

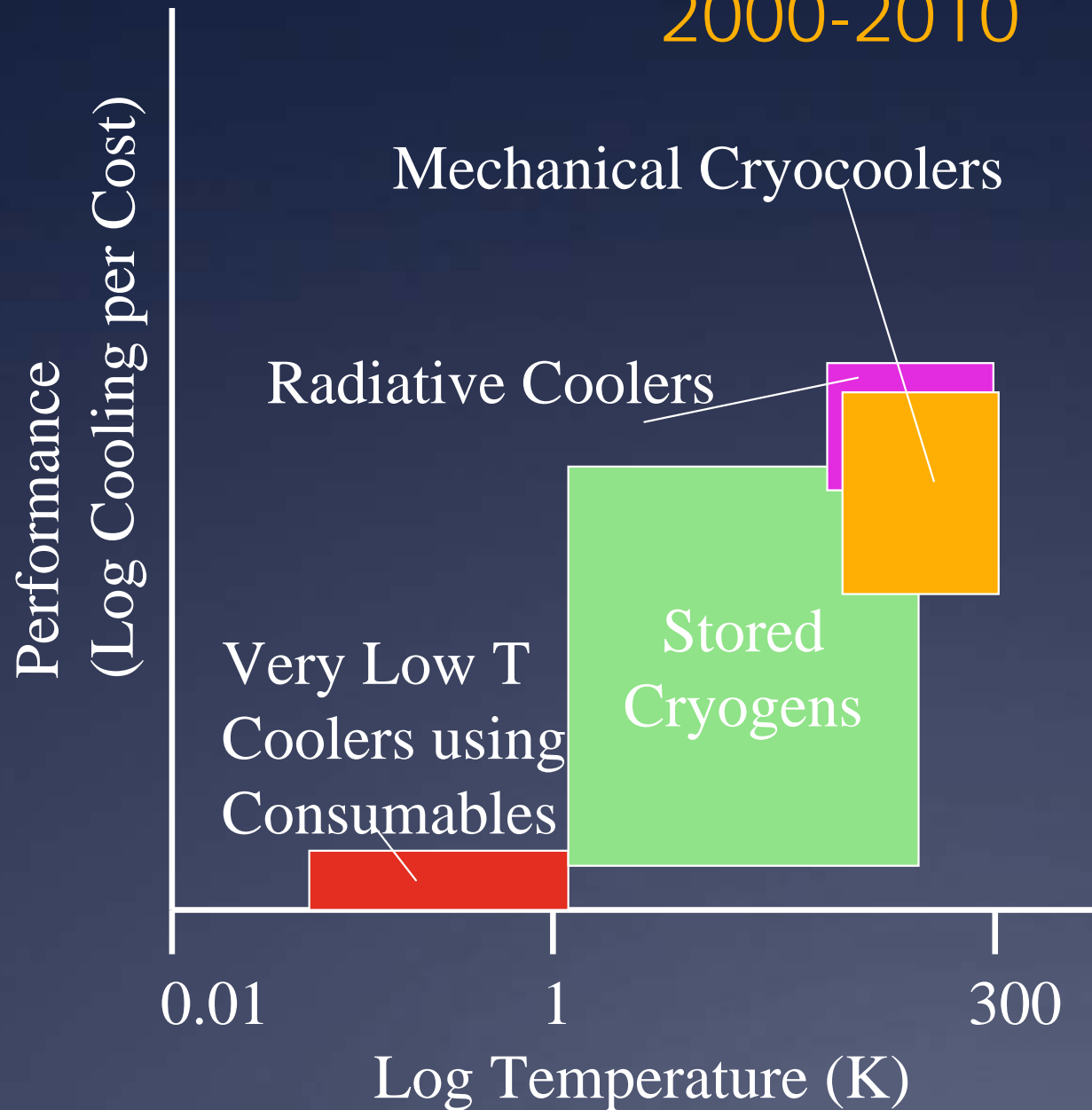
Cryogenic Technology for CMB-Pol

Wrap Up

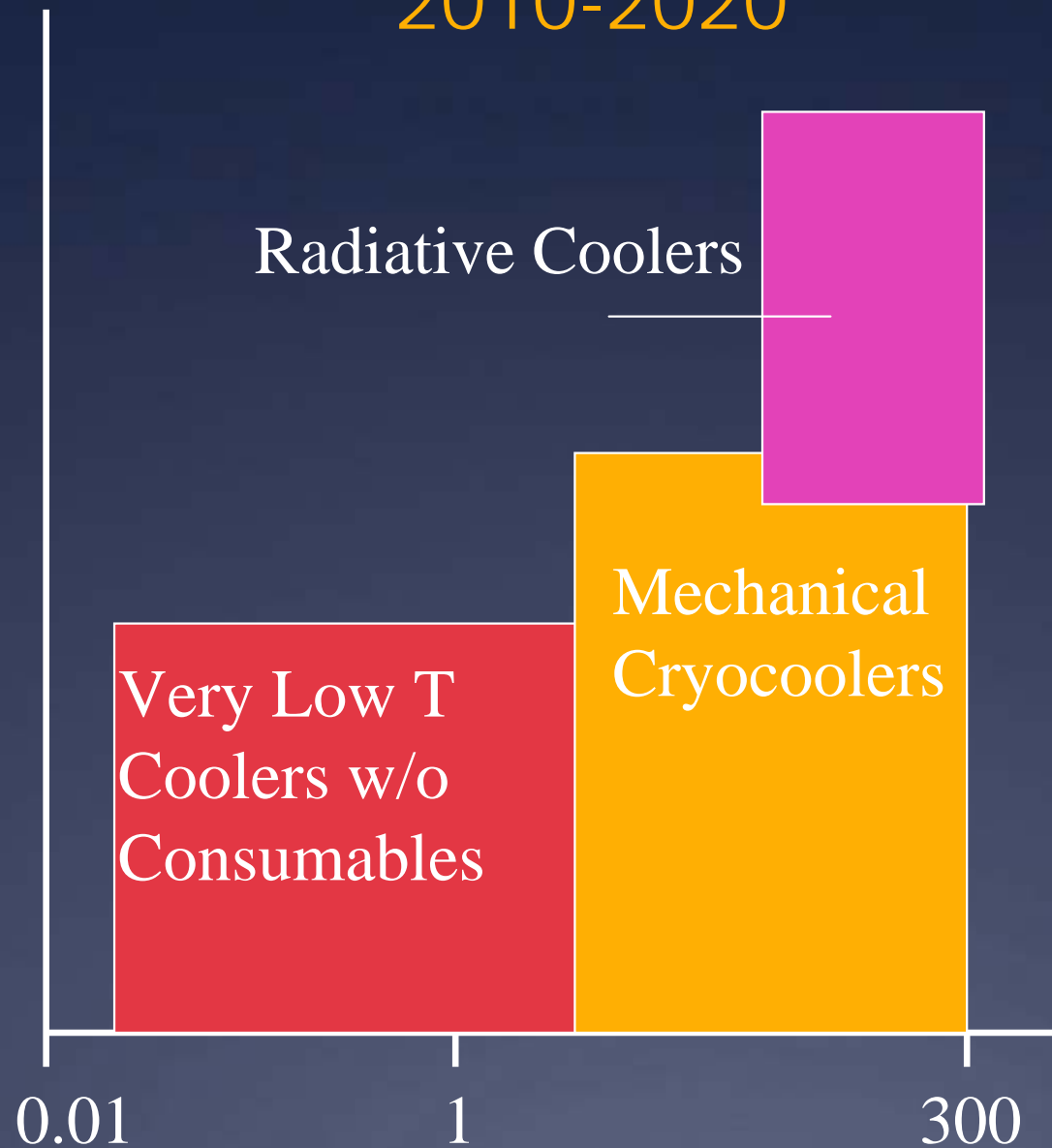
CMB-Pol Needs

- * Integrated Long Life, Low Mass, Low Power System with Operational Flexibility and High TRL
 - * Passive cooling
 - * High efficiency mechanical coolers
 - * High performance, flexible subKelvin coolers

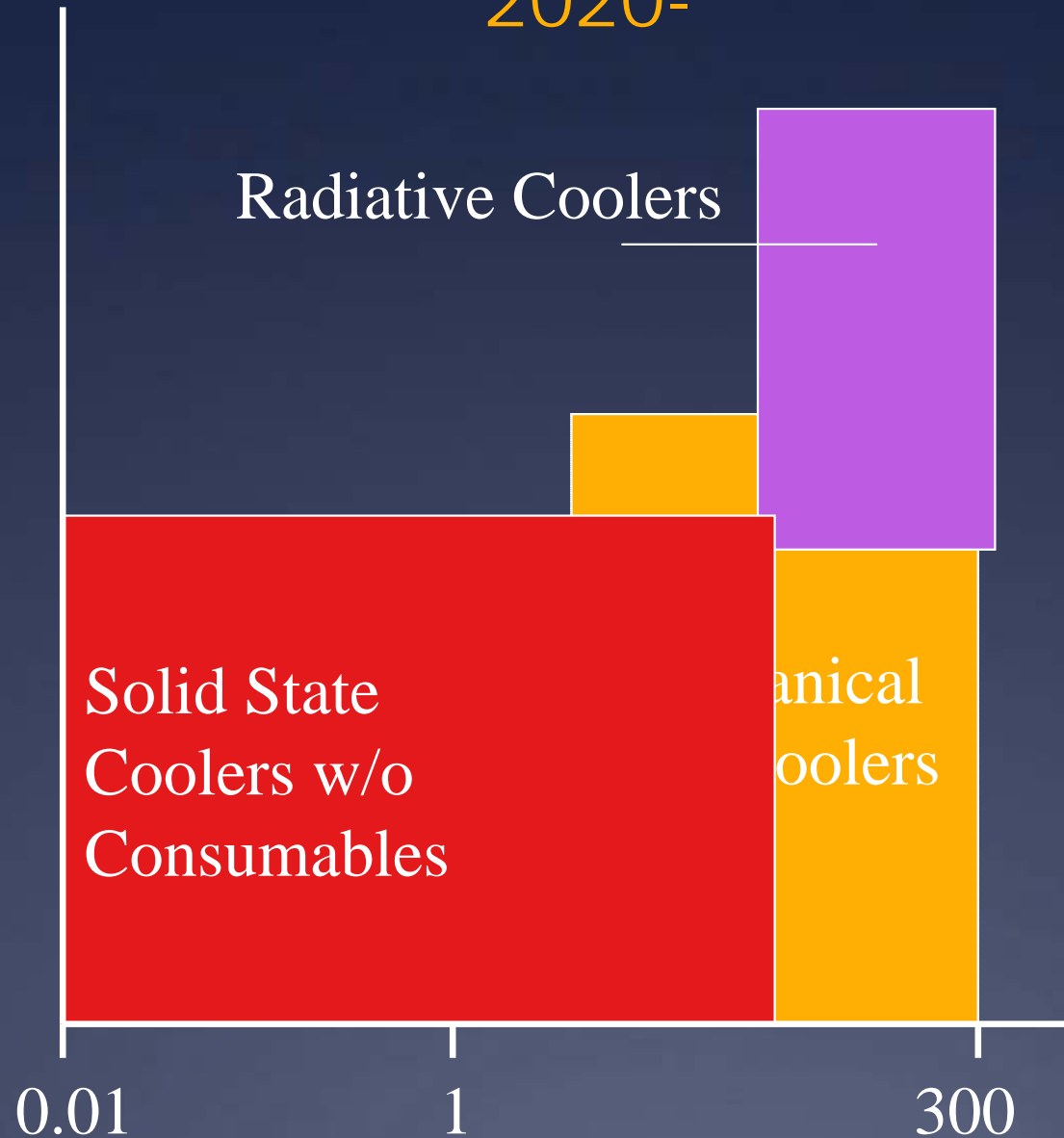
Evolution of Cryocooling in Space 2000-2010



Evolution of Cryocooling in Space 2010-2020



Evolution of Cryocooling in Space 2020-



Summary Statement

- * The cryogenic cooling technologies required for a CMBPol space mission exist now or will exist soon at the TRL 5 level
 - * Ready for mission design and development
- * Coupled with intelligent thermal design can lead to a simplified instrument