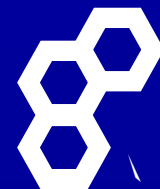


Advanced Fuel Research, Inc.

www.AFRinc.com



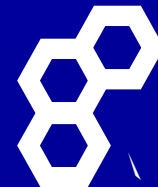
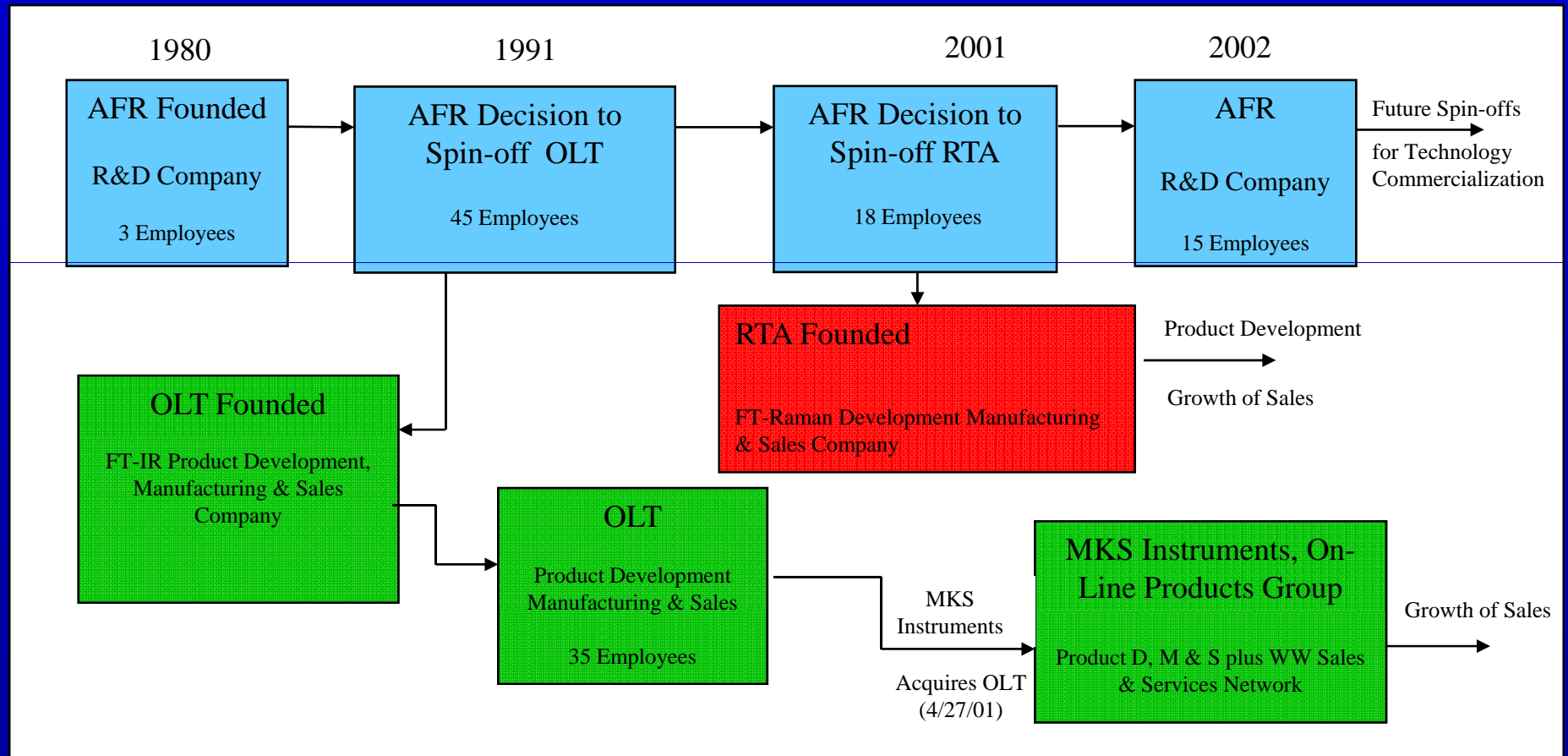
Company Information

- AFR is a contract R&D company started in 1980 by Dr. Peter Solomon
- AFR currently employs 15 people in 10,000 sq. ft. of office and laboratory space in East Hartford, CT
- Annual budget of ~\$2,000,000; More than 75% from federal government contracts (DOD, NASA, DOE, EPA, NSF, USDA)



Business History

Advanced Fuel Research, Inc. (AFR)



AFR Research Groups/Business Units - 2006

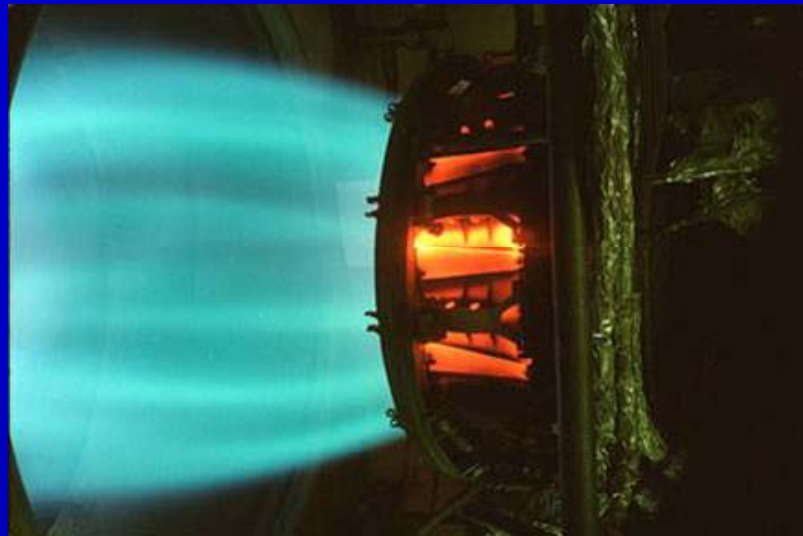
- Clean Energy and Carbon Materials/Next Generation Energy
- Combustion Monitoring and Control/TurboSense
- Intelligent Image Analysis/Vidiation LLC
- R&D Services/Consulting Services



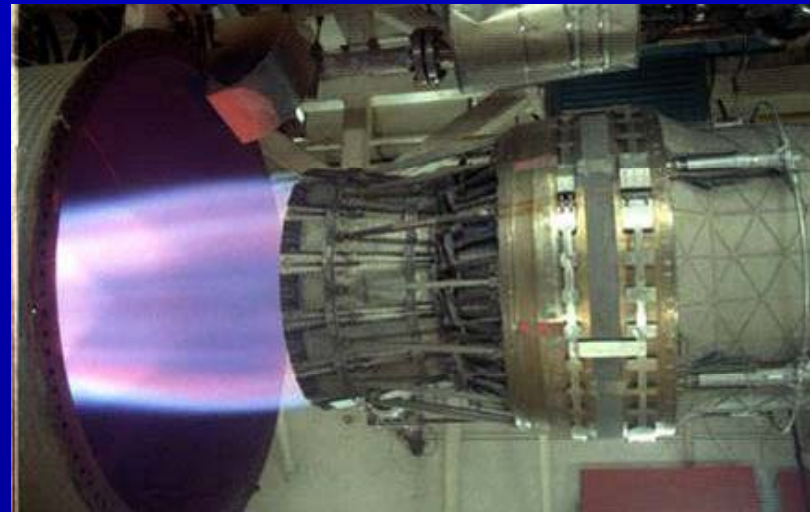
Current Areas of Expertise

- Solid fuel (coal, biomass, waste, polymers) conversion and carbon materials
- FT-IR and IR spectroscopy for process and environmental monitoring
- Intelligent image analysis for surveillance and medical applications





Afterburners Firing at AEDC



Field Test of Multi-Gas Analyzer at AEDC



- Five AFR advanced prototype MultiGas Analyzers at an Air Force engine test cell
- Validated by the Air Force on January 19, 2004 to reduce the typical 16-hour test period for emissions to under 10 minutes
- Savings: \$400,000 three to four times a year at this test cell



The RadStar Solution

Pervasive Grid detection of dangerous radioactive materials fitting into the EXISTING security systems



Surveillance
Cameras



**RadStar
Adaptations**

*Patent Pending

Existing
Network

Existing
Monitoring



RadStar^T Analysis
combines video and
radiation data for
security awareness
and response

AFR Recognition

- AFR was a winner of the SBA 2000 Tibbetts Award for commercialization of innovative technologies
- Since 1994, AFR has been a four-time winner of the R&D 100 Award
- AFR was a leading national recipient of SBIR Awards from DOE and NSF on several occasions
- During the past twenty years, three AFR papers published in Energy & Fuel were ranked in the top ten in numbers of citations



AFR Commercial Products

1. SEM X-ray Analyzer (NSF Phase III)
2. TG-FTIR Analyzer (NSF Phase III)
3. FT-IR Combustion Tomography System (NSF, DOE, Phase III)
4. Benchtop Emissometer (DOD Phase III)
5. Process FT-IR (DOE, DOD Phase III)
6. Thin Film Monitor (DOD Phase III)
7. SERS Sample Vials (DOE Phase III)
8. Process FT-Raman Spectrometer (DOD, NSF Phase III)
9. FG-DVC Model (DOE, GRI, NSF, USDA)



Examples of AFR University Collaborators

Brigham Young University

Brown University

Rutgers University

University of Connecticut

University of Hartford

Yale University



Examples of AFR Industrial Collaborators

Air Liquide

Dow Chemical

ExxonMobil

GE Power Systems

Idemitsu Kosan

Pratt & Whitney



Advanced Fuel Research, Inc.

www.AFRinc.com

