
Spyglass Connected Factory
Visual Inspection
Improve product quality with AI-driven real-time insights
SPYGLASS
Microsoft
MARINER

Agenda

1. The race to control costs associated with product defects
2. Using Spyglass Visual Inspection to:
   - Identify product defects early in the production cycle.
   - Understand root cause of defects.
   - Predict where and when defects may occur in the future.
3. Architecture
4. Next steps

Effectively addressing quality concerns is critical in manufacturing – AI helps drive improved defect detection and better business outcomes

10-15%

Percentage of total operating costs often associated with poor quality product [1]

1/3

Of executives in manufacturing now identify AI-driven technologies as crucial to driving customer satisfaction [2]

$3.7 trillion

Value that McKinsey forecasts AI-powered "smart factories" will generate by 2025 [3]

Common challenges to preventing product flaws

QA in manufacturing is time-consuming and expensive, but critical

The impact of poor quality is substantial - the high cost of reprocessing products, reduced time for production, wasted raw materials, and worst of all, dissatisfied customers that demand returns.

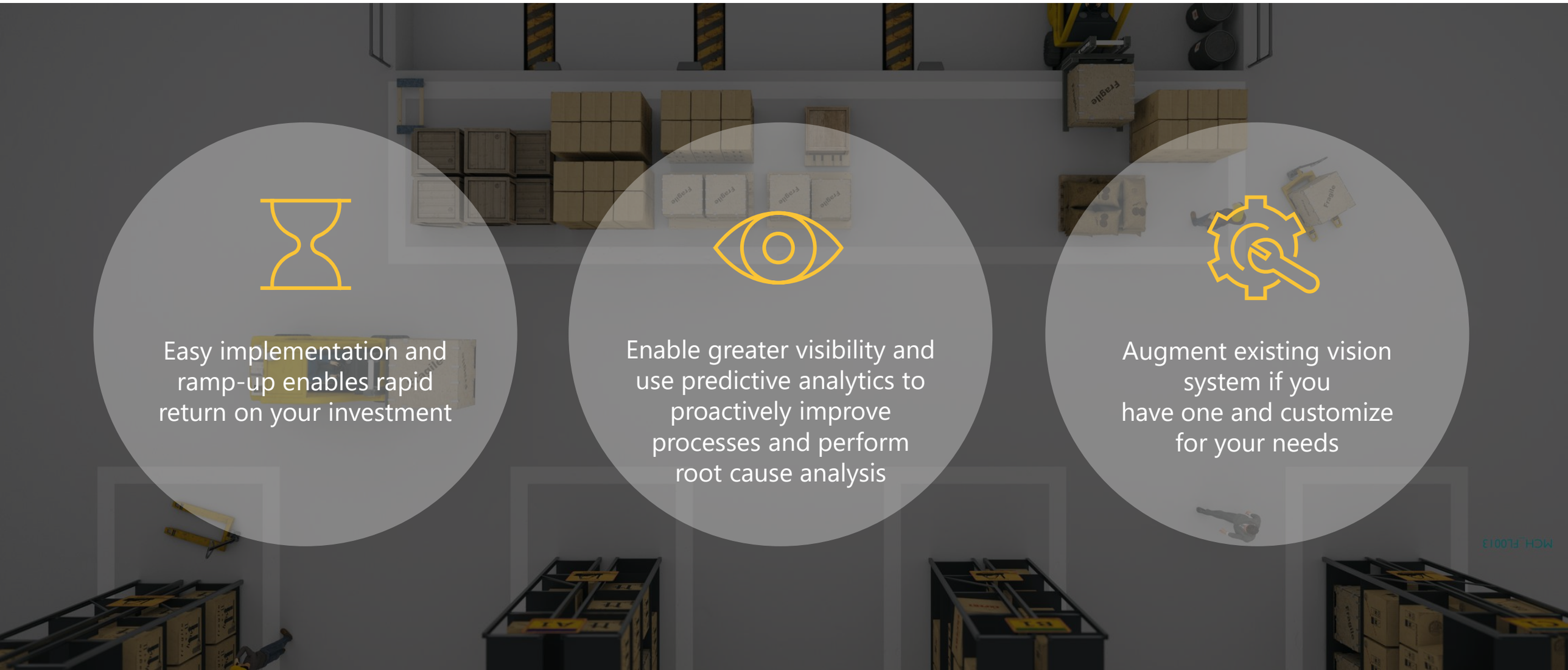
Legacy vision systems lack the precision of AI-based defect detection systems

Manufacturing processes can be incredibly complex – older vision systems are often unable to consistently and accurately identify small flaws that may have a large impact on customer satisfaction. False positives can bog down production schedules.

Too many variables make defect analysis and prediction difficult

Manufacturers need the ability to perform root cause analysis across complex variables to determine which combinations of variables create high-quality products vs those that create low-quality products. Inability to aggregate data across multiple facilities creates additional obstacles to achieving a comprehensive view.

Spyglass Visual Inspection: A rapid time-to-value QA optimization solution for manufacturers of any scale



Easy implementation and ramp-up enables rapid return on your investment

Enable greater visibility and use predictive analytics to proactively improve processes and perform root cause analysis

Augment existing vision system if you have one and customize for your needs

The path to better quality

From testing to implementation

1

Proof of value

Spyglass works with you to determine your unique accuracy requirements and train the machine learning model accordingly

2

Operationalize

Spyglass Connected Factory is used to implement your customized defect detection solution

3

Vision model maintenance

The Spyglass team helps you further improve accuracy by fine-tuning your vision model.

Accelerate time-to-value with easy implementation and ramp-up.

Make an immediate impact on your bottom line.

Improve product quality immediately by identifying defects early in the production cycle and use analytics tools to identify the root cause of these defects.

Quickly begin reducing costs associated with the production of flawed products for rapid ROI.

Don’t invest in costly cameras and sensors upfront if you already have them - leverage existing image data and hardware to determine if and where cameras should be added.

Enables manufacturers to implement quickly without having to install complex IT infrastructure.

Continuous quality improvement

Enable greater visibility with a bird's eye view of product quality across multiple lines or facilities so you can proactively improve processes.

Data and defect analysis can be aggregated from multiple locations.

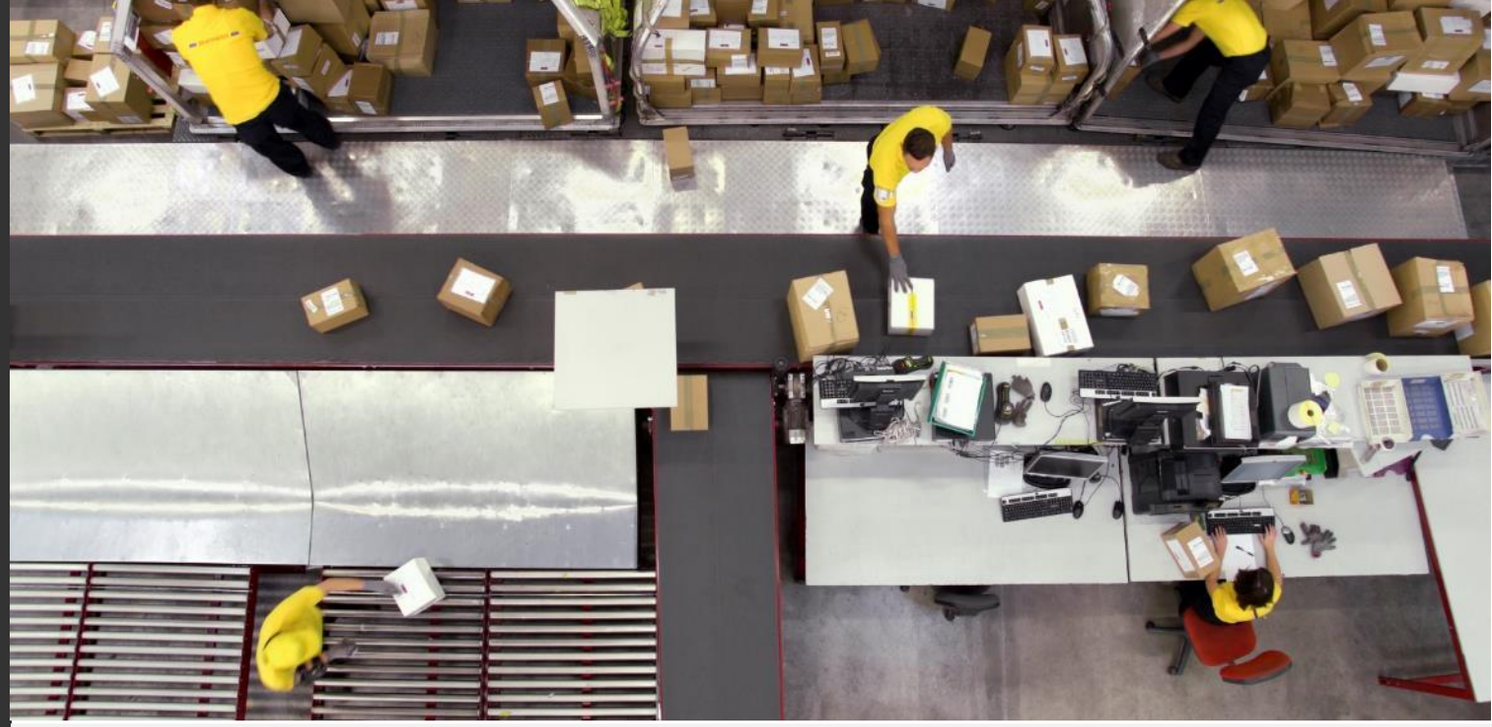
Executives can view quality control dashboards and comparisons - even with variances in production processes - to drive continuous improvement initiatives enterprise-wide.

Monitor the production process and alert operators and inspectors when the volume or type of defect is outside of permissible limits so immediate action can be taken.

Spyglass Visual Inspection continues to learn over time so false positives and negatives are captured and help retrain the system over time.

Augment existing vision systems

Increase ROI on previous hardware investments



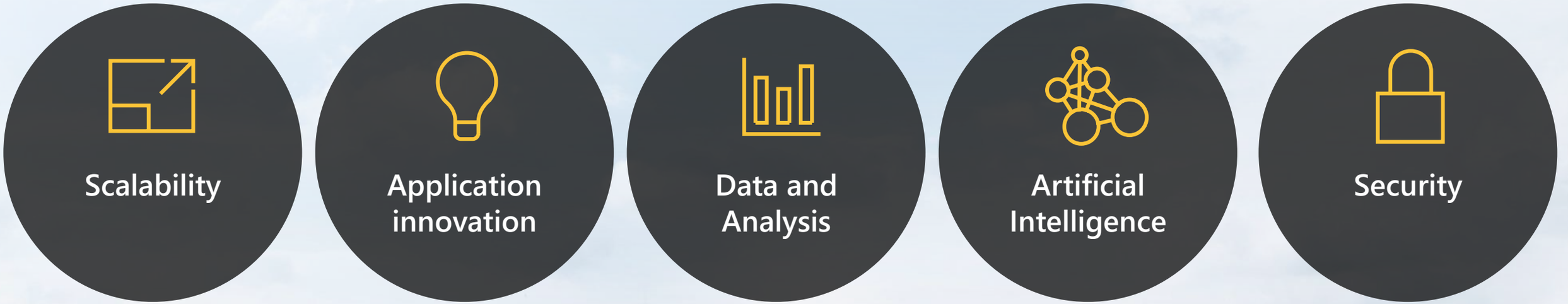
Solution can be applied to images from any type of vision system. You are not locked in to a specific camera or specific hardware or firmware to use Spyglass Visual Inspection.

Manufacturers are empowered to determine what accuracy level is acceptable by training the machine learning models to improve on current quality control initiatives before operationalizing.

Spyglass Visual Inspection is a highly scalable solution – it offers value for both small facilities and large multi-site operations, and can grow with you.

Built on Azure

Spyglass Visual Inspection uses Azure services to create and implement a trained AI model



Customer saves over $1M quarterly with Spyglass Visual Inspection + Azure

A glass manufacturer adopts a comprehensive platform for defect detection, prediction, and analysis

Challenge

- Needed more accurate defect detection to reduce false positives that cause high monetary losses of $30 per unit over 40 production lines
- Existing system commonly detected water residue as chipped or faulty glass in windshields on production line

Solution/strategy

- Determine specific accuracy needs and test the ML model to prove value
- Use custom vision, image recognition, and machine learning to more accurately detect product defects
- Defects can be identified at high speed in large volume with greater accuracy than legacy systems and human inspectors across several industry benchmarks

Outcome

- Accurate defect Identification results in significant reduction in false positives, resulting in approximately $36,000 of savings per production line - over $1M in quarterly savings.
- More effective deployment of production personnel, who can focus on more valuable tasks

Next steps

Ready to optimize your manufacturing practices and reduce cost?

- → Connect with the Spyglass sales team
- → Learn more about Spyglass Visual Inspection at www.spyglassinc.com