**Embedded Systems V Model**

**Product Requirements**
- System & Safety Requirements

**Software Design**
- Software Implementation

**Software Unit Testing**
- Software Integration & Verification Testing

**Testing of Embedded Software**
- System Integration & Testing

**System & Safety Requirements**

**Test Phases**
- Coding & Unit Verification

**Design Phases**
- Code & Unit Verification

**STATIC ANALYSIS TOOLS**

**Astrée**  A static code analyzer that proves the absence of runtime errors and invalid concurrent behavior in safety-critical software written or generated in C/C++.

**StackAnalyzer**  Automatically determines the worst-case stack usage of tasks in your application. Finds stack overflows.

**TimingProfiler**  Helps identify application parts that cause unsatisfactory execution times. Delivers results as soon as code is compiled, so it can be used very early in the development process, when measurements on physical hardware are costly or plain impossible.

**aiT WCET Analyzer**  Statically computes tight bounds for the worst-case execution time (WCET) of tasks in real-time systems. The tool analyzes binary executables and takes the intrinsic cache and pipeline behavior into account.