

## Agile Software Development at Genova Technologies

Genova Technologies, Inc. (Genova) has been continuously improving its processes and methods since its inception in 1993. Successful integration of Agile software development methods into CMMI Level 3 processes has established Genova as an industry-leading software engineering services provider.

**Client benefits** generated by Agile software development methods have been validated through successful execution of large and small projects for multiple customers. Genova's clients have enjoyed exceptional collaboration, efficient adaptation to changing requirements, and rapid deliveries of functional software, even in highly regulated or certified software applications.

**Genova's Agile methodologies** may be tailored to seamlessly integrate with a customer's existing processes. Typical projects involve multiple Scrum teams performing full-lifecycle software development activities. Each Scrum team consists of a Product Owner, Scrum Master, and four to six software engineers.

**Experienced Scrum team leadership** is key to efficient performance. The Product Owner - the interface between the client's management, Agile product council, scrum of scrums and systems engineers – develops code, prioritizes work, and serves as the point of acceptance for user stories. The Scrum Master possesses in-depth product knowledge and interfaces closely with the Product Owner and development team. The Scrum Master also mentors and guides the team, leads daily standup status meetings, and facilitates the removal of any issues blocking the team's progress.

**Rolling wave scheduling** maximizes performance to schedule. Scrum teams operate on a schedule of two week sprints. Four consecutive sprints make up each product release. Activities performed during each product release include planning, execution, status reporting, evaluation, feedback, and documentation of lessons learned. The frequent iterations have many positive effects: reduced cost of poor quality, increased adaptability to changing requirements and priorities, improved visibility to overall project status, enhanced communications, and higher efficiencies.

### Fast Facts

**Company:** Genova Technologies, Inc.

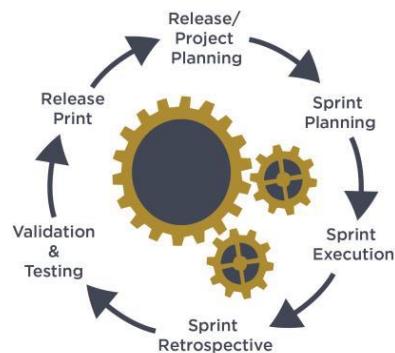
**Industry:** Aerospace, defense, and commercial

**Project:** Software engineering services projects in embedded communications and controls systems.

**Challenge:** Application of Agile development methodologies in mission-critical software.

**Solution:** Genova has integrated Agile practices into its CMMI Level 3 organizational process set, led by certified Scrum Masters and experienced Product Owners.

**Results:** Genova's clients benefit from exceptional collaboration, efficient adaptation to changing requirements and rapid deliveries of functional software.



**Continuous improvement and continuous integration activities** are often led by Genova engineers during an Agile software development project. Examples of recent continuous improvement efforts include test driven development (TDD), automated software in the loop (SIL) testing, and mentoring client engineers on Agile practices. Continuous integration activities have included automation of software builds, automated SIL testing, and automated deployment packages.

**The Customer Issues (CI) team** is a two-person team that works within the Agile framework but with a broader scope. Genova's CI team is comprised of two dedicated engineers who interface across multiple Scrum teams within a specific product line. The CI team serves two roles: the primary role is as the "tiger team," responsible for researching and resolving high priority field issues; the CI team also provides development support to address backlog technical debt and bring major issues under control. The CI team may assist with many different activities: code design, development, investigation, testing, release, data processing and logic, systems interface, human machine interface, configuration, and deployment. This team operates with fluid priorities and responsibilities, and is directed by the product line group manager while closely interfacing with the Scrum teams' Product Owners or Scrum Masters.



**Dedicated secure Scrum areas** are key to the successful execution of Agile software development. Genova's facilities include Scrum areas that are secured for the protection of proprietary and classified materials. Dedicated conference rooms, equipped with the latest communications technologies, enable critical communications and collaboration with remote teammates.

### Genova's Value

- **Agile software methods integrated into CMMI Level 3 processes** ensure clients capitalize on Agile methodologies, without sacrificing consistency or quality.
- **Demonstrated performance** of fully trained Scrum teams, led by certified Scrum Masters and experienced Product Owners.
- **Dedicated secure Scrum areas** protect customers' data, while providing for optimum communication and collaboration.
- **Two decades of software engineering services expertise** provides the foundation for successful technical execution.