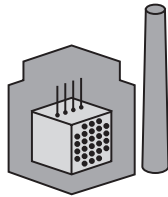


# The Manhattan Project

- Manhattan Engineer District, US Army Corps of Engineers
- in charge of bomb production, 1942-1946
- total production by 1945: 3 bombs (Trinity, Little Boy, Fat Man)
- total cost: \$1.9 billion 1945 dollars, \$117 billion 2007 dollars
- 130,000 employees at over 30 sites (major ones below)



## Hanford, Washington

- giant plutonium production reactors ("piles")
- plutonium chemistry
- tons of toxic waste
- run by DuPont
- \$390 million 1945 dollars, \$24 billion 2007 dollars

## University of California, Berkeley

- early theoretical work on bomb design
- electromagnetic separation research and prototyping ("Calutrons")

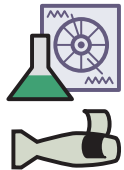
## University of Chicago

- Metallurgical Laboratory ("Met Lab")
- reactor ("pile") research
- first controlled chain reaction, Dec. 1942

## Trinity site

## Los Alamos, New Mexico

- theoretical physics
- bomb design
- bomb engineering & assembly
- officially managed by U. of California (but really Army)
- \$74 million 1945 dollars, \$4.5 billion 2007 dollars



## Oak Ridge, Tennessee

- first production reactor prototype (X-10)
- electromagnetic separation (Y-12)
- thermal diffusion (S-50)
- gaseous diffusion (K-25)  
(—at time, largest single building factory in the world!)
- different plants have different contractors (DuPont, Tennessee Eastman, Union Carbide)
- \$1.2 billion 1945 dollars, \$74 billion 2007 dollars

