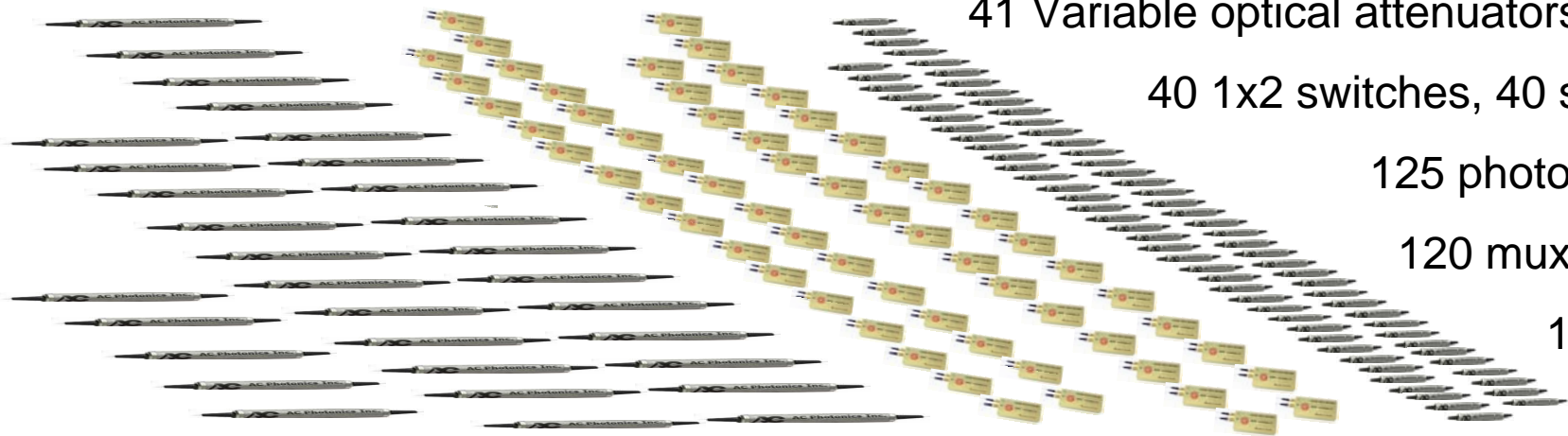


# Vertical Integration Example



PLC ROADM

Highest level of Vertical Integration



41 Variable optical attenuators (VOA)

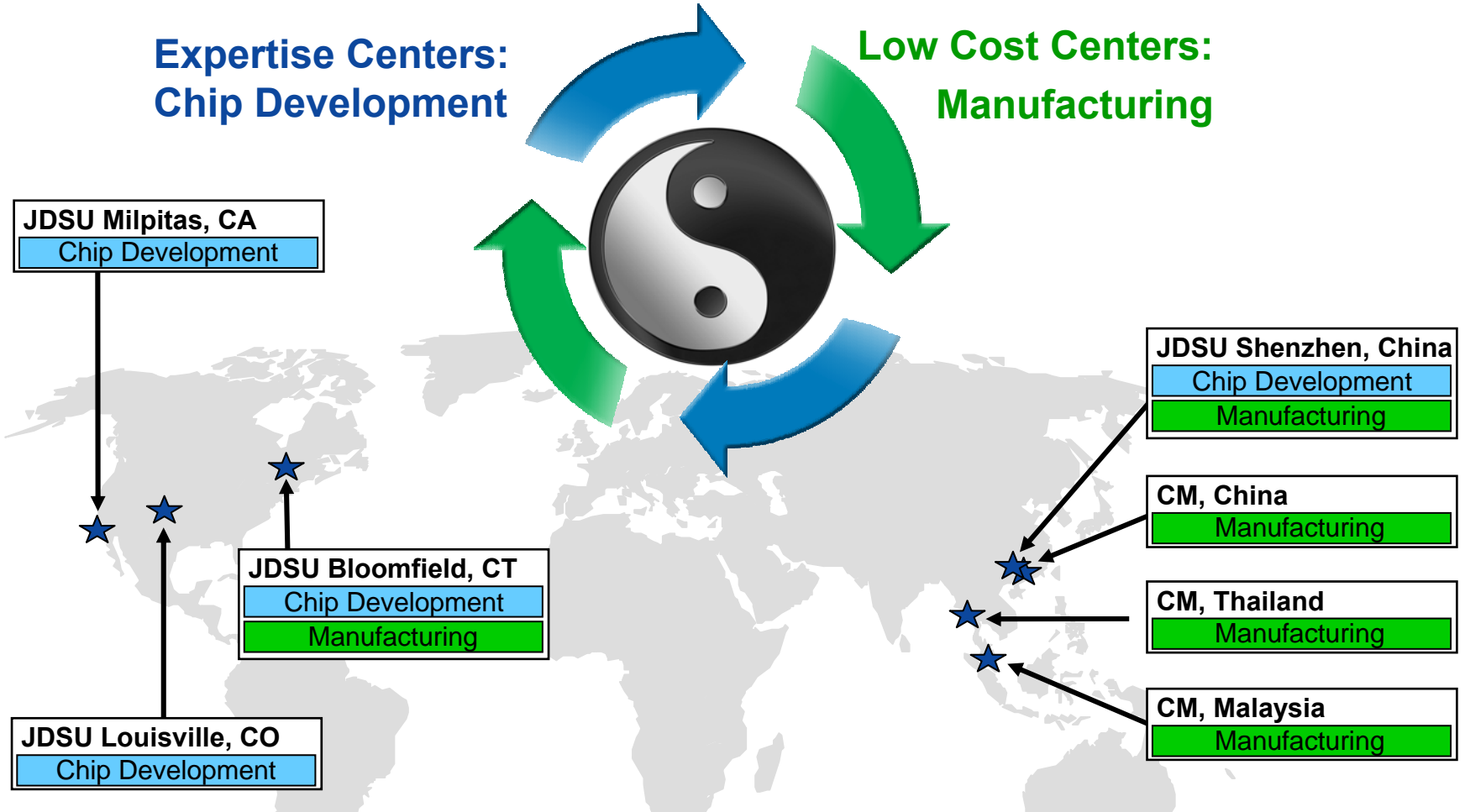
40 1x2 switches, 40 shutters

125 photo-diodes

120 mux/demux

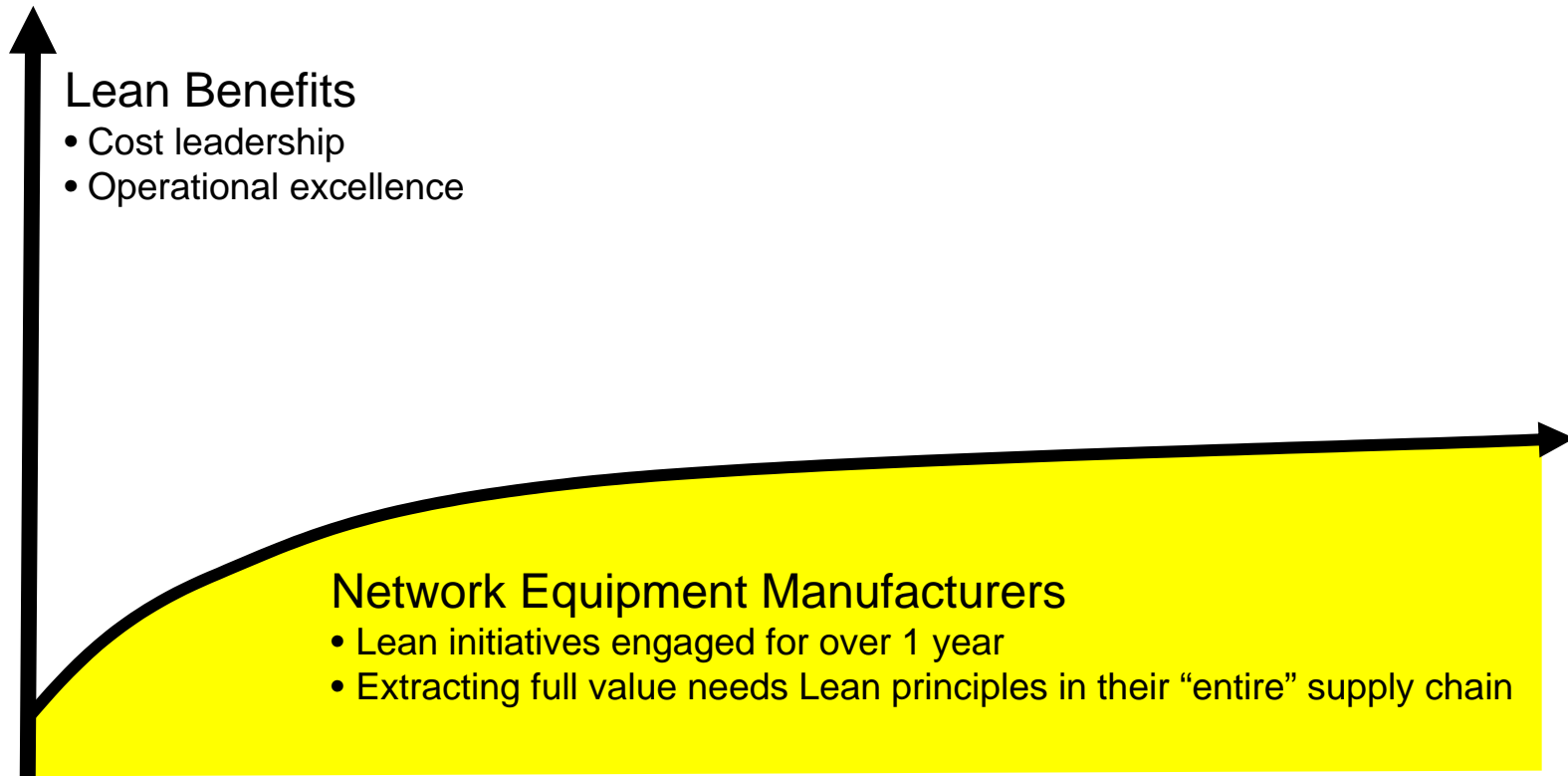
125 taps

# Chip Development and Asia Manufacturing



**Strategy**  
Lean low-cost Asia manufacturing  
Globally develop chip and process engineering expertise

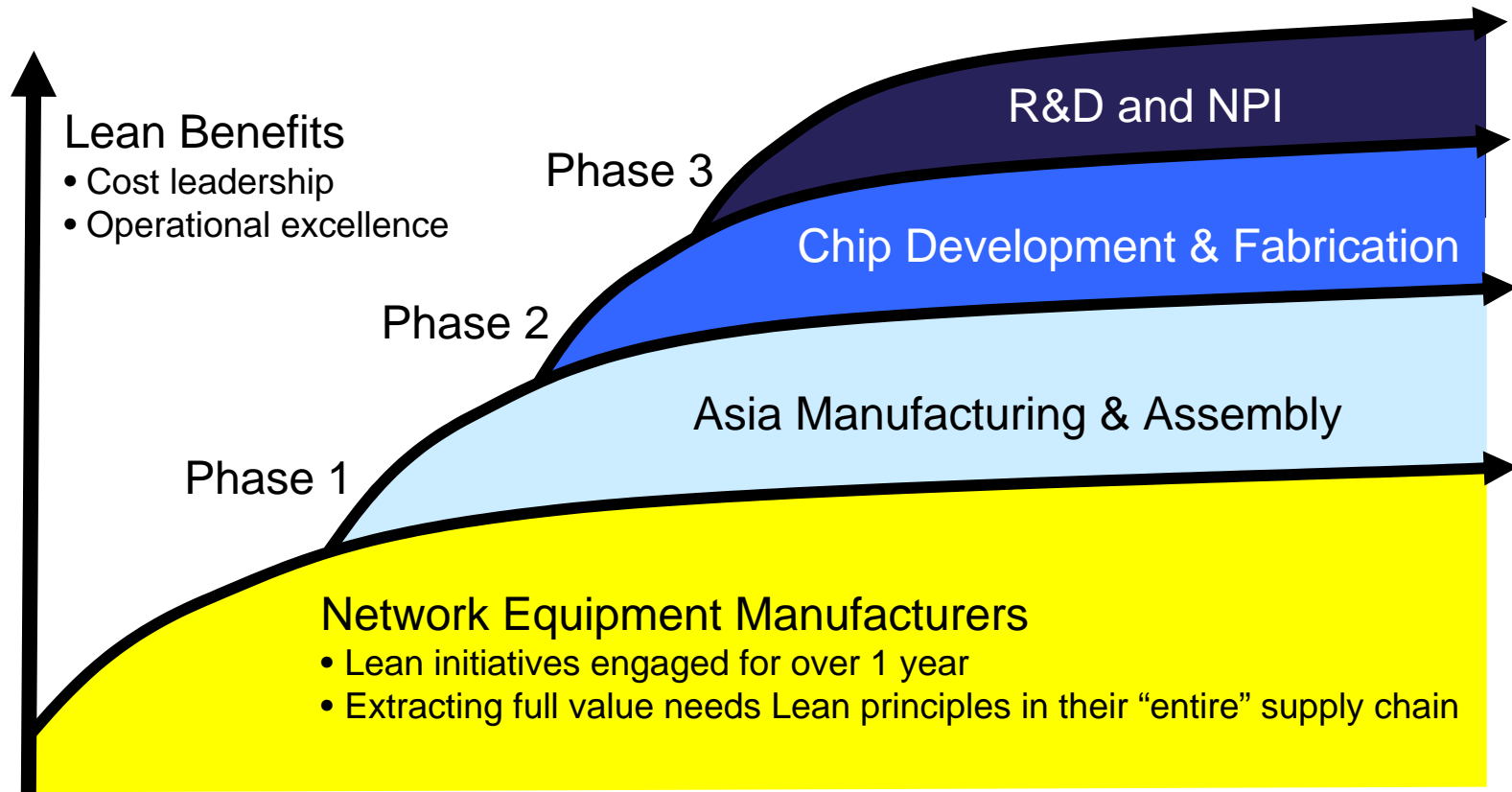
# Lean – Natural Next Step in Value Chain



# Lean – Natural Next Step in Value Chain

## Ingredients for “cost leadership” from Lean initiatives

- ✓ Broadest customer base
- ✓ Deepest level of vertical integration
- ✓ Largest manufacturing scale
- ✓ Receptive value chain: natural “interlock” to our own customers





## **Strategic Principles**

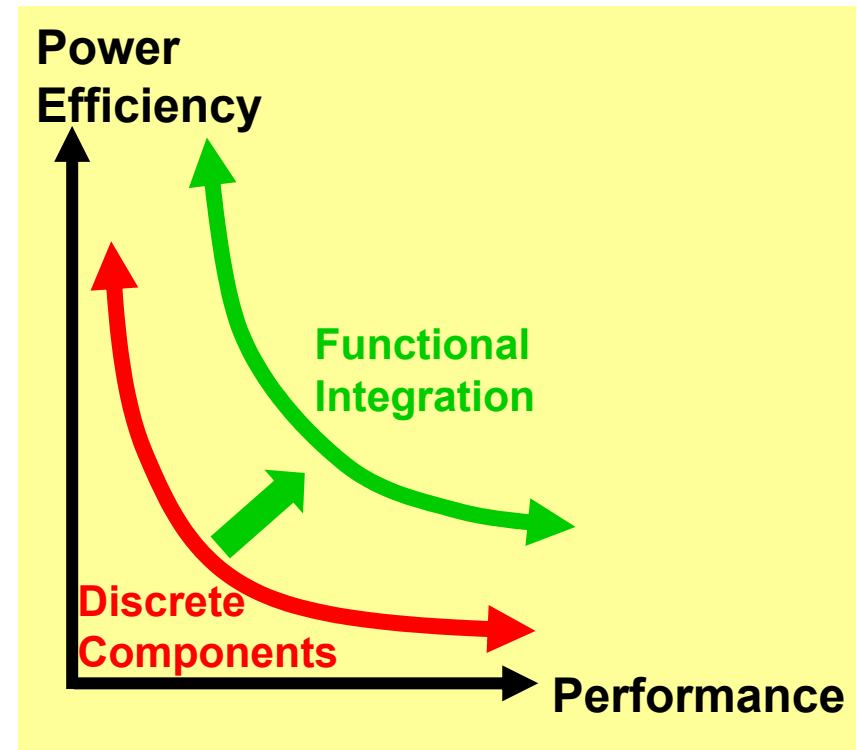
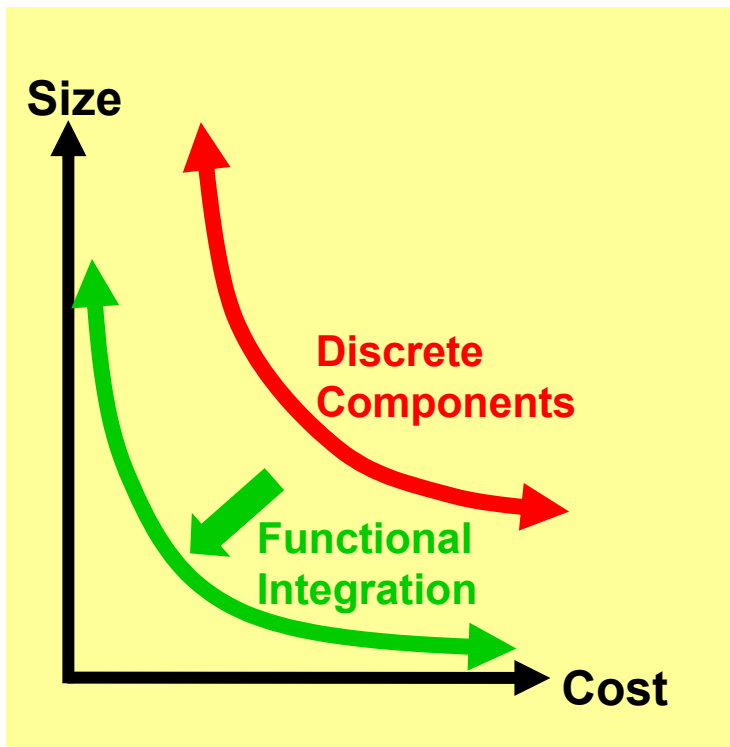
Technology Leadership

Cost Leadership

**Functional Integration**

# Functional Integration

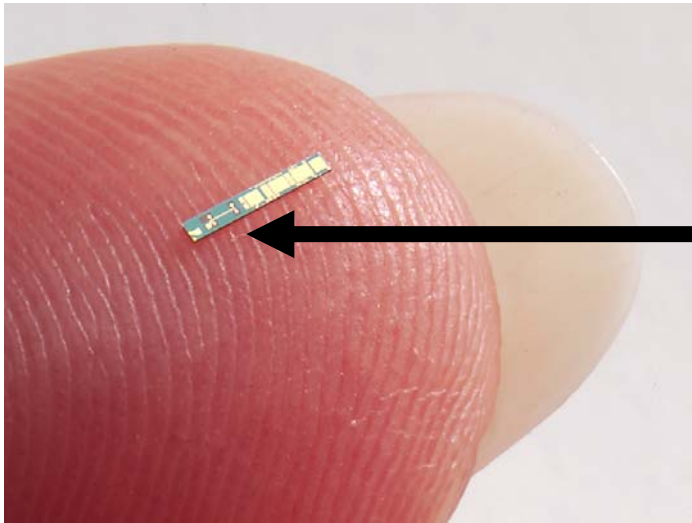
- Disruptive competitively, transparent architecturally
- Simultaneous advancement on all 4 dimensions
  - Size, Cost, Power Efficiency, Performance
- Seamlessly upgrades current network infrastructure



# Functional Integration Example

## ILMZ PIC

- Integration of Modulator into ILMZ PIC allows migration to smaller formfactors, lower power, and lower cost through solid-state semiconductor manufacturing
- Seamlessly upgrades current network infrastructure
- Competitively disruptive, architecturally transparent

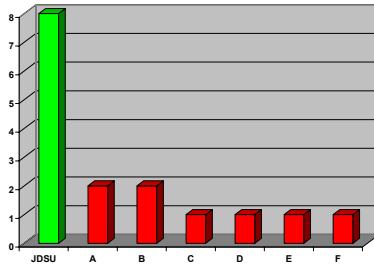


Discrete  
Mach-Zehnder Modulator



# JDSU Winning Strategy at a Glance

Technology Leadership



Market leadership



Chip leadership

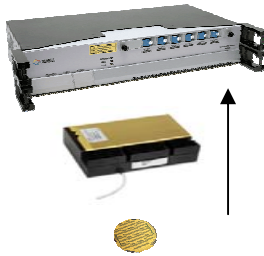


AON leadership

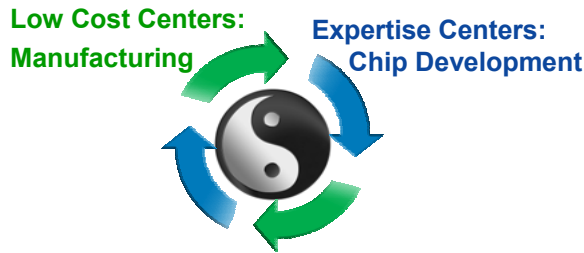


40G leadership

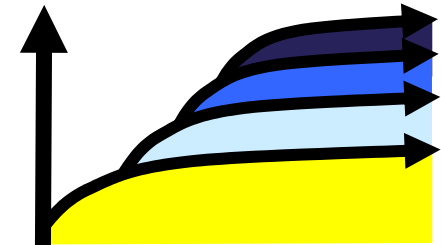
Cost Leadership



Vertical Integration

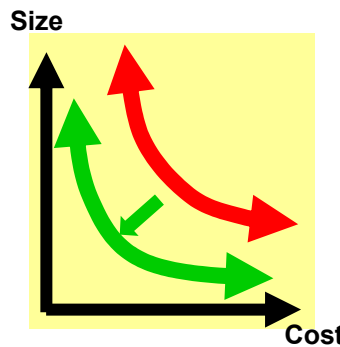


Global chip development & Asia manufacturing

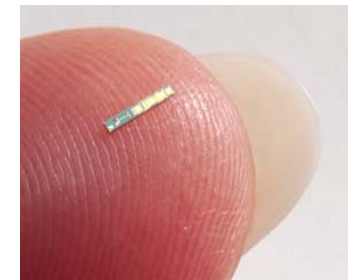
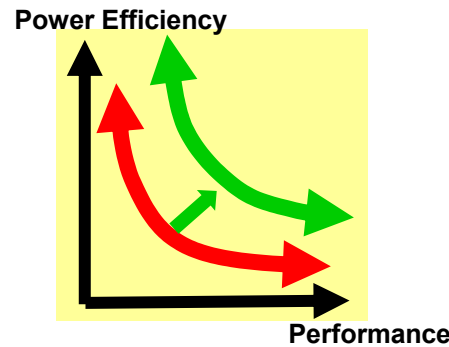


Multi-phase LEAN Strategy

Functional Integration



Disruptive Innovation



Photonic Integration



# Summary

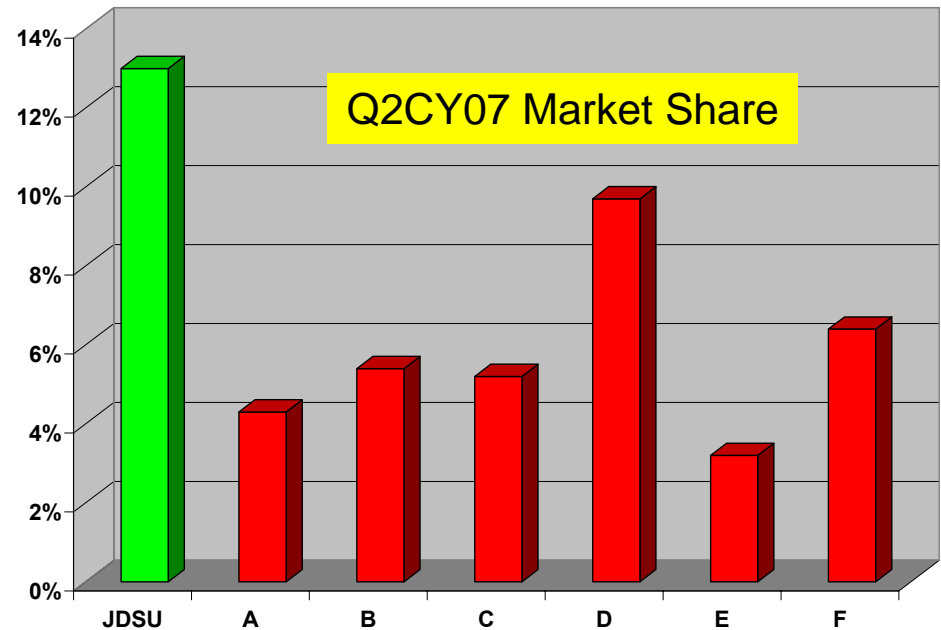
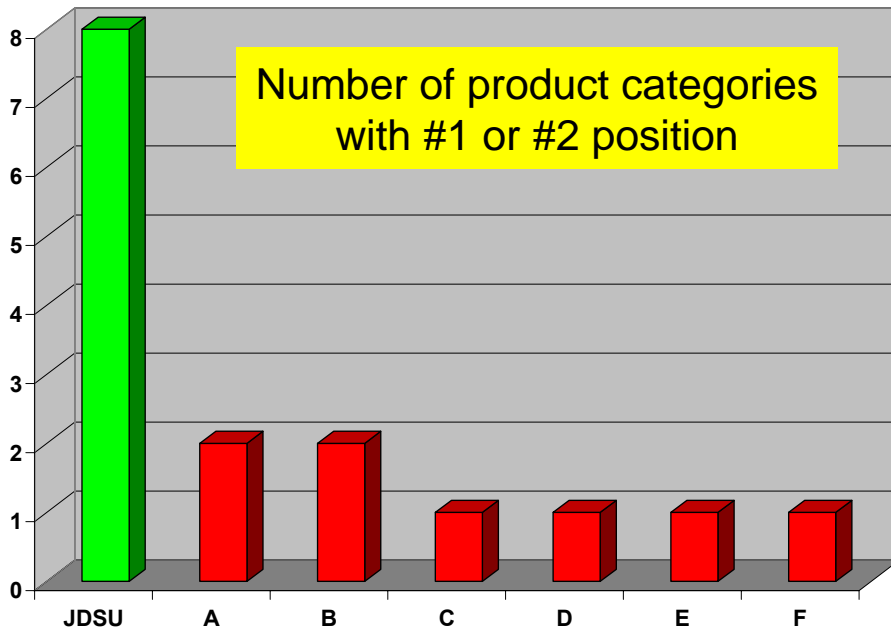
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# Strategic Outlook and Business Model

- **Strategic Principles**
  - Technology – maintain and extend leadership
  - Cost Leadership – achieve and maintain
  - Functional Integration – engage disruptive programs
- **Business Model**
  - Near Term: 20-30% GM, 5-10% Operating Income
  - Long Term: 30-40% GM, 15-25% Operating Income

	Before	FY'07	FY'08	FY'09 and Beyond	
<b>Vertical Integration</b>	Low	Low	Low	Medium	High
<b>Lean – 3 Phase Strategy</b>	None	None	Low	Medium	High
<b>Functional Integration</b>	None	None	Low	Medium	High

# Business Momentum



- Bookings: Book to bill > 1 for 2 consecutive quarters
- GM: 2 out of 3 businesses generated in excess of 25%
- No single product category exceeds 20% of revenues
- 67% of products relevant in 10 and 40G networks
- Momentum Last 12 months
  - Over 25 new products
  - 25 new chip designs
  - 44 new patents issued

Market share (Rolling 4Q) – RHK – 10/2007 Product line position estimated by JDSU

# Business Momentum

## Market leadership

- #1 market share for 30 consecutive quarters \*
- Participate in nearly every major optical networking segment
- Roadmap shaped directly by Service Providers



## Broadest customer base in industry

- Top 10 customers about 65% of revenue
- Top 20 customers about 80% of revenue

\*Source: Ovum/RHK 10/2007

# Leadership Team

- New President
- New senior executive team
- Broad industry experience
  - Alcatel-Lucent, Agilent, Cisco, Finisar, Force 10, Fujitsu, HP, Intel, NEC, Northern Telecom, Radisys, SDL, Scion Photonics, Sumitomo, Sun Microsystems ...
- Industry leading operational experience
  - Strong Lean expertise
  - Asia experience
  - Contract Manufacturing
  - Optical and Networking experience



# Questions

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