



NIKON METROLOGY | VISION BEYOND PRECISION



# WELCOME!

Introducing InSight L100

Alex Lucas,

Sales Development Manager

# Today's Agenda



## Benefits of Laser Scanning

## Nikon Metrology's CMM Scanning Portfolio

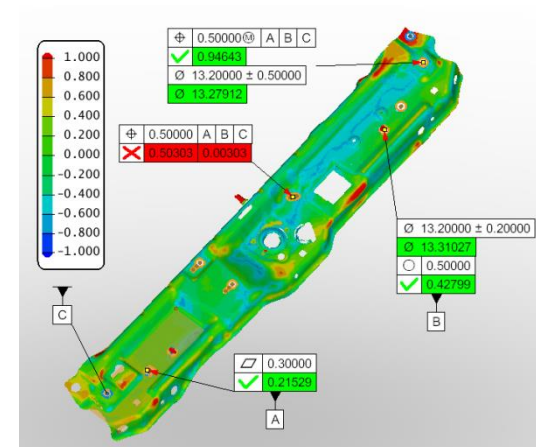
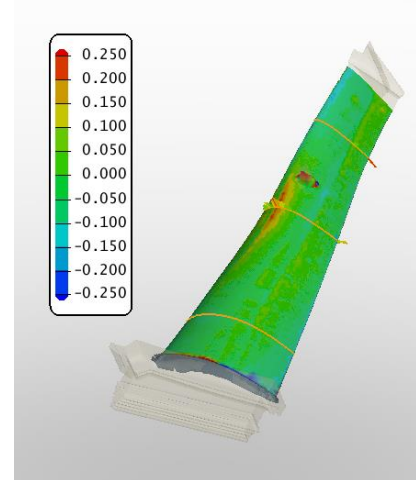
## The All New InSight L100

## L100 in Action – Turbine Blade Demonstration

## Laser Scanning Accuracy

## L100 in Action – Sheet Metal Demonstration

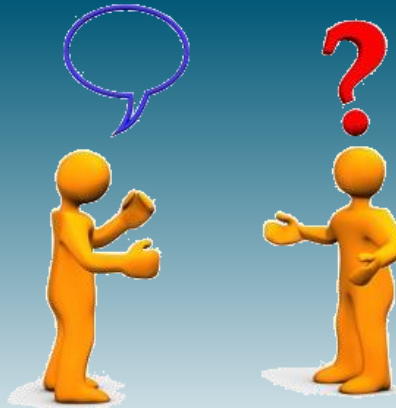
## Questions & Answers



# Benefits of Laser scanning



Better **insights** in deviations earlier



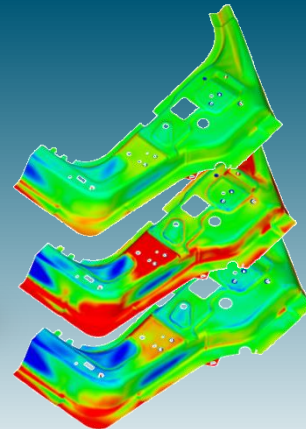
Facilitate **communication** with other parties



Increase inspection **productivity**



**Reduce** expenses



**Redo** any **analysis** at any time



Correctly measure **soft** and **fragile** components



## InSight L100

The latest generation of Nikon Metrology CMM Scanning technology and a direct replacement for older LC60Dx scanners. The L100 offers unparalleled productivity and accuracy for nearly any application



## LC15Dx

The only CMM laser scanner offering accuracy comparable to a touch-probe. Designed for small and detailed parts with tight tolerances.



## LC60Dx

The entry-level model in the LC line scanner range. Based on an older generation platform, the LC60Dx offers excellent performance on a variety of parts and materials but its productivity and accuracy lag



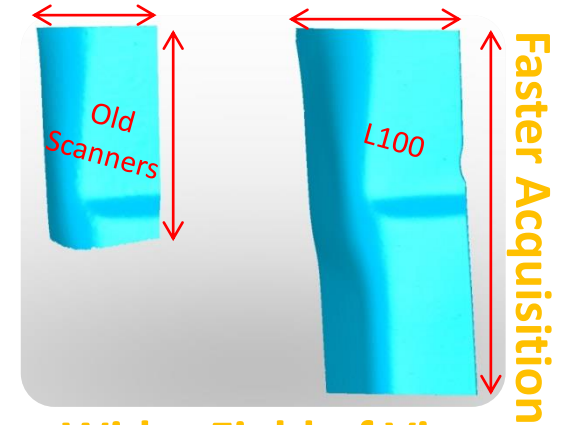
## XC65Dx & XC65Dx-LS

The ultimate scanner for feature inspection. The multi-laser line scanner captures features, edges and freeform surfaces in a single scan. The long stand-off version is optimized for deep pockets and hard-to-reach areas

# InSight L100 Key Features



## Built-in Rotation Adapter



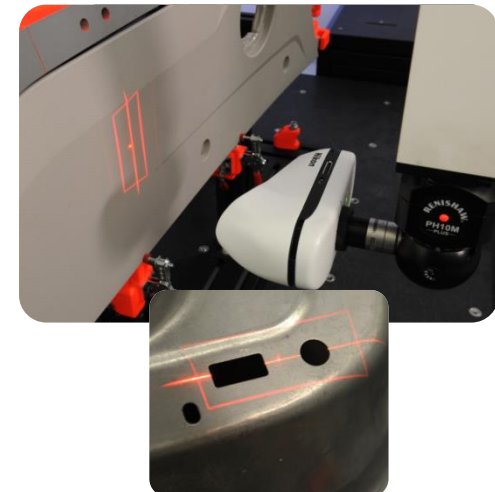
## Wider Field of View

## Better detail scanning

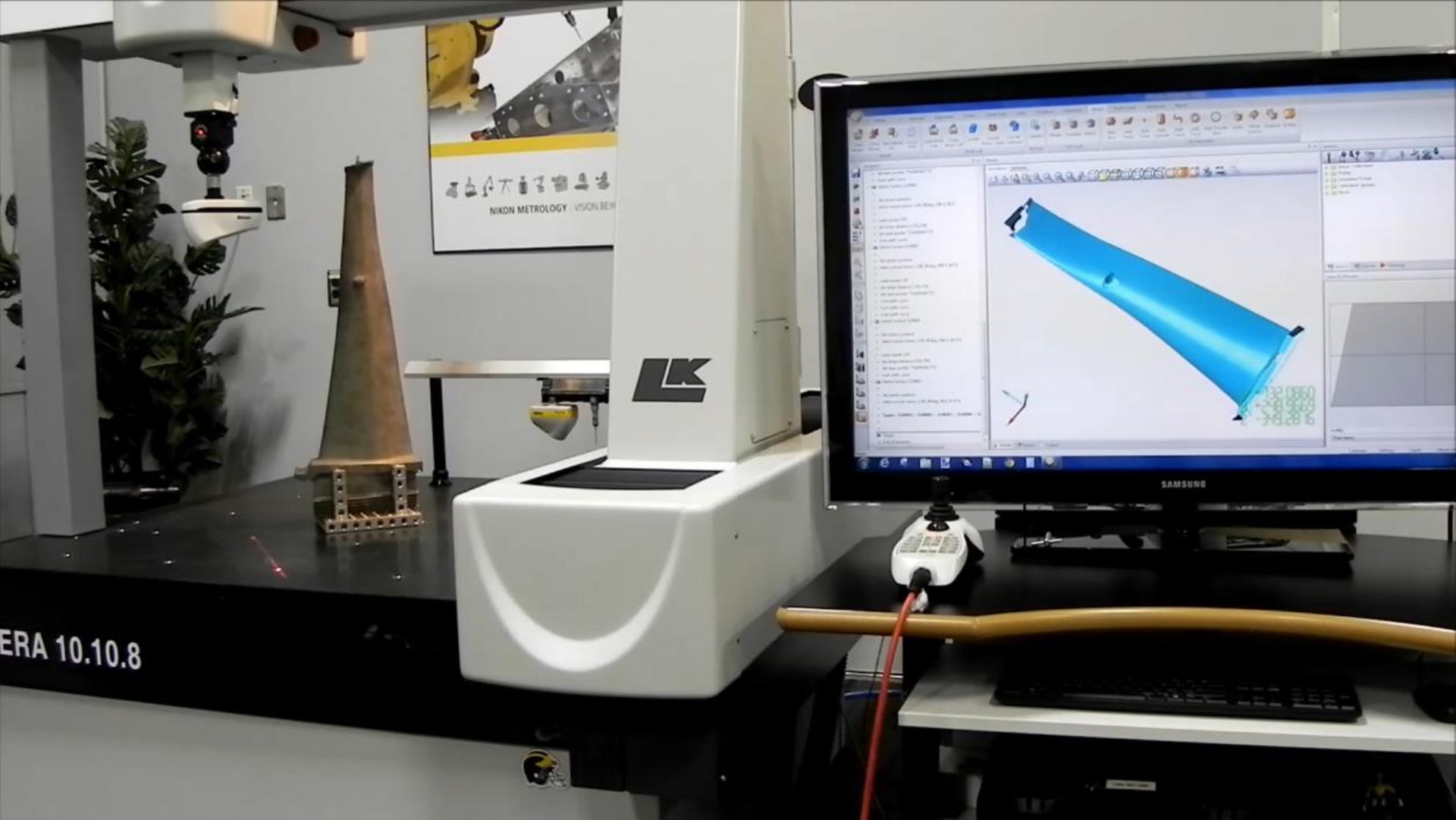


## High Quality Nikon Lens

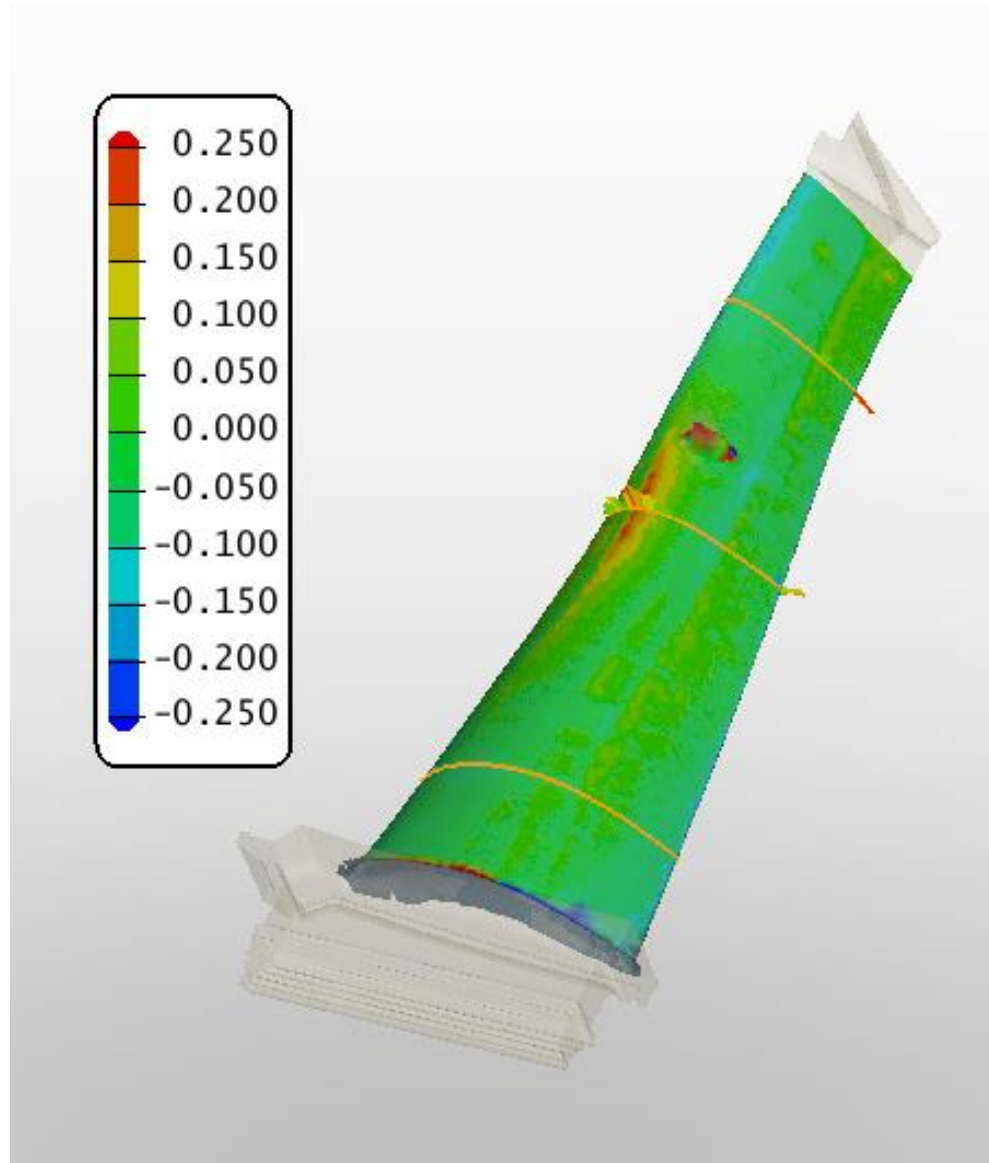
## Field of View Indicator



# L100 Demonstration – Turbine Blade Scanning



# L100 Demonstration – Turbine Blade Scanning



**Live  
Software  
Demonstration**

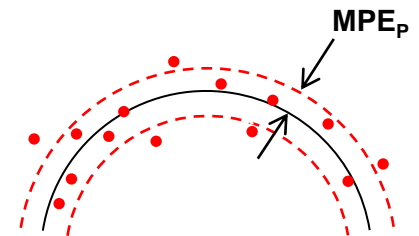
## What is Probing Error?

Probing error determines the level of uncertainty expected when measuring form using a single probe head position.



## How is Probing Error Calculated?

- Measure a ceramic sphere using a single probe head position.
- Use the point cloud data to fit a sphere.
- The single sigma value of the sphere fit is the probing error.



	L100	LC15Dx	LC60Dx	XC65Dx	XC65Dx-LS
MPE <sub>p</sub>	6.5	1.9	9.0	12.0	15.0

Values in  $\mu\text{m}$ , 1 sigma



## What is the Multi-Stylus Test?

The multi-stylus test determines the level of uncertainty expected when measuring location using multiple probe head positions.

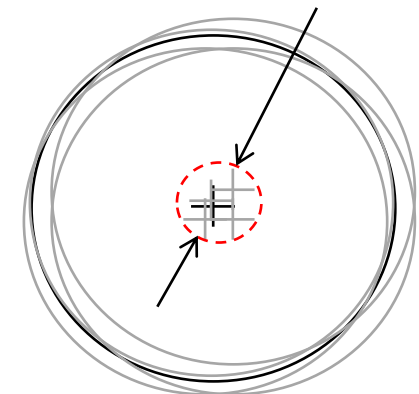
## How is the Multi-Stylus Test Performed?

- Measure the same ceramic sphere using five different probe head positions.
- The 3D deviation between all 5 sphere centers is the Multi-Stylus Error



$MPE_{AL}$

	L100	LC15Dx	LC60Dx	XC65Dx	XC65Dx-LS
$MPE_{al}$	6.0	3.9	9.0	12.0	15.0



# Access

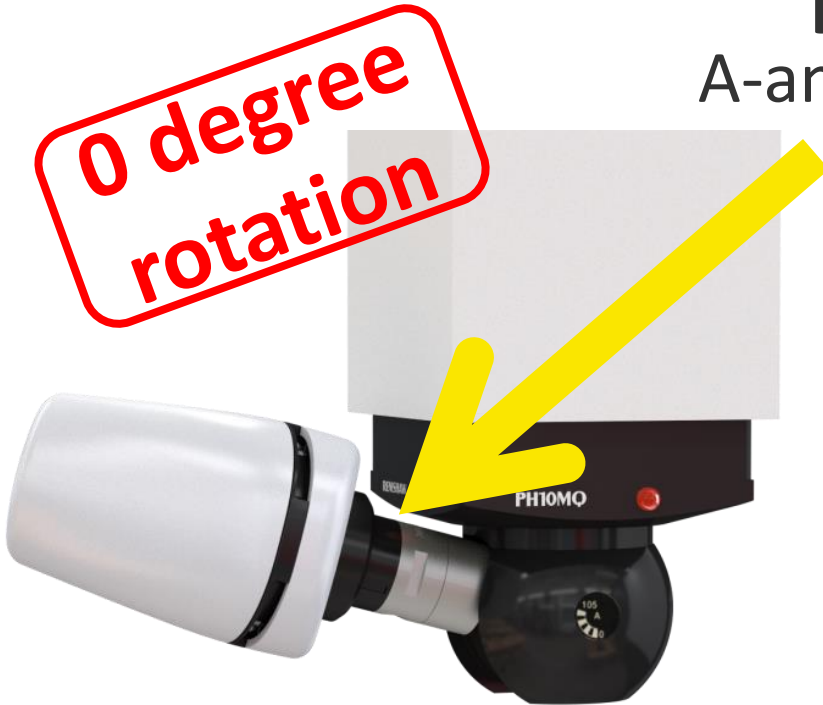


# L100 Demonstration – Sheet Metal Inspection



## PH10

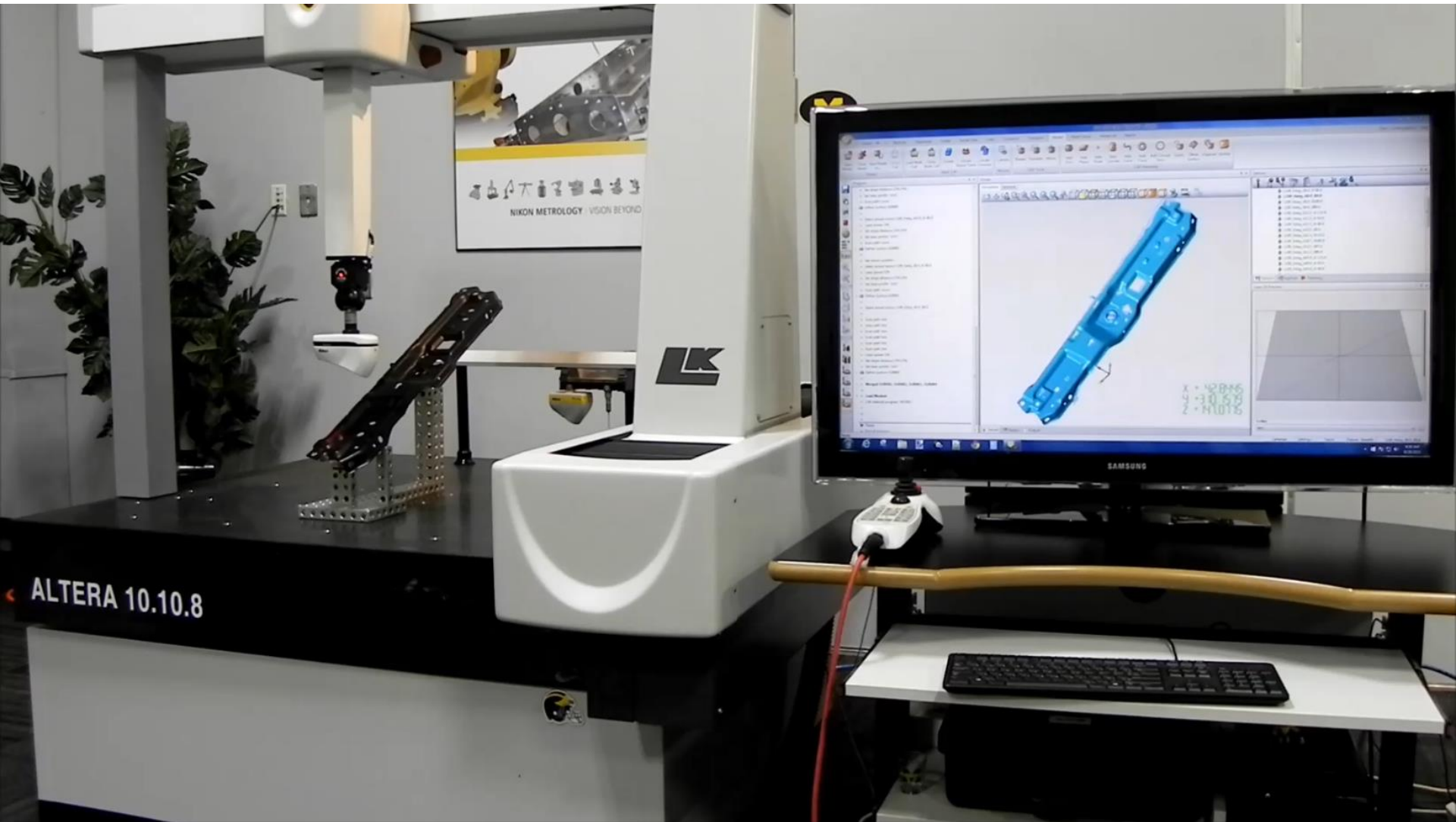
A-angle = 105°



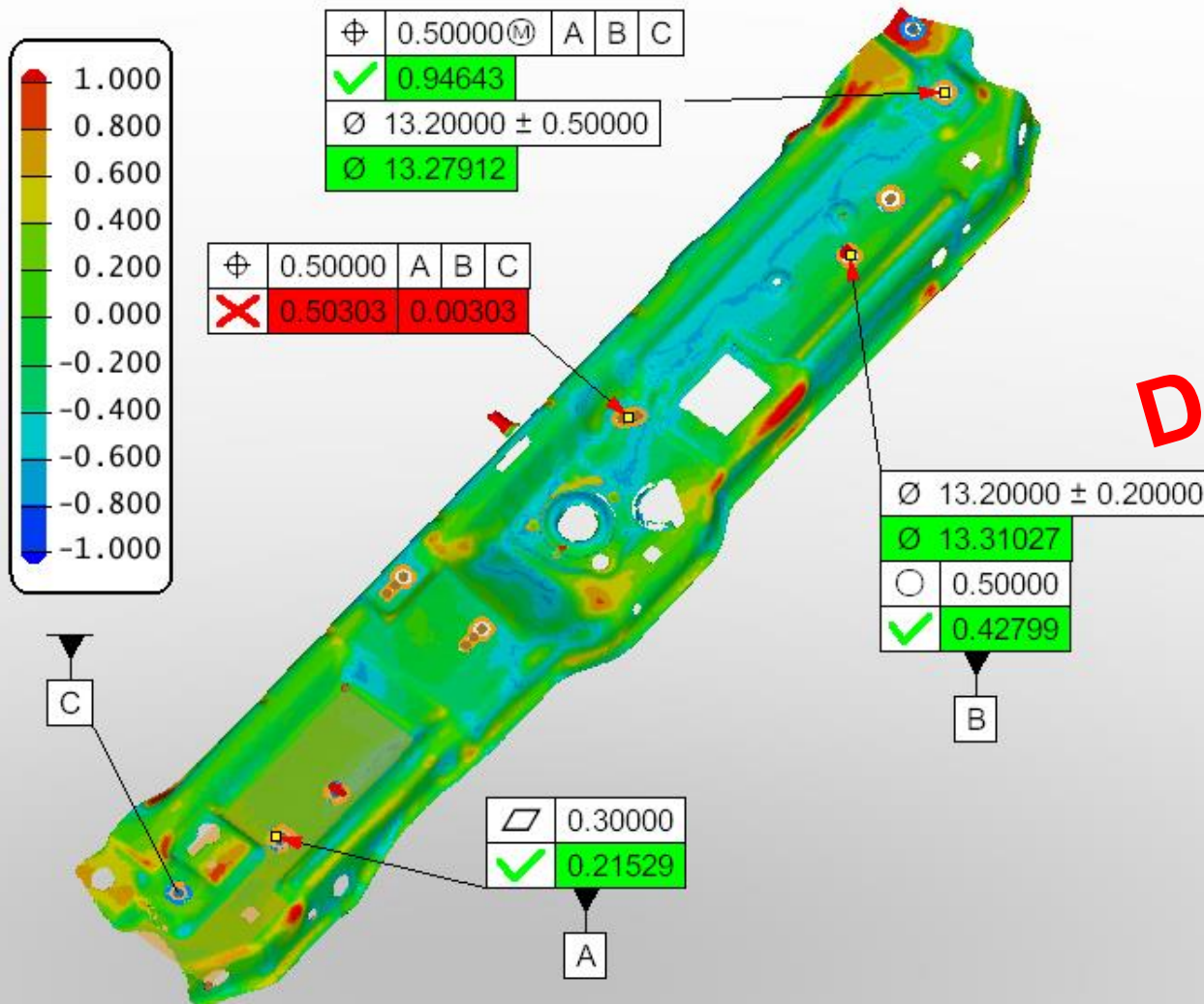
Great for scanning underneath parts

Ideal for scanning vertically oriented parts

# L100 Demonstration – Sheet Metal Inspection

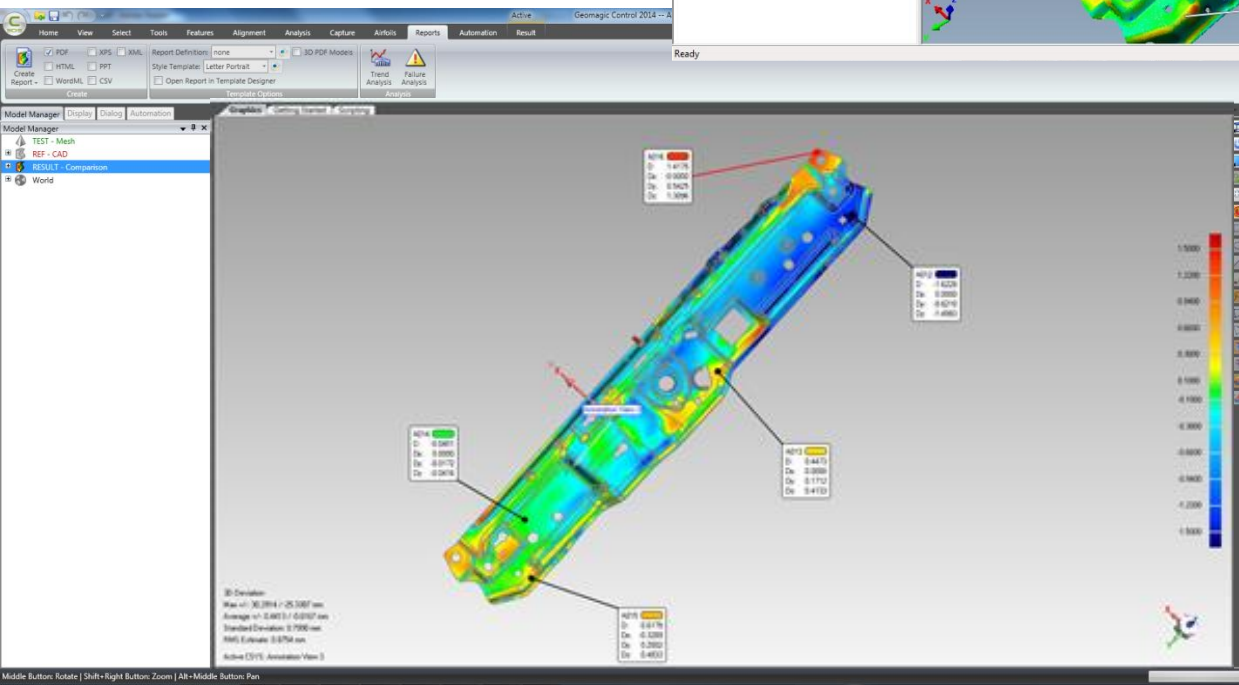
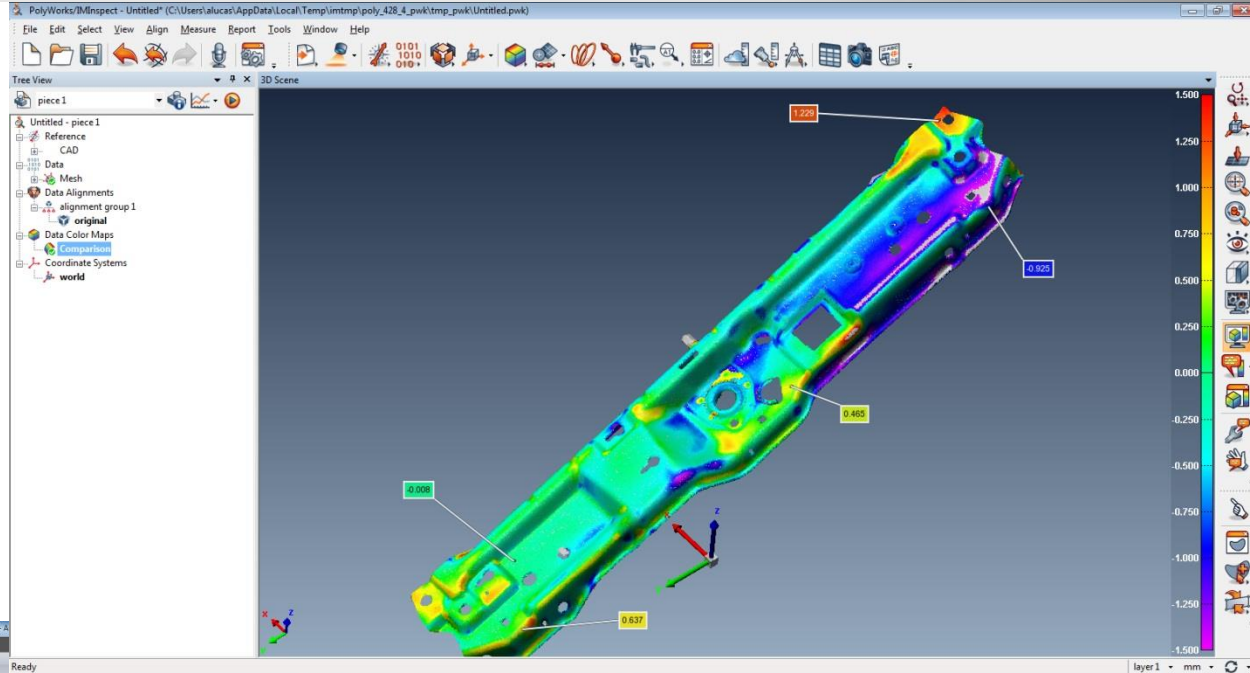


# L100 Demonstration – Sheet Metal Inspection



**Live  
Software  
Demonstration**

# Software Compatibility



Geomagic

# Control™

# InSight L100 In Summary



**Most productive laser line scanner ...**

**... without compromising on accuracy**

**Market leading material handling**

**Excellent part accessibility**

**Simple programming**





# Thank you for attending!

## Introducing the all new InSight L100

**Alex Lucas,**  
Sales Development Manager

Phone: 800-552-6684

Email: [sales.nm-us@nikon.com](mailto:sales.nm-us@nikon.com)

Web: [nikonmetrology.com](http://nikonmetrology.com)



NIKON METROLOGY | VISION BEYOND PRECISION