

NASA Spinoffs



TV Satellite Dish

NASA developed ways to correct errors in the signals coming from the spacecraft. This technology is used to reduce noise (that is, messed up picture or sound) in TV signals coming from satellites.



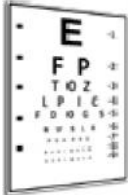
Medical Imaging

NASA developed ways to process signals from spacecraft to produce clearer images. This technology also makes possible these photo-like images of our insides.



Bar Coding

Originally developed to help NASA keep track of millions of spacecraft parts, bar-coding is now used by almost everybody who sells things to keep track of how much of what is sold and how much of what is left.



Vision Screening System

Uses techniques developed for processing space pictures to examine eyes of children and find out quickly if they have any vision problems. The child doesn't have to say a word!



Ear Thermometer

Instead of measuring temperature using a column of mercury (which expands as it heats up), this thermometer has a lens like a camera and detects infrared energy, which we feel as heat. The warmer something is (like your body), the more infrared energy it puts out. This technology was originally developed to detect the birth of stars.



Fire Fighter Equipment

Fire fighters wear suits made of fire resistant fabric developed for use in space suits.



Smoke Detector

First used in the Earth orbiting space station called Skylab (launched back in 1973) to help detect any toxic vapors. Now used in most homes and other buildings to warn people of fire.



Sun Tiger Glasses

From research done on materials to protect the eyes of welders working on spacecraft, protective lenses were developed that block almost all the wavelengths of radiation that might harm the eyes, while letting through all the useful wavelengths that let us see.



Automobile Design Tools

A computer program developed by NASA to analyze a spacecraft or airplane design and predict how parts will perform is now used to help design automobiles. This kind of software can save car makers a lot of money by letting them see how well a design will work even before they build a prototype.



Cordless Tools

Portable, self-contained power tools were originally developed to help Apollo astronauts drill for moon samples. This technology has led to development of such tools as the cordless vacuum cleaner, power drill, shrub trimmers, and grass shears.



Aerodynamic Bicycle Wheel

A special bike wheel uses NASA research in airfoils (wings) and design software developed for the space program. The three spokes on the wheel act like wings, making the bicycle very efficient for racing.



Thermal Gloves and Boots

These gloves and boots have heating elements that run on rechargeable batteries worn on the inside wrist of the gloves or embedded in the sole of the ski boot. This technology was adapted from a spacesuit design for the Apollo astronauts.



Space Pens

The Fisher Space Pen was developed for use in space. Most pens depend on gravity to make the ink flow into the ball point. For this space pen, the ink cartridge contains pressured gas to push the ink toward the ball point. That means, you can lie in bed and write upside down with this pen! Also, it uses a special ink that works in very hot and very cold environments.



Shock Absorbing Helmets

These special football helmets use a padding of Temper Foam, a shock absorbing material first developed for use in aircraft seats. These helmets have three times the shock absorbing ability of previous types.



Ski Boots

These ski boots use accordion-like folds, similar to the design of space suits, to allow the boot to flex without distortion, yet still give support and control for precision skiing.



Invisible Braces

These teeth-straightening braces use brackets that are made of a nearly invisible translucent (almost see-through) ceramic material. This material is a spinoff of NASA's advanced ceramic research to develop new, tough materials for spacecraft and aircraft.



Joystick Controllers

Joystick controllers are used for lots of things now, including computer games and vehicles for people with disabilities. These devices evolved from research to develop a controller for the Apollo Lunar Rover, and from other NASA research into how humans actually operate (called "human factors").



Advanced Plastics

Spacecraft and other electronics need very special, low-cost materials as the base for printed circuits (like those inside your computer). Some of these "liquid crystal polymers" have turned out to be very good, low-cost materials for making containers for foods and beverages.