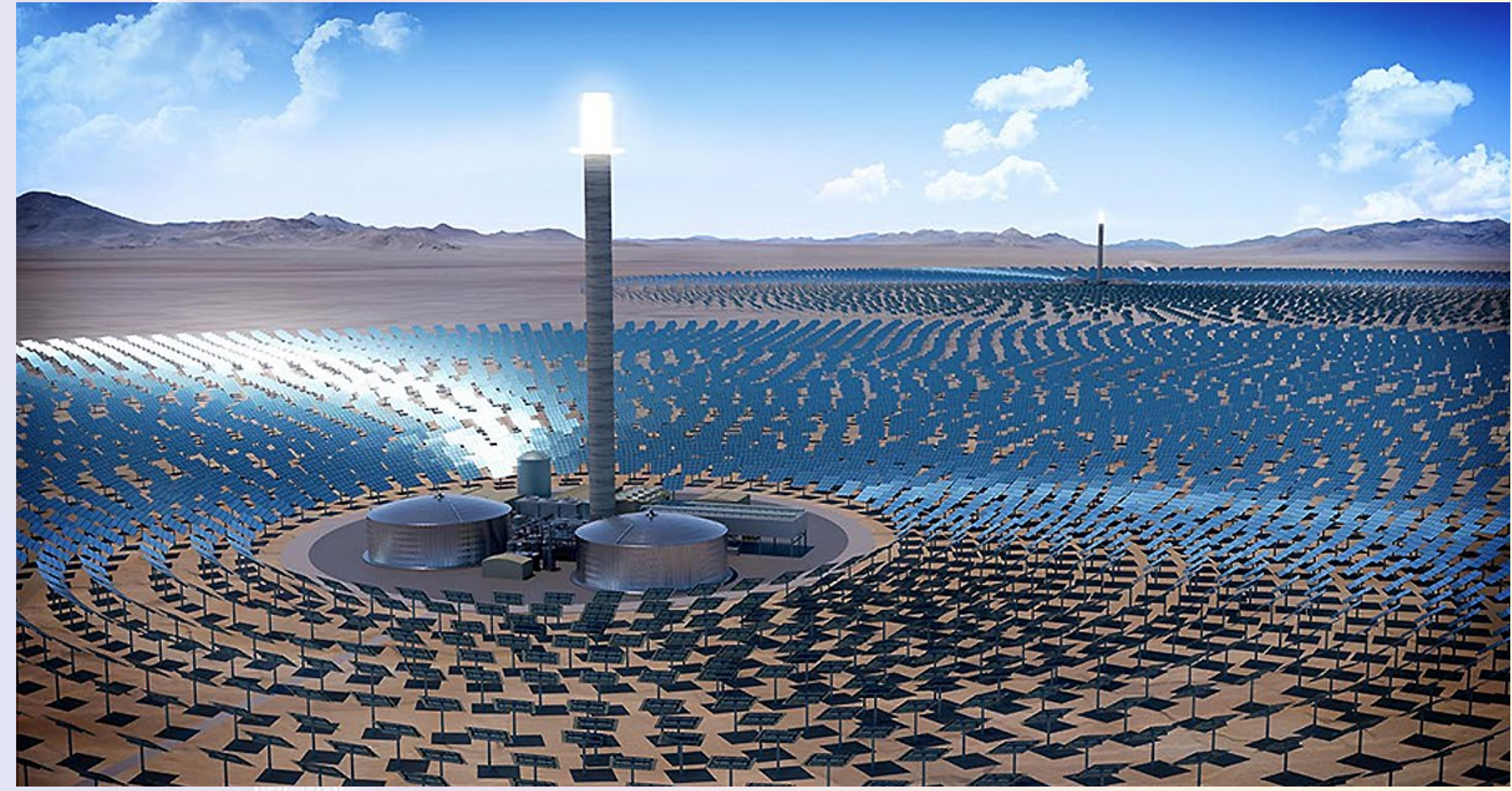


Key criticalities for UHTCs applications

I Low thermal shock resistance

II Manufacturing for 60 min at 2000 °C

III No post process machining



UHTC light absorbers may increase the concentrated solar power efficiency thus converting the green energy into profit-making business. The main issue – low thermal shock resistance of UHTCs



UHTCs are the key candidates for the new generation hypersonic aircraft and re-entry vehicles thermal protection systems



Key advantages of reactively sintered heteromodulus UHTCs

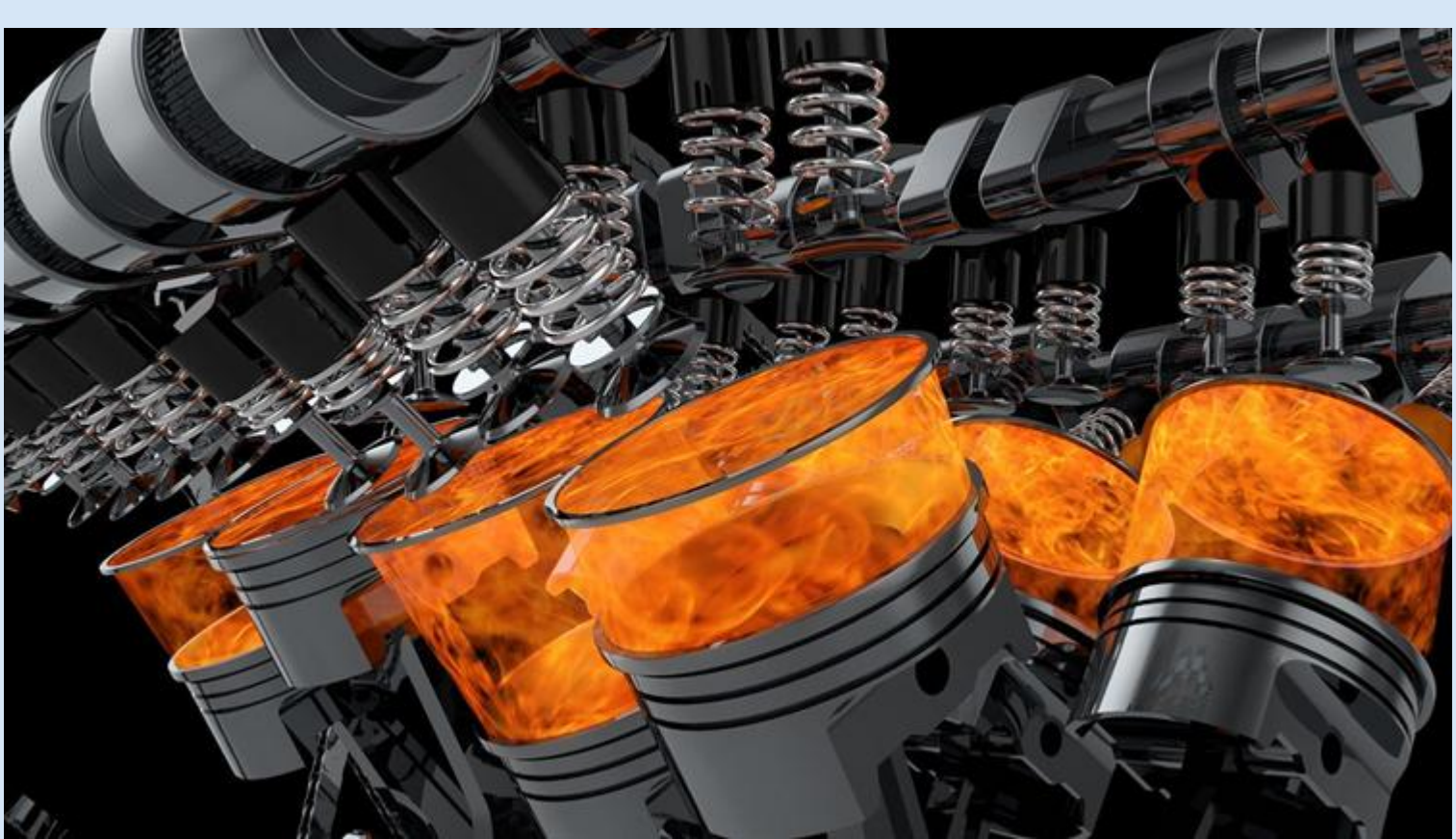
I Hundredfold improved thermal shock resistance

II Manufacturing for 2 min at 1850 °C

III Machinable



UHTCs engines can operate at elevated temperature which increases their efficiency while decreasing exhaust and CO emission



Conclusions

- ✓ The use of ultra-high-temperature ceramics unblock next generation of speed and energy conversion
- ✓ The key UHTC issues are solved in reactively sintered heteromodulus UHTCs