



Nikon Metrology group

Overview presentation

The Belgian C++ Users Group meeting

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Introducing Nikon



Founded in 1917
>24,000 employees worldwide
>7,6 billion Euro (group sales)



Nikon = Nippon Kogaku = Japan Optics
Optics is our core business, also for metrology



1925
Microscope



1939
Profile projector



1945
Camera division



1960
Measurement Microscope

Nikon Business divisions



④ Imaging Products

Digital/film cameras, lenses and accessories



⑥ Sport Optics

Binoculars, telescopes and laser rangefinders

⑦ Ophthalmic Lenses



⑤ Precision Equipment

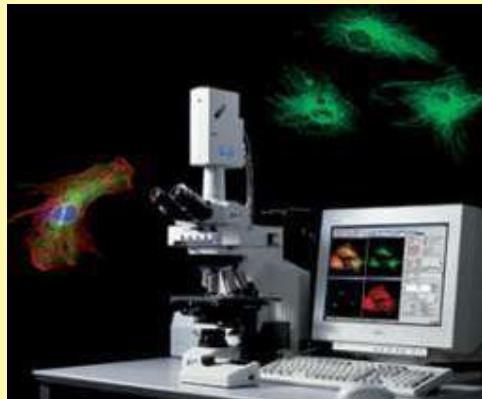
IC/LCD steppers and scanners



② Instruments Products

Microscopes and measuring instruments

Bioscience microscopy



Semiconductor inspection



Industrial microscope, 2D/3D measuring systems



Nikon Metrology

Nikon Metrology at a glance



HISTORY

- Original Nikon Metrology business was founded in 1995 and completed 16 acquisitions
- Acquired in July 2009 by Nikon

CORPORATE IDENTITY

- Improving customer's processes by innovative metrology solutions
- VISION BEYOND PRECISION

SOLUTIONS

- Total solution for dimensional quality control Solutions software, hardware and services
- Most complete product Solutions consisting of proprietary technologies

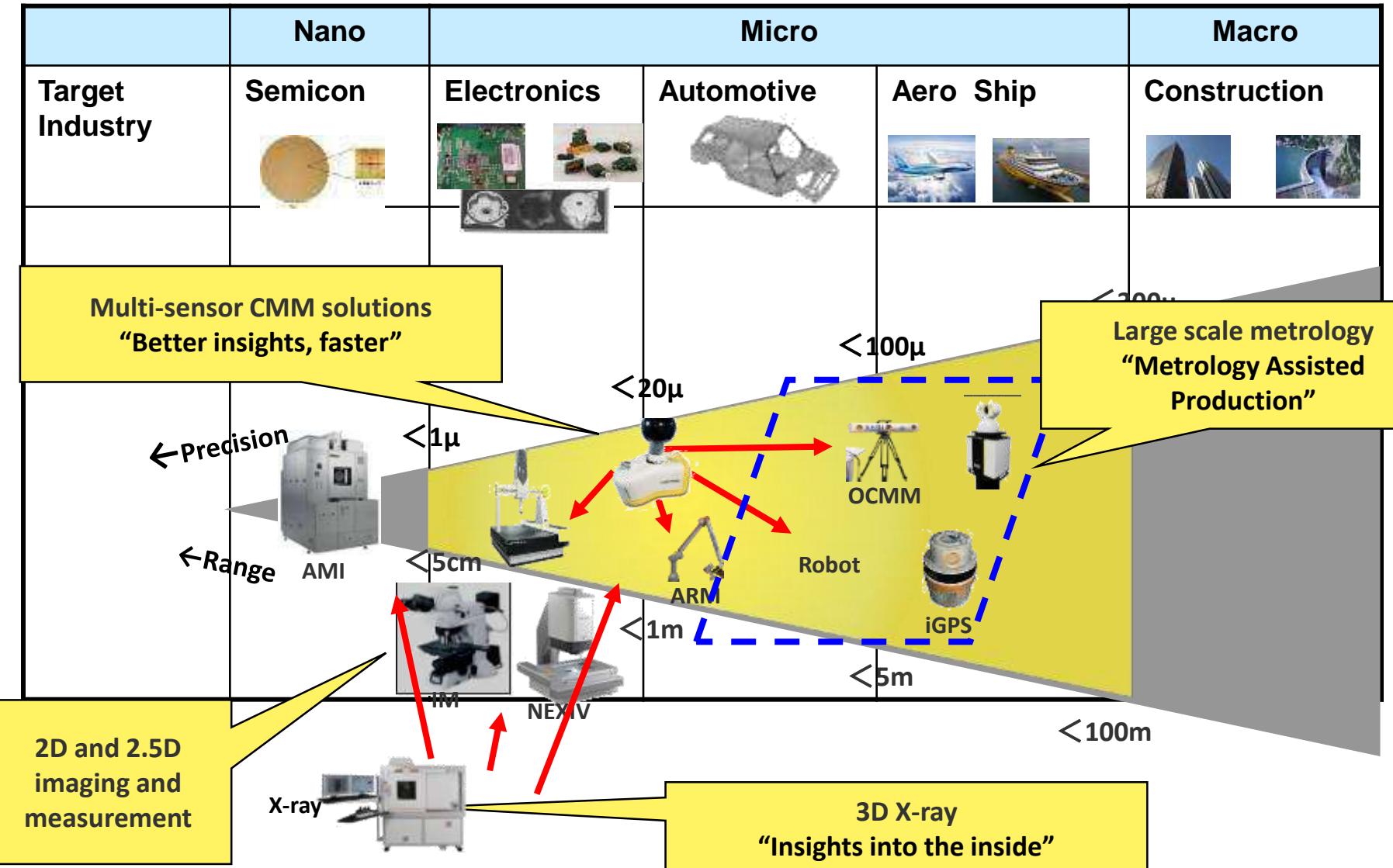
SERVICES

- Worldwide support & service network by Nikon Metrology offices & service centers

ORGANISATION

- NM Offices: Belgium (HQ), UK, France, Germany, US, Canada,
- About 550 employees
- Worldwide reseller network (Asia served via Nikon Instruments)

Nikon Metrology Business Domain & Strategy





**Multi-sensor CMM &
Laser scanning**



**X-ray &
Computed Tomography**



Large scale metrology

Measuring Solutions
Solutions customers
Better insights
Improved productivity
Higher quality
Ease-of-use



**Video measuring
& Microscopes**

Multi-sensor productivity

Coordinate Measuring Machines
Laser scanning
Metrology software





CMM based laser scanning
Better insights, earlier



50 years experience in building top-class CMMs

Complete Solutions of CMM



Premium range of ceramic CMMs

Complete range from small to

super-size

High performance

Top accuracy

Multi-sensor

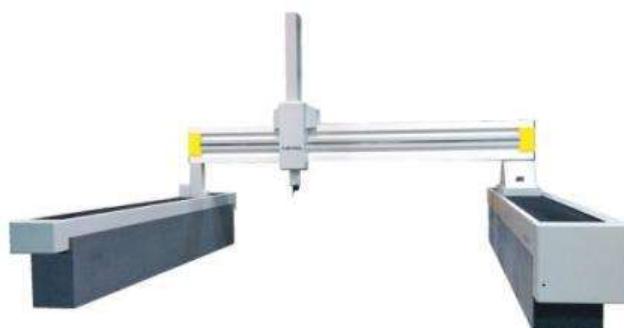
10 year original accuracy guarantee



ALTERA Bridge CMM



High precision bridge CMM



Gantry CMM



Horizontal arm CMM

Revolutionizing traditional CMM measurement & inspection

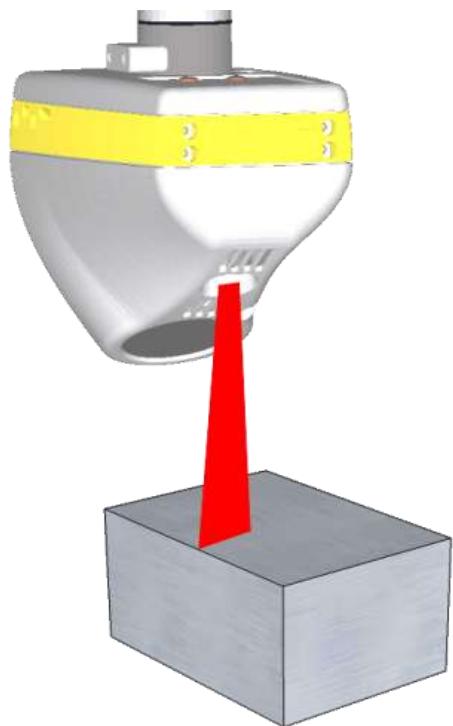
- Faster measurement
 - Easy programming of scan paths
 - Up to 75.000 points per second
- Top accuracy
 - Brings laser scanning in accuracy range of tactile measurement (2,5µm)
- More complete data = better insight
 - Full part measurement delivers full digital copy
 - Better definition of feature measurement
- Straightforward and repetitive analysis
 - Easy to interpret graphical reports
 - Digital copy remains available for further analysis



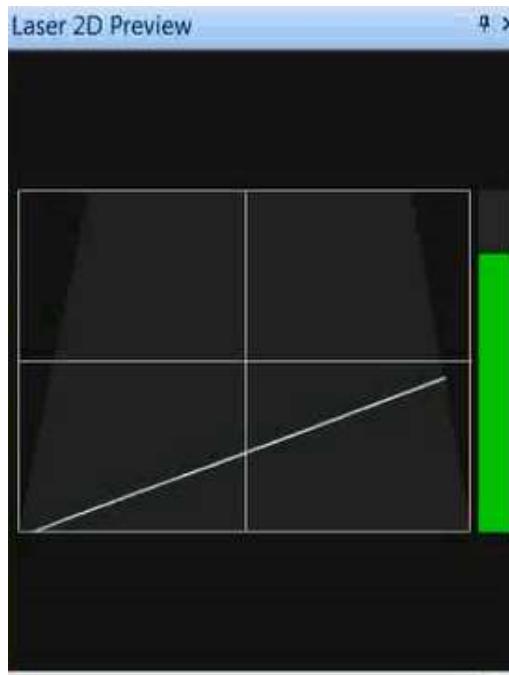
Broad range of applications

- Full part & feature inspection, Reverse Engineering
- Metal, composites, plastics, castings, milled parts,
- All industries where µ-dimensional verification is important (Automotive, Aviation, Energy, Electronics, Consumer, etc)

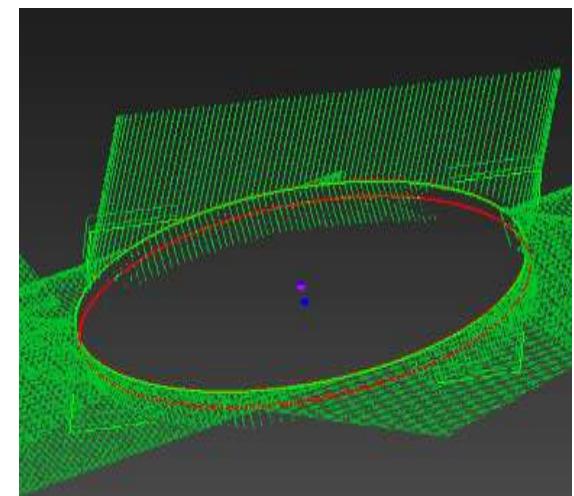
Laser stripe projection



2D Image of the laser stripe



Calculation of 3D points: Triangulation + calibration



A CMM scanner for every application



LC15Dx, high accuracy scanning

- Up to 2,5µm probing error accuracy
- High resolution for smaller objects

LC60Dx next-generation digital scanner

- High quality data collection on shiny and multi-material surfaces
- 75,000 points/sec data collection

LC50Cx entry-level digital scanner

- High quality data collection on shiny and multi-material surfaces
- 37.500 points/sec data collection

XC65Dx(-LS) Cross Scanner

- Inspection of sheet metal features with 3 laser modules in one camera
- Extra long stand-off distance



MULTI-SENSOR SOFTWARE

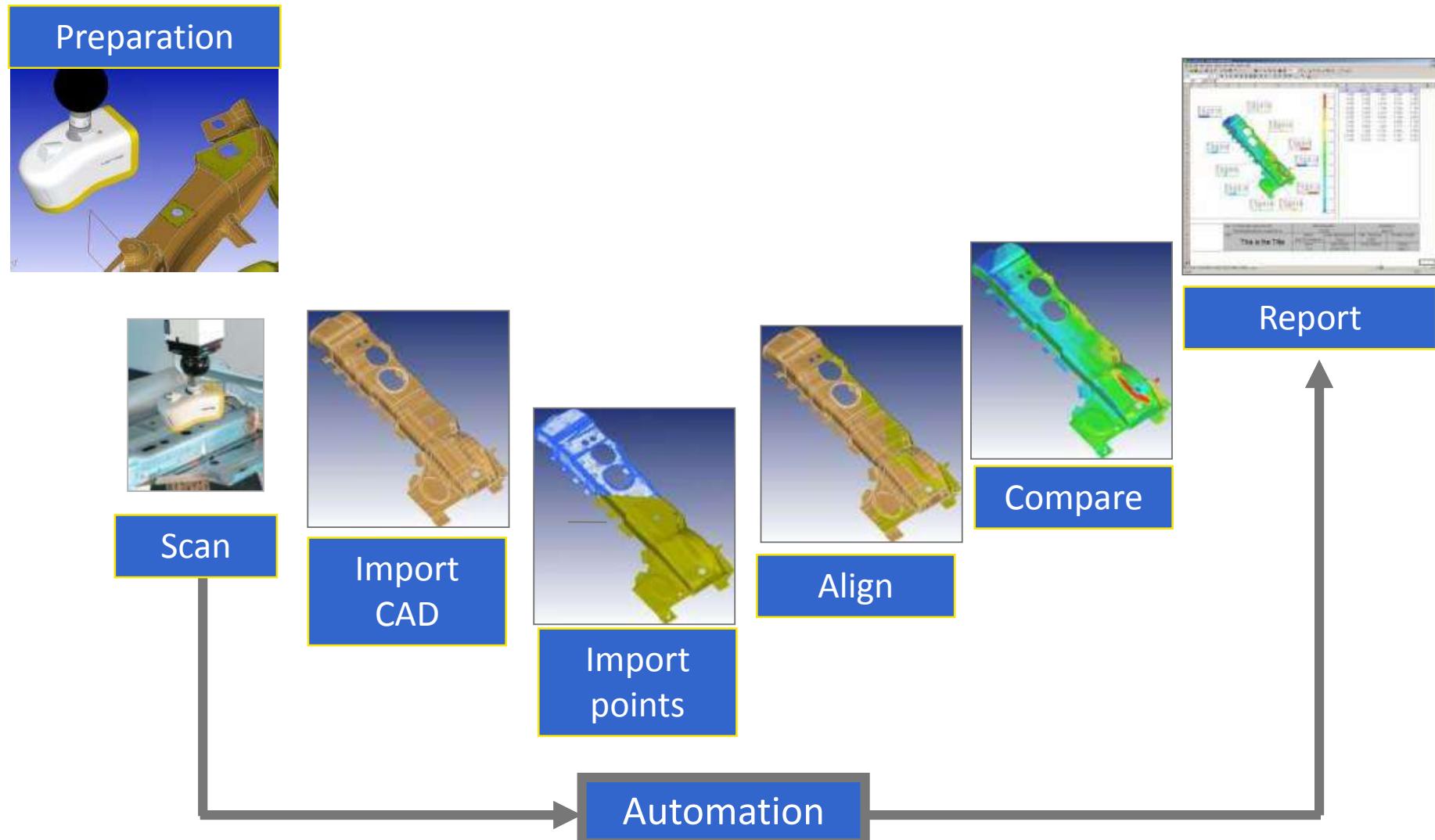
Laser scanning has never been faster





Focus: Inspection & Reporting

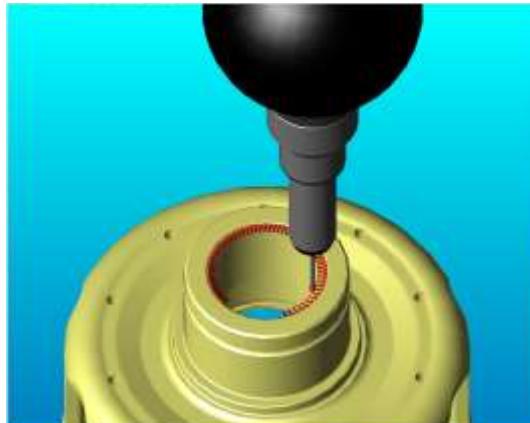
Basic Part-to-CAD Inspection Workflow



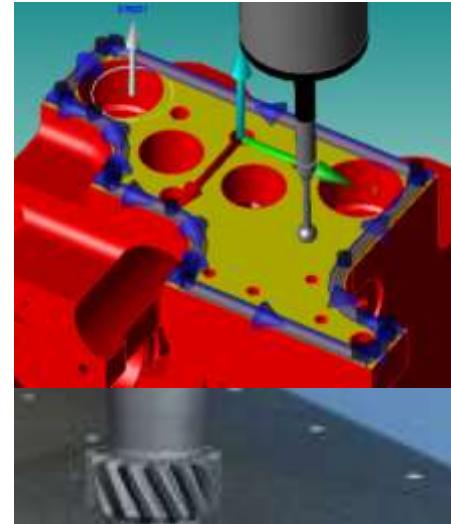
MULTI-SENSOR SOFTWARE

Perform measurements with different probes in the same software

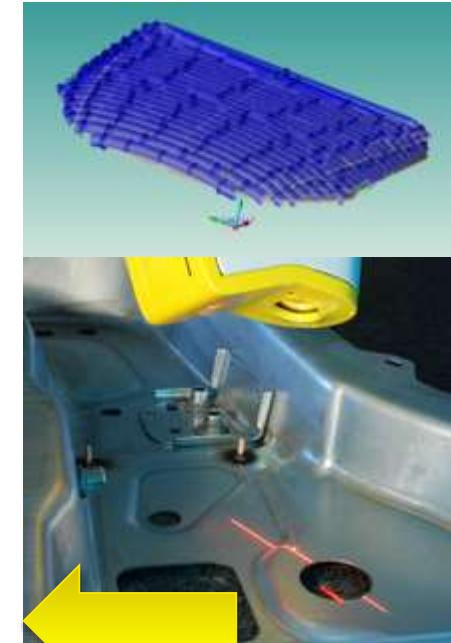
Touch trigger probe



Tactile scanning



Laser scanning



CAMIO

Thank you



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