



Space Exploration and MTFF 2008-03

Thursday February 7th, 2008, Space Shuttle Atlantis launched from the Kennedy Space Center in Florida. STS-122's mission is to deliver the European Space Agency's Columbus Research Laboratory module to the International Space Station.

In the past 50 years, space exploration has cost Americans \$618 billion dollars (inflation adjusted). Is it worth it? Let's look at a few of the "can't live without" items we have today that's derived from space exploration

How about the computer mouse the Millennials grew up with? In the Early 1960s, computers were large computational machines controlled by punch cards. To make the interaction between human and computers easier, thus making the computer easier to use, NASA sponsored a research that eventually led to the development of the computer mouse at Xerox in the 70s.

Can you imagine your life without TV? Beginning in the late 1950's, NASA pioneered the technology that made TV satellite broadcasts an every-day part of our lives.

The polarized sunglass we wear on sunny days is a derivative from Space Exploration. In the 1980s, NASA's Jet Propulsion Laboratory was tasked with developing a lens to block out harmful welding light during space craft manufacturing. The lenses they developed block the hazardous UV light, while allowing "good light" to pass through.

Besides the direct benefits, some of the intangible benefits are keeping our military strong, national pride, and grow and support our economy.

The original purpose of space exploration that kept the soviets in check needs to continue. Today, countries un-friendly to America are developing space technology that can be used as weapons (<http://www.time.com/time/world/article/0,8599,1580595,00.html>) .

For national pride, we train our athletes to compete in the Olympics, Successful space exploration, showcases United States technological know how, and it's a great source of pride.

A great example of supporting the economy is NASA's Spin-offs program. (<http://www.sti.nasa.gov/tto/spinhist.html>) Required by law, every technology NASA developed for space exploration must be made available to American industries. Over the past 50 years, there were hundreds of companies that took advantage of this. An example is the MCV Iodinated Resin used for water purification on space missions. Adapted by MRLB INTERNATIONAL, INC., its now used by dentists through out the world. (<http://www.sti.nasa.gov/spinoff/spinitem?title=Beating+Back+Bacteria>)

Last week, while listening to BusinessWeek's Innovation of the Week Podcast, I learn the concept of channeling the "Opposable Mind" (http://www.businessweek.com/mediacenter/podcasts/innovation/innovation_01_23_08.htm). In the podcast, it discussed how Procter & Gamble's CEO, Alan George "A.G." Lafley was faced with reducing R&D costs while continuing to come up with innovative products. Mr. Lafley's came up with Connective Develop, which is reducing his own R&D staff, while searching outside the company for innovative ideas. If he looked at NASA, he will find water filtration research (<http://www.sti.nasa.gov/spinoff/spinitem?title=Clean+Water+for+Remote+Locations>)



that may be helpful for his PUR water filtration products, (http://www.pg.com/product_card/brand_overview.jhtml?document=%2Fproduct_cards%2Fprod_card_main_pur.xml&brand_name=Pur) or, the research NASA did for Beating Back Bacteria (<http://www.sti.nasa.gov/spinoff/spinitem?title=Beating+Back+Bacteria>) for P&G's ORAL care products. (http://www.pg.com/product_card/prod_card_oral_care.jhtml)

Private companies like Google, is sponsoring a global competition with a total prize of \$30 million dollars. Why would Google "give away" its money? (http://www.efluxmedia.com/news_Ten_Teams_Compete_In_Gogles_30_Million_Lunar_Prize_X_Project_14319.html) They understand technology developed for such competition, can and will be use for other things. This is the kind of forward thinking American's needs to adapt.

Space Explorations are expensive; however, we can easily pay for it if we stop wasting money on useless projects such as the teapot museum. (<http://www.carolinapoliticsonline.com/2007/10/07/sparta-nixes-teapot-museum/>) NASA of 2008 is different than NASA of the 60s. Its administrators have adapted to use readily available products for its space exploration missions. For example, it will be purchasing "real world tested" computer systems used in the Boeing 777 passenger jet for its next generation Orion spacecrafts. NASA has shrunk its workforce from 400,000 in the 60s to about 2,200 today. NASA has learned and is doing more with fewer resources. (<http://www.fastcompany.com/magazine/121/to-the-moon-in-a-minivan.html?page=0%2C0>)

Before you cast your vote for the next President of the United States, ask him/her opinion on space exploration. Space Exploration is important to our future, and our children's future.

These are some of the links you can visit for more information on the benefits we have reaped from Space Exploration.

- <http://www.thespaceplace.com/nasa/spinoffs.html#health>
- http://www.nasa.gov/externalflash/hits2_flash/index_noaccess.html
- http://en.wikipedia.org/wiki/NASA_Budget
- <http://www.sti.nasa.gov/tto/>
- <http://www.nasa.gov/vision/earth/technologies/spinoffs.html>
- <http://www.cnn.com/HEALTH/9811/02/space.medical/index.html>.