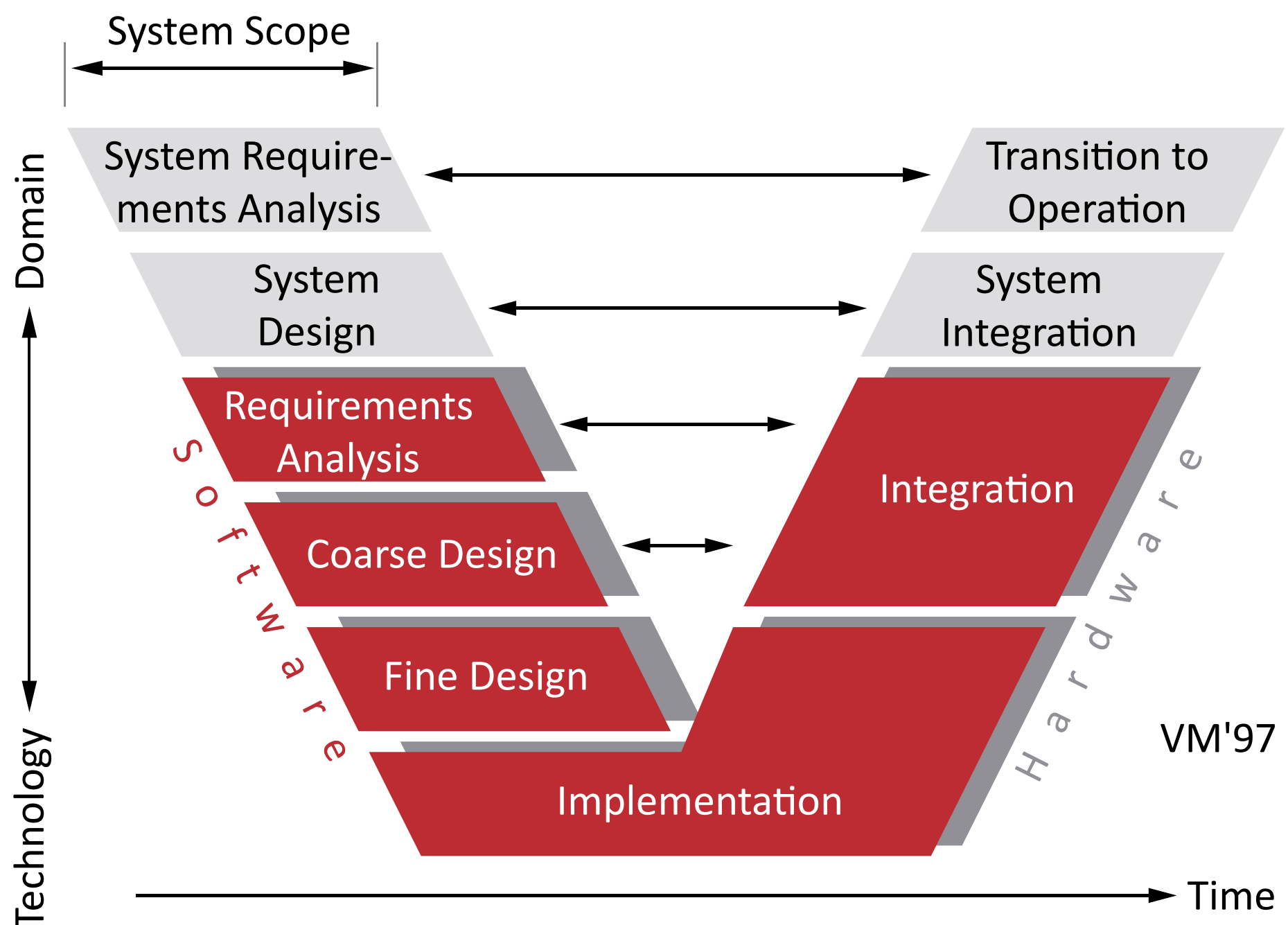


V-Model-Type Development Processes



Application Areas

The V-Model defines the relevant sub-processes and their dependencies and data-flows, it does not define detail processes. The VM defines a large number of artifacts ("document types"), roles, and tools in a detailed way. Given that it originates from domains such as defense and aerospace, where large, safety critical systems dominate, it is mostly seen as the high-level process structure for system-of-system development. It is less well-suited for small-scale and highly dynamic development efforts as they are common in web systems and consumer software.

Tayloring

The V-Model specifically prescribes that before applying it, its parts and guidelines should be tailored to remove elements that are not necessary, add missing parts, and arrange the overall structure to fit the project. Given the V-Model's considerable complexity, this is often not done sufficiently.

Iterative Development

Despite common perception, the V-Model does not imply any specific process paradigm, in particular, sequential development. Iterative development at a detail level is actually encouraged. As with all iterative/incremental processes, this incurs additional management overhead.

System-of-Systems

The V-Model specifically addresses system-of-systems development with explicit sub-processes for hardware and software development, respectively. A similar approach is commonplace today in the automotive industry where x-in-the-loop techniques allow decoupling and lead to considerable speed-ups.

