



IMAGE HOUSE
TECHNOLOGY GROUP

Accelerate your Business with
Computer Vision Technology



Your Trusted and Reliable Partner in Industrial Vision Technology

An image is data, and data is gold, quite literally. Computer vision technology is all about automating manual processes and leveraging data. We happen to be some of the best at doing that.

No matter how passionate we are when it comes to innovation, development, and technology in the field of computer vision; spectroscopy, optics, software, machine learning and interfacing, the goals are always perfectly clear: increased productivity, uptime, and in the end, new business opportunities for you.

Automated inspection is about making qualified decisions based on reliable data. Whether it is a “simple” binary decision, a complex decision or a logistic up- or downstream decision, it should always be based on current and historic data.

With us as your partner, you will receive best-in-class industrial grade systems, customized to suit both your business and your industry’s needs.



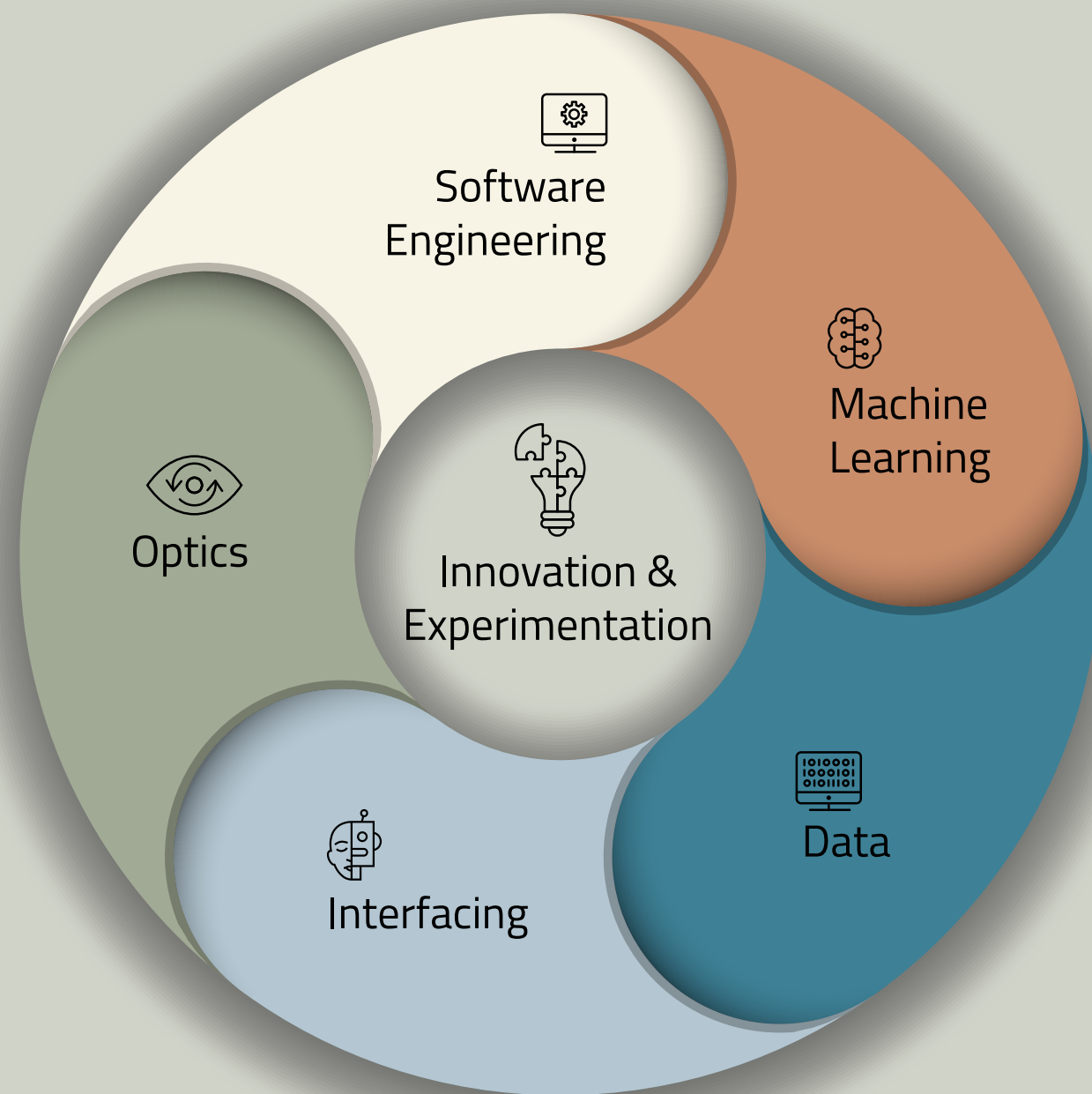
Vision Technology with Limitless Opportunities

Working with different applications and international partners, enriches us with new knowledge, competencies, and an ever-growing toolbox. Bringing our experience into play results in better solutions, no matter what the challenge is.

Doing more has its advantages. By reusing technology platforms across several applications, our high-end machine vision solutions have become even more economically feasible to develop at a faster pace, affording solutions to be thoroughly tested both in-house and in the field. By doing more the company has been able to achieve critical mass.

Furthermore, doing more enables Image House Technology Group to become more diversified. Our aim is to make a positive difference to both our partners and the environment. We are constantly driven to push forward the boundaries for inspection and handling through continuous cooperation, innovation, and experimentation.





Growing and Learning with Best-in-class People

The best solutions require skilled people. No matter how much high-tech electronics and sophisticated software we put together, the solution will never be better than the knowledge and experience of the people behind it.

We are dynamic, curious, and constantly striving to attain the best results possible. Image House Technology Group is simply put, our employees. We place people first, which is one of the reasons why we have the most qualified colleagues.

We foster an environment with a continuous focus on personal and professional development for our employees. We can claim more than 400 years of combined experience covering, special mathematics, statistics, modulation, optics, spectroscopy, imaging, interfacing, laser, robotics, and software.

Our impressive team spirit and dynamic working environment translates into superior solutions, which are developed in close collaboration with our customers and partners.

It is All About Data

Images

The essence of image inspection is all about light-settings, synchronization, speed, resolution, and consistency. We deliver a combination of the above-mentioned as well as multi-dimensional camera systems, enabling us to see the invisible.

Processing

Our latest and greatest Artificial Intelligence algorithms deliver valuable data and statistics during production. The intelligent software secures both upstream and downstream analysis.

Data

All data needs to be orchestrated and structured to become actionable data. We investigate the application, understand the statistics, and have the know how to steer clear of any pitfalls.

Decisions

Good operational decisions should always be based on reliable data. No matter whether it is a financial decision, upstream or downstream decision or even input to a machine or robot, the data must be useful. Our avant-garde software engineering ensures that decisions are delivered at a fast pace and with high consistency.



Computer Vision that Elevates your Business

Computer vision allows us to automate visual inspection procedures through a sequence of images, all carried out with the help of AI and machine learning. Our vision technology replicates several functions of human vision - only faster and remarkably more accurate.

Computer vision is an interdisciplinary field requiring expert knowledge and experience across several areas: physics, geometry, math, statistics, and programming, to name a few. All of this must be combined with top-level applied engineering skills and expertise.

The Image House Technology Group nurtures this deep academic knowledge in-house and we will continue to build on our experience and skills, which will be translated into useful rock-solid industrial solutions in collaboration with our industrial partners. Furthermore, we will continue to collaborate with universities and knowledge centres around the world on everything from LEDs and spectroscopy to machine learning and intelligent software to ensure that we keep our technological edge.

By leveraging the power of AI and machine learning in combination with the latest breakthroughs in optics and electro-optics, we are improving decision-making within the field of visual inspection.





The Devil is in the Software. We Should Know

Software is the foundation of everything we do.
We take great pride in integrating the latest and greatest technologies into our industrial grade solutions.
We pride ourselves on our 24/7 operations, maintaining the highest uptimes and performance, which we know is crucial for both our partners and end-users.

With hundreds of systems already running in the field this should be considered fundamental, but it never is - it requires experience, knowledge, and lots of hard work.

We have invested extraordinarily in the development of our high-quality software platforms where we continue to innovate. This means that our quality keeps going up, while our time to market remains the same.

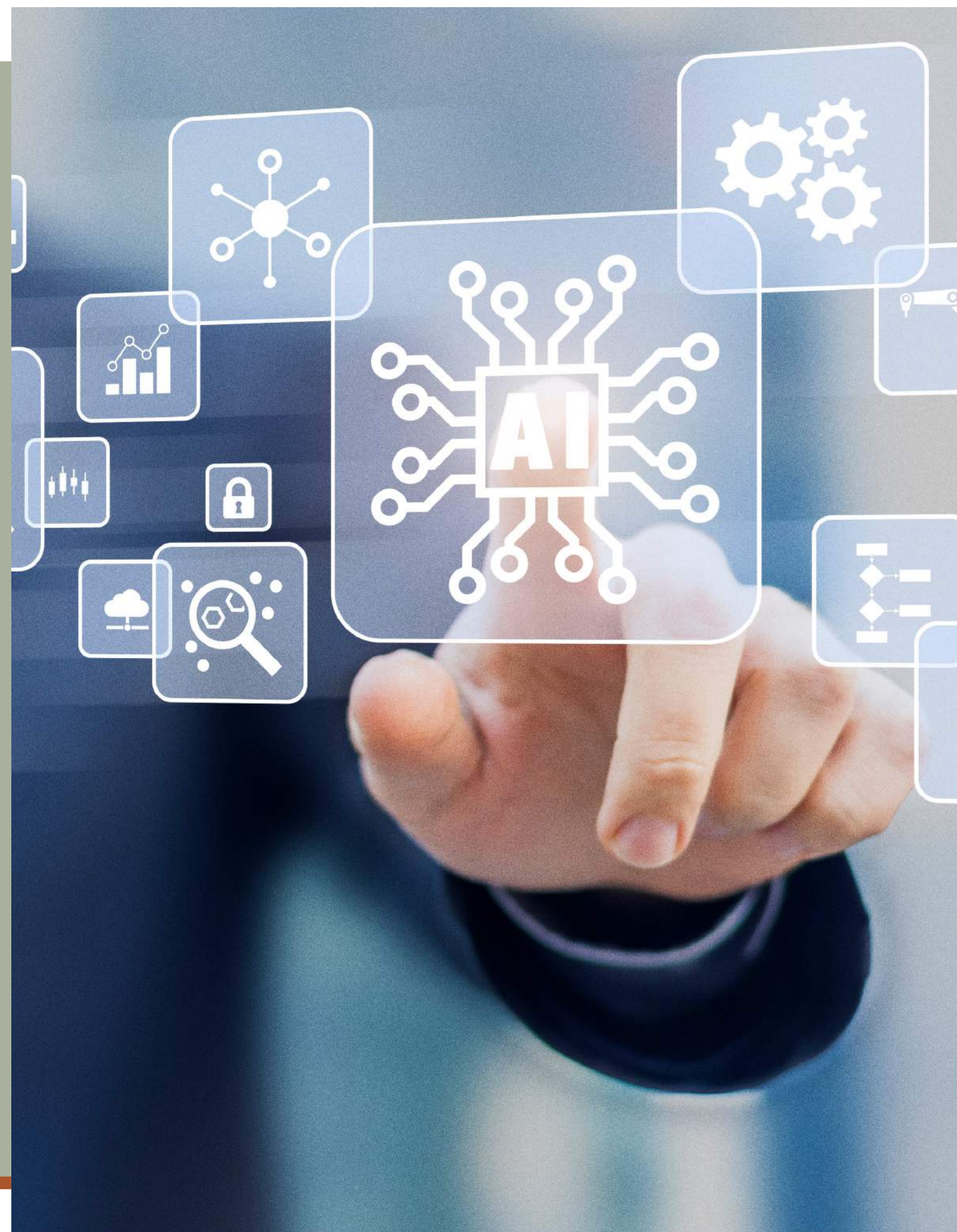


Machine Learning is Constantly Improving Solutions

Machine learning methods are developing rapidly, and so are our systems. We deliver fast, robust, and accurate machine learning models and have done so for more than a decade.

Using state-of-the-art deep learning algorithms, we can extract all the relevant information from the available data, allowing us to deliver highly accurate results. Our model architectures are efficient, processing high volumes, and high-resolution data in a production environment, even on modest hardware platforms.

Our data-driven machine learning process ensures a fast feedback loop, and a short delivery time from idea to product development. This process actively encourages both customer and stakeholder feedback, bringing together domain knowledge and technology expertise, helping to facilitate the most profitable solutions even faster.





Optics that Gives You a Clearer Picture of your Business

Optics is the first link in the chain. With years of experience in spectral analysis and spatial resolution, in selecting the right light and lens-image sensor combination, our solutions can distinguish objects which are invisible to the human eye.

Deep knowledge of light, optics and image sensors ensure the best input for your machine vision systems. Our claim to fame is the last one-to-two percent, and with the right optics, your business can be one step ahead.

Within the group, we have extensive experience in designing, building, and controlling the entire image acquisition pipeline in most environments. This includes electronics: triggering, LED drivers and controls, and knowledge of environmental inconvenience and regulations.

This enables us to build and test fully functional prototypes directly in our workshop with the added benefit of short time-to-market, meanwhile delivering the highest quality for both simple and advanced customized solutions.

Data Streamlines Everything from the Production Line to the Bottom Line

Our data pipeline ensures high quality, versioned data required for state-of-the-art performance in our visual inspection systems. Our data-centric models will maximize your profit based on qualified data.

We are experienced in handling large amounts of unstructured data with a strong focus on image classification and regression tasks. Data labelling is done in-house using custom, cutting-edge tools for maximum utilization and safety of your data. We focus on domain knowledge and short modelling loop times, allowing us to swiftly respond to any changes in either your data, or your requirements.

By employing a data-driven AI vision system, you are offered a plethora of cutting-edge advantages. Firstly, in-line at the production floor you will receive state-of-the-art performance and consistency.

Just as important, you will get real-time production status and alarms from our vision solutions, allowing for auto-adjustment and correction of processes and machines, both up- and downstream.





Interfacing and Control Mechanisms Manage A Lot – When Managed Properly

We are highly experienced when it comes to controlling hardware for sorting and handling in a production facility, creating user-friendly interfaces that cover the entire spectrum from running statistics on-screen to interfacing with databases.

We manage robots and machines directly, based on our vision system output and we control sorting hardware via PLC communication or timed relay outputs, and at the highest end of output complexity.

Our experience with hardware interfaces is truly extensive. Covering various busses, storage devices, I/O devices, as well as a wider range of software interfaces at different operator levels.

With our User Interface (UI) it has never been easier, more efficient, or user-friendly to operate a machine. Ensuring both effective operation and control of the machine from the human end, whilst the machine simultaneously sends feedback to aid the operator's decision-making process.

We know the value of a user-friendly and intuitive interface to ensure easier operations.

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With the help of the PantoSystem, RATP has avoided major traffic disruptions of more than 4-6 hours which would have caused severe damage to RATP's brand image.

The PantoSystem also enabled RATP to realize a huge cost savings of more than 100.000 euros per year for the fleet of one RER line, resulting in a total saving of more than 200.000 euros.

RATP is planning to extend their coverage of automatic pantograph monitoring across their network in the future.

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Marek Benaïche
Project Manager, RATP, Paris

RATP Keeping Paris on Track and Saving Hundreds of Thousands of Euros

RATP is a state-owned public transport operator and is the biggest transport company in Paris with 60,000 employees. The company provides multiple transport modes such as metros, buses, trams, and a regional express rail (RER) network. RATP has a total of 28 lines of metro, trams, and RER across the Parisian metropolis.

The PantoSystem enabled RATP to detect the consequences of a twisted or broken spring box, by accurately measuring the geometry of the pantograph. The automatic inspection system is important since RATP has about 90 km of tracks in each direction, a total of 180 km of track. Obviously, manually identifying this type of defect throughout the RATP fleet would have been immensely time-consuming and very costly for RATP. Additionally, manual investigation to determine if more trains were affected would again require a major effort.



MOBA Sorting 252,000 Eggs Per Hour Requires a State-of-the-art Inspection System

MOBA is a leading manufacturer and supplier of grading, packaging, and processing equipment to the egg industry. Today, the company boasts more than 800 employees and a staggering 70% share of the worldwide market.

Over a decade ago, Image House enabled MOBA to automatically detect any dirty or leaking eggs at high-speed and high capacity. Today, MOBA and Image House Food (IHFood), are cooperating on the development of the next generation of inspection systems. IHFood's software suite powers MOBAs' egg inspection system which inspects and grades eggs according to a custom criterion such as place of origin, and finding conditions like dirty, cracked or leaking eggs.



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Thanks to the egg inspection solution provided by IHFood, the inspection process is more effective, helping MOBA customers to efficiently sort eggs with numerous defects, saving valuable eggs from being discarded. In these high-volume processes where millions of eggs are sorted daily, we're helping to optimise the global food chain of eggs.

Thanks to the highly effective detection systems of IHFood, MOBA has secured a stable market share. IHFood is a reliable partner for us.

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Paul Buisman
Board Member, MOBA

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All postal operators risk revenue loss due to items carrying insufficient postage, PostNord has really gotten to grips with this challenge, using IHPostal’s revenue recovery solution.

We’ve been using the system for over a decade.

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Claus Fræhr Mikkelsen
CFO/Head of Revenue Management, PostNord in Denmark.

PostNord Protecting the Postal Revenue with 24/7 Image Processing

Post Danmark, part of the PostNord Group, is responsible for the postal service in Denmark with approx. 6,200 employees and a turnover of 4,863 billion DKK. Post Danmark distributed 193 million letters in 2019.

Postal organizations all face a risk of lost revenue due to letters carrying insufficient postage.

Since 2005, IHPostal has provided a revenue protection application. In the sorting centre an image is captured of a letter with insufficient postage. Furthermore, data about weight, and size are also captured and automatically transferred to the central database. Each recording is “registered” by adding postage and addressing information from the photographs, enabling the system to invoice customers for insufficient postage plus an administration fee. Invoices are automatically generated and sent by email to a printing facility – based on the data collected. The system records and stores all the invoice data until payments are received.

This enabled Post Danmark to track all mail items with insufficient postage and regain revenue loss, while avoiding process delays.

postnord



Looking for a Strategic Partner in Industrial Inspection?

Image House Technology Group is highly specialized within automated inspection, computer vision technology and the utilization of data, which improves your productivity and your bottom line.

By working closely with our customers and establishing strategic partnerships, we are able to develop complete industry solutions that truly make a difference to employees, raw material utilization and the environment.

Today, with more than 35 passionate employees, we are creating value through innovation, commitment, quality, and flexibility, and we do it every day.

We love what we do and with our vast experience in the computer vision industry and our passionate team of experts, we will support you throughout your entire inspection process, ensuring the success of your production.

For more information, contact us at contact@imagehouse.dk or give us a call on +45 3318 9120