



KONICA MINOLTA

Sustainability Briefing

- Accelerating Both Environmental
Contribution and Business Growth -

Konica Minolta, Inc.

January 20th, 2026





Konica Minolta's sustainability management Industry Business growth and sustainability value creation

Noriyasu Kuzuhara

Executive Vice President & Executive Officer, Industry Business



Technological Initiatives Contributing to Decarbonization and GX

Toshiya Eguchi

Executive Vice President & Executive Officer, Technology

1

On track to achieve Carbon Minus in FY2025

2

Industry business shows a significant contribution to avoided CO₂ emissions

3

Progress in initiatives for technologies contributing to decarbonization and GX

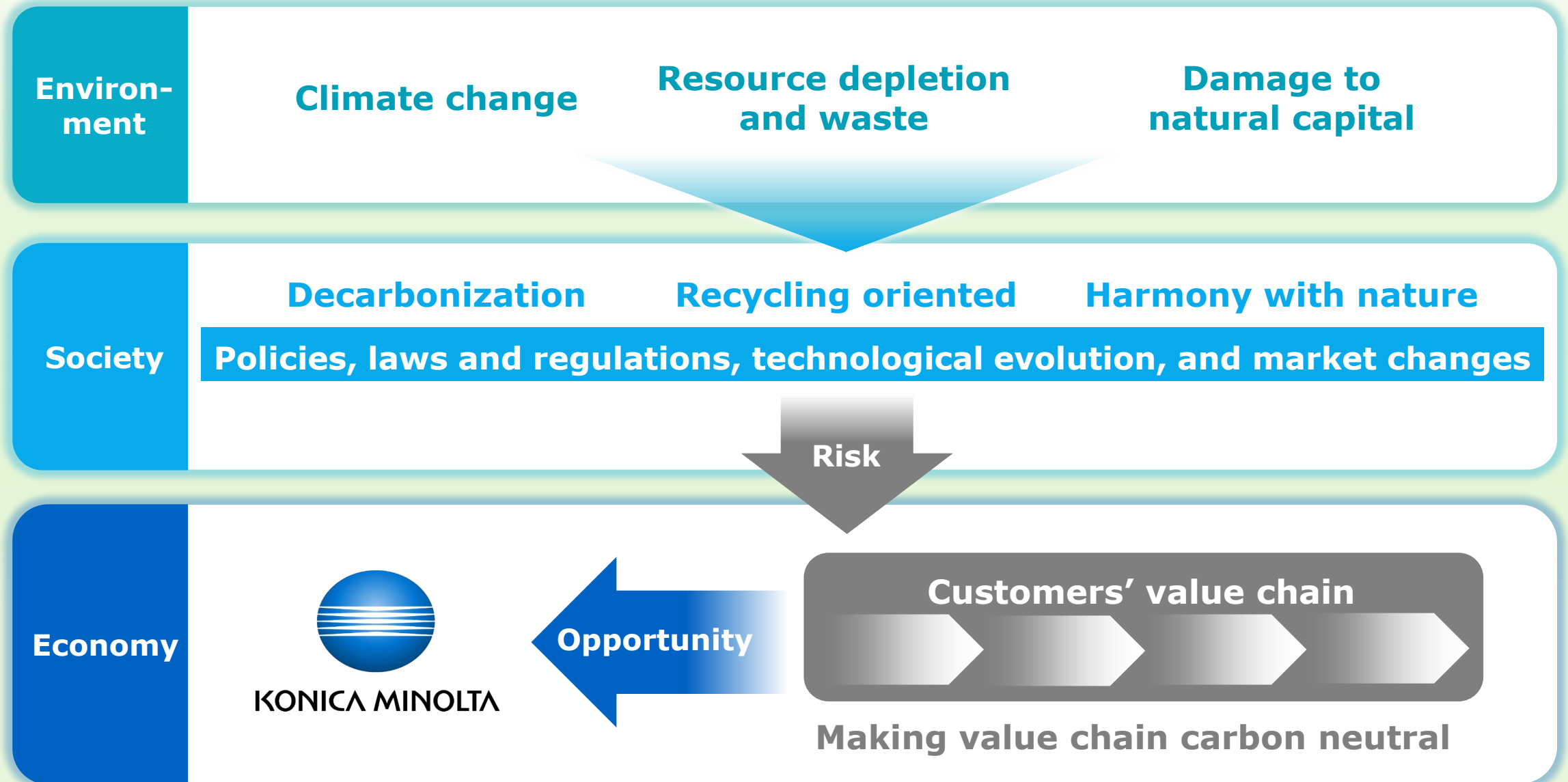
Konica Minolta's sustainability management

Industry Business growth and
sustainability value creation

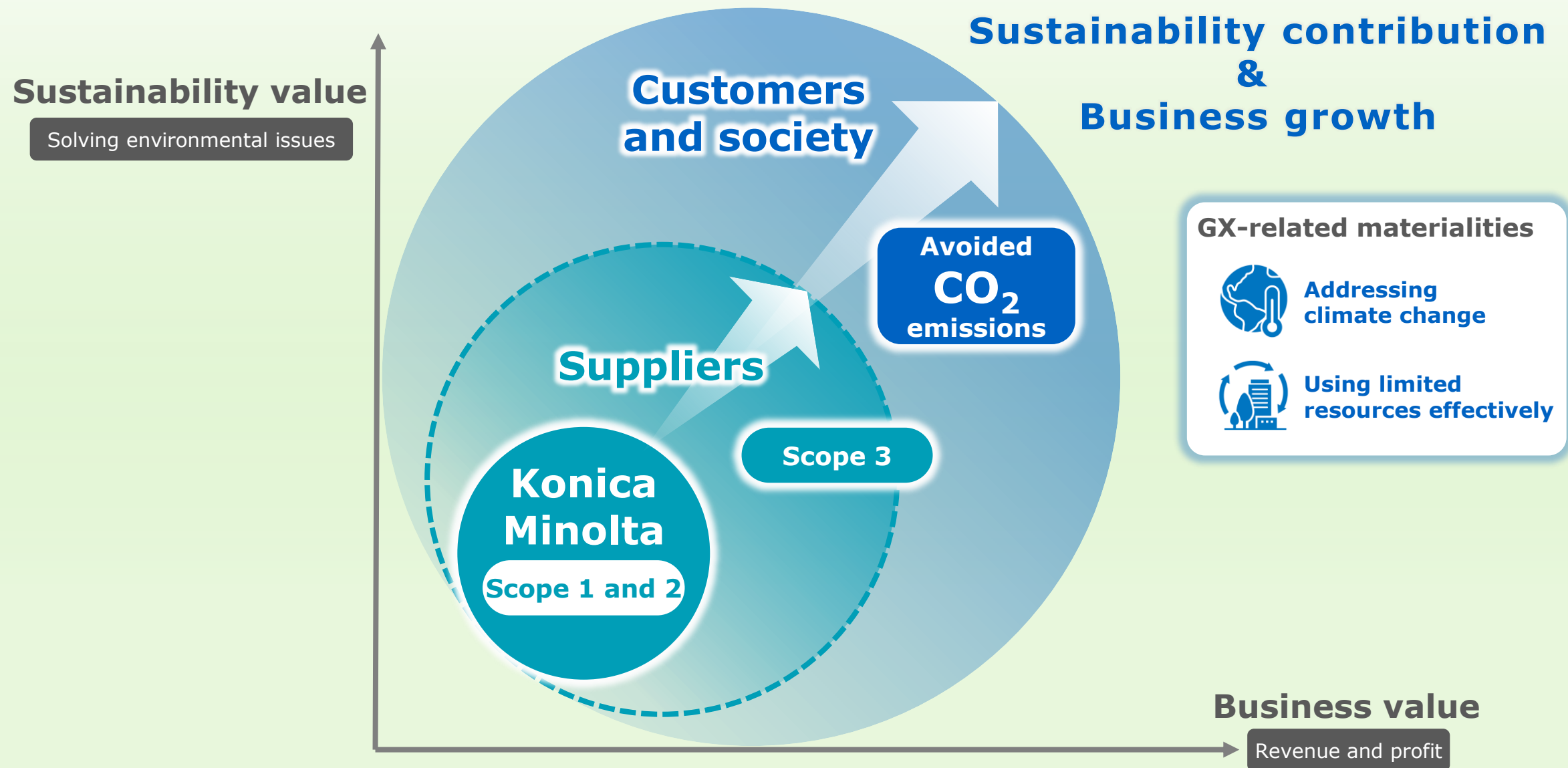
Technological initiatives contributing to
decarbonization and GX



Basic Principles of Sustainability Management



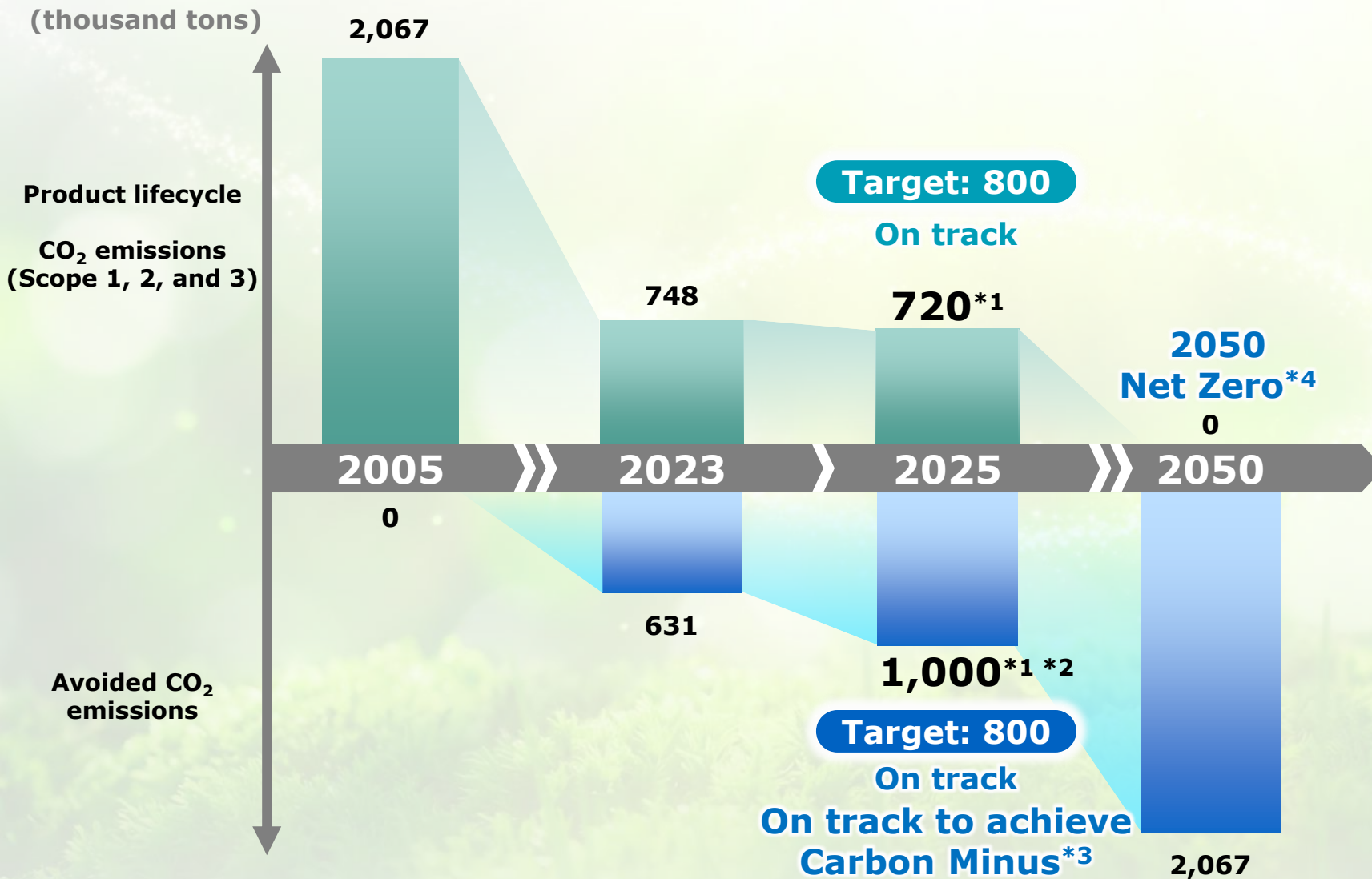
Achieving Both Sustainability Contributions and Business Growth Through Co-Creation



On Track to Achieve Carbon Minus in FY2025



KONICA MINOLTA



Unless otherwise noted, all years referenced in this document refer to fiscal years.

*1 2025 figures were estimated as of January 20, 2026.

*2 Reflecting avoided CO₂ emissions from the Industry Business and the Imaging Solutions Business starting in 2025.

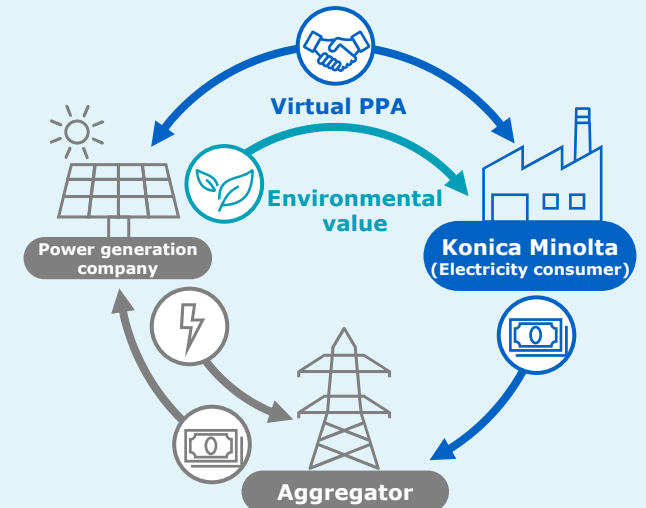
*3 Carbon Minus: The condition in which the avoided CO₂ emissions exceeds CO₂ emissions in the company's product lifecycle (Scope 1, 2, and 3).

*4 Net Zero: In July 2024, we received certification from the Science Based Targets (SBT) initiative for our Net Zero Target.

Achieved sourcing **100% renewable electricity** at all global production sites of our Business Technologies Business



Signed a long-term fixed-price virtual PPA for environmental value



Konica Minolta's sustainability management

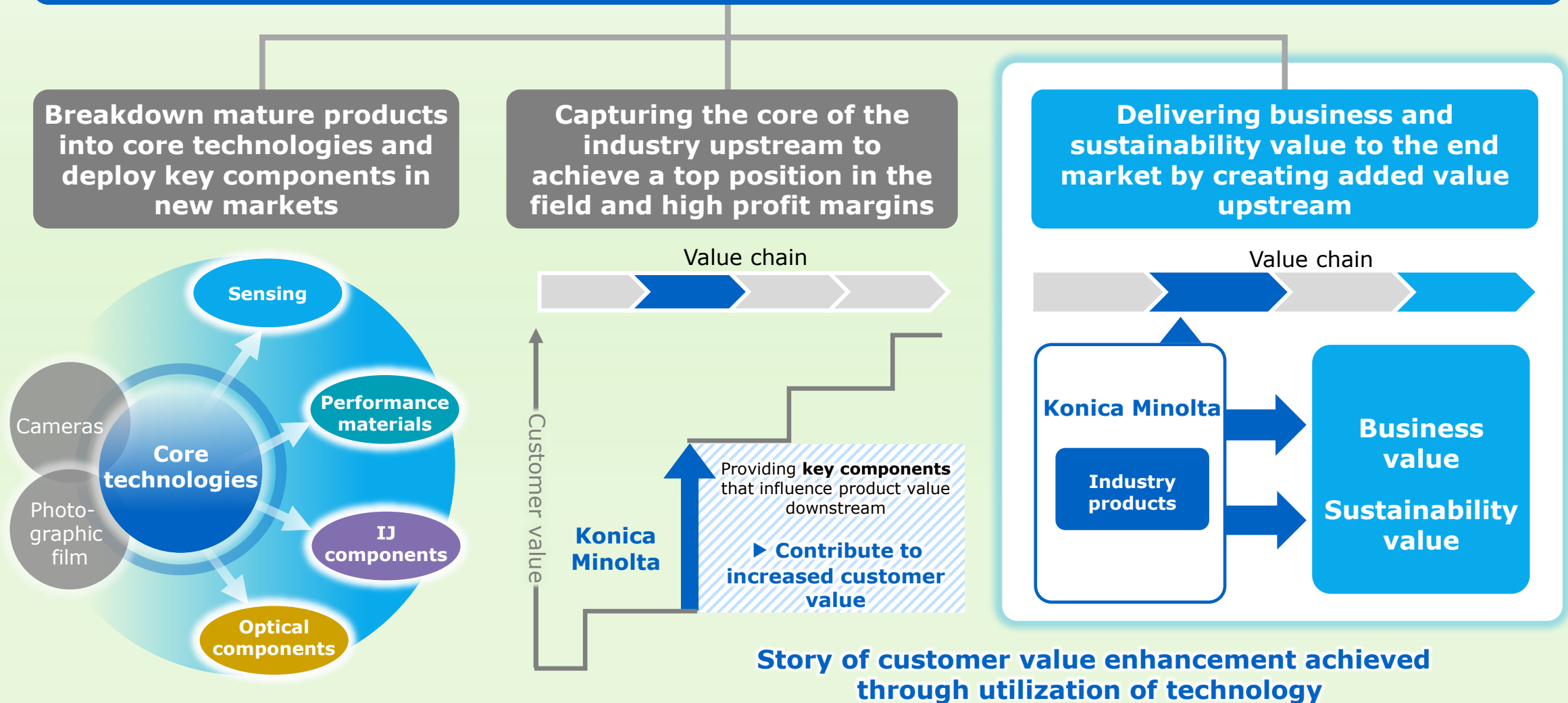
**Industry Business growth and
sustainability value creation**

Technological initiatives contributing to
decarbonization and GX

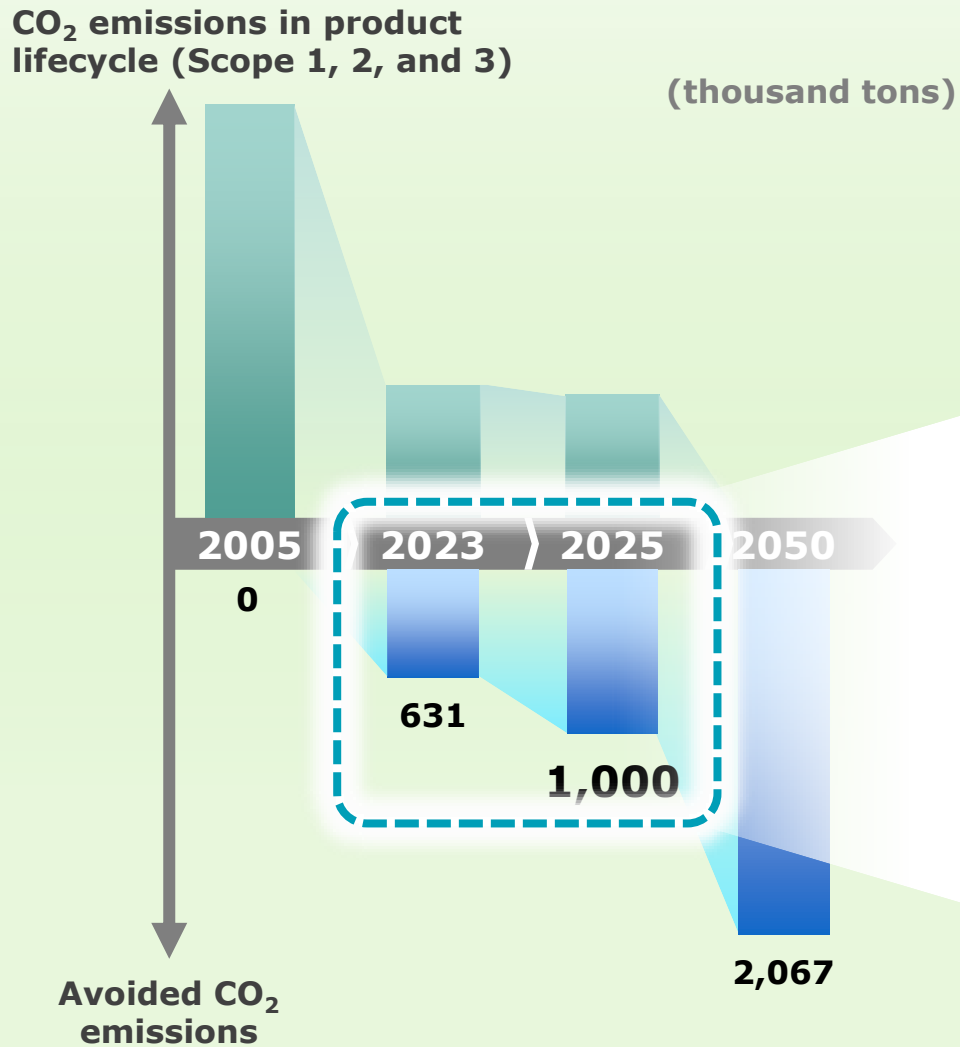


Sustainability Contributions Through Value Creation in the Industry Business

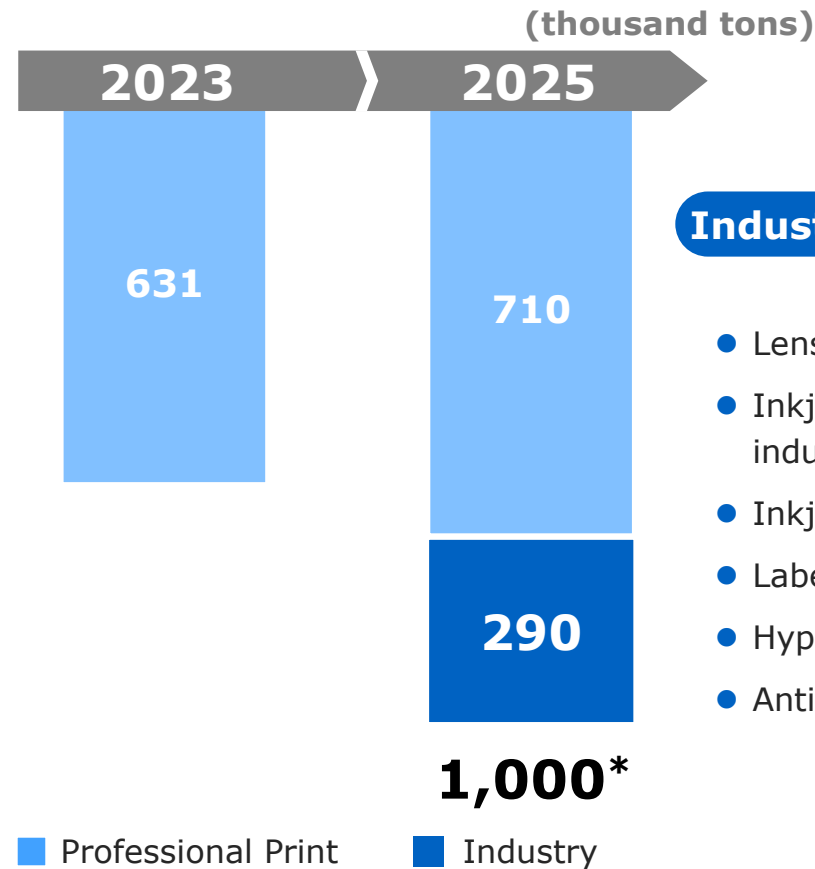
Amplifying customer value upstream in the value chain by taking a bird's-eye view of the entire industry, rather than focusing on the sales volume of end products



Increase in Avoided CO₂ Emissions Driven by the Industry Business



Avoided CO₂ emissions



Industry contribution products

- Lens for digital cinema projectors
- Inkjet printhead for production and industrial printing
- Inkjet solder resist
- Label-less printing for food packages
- Hyperspectral imaging
- Anti-reflection film for OLED TVs

* 2025 figures are provisional estimates



Value chain

Lens unit

Projector

Cinemas

Konica Minolta

Industry product



Strength

- Optical design, polishing, and other precision processing technologies cultivated in the camera business
- 60%+ market share in DCI*-compliant optical units for DLP* Cinema (Source: Konica Minolta)

Business value

- Capable of projecting a high-brightness laser-light source without any loss of image quality
Clearer, higher-resolution images than a xenon lamp
- Leveraging our accumulated technologies to expand into new industrial domains

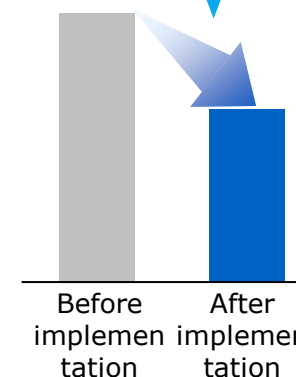
Sustainability value

CO₂ reduction impact

Enables high-resolution projection with laser light, contributing to energy savings by replacing xenon lamps and reducing CO₂ emissions by

approx. 178,000 tons/year
(2025 estimate)

30% reduction
in CO₂ emissions



* Digital Cinema Initiatives (DCI): A specification created to set the standards for digital cinema

* Digital Light Processing (DLP): A projection method widely adopted in digital cinema and related applications

* Conditions for calculating sustainability value are provided in the Appendix.

Value chain

Inkjet printhead

IJ printer

Printing companies

Konica Minolta

Industry product



For
sign graphics

For
commercial print

For
textile

...

Strength

- Chemical technology cultivated in the film business
- Precision processing technology cultivated in the camera business
- Customization capabilities for a wide range of media and inks

Business value

- A product line of highly durable inkjet printheads customizable for a wide range of commercial and industrial applications
- Expanding the scope of small-lot, high-mix printing by digitizing the printing process and eliminating the need for plate making

Workflow of digital inkjet printing

Data
creation

No need to make
printing plates

Printing

Sustainability value

CO₂ reduction impact

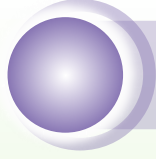
Reduces CO₂ emissions associated with the creation of printing plates and related processes by

approx. 41,000 tons/year
(2025 estimate)

Reducing environmental impact

Also contributes reductions in VOC emissions

* Conditions for calculating sustainability value are provided in the Appendix.



Value chain

Inkjet printhead

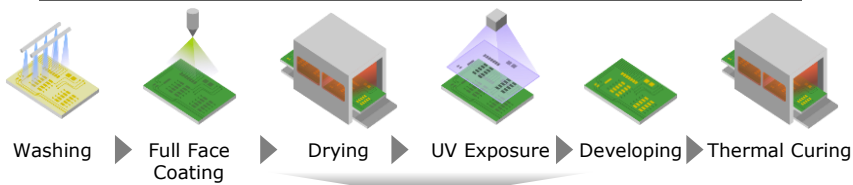
IJ printer

Printing companies

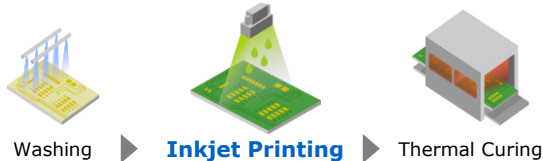
Konica Minolta

Industry product

Photolithography method



Inkjet method



Strength

- Chemical technology cultivated in the film business
- Precision processing technology cultivated in the camera business
- Customization capabilities for a wide range of media and inks

Business value

- Simplifies the solder-resist formation process for printed circuit boards
- Supplies printed circuit board manufacturers with inks offering excellent adhesion to substrates and inkjet printheads with high solvent resistance.

Sustainability value

CO₂ reduction impact

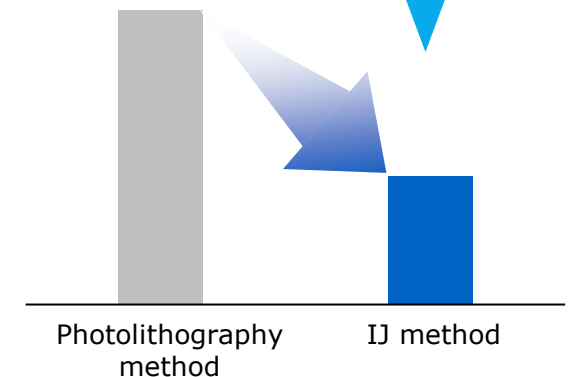
By reducing power consumption through process optimization, CO₂ emissions are reduced by **approx.**

50 tons/year (2025 estimate)

Reducing environmental impact

Also contributes to reductions in VOC emissions and industrial wastewater discharge

50% reduction
in CO₂ emissions through
lower electricity consumption



* Conditions for calculating sustainability value are provided in the Appendix.

Value chain

Inkjet printhead

IJ printer

Printing companies

Konica Minolta

Industry product



Applying a gravure-printed label to the packaging film



Printing directly on the packaging film with inkjet (label-less)

Strength

- Chemical technology cultivated in the film business
- Precision processing technology cultivated in the camera business
- Customization capabilities for a wide range of media and inks

Business value

- Simplifies processes by printing directly on food-packaging film, eliminating label creation and application
- Supplies high-adhesion inks to film
- **Already adopted by a major convenience store chain**

Sustainability value

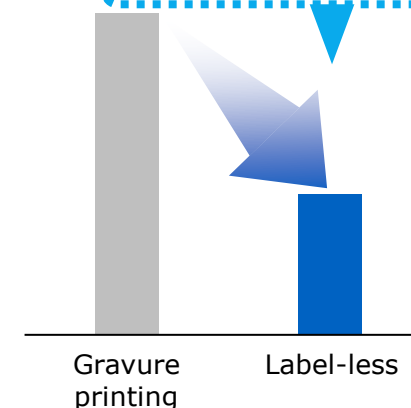
CO₂ reduction impact

Reduces CO₂ emissions associated with the creation of printing plates and related processes

Resource savings

Eliminates the need for labels and the thermal-transfer ribbons for label printing

50% reduction in CO₂ emissions



* Conditions for calculating sustainability value are provided in the Appendix.



Value chain

Hyperspectral imaging

Sorting machine

Recycled resin manufacturers

Konica Minolta

Industry product



Strength

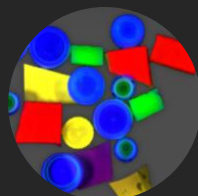
- Captures a wide range of wavelengths, enabling identification of resin components and other material properties
- Enables high-precision, non-destructive identification and inspection

Human eye/RGB camera



Plastic sorting through high-precision analysis

Hyperspectral imaging



- PET
- PP
- PVC
- HDPE
- PS

Business value

- Enables identification of plastics (e.g., black resins) and fibers (e.g., nylons), expanding the range of recyclable materials.
- Can also be integrated into inline sorting systems

Sustainability value

CO₂ reduction impact

Reduces CO₂ emissions by **approx. 69,000 tons/year** by promoting material recycling through high-purity sorting of mixed waste (2025 estimate)

Resource savings

Efficient use of resources through automated waste sorting in the recycling industry

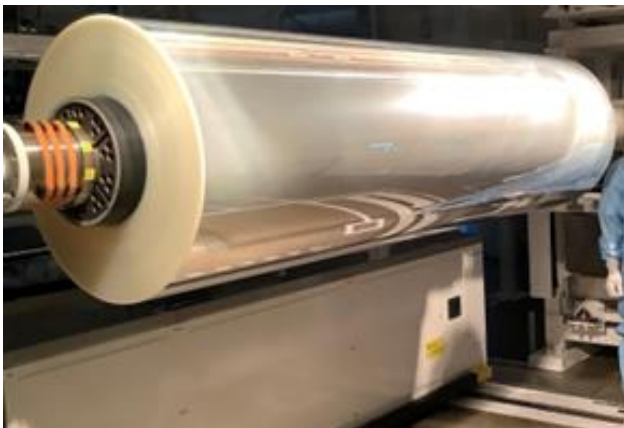
* Conditions for calculating sustainability value are provided in the Appendix.

Value chain

Film

Polarizer/Panel
manufacturers

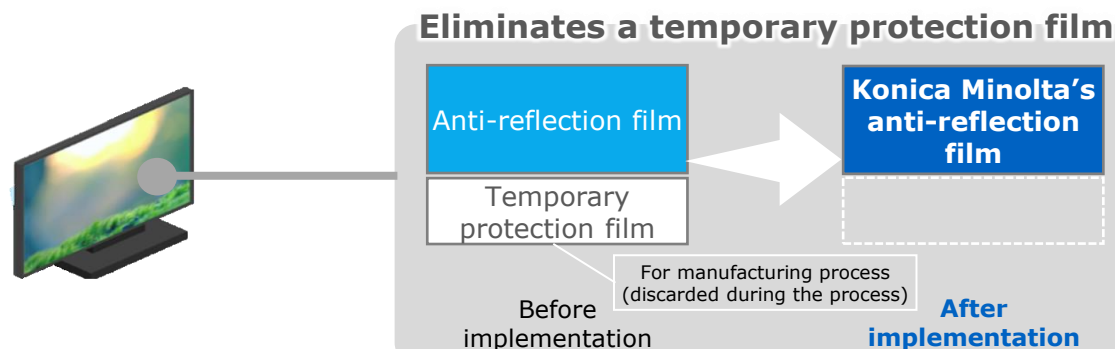
TV manufacturers

Konica Minolta**Industry product****Strength**

- Film-forming technology and proprietary optical-control technology for diagonal film stretching
- Design capability tailored to customer requirements

Business value

- Our anti-reflection film eliminates a temporary protection film used and discarded during the manufacturing process

**Sustainability value****CO₂ reduction impact**

Eliminates the need for the previously required temporary protection film
Reduces emissions associated with raw materials and manufacturing

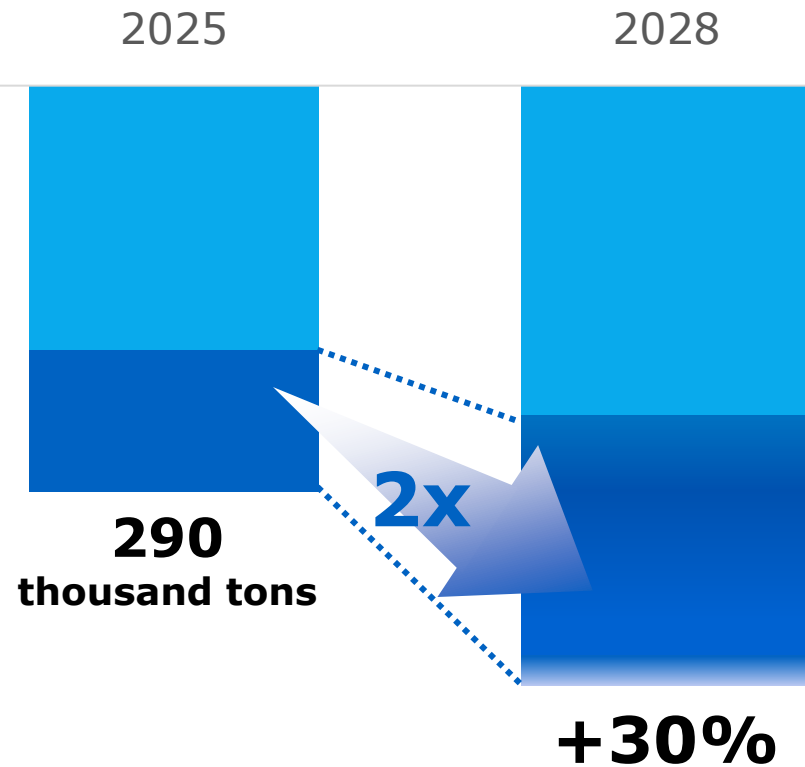
Reduces **approx. 1,120 tons/year** through film elimination
(2025 estimate)

* Conditions for calculating sustainability value are provided in the Appendix.

Future Business Growth and Contribution to Sustainability

Building on continued growth of our No.1 market-share products, future growth drivers will further amplify CO₂ reduction impacts as our business expands.

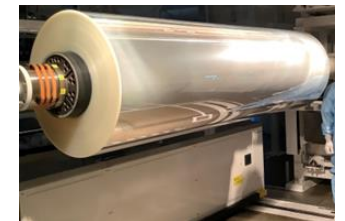
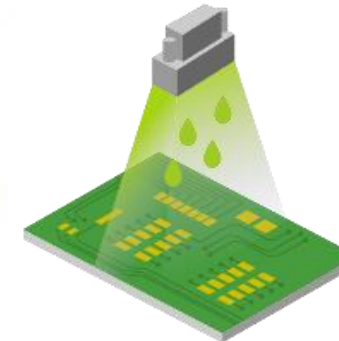
Breakdown of avoided CO₂ emissions in the Industry Business



No.1 products in market share and others



Future growth drivers





Support Human Decision with AI



Value chain

Automotive
visual inspection

Automobile
manufacturing companies

Industry product



Strength



Product development
expertise

Expertise in quality
inspection processes

Co-creation relationships
with automotive
manufacturers



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AI imaging
technology

Optical technology

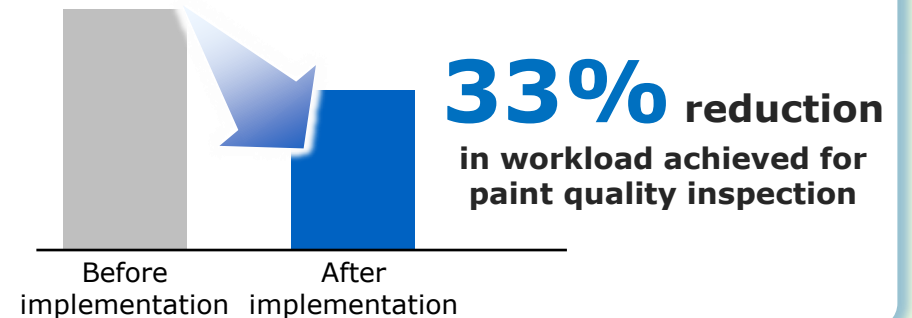
Global sales
network

Business value

- High-precision defect detection
- Leveraging defect classification data enabled by DX
- Process improvement through data analysis

Sustainability value

- Streamlining operations and improving work efficiency
- Minimizing oversight and operational burden from manual visual inspections



* Source: Konica Minolta

Established Eines by 5 founders



1992

Installed first vision system at Ford



1999

Awarded "Henry Ford Award"
Expanded in Europe



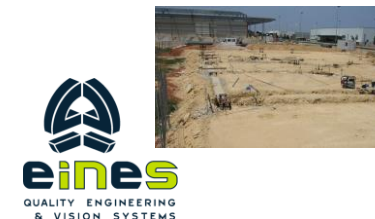
2002

Expanded into North America



2003

Expanded operations in Valencia



2006

2024



**Developed into Konica
Minolta sensing mobility
business division**

2020

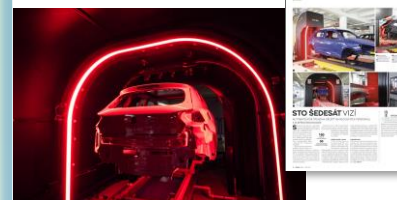


First inline gap and flush system

2019



2016



First inline paint scanner

2013



3D scanning technologies

- * Initially introduced for frozen tuna inspection.



100M

vehicles produced
per year worldwide



500

factories worldwide



2,000

potential installations



Approx.

200 billion yen

total addressable market



Approx.

50 billion yen

total addressable market*

**On-road
vehicle market**

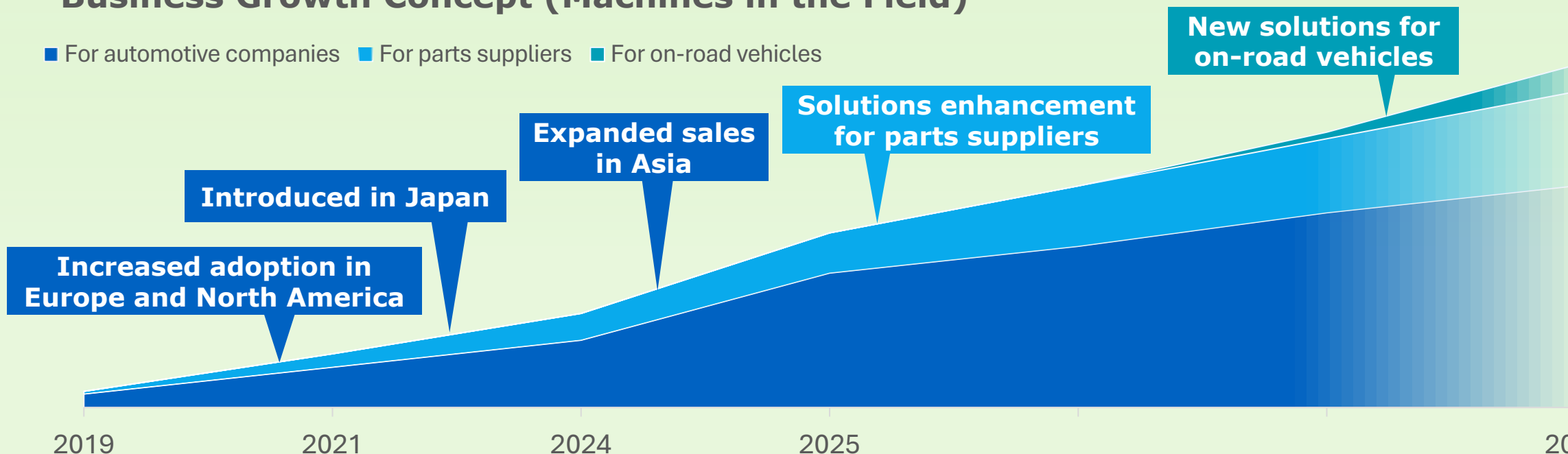
**Parts supplier
market**

Global Automobile Manufacturing Companies Market

* Company estimates (2025)

Business Growth Concept (Machines in the Field)

■ For automotive companies ■ For parts suppliers ■ For on-road vehicles



Suzuki Motor Corporation

Implemented paint quality inspection system | 2023*

es ϕ i

Tunnel-type inline
**Surface Paint Quality
Inspection System**



Example of
paint defects



Subaru Corporation

Decided to implement gap and flush system | 2026*

ei ϕ is

Tunnel-type inline
**Gap and Flush
Inspection System**



Example of
gap and flush



Implementation expansion in progress



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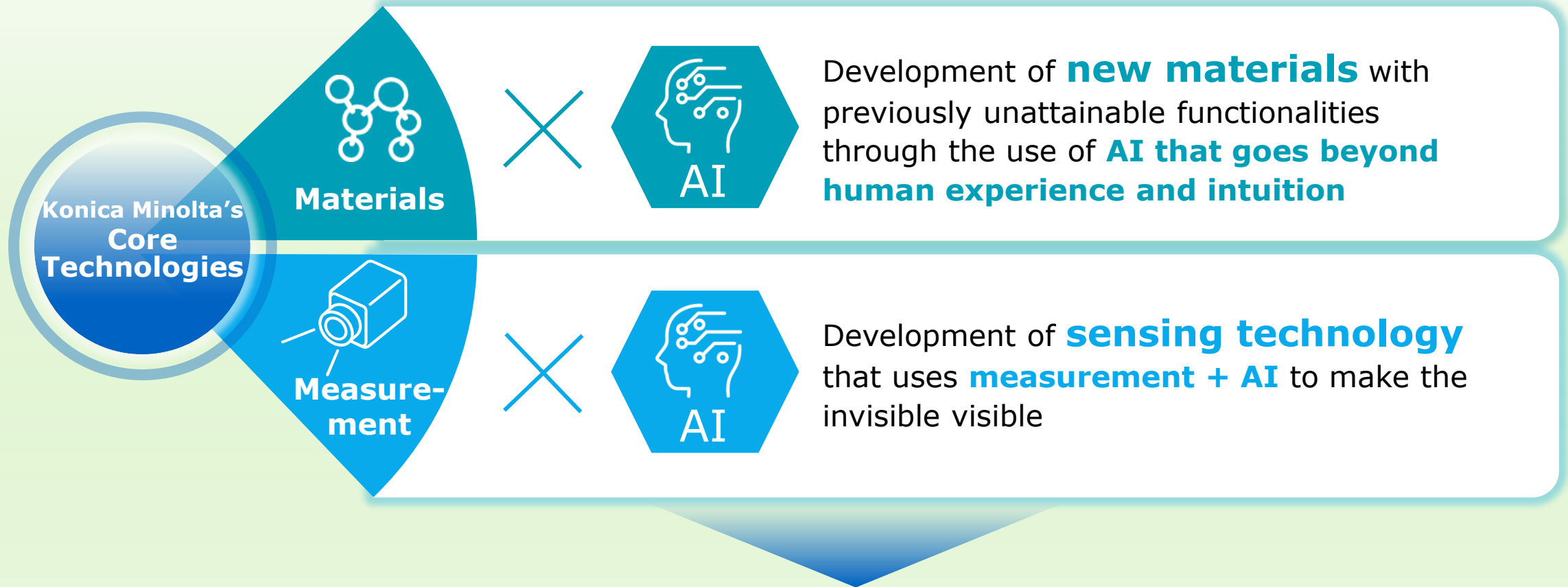
Konica Minolta's sustainability management

**Industry Business growth and
sustainability value creation**

**Technological initiatives contributing to
decarbonization and GX**



Technology Strategy to Contribute to Decarbonization and GX Based on Core Technologies



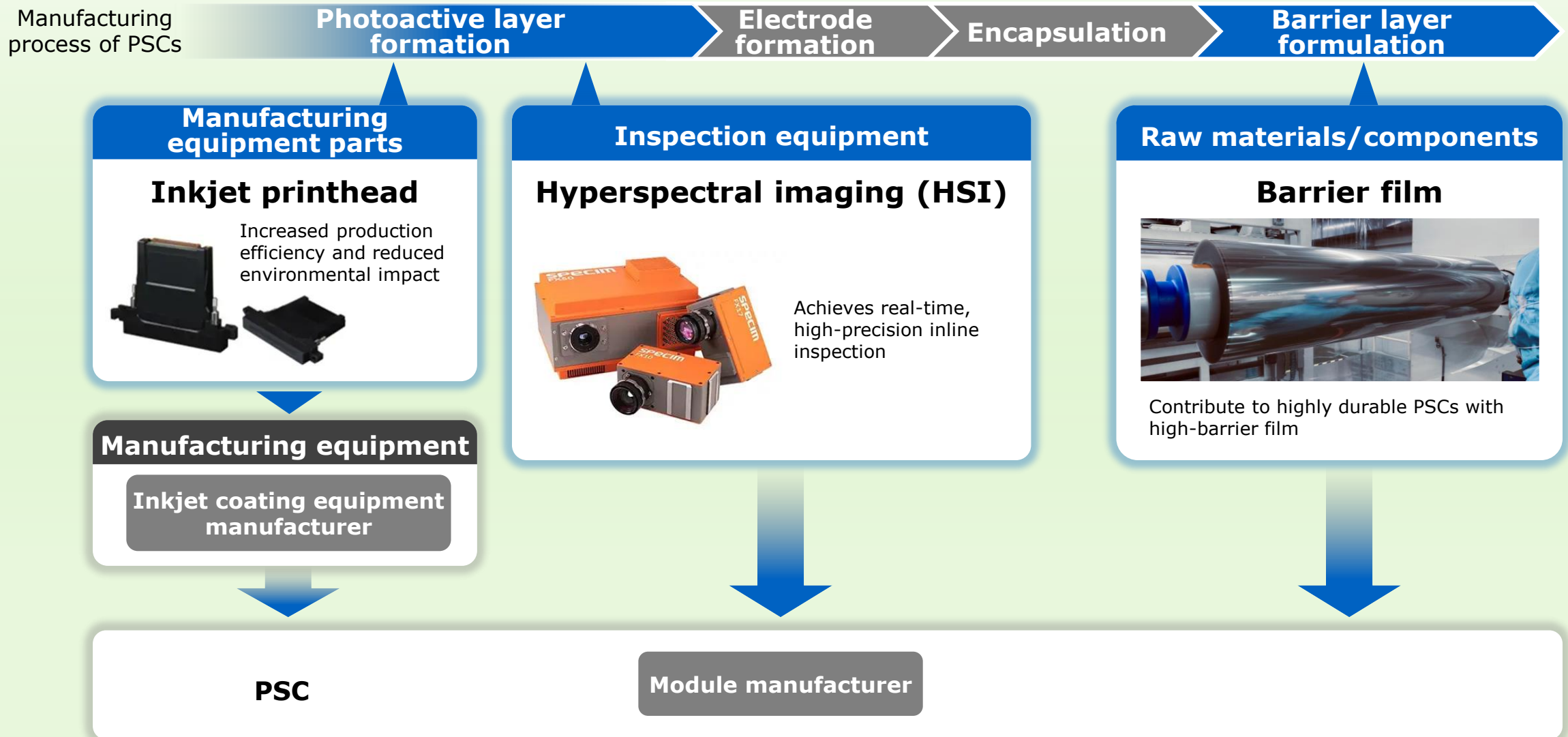
Providing new value to GX
through new materials and sensing technologies

PSC*-related technologies

Process monitoring of biomanufacturing

Intelligent recycled materials manufacturing

PSC-Related Technologies: Addressing Key Challenges for Product Adoption Through Inkjet Printhead, HSI, and Barrier Film



Inkjet Printhead: Increased Production Efficiency and Reduced Environmental Impact Through Depositing Perovskite Layer

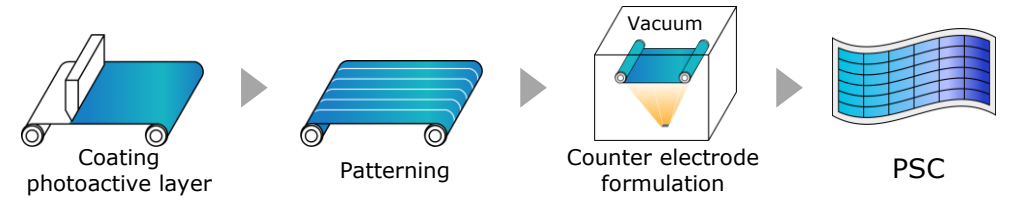


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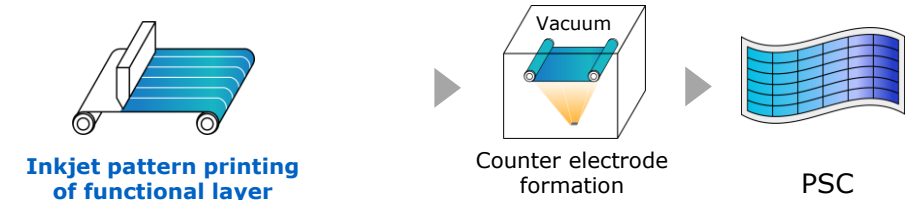
Needs

- **More efficient use of materials during manufacturing**
- **Lower costs through increased production efficiency**

Die-coating and patterning method



Inkjet method



- More efficient material use and lower environmental impact
- No need for laser patterning process

Strength

- **High solvent resistance enables stable operation**
- **Micro droplets enables precise deposition**



Achievements

Samples have been provided to several manufacturing-equipment manufacturers and are currently under evaluation

HSI: High-Precision, Real-Time Inline Inspection Essential for the Production Process

Needs

- Quality verification of film thickness and color tone (during production and at final inspection)
- High-efficiency inline inspection

Strength

- High-precision, immediate evaluation of perovskite-layer quality
- Capability for inline inspection of objects



Achievements

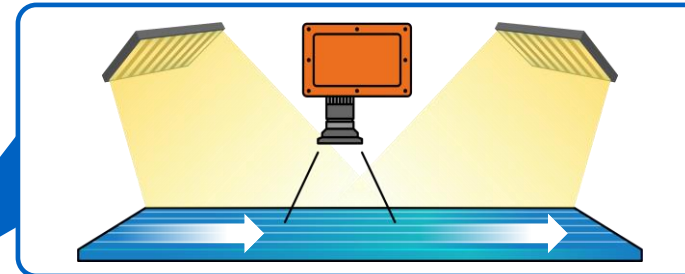
Proposing solutions to multiple PSC manufacturers, and these solutions are currently being evaluated

Manufacturing process of PSCs

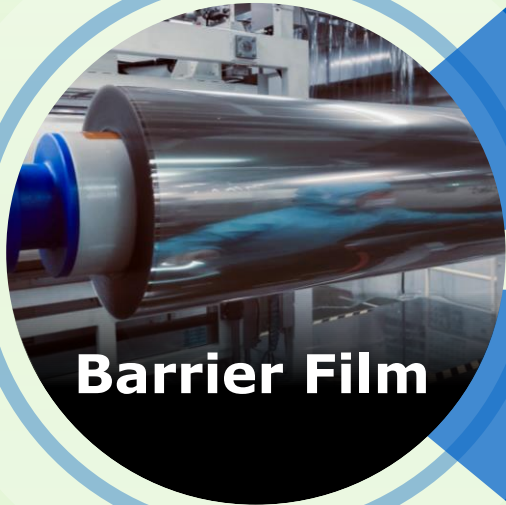
Photoactive layer formulation

Electrode formulation

Encapsulation



Steady Progress of Barrier Film Development



Barrier Film



EneCoat Technologies confirmed
2,000-hour* durability in real-world solar cell testing.

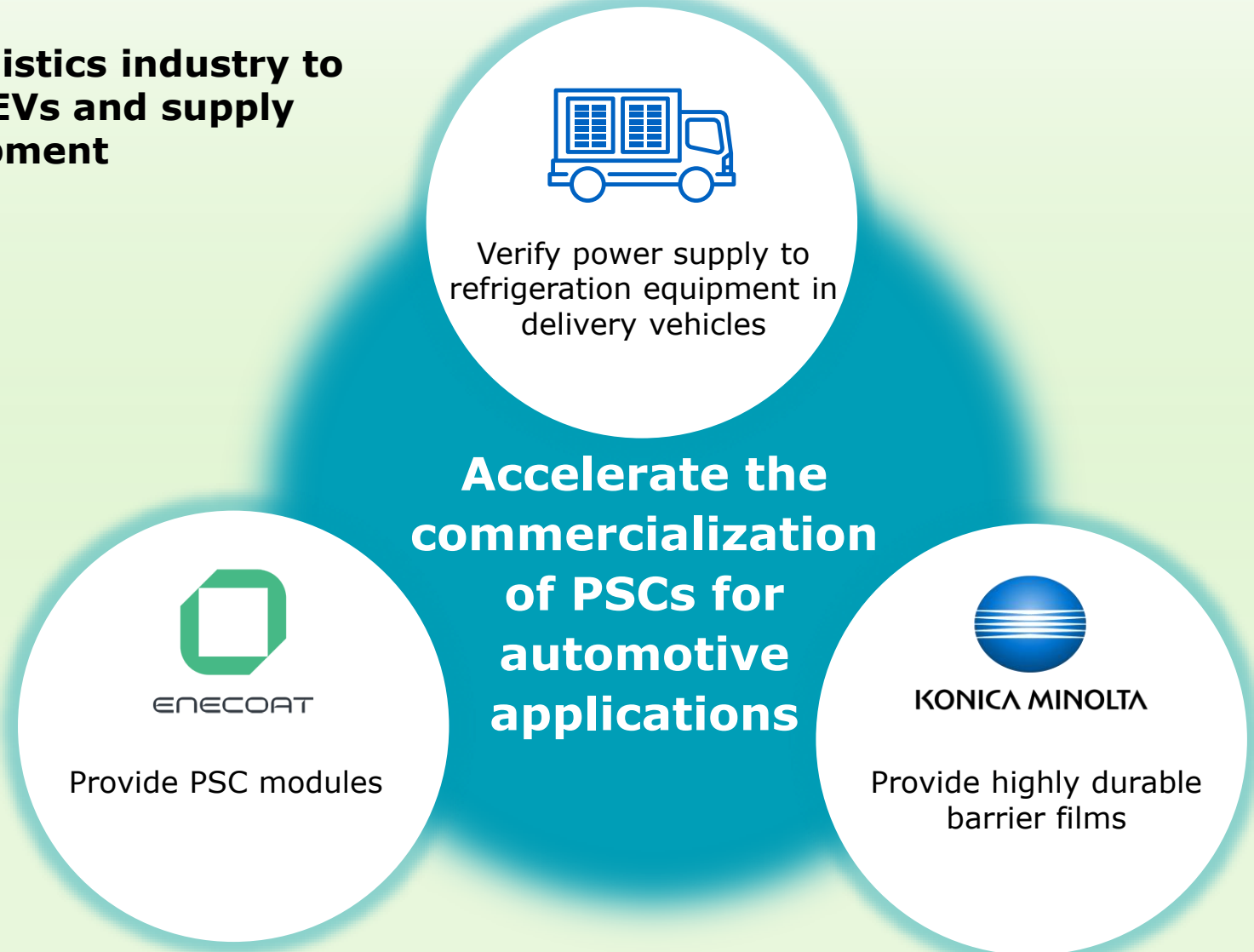
* confirmed by accelerated reliability testing



Aiming to integrate PSCs into commercial EVs
for the logistics industry

Barrier Film: Integrating PSCs into Commercial EVs for the Logistics Industry by EneCoat Technologies Co., Ltd. & Konica Minolta, Inc.

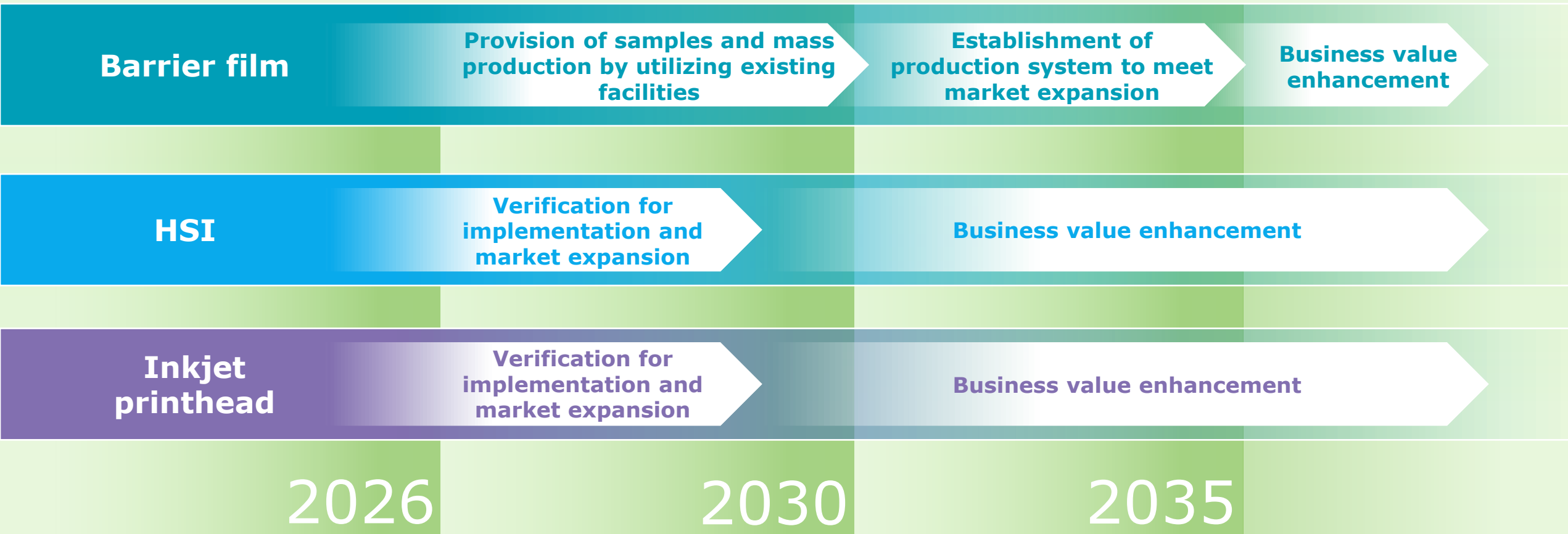
- Exploring a PoC with the logistics industry to install PSCs on commercial EVs and supply power to refrigeration equipment



The Only Company Globally Contributing to PSCs Through Multiple Technologies

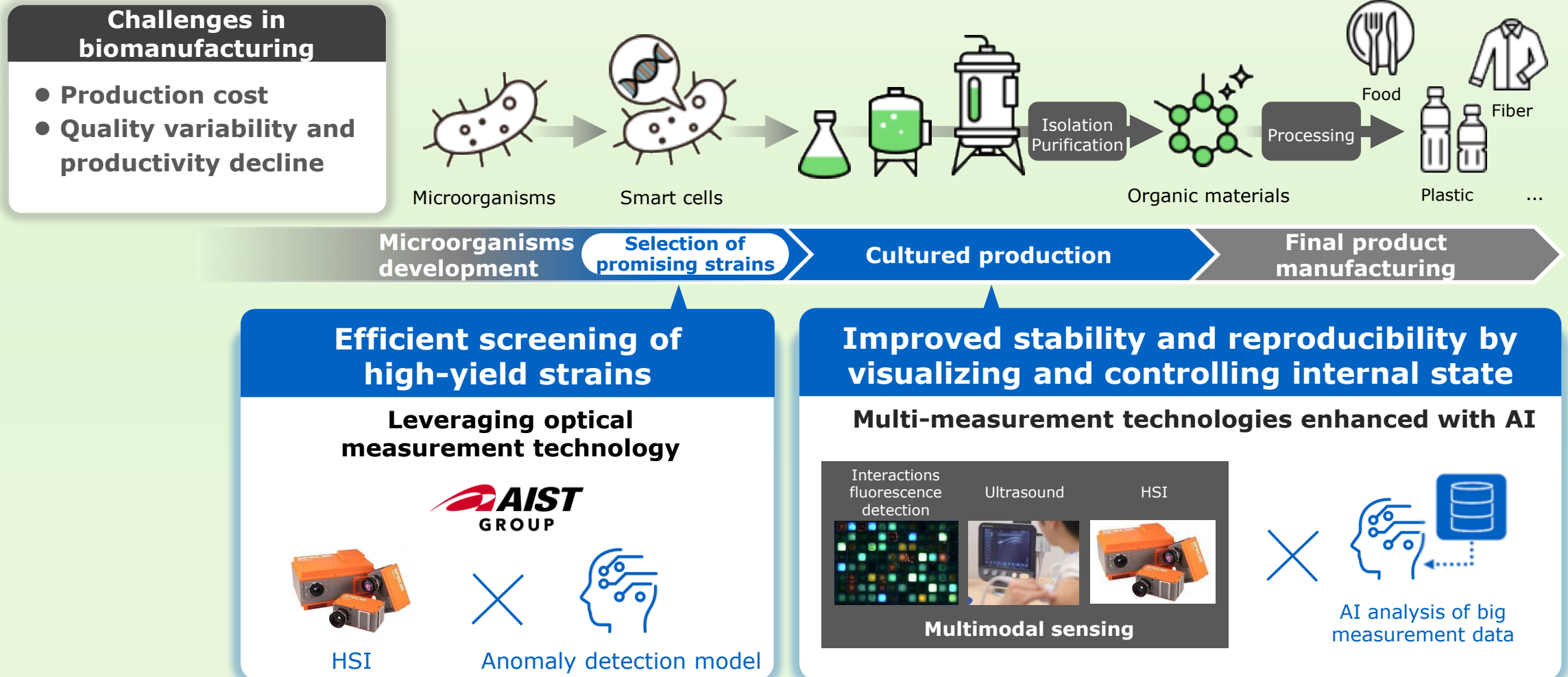
Promoting technical verification based on our core technologies

- Barrier film: Scale up in phases based on demand leveraging our established production technology and equipment
- HSI & inkjet printhead: Advance verification for implementation, aiming to enhance business value



Biomanufacturing: Pursuing Open Innovation with the National Institute of Advanced Industrial Science and Technology (AIST)

- Established Bioprocess Technology Cooperative Research Laboratory with AIST in June 2023
- Started joint research as **the first partner company** upon the opening of the newly established Biomanufacturing Research Building by AIST



Initial Outcome of Joint Research with AIST: Successful Development of a System for Rapid Detection of High-Yield Strains

“This technology drastically improves the efficiency of screening, which traditionally required extensive effort, and is expected to revolutionize the entry point to biomanufacturing”

ISHIMURA Kazuhiko, President, AIST

Conventional screening



- Comprehensive screening dependent on the intuition and experience of the researcher
- The repeated cycles of cultivation and yield assessment lead to increased workload and higher costs

Requires **months** for cultivation and yield evaluation

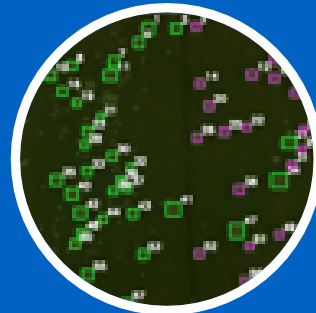
Konica Minolta's high-yield strain detection system

HSI



Anomaly
detection
model

- Drastic improvement in screening efficiency
- Non-destructive detection of high-yield strains during early-stage cultivation



Developed a system
enabling detection
within days

“Detection systems of overproducing microbial strains using hyperspectral imaging and anomaly detection model”
Japan Society for Bioscience, Biotechnology, and Agrochemistry 2025 Annual Meeting, March 8, 2025
[JSBBA_2025_5E102.pdf](#)

Initiated value validation for substances and ingredients added to processed foods such as frozen foods



Accelerating customers' sustainable manufacturing through our new GX-contributing technologies

Technology theme	Key technology establishment	Sample evaluation	Mass production technology establishment	Progress across all themes
PSC-related technologies	○	○		<p>Inkjet printhead under evaluation by multiple manufacturing equipment manufacturers</p> <p>Quality inspection with HSI under evaluation by multiple PSC manufacturers</p> <p>2,000-hour durability confirmed in testing of EneCoat Module</p> <p>Aiming to integrate PSCs into commercial EVs</p>
Intelligent recycled materials	○	○		<p>Began providing samples to electronics and automotive parts manufacturers</p>
Process monitoring of biomanufacturing	○			<p>A system for rapid detection of high-yield strains under development (presented at Japan Society for Bioscience, Biotechnology, and Agrochemistry)</p>
Membranes for CO ₂ capture	○			<p>Established key enabling technologies for high-performance, low-cost membranes for CO₂ capture</p>



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Appendix



Sustainability Value Calculation Method*1

The avoided CO₂ emissions of the products presented in this document has been estimated by the Company with reference to the Guidance on Avoided Emissions v2.0*2 published by the World Business Council for Sustainable Development (WBCSD). The products for which the Company currently accounts avoided CO₂ emissions (estimated at 1 million tons of CO₂ in 2025) are expected to account for approximately 9 % of the Company's total revenue in 2025.

- **Lens for Digital Cinema Projectors**

Our contribution: We supply DCI-compliant optical units that are effective in the use of laser light sources for digital cinema projectors. We have the largest market share in DLP cinema applications.

Calculation method for the avoided emissions: Power consumption reductions achieved by replacing xenon lamps with laser light sources were calculated by projector size.

- **Inkjet Printhead for Production and Industrial Printing**

Our contribution: We supply inkjet printheads and inks that serve as key components of digital printing presses.

Calculation method for the avoided emissions: This was calculated from CO₂ emissions associated with plate-making processes that become unnecessary through the transition to inkjet printing. The avoided CO₂ emissions presented in this document are calculated for inkjet printheads sold externally on the premise that they are incorporated into printing presses. The contribution attributable to the inkjet printheads is adjusted based on the market size ratio (inkjet printhead market size divided by printing press market size).

- **Inkjet Solder Resist**

Our contribution: We supply inkjet printheads, inks, and a printing process capable of directly printing a solder resist layer on printed circuit boards.

Calculation method for the avoided emissions: The reduction in electricity consumption was calculated based on measured results from multiple customers, reflecting the elimination of processes (drying, UV exposure, and developing) achieved by replacing photolithography method with an inkjet method for solder resist formation, as well as on the ink application area and ink sales volume.

- **Label-less Printing for Food Packages**

Our contribution: We supply inkjet printhead and inkjet inks that enable direct printing on food packaging films.

Calculation method for the avoided emissions: For the lifecycle CO₂ emissions associated with printing 4,000 meters of four types of flexible packaging, the avoided CO₂ emissions attributable to plate-making and printing plate processes were calculated based on a comparison between (i) printing all four types using gravure printing and (ii) printing only one base design using gravure printing while printing the remaining three types using inkjet printing.

- **Hyperspectral Imaging**

Our contribution: We supply high-precision plastic identification camera systems applicable to plastic sorting machines for various material recycling separation technologies (such as optical, electrostatic, and density-based methods), holding the largest market share in comparable camera market.

Calculation method for the avoided emissions: The avoided emissions were calculated based on the increased amount of high-purity plastics diverted from incineration and thermal recycling to material recycling through the use of our camera systems.

- **Anti-reflection Film for OLED TVs**

Our contribution: Our anti-reflection film helps eliminate the need for a temporary protection film used and discarded during the polarizer production process

Calculation method for the avoided emissions: The calculation was based on the CO₂ emissions attributable to the protection film that can be eliminated through the adoption of our anti-reflection film.

*1 Estimated by the Company based on information available as of January 2026.

*2 Source: <https://www.wbcsd.org/resources/guidance-on-avoided-emissions-helping-business-drive-innovations-and-scale-solutions-toward-net-zero/>

- **Scope 1**
Greenhouse gas emissions that are directly emitted by a company or organization through activities such as fuel combustion and on-site power generation.
- **Scope 2**
Greenhouse gas emissions that are indirectly generated through the consumption of electricity, heat, or steam supplied by external companies or organizations.
- **Scope 3**
Greenhouse gas emissions that are indirectly generated along the supply chain and other activities related to a company's operations, excluding Scope 1 and Scope 2 emissions.
- **Avoided CO₂ emissions**
Greenhouse gas emissions, expressed in CO₂-equivalent terms, that are reduced for customers and their supply chains through a company's solutions or activities and are not included in Scope 1, Scope 2, or Scope 3 emissions.
- **Carbon Minus**
A state, defined by the Company, in which avoided CO₂ emissions exceed the Company's own lifecycle CO₂ emissions (Scope 1, Scope 2, and Scope 3).
- **Net Zero**
A state in which net greenhouse gas emissions are effectively zero.
- **Aggregator**
An entity in the power industry that aggregates renewable energy sources and distributed energy resources and manages the balancing of electricity supply and demand.
- **VOC (Volatile Organic Compounds)**
A collective term for organic compounds that readily evaporate and becomes gaseous in the atmosphere, and are regarded as one of the causes of air pollution.
- **Hyperspectral imaging**
An imaging technique in which a wide range of wavelengths are divided into multi-wavelengths. This technique can be used to sort different types of plastics that cannot be identified by the human eye or an RGB camera.
- **Die-coating**
A coating method in which a liquid is continuously dispensed across a surface through a slit-shaped die while being applied uniformly onto substrates such as films.
- **Patterning**
A method for patterning a perovskite layer coated over an entire surface into individual photoactive cells.
- **Inline**
The practice of performing inspection processes directly on the production line, enabling inspection to be carried out without stopping production.
- **Smart cell**
Cells that have been artificially modified to enable the production of valuable substances by leveraging their inherent production capabilities; synonymous with high-yield strains.



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