

Optical Production Control **FIELD GUIDE**

How to keep your optical manufacturing,
assembly and testing running smoothly

Or

8 Reasons your interferometer might
need an upgrade

8 reasons your interferometer might need an upgrade

1. The Operating System (OS) is pre-Windows 7

An obsolete OS is a risk to the company and a hidden drain on time and money.

Security is at risk for old operating systems (OS) and IT departments hate them. To minimize the risk IT will isolate the computer from the network to prevent viruses from entering the company intranet.

When isolated, file and data sharing is difficult and efficiency deteriorates. Transferring data via USB memory is a security risk. If a virus enters the company's computers the entire operation can stop.

Hardware drivers, the software that controls your interferometer, are not supported on an old OS. As components fail, or a driver corrupts, the interferometer dies and hours can be spent cloning drives and rebuilding the software system.

The risk is not just to the interferometer operation; the company is also at risk.

Is your OS version earlier than Windows 7? Yes No



2. The Operating System (OS) is not 64-bit

An interferometer with a 32-bit OS is not supportable

Obsolete 32-bit operating systems can be unstable with large data sets, plus 32-bit is losing support by hardware developers.

A 32-bit OS can access only 4GB of memory. In practice these 4GB's degrade to 2GB as the video card and other devices share this limited memory. The 32-bit limitation is clear with megapixel cameras that can crash the computer; your interferometer is unstable and not supportable long term.

A 64-bit system can access 17.2 BILLION gigabytes of data - no problem.

Is your Interferometer OS version 32-bit? Yes No



8 reasons your interferometer might need an upgrade

3. The Computer or Electronics are > 6 years old

Half of all computer drives are dead at 6 years!

At 10 years 95% are dead. If an interferometer has a 10-year-old disk drive the chances are it will die in the next year. Motherboards die after 5 years and cameras have half-lives of 5 years.

Add to these software drivers that for old hardware is typically not available after 5 years and thus not only has the computer failed, the interferometer is difficult to revive.

Eventually the time to repair that leads to lost production, and cost to find replacement parts or pay for service becomes a financial and time burden. A planned upgrade avoids these issues.

Are your computer or electronics >6 years old? Yes No



76%

Percent interferometers with >6 year old electronics

4. Camera Resolution is < 1-megapixel

Finer detailed images see more detail for better focusing and more repeatable results

Your customers have 1-megapixel interferometers, to correlate you must match or your lower resolution data will miss surface structure they see. You can always filter, but you cannot produce data that you missed due to inferior camera resolution.

Zoomed system interferometers support up to 1-MegaPixel imaging. With a 1-MegaPixel camera your interferometers will be operating to their theoretical best imaging performance.

Do you have a megapixel camera in your system? Yes No



90%

Percent interferometers without megapixel cameras

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5. Active Components are Intermittently Failing

The focus, zoom or alignment might not always work, the diffuser disk runs rough or not at all. The interferometer is breaking down.

Parts fail slowly and we become accustom to tweaking the controls just right. These annoyances are time wasters and opportunities for errors. Why accept time wasting annoyance failures?

Have components failed or are intermittent? Yes No



20%

Percent interferometers with failing components

6. Heavy Cables are Degrading Performance

It's just the way it is...right?

Heavy cables need to be "managed" so vibrations are not transmitted to the interferometer ruining your data. Even some "upgrades" add more boxes and heavier cables.

An upgrade can simplify the electronics so only two thin USB cables, plus power gently connect your upgraded interferometer to the computer. Simple for higher performance.

Does your interferometer have heavy cable connections? Yes No



90%

Percent interferometers with vibration inducing cables

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7. You Need Traceable Metrology

The focus, zoom or alignment might not always work, the diffuser disk runs rough or not at all. The interferometer is breaking down

Controlling your processes means knowing how you produced your measurements today and months from now. When data is save you need to preserve what was filtered, masked and adjusted, it must be traceable.

Modern software results are traceable. Classic software can simply save the final results and not how you got there, with Classic software it can be just numbers, not metrology.

An upgrade can provide true metrology

Does saved data trace how you created it? Yes No



8. Screen Grab Reports are No Longer Sufficient

You need to communicate results to your customer, how you report these results is important for customer satisfaction

Reports show you met your customer's specification. Not all customers' want the same data, not all operators know what any customer wants. Screen grabs are inconsistent, time consuming and not customer specific.

Modern software provides standard and customizable reports. From an easy to develop library of reports, each technician produces the specific report by customer and/or by job for clearer communication, less misunderstandings and higher customer satisfaction.

Would actual reports improve customer satisfaction? __Yes __No



Next Steps

If you answered YES to any of the questions contact us to learn how an upgraded interferometer can cost effectively keep production running without interruption.

If your production process requirements now exceed what your present interferometer provides, please contact us to discuss the options available.



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