The Spiral System Engineering Process

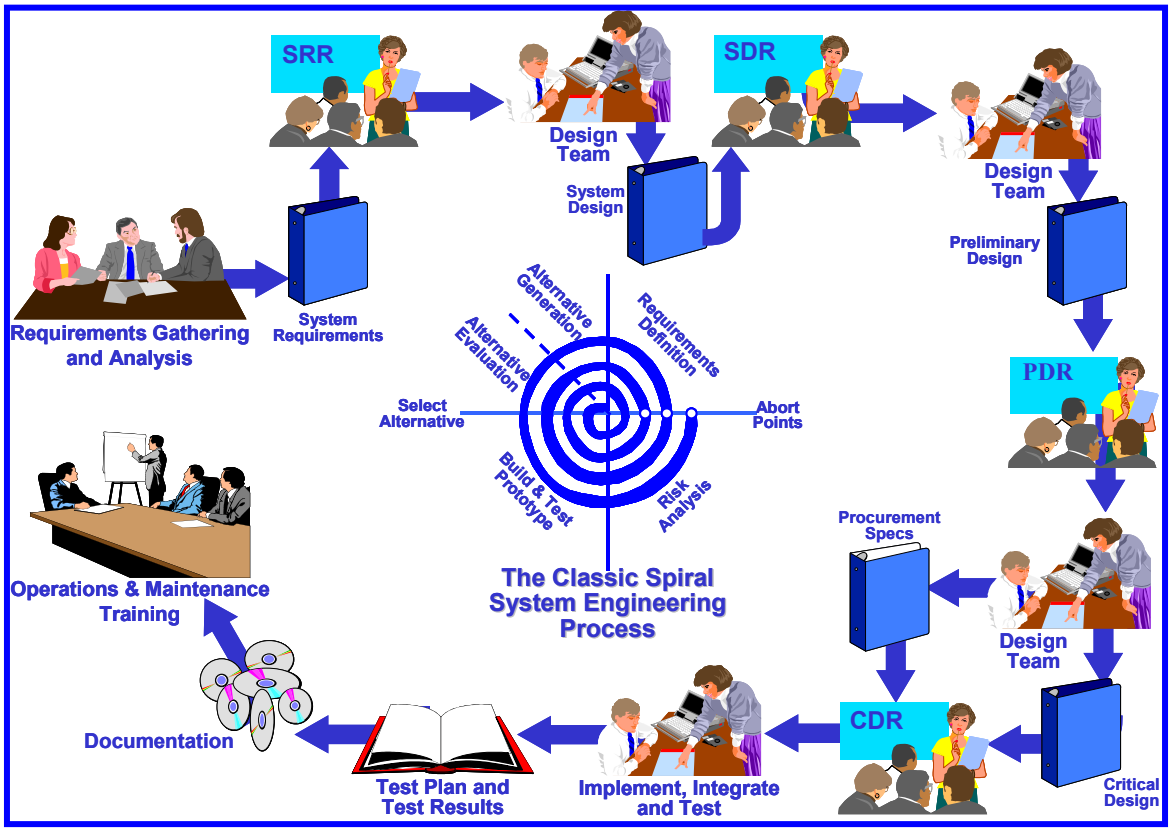
Spiral Technology, Inc.

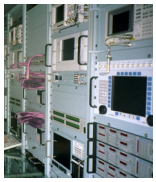
Spiral Technology, Inc. uses the "Classic Spiral System Engineering Model" as the foundation for our various developmental engineering projects. Dr. Barry Boehm created the spiral model in 1988. Each cycle of the spiral includes requirement identification, alternative generation, alternative evaluation, prototype development and testing, planning for the next cycle, cycle review outcome, risk evaluation and abort points.

Multiple prototypes are generated over the development phase, with each prototype revealing new information about the problem and requirements. Each cycle of the Spiral includes:

- Requirements Gathering and Analysis
- Develop an SRD and conduct an SRR
- Prepare a System Level Design (Architecture)
- Prepare Preliminary System Design and conduct a PDR.
- Prepare Critical Design and conduct a CDR.
- Then implement the design and integrate all components into a usable system.
- Prepare detailed test plans and document results.
- Finalize documentation for system maintenance and Sustaining Engineering.
- Provide O&M Training for all O&M personnel.

From the Army Test and Evaluation Command it is clear that *"The trend in military acquisition is "spiral" development with Integrated Product Teams (IPTs) planning tests in which contractor and Government tester needs are coordinated and integrated."* Spiral has successfully used this Model over the years on a wide variety of projects ranging from large telemetry data acquisition systems, spacecraft integration and test, to small, one-of-a kind hardware / software components for both Government and commercial clients.





Examples of Spiral's successful implementation of this process include Development of our OTIS™ product suite, providing setup, monitor, and control of airborne, telemetry, RF acquisition, and ground station equipment; Development of the Telemetry / Radar Acquisition and Processing System (TRAPS) at NASA's Dryden Flight Research Center; and the Air Force Research Laboratory's oversight contractor for the Naval Research Laboratory's design and development of the GPS Patch Antenna on the Clementine II Spacecraft.