



## AI Transmission Revolution! Taiwan Startup ‘Rayleigh Vision Intelligence’ Slashes Data Center Power Consumption with 50% More Efficient Optical Modules by 2026

**Taipei, Taiwan — May 2025** — As the global AI boom drives soaring energy demand, Taiwanese semiconductor startup **Rayleigh Vision Intelligence (RVI)** unveils a breakthrough innovation poised to transform the data infrastructure landscape. Leveraging a **repairable laser-based mass transfer process** and **AI-assisted manufacturing**, RVI has developed a next-generation optical communication light source module that **cuts power consumption in half**—offering a sustainable and scalable solution to AI's growing environmental impact.

Backed by partnerships with major global chipmakers, the technology is on track for **mass production in 2026**, targeting a market with the potential to generate **over NT\$100 million in annual revenue**.

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## The Hidden Cost of AI: ChatGPT Alone Consumes as Much Power as 17,000 U.S. Homes Daily

Global data centers now consume more than **2% of total electricity**, equivalent to the power needs of an entire country like Germany.

RVI’s founder notes:

“Today’s AI computing systems waste up to 40% of their energy just moving data. It’s like driving a supercar that’s stuck in traffic—powerful, but burning energy going nowhere.”

While Co-Packaged Optics (CPO) systems promise faster transmission, their energy efficiency remains a challenge.

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## Taiwan' s Breakthrough: Replacing Traditional Lasers with Intelligent Lighthouse Arrays

Drawing parallels to the LED revolution, RVI' s new approach replaces power-hungry laser systems with a **precision-controlled array of micro light sources**. This not only **reduces power consumption by 50%**, but also drastically shortens production cycles—from **three months to just six weeks**—through **AI-optimized fabrication algorithms**.

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### What This Means for the World

- **Cheaper AI Services:** Reduced cloud infrastructure costs could lower the price of AI tools like ChatGPT.
  - **Environmental Impact:** If adopted globally, RVI' s solution could cut carbon emissions equivalent to planting **15 million trees** annually.
  - **Tech Export & Ecosystem Growth:** Developed by a team with experience at Apple, Intel, and in partnership with ITRI' s Photonics Research Institute, RVI plans to license the technology to empower **Taiwan' s domestic supply chain**.
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### About Rayleigh Vision Intelligence (RVI)

Rayleigh Vision Intelligence is a Taiwan-based semiconductor startup focused on high-efficiency optical communication modules for AI and HPC applications. Specializing in laser mass transfer, MicroLED array packaging, and AI-driven yield optimization, RVI is shaping the future of data infrastructure with green, intelligent hardware innovations.

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