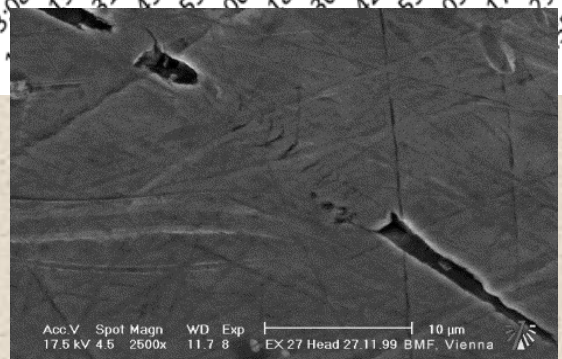
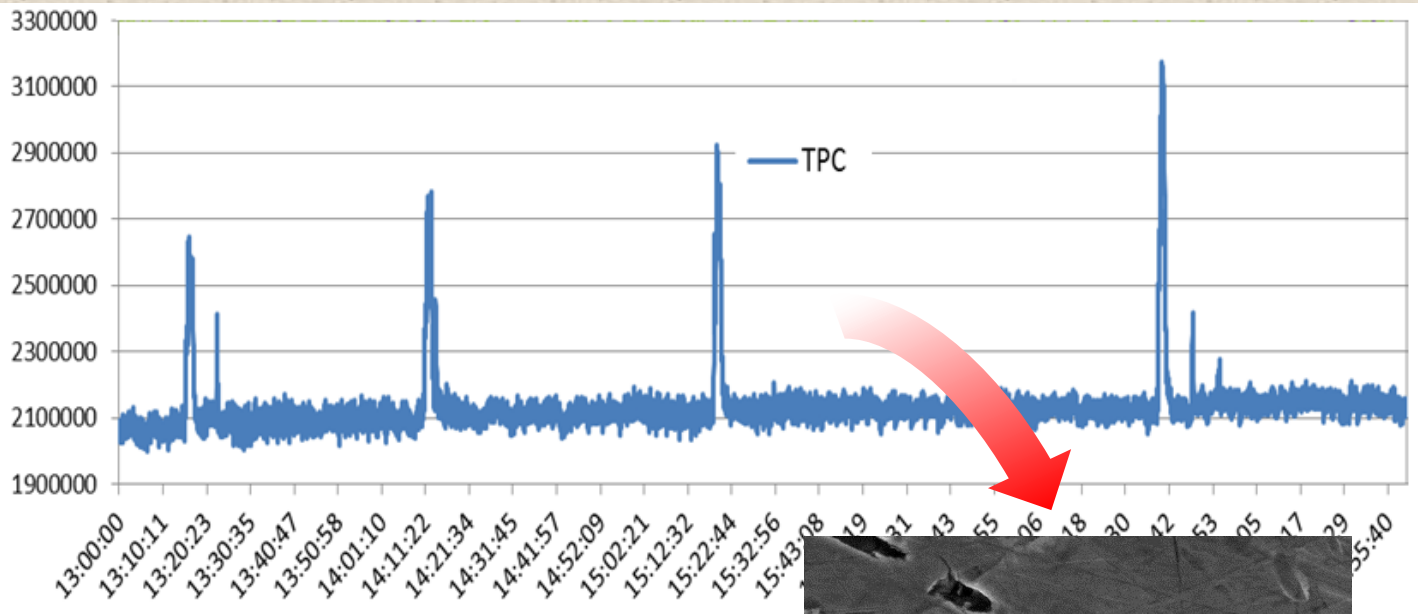




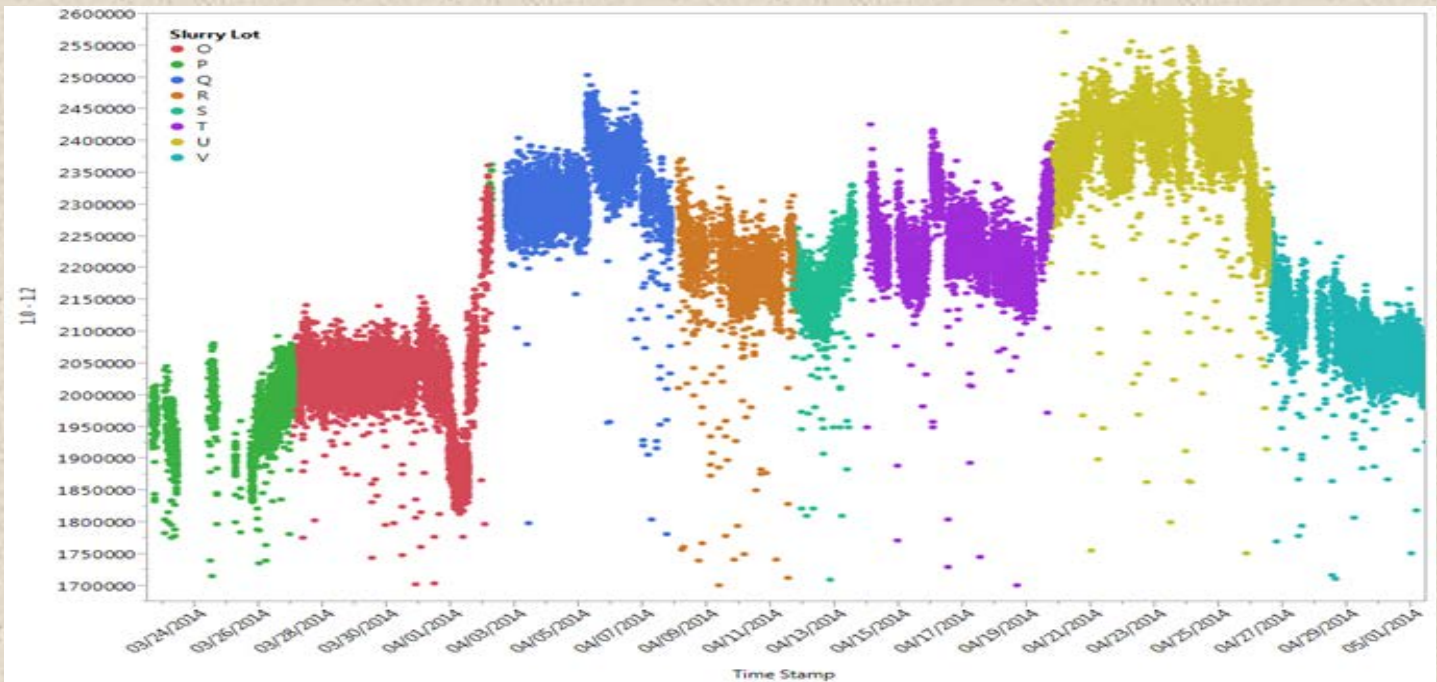
REAL-TIME CMP PROCESS CONTROL



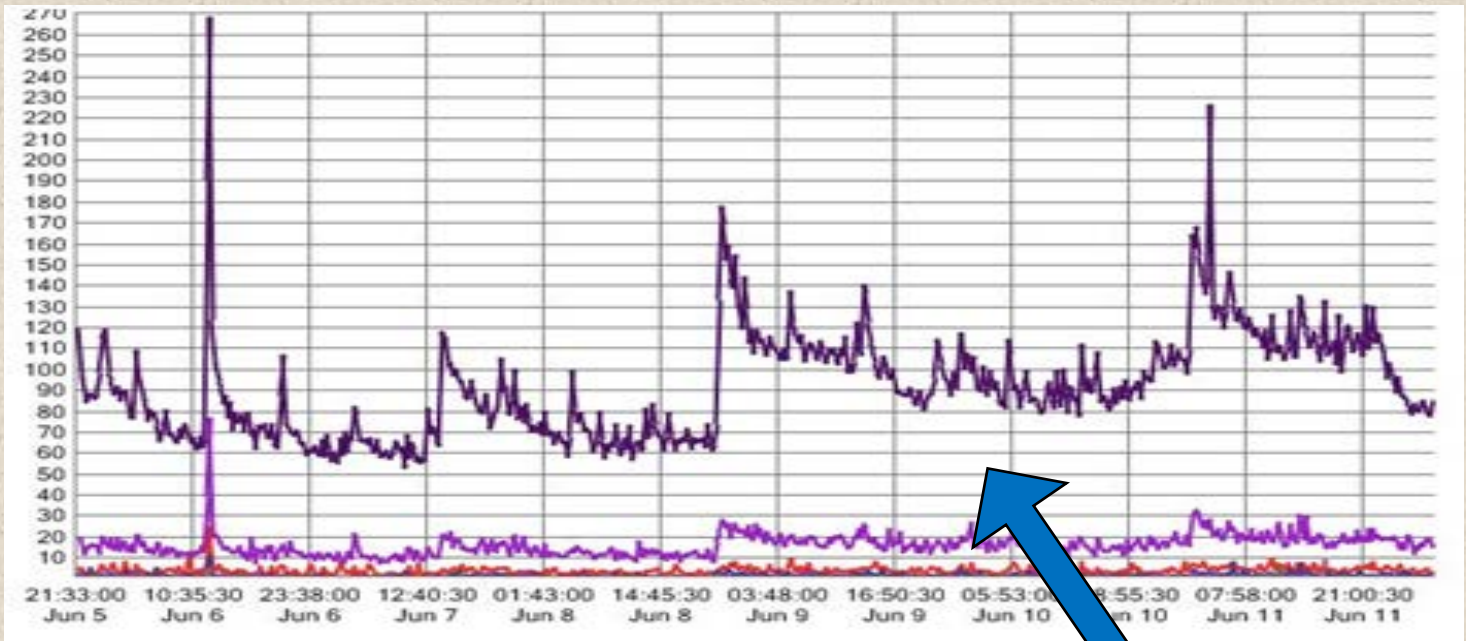
SlurryScope

Continuous CMP Slurry Particle Measurement

Monitoring oversized particles $\geq 1.0 \mu\text{m}$



SlurryScope Features	Benefits
Continuous measurement	Detect sporadic particle excursions
Real-time response	Immediate feedback to slurry changes
Undiluted measurement	Measure the same slurry chemistry that goes on the platen; no slurry waste, no false agglomerates
Continuous, real-time, undiluted	Identify and correct fab practices that cause LPC excursions and shifts Identify lot changes, tank changes, filter changes Correlate particle counts with defects by wafer
15 mL/min flow rate	Large volume throughput for statistical significance
NIST-traceable calibration	Industry standard calibration
OPC interface	Universal connectivity
Automated procedures	Lights-out runtime environment
User-friendly GUI and simple hardware connections	Short learning curve - little time between setup and operation



Slurry/SDS/Filter Suppliers:

- Lot characterization and comparison
- Slurry turnover effects
- Filter evaluation

Track tank addition effects on particle count in real time

Sub-fab slurry monitoring:

- Batch characterization
- Day Tank event (mixing, filling) characterization
- Filter change events

Point-of-Use (POU):

- Correlation of LPC spikes with wafer scratching
- Correlation of LPC to on-tool events (pressure changes, flow stop/start)
- Correlation of LPC to removal rate

OPC Data Output

Alarms and Events

Historical Data

Trend Data

SLURRYSCOPE SPECIFICATIONS

Control and display system	PC Controller, Windows 7®-based
ECMII dimensions	19"W X 3.5"H X 15.5"D 48.5cm X 9cm X 39.5cm
ECMII weight	19.2 lbs 8.7 kg
Sensor Unit dimensions	6.75"W X 4.25"H X 16.5"D 17cm X 11cm X 42cm
Sensor Unit weight	9 lbs 4.1 kg
Power	115V/230V, 7A/4A, 50Hz/60Hz, 3 prong plug
Fluid connections	¼" flare
Maximum distance between modules	15 ft 4.5 m
Input pressure	10–40 psi
Output pressure	0–20 psi (ΔP must be ≥ 10 psi)
Sample temperature	15–40°C
Environment temperature	15–35°C
Humidity	Non-condensing
Wetted materials	Teflon®, Sapphire, Chemraz®
Particle Size Calibration	NIST-certified latex
Flow control	15 \pm 1 mL/min (controlled by LFC)
Particle detection size range	1.0–10 microns 0.8–4 microns (high-resolution)
Response time	< 0.1 sec

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