Competing for the Future: How Thailand Can Win the Next Wave of High-Value Investment

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August 28th , 2026

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What had been seen in doing business in Thailand

STRENGTHS
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- **Established electronics manufacturing hub (EMS, PCB, OSAT)**
- **Strategic location & geopolitical advantage**
- **Government alignment + long-term roadmap through national semiconductor & advance electronics policy strategy**
- **Strong BOI incentives & pro-investment policy**
- **Established industrial infrastructure**

WEAKNESSES
W

- **Skilled Labor Shortages** – limited supply of advance tech upstream talent
- **Bureaucracy & permitting delays**– regulatory delays and overlapping agency processes
- **Fragmented R&D Ecosystem** – need for stronger industry-academic collaboration and commercialization of innovations
- **Language & culture Barriers** – English proficiency and tech business culture

OPPORTUNITIES
O

- **Massive government push to move up the value chain**
- **Demand from AI, data centers, EV, clean energy**
- **Green Tech and Clean Energy**
- **Relocation of Supply Chains** – companies diversifying out of China are looking at Thailand as a stable alternative
- **Talent & R&D ecosystem being built**

THREATS
T

- **Strong regional competition (Vietnam, Malaysia, Singapore)**
- **Execution risk of national strategy**
- **Persistent talent shortages**
- **Infrastructure scaling needs (power, water, sustainability)**

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Soft Power – the attractive factors to the investment

- **Hospitable, Service-Oriented Culture**

"*Land of Smiles*", "*feel Welcomed and comfortable*"

- **Stable, Harmonious Work force**

Thai culture values "*respect*", "*collaboration*", and "*hierarchy*" lead to "loyal", "disciplines", and "adaptive"

- **Cultural Adaptability**

Open to foreign cultures and international business norms

- **Deep cultural pride in craftsmanship and Quality**
  - the culture promotes "*aesthetic sense*", "*attention to detail*", and "*quality service*"; hence excellent for premium product manufacturing and creative sectors

- **Respect for Education and upskilling**
  - Thai society place values on education and self-improvement; hence, align well with requirement of upskilled talent

- **High Quality of Life for Expats and visitors**

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Optical Technologies Enabling Connectivity at Scale

AI & Cloud Data Center Networks

Optical interconnects for scale-up and scale-out

Telecom Networks

Submarine, long-haul, metro, and access optical infrastructure for scale-across

Industrial
Precision lasers for advanced manufacturing and automation

Sensing
Optical technologies for sensing and security applications

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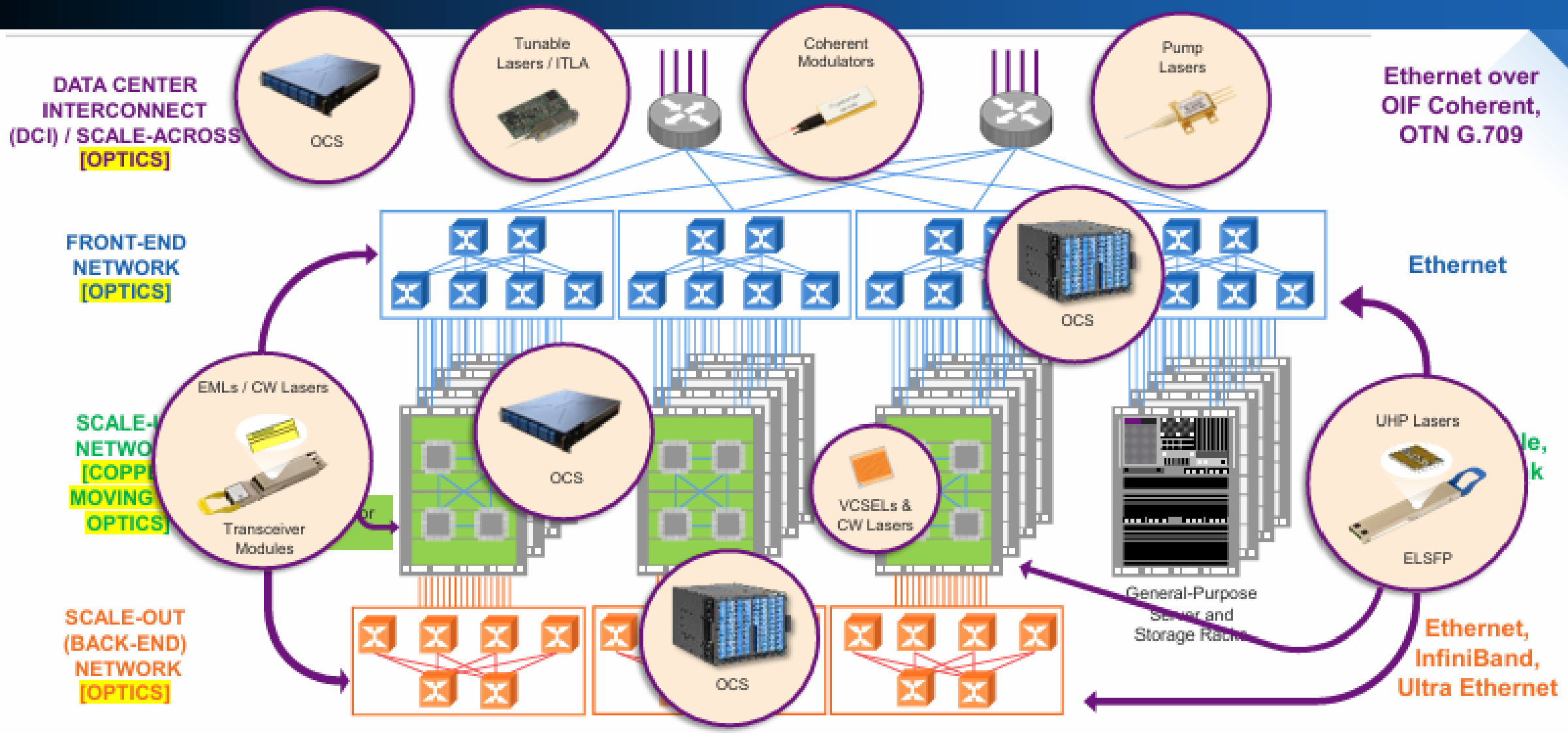
AI Data Center Connectivity



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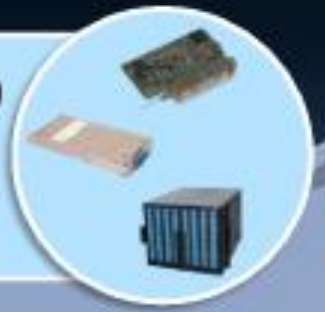
Telecom Networks

Data Center Interconnect (DCI)
- ITLA (Tunable Lasers)
- Coherent Modulators
- OCS



Metro
- WSS and ROADMs
- EDFAs
- Pump Lasers
- Coherent Modulators
- ITLA (Tunable Lasers)

Multi-Rail Amplifiers

Long Haul
- WSS and ROADMs
- EDFAs and Raman Amplifiers
- Pump Lasers

Submarine
- HRS Pump

Access
- FTTx Pump Modules
- ITLA (Tunable Lasers)

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Lumentum CEO Strengthens Collaboration with Thailand Leaders and University Partners

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Phase1 : Introduction+Intermediate course

5 months (Aug - Dec 2025)

PMU-B

From Fundamental to System Design

- Introduction - Optical Fiber 12hr
- Intermediate - Link&Components 12 hr
- Certificate from Chulalongkorn University
- Online E-Learning course

LUMENTUM x STARS MICROELECTRONICS

Introduction 1-2 | CHULA MOOC | Intermediate 3-4

Optical & Photonics Engineering Certification Program

LUMENTUM CHULA MOOC

Projects Launched	Training Contents	Output

Introduction: Optical Fiber (12 hr.)

Focusing on light transmission in different types of optical fibers, connection methods, and tools for measuring power tests.

Part 1: Intro. to Optical fiber covers.. Optical transmission & Key components, Performance indicators & Testing, Faults, Fiber, Fabrication

Part 2: Fiber types, Fiber connectors & Fusion splicer (Video demo)

Part 3: OTDR testing & Loss measurement, Parametric Test report and Return loss (Video demo)

Part 4: Fiber losses and Dispersions

Intermediate: Link & Components (12 hr.)

Focus on the main components of an optical transmission link, how to measure key parameters, and how to perform a power budget calculation for a fiber optic link.

Part 1: Laser types, LDs, Laser safety

Part 2: Modulation, Optical power measurement, Optical Spectrum Analyzer (OSA), Optical Signal-to-Noise Ratio (OSNR) (Video demo)

Part 3: Photodetectors, Quantum efficiency, Noise in optical systems, WDM, Bit Error Rate (BER)

Part 4: Link budget calculation, Rx, Pol, Eye diagrams, transmitter & parameters

- Training for 100 people
- Online Modules

Instructors

Introduction 1-2 | CHULA MOOC | Intermediate 3-4

CHULA MOOC achieve+

Course 1

Course 2

Advance Training Contents

Advanced : Photonics System (12 hr.)

WDM, Optical amplifier, Coherent

1. **Part 1:** Wavelength Division Multiplexing (WDM) standards & components
2. **Part 2:** (Cont.) WDM components: Multiplexer & demultiplexer, filter, switch.
3. **Part 3:** Optical amplifiers: SOA, EDFA, Raman amplifier
4. **Part 4:** Coherent transmission & detection

CHULALONGKORN UNIVERSITY CHULA MOOC

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STRATEGIC PHOTONICS WORKFORCE DEVELOPMENT PROGRAM – PHASE 2

Lab-based Training

6 – 9 July 2026

Lab-based Training on Photonics Measurement

Goal → Develop hands-on competency for Lumentum engineers

5 Lab Topics & Equipment setups:

1. OTDR (Optical Time Domain Reflectometer) + SMF (Single-Mode Fiber)
   Parameters: attenuation coefficient, total loss, insertion loss, return loss, ...
2. Fiber Scope + monitor via OTDR + cleaning kits + sample fibers & connectors
   Quality of connectors' end-surface, cross-sectional view of different fibers, ...
3. OSA (Optical Spectrum Analyzer) calibration
   Power level accuracy, wavelength accuracy, resolution bandwidth, ...
4. OSA + monitor + light source DFB (Distributed Feed-Back) laser
   Operating wavelength, spectral width, SMSR (Side Mode Suppress Ratio), OSNR (Optical Signal-to-Noise Ratio), ...
5. OSA + light source + EDFA (Erbium Doped Fiber Amplifier) + optical filter
   Input & output powers, EDFA gain, NF (Noise Figure), OSNR, spectral width of filter, ...

Work-Integrated Internship

Bachelor	52
Master	1
Ph.D.	1
From 13 University	

Real Work Experience · Mentorship by Industry Experts · Build Practical Skills · Pathway to Employment

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Lumentum Signs Partnership with Government and University

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