



DUAL VIEW ICP-OES MINUS THE WAIT

Introducing the Agilent 5100 ICP-OES

Benefits. Technology & Design. Analytical Performance.



Agilent Technologies

5100 ICP-OES

Introducing the Agilent 5100 ICP-OES SVDV

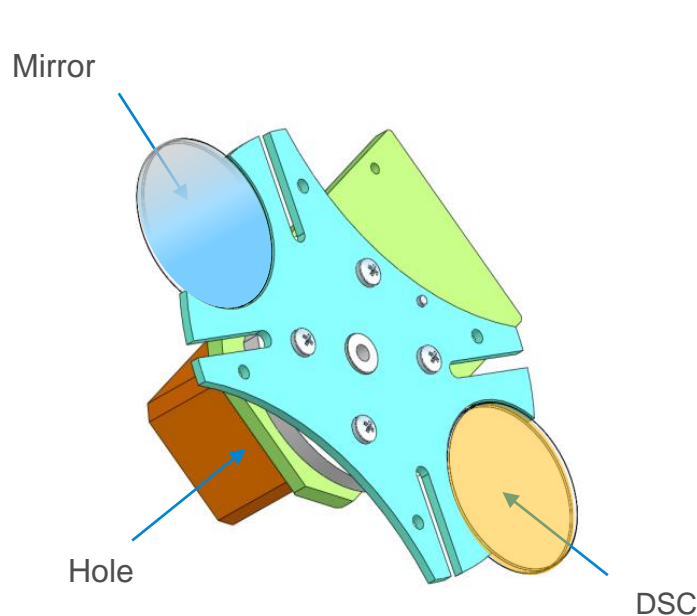


- Highest throughput with highest performance
- Dichroic Spectral Combiner (DSC) technology enables axial and radial measurements at the same time.

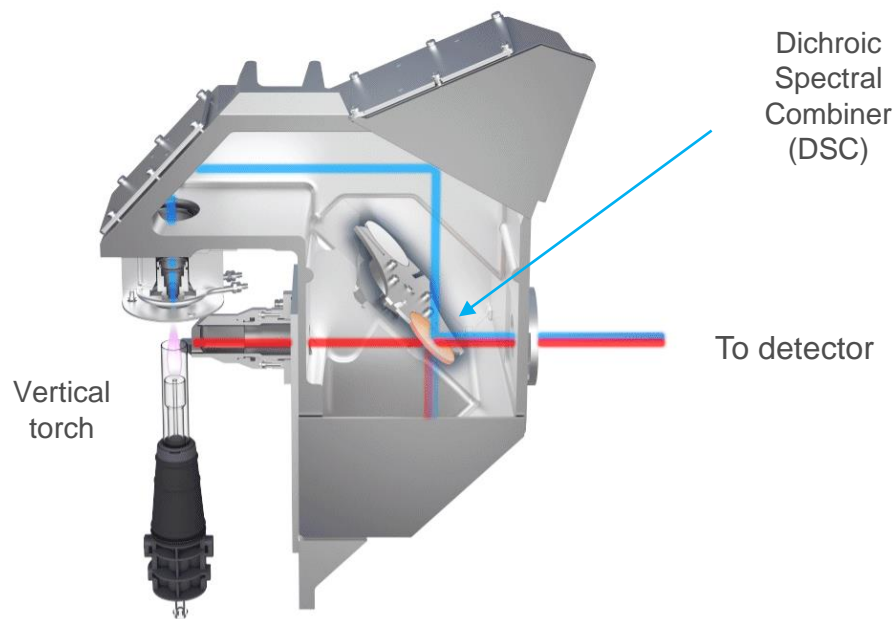
How does the 5100 DSC technology work?

Patented DSC technology for ICP-OES provides DV without compromise.

- Single reading of the plasma for both radial and axial.
- Vertical torch gives high matrix capability



5100 SVDV Mode Selector



5100 SVDV Pre-optics



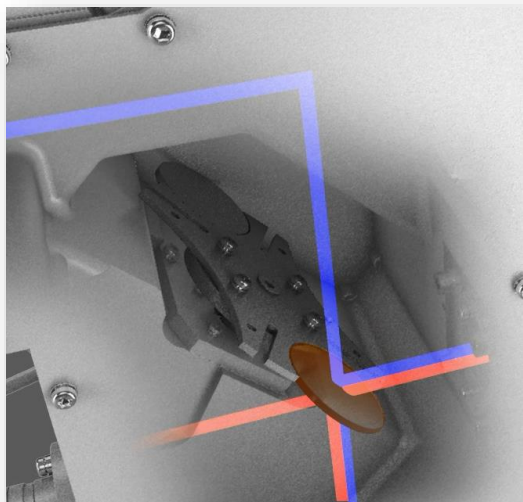
Vertical Torch

- Easy-Fit
- Auto gas connected
- Auto aligned to axial preoptics
- Design enables 25% TDS
- 5 x longer life compared to horizontal quartz torches
- High sensitivity

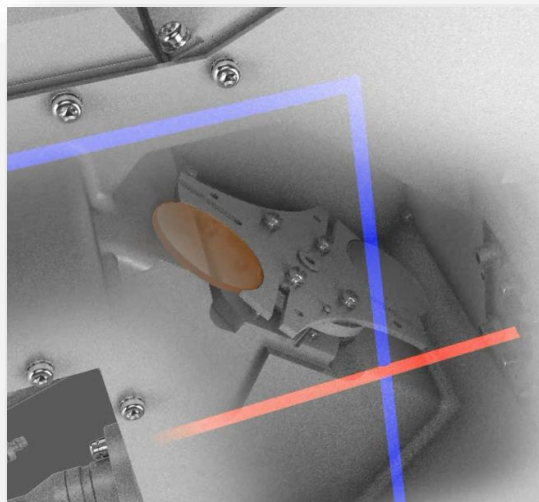


Future Proof Your Lab

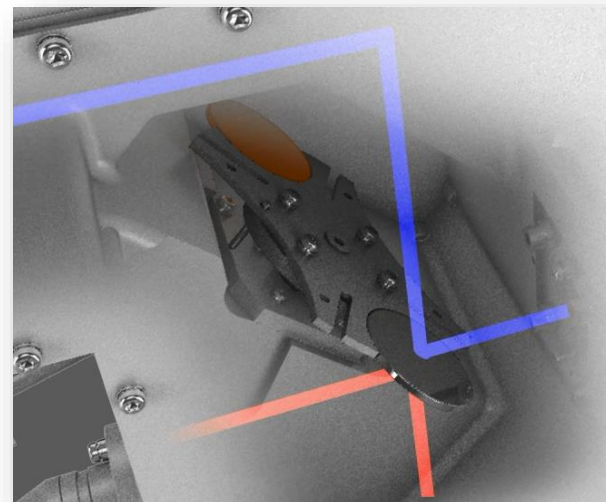
5100 SVDV ICP-OES is 4 instruments in 1



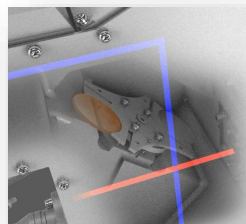
1. Synchronous VDV Mode



2. Radial Mode

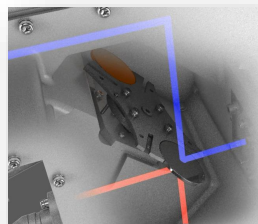


3. Axial Mode



RAD

+



AX

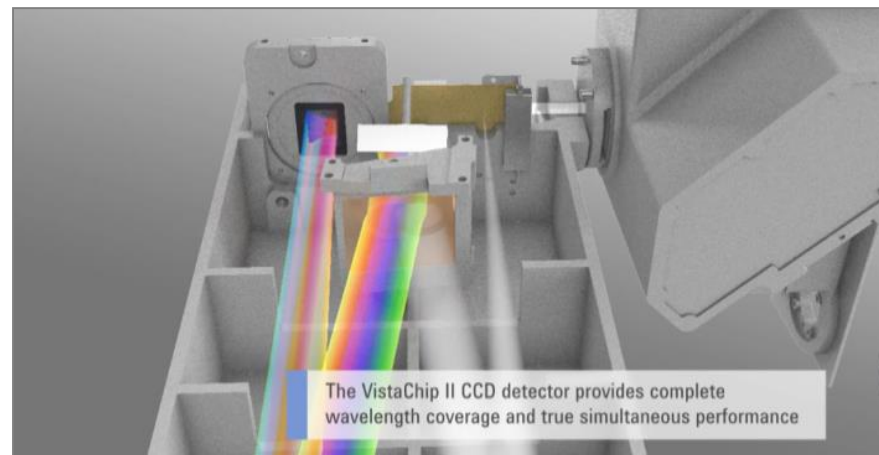
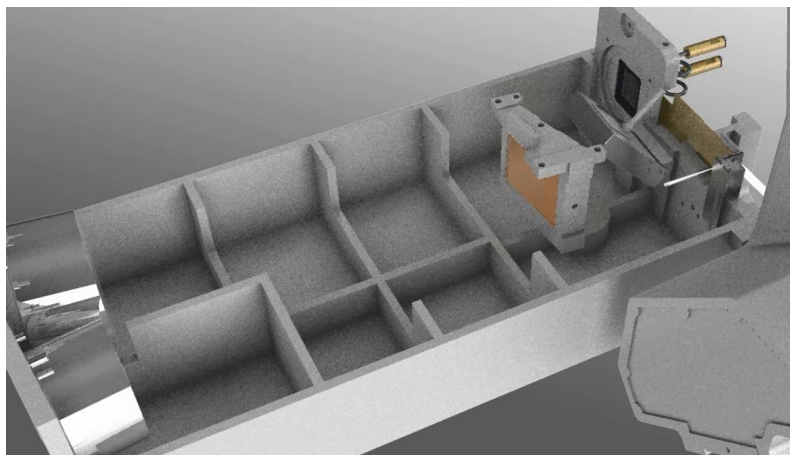
4. Conventional Dual View Mode



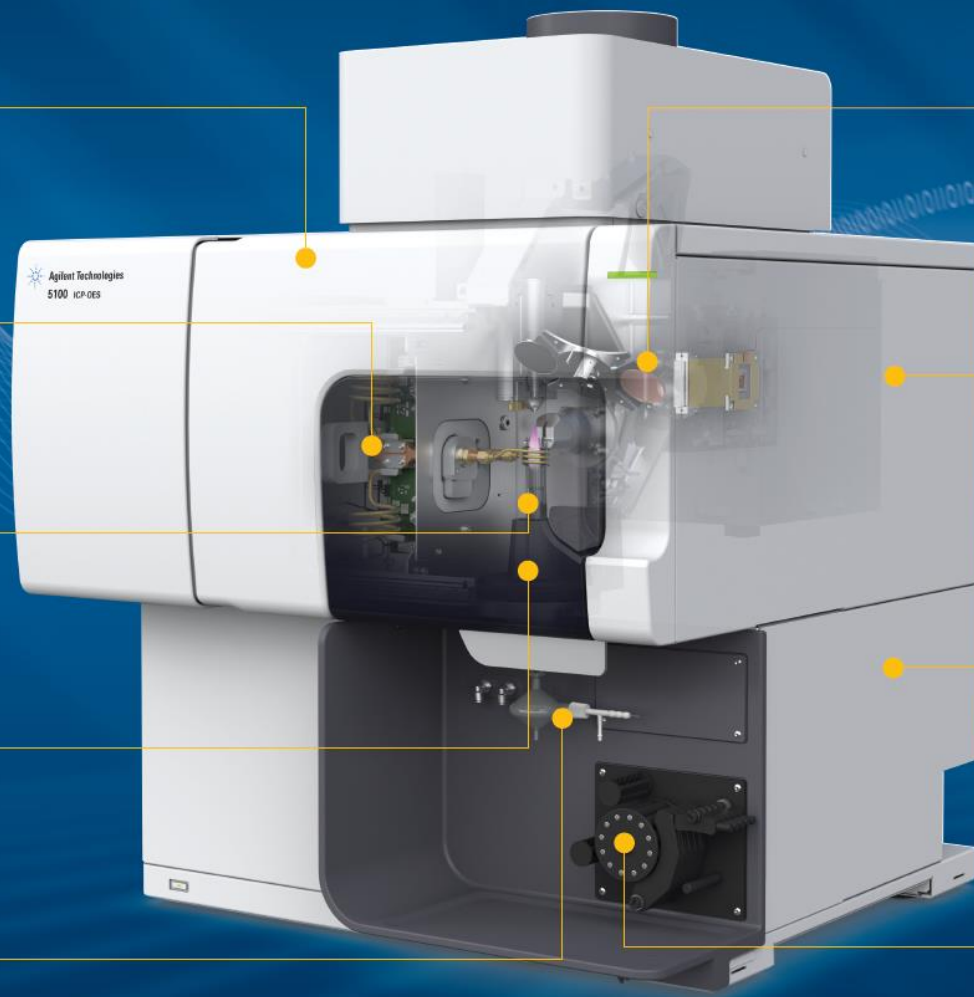
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Optics

- Computer optimized echelle optical design
- Single entrance slit
- Single VistaChip II CCD detector
- No moving parts in polychromator
- 400mm focal length thermostatted to +35°C
- CaF₂ cross disperser and echelle grating
- Mass flow controlled polychromator purge (argon or nitrogen)



NEW TECHNOLOGIES



WORLD'S SMALLEST FOOTPRINT
SAVES VALUABLE BENCH SPACE

SOLID STATE RF
LONG TERM ANALYTICAL STABILITY

VERTICAL TORCH
ROBUST, UNCOMPROMISED
PERFORMANCE FOR TOUGH SAMPLES

PLUG-AND-PLAY TORCH
FAST START UP,
REPRODUCIBLE PERFORMANCE

**EASY CONNECT SAMPLE
INTRODUCTION SYSTEM**
FAST START UP

SVDV WITH DSC TECHNOLOGY
FAST, ACCURATE RESULTS IN
A SINGLE MEASUREMENT

SMART ELECTRONICS
REDUCE INSTRUMENT DOWNTIME

EASY ACCESS TO ALL CONNECTIONS
TROUBLE FREE SERVICE & MAINTENANCE

**PUMP CLOSE TO SAMPLES &
NEBULIZER**
FAST SAMPLE UPTAKE
INCREASES SAMPLE THROUGHPUT

5100 Configurations



5100 SVDV

5100 VDV

5100 RV



High Specification 5100 configurations

Features	5100 SVDV	5100 VDV	5100 RV
Dichroic Spectral Combiner (DSC)	✓	O	✗
Vertically orientated torch	✓	✓	✓
Cool Cone Interface	✓	✓	✗
Robust, solid-state 27MHz RF generator	✓	✓	✓
Second generation VistaChip II CCD detector	✓	✓	✓
Mass flow controlled nebulizer, plasma gas, auxiliary gas	✓	✓	✓
Mass Flow Controlled make-up gas for accessories like Sheath Torch	✓	✓	✓
Easy-fit torch	✓	✓	✓
167 to 785 nm wavelength range	✓	✓	✓
Double Pass S/C, Seaspray Nebuliser, Easy Fit Torch, sample and waste pump tubes	✓	✓	✓
Oxygen Addition	✓	O	✓
5 Channel Pump	✓	O	✓
2 & 3 port gas control	✓	O	✓
ICP Expert 7 software	✓	✓	✓
Pro Software	✓	O	✓
HP PC, HP Monitor and HP Printer	✓	✓	✓

✓ = included
 O = optional
 ✗ = not included

Benefits of the 5100



Lowest cost of ownership

- Fastest sample throughput of difficult samples
- Low gas consumption

Enhanced Performance

- Analytical performance
- System robustness and reliability

Simple Operation

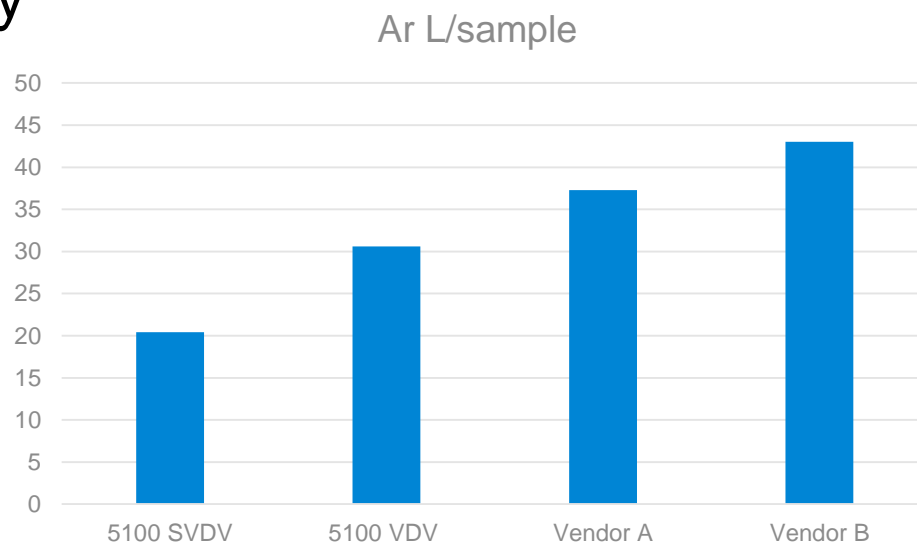
- Hardware
- Software



1. Lowest cost of ownership

- High throughput facilitates low Ar consumption per sample
 - (a) DSC. (b) VistaChip II. (c) 80 rpm pump. (d) SVS 2+
- 50% Lower power and 50% lower exhaust requirements.
- 27MHz Solid State RF
- Robust vertical torch
- Increased self maintainability

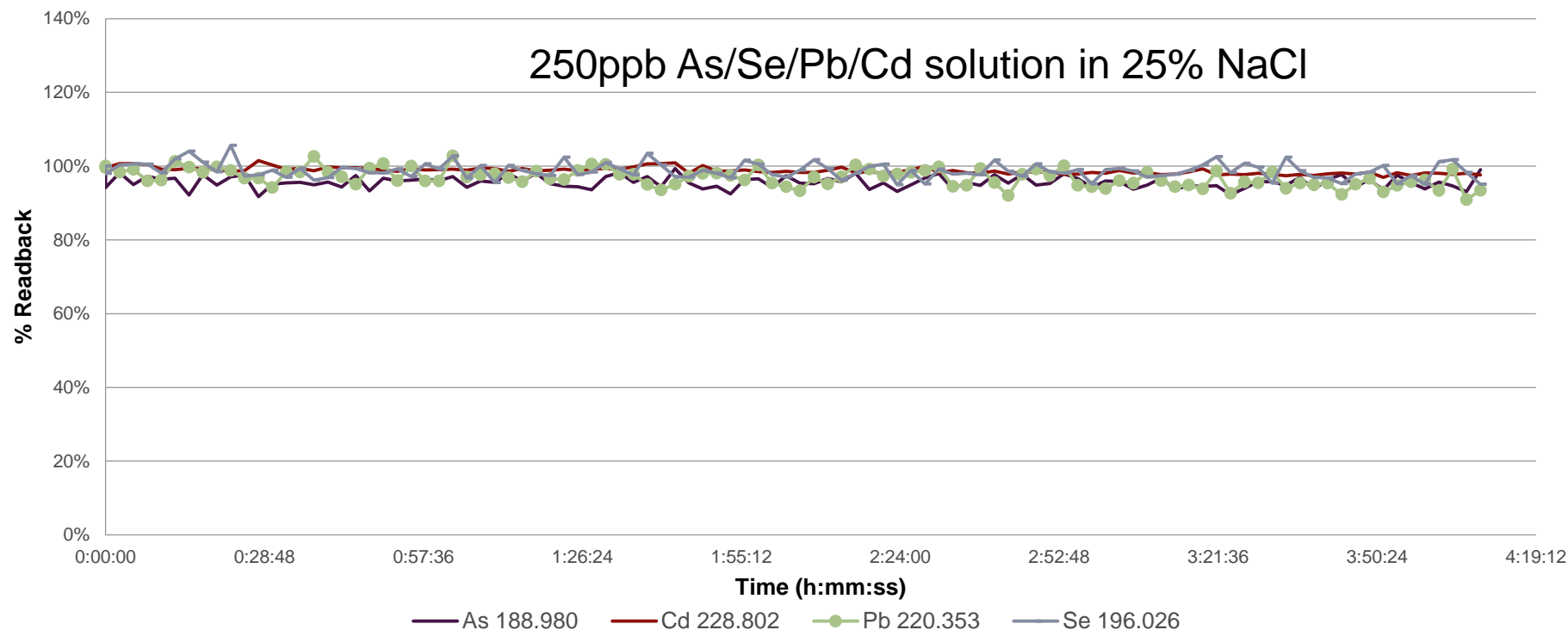
Ar L/sample	5100 SVDV	5100 VDV	Vendor A	Vendor B
USEPA 200.7 (min)	1	1.5	2.2	2.36
Ar L/sample	20.4	30.6	37.29	43.0228
Valve/No Valve	Valve	Valve	Valve	Valve



2. Enhanced Performance

Long Term Stability

- 4Hr Long Term Stability with complex matrix
- 25% NaCl spiked with 250 ppb multi-element solution
- <2.4% RSD



3. Simple Operation

- Plug-and-play torch and SIS
- Enhanced user maintainability
 - Pre optic window (axial and radial)
 - Optics gas filter

Torch installation in three easy steps

1

Open
the torch
loader



2

Insert
the torch



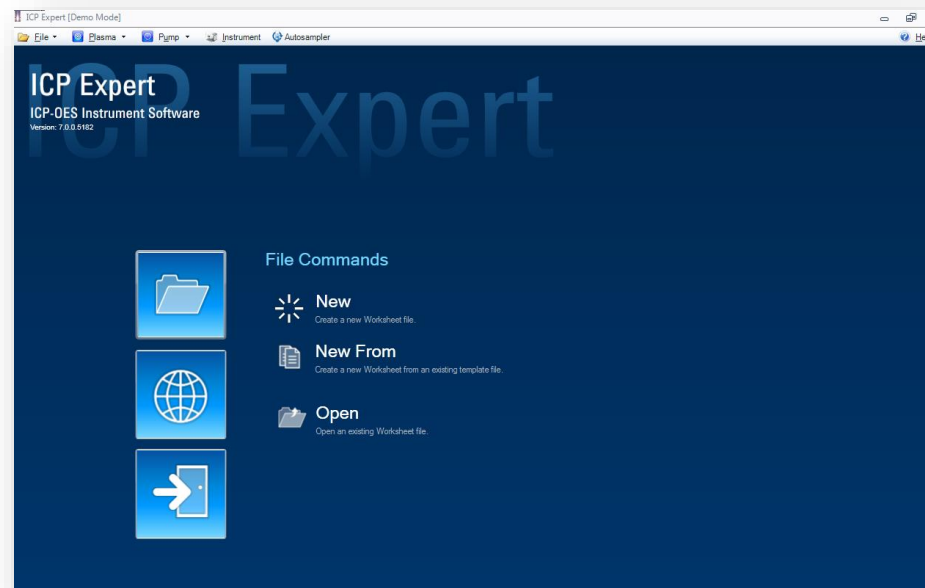
3

Close
the torch
loader



3. Simple Operation

- ICP Expert V7 software
 - Intuitive workflow
 - Applet methods for simple startup
- e-Familiarization DVD videos
 - Software
 - Hardware
 - Routine Maintenance



Where can Agilent 5100 ICP-OES be used?



Environmental	Food & Agriculture	Materials Science	Chemical & Energy	Pharmaceuticals
<ul style="list-style-type: none"> Drinking and natural water Soil and sediment Waste (solids/liquids/gases) 	<ul style="list-style-type: none"> Trace toxic metals in food Nutrient elements Feed and fertilizer 	<ul style="list-style-type: none"> Mining and Metals Toys and Consumer Products Semicon, Ceramics, Batteries 	<ul style="list-style-type: none"> Petroleum refining Alternative Energy (Biodiesel) Fine and Bulk Chemicals 	<ul style="list-style-type: none"> Heavy metals (USP<232>/<233>) Incoming raw material testing QA/QC of Final Product

Performance (technology)

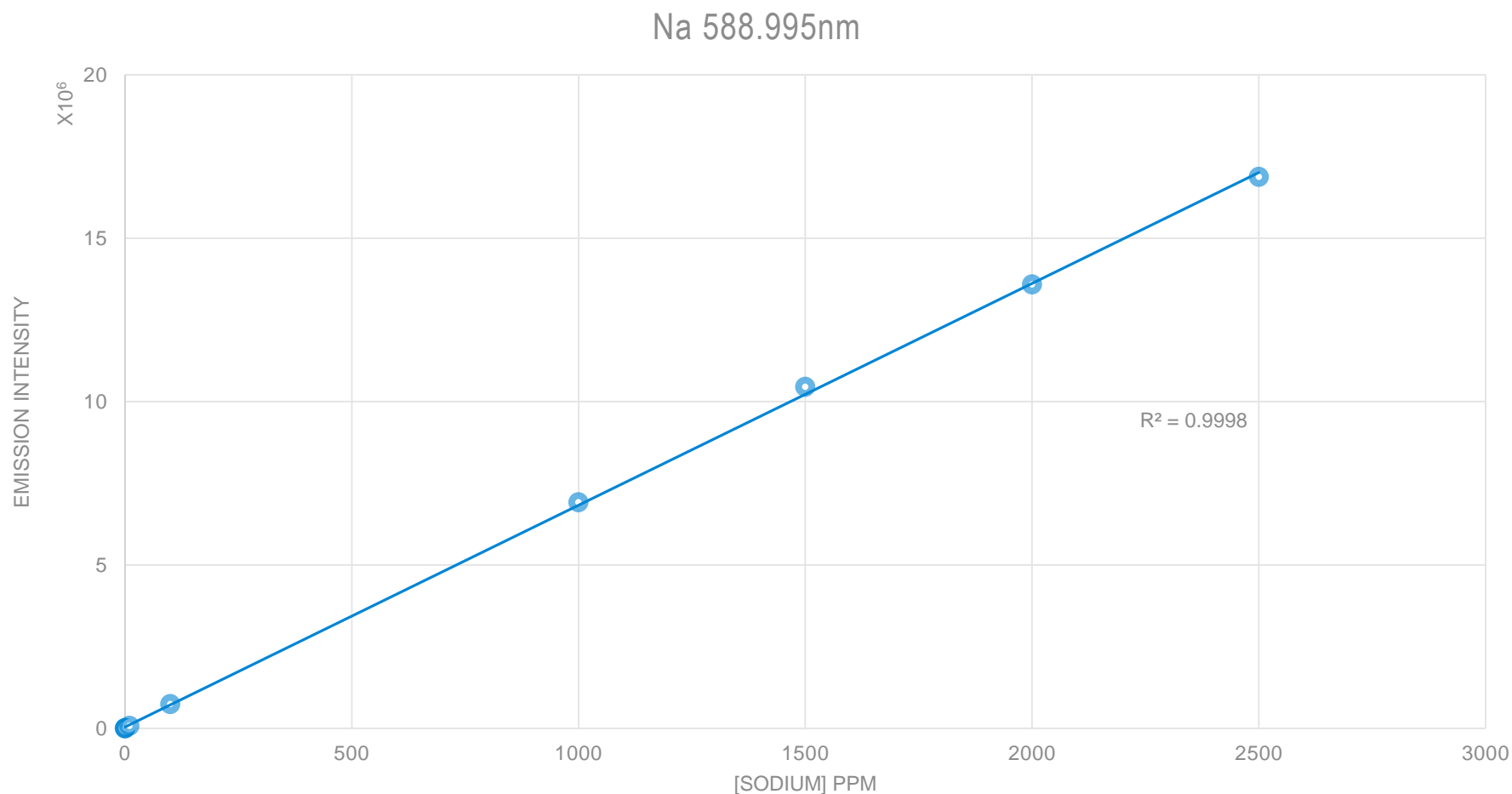
- Speed/low gas costs (SVDV, Vista Chip II)
- EIE interference immunity (SVDV)
- LDR (VistaChip II)
- Resolution/interference minimization (Echelle optics, FACT/IEC, Fitted Background Correction)
- Usability (Software, Easy Fit Torch)

Performance (technology)

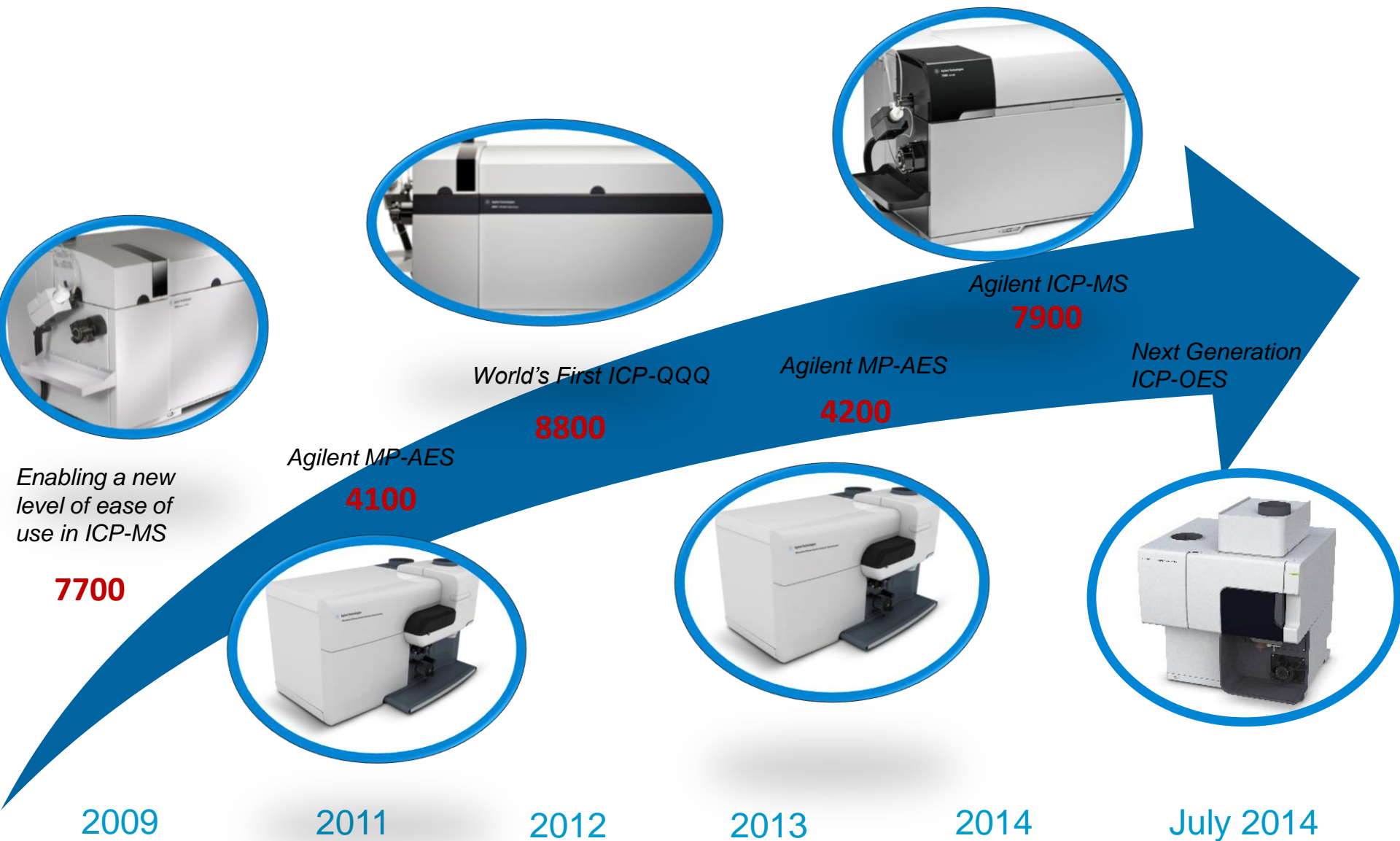
- Highly stable plasma system (SSRF)
- Matrix tolerance and robust sample intro (Vertical torch, HF resistant SIS)
- Long term stability (MFC, Thermostatted optics)

Na 5100 ICP-OES SVDV mode Linear Dynamic Range

Calibrated between 0.1-2500ppm



Agilent's Accelerating Innovation in Atomic Spectroscopy



Agilent 5100 ICP-OES summary



Lowest cost of
ownership

Enhanced
Performance

Simple Operation



Questions

LEAD TOGETHER

YOUR JOURNEY TO INNOVATIVE SOLUTIONS STARTS HERE

Agilent Technologies leads the way in atomic spectroscopy innovation. Our comprehensive and trusted portfolio offers you the most diverse application coverage for AA, ICP-OES and ICP-MS, while our unique MP-AES and ICP-QQQ technologies deliver new possibilities for your lab. Now we introduce the next generation atomic spectroscopy equipment that will redefine the way you work. Choose Agilent, together we'll take the path to success. www.agilent.com/chem/AtomicSpec

The Measure of Confidence



Learn about the new Agilent 5100 ICP-OES:
www.agilent.com/chem/DualViewMinusTheWait