



ACUMEN AI

ARTIFICIAL INTELLIGENCE
INSPECTION SYSTEM



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Acumen AI utilises next generation, deep learning video analysis and is designed and developed by Ash. Automatically identify, detect, classify, measure and count a wide range of part defects. Implementing the power of Acumen AI will significantly increase production efficiency, eliminate human error and increase production throughput.

Utilise the power of Acumen AI to develop your own machine learning models for your parts, for your needs.

Alternatively, tell us the problem and we can develop a complete Turnkey AI Solution. efficient inspection.



BENEFITS

Instantly transform your manufacturing process with Inspex 3

Return on Investment

Acumen AI will significantly increase throughput and reduce material waste. It will also reduce inspection costs and overheads. Inspect critical parts in milliseconds. Remove operator error, eliminate risk, avoid product recalls and protect your reputation.

Acumen AI will pay for itself and provide significant return on investment.

Self-Training

Master your own destiny. Train Acumen AI for what you want, when you want. Train and develop your own complex programs to rapidly identify defects and meet your specific needs.

Acumen AI is intuitive, easy to train, simple to learn.

FEATURES

Instantly transform your manufacturing process with Inspex 3

Autonomous

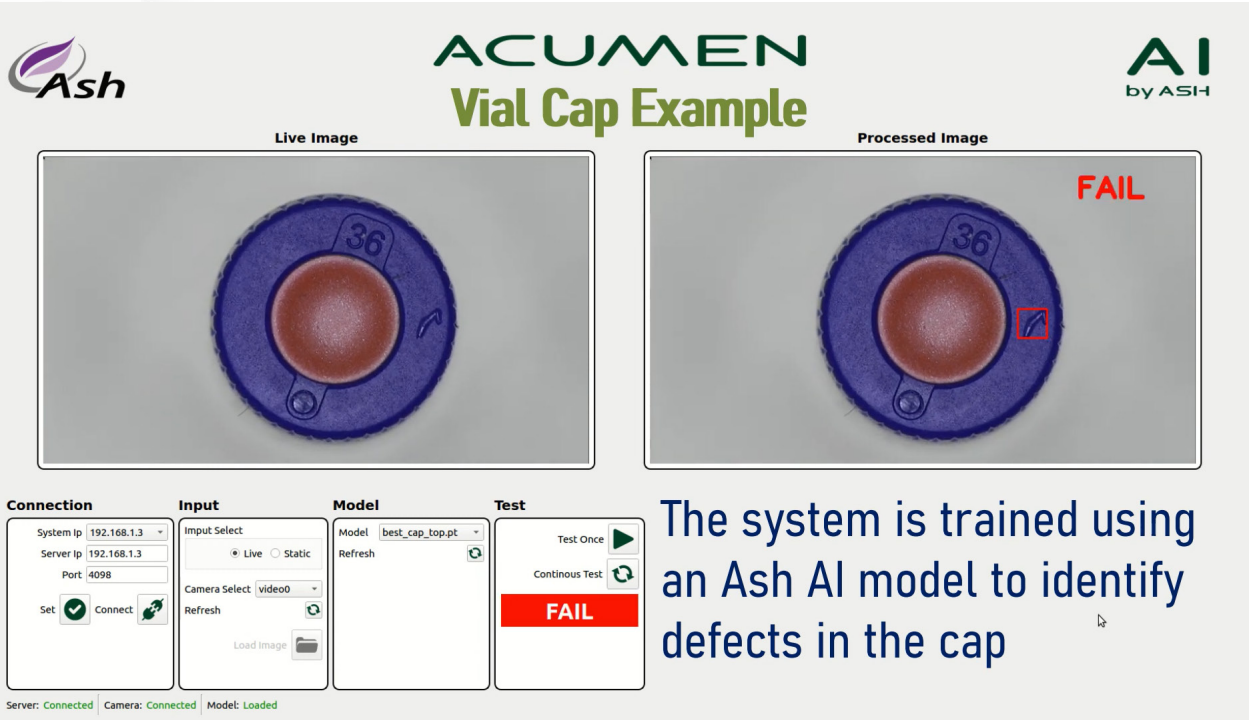
Automate your process. Remove subjectivity and eliminate human error. Increase efficiency.

Integrate robots and cobots and free valuable resources to work on other projects.

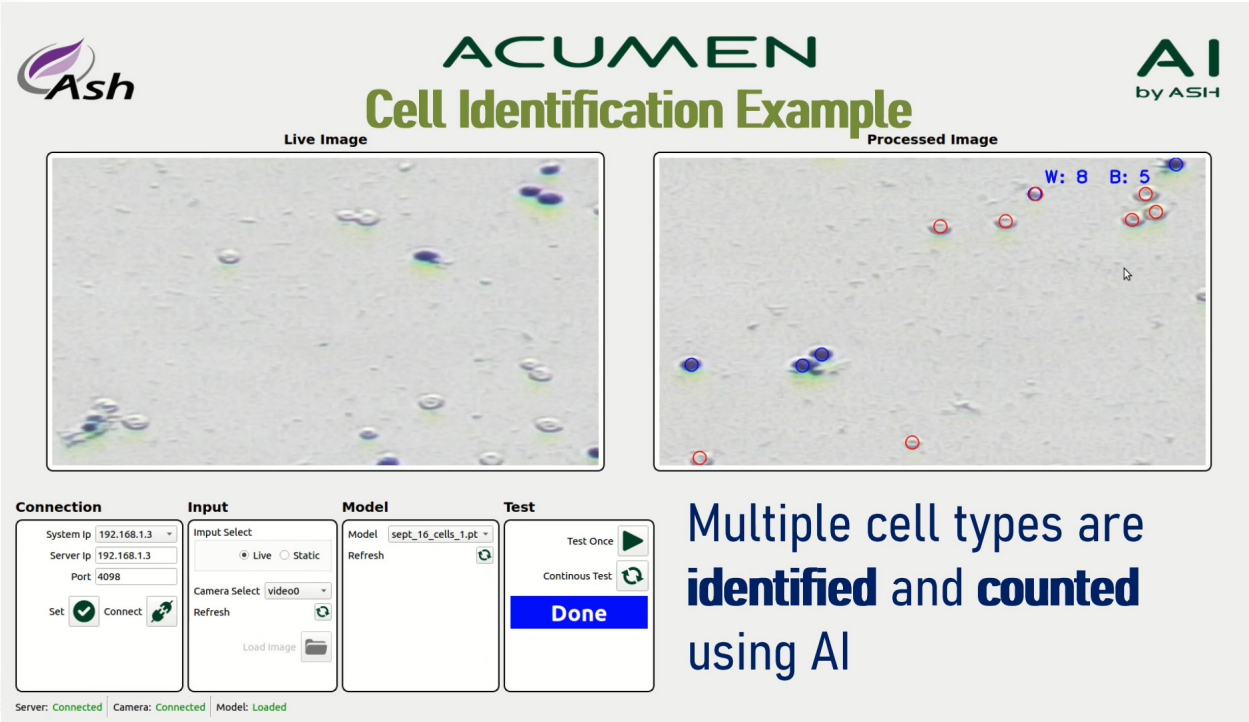
Data Reporting

Gather data for continuous learning and process improvement. Generate in-depth detailed reports directly from Acumen AI.

Output images, failure statistics and custom data reports to improve statistical process control.



The system is trained using an Ash AI model to identify defects in the cap



Multiple cell types are identified and counted using AI

INDUSTRY APPLICATIONS

Acumen AI automatically identifies, detects and classifies product defects, guides assembly operators, controls robots and cobots, generates data-driven reports, maximises throughput and eliminates human error.

Cell Counting

Automatic cell counting using a deep learning algorithm, accelerating the traditional haemocytometer method.

Inspecting Vials

Detect multiple defects simultaneously in real-time. Eliminating human error, saving time and cost.

Needle Inspection

Instantaneously detect missing components for medical device manufacturing. Ensure production quality and protect patient safety.

Mite Inspection

Identify, track and count live, moving objects for biological applications. Automatic reporting directly from Acumen AI.

PCB Inspection

Enable the power of the Acumen AI to automatically identify, detect and classify anomalies such as missing components, foreign objects, debris, solder bridges or shorts.



TURNKEY AI SOLUTIONS

Tell us the problem and we'll deliver a turnkey AI solution.

Ash can deliver a fully automated and integrated AI solution tailored to your needs. Our team will spend the time understanding your unique requirements and develop a complete inspection solution. Developing the hardware, software and machine learning algorithms to meet your exact requirements. If required, we can also interface with robots, cobots, communications and automated equipment.

We can both deliver and support - continuously improving the AI algorithms, and continually improve your process.

OUR TURNKEY APPROACH

- 1 We discuss your specific requirements in detail.
- 2 Send us sample parts or images for a free analysis and proof of concept.
- 3 Solution is scoped, presented, refined and approved.
- 4 System is configured, delivered, installed, tested and commissioned.
- 5 We train your team.
- 6 Continuous support available to improve AI algorithms.

Cell counting at speed with AI for British Sugar

Challenge

Manually counting yeast cells

To ensure quality and food safety requirements are met British Sugar continually complete a lab test where they count live and dead yeast cells. To date this process has been done manually. A laborious process, that, by its nature is prone to human error. The operator, using a microscope, manually counting the white and blue cells on screen, manually inputting the data into spreadsheets, and applying some calculations. For some time British Sugar had been looking for a way to improve this process.

Solution

A fast, reliable, fully-automated solution.

Paul Wrathmall from British Sugar presented Jamie Greatrix our Technical Sales Manager in the UK with their cell counting challenge. Jamie collaborated with our R&D department to explore possible solutions. British Sugar provided test samples and we set about built a working model in-house to solve the problem. We used our Acumen AI system, a customised App, and a custom mechanical jig to ensure lighting consistency. With a camera to automatically count white and blue cells. The system automatically applied the required algorithms, automatically saved the data, and automatically created a PDF report.

We presented the solution to British Sugar, they were surprised and delighted with the speed, accuracy and completeness of the system and implemented it immediately.

Result

11 times faster. 90% reduction in human error.

Our solution, so far, has reduced average task time from 17 minutes to 90 seconds. As the AI bot gets smarter task time will further reduce. With the task largely automated the possibility for human error was greatly reduced. The solution also streamlined the cell counting documentation and reporting process for British Sugar.

"Another application that shows the massive improvements in efficiency and accuracy that our technology can deliver. And a good example of how our core technology can be quickly adapted to very specific needs." Jamie Greatrix, Technical Sales Manager UK, Ash.





ASH HQ - Ireland
B5, M7 Business Park,
Naas, Co. Kildare
W91 P684
+353 (0) 45 88 22 12

Malaysia
ENDOMATRIX (M) SDN BHD
No.51-5, Block G, Dataran Prima,
Jalan PJU 1/37, 47100 Puchong,
Selangor, Malaysia.
P: +603-78031145

ASH UK
Covert Farm, Long Lane,
Easte Haddon,
Northamptonshire
NN6 8DU
+44 (0) 7592 523 767



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winner



sales@ashvision.com
www.ashvision.com

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