



Sandia
National
Laboratories

Exceptional service in the national interest

Pacific Operational Science and Technology Conference: “Faster Together, Accelerating the S&T Community to the Speed of Innovation”



James S. Peery
Laboratories Director
Sandia National Laboratories

March 10, 2022



Sandia National Laboratories is a multimission laboratory managed and operated by National Technology and Engineering Solutions of Sandia LLC, a wholly owned subsidiary of Honeywell International Inc. for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.
SAND2022-XXXX PE



SANDIA IS A FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTER(FFRDC) MANAGED AND OPERATED BY

National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc.

Government owned, contractor operated

FFRDCs are long-term strategic partners to the federal government, operating in the public interest with objectivity and independence and maintaining core competencies in missions of national significance

OUR FUNDING AND WORKFORCE ARE ROBUST



ESTIMATED FY22 BUDGET **\$4.2B**



FY21 TOTAL LAB EXPENDITURES
\$3,902,853,000



14,920 EMPLOYEES



SEVEN ACAT-1 PROGRAMS - MORE WORK AND EXPECTATIONS THAN EVER BEFORE - MUST FIND WAYS TO GO FASTER



Mk21 Arming & Fuzing Assembly



W88 Alteration (ALT) 370



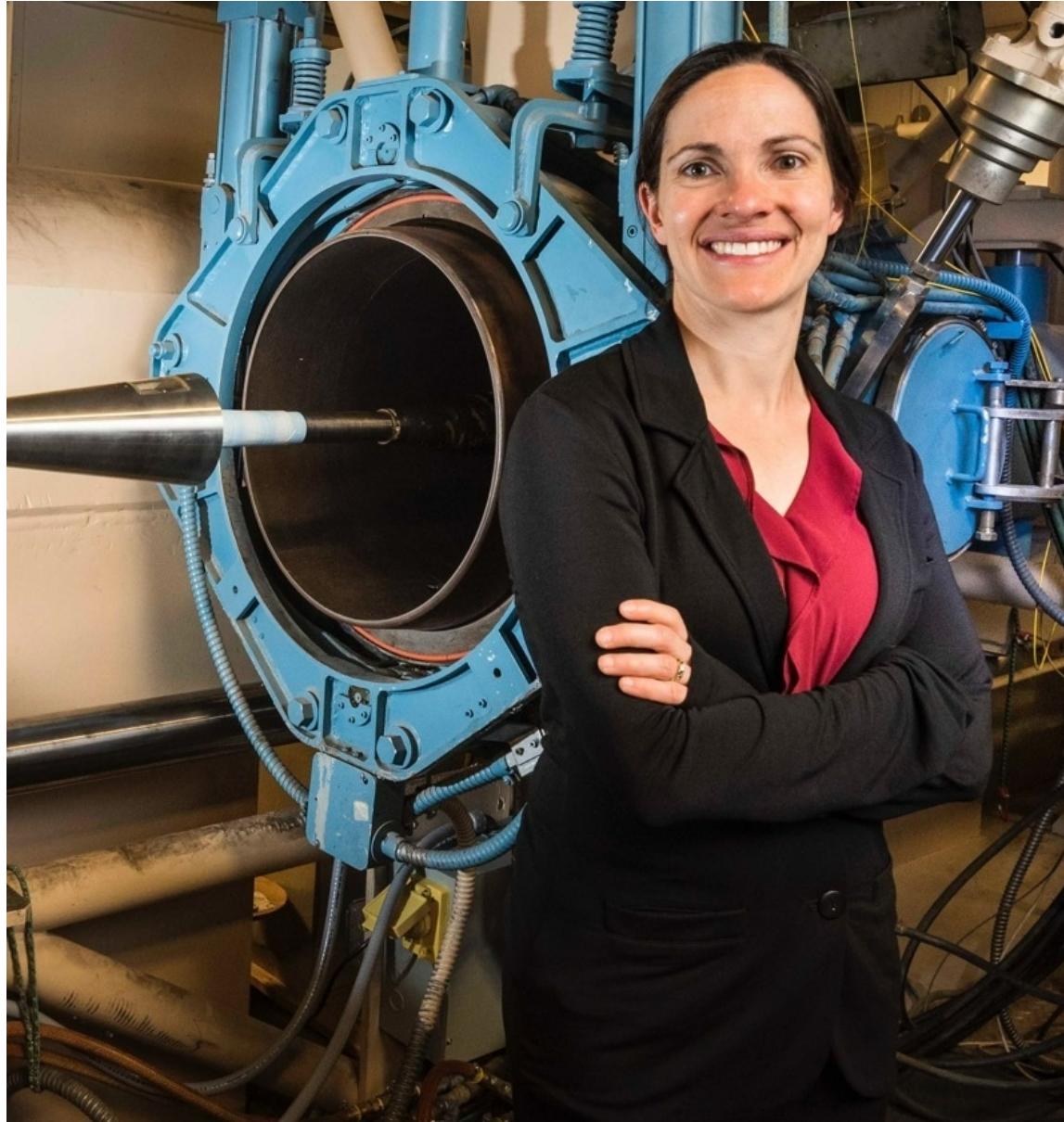
Mobile Guardian Transporter



W80-4 Life Extension Program (LEP)



MOVING FASTER: HERE'S WHAT WE'RE DOING



PROJECT GOAL

Create dynamic controls ground-test capability for vehicle performance characterization

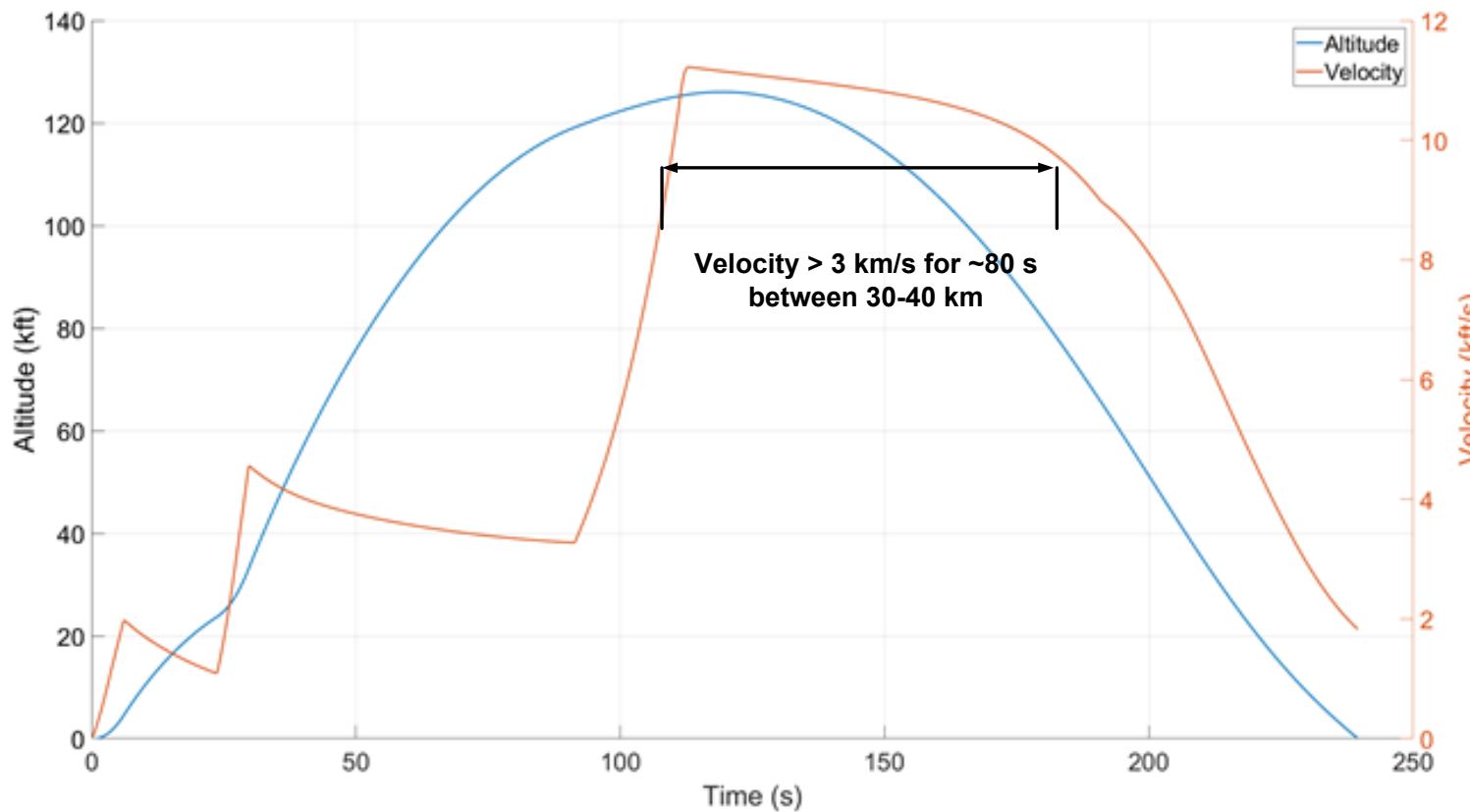
MISSION IMPACT

Provide confidence in and performance of control motion planning algorithms. Working with academic partners to evaluate maneuvers to develop onboard library.

NEW CAPABILITY

Successfully demonstrated control in-the-loop hypersonic wind tunnel test

H4H TRAJECTORY DETAILS: *Depressed Trajectory*



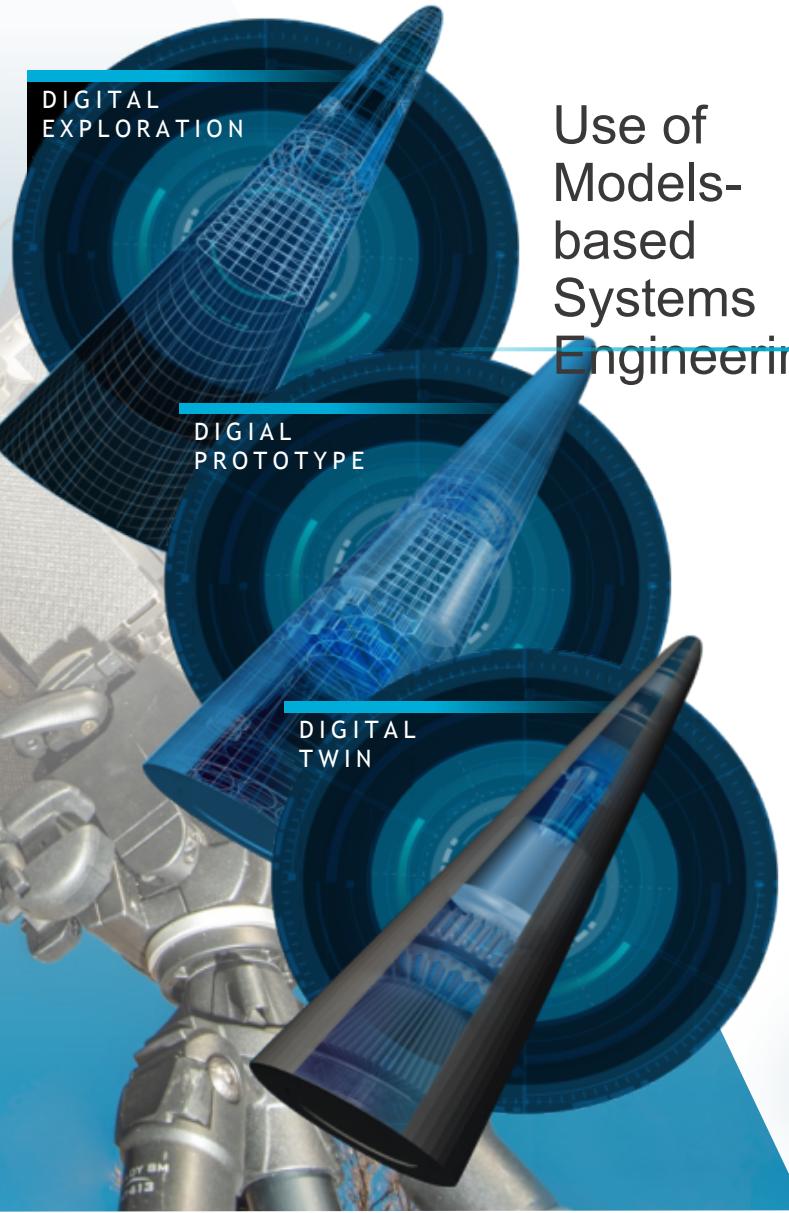
10X reduction in apogee between H4H Lofted and Depressed trajectory achieves representative hypersonic glide conditions useful to advancing technology maturation efforts. Trajectories tailorable to meet specific needs.



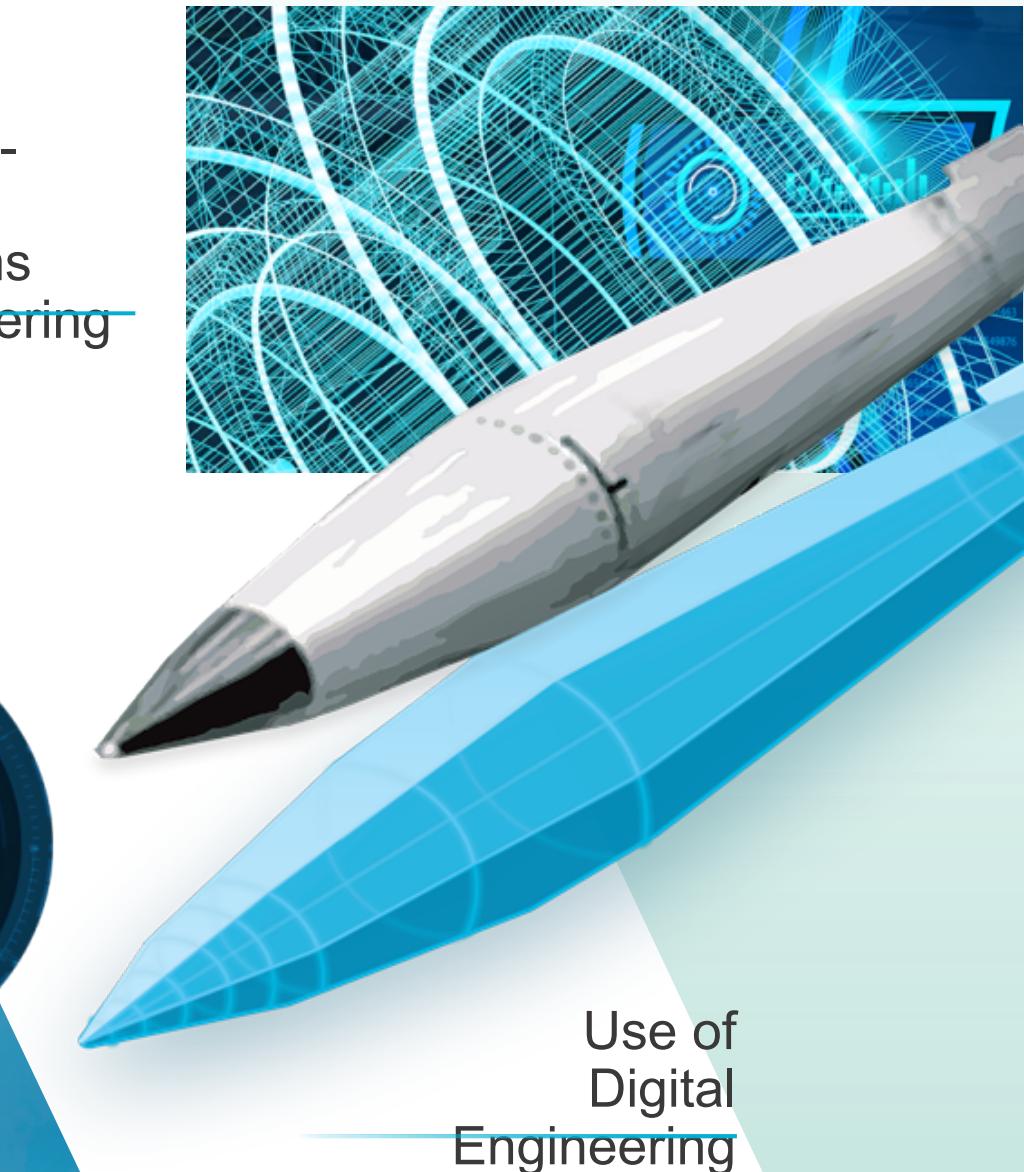
Executed successful **High Operations Tempo** for Hypersonics flight campaign of precision sounding rockets from Kauai Test Facility & NASA Wallops Flight Facility, demonstrating advanced hypersonic technologies, capabilities and prototype systems in a realistic operating

MOVING FASTER: HERE'S WHAT WE'RE DOING

Advanced
Manufacturing



Use of
Models-
based
Systems
Engineering



Use of
Digital
Engineering

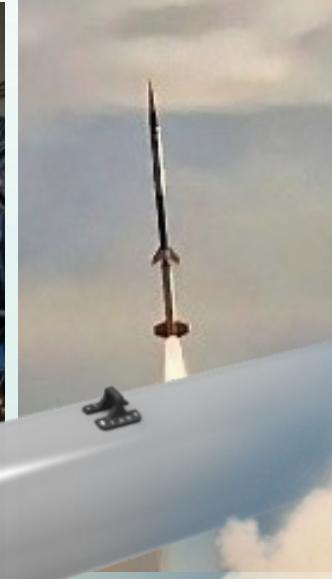
MOVING FASTER IN NUCLEAR DETERRENCE

Today's qualification process is **well-understood and trusted**, but also is very iterative and hardware-centric

Advancements in qualification are part of a larger effort to **accelerate overall development time** to allow our nuclear deterrent to be responsive to emerging national threats

Qualification improvements necessary to **maintain an agile and responsive nuclear deterrent** require increasing product confidence by accelerating our knowledge basis and rapidly **minimizing our uncertainty**

Activities are underway to **make improvements and achieve advancements** in processes, capabilities and systems to accelerate qualification





Sandia
National
Laboratories

Exceptional service in the national
interest

