

Advanced Digital Microscopes and Measurement Systems



omni
core



reddot award
product design
winner



Powering Potential from the core

Key Features

Not all inspection needs and requirements are the same. That's why we have developed a platform to suit a multitude of needs.



AshCal™

All Omnis are factory calibrated before shipping. No time is wasted performing recalibrations between changing magnifications



RTLDC™

Real Time Lens Distortion Correction algorithm corrects lens distortion for consistent inspection across the entire field-of-view



Save to Network

Networking enables direct saving to the server or cloud for increased workflow efficiency



User Privileges

User privilege settings enables operational control and traceability



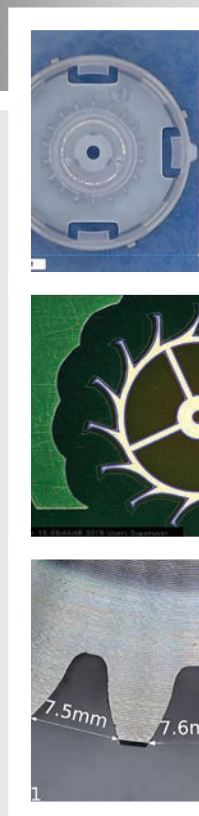
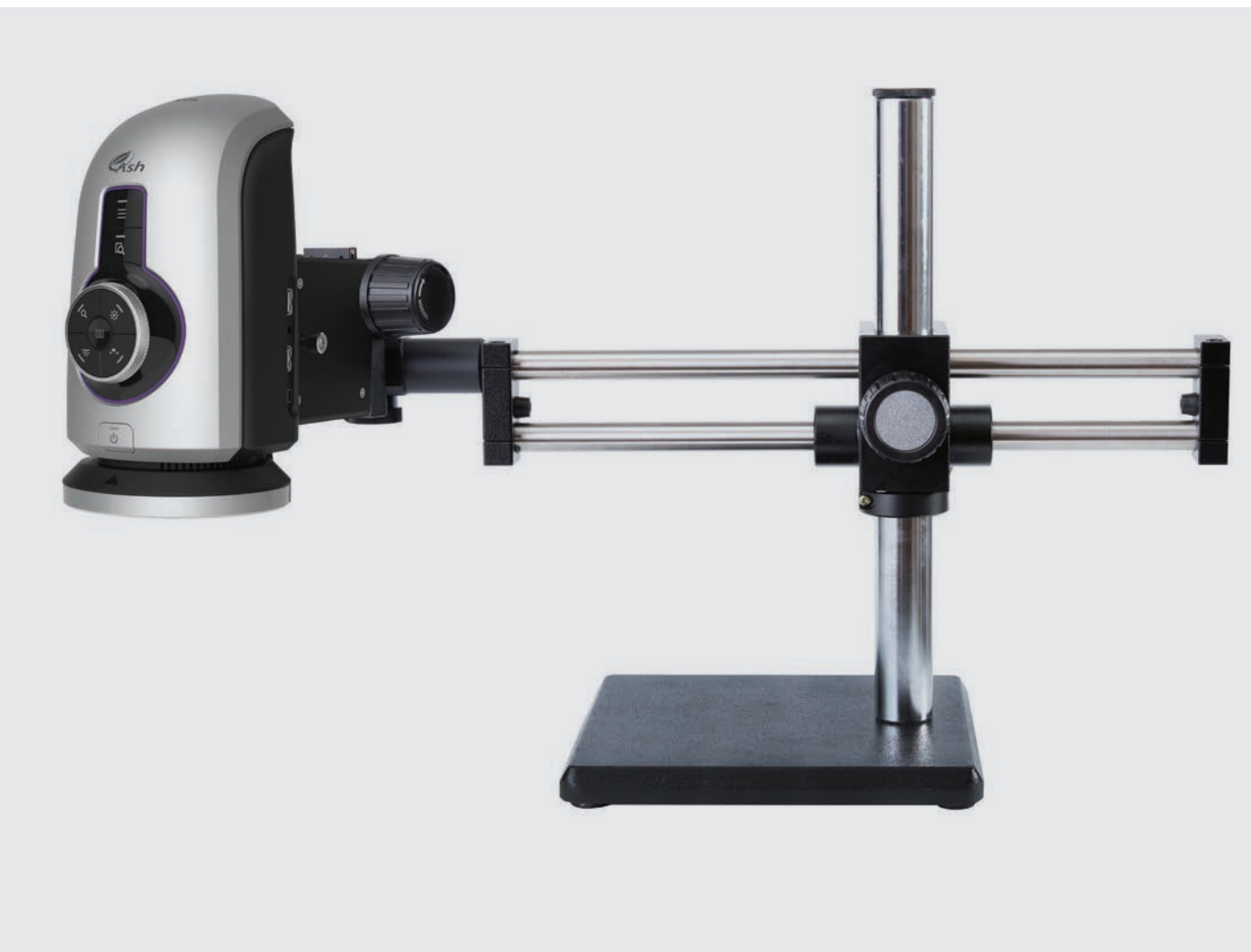
Email

Save time by emailing directly from Omni



Independent of PC

Integrated software avoids the expense and task of qualifying a PC



Start with the **core** set, then add your **apps**

Additional Apps



**Up to 662x
magnification**



**Up to 245mm x
139mm field of view**



**Up to 200mm
working height**



Side by Side Image Comparator

Visually compare your live sample image to a stored master image in the form of a split screen



Image Overlay Comparator

Identify defects by overlaying and flashing the live sample image against a stored master image



2D Measurement & Annotation

Accurate measurement and annotation of lines, angles & circles to accommodate a multitude of samples

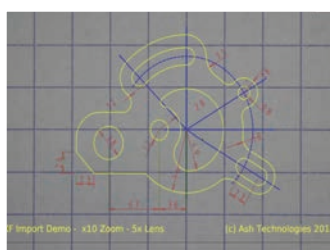
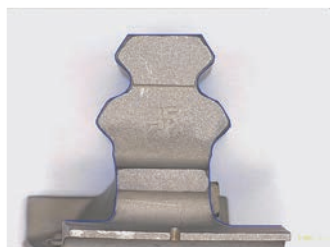
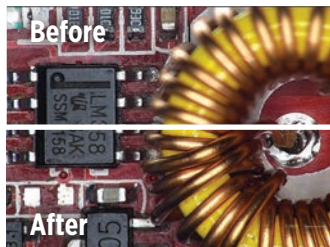


Image Stacking

Omni automatically captures several images at different focal depths to create an image based on the sharpest regions from each capture



On-Screen Digital Graticules

Create Go-No-Go on screen digital graticules to quickly identify sample defects



Import and Export DXF

Import and modify autocad DXF files to create graticules for overlay comparison with critical parts. Export DXF files generated from edge detection on parts

INSPEX II

simply powerful



Simply Powerful Digital Microscope System

Productivity.



AshCal™

Inspex II is factory calibrated before shipping. No time is wasted performing recalibrations between changing magnifications

Quality.



2D Measurement & Annotation

Point to point measurement and annotation of samples and creation of gratitudes

Functionality.



On-Screen Digital Graticules

Create Go-No-Go on screen digital gratitudes to quickly identify sample defects



On Screen Preset Buttons

On Screen Preset Buttons allow quick access to pre-configured part-specific system settings



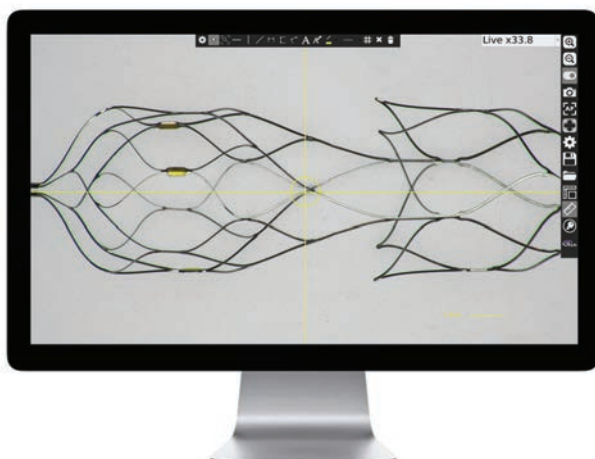
User Privileges

User privilege settings enables operational control and traceability



Image Stamping

Image stamping with time, date, user and magnification level



Applications

- In Process Visual Inspection of Component Parts
- Final QC Release Inspection
- Standardisation and Control of Inspection Process
- Documentation of Inspection Process

Industries

- Electronics
- Medical Device Manufacture
- Polymers
- Metalworking
- Automotive



INSPEX HD

1080p

High Definition Camera Inspection System

Offering superb 1080p full HD image quality, colour reproduction, contrast and resolution.

Its versatile design makes it compatible with a wide range of mounting options. Real-time on-screen dimensioning is provided by integrated XY grids and cursors.

- Full HD 1080p Image Quality
- Image Capture to USB key
- Integrated, Real-Time, On-screen Dimensioning Grids & Cursors.

Key Features:

- Accurate & detailed inspection with superb HD image resolution, dynamic range of magnification levels & integrated LED illumination.
- Real-time on-screen dimensioning provided by integrated XY grids & cursors
- Less operator fatigue & improved production efficiencies due to ergonomic design enabling user to sit or stand in a comfortable and safe posture providing relief from back, neck and eye strain typically associated with traditional microscopes.
- Easy documentation & traceability for accurate quality control records using image capture to USB key.

Applications

The Inspex HD 1080p is suited for repair & rework, quality control & failure diagnosis processes in industries such as: Automotive, aviation, electronics, engineering, forensics, jewellers, medical devices, packaging & labelling, pharmaceuticals and security.

ION

Handheld



reddot award
product design
winner

4.3" Handheld Digital Microscope

The Ion is comfortable to hold and highly intuitive to use as the product has been designed to replicate the look and feel of an optical magnifier.

On Screen Dimensioning

Integrated, real time, on screen measuring grids and cursors provide a simple and effective way to measure without a PC.

Image Capture

Capture and store up to 100 images in Ion's internal memory. Easy documentation & traceability for accurate quality control records using image capture. Images can be exported to PC via the micro USB port.

LED Illumination

Powerful integrated LED lighting provides sharp imaging in all lighting conditions. LED's are positioned strategically to provide optimal image quality.

Ergonomic Design

Ergonomically positioned buttons for single handed access to all functions.

Liquid Lens Technology

Provides a wide focus range, fast response time, excellent optical quality & lower power consumption.

The Ion's display delivers an unrivalled sharp, bright and high contrast image. Integrated LED lighting and ergonomic design allow Ion to be used in awkward low light areas. Its unique patent applied for dimensioning grids and cursors enhance the capability and efficiency of decision making for inspection operators and technicians.



Jonathan Higgins, Associate R&D Engineer
Ireland

Goodman Medical

"Working in the medical device industry I've come across many different inspection and measurement platforms, many of which are highly complicated and require constant maintenance and tech support to solve update and compatibility issues. Ash Technologies' Omni Core vision and measuring system is an all-in-one platform that provided a solution to all these issues.

It gives precision measurements and high resolution, high magnification images with a simple user-friendly interface with software applications that minimise error. The inspection applications not only make identifying defects an easy task, but also simplifies and speeds up operator training and measurement applications, ensuring accurate measurements every time. Software updates can be done at the click of a button with no need for IT support and additional applications can be added just as easily if required.

All in all, I would highly recommend Ash Technologies to anyone looking to simplify and improve their vision and measurement systems. I would also like to add that they have impeccable customer service which is always a plus."



Mark Jones, Technical Field Service Manager
USA

Rolex

"In the jewellery industry you have the 4 C's cut, color, clarity, and carat weight. In watchmaking education you have the 4 D's: demonstration, deliberation, documentation, and discover. In educating student's about the small world of watchmaking, we need tools that can transport them into this world.

The Omni core is an excellent digital microscope for us because it is a stand-alone system. It has a great focal distance for demonstration and it offers many built in tools and optional accessories that help us communicate, measure and collect images.

The Omni helps us and our students evaluate and understand this tiny complex world. It also comes with a great team of people that have helped us quickly and efficiency, answering questions and giving us technical support."



Roland Rücker, Quality Engineer Optoelectronics
Germany

Heraeus Noblelight GmbH

"Our goal was to acquire a microscope with the smallest possible surface differences between 5 and 500 microns without fatigue. Likewise, we wanted to create sharp images with the abnormalities and these surveying. The implementation of these requirements has now been confirmed in practice by our employees. What also stands out is the intuitive user interface our employees were able to use within a very short time. The support from their side for commissioning and technical questions is also to be positively emphasized. We can highly recommend this microscope because of our positive experiences and you as a partner."





omni
core

FI 805-002

Included System Components



LENSES

+5 Lens



LIGHTS

LED Ring Light



OTHERS

Wireless Keyboard and Mouse

Memory Stick

HDMI Cable

Optional System Components



LENSES

+5 Lens

AI 280-150

+10 Lens

AI 280-131

+10 Plan 1x Lens

AI 100-055

+25 Lens

AI 100-053

Ash 360 Rotating Viewer

AI 801-422

Polarising Lens

AI 100-041



LIGHTS

Diffused LED Dome Light

AI 100-045

UV Ring Light 367nm

AI 801-421

Polarised Ringlight & Analyser

AI 801-423



CONTROLLERS

KPII External Keypad

FI 806-002

Touchscreen Workflow Controller

AI 100-049

Works with motorized XY stage



OTHERS

Ash PC Capture

AI 100-052

24" Monitor

AI 801-416

Hard Carry Case

AI 801-563



STANDS & STAGES

XY Stage for Uplight

AI 100-011



Omni Illuminated Track Stand

AI 100-036

XY Stage

AI 100-010



Omni Track Stand

AI 100-037

Large XY Stage

AI 100-057



Articulated Arm Stand

AI 100-039



Dual Arm Boom Stand

AI 100-038

Motorized XY Stage

AI 100-050

Works with touchscreen workflow controller

Oblique Tilting Stage

AI 801-414



INSPEX II

simply powerful

FI 806-001

Included System Components



LENSES

+5 Lens



LIGHTS

LED Ring Light



OTHERS

Wireless Keyboard and Mouse

Memory Stick

HDMI Cable

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CONTROLLERS

KPII External Keypad

FI 806-002



OTHERS

Ash PC Capture

AI 100-052

24" Monitor

AI 801-416

Hard Carry Case

AI 801-563



STANDS & STAGES

XY Stage for Uplight

AI 100-011

XY Stage

AI 100-010

Large XY Stage

AI 100-057

Oblique Tilting Stage

AI 801-414

Omni Illuminated Track Stand

AI 100-036

Omni Track Stand

AI 100-037

Articulated Arm Stand

AI 100-039

Dual Arm Boom Stand

AI 100-038



INSPEX vesa



INSPEX table

FI 801-017

Included System Components



LENSES

+5 Lens



OTHERS

Memory Stick, HDMI Cable



LENSES

+4 Lens



OTHERS

Memory Stick, HDMI Cable

Optional System Components



LENSES

+3 Lens

AI 280-129

+4 Lens

AI 280-125

+5 Lens

AI 280-123

+10 Lens

AI 280-124

Lens Polarizing
Filter

AI 280-145

Lens Protector

AI 100-061



LIGHTS

8-Point LED Ring Light

AI 100-012

Polarizer for 8-Point LED
Ring Light

AI 100-000

Diffused LED Dome Light

AI 100-001

LED Fibre Optic Illuminator
with Dual Gooseneck

AI 100-033

UV Ring Light

AI 100-026 220V 254nm

AI 100-005 220V 375nm

AI 100-035 110V 254nm

AI 100-034 110V 375nm



CONTROLLERS

KPI External Keypad

AI 801-414

Required to activate
dimensioning grids

Footswitch

AI 801-415



OTHERS

Ash PC Capture

AI 100-052

24" Monitor

AI 801-416

Hard Case

AI 801-561

Soft Case

AI 801-566



STANDS & STAGES

XY Stage

AI 100-010

Track Stand Vesa Flex
Cam

AI 100-028

Track Stand Vesa &
Vesa Short Flex Cam

AI 100-019

Track Stand Vesa Short

AI 100-020

XY Stage for Uplight

AI 100-011

Uplight Track Stand
Vesa & Vesa Short
Flex Cam

AI 350-322

Vesa Mounting Arm

AI 350-322

Oblique Tilting Stage

AI 801-414

Height Adjustable
Stage

AI 801-413

XY Stage Large

AI 100-057

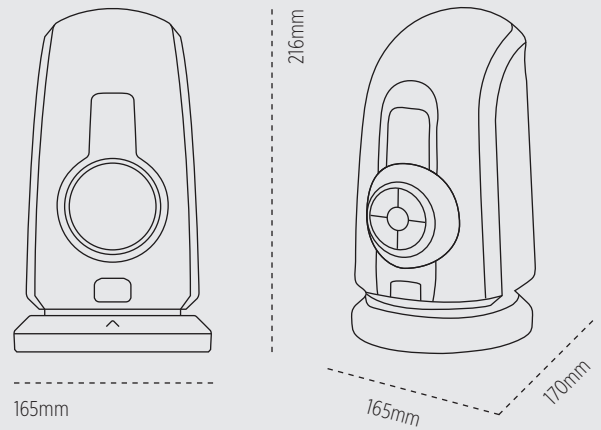
No stand or stage needed for inspex table

OMNI

Advanced Digital Microscope and Measurement System

INSPEX II

Digital Microscope System

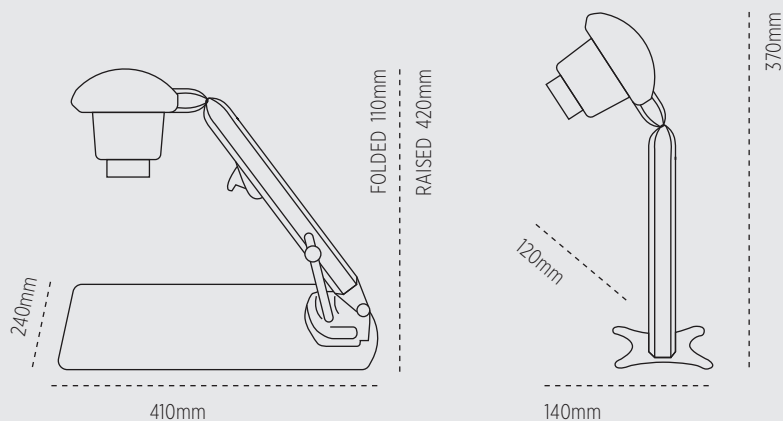


Magnification

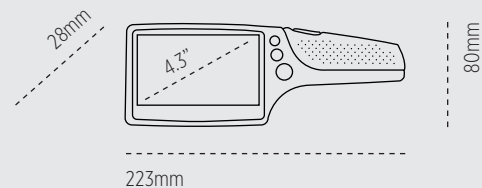
	Lens Type	5	10	10 Plan 1x	25
Optical	Magnification Range (X)	2.2 - 65	10.2 - 126	4.3 - 131.0	171.6 - 331.0
	X-axis FOV (mm)	245.0 - 8.2	52.0 - 4.2	123.0 - 4.0	3.08 - 1.6
	Y-axis FOV (mm)	139.0 - 4.6	29.5 - 2.4	71.0 - 2.2	1.7 - 0.9
Digital	Magnification Range (X)	66d - 131.7d	127d - 254d	132.0d - 263.9d	332d - 662.4d
	X-axis FOV (mm)	8.2 - 4.02	4.2 - 2.08	4.0 - 2.0	1.6 - 0.8
	Y-axis FOV (mm)	4.6 - 2.2	2.4 - 1.18	2.2 - 1.1	0.9 - 0.45
	Working Distance (mm)	200	100	76	35

Technical Specifications

	OMNI	INSPEX II
Zoom Range (with supplied +5 Lens)	2.2 - 131.7x	2.2 - 131.7x
Camera Resolution	1920 x 1080 pixels	1920 x 1080 pixels
Monitor Connections	HDMI / DVI	HDMI / DVI
Monitor Requirements	HD Ready / Full HD (Recommended)	HD Ready / Full HD (Recommended)
Input / Output	HDMI Output USB 2.0 (x4 Ports) Mini USB Port General Purpose IO (x3 Ports) DC Power Jack 24V RJ45 Ethernet Connector (Networking)	HDMI Output USB 2.0 (x4 Ports) Mini USB Port General Purpose IO (x3 Ports) DC Power Jack 24V
Internal Storage	16GB	16GB
Image Capture	Internal Storage Removable USB Image Storage USB on the Go (PC Connectivity)	Internal Storage Removable USB Image Storage USB on the Go (PC Connectivity)
Power	24W	24W
Dimensions	216mm x 165mm x 170mm	216mm x 165mm x 170mm
Weight	1.75kg	1.75kg
Operating Temperature	Storage -10°C to +60°C Operating +5°C to +40°C	Storage -10°C to +60°C Operating +5°C to +40°C



INSPEX HD Camera Inspection System



ION 4.3" Handheld Digital Microscope

Magnification

INSPEX HD 1080P

	2	3	4	5	10
Lens (Dioptre) (mm)					
Max Height (mm)	500	333	250	200	100
Min Height	405	280	205	170	85
Minimum Magnification*	1.1	1.3	2	2.5	4
Maximum Magnification* Optical/Digital	29/57	36/71	50/98	62/122	121/237
Field of view at minimum mag. (mm)	X: 595 Y: 334	X: 400 Y: 225	X: 280 Y: 164	X: 231 Y: 136	X: 60 Y: 50
Field of view at maximum mag. (mm)	X: 20/10 Y: 11/5.5	X: 14/7 Y: 8/4	X: 10/5 Y: 6/3	X: 8/4 Y: 5/2	X: 5/2 Y: 3/1
Maximum depth of field	176	120	106	78	57
Minimum depth of field	5	4	1	.50	.20

Specifications obtained using a 24" Monitor. * Depth of field measured with optimal image settings.

Technical Specifications

	Vesa	Table
Zoom Range (with supplied Lens)	5D Lens – 2.5x - 122x	4D lens – 2x - 98x
Camera Resolution	HD 1080p, 1920 x 1080 at 50/60 Hz	
Monitor Connections	HDMI / DVI	
Monitor Requirements	HD Ready / Full HD (Recommended)	
Power	8 Watts	
Dimensions	370mm x 120mm x 140mm	Table 240mm x 410mm Folded Height 110mm, Raised Height 420mm
Weight	1.2kg	2.5kg
Operating Temperature	Storage -10°C to +60°C Operating +5°C to +40°C	
Image capture	USB 2.0 highspeed	

Magnification

ION 4.3"

	Near	FOV	Far	FOV
Optical	x7	13.5 x7.7mm	x4	20.8 x11.8mm
Digital	x9	10.4 x6.3mm	x5	16.1 x9.6mm
Digital	x14	6.4 x3.7mm	x8	9.9 x5.6mm

The Ion has two optical focus positions, near and far. Each focus position has three different magnification positions.

Technical Specifications

	Ion 4.3 FI 800-102
Screen size and resolution	4.3" diagonal TFT display, 480x272
Magnification	Far focus: 4x-8x & Near focus: 7x-14x
Image storage mode	100 images in 480 x 272 pixels, 24-bit bitmap format transferable to PC via USB link
Depth of field	3.5cm in overview, 1.5cm close
Dimensioning cursors/grids	Yes
Sensor	3MP CMOS, RGB565 video at 30fps
Battery – Lithium Ion	Up to 5 hours, charge time 4 hours
Connection cable	Micro USB cable
Charger supply	100V – 240Vac 50/60Hz with supplied adaptor
Unit supply voltage	5V dc, micro-USB connector
Weight	225 grams

www.ash-vision.com



At Ash we design, develop and manufacture all our user centric solutions in-house and are proud of our award winning innovation process. We use creative Design Thinking to actively empathise with our customers to understand their real unmet needs and jobs to be done. We seek meaningful engagement and co-creation with our end users so we can develop the best possible solutions and services in the quality assurance industry resulting in cost savings, increased workflow efficiency, waste reduction and an overall improved quality process.

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