

SILVER

THE VERSATILE METAL POWERING AMERICAN INNOVATION



Silver's **ELECTRICAL**, **THERMAL**, **MALLEABLE** and **REFLECTIVE** properties are among the strongest of the known elements, making it the material of choice for many manufacturers.

highest electrical conductivity of all metals

highest thermal conductivity of all metals

very ductile & malleable

high optical reflectivity

NATIONAL SECURITY

Silver's exceptional strength helps protect our troops: it is an essential component of the Air Force C17 transport and the **ARMY'S APACHE HELICOPTER**.



SOLAR ENERGY

Silver is essential to efficiently turn sunlight into energy

52.4 million oz silver used annually for solar

70 million oz silver projected to be used for solar in 2016

THE AVERAGE SOLAR PANEL USES ABOUT **2/3 oz** OF SILVER

HIGH-TECHNOLOGY

Silver is found in the technology that powers your automobiles, microwaves, cameras and plasma TVs and other electronics.

Silver is critical to the development of next generation technologies:

FLEXIBLE ELECTRONICS

- Sensors to monitor stress in bridges, dams, skyscrapers and other large structures
- Flexible solar cells
- Flexible displays for devices such as cell phones and tablets

PRINTABLE SILVER INK ▲

MEDICAL TECHNOLOGY

X-RAYS

Silver X-rays are integral to healthcare in developing countries where resources are scarce because they are:

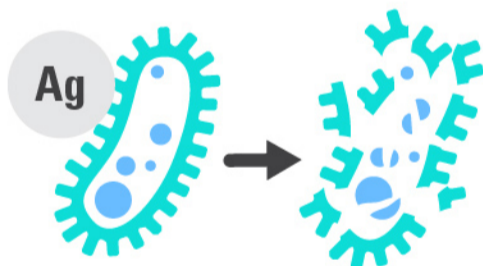
- **Extremely accurate**
- **Cost effective**

ANTIBIOTICS

- **Prevents bacterial growth**
- **Accelerates the healing process**

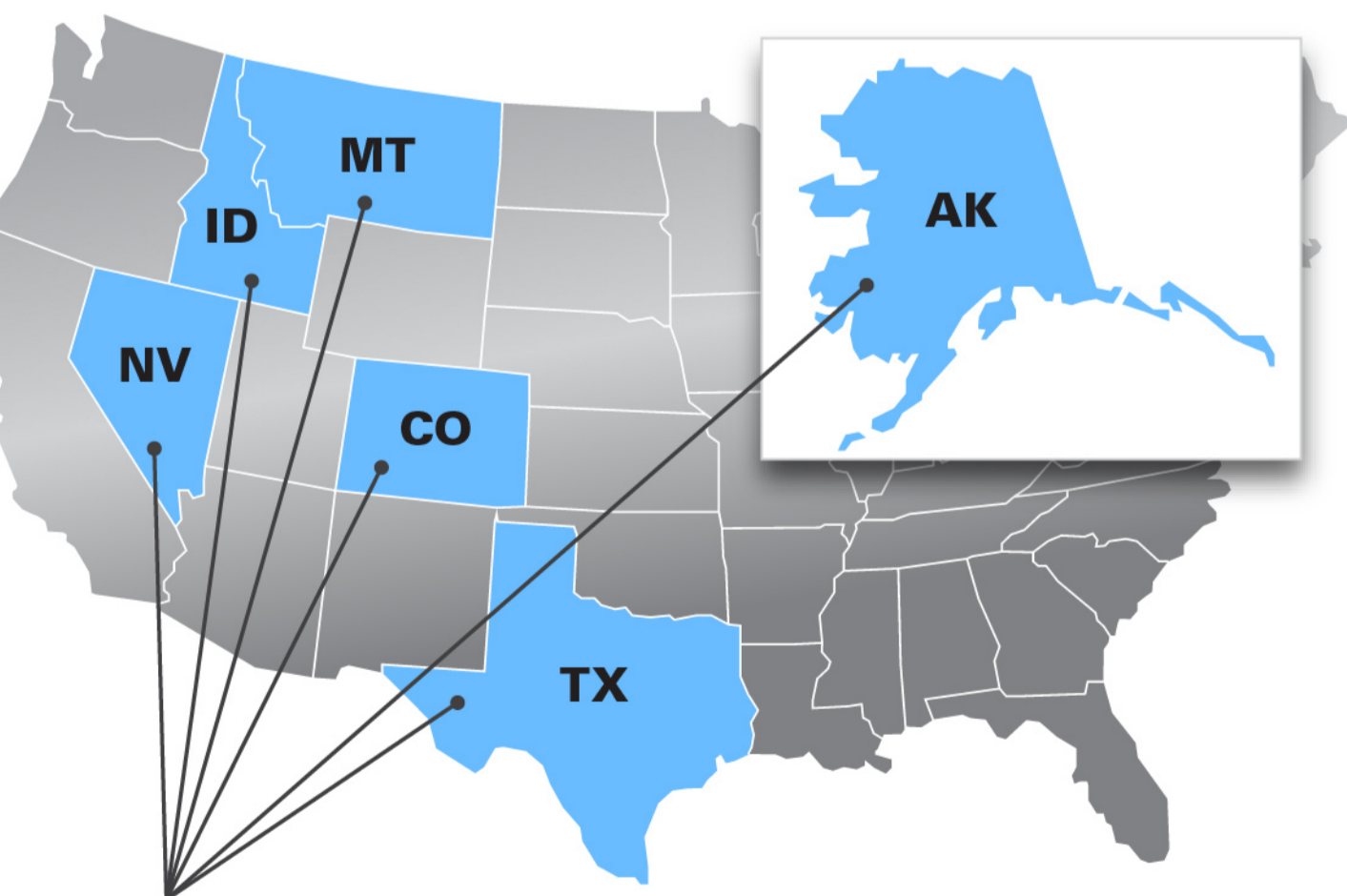
Silver prevents bacterial growth, accelerates the healing process, and can heighten the effectiveness of certain drugs. For instance, a small amount of silver makes bacteria like E. coli significantly more sensitive to antibiotics like penicillin.

Silver **interrupts** bacteria's ability to form the **chemical bonds** essential to its physical structure and survival, and causes the bacteria to literally **fall apart**



Silver nanoparticles sterilize up to **650** TYPES OF BACTERIA

ECONOMY



1,170 tons of silver produced in the U.S. in 2014, valuing approximately **\$718m**

SILVER PRODUCTION IN THE U.S. IS A MAJOR ECONOMIC DRIVER AND JOB CREATOR

Silver will continue to be in **high demand**, meaning big economic opportunities for silver-rich states

25,594 tons of estimated silver produced globally in 2013

SOURCES

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