

ESS Challenges, Past & Remaining

Automotive— Aviation—

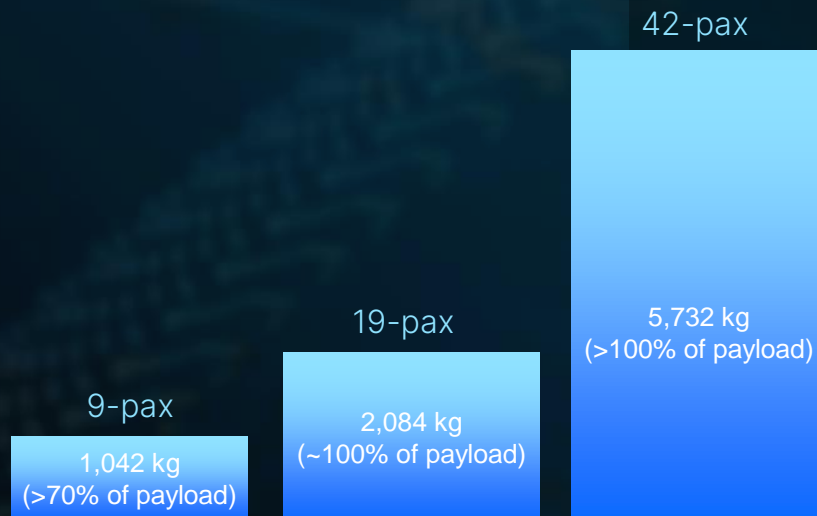


Energy storage density challenge



The elephant on the electric plane

IFR fuel reserves



Energy storage thermal challenge

Irrecoverable Thermal Runaway Onset ~130C



Raise this temp

Rapid life degradation



Raise this temp

Max Normal Battery Temp ~60C

SL Hot Day 39.4C



Fault tolerant, lightweight reduction of temp rise in discharge and charge