Mehr Licht!
More Photonics for Intelligence

#E24

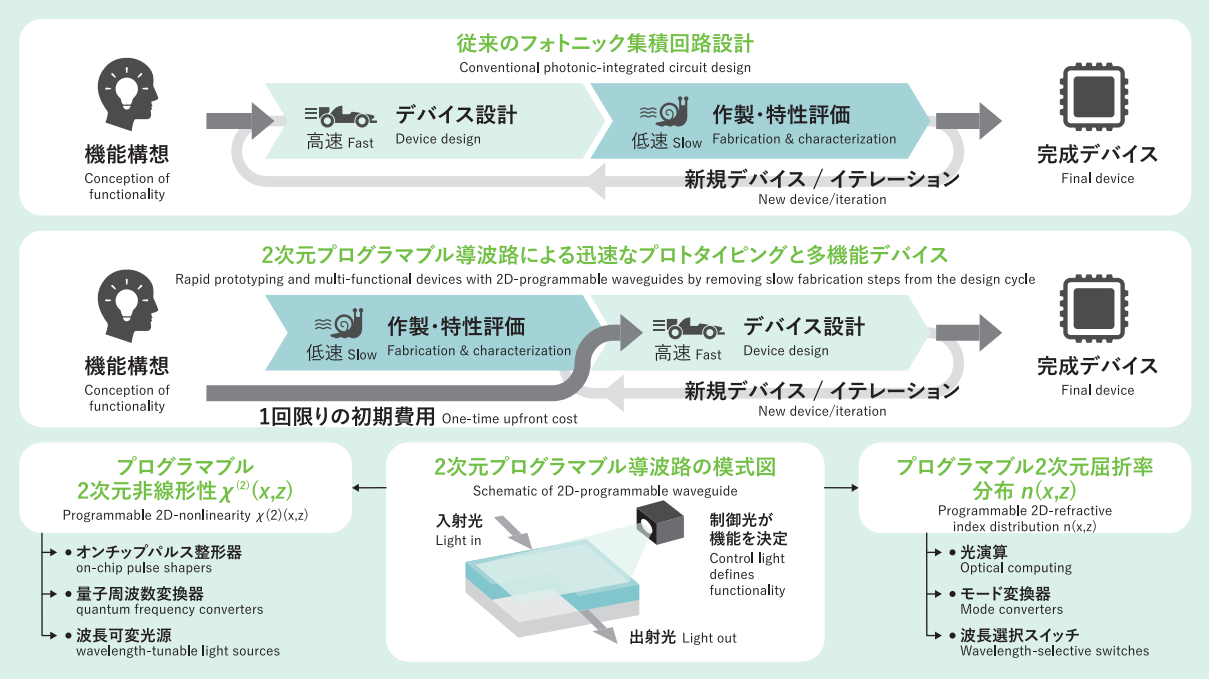
#AI & Quantum Infrastructure#Digital & AI Transformation

Programmable Photonics Using Light

Creating functions in situ and fabricating a flexible device

Technical Challenges & Goals

Once a photonic device has been fabricated, its functionality cannot be changed. This has led to problems such as the one-device-one-function limit. By using light to rewrite the device's functionality, a flexible device can optimize its function in situ. This opens up potential applications for AI data centers.



Key Technologies

Core Technologies

- Enabling real-time writing of functionality into a blank photonic device using light
- Encoding nonlinear optics to enable flexible spectral and quantum-entanglement control

Key Differentiators

- 49-input ML system using optics, largest-scale integrated photonic demonstration
- The system capable of flexibly writing nonlinear optical effects is the first demonstration

Use Cases

Information Technology (IT)

In our approach, light is used to rewrite the device's functionality, opening up potential applications in areas such as AI data centers, where large-scale optical circuits must be flexibly reconfigured.

Exhibitors

NTT Research, Inc.

Related Links

https://ntt-research.com/ntt-research-collaboration-breaks-the-one-device-one-function-paradigm-with-worlds-first-programmable-nonlinear-photonics-chip/

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