

Driving DNP's Global R&D Expansion From Japan to the Netherlands

DNP

未来のあたりまえをつくる。

Ik hou van Nederlanders!!

June 9th , 2026
Naoko Sawatari
Dai Nippon Printing Co., Ltd.
R&D Management Department

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Dai Nippon Printing Co., Ltd.(DNP) Profile

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150 years anniversary this year!

Established In 1876

1876(明治9)年10月9日

Annual Sales 8B Euros※

1兆4,576億09百万円

Employees 36,890 ※
worldwide

※(as of March 2025)

Operating Locations

Domestic Sales offices 34
Manufacturing sites 57

Overseas Sales offices 24
Manufacturing sites 16

R&D Base 2



150 years



For the Future standards

Business Segments of DNP

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Diversified high technology company based on **the state-of-the-art printing technologies**. Started with “Ink on Paper” business, and now most of the profits come from **electronics and high-tech products**.

Net sales income by segment

Electronics

274 billion yen

17.0%

Life & Healthcare

516 billion yen

34.0%

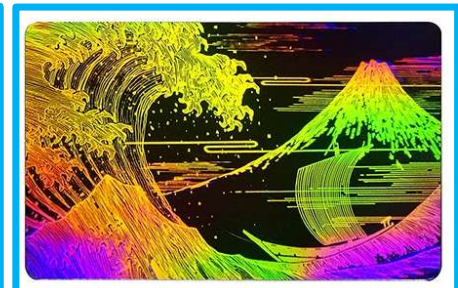
Smart Communication

742 billion yen

49.0%

Net Sales
Income by Segment

Year ended
March 31, 2025



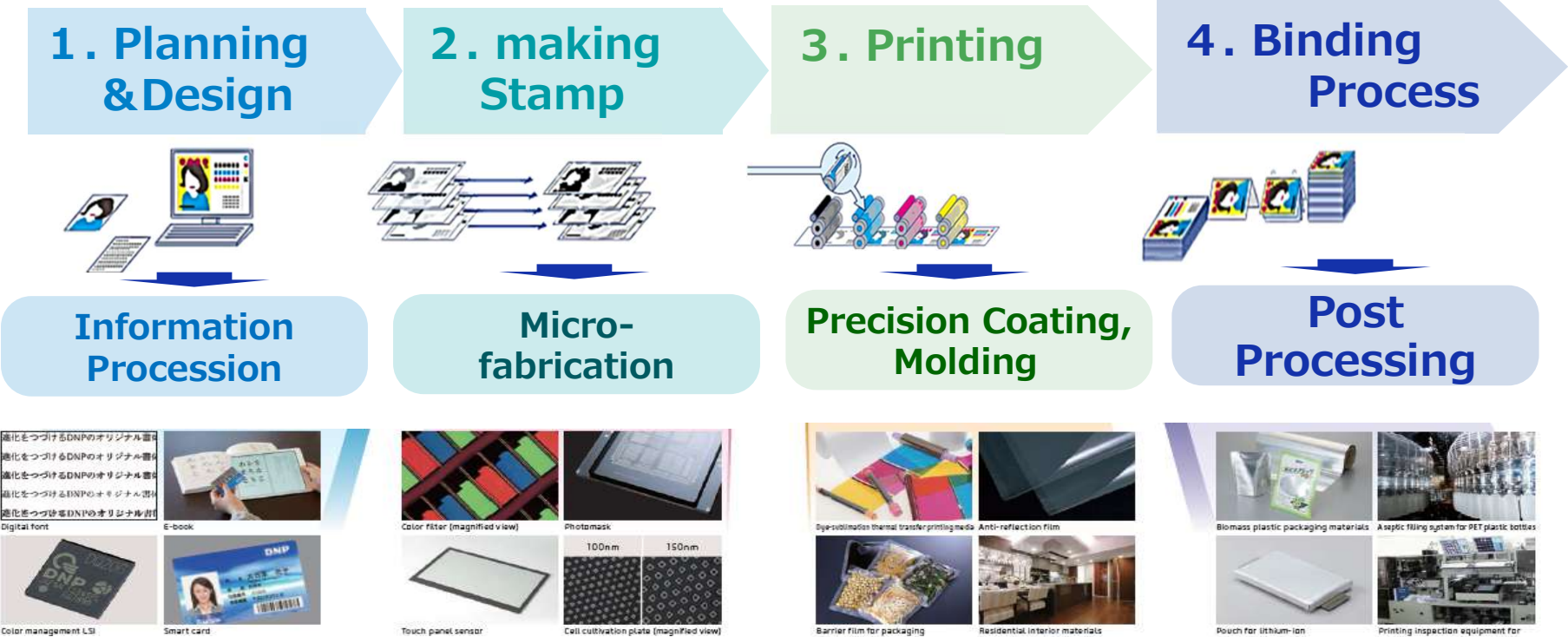
DNP's Technologies

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Print Process

All of DNP's foundational technologies originate from printing



Details of the Focus Business Areas

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We will actively invest in growth across six business areas that hold a high market share, demonstrate good profitability, and have potential for sustainable development, thereby driving performance growth

	Business Area	Market share		Profitability		Growth potential
		Main Products	FY2024 Sales*2	ROE*3		Market Environment (CAGR 2024–2029)
Newly Added	Information Security	 Smart cards (No. 1 domestic share)	177			Approx. 7% Information Security market
Newly Added	Photo Imaging	 Dye-sublimation thermal transfer printing media (No.1 global market share)	74			Approx. 7% Photo related market
	Mobility*1	 Automotive interior and exterior decorative films	71			Approx. 13% High-end HMI market
	Industrial High-Performance Materials	 Battery pouches (No.1 global market share)	60			Approx. 15% EV market
	Digital Interfaces	 Optical film, metal masks (No.1 global market share)	182			Approx. 5% Digital interfaces market
	Semiconductors	 Photomasks for semiconductors production (Top-level market share in photomasks for external sales)	66			Approx. 8% Semiconductor market

*1 We will integrate Mobility with the Living Spaces business in October 2025.

*2 The calculation standard for Information Security and Photo Imaging has changed from the figures disclosed for FY2024.

*3 We will manage ROE for each business by roughly estimating net income and net assets.

▲
10%

Semiconductor Business of DNP

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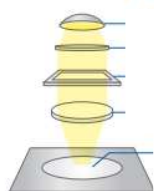
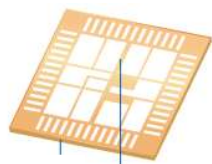
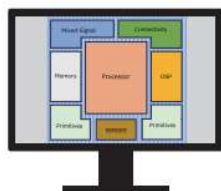
Photomasks are our core product, while **cutting-edge package materials** represent a key strategic growth area for our company.

DNP's Semiconductor-related Products and Services

Front-end Processes

Design

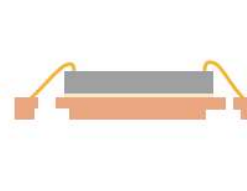
Circuit Formation



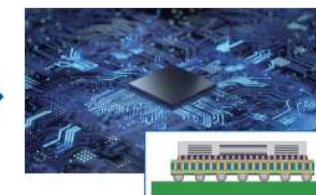
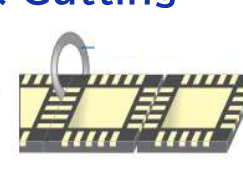
Cutting



Molding

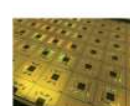
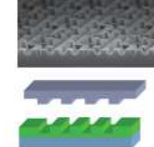
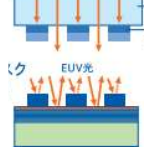


Resin Sealing & Cutting



DNP Products and Services

Forcus



LSI
Design

Photomasks

NIL template

Lead Frames

Glass Core

Vapor Chambers

EUV Masks

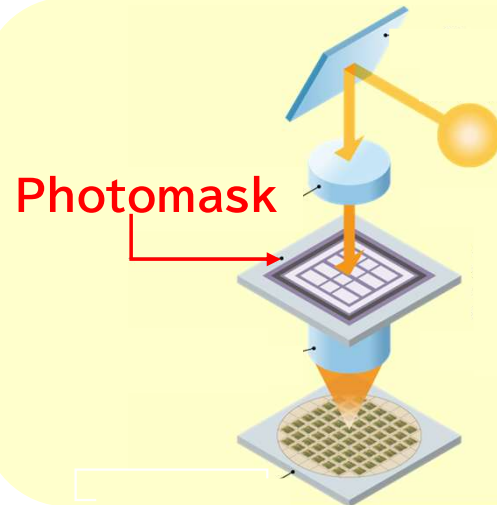
Co-Packaged Optics

Cover tapes

Photomasks

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What is a photomask?

- Used to transfer circuits onto Semiconductor wafers
- A structure with a precise circuit Pattern formed on the glass surface, it is an important Component **essential for semiconductor manufacturing.**

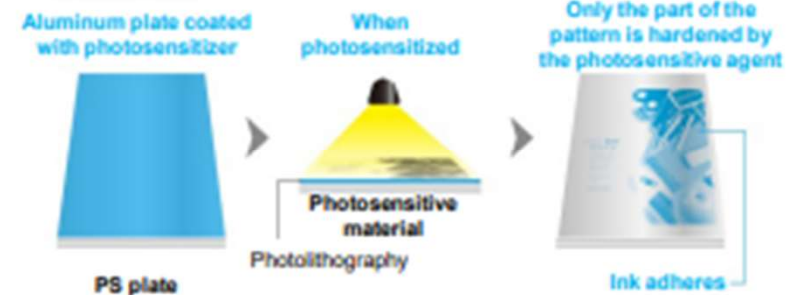
DNP core technologies and photomasks: “Why is a printing company handling photomasks?”



Type (metal etching technology)



Photomasks

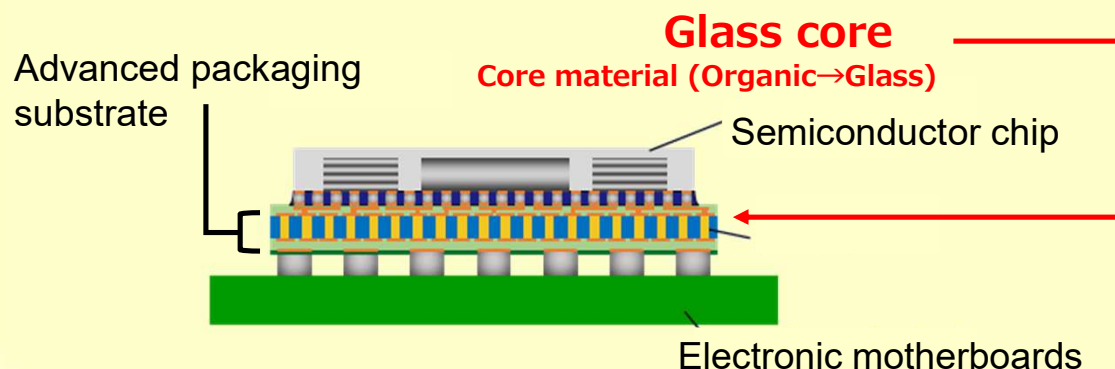


Photolithography

Glass core

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What is a glass core?

-In advanced packaging for high-performance devices, Organic cores are common, but issues like warpage are driving interest in **glass cores**, which offer superior properties

DNP's Basic Technology and Advanced Mounting Materials for Semiconductors

3D micro-patterning technology

MEMS foundry

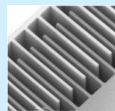
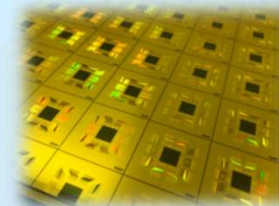
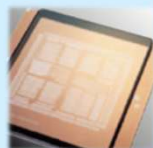


Photo mask



RDL interposer



Glass core

Large glass substrate handling technology

LCD color filters



Co-Packaged Optics

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Concept

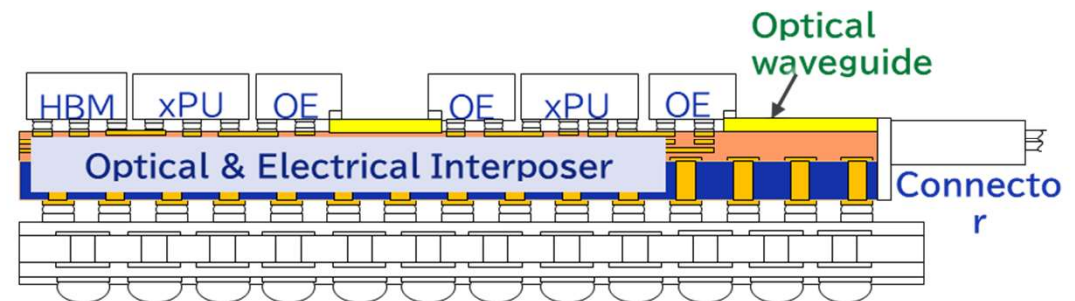
High-density Optical Waveguide

- ✓ High-volume data transmission
- ✓ High-density optical I/O
- ✓ Low power consumption

Glass Substrate

- ✓ Large size chiplet package
- ✓ Panel level process

Glass Interposer with Optical Waveguide



Stable optical transmission and connection
by excellent flatness and thermal stability

Co-Packaged Optics

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Feature

Optical waveguide

High refractive index waveguide

Fine-pitch optical waveguide

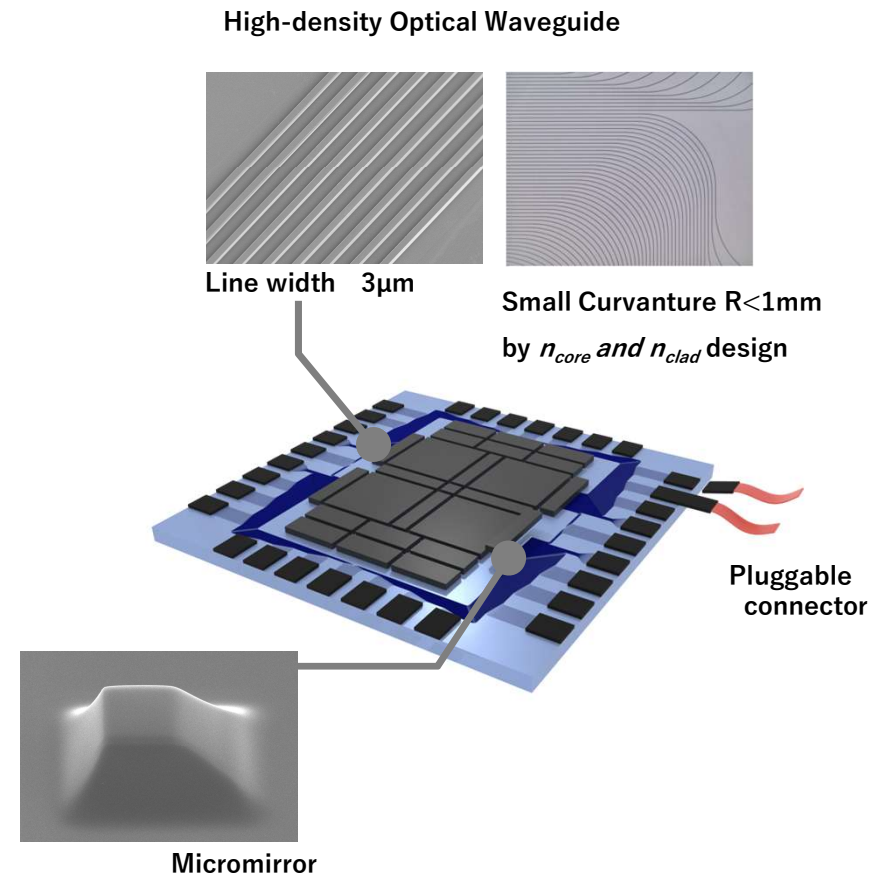
Compact waveguide layout

Optical Connection

Compact optical I/O by Micromirror (Chip)

Pluggable connection(Fiber)

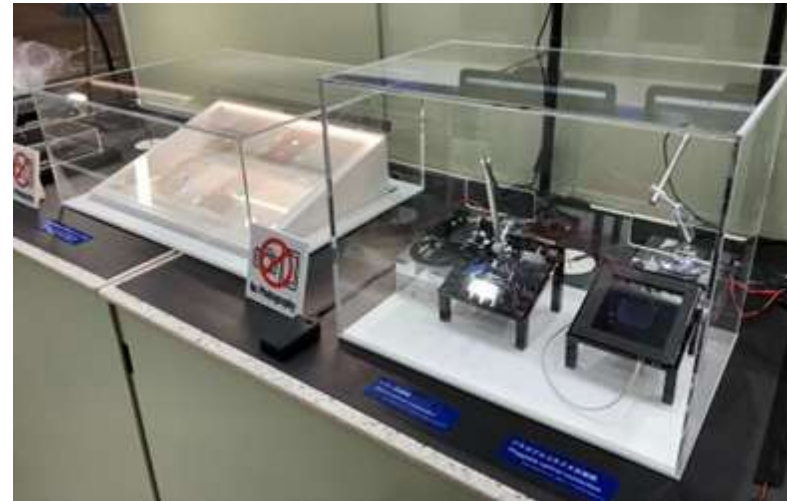
Wavelength multiplexing compatible



Co-Packaged Optics -SEMICON Japan2025-

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DNP in Europe

The Netherlands

sales office

production base

R&D Center (NEW, Sep 2025)



France

sales office

marketing office



Denmark

sales office

marketing office

production base



Germany

sales office

marketing office



Italy

sales office

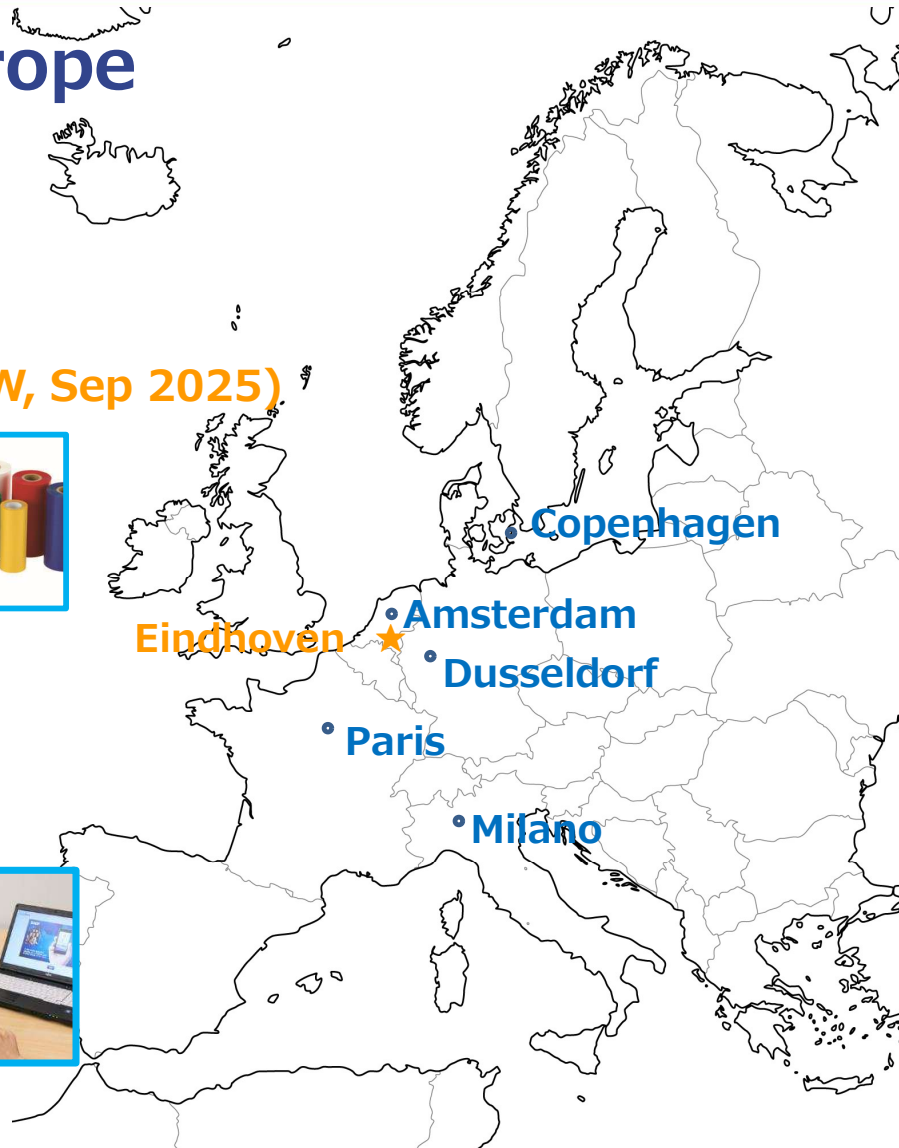
production base

(with STMicroelectronics)



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Why DNP join the HTCE?

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The Netherlands

- EU leadership in standards and regulations
- Strong cluster of leading semiconductor players (ASML, imec)
- European Commission and Dutch government to advance cutting-edge R&D funding project

The HTCE

- **Ecosystem:** Thanks to the many regional supporters for providing specific access and introduction
- **Excellent Facility:** Advanced measurement systems and clean room facilities already installed
- **Technical background and Talents:** Cluster of engineers/researchers, primarily from Philips, and opportunities for recruitment from technical universities

TNO innovation
for life

PITC

TU/e

PhotonDelta

Opening of R&D Hub in Eindhoven

DNP to Open First Overseas R&D center in the Netherlands Will promote Co-Packaged Optics R&D

For Global Market >

Research and Development >

Jul 11, 2025

In our first project at HTCE, we will promote R&D into **Co-Packaged Optics** which is attracting attention as next-generation semiconductor technology.

On 3 July 2025, DNP signed an agreement with the Netherlands Organization for Applied Scientific Research (TNO) on joint R&D into **Co-Packaged Optics**. These activities will be promoted in conjunction with the **Photonic Integration Technology Centre (PITC)**, a research organization located on the campus that connects basic research to the mass production of photonic chips (optical IC chips).



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News

September 4, 2025

INVEST IN
Holland

Dai Nippon Printing Establishes First Overseas R&D Hub in the Netherlands

Expansion in advanced materials research in semicon enabled by partnerships with Dutch High Tech Ecosystem