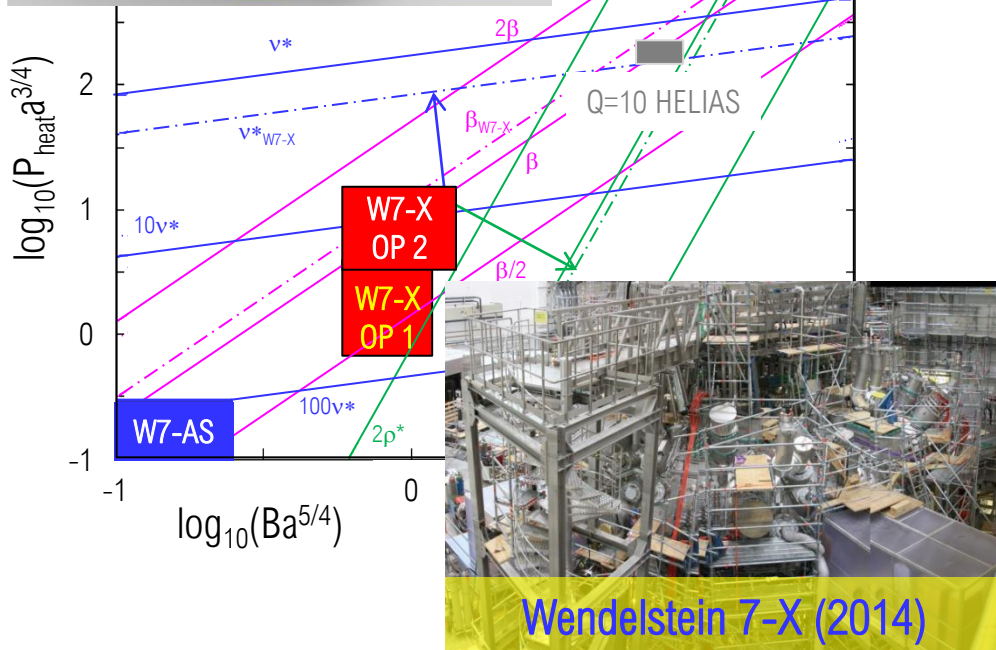
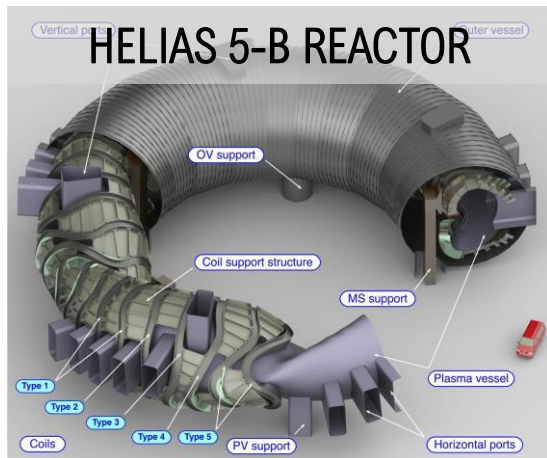


The Road to a HELIAS Reactor



W7-X Initial Operation Phases (OP)

2015 - OP1.1 (short-pulse limiter phase)

- verify good flux-surfaces
- first plasma

2016/17 - OP1.2 (pulsed, un-cooled divertor)

- prepare for steady-state/high-power operation
- assess impact of stellarator optimization

- 1) increase density & develop scenarios
 - fuelling/density control, heating
 - prepare safe divertor operation
- 2) use configuration flexibility
 - study effects of optimization
- 3) **begin** to address physics topics
 - divertor physics
 - impurity transport/PWI
 - transport: neoclassical, turbulence, ...
 - fast ion generation
 - high-beta & MHD

>2019 – OP 2 (steady-state divertor)

- to integrated, steady-state, high-power/high-density operation