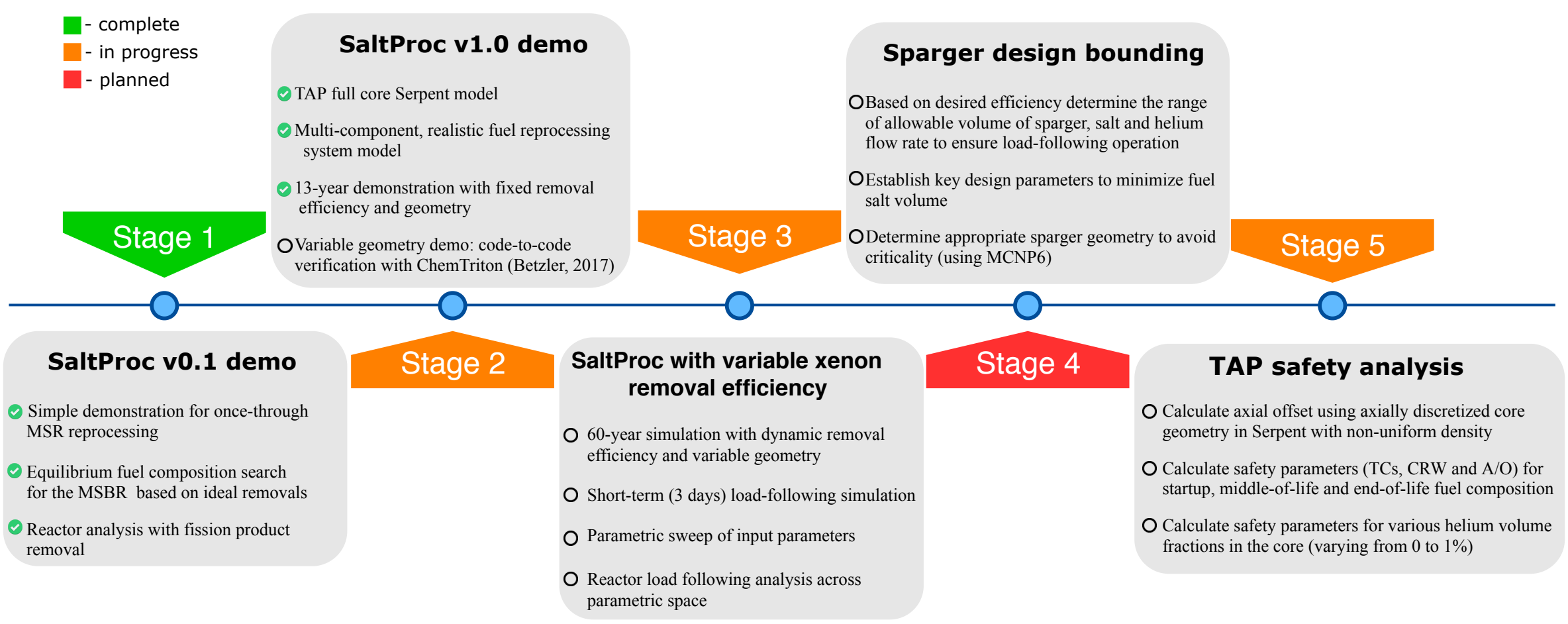
- complete
- in progress
- planned
SaltProc v1.0 demo
TAP full core Serpent model
Multi-component, realistic fuel reprocessing system model
13-year demonstration with fixed removal efficiency and geometry
Variable geometry demo: code-to-code verification with ChemTriton (Betzler, 2017)
Sparger design bounding
Based on desired efficiency determine the range of allowable volume of sparger, salt and helium flow rate to ensure load-following operation
Establish key design parameters to minimize fuel salt volume
Determine appropriate sparger geometry to avoid criticality (using MCNP6)
Stage 1
Stage 3
Stage 5
SaltProc v0.1 demo
Simple demonstration for once-through MSR reprocessing
Equilibrium fuel composition search for the MSBR based on ideal removals
Reactor analysis with fission product removal
Stage 2
SaltProc with variable xenon removal efficiency
60-year simulation with dynamic removal efficiency and variable geometry
Short-term (3 days) load-following simulation
Parametric sweep of input parameters
Reactor load following analysis across parametric space
Stage 4
TAP safety analysis
Calculate axial offset using axially discretized core geometry in Serpent with non-uniform density
Calculate safety parameters (TCs, CRW and A/O) for startup, middle-of-life and end-of-life fuel composition
Calculate safety parameters for various helium volume fractions in the core (varying from 0 to 1%)