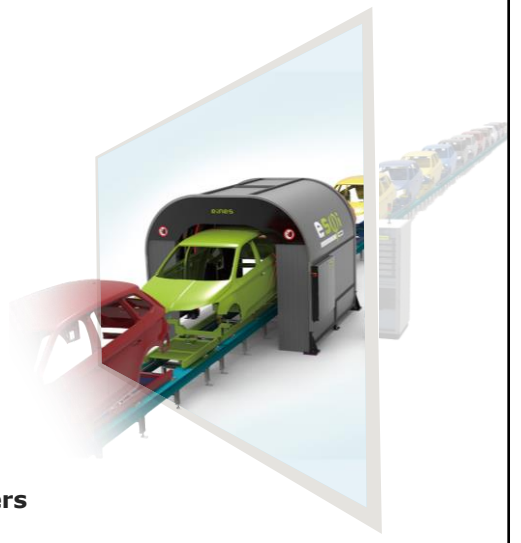
Industry Business Briefing Session

KONICA MINOLTA 150 YEARS

New Areas in the Sensing Business

Automotive Visual Inspection Business



October 10, 2023

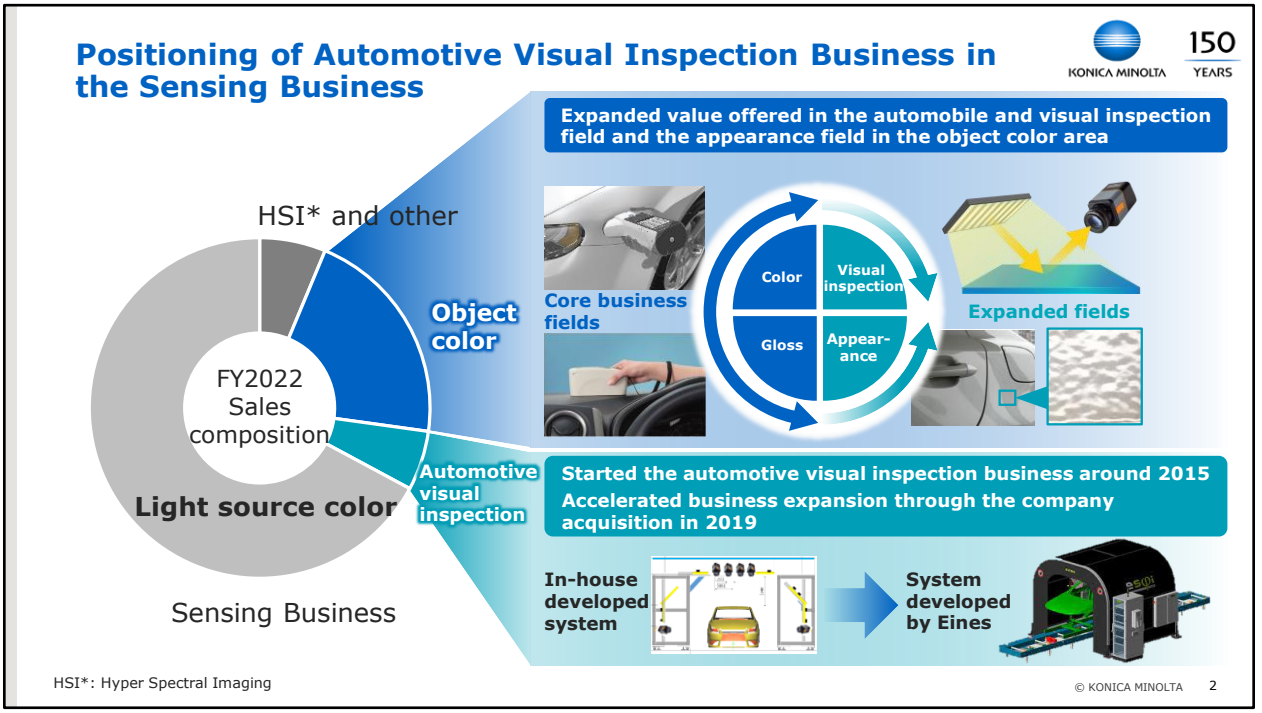
Kentaro Mikami

Corporate Vice President

Division President of Sensing Business Headquarters

Giving Shape to Ideas

My name is Kentaro Mikami and I am in charge of the sensing business. I will explain the automotive visual inspection business as a new area in our sensing business.



First, let me explain how the automotive visual inspection business is positioned in the sensing business.
The pie chart shows the sales composition of the sensing business in fiscal 2022.
The business for the display industry (light source color measurement) accounts for a considerable proportion of total sales in the sensing business. The object color measurement business field, which comprises the next-largest proportion of our sales, provides color and gloss inspections for customers who are particular about the appearance of their products, such as automobiles. The visual inspection market has a growing need for a more advanced level of measurement within the area closely related to object color measurement. This has led us to expand value offered into this area.
Based on customer needs and market research, we took a small step forward around 2015 in the sensing business field by starting a new automotive visual inspection business.
At first, we worked to commercialize the business with our self-developed products, but the acquisition of Eines Systems, Spain in 2019 has accelerated the speed of business expansion.

Overview of Eines Systems S.L.

Founded: 1992
Headquarters: Valencia, Spain
Number of employees: 104 (as of July 31, 2023)

Leading company of automotive visual inspection systems
Supports quality assurance of more than 8 million major automakers' vehicles a year by leveraging their extensive insight into automotive factory automation and product development capabilities tailored to customer needs

Joined
Konica Minolta Group in 2019

Value offered for customers

World-class automotive visual inspection quality

Enhance brand image through improved quality

Improve customer satisfaction for auto companies

Concluded an acquisition agreement between Konica Minolta and Eines

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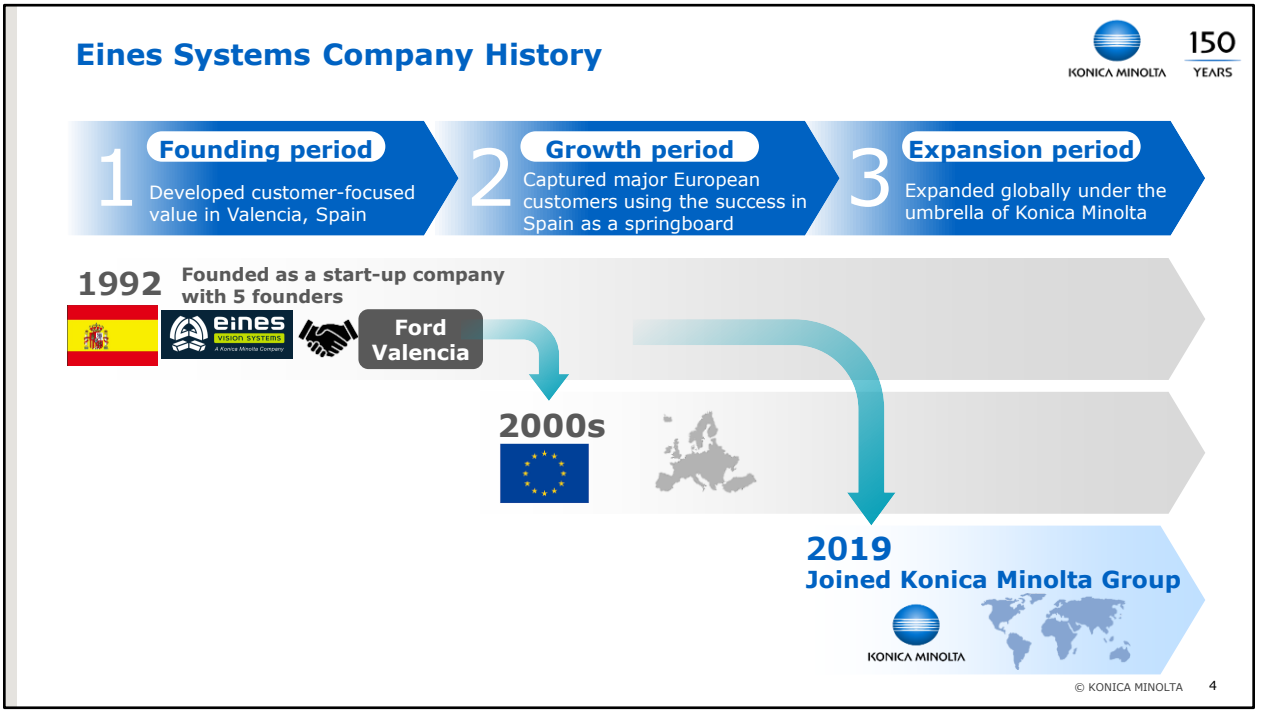
Eines Systems (Eines) was founded in 1992 and is located in Valencia, Spain. As a leading company offering automotive visual inspection systems, Eines has extensive insight into the automotive factory automation and is capable of developing products that meet customer needs. It supports the quality of more than 8 million vehicles per year for major automakers. In 2019, Eines became a part of Konica Minolta Group as a wholly owned subsidiary in the sensing business.



Let me explain the history of Eines.
Eines was founded in 1992 by five alumni of the Polytechnic University of Valencia. The company's current CEO Horge Broto Ruiz is one of them.
Located near the Ford Valencia factory, which is an important production base for Ford in Europe, Eines took advantage of its location to develop and introduce more than dozens of in-line inspection solutions, while also building close ties with their customers on-site.
In the 2000s, the company expanded the solutions it had built in Spain to the European region, introducing them to major German automakers and other customers. This has led to steady growth in their business.
Today, the company is in a period of expansion. In 2019, Eines joined the Konica Minolta Group, and is expanding their business on a global scale by leveraging the strengths of both companies.

Automotive Visual Inspection Business: Major Solutions

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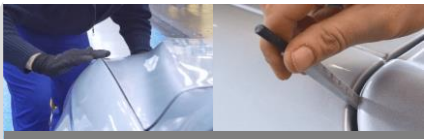
esφi

Tunnel-type inline
Surface Paint Quality
Inspection System

Example of paint defects

eiφiS

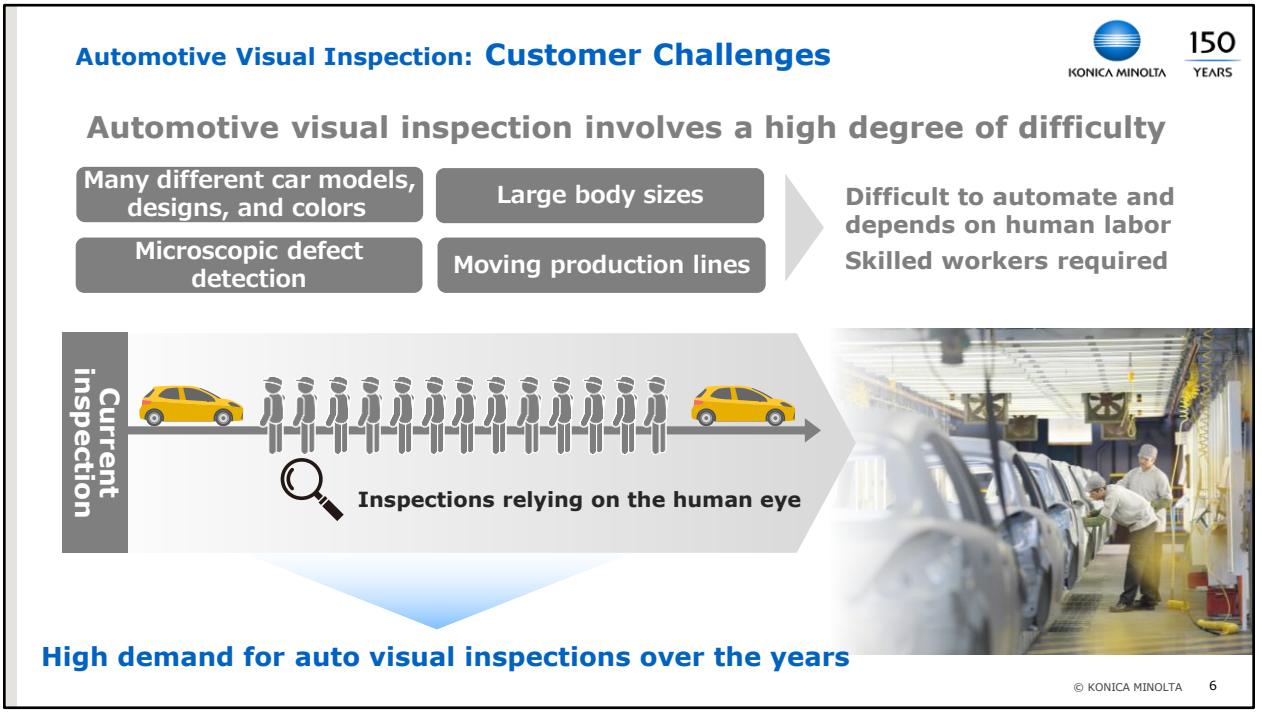
Tunnel-type inline
Flush and Gap
Inspection System



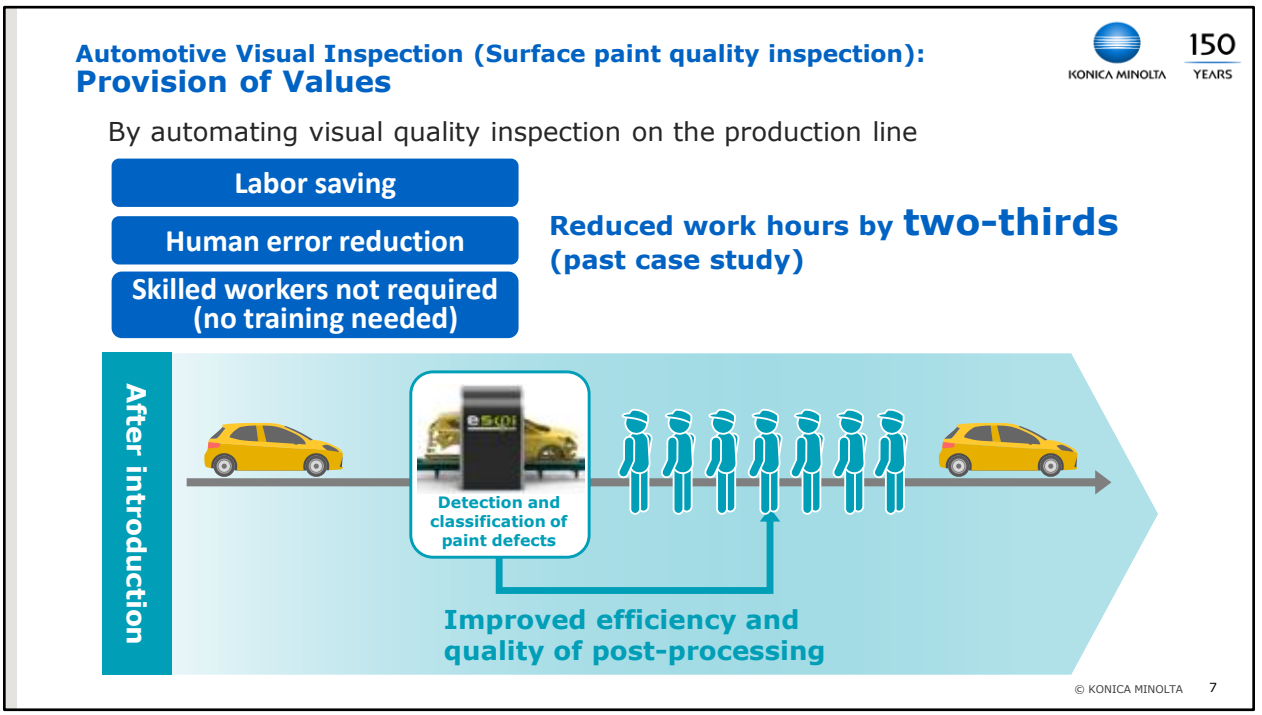
Example of Flush and Gap

esφi = "EINES® Surface - Paint Quality Inspector"
eiφis = "EINES® Inline Flush & Gap Inspection System"

Now, I introduce two of Eines' main solutions.
Both are safe, tunnel-type in-line solutions that do not have moving parts such as robot arms, designed to perform a large number of inspections at once in a speedy manner without stopping the production line.
The first one is esφi, a surface paint quality inspection system. As shown in the images on the right, this system automatically and accurately detects paint defects such as dents and protrusions that occur on the car body during the painting and baking processes.
The other one is eiφis, a flush and gap inspection system. This system measures whether there is any error in the flash and gap between the car body and doors and other parts. The system automatically performs muti-point, high-speed inspection for deviations of a few millimeters from the strict standards set for each automobile.



I will explain customer challenges. Automotive visual inspections involve a high degree of difficulty under diverse conditions that include variations in car models, designs and colors, large body sizes, and the need to detect microscopic defects, as well as the moving production line. Since it is difficult to automate inspection processes, visual inspections depend on the human eye, requiring a large number of skilled workers to carry out inspections manually.
As such, there has long been a demand for automation of visual inspections. In recent years, this demand has been increasing due to trends in labor saving as well as from the perspective of working environments.



Now I will talk about the value offered in responding to these challenges I mentioned earlier. By incorporating Eines' tunnel-type inspection solutions into the automotive visual inspection processes that face such challenges, we have been able to save labor and reduce human errors, meaning defects can be identified without being overlooked. Also, skilled workers and training process and costs are no longer necessary. The results of past cases have shown that the system can reduce customer's work hours by two-thirds.
Further, by transmitting and digitally displaying defect data in the post-process of repairing discovered defects, the system contributes to improving the efficiency of repair work and the quality of the automobile itself.

[Video] Surface Paint Quality Inspection System

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Watch the video on our website.

Automotive Visual Inspection Business:
Toward the Market Expansion Period

The market enters a period of expansion following a rebound in auto companies' investment, which had been curbed due to the COVID-19 pandemic.

Leveraging the Group's sales networks and customer assets, we will expand our businesses from Europe to China, Japan, Asia, and North America.

Automotive visual inspection market (2025)

Market scale: ¥15 bn CAGR: 15% or more

*Estimated by Konica Minolta

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I will now explain the automotive visual inspection market. The market has entered a period of expansion following a rebound in automakers' investments, which had been curbed due to the COVID-19 pandemic.
We assume this market will grow at a market growth rate of more than 15% and will be worth ¥15 billion by 2025.
Capitalizing on Konica Minolta's sales network and customer assets, we are bringing the customer value Eines has created in Europe to customers in China, Japan, Asia, and North America.
Going forward, we will expand its business on a global scale, in an effort to capture even more growing markets.

Enhancement of Added Value through Technological Synergies

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Enhance Eines' strength in products by leveraging our optical and imaging-AI technologies
Deepen cooperation with customers and continue to evolve further

eines VISION SYSTEMS + KONICA MINOLTA

Optical technology
Imaging-AI technology

Strengthen solutions

Improve inspection precision
Improve detectability

Improve efficiency of AI-based defect classification
Achieve high-precision classification performance

Shorten installation time
Ensure improvement of over 20%

Work with customers/ partners

Use DX to enhance added value

Auto defect repair
Collaboration using defect classification data

Improve processes with data analysis
Started discussions and considerations

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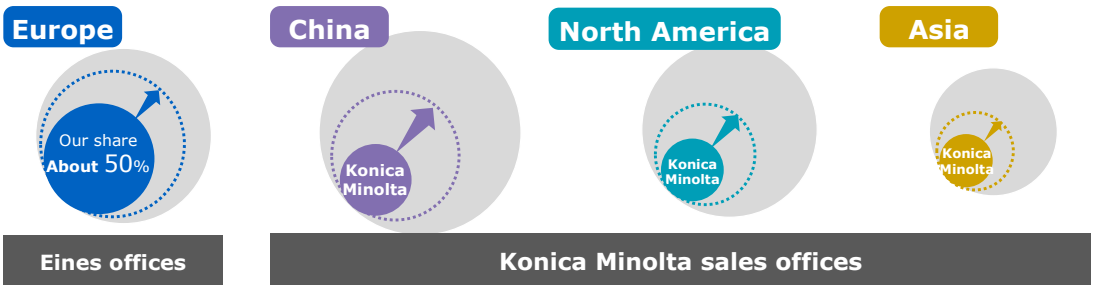
Let me move on to technological synergies.
By adding Konica Minolta's optical and imaging-AI technologies to Eines' development capabilities, we are enhancing the competitiveness and added value of our solutions.
The system has improved the detection of abnormalities by increasing inspection accuracy, and has achieved highly accurate classification performance by using AI to classify defects. We also realize shorter installation period of the system through our software engineering. These values increase Eines' scalability and contribute to its global expansion.
Further, through cooperation with our customers and partners, we continue to add value through DX, such as automatic repair of defects and process improvement through data analysis.

Automotive Visual Inspection Business:
Market Share and Business Opportunities

- Acquired high market share in Europe, attracting inquiries from luxury car brands
- In China, cultivate new customers and deploy new solutions
- In North America and Asia, expand our market share through close contacts with our customers by leveraging our sales base.

Image of the Tunnel-type solution's market share



● Current ◌ Medium-term target ● Whole market (estimated by Konica Minolta)

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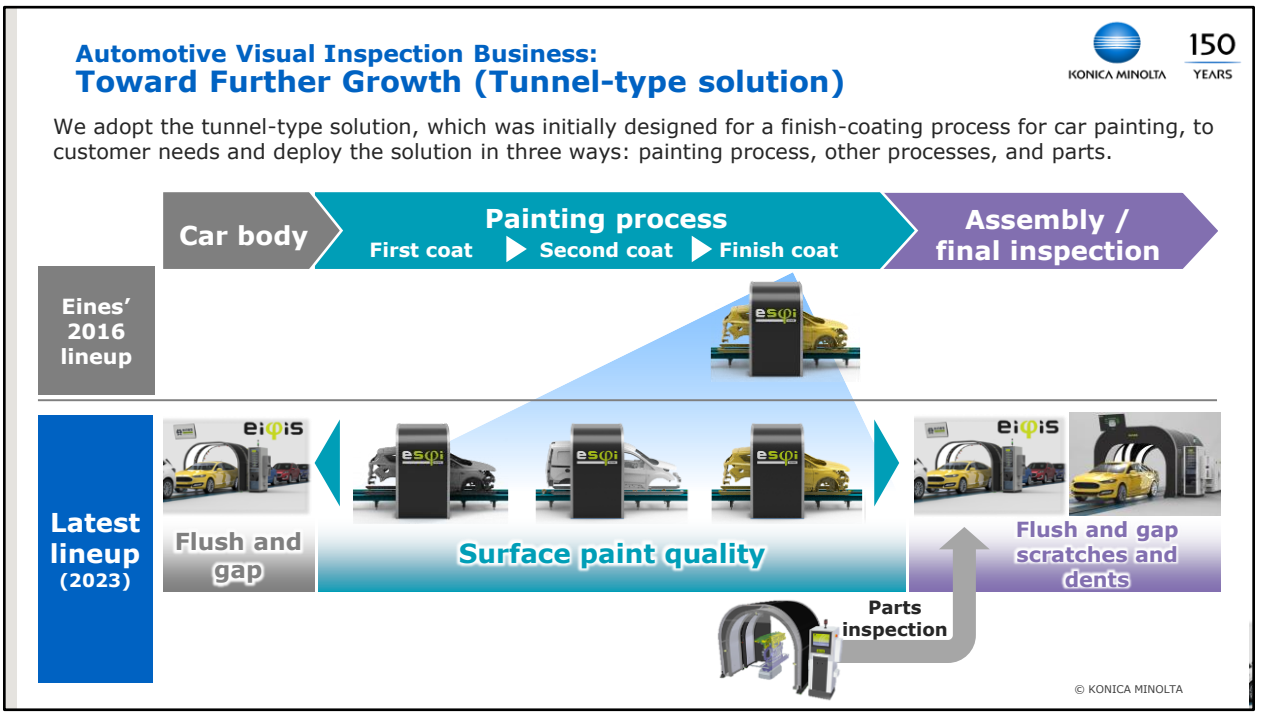
Let me explain the current market share and business opportunities for the tunnel-type solutions by region.
In Europe, where Eines is based, we already hold a large market share. We are also receiving inquiries from luxury car brands, aiming for further growth.
In China, the world's largest automobile-producing country, we have installed several of these systems to date. We continue to work toward expansion by cultivating new customers such as local automobile companies in China and rolling out new solutions for flash and gap.
Leveraging Konica Minolta's sales base in North America and Asia, including Japan, we will aim at expanding its market share and the market itself by building close ties with local customers in each region.



Eines is expanding the range of their tunnel-type solutions to the entire automotive production process to meet customers' needs.
In 2016, Eines' paint defect inspection solutions covered only the finish coating, but the scope now includes the first and second coating processes. Furthermore, their latest lineup for 2023 includes solutions for other processes such as bodywork, assembly, final inspection, and parts inspection.
These various solutions are becoming more well-known, and the number of inquiries and track records are on the rise in recent years. Going forward, we intend to expand sales globally by deploying multiple solutions within the automotive process and diversifying our solutions to include inspections other than surface paint defects, flush and gap.

Automotive Visual Inspection Business: Toward Further Growth (excluding the Tunnel-type solution)

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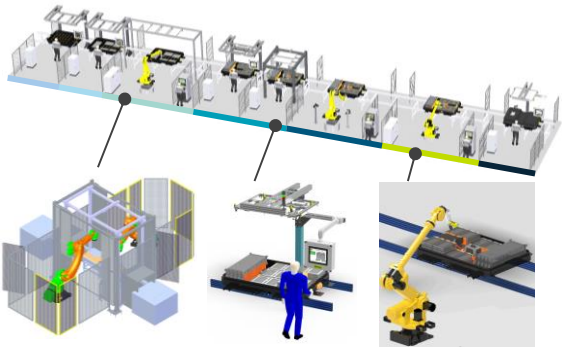
Solutions for electric vehicles (EVs)

Provide optimal inspection solutions through close contacts with customers



Battery cooling plate inspection → Housing position measurement → Sealing aligned to the position

EV = Electric vehicle

Solutions for fuel cell applications

Detect part defects with high sensitivity camera system

Separator
*Displayed in Toyota Kaikan Museum

RADIANT VISION SYSTEMS

+

Software / lighting

Radiant Vision Systems, LLC
Location: Redmond, Washington, U.S.A.
Business activities: Development and sales of measuring instruments for display products
Joined Konica Minolta Group in August 2015

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Eines is also extending its value offering beyond tunnel-type solutions.
Capturing the trend toward EVs, Eines has begun to provide optimal inspection solutions for EV factories through its close ties to customers, which is one of Eines' strengths. This resulted in a successful record of installations.

In addition to Eine's performance, we have also installed several high-sensitivity cameras delivered from our group company, Radiant Vision Systems, designed for the visual inspection of separators mounted in fuel cell vehicles.
In the sensing business, we will continue to scale up the scope of the inspection and measurement business for the automotive industry.

Automotive Visual Inspection Business: Final Messages

Eines makes automotive visual inspections more efficient through automation, which previously relied on the human eye, thereby creating and driving the visual inspection market.

Although the market was affected by the COVID-19 pandemic, we expect the market to expand in the future from a focus on Europe and the U.S. to a global market, reflecting a recovery in investment by automotive companies.

Konica Minolta and Eines will expand offered value for customers through technology and sales synergies and accelerate business expansion globally.

Today, I explained the automotive visual inspection business in the sensing business. Here are three key points.

- Eines has made automotive visual inspections more efficient through automation, which previously relied on the human eye, thereby creating and driving the visual inspection market.
- Although the market was affected by the COVID-19 pandemic, we expect it to expand in the future from a focus on Europe and the U.S. to a global market, reflecting a recovery in investment by automotive companies.
- Konica Minolta and Eines will expand offered value for customers through technology and sales synergies and accelerate business expansion globally.

Thank you for listening.

Appendix

Glossary of Terms

- **Light source color**
  The brightness and color of a light source that itself emits light such as lighting and displays.
- **Object color**
  The brightness and color of objects that themselves do not emit light such as auto parts and food products.
- **Appearance**
  An element in the object color field that indicates differences in appearance due to surface conditions other than color. Typical examples include the orange peel finish of car paints.
- **HSI**
  Hyper Spectral Imaging (HSI) is 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.

