



# Zetamotion

Perfect Data | Perfect Products

## **ZETAMOTION TACKLES SCALABILITY CHALLENGES IN PAPER PRODUCTION WITH AI-POWERED QUALITY CONTROL**



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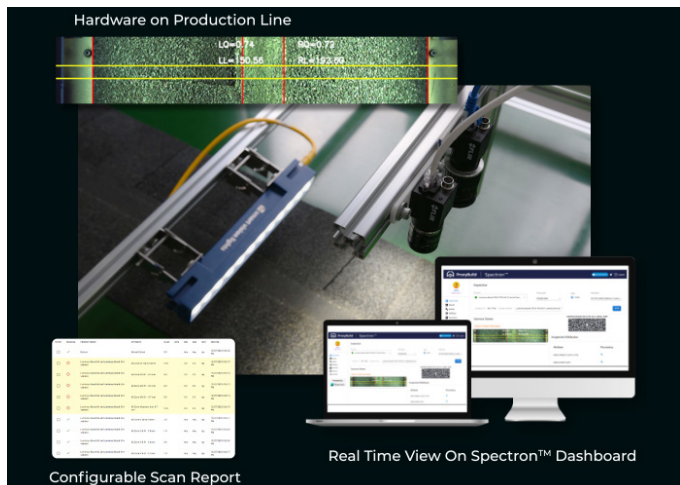
# Automated QC with Spectron™

## Zetamotion Tackles Scalability Challenges with AI-Powered Quality Control

As paper manufacturers aim to scale operations while maintaining strict quality standards, AI-powered quality control (QC) systems have become increasingly critical.

However, many manufacturers in the paper, tissue, and cardboard sectors are unsure how to effectively integrate AI into their workflows. According to the Manufacturing Momentum Report 2024 (themanufacturer.com), 61% of UK manufacturers recognize AI's potential but lack clarity on implementation.

A Forrester survey highlights that 64% of business leaders consider computer vision essential for future operations (Researchscape.com). Yet, one of the most significant barriers is “dirty data” — incomplete or inconsistent data — cited by 14% of manufacturers. For those able to strategically implement AI, the benefits can transform their operations.



# Challenges in Traditional AI for Quality Control in Paper Manufacturing

While AI-powered QC offers transformative potential, traditional systems often struggle with scalability in industries like paper and cardboard production. These sectors deal with unique challenges, including data inconsistencies, fears of workflow disruption, and significant product variations across different paper types, qualities and endproducts. This highlights why traditional AI systems often fall short and why solutions like Zetamotion's Spectron™ are critical.

## Data Complexity and Dirty Datasets in Paper Production

Traditional AI relies on large, well-labelled datasets for effective QC, but manufacturers often face “dirty data” that contain errors or inconsistencies. This makes it difficult to adopt AI smoothly. Cleaning this data is often time-consuming, but with automated tools, manufacturers can streamline data preparation, boosting accuracy while reducing manual effort (Shelf.io).

## Fear of Disruption and Model Drift

Manufacturers worry that AI might disrupt their established workflows, requiring frequent retraining and adjustments. AI models can also suffer from model drift, where performance degrades due to changes in the production environment or data. To address this, ongoing monitoring and timely updates are necessary to ensure consistent accuracy (DQLabs.ai).

## Overcoming the Last Mile in Accuracy

Achieving high accuracy — particularly above 80% — is challenging for AI-powered QC systems, especially in the paper industry, where even minor defects can result in significant waste and costs. Traditional AI often requires human intervention to reach desired accuracy levels. Zetamotion's advanced algorithms overcome these hurdles by continuously optimising for higher precision (Shelf.io).





## Zetamotion's Solution: Spectron™

Zetamotion's Spectron™ platform offers a scalable, high-precision solution tailored to the needs of the paper, tissue, and cardboard industries. Their solution utilises synthetic data generation and semantic understanding to eliminate the need for manual labelling, enabling paper manufacturers to onboard new product types in less than 24 hours.

Spectron™ seamlessly integrates with existing production lines, minimising disruptions while ensuring model drift prevention through continuous optimization. With a 99.99% defect detection accuracy, the software significantly reduces the need for human intervention, allowing manufacturers to scale operations without sacrificing quality.



**As Industry 5.0 continues to evolve, AI-powered solutions like Spectron™ will revolutionise quality control in the paper industry by shifting from reactive, post-production checks to proactive, real-time defect detection. Early identification of defects helps reduce material waste, ensuring efficient scaling and competitiveness in the precision-driven paper sector.**



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