



Long-term Cooperation Benefits Dräger Medical Systems, Inc.

Case Study from Auriga, Inc., 2006



Elite Software R&D Services
Since 1990

Executive Summary

Striving for innovation and constant improvement, Dräger Medical, one of the leading medical equipment manufacturers, is continually working on its products evolution, both in hardware and software parts. To concentrate its in-house software engineering efforts on the strategic directions, Dräger Medical Systems decided to outsource a number of software-related tasks to Auriga, the oldest U.S.-Russian software outsourcing service provider. The collaboration between Auriga and Dräger Medical Systems began in 2003 and has been efficiently continued since.

Company Background

Dräger Medical, A Dräger and Siemens Company, is one of the world's leading providers of innovative high-tech medical equipment offering the complete solutions for the point of care throughout the whole patient care process - from emergency care and anesthesia to critical care and perinatal care. Headquartered in Lübeck (Germany), Dräger Medical is represented in over 190 countries around the world with subsidiaries in some 40 countries with the engineering and manufacturing centers located in the USA, Europe and China. As the largest part of Drägerwerk AG, Dräger Medical employs more than 5,000 people worldwide and contributes around 70 percent of total sales. Dräger Medical Systems, Inc, a division of Dräger Medical, is located in Danvers (USA).

Innovation Brings Challenge

In the drive for providing innovative solutions, Dräger Medical is constantly working on its new products development, product extension and product diversification. The continuous improvement, that is the keystone of Dräger Medical's corporate philosophy, causes the increasing needs to strengthen software development.

To let its in-house software development staff efforts be concentrated on the core strategic competencies, Dräger Medical decided to outsource a number of software-related tasks. "It was not effective to start increasing our internal team through internal hiring. We believed, that we can add the necessary capacities through outsourcing", Yossi Elaz, Vice President of Research and Development for Dräger Medical Systems, Inc., said.

Taking into account how complicated and life-critical the Dräger Medical products are, and how highly-regulated the medical industry in general is, it was a difficult decision for this company. Engineeringly innovative, though careful and consistent in terms of doing business, Dräger Medical, with the true German perfectionism and the adherence to its deeply rooted engineering traditions, was very thorough when looking for a software outsourcing service provider.

Working Solution

Russia, thanks to its extensive background of academic research and tech innovations, special engineering culture, resourcefulness, extremely qualified and educated labor pool, scientific passion, attracted the attention as one of the most



interesting outsourcing destination. Looking for a reliable outsourcing partner, Dräger Medical Systems, Inc. considered Russia as an option.

In the complex world of medical technology, proven experience and expertise are critical assets. Still, along with specific development expertise and industry knowledge, Dräger Medical required reliability, stability and trust. According to Mr. Elaz, a high turnover rate at an average outsourcing service provider meaning the loss of specially trained staff and hence the loss of time and competitive advantage, along with a lack of communication and trust, could jeopardize everything. “The outsourcing company depends on us, we depend on the outsourcing company. We have to develop the relationship that is based on cooperation and trust. Because eventually people make things happen. Not only technology. Not only processes. Person-to-person relationships on a technical level have to work,” Mr. Elaz summarized.

Having scanned a number of software outsourcing providers, Dräger Medical decided to go with Auriga, the oldest U.S.-Russian IT outsourcing company, founded in 1990, providing software development, testing and maintenance services. With its extensive, diversified and result-proven software development experience, deep engineering culture, rooted in the Russian research and development traditions, and the stability, backgrounded by 15 years of successful performance, Auriga combined onshore account and project management with offshore software engineering talent to efficiently deliver top-quality, low-cost outsourcing services. Auriga was chosen by Dräger Medical as a software outsourcing service provider, because it offered the best combination of engineering experience and price, as well as outstanding experience in high availability software development, along with a high level of customer service—Aberdeen Group used the relationships between Auriga and one of its clients to exemplify one of the best practices in software outsourcing. Later, Sam Cavallaro, Product Line Manager, heading the Modular Monitors Department in Dräger Medical Systems Research & Development, said the following on his satisfaction with Auriga’s service and expertise, proving the choice made by his company: “Excellent engineering. Excellent price.”

Auriga showed the true commitment to sharing the competence in order to anticipate and meet its clients’ needs. With its diversified portfolio of industry-focused solutions, encompassing a range of services from custom medical device software development to software validation and independent safety testing, Auriga understood the special requirements of the medical OEM to ensure its customers receive quality software services. To deliver the services in strict accordance with clients’ standards, Auriga augmented its CMMI-based processes with clients’ standard processes.

Relationships and Results

Dräger Medical Systems launched the pilot project to test Auriga’s capabilities and talents. Auriga succeeded, as Boston Herald (April 13, 2005) wrote “Yossi Elaz, Vice President of Research and Development for Dräger Medical Systems, Inc., a German firm with a presence in Danvers, said his company has been very pleased with the software work performed by Russians, via Auriga. “We had a trial project a year ago and it was very successful,” Elaz said.” The first step



towards building the trust-based relationships was made, when Auriga managed to gain the respect and recognition of Dräger Medical's internal engineering staff.

The collaboration between Auriga and Dräger Medical Systems has been efficiently continued since. In 2003-2005, Auriga successfully completed a series of projects for Dräger Medical Systems, such as:

- System-level software development;
- Embedded software development
- MS Windows and Linux applications development and maintenance;
- Applications porting;
- Testing Services:
 - Integration test specifications development;
 - Integration, functional, regression, safety, and other types of testing;
 - Automated testing (testing frameworks development and implementation).

As a reliable software outsourcing partner, capable to provide a comprehensive scope of services, Auriga offered a convenient solution for Dräger Medical Systems. As Mr. Elaz noted "The good thing is that Auriga has been able to assume responsibility not only for writing the code, the software, but also for getting involved with the integration testing, software testing." Mr. Elaz added "The business with Auriga has been growing every year, we are planning to grow it also in 2006".

Real-life Benefits

Outsourcing various development and testing tasks to Auriga enabled Dräger Medical Systems to get access to a wide pool of highly experienced, competent and stable software staff at a low cost, and allowed the Dräger Software team to focus on innovation. Among the general benefits of outsourcing, listed above Auriga keeps on bringing its own, unique positive features, including, but not limited to:

- Auriga's knowledge of the standards and processes used for the development of software products for medical device industry;
- Auriga's unique expertise in firmware and driver development enables implementing innovative solutions in medical device industry;
- Auriga's development team quickly gained the expertise in client's software internals and delivers complex projects on time and on budget;



- Auriga's optimized processes allow to increase the quality by performing code reviews (done offshore) throughout the development phase and to decrease product development cycle time by incorporating test development at the beginning of the development phase, rather than towards the end, thus decreasing the QA cycle and off-loading work from the client's onsite development and QA teams.
- Auriga's testing team constantly receives excellent evaluations from customers, acknowledging the exceptional level of Auriga's testing services.
- Auriga's experience in testing 3rd party components in order to verify their compliance to the standards used in medical device industry ;
- Auriga's diversified, time- and result-proven porting experience ensured smooth porting from expensive proprietary platforms to open-source Linux-based ones, expanding the range of global markets, increasing legacy margins worldwide, and decreasing dependency on proprietary platform manufacturers.
- Auriga's efficient staff management allows to maintain the stable teams of trained staff and to utilize engineering resources flexibly, quickly adding them to literally any development/testing area exactly when they are needed.

“ The big positive is that the competence level of the engineers is very high and it has increased since the initial relationships. We have started out with competent people that did not really understand what Dräger was doing. Now we have competent people that understand Dräger, so we've been able to maintain those people. What we do see - the performance of Auriga is constantly improving,” Mr. Cavallaro summed up. “The real issue is that we have too much work to do,” he added. Mr. Elaz recapitulated “With Auriga we can do more with less. ”

About Auriga, Inc.

Founded in 1990 and headquartered in Wilton, NH, Auriga belongs to the top list of the oldest and most adept U.S.-Russian IT outsourcing service providers. Having system and embedded development as its main areas of expertise, Auriga provides comprehensive services that cover overall software life cycle, starting from requirements analysis going through development, porting, re-engineering, testing to quality assurance, release engineering, and maintenance for OEMs, software product vendors, medical device manufacturers, telecommunication service providers, and many more worldwide. The Auriga client list includes, but is not limited to such industry majors as IBM, Dräger Medical Systems, LynuxWorks, NMS Communications, and many others.

For further information see: <http://www.auriga.com>