

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report
(Date of earliest event reported): October 20, 2025

Aeluma, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-42570
(Commission File Number)

85-2807351
(IRS Employer
Identification No.)

27 Castilian Drive
Goleta, California
(Address of principal executive offices)

93117
(Zip Code)

805-351-2707
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	ALMU	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

We are filing this report to disclose our new investor PowerPoint presentation. The presentation is furnished as an exhibit to this Current Report on Form 8-K.

Neither this report nor the exhibit attached hereto constitute an offer to sell, or the solicitation of an offer to buy our securities, nor shall there be any sale of our securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such state or jurisdiction.

Item 9.01: Financial Statements and Exhibits

(d) Exhibits

Exhibit Number	Exhibit
99.1	Presentation
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

AELUMA, INC.

Date: October 20, 2025

By: /s/ Jonathan Klamkin

Jonathan Klamkin

President, Chief Executive Officer, and Director



Investor Presentation
October 2025

NASDAQ
ALMU

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Forward Looking Statements

This presentation contains summary information about Aeluma, Inc. ("Aeluma") as of the date hereof. The information in this presentation is of general background and contains an overview and summary of certain data selected by the management of Aeluma. It does not purport to be complete.

This presentation is not a prospectus, disclosure document or offering document under the law of any jurisdiction. It is for informational purposes only. This presentation is not investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision. A recipient must make their own independent investigations, consideration and evaluation of Aeluma and the offer and Aeluma recommends that investors should obtain their own professional advice before making any investment decisions in the company. This investor presentation shall also not constitute an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any states or jurisdictions in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No registered offering of securities shall be made except by means of a prospectus meeting the requirements of section 10 of the Securities Act of 1933, as amended.

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Some of the statements appearing in this presentation are in the nature of forward looking statements. You should be aware that such statements are predictions based on assumptions, and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industry in which Aeluma operates as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets and other factors that are in some cases beyond Aeluma's control. As a result, any or all of the Aeluma's forward-looking statements in this presentation may turn out to be inaccurate and actual results may be materially different than those expressed in such forward-looking statements. Except as required by law, we are under no duty to update or revise any of the forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this presentation. These forward-looking statements speak only as of the date of this presentation, and we assume no obligation to update or revise these forward-looking statements for any reason.

The Aeluma Vision:

Build the world's highest performance semiconductor chips with scalable and cost-effective manufacturing.

Background Story: Gallium Nitride (GaN) and the Blue LED

A materials breakthrough that enabled an industry and more



“These won’t ever replace the kitchen light.”
“The research is a waste of money.”

The blue LED revolutionized lighting and displays, and gallium nitride broadly impacted many photonics and electronics applications.

LEDs use **75% less energy** and last **25 times longer**

Energy savings by 2035 of **569 TWh** (92 1,000 MW power plants)



<https://www.youtube.com/watch?v=AF8d72mA41M&t=1399s>



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LED: light emitting diode; www.energy.gov/energysaver/led-lighting

Aeluma's Indium Gallium Arsenide (InGaAs) Breakthrough

Best-in-class materials with scalable manufacturing



**"InGaAs on silicon won't work, people have tried."
"You can't grow quantum dots by MOCVD."**



InGaAs is the best material for shortwave infrared (SWIR) applications, impacting defense & aerospace, mobile and consumer electronics, AI infrastructure, industrial and robotics, quantum, and automotive.

Eye safe, operation in direct sunlight, night vision, higher sensitivity, higher speed, lower power consumption, and lower cost



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MOCVD: metalorganic chemical vapor deposition; Outcomes cannot be guaranteed.

Investment Highlights



Derisked business model poised for growth as U.S. recaptures semiconductor preeminence



Rapidly Expanding SAM **\$4.9B in 2030**

Broad applications across Defense and Aerospace, Mobile and Consumer Electronics, AI Infrastructure, Quantum, Industrial and Robotics, and Automotive



Transformative Technology

- Best-in-class materials with large-volume manufacturing
- Highest performance at scale
- **30+ issued and pending patents**



Significant Business Traction

- Disruptive tech validated by U.S. agencies and customers
- Sampling, small volume orders, and NRE contracts
- **20 customer engagements**



Capital-Light Manufacturing

- Primarily outsourced manufacturing for rapid scaling
- Some proprietary steps carried out in house
- ISO9001:2015 certified



Clean Balance Sheet

- No debt or overhang
- \$39.2M cash (pro-forma at 6/30)



Attractive Financial Profile and Outlook

- Recurring R&D revenue
- Additional capital to fund business and accelerate commercialization

Recent Developments

FY2025 Results Announced on 9/9/25



Operational and Financial Highlights

- ✓ Nasdaq IPO (Uplist) and **\$13.8M** capital raise In March
- ✓ **\$25.4M** capital raise in September
- ✓ FY2025 revenue **\$4.7M** (up from \$0.9M in FY24)
- ✓ 6 R&D contracts secured in 2025, including 2 in Q4
- ✓ 20 active customer engagements
- ✓ Unveiled scalable manufacturing process applicable to quantum computing and communication systems
- ✓ Chris Stewart with strong semiconductor and public-company experience appointed CFO
- ✓ Strong balance sheet with **\$39.2M** in Cash and Cash Equivalents (pro-forma at 6/30) and **no debt**

Strategic Priorities for FY2026

- ❑ **New Contract Wins** → 3-7 new R&D contracts
- ❑ **Team Expansion** → Accelerate hiring of business development and go-to-market team, technical leadership, and operations
- ❑ **Enhanced Manufacturing Readiness** → Higher levels of wafer fab activities, expanded test and validation capabilities, technology qualification for target industries
- ❑ **Go-to-Market Traction** → Continued progress with engaged targeted commercial markets and increase customer engagements in pipeline

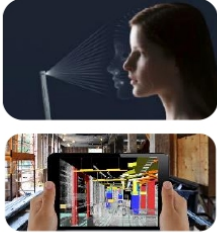
Actively engaged with 20 prospective customers evaluating our technology for potential integration

Aeluma Address Multiple High-Growth Markets

High-performance semiconductors that scale

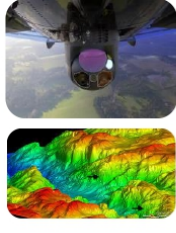


Mobile, Tablet, PC, and AR/VR



- Depth perception
- Facial ID
- 3D scanner
- Health monitoring
- AR/VR

Defense and Aerospace



- 3D imaging and LiDAR
- Security
- Autonomous systems
- Atmospheric sensing
- Topography

AI, DCI and Quantum



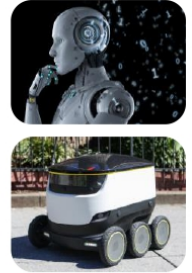
- AI infrastructure
- Data centers and HPC
- Telecommunications
- Quantum
- 5G/6G wireless

Automotive



- Consumer vehicles
- Robotaxis
- Trucking
- Advanced driver assistance systems

Industrial and Robotics

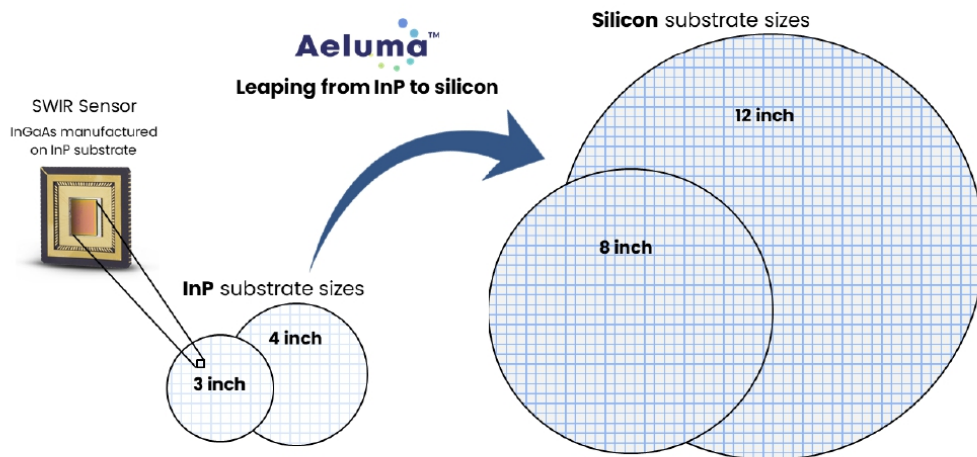


- Robotics
- Delivery robots
- Factory automation
- Logistics
- Security

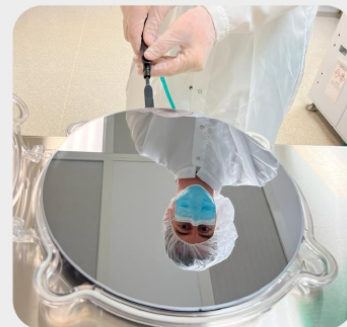
Aeluma is positioned as a semiconductor technology provider to service a broad range of market verticals.

Aeluma's Breakthrough in Semiconductor Manufacturing

Best-in-class materials on large-diameter substrates



**The World's First 12-inch
Indium Phosphide on
Silicon Wafer**



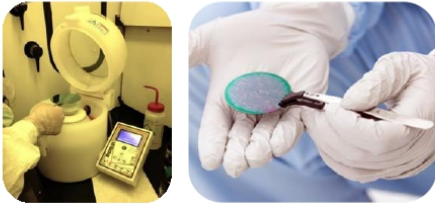
Aeluma (2022)

Aeluma's Technology Breakthrough

Scalable, cost-effective manufacturing enabled by cutting-edge intellectual property



Conventional manufacturing of InGaAs semiconductor devices



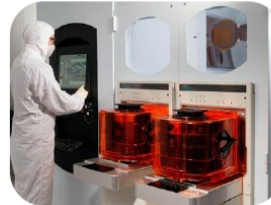
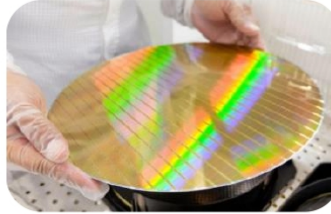
Not scalable, manual, and low throughput

Moving from 3-inch to 12-inch wafers



16X wafer area

Aeluma high-performance InGaAs with silicon manufacturing



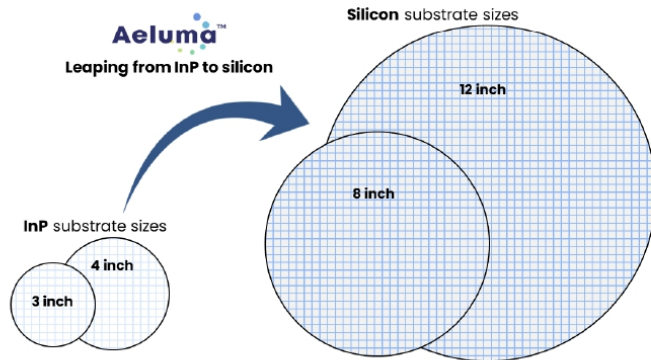
- ✓ Highly automated and ability to produce many chips per wafer
- ✓ Monolithic CMOS process integration
- ✓ Wafer-scale integration and packaging
- ✓ 10X lower manufacturing cost for mass market applications

Manufacturing for a Mass Market

Aeluma's large-diameter manufacturing economies of scale



Aeluma's Large-Diameter Wafer Platform



Manufacturing Capacity Bottleneck:

Producing 20 million sensor chips for consumer market

	Substrate size	Wafers required for 20m sensor chips	Typical fab capacity
Incumbent Technology	3-inch	425k wafers	1k-10k wafers per month
	4-inch	213k wafers	1k-10k wafers per month
 Large-diameter platform	8-inch	43k wafers	10k-100k per month
	12-inch	18k wafers	10k-100k per month

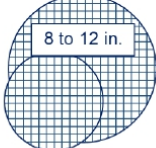
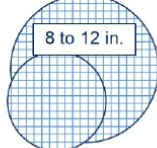
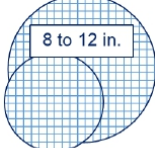
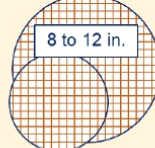
Incumbent technologies cannot meet volume requirements for consumer markets

Aeluma's manufacturing enables scaling and cost reduction required for current mass market applications

Aeluma Outperforms the Competition

Technology Comparison



	Incumbent technologies		Technologies for scaling and cost reduction		
Technology:	Si SPAD	InGaAs-on-InP	Ge-on-Si	CQD	InGaAs-on-Si
Substrate size:	 8 to 12 in.	 2 to 4 in.	 8 to 12 in.	 8 to 12 in.	 8 to 12 in.
Suppliers:	SONY 	HAMAMATSU 	ARTILUX 	onsemi 	Aeluma 
Eye Safe:	No	Yes	Somewhat	Somewhat	Yes
Performance:	Good	Best	Fair	Fair	Best
Multiplication (APD, SPAD):	Yes	Yes	Possible	No	Yes
Wafer-scale integration:	Yes	No	Yes	Yes	Yes
Status:	Mature Scalable	Mature Not Scalable	Maturing Scalable	Maturing Scalable	Maturing Scalable

Aeluma's is the only known technology that combines proven, high-performance InGaAs with scalable, cost-effective silicon manufacturing, thereby overcoming the cost-performance tradeoff.

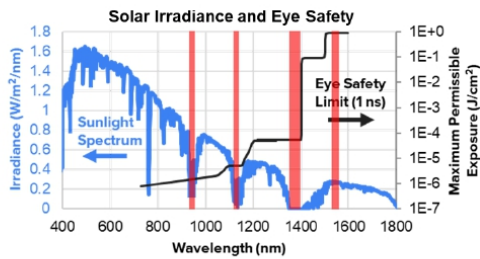
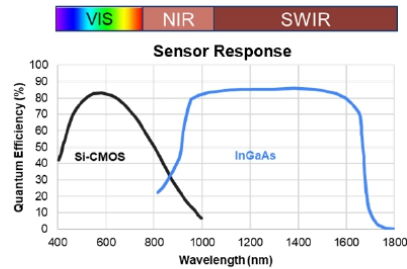
Why Aeluma and Why Now?

Better performance preferred for mass markets



Market Vertical Example 1: Shortwave Infrared (SWIR) Sensors for Mobile and Consumer Electronics

What is SWIR?



SWIR sensors needed for eye safety and other benefits

Facial ID



Automotive sensors



AR/VR



3D scanner

Health monitoring



Radical approach required to scale and reduce cost

Why Aeluma and Why Now?

High-performance required for a growing market



Market Vertical Example 2: AI Infrastructure and Data Center Interconnects

AI EFFECT

Nvidia CEO Huang says AI has to do '100 times more' computation now than when ChatGPT was released

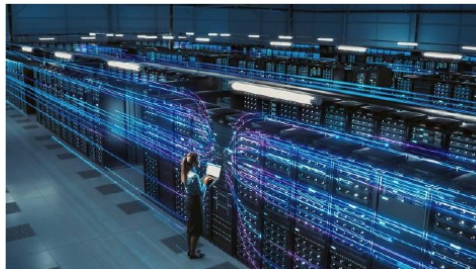
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SHARE

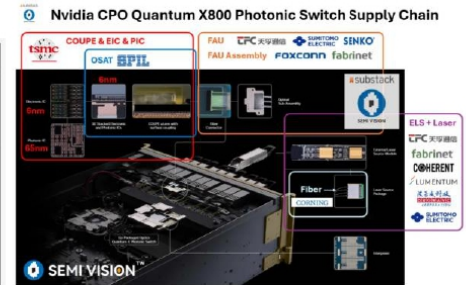
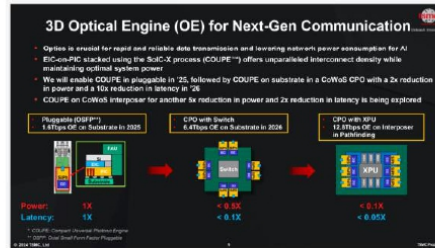
KEY POINTS

- Nvidia CEO Jensen Huang said next-generation AI will need 100 times more compute than older models as a result of new reasoning approaches that think "about how best to answer" questions step by step.



Overcoming the data transfer bottleneck:

The need for high-bandwidth, low-latency, and energy-efficient optical interconnects



Why Aeluma and Why Now?

High-performance required for a growing market

Market Vertical Example 3: *Defense and Aerospace*



A New Era in Defense Tech

\$130B venture capital invested in defense over four years

SPACEX

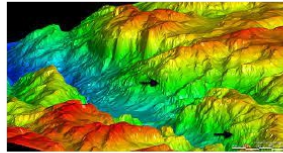


ANDURIL



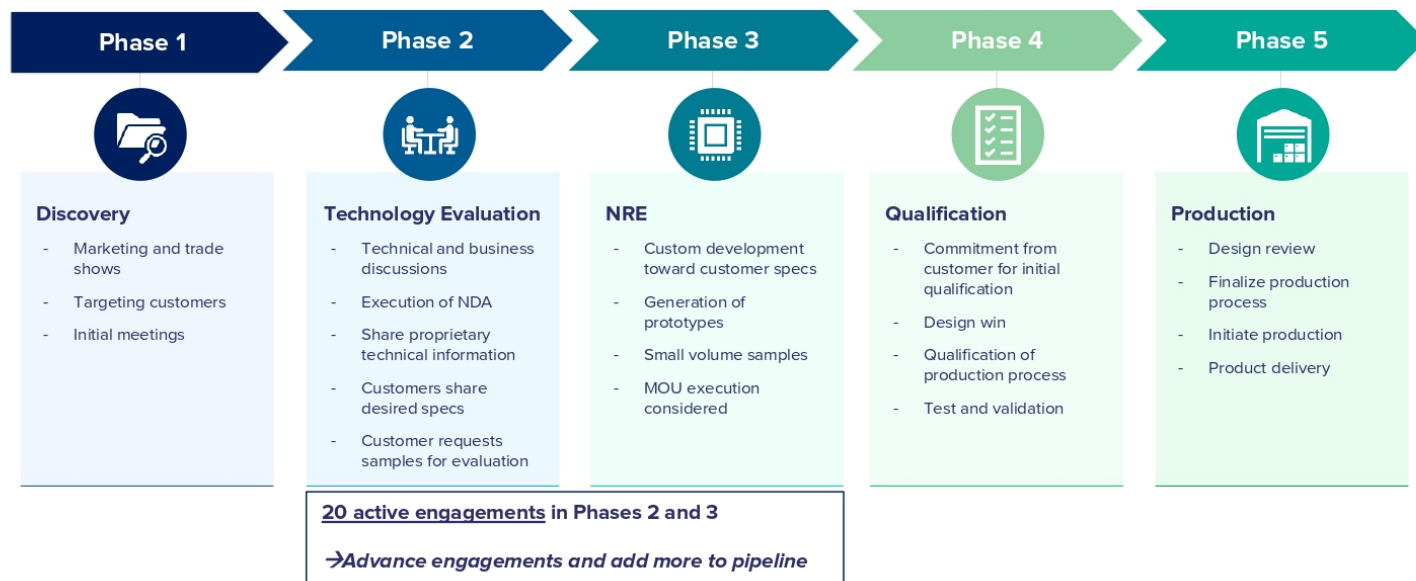
Palantir

Mission-critical systems require high performance and operation in harsh environments



Progression to Commercialization

Stages of the Customer Opportunity Pipeline



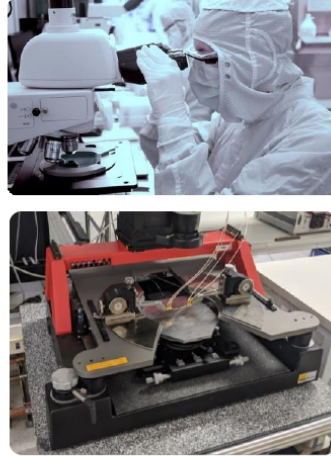
Aeluma's Cost-Effective and Scalable Manufacturing

Transitioning to Commercialization

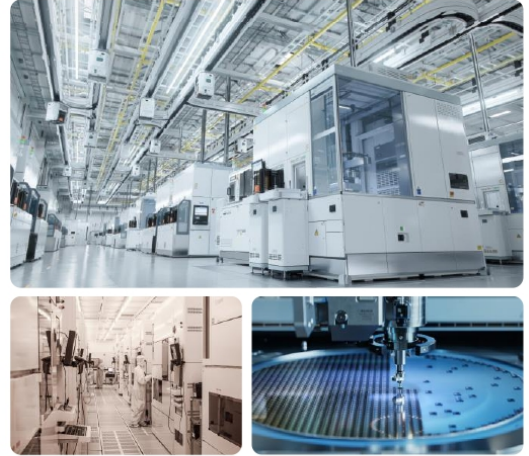
12-inch wafer capability



Rapid prototyping and small-volume manufacturing



Partners for medium- and large-volume manufacturing



Combining rapid prototyping capabilities and volume manufacturing partners, Aeluma is positioned to effectively transition from R&D to commercialization with a capital-light approach.

Aeluma's Headquarters

Ideal Location for Development and Commercialization

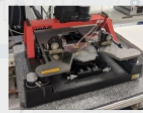


Aeluma's Headquarters

Ideal Location for Development and Commercialization



Headquarters with R&D and manufacturing capabilities [9,000 sq. ft.]



LOCKHEED MARTIN



Aeluma's Headquarters: Recent Expansion

Ideal Location for Development and Commercialization



Headquarters with R&D and manufacturing capabilities [9,000 sq. ft.]



Recently added office and meeting space [2,400 sq. ft.]



Recently added equipment for prototyping and wafer test & validation



Technology Portfolio

Near-Term Focus

- Detector Arrays
- Large-area Detectors
- High-speed Detectors
- Quantum Dot Lasers
- Templates

Longer Term

- QD Lasers in Silicon Photonics
- Quantum Photonics
- Nano-scale Semiconductors

Aeluma™

**High Performance
Semiconductors that Scale**

The advertisement features four circular images: a car on a road, a semiconductor wafer, a person using VR, and a close-up of a semiconductor chip.

[illegible]

SWIR Photodiode Arrays

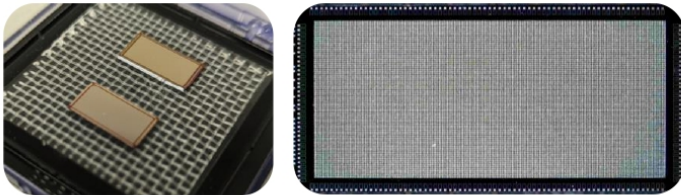
Active and Passive Imaging Sensors



Shortwave Infrared (SWIR) Array Features

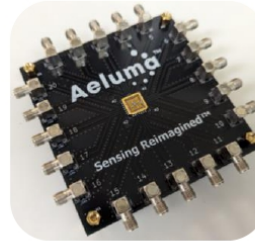
- Low dark current photodetector arrays manufactured with large-diameter substrate platform
- Pixel and array size customizable
- Typical array sizes: 128X32, 256X128, 640X512
- Delivered as PDA chips or with ROICs
- FPA assembly available
- Small test arrays (ex. 8 X 8) available for evaluation/qualification

Photodetector Array Chips

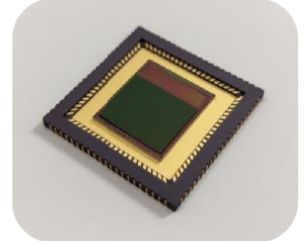


Examples shown are 256X128 format

Evaluation Board



Focal Plane Array Assembly



Applicable markets include:

- Mobile and Consumer
- Industrial and Robotics
- Defense & Aerospace
- Automotive

Large-Area Photodiodes

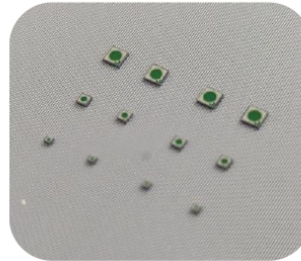
Sensors



Photodiode Features

- **Typical Photosensitive Diameter (D):**
0.25 to 5.0mm (0.25, 0.5mm most common)
- **Typical Operating Wavelength (λ):**
0.95 to 1.55 μ m
- **Device Type:**
PIN, APD or SPAD (PIN and linear-mode APD most common)
- **Sample Format:**
Bare die, mounted on carrier or mounted in TO package

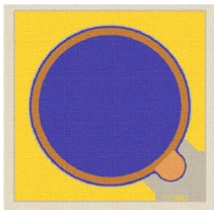
Bare Die



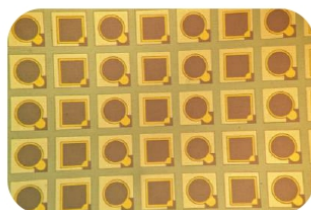
TO Package



Photodiode Schematic



Fabricated Photodiodes



Applicable markets include:

- Mobile and Consumer
- Industrial and Robotics
- Defense & Aerospace
- Automotive

High-Speed Photodiodes

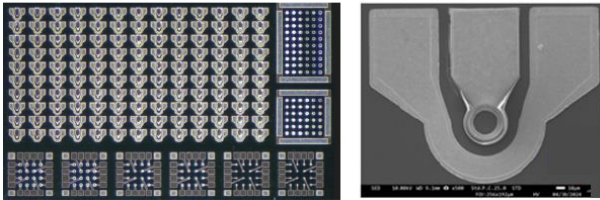
High-speed Optical Communications



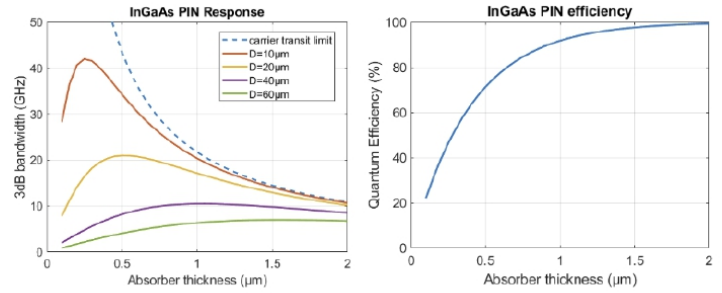
High-speed Photodiode Features

- **Typical Operating Speed:**
10-50 Gbps
- **Typical Operating Wavelength (λ):**
0.85 to 1.55 μm
- **Device Type:**
PIN, UTC-PD, APD
- **Sample Format:**
Bare die, mounted on carrier, array format, wafer-scale integrated
- **Target Architecture:**
Short-reach multi-mode fiber links and SWDM

Fabricated high-speed InGaAs PIN photodetectors



Bandwidth-efficiency design tradeoffs



Applicable markets include:

- Defense & Aerospace
- Data Center Interconnects (DCI) and AI Infrastructure
- Telecom

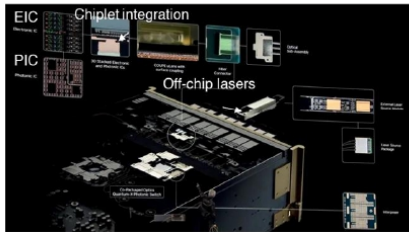
Quantum Dot Lasers

High-speed Optical Communications

Quantum Dot Lasers and Amplifiers

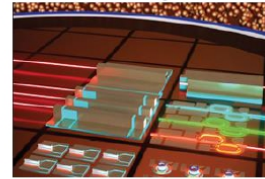
- **Typical Operating Wavelength (λ):**
1.25 to 1.35 μm
- **Device Format:**
Fabry-Perot Laser, SOA, RSOA, DFB Laser
- **Sample Format:**
Bare die, mounted on carrier, array format, integrated in SiPh
- **Target Architecture:**
Single-mode fiber applications, multi-wavelength comb sources (WDM), Co-packaged optics (CPO)

NVIDIA's co-packaged optics platform with external lasers



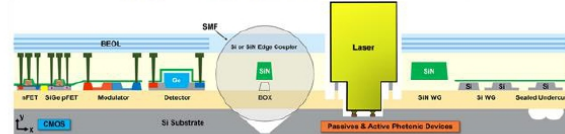
*Source: NVIDIA GTC 2025

External QD lasers for high efficiency, high temperature performance, and wavelength division multiplexing



*Source: CS Magazine, 30, 7, 2024

Integrated QD gain in silicon photonics



*Y. Bion et al., IEEE JSTQE, 29, 2023

Applicable markets include:

- Data Center Interconnects (DCI) and AI Infrastructure
- Telecom
- Mobile and Consumer
- Defense & Aerospace

Leadership Team

Vision, Entrepreneurship, and Expertise

Senior Management



Jonathan Klamkin, PhD
Founder, CEO &
Director



Christopher Stewart
CFO



Matthew Dummer, PhD
Director of Technology



Investors/Advisors



Shuji Nakamura, PhD
Seed Investor



Richard Ogawa, JD
Seed Investor & Advisor



Board Members



Steven DenBaars, PhD
Seed Investor & Director



John Paglia, PhD, CPA, CFA
Director



Craig Ensley
Director



Michael Byron, CPA
Director





AelumaTM

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