SwRI offers expertise in ballistics, hypersonics, explosion loading, structural response and scale modeling. We have developed models for:

- penetration mechanics
- shot-line and shaped-charge analyses
- exterior and interior ballistics
- specialized sabot design
- explosion hazards and debris
- blast-loaded structures

State-of-the-art instrumentation records data in severe environments down to the nanosecond range.

Testing capabilities include ballistics — small arms, long-rod projectiles, fragments and shaped charges — and dynamic loading and response of mechanical systems and structures in highly transient environments.

SwRI conducts hypersonics and other high-speed research using this unique two-stage light-gas launcher, featured here by the numbers.

SwRI integrates data from experiments to develop models that simulate the effects of ballistic impact on armors and other materials.