



**EXASCALE
COMPUTING
PROJECT**

UNLOCKING A UNIVERSE OF POSSIBILITIES

As application and software engineers work to bring the world's first exascale ecosystem online, ECP researchers are developing 24 applications to take maximum advantage of the fastest computing power in history.

Here's a sampling of projects from across the scientific spectrum being prepared for exascale processing:

**SIMULATING WIND FARMS TO
DESIGN IMPROVED
TURBINES**

**ANALYZING COMPLEX DNA
SEQUENCES**

**DESIGNING AND
COMMERCIALIZING SMALL
MODULAR REACTORS**

**SIMULATING CLIMATE
CHANGE'S POTENTIAL
IMPACT ON WATER SUPPLIES**

**DESIGNING MODELS FOR
3D-PRINTING ON A MASS SCALE**

**MODELING COSMIC PHENOMENA
SUCH AS QUASARS AND DARK
MATTER**

**DESIGNING SUSTAINABLE
INFRASTRUCTURE FOR CITIES**

**MODELING GEOLOGICAL
EFFECTS OF OIL WELLS
AND FRACKING**

**MODELING CHEMICAL
REACTIONS FOR MORE
EFFICIENT BIOFUELS**

**MODELING PROTECTION AND
MAINTENANCE SOLUTIONS FOR
THE NATION'S UTILITY GRID**

**DESIGNING MATERIALS
TO WITHSTAND EXTREME
CONDITIONS, SUCH AS INSIDE
A NUCLEAR REACTOR**

**PROCESSING DATA GENERATED
BY X-RAY DIFFRACTION,
INCLUDING IMAGING OF
INDIVIDUAL ATOMS**



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