



**SPECTRO** INC.

# On-The-Move Oil Analysis



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# Problem

- Hundreds of thousands of analyses are taken each year that may be impacted by problematic access to an oil analysis laboratory
- Today remote analyses can take “up to 3 weeks”
- Maintainers in the field cannot do on-the-spot oil analysis
  - Aircraft cannot fly without mandated analysis protocols; assets can be removed from the program due to problematic access to analysis
  - Near-Term Solution – first known suite of on-the-spot handheld/portable oil analysis tools
  - Costs are significantly less than an analysis laboratory

# Technology Description

- Q5800 from Spectro and related handheld devices
  - Provides complete suite of oil analysis without solvents or chemicals in a battery-operated portable device (35 lbs) or targeted analysis in handheld devices (3-4 lbs). All self-contained, no infrastructure required.
- Key Partners: OSD, NCMS, SOCOM, JOAP, Spectro
- Enables maintainers to carry the equipment with them; eliminates issues with sample transport lag times which ground aircraft; provides answers on the spot
- Designed for intuitive operation with video guidance
- Risks center around how to establish JOAP program so labs and field devices remain in sync

# Technology Features

- A suite of solutions depending on need
- Elimination of chemicals and hazmats
- Quantitative results in the field
- Put on a drop of fluid, analyze in minutes, and wipe clean with a shop rag



# Technology Status

- TRL = 7 to 9
- SOCOM feedback from first shakeout of pre-production models incorporated into final product design (Q5800 full solution)
- Handheld tools being acquired by DoD groups with demonstrated need
- DoD requirements under discussion for expeditionary equipment
- Several Competing Technologies/Solutions:
  - SEM/EDX
  - All-In-One Stationary Devices
  - Online Devices

# Vision

- Expeditionary Fluid Analysis IPT reviewing requirements for on-the-move technologies
- Several groups have significant IP
- Technology Status
  - Products Introduced Commercially
  - User Feedback gathered from multiple long-term DoD evaluations of component technologies
  - DoD feedback incorporated into released products
  - Working with DoD to satisfy and validate emerging requirements

# Questions