

**Beta-Rubicon Contract Profile:
Private Company -- Technology Adaptation and System Development**

Beta-Rubicon worked with a technology development client company whose core technologies include the identification of atmospheric components using an FTIR spectrometer and a man-portable integrated system providing site-specific decision support information to emergency response teams. This company's chief scientist previously worked with NASA in developing remote sensing technology. This client company's initial commercialization efforts are directed at hazmat and fire protection services with longer term efforts to be directed to agencies with national security responsibilities.

As part of its technology support services, Beta-Rubicon drafted the company's first comprehensive technical development plan. This development anticipated the extensive use of commercial off-the-shelf (COTS) components in order to avoid the necessity of creating major basic system building blocks. While the project was in relatively early development stage when Beta-Rubicon was contracted to provide assistance, it proved necessary to revisit numerous build/buy decision and to focus on issues of creating substantial and often problematic hardware and software "glue."

As part of technology trend analysis, particularly in view of the extensive R&D being done internationally in the domains of interest to the client company, there was and there remains a concerning possibility of their target market niches being preempted by other commercial entities. This becomes a critical issue in the ability of the client company to manage risk, with due consideration of the immaturity of both the company and the system, appears to be weak.

Indicative of the issues examined by Beta-Rubicon are recommendations typically made to the client companies, including:

- The creation and maintenance of a technical development plan required for responsible project management, and
- Objectively considering the "buy/build" decisions relative to the major system components including software, and
- Developing explicit and clear functional and implementation specifications for the system, and doing so at a level of detail consistent with good software engineering practices.