FROST & SULLIVAN

AWARD RECIPIENT

## 2009 North American Unmanned Aircraft Systems Components Market Technology Leadership of the Year Award

# Real-Time Innovations, Inc.

When people think of unmanned aircraft systems (UAS), they typically picture the airframe, and pay little attention to the subsystems that are responsible for ensuring the aircraft accomplishes its mission. These subsystems generally include vital UAS components such as the ground control station (GCS), sensor and radar systems, the mission control element (MCE), data links and a host of other embedded electronic systems, without which the aircraft would be rendered useless. Beyond the subsystems level, there is yet another layer of technology that plays an instrumental role in UAS operation. This layer includes software technologies that facilitate communications between an unmanned aircraft and a GCS to ensure reliable data distribution.

There are a number of market participants providing middleware solutions for UAS and other defense applications, however Sunnyvale California based Real-Time Innovations (RTI) is leading the way with its RTI Data Distribution Service. With more than 70 percent market share globally, RTI is the leading DDS provider and Technology Company focusing on deterministic, real-time systems for the aerospace, defense, communications, and financial industries among others. The company's RTI Data Distribution Service and other solutions have a profound impact on the unmanned systems industry. As a result of its technological contributions to the UAS industry, Frost & Sullivan is pleased to announce Real-Time Innovations as the recipient of the 2009 Technology Leadership of the Year Award in the North American unmanned aircraft system components market.

## RTI: Solving the UAS Data Movement Challenge

For a UAS to operate effectively, all subsystems have to be working together to achieve a common goal, and this requires the free flow of data between systems. Efficient movement of data within a UAS is a difficult engineering challenge. Point-to-point data connections have proven to provide fast and reliable data transfer. However, point-to-point connections have downfalls that could result in a communications failure, or in the worst case scenario, loss of the aircraft. In other situations the aircraft could be recovered, but critical data would be lost as a result of the failure.

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With increased attention being given to UAS, both in the battlefield and for commercial and civilian operations in the national airspace (NAS), reliable UAS communication have never been more important. Working to solve the problem of UAS data movement is an endeavor RTI has been actively involved with for many years. Originally born out of the Stanford University Aerospace Robotics Laboratory, RTI provides the unmanned systems industry with a scalable, flexible and adaptable approach to data movement through DDS. The benefits of the RTI Data Distribution Service solution are many and include high performance, real-time awareness, scalability and easy integration of other middleware standards.

UAS companies have the option in many cases to develop their own DDS solution; however, there are limitations to this approach. Typically UAS manufactures are contractually obligated to meet strict timelines set by their customers. The in-house development of a middleware solution is not always a feasible option for most companies, since code development is very time consuming. In these situations, RTI is able to deliver its commercial DDS implementation which allows these companies to focus on more critical tasks while adhering to customer deadlines.

## RTI: A Leading DDS Provider

Over the years, RTI has made a name for itself as a technology leader in the world of DDS. RTI works with an extensive list of unmanned systems companies to help them deploy the latest platforms for air, land and maritime applications. Namely, the company currently provides technology solutions to leading UAS manufacturers such as Insitu and General Atomics Aeronautical Systems, Inc. (GA-ASI). In the case of GA-ASI, RTI was selected to provide real-time data exchange and processing for the Advanced Cockpit GCS, which proved to be a significant time saver during its development process. In addition to GA-ASI's Advanced Cockpit GCS, RTI technology is also flown on board the Insitu ScanEagle system. RTI has been instrumental in helping Insitu solve the communications challenges it faced early on in UAS development.

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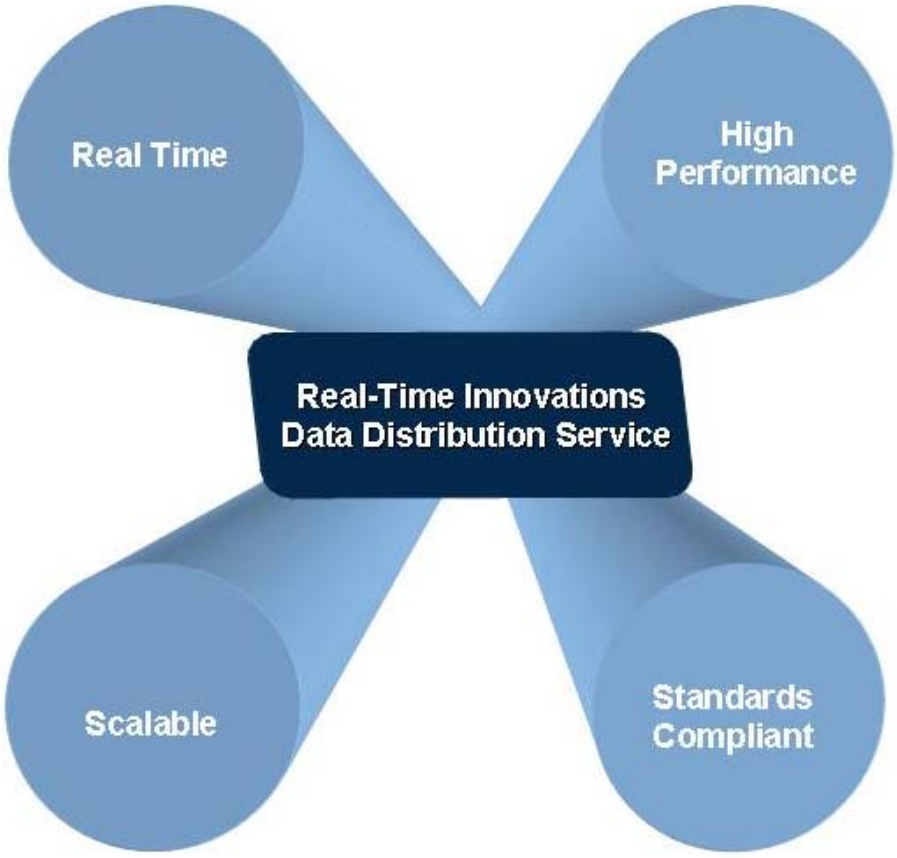
Chart 1.1 U.S. Unmanned Aircraft Systems Components Market
Real-Time Innovations Technology Leadership Metrics




*Source: Frost & Sullivan*

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## Conclusion

Data distribution is at the heart of ensuring UAS accomplish their missions and deliver the critical information needed by warfighters in the field. With its leading position as a DDS provider, RTI is ensuring that UAS and many other defense platforms are equipped with state-of-the-art technology. As a result of the company's dedication to data transfer and contributions to the unmanned aircraft industry, Frost & Sullivan is honored to award Real-Time Innovations with the 2009 Technology Leadership Award.

## Award Description

The Frost & Sullivan Award for Technology Leadership is bestowed each year upon the company that has demonstrated excellence in technology leadership within its industry. The recipient company has demonstrated technology leadership by excelling in all stages of the technology life cycle—incubation, adaptation, take-up and maturity—to ensure a continuous flow of improvements. By innovating leading-edge concepts the company has pioneered client applications.

## Research Methodology

To choose the recipient of this Award, the analyst team tracks all emerging technologies and ongoing research and development projects within the industry. This process includes interviews with the market participants and extensive secondary and technology research. The technologies and research projects are then compared according to customer base demands. Also considered are elements such as feasibility of product launch, likelihood of customer acceptance, and estimated time to market. Competitors are then compared and ranked for relative position. Frost & Sullivan then presents the Award to the company that received the highest industry rank.

## Measurement Criteria

In addition to the methodology described above, there are specific criteria used in determining the final ranking of competitors in this industry. The recipient of this Award has excelled based on one or more of the following criteria:

- Significance of the technology in the industry

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- Number of competitors having similar industry technology (competitive factor)
- Research and development efforts to meet changing end-user needs
- Value-added technology and services to the customers
- Adoption rate by each of the industry participants
- New product innovation
- Time to market

**About Best Practices**

Frost & Sullivan Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service, and strategic product development. Industry analysts compare market participants and measure performance through in-depth interviews, analysis, and extensive secondary research in order to identify best practices in the industry.

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