





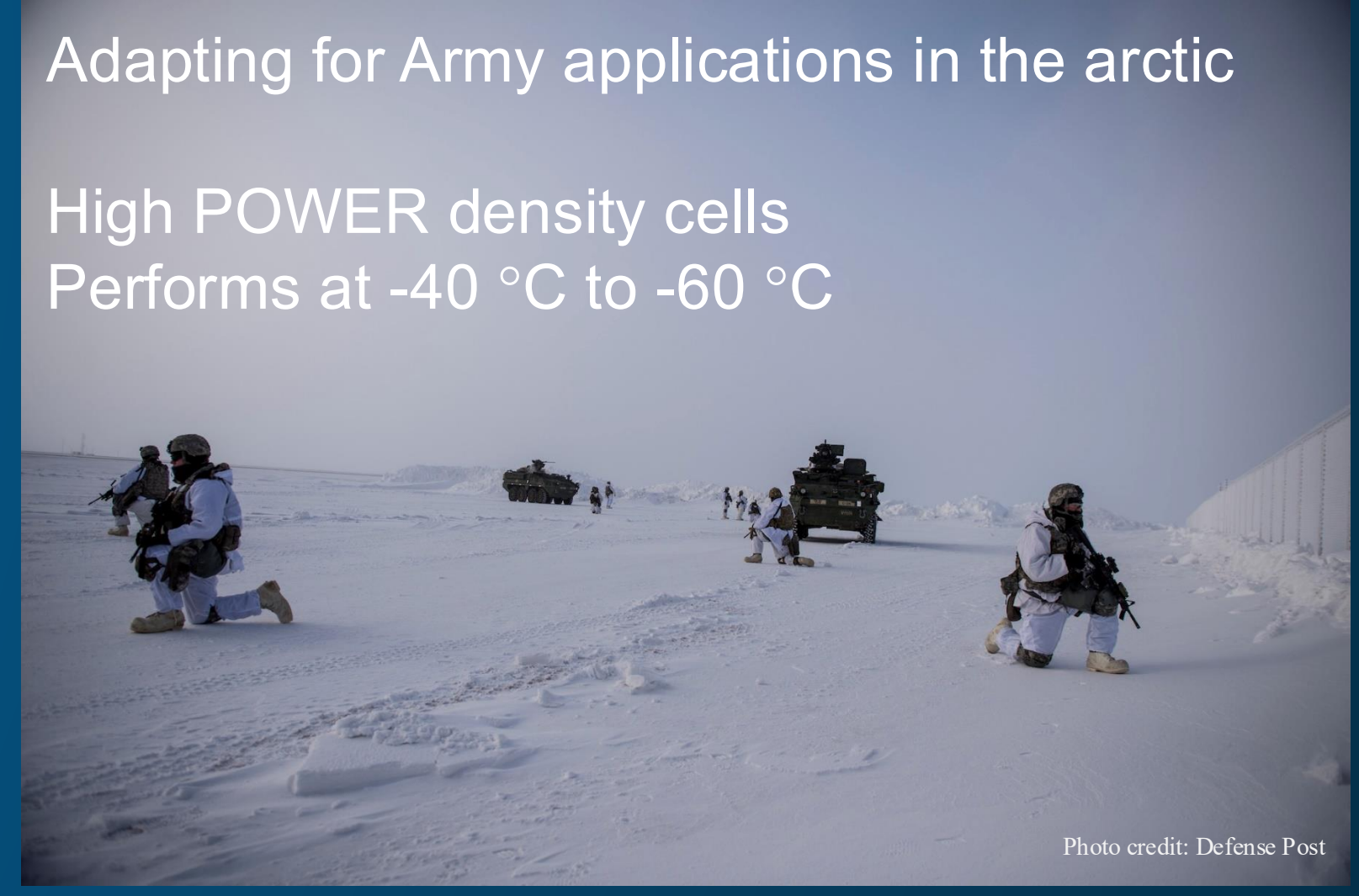
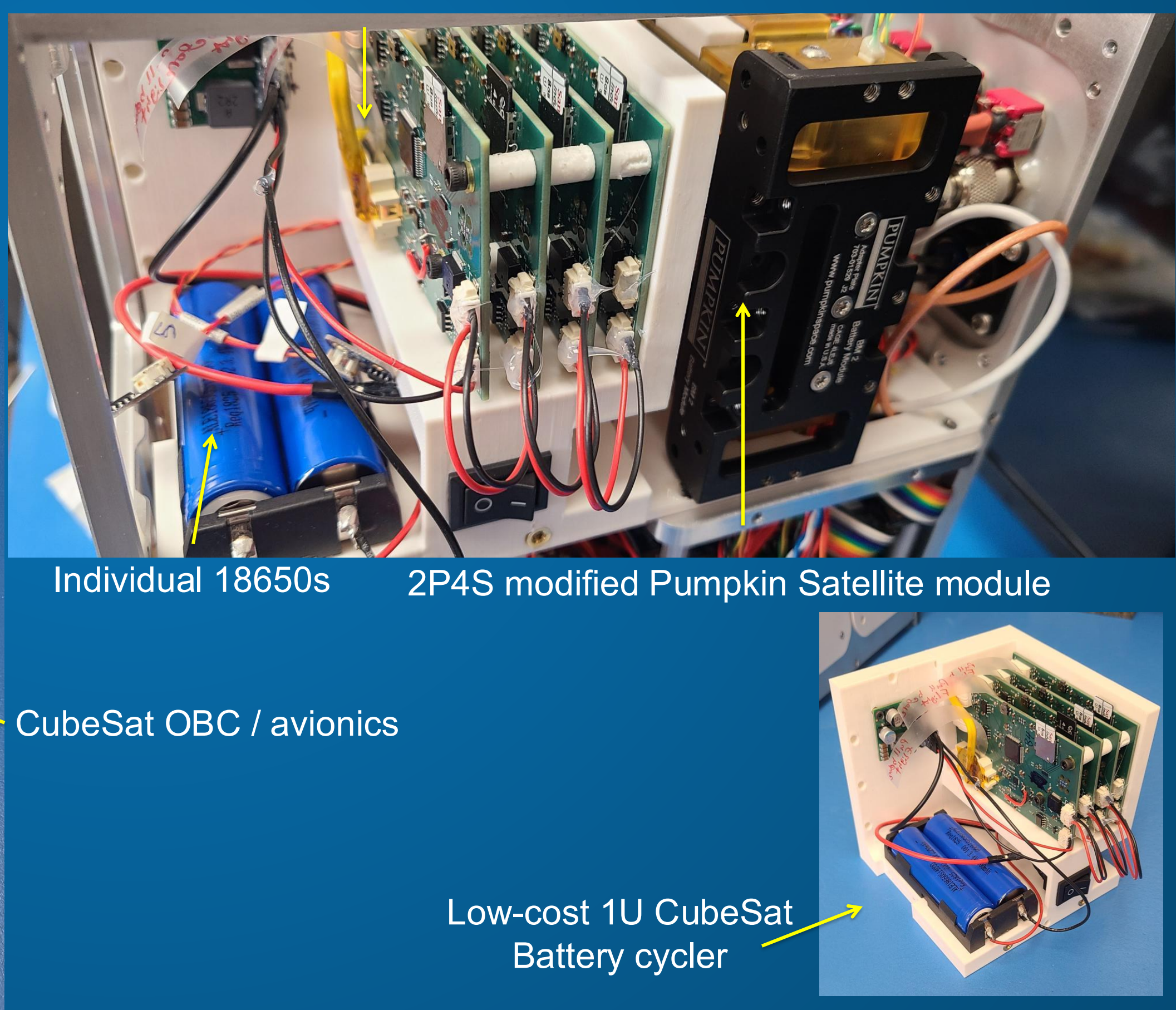
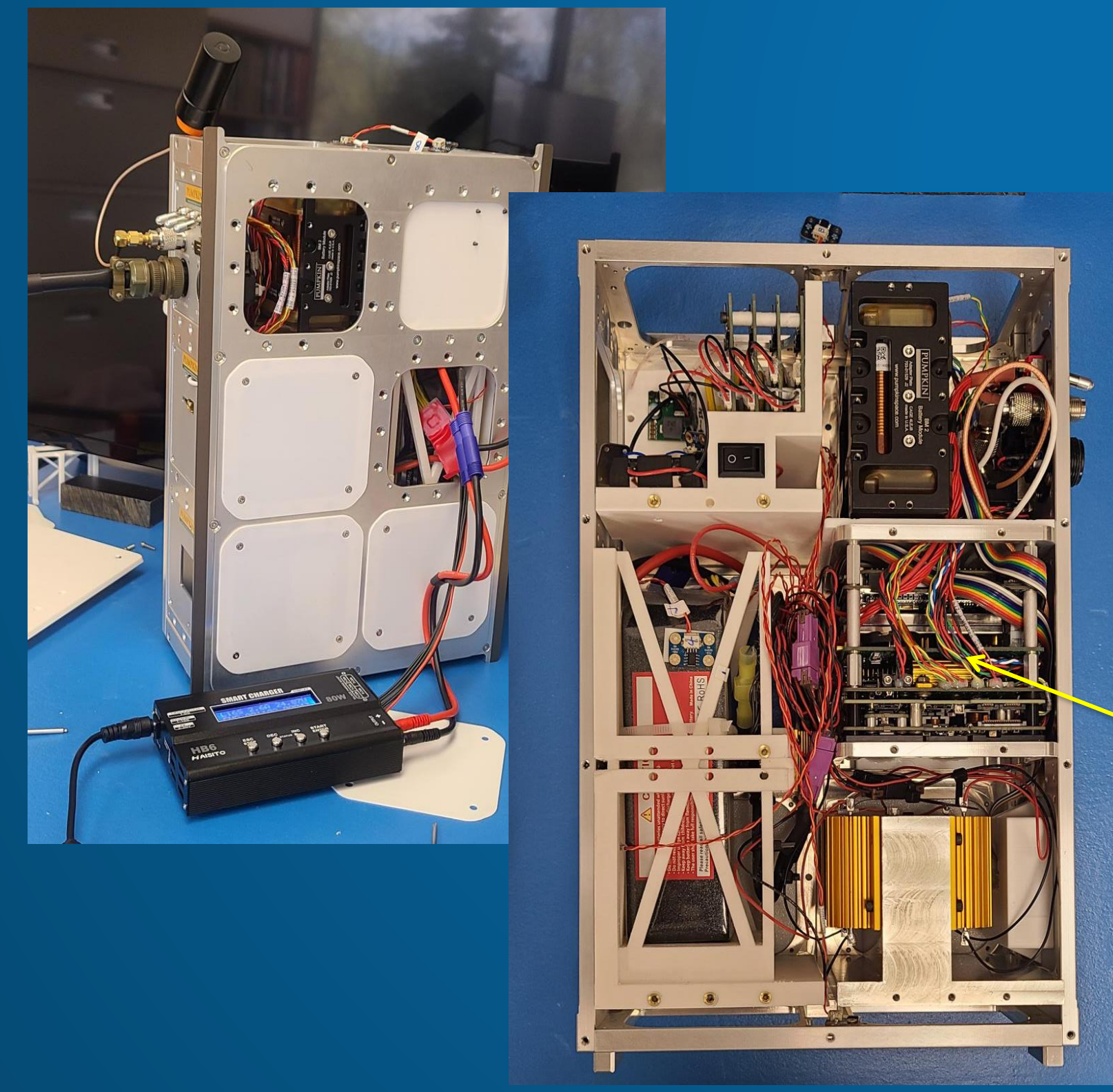
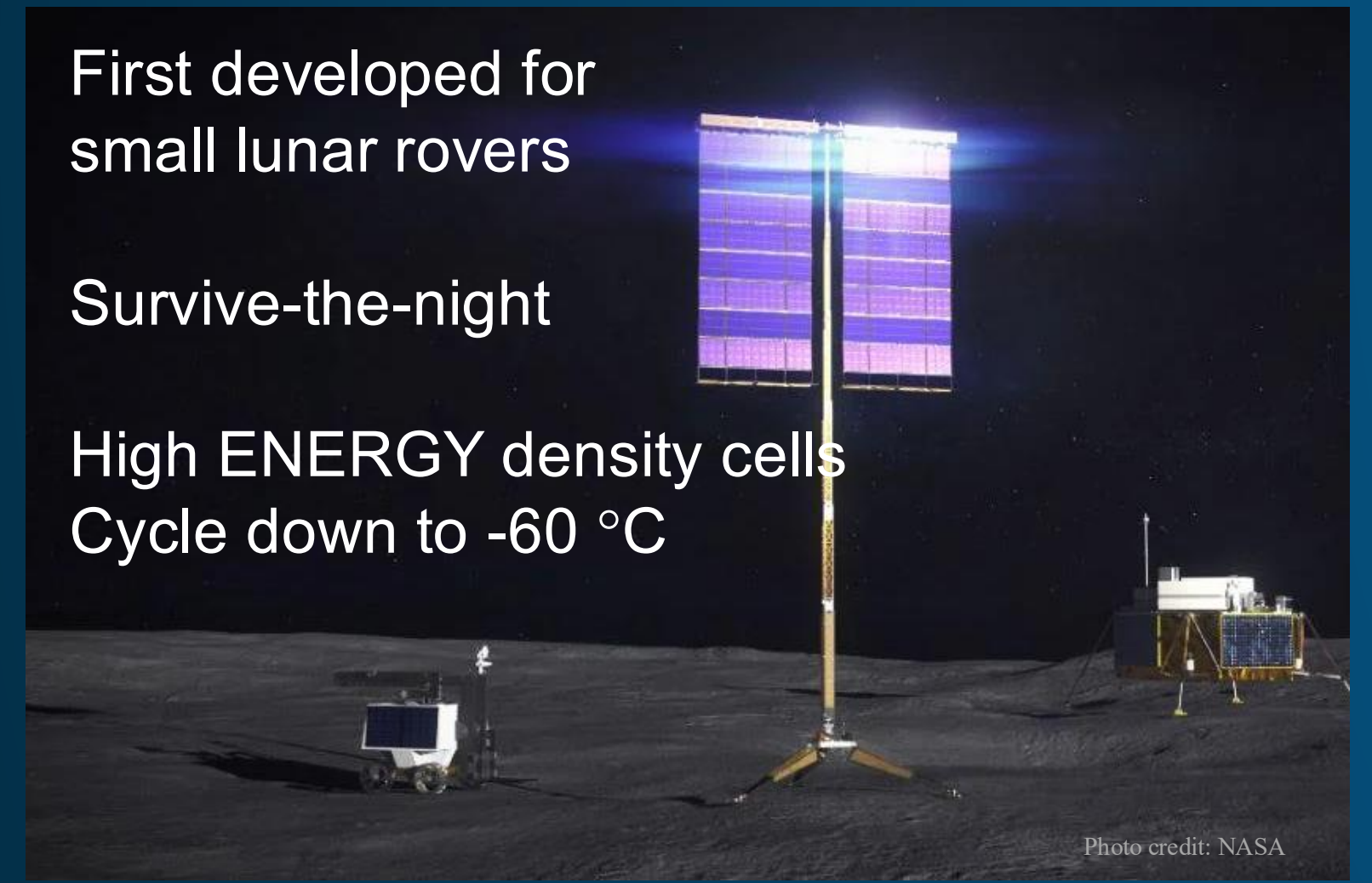
# UPDATE ON RECHARGEABLE LITHIUM BATTERY DEVELOPMENT FOR SURVIVING THE LUNAR NIGHT

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|                |  |  |  |  |
|----------------|---|---|---|---|
|                | <b>TDA Low Temp ENERGY Lunar cell</b>   | <b>Molicel M35A</b>   | <b>LG Chem MJ1</b>  | <b>Samsung 30Q</b>  |
| Geometry       | 18650   | 18650   | 18650   | 18650   |
| Weight (g)     | 46.5 g  | 49.0 g  | 49.0 g  | 48.0 g  |
| Capacity (Ah)  | 3.8 Ah  | 3.5 Ah  | 3.5 Ah  | 2.95 Ah   |
| Energy (Wh)    | 13.44 Wh  | 12.6 Wh   | 12.98 Wh  | 10.325 Wh   |
| Wh/kg @ +22 °C | 289 Wh/kg   | 250 Wh/kg   | 265 Wh/kg   | 215 Wh/kg   |
| Wh/kg @ -40 °C | 182 Wh/kg   | 71.4 Wh/kg  | 2 Wh/kg   | 0   |
| Wh/kg @ -60 °C | 140 Wh/kg   | 0   | 0   | 0   |

## 6U CUBESAT PAYLOAD – STRATOSPHERE TEST

Zero pressure balloon – 60,000 ft.  
Expected low temperature of -50 to -80 °C  
Near vacuum



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