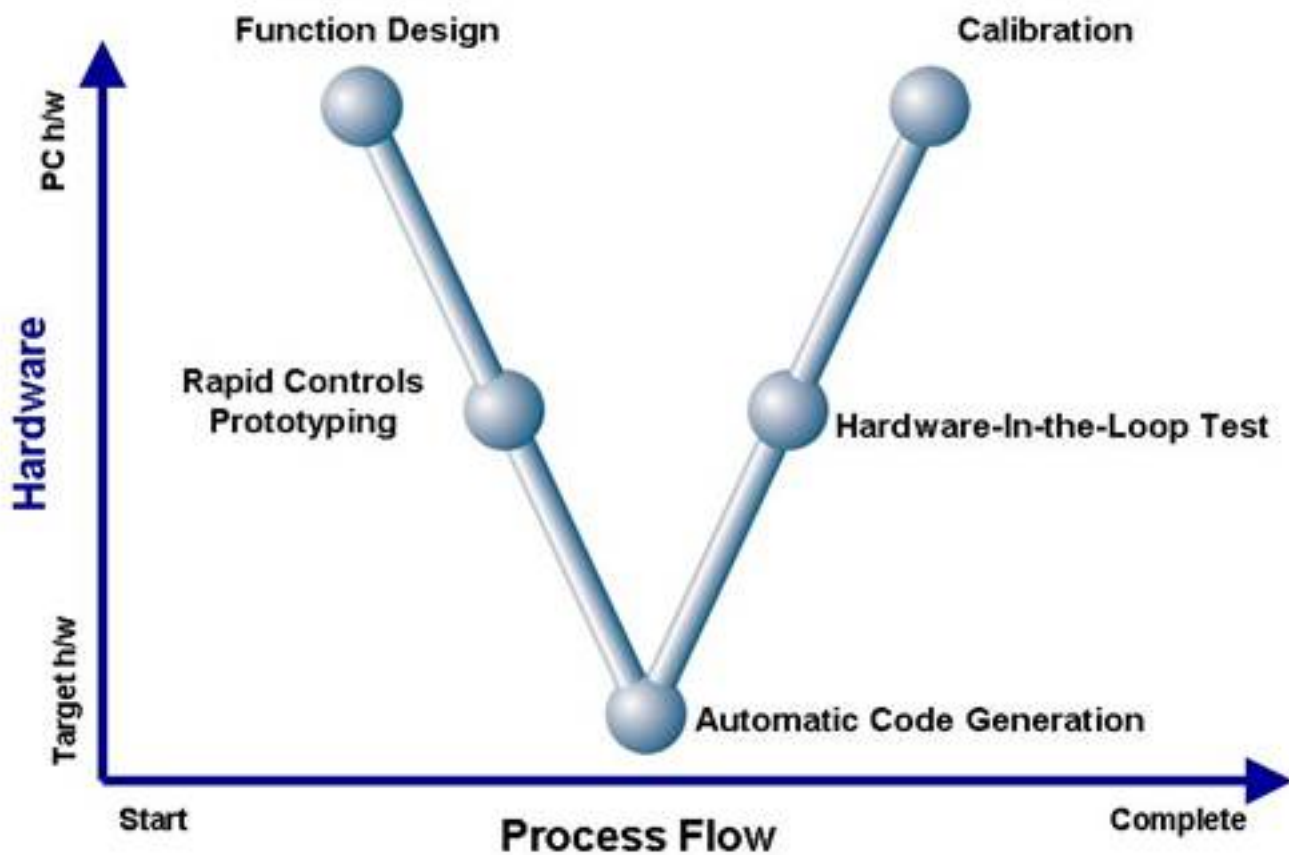


The V-Cycle of Model-Based Software Development Methods

The V-Cycle is a graphical construct used to communicate a model-based software development methodology. The V-Cycle is a term almost exclusively used in the automotive software development tools market. It is not generally used in, for instance, aerospace markets. Does the V-Cycle really depict the actual linkages in a model-based software development process? The answer is "no." It has mostly been thrust by development tool vendors who use it as a communication tool. The V-Cycle is shown in Figure 1.

The V-cycle



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The coordinates of the V-Cycle are process flow (x) and hardware (y). For example, function design is done at the start of the development process using a math-modeling application on a Personal Computer. Thus, it is at the "start" of the process (x-axis), and the "top" of the hardware spectrum (y-axis). Examining the other points on the V-

Cycle quickly you can quickly rationalize or contradict their placementJ .

Again, the V-Cycle does not define or dictate a process. It is just easier to say "V-Cycle" than "*function design, rapid controls prototyping, automatic code generation, hardware-in-the-loop, calibration.*"

[Home](#)

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