

Prevent Alloy Mix-ups and Take Control of Your Supply Chain:

Handheld XRF For Fast, Easy
Alloy Identification and Chemistry



Agenda

- About Olympus
- What are material mixups and what are the consequences?
- What is X-Ray Fluorescence (XRF)?
- How XRF can help avoid mixups and improve quality control
- Improve QA/QC with Vanta handheld XRF

Medical



Consumer



Scientific Solutions

Ultrasonic Flaw Detectors



Eddy Current



Remote Visual Inspection



Microscopy



X-ray Fluorescence
X-ray Diffraction



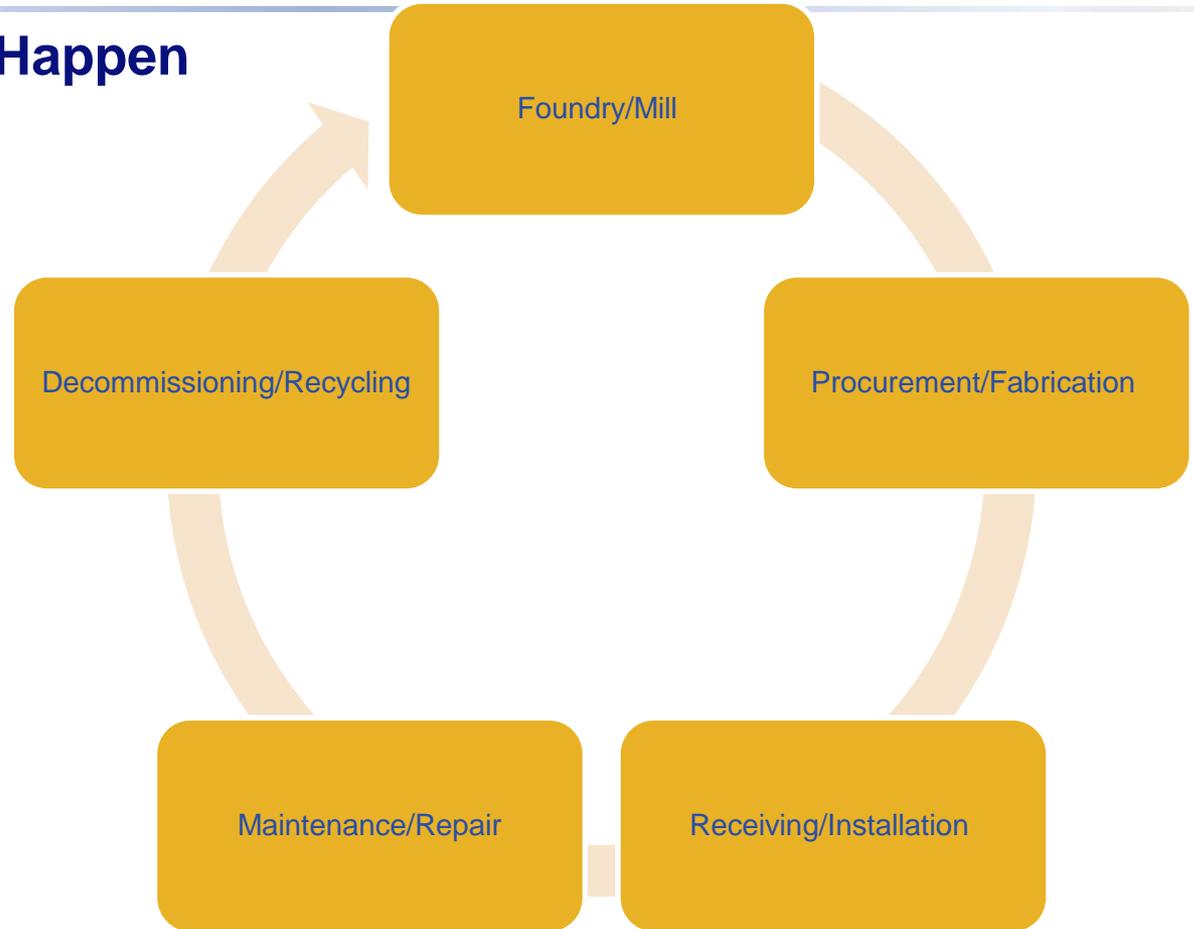
What are material mix-ups and consequences?

A mistake that results from taking one thing for another...

A wrong action attributed to bad judgement, ignorance or inattention...

Where Material Mixups Happen

**Trust,
but Verify
your MTRs**



What are material mix-ups and consequences?

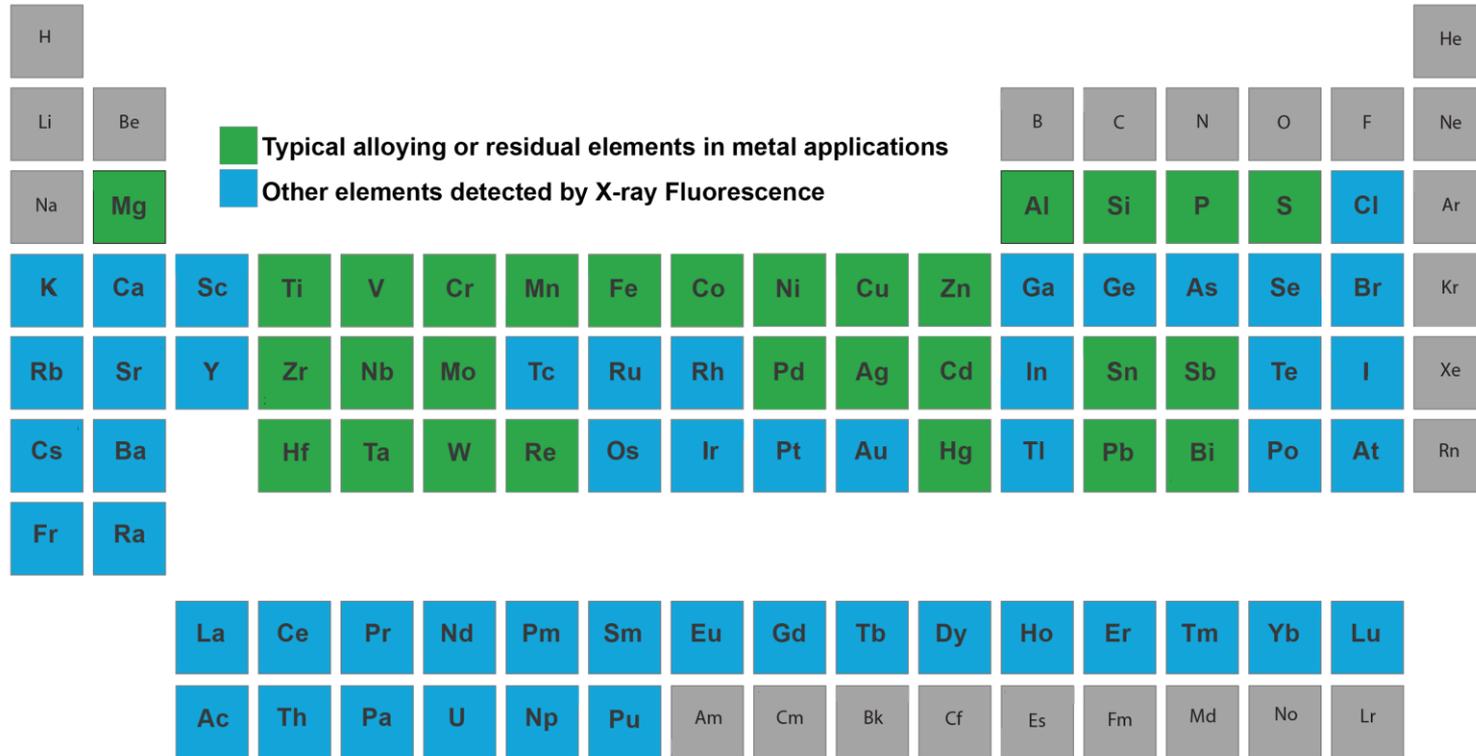
How Mixups Happen

- Improper labeling and documentation
- Materials not distinguishable or identifiable by human eye
- Improper storage or segregation of material
- Material's country of origin may have different standards than country of use

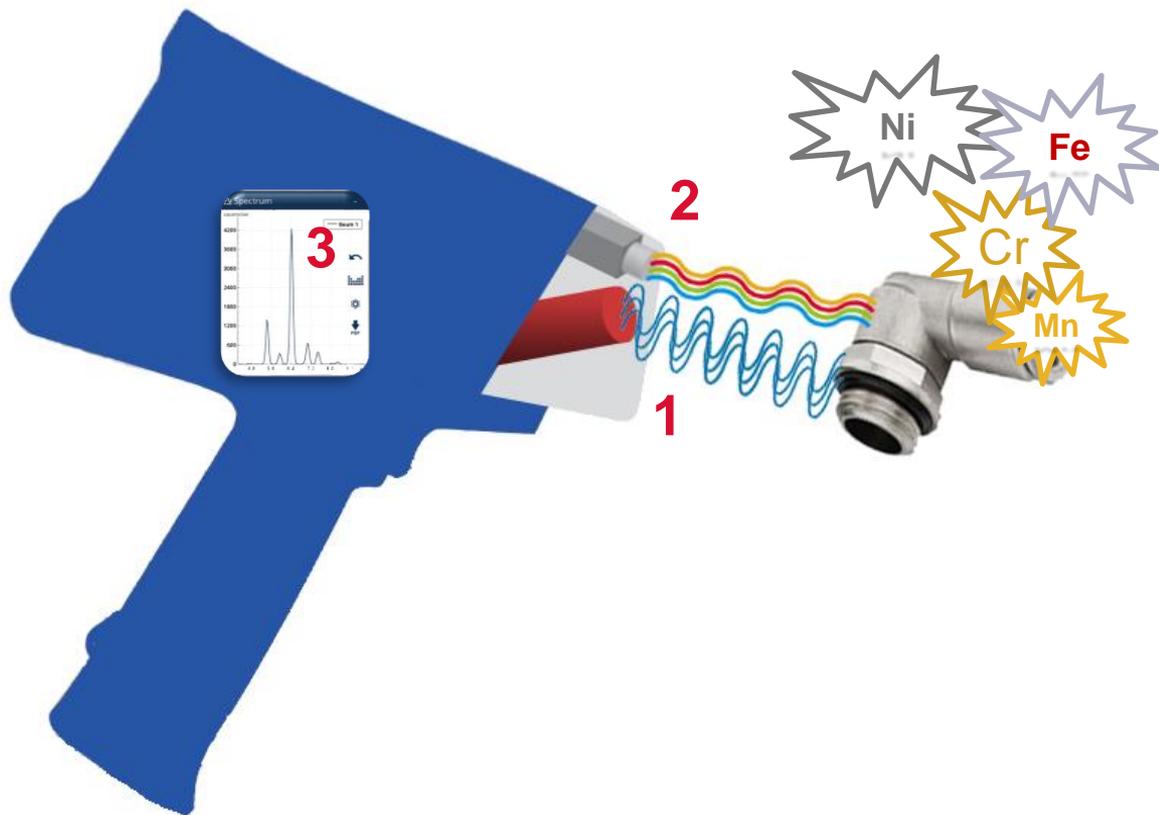
Consequences

- Corrosion occurring at an unexpected rate leading to component failure
- Unscheduled downtime, maintenance, production halt, shipment delay
- Legal action, regulatory fines
- Market reputation, negative publicity, loss of business
- Catastrophic event leading to fatalities

What Is X-Ray Fluorescence (XRF)?



How Does XRF Work?

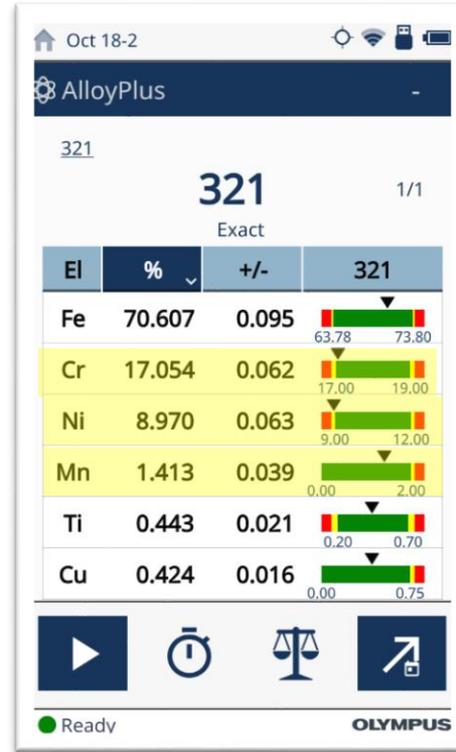


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How Does XRF Work? Alloy Grade Matching

COMPOSITION	(wt %)
Carbon	0.08 max.
Manganese	2.00 max.
Phosphorus	0.045 max.
Sulfur	0.030 max.
Silicon	0.75 max.
Chromium	17.00 – 19.00
Nickel	9.00 – 12.00
Titanium	5 x (C + N) min., 0.70 max.
Nitrogen	0.10 max.
Iron	Balance



How XRF Can Help Avoid Material Mix-ups

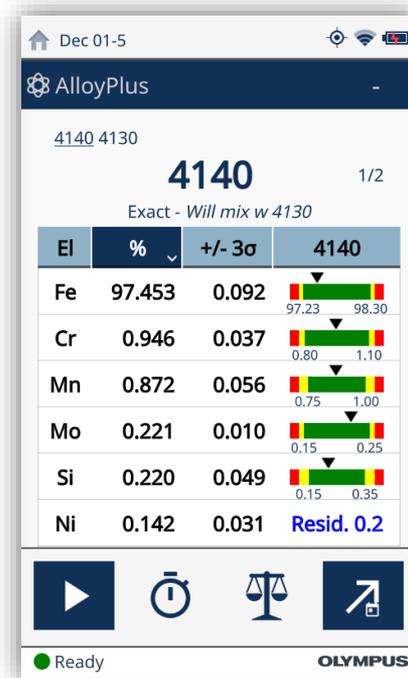
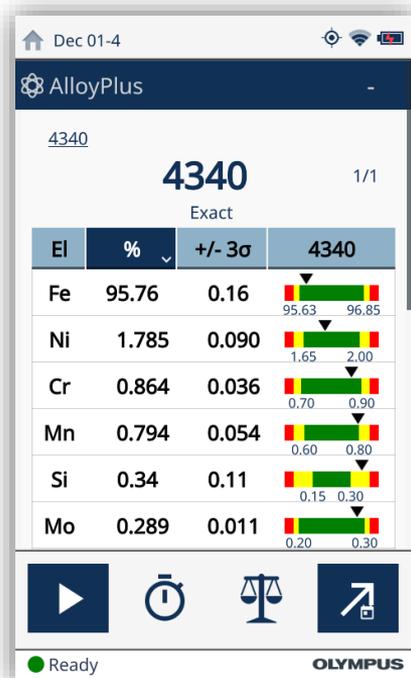
Automotive Quality Control Example

Low Alloy Steels for high-strength applications - crankshafts, gears, splines, axles



How Can XRF Help Avoid Material Mix-Ups

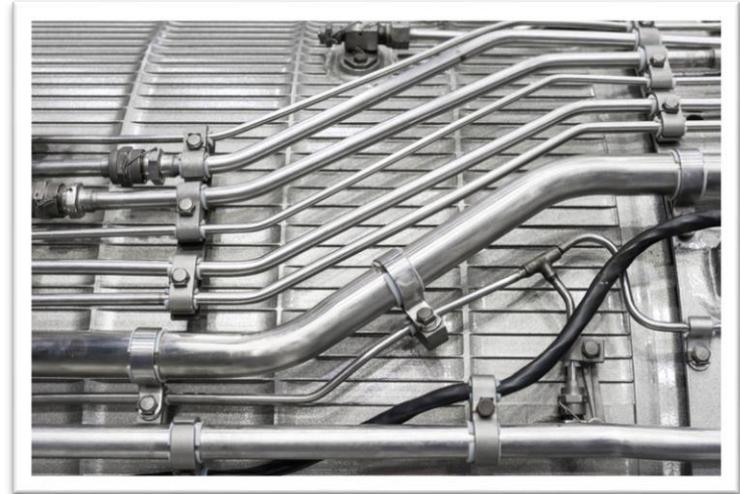
Automotive Quality Control - Low Alloy Steels



How XRF Can Help Avoid Material Mix-ups

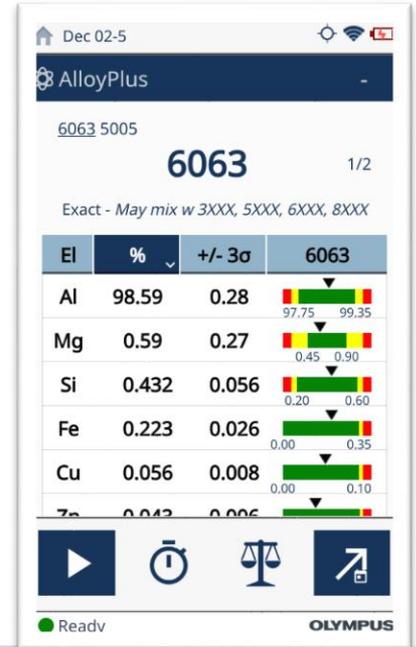
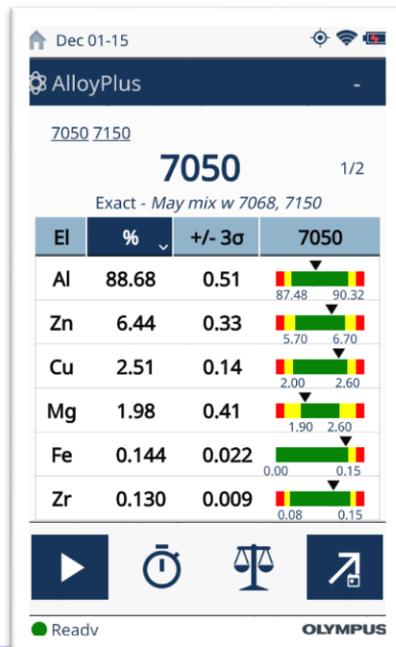
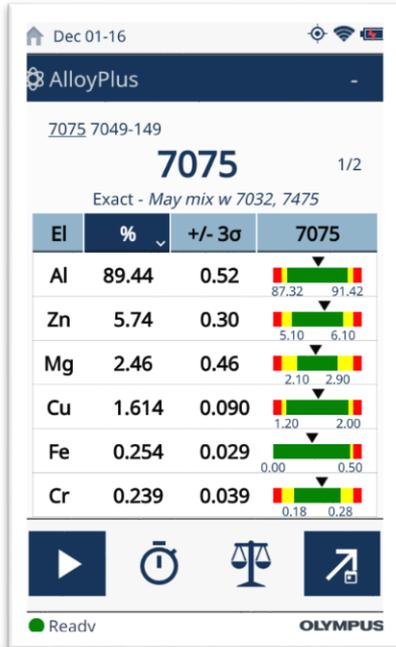
Aerospace and Aviation Example

Verification of Aluminum Grades



How Can XRF Help Avoid Material Mix-Ups

Aerospace and Aviation - Verification of Aluminum Grades



How XRF Can Help Avoid Material Mix-ups

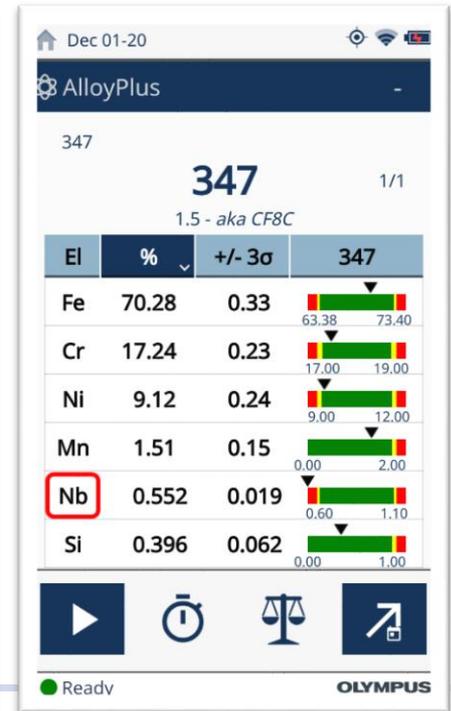
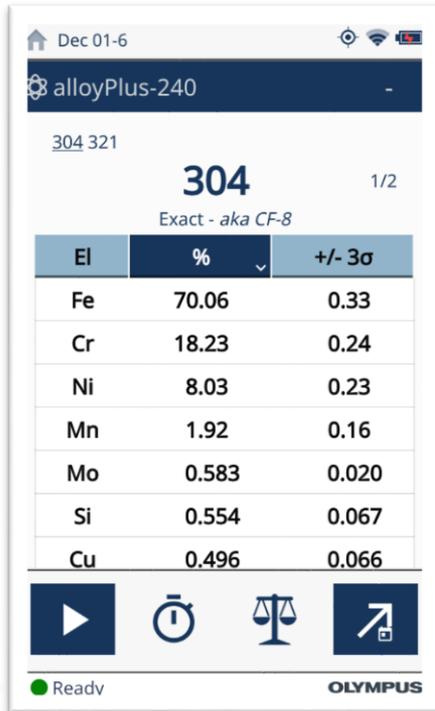
Refinery / Petrochemical Example

Positive Material Identification of Stainless Steels



How Can XRF Help Avoid Material Mix-Ups

Refinery / Petrochemical Example – Positive Material Identification of Stainless Steels



Why XRF is Beneficial & Critical to Quality Control

Make & Save More \$\$\$ Faster

- Allows Quick Decisions for Maximum Productivity and Yield
- Reduce Waste
- Reduce Unscheduled Maintenance, Production Halts, Delayed Shipments

Quality Assurance

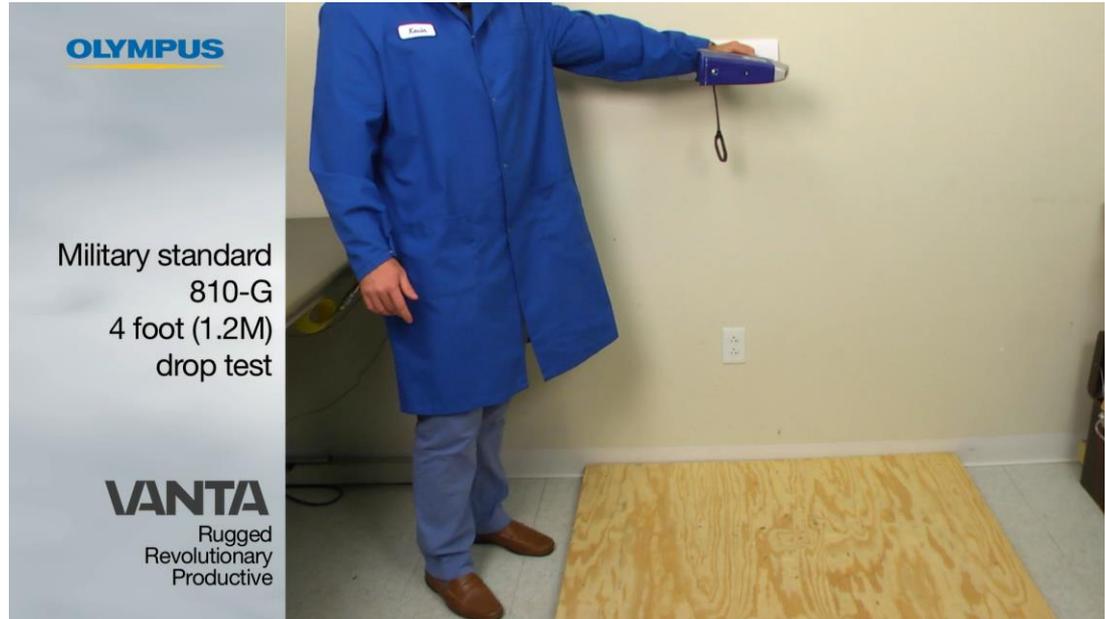
- Ensure Product Quality
- Ensure Product Reliability
- Verify Product Spec
- Ensure Product Safety
- Comply with regulatory and industry standards

Vanta Handheld XRF



Vanta Analyzers are Rugged

- **Drop tested** using U.S. Department of Defense methods (MIL-STD-810G)
- Reducing the risk of damage and costly repairs when a device is dropped or jostled
- A dropped instrument shouldn't halt your productivity



Vanta Analyzers are IP Rated

IP 64

- Dust Tight (highest rating)
- Water splashing from any direction
- Vanta M Series
- High End
- Thinner protection window

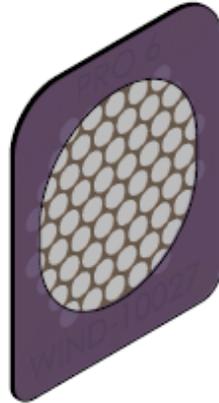


IP 65

- Dust Tight (highest rating)
- Water jets from any direction
- Vanta C series
- Mid range
- Kapton mesh window

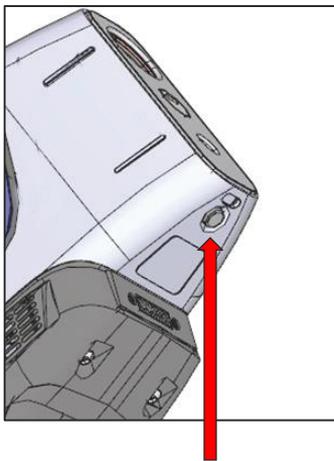
Dual Detector Protection

- Patented Eyelid Detector Shutter
- Kapton Mesh reinforced Prolene Window

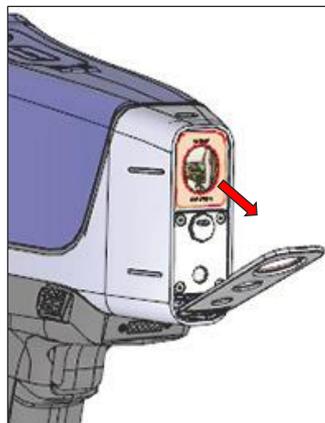


Easily change windows without any tools

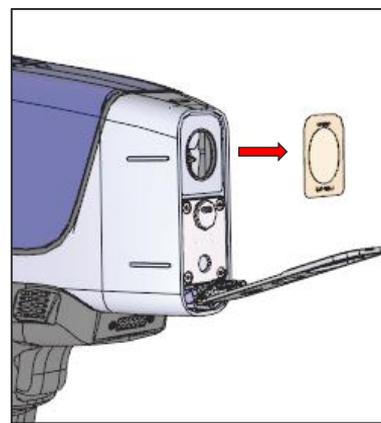
- Change windows without any tools
 - No screws to lose
 - No screwdriver to puncture detector



Press



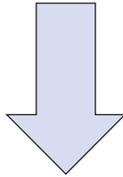
Swing Out



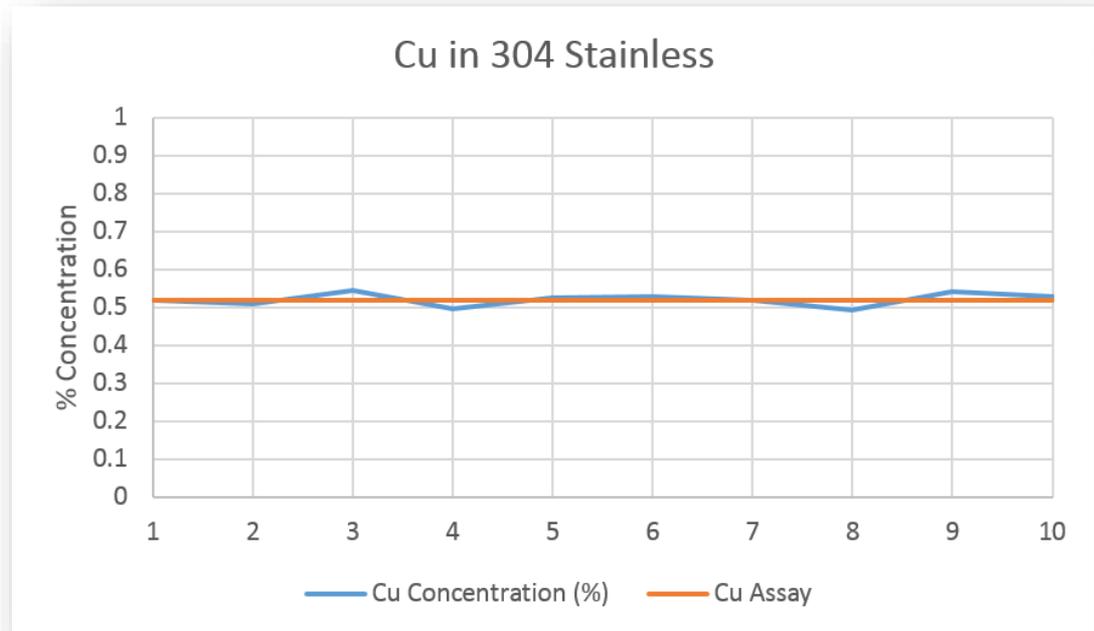
Replace

Vanta Axon™ Technology

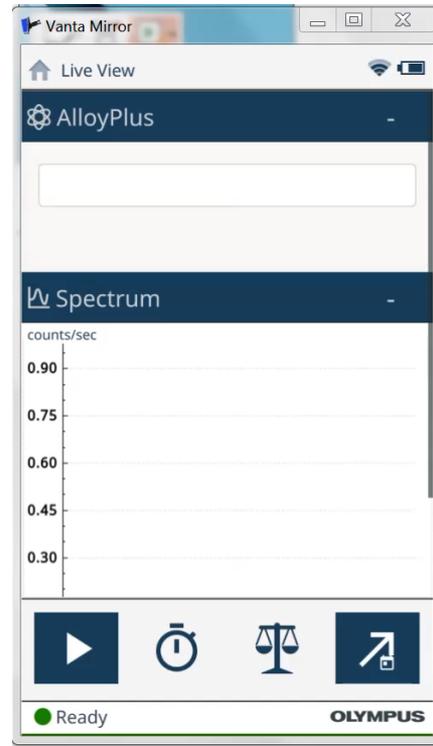
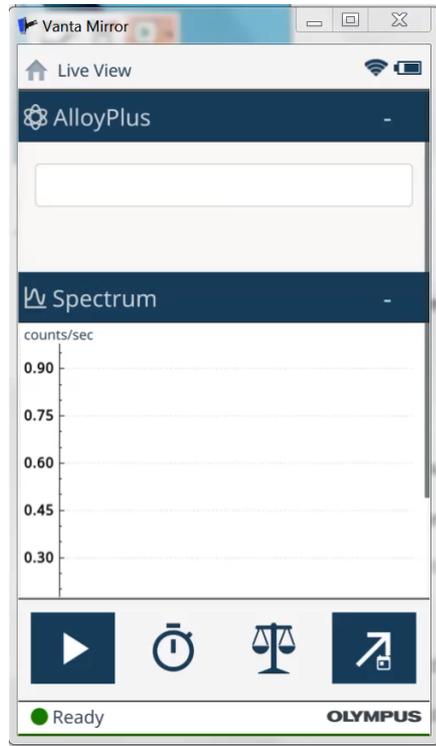
- **Faster** X-ray Counting
- **Better** Resolution



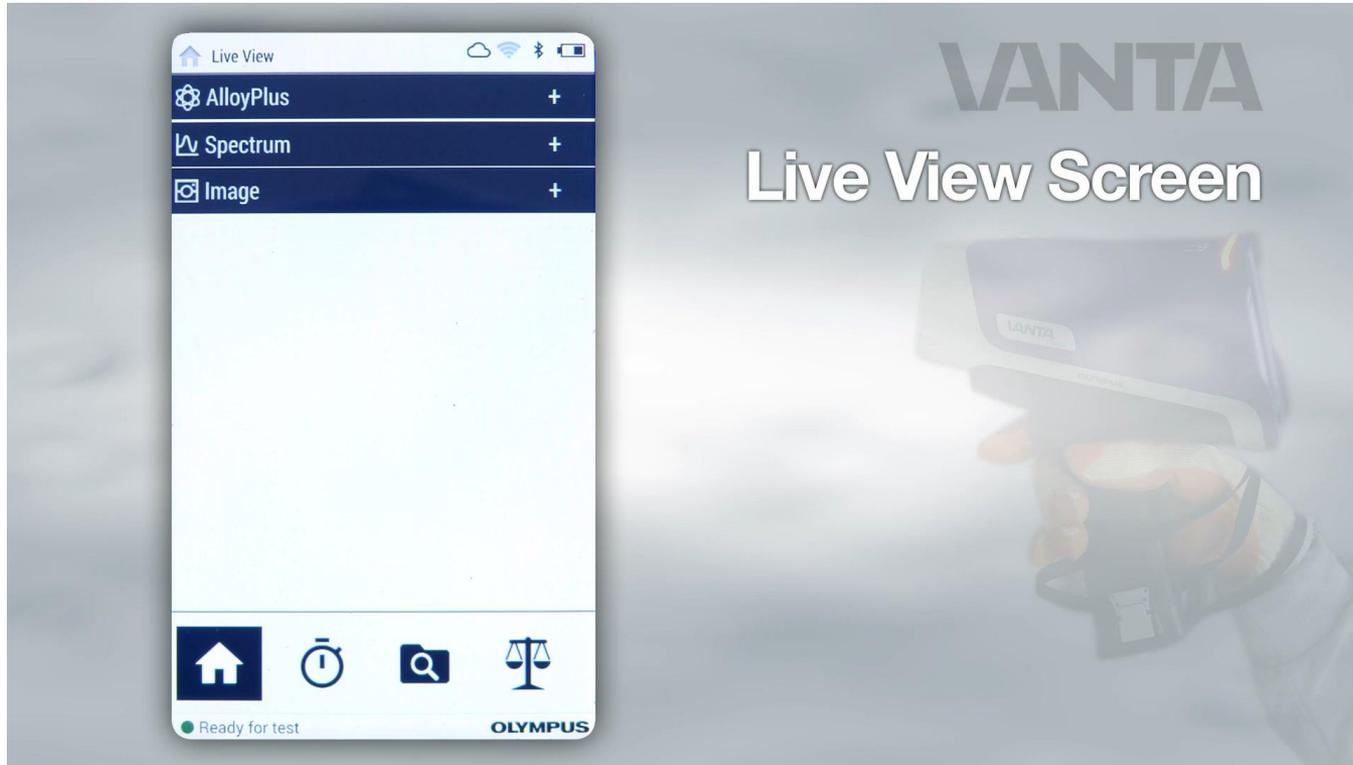
- **Better** LOD's
- **Shorter** test times
- **Higher** throughput
- **Reliable** results all day
- **No Daily Calibration Check**



Vanta Speed

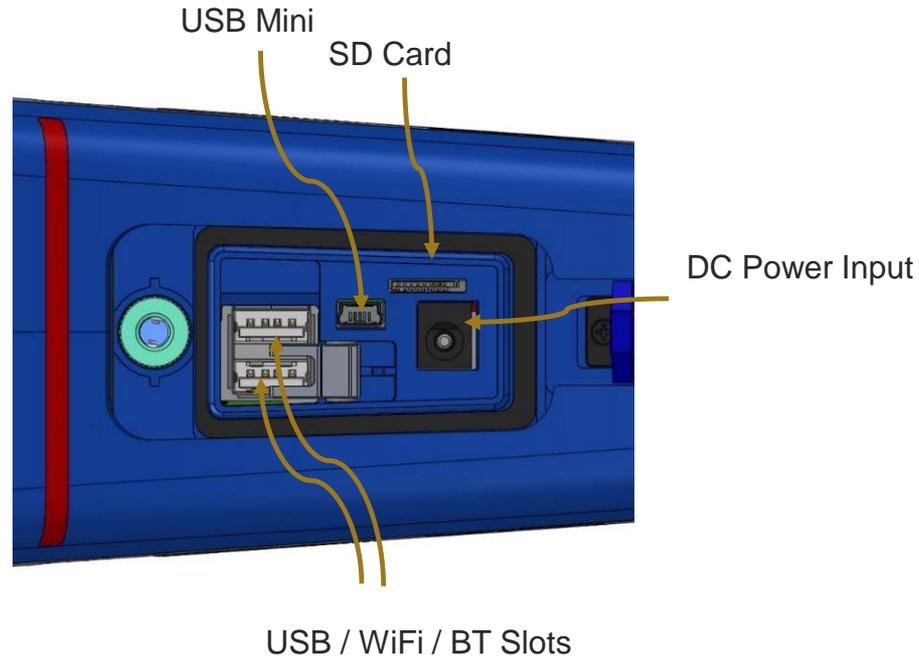


Vanta – Modern User Interface

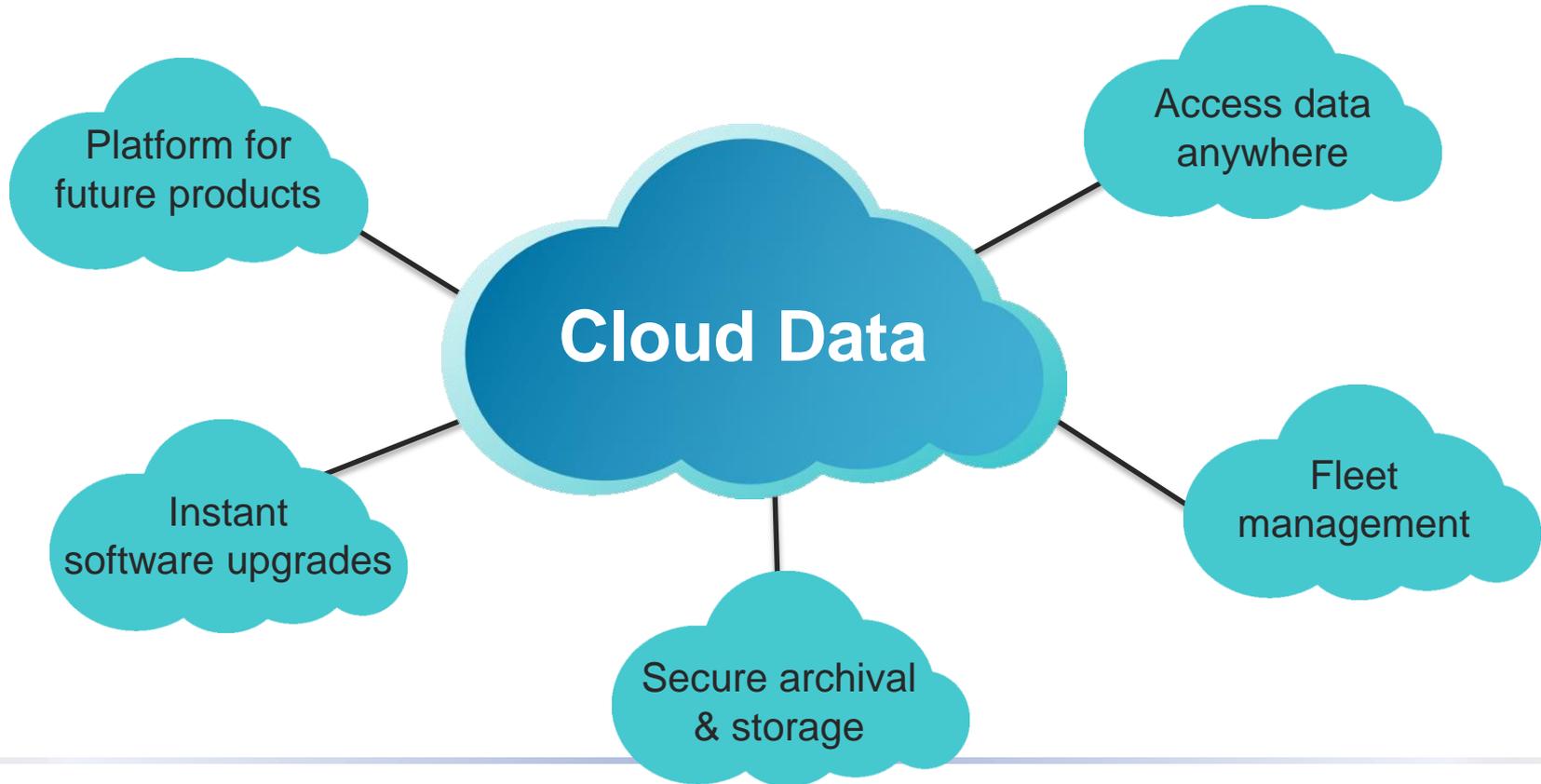


Connected for Greater Productivity

- Embedded GPS
- Data via
 - WiFi
 - BlueTooth
 - Cloud
 - USB
 - SD card



Current & Future Data Management



VANTA XRF

- Accuracy / Precision
- Ruggedness
- Low Cost of Ownership
- Easy to Use and Interpret
- Advanced Connectivity & Data Management Features



Thank You!

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