**GPS: An American Economic Success Story**

The story of Global Positioning System (GPS) is uniquely American. Developed by our U.S. Air Force, now four decades ago, the GPS program represents one of the finest examples of U.S. innovation and ingenuity. It demonstrates the significant benefits of government investment in research and development - and by allowing for the commercialization of GPS technology, we have seen more than $1.4 trillion in economic impact, the creation of millions of jobs, and the birth of countless new businesses.

**Key Facts and Figures**

[“Economic Benefits of the Global Positioning System (GPS),” a report by RTI Intl. on behalf of the National Institute of Standards and Technology (June 2019)](https://www.rti.org/news/new-report-reveals-economic-benefits-private-sector-use-gps)

* Across 10 key sectors, GPS has helped produce $1.4 trillion in benefits to the U.S. economy since 1984.
* The majority (approx. $1.2 trillion) of these benefits have occurred since 2010.
* GPS is estimated to have $1 billion per day in economic impact.

[*“The GPS Playbook,” a report by Space Capital and Silicon Valley Bank (March 2020)*](https://www.svb.com/trends-insights/reports/the-gps-playbook)

* GPS was foundational in the creation of at least 82 companies between 1978 and 1999 (including Trimble Navigation and Garmin), ultimately raising $29 billion in equity financing.
* The widespread distribution of GPS, and resulting rapid growth in applications, created 764 companies that have raised $77 billion in equity financing and have a combined equity value of $405 billion.
* GPS-enabled applications (Lyft, Uber and Snap Inc.) were among the top 10 venture exits of the past decade.
* The Space-based Communications and Geospatial Intelligence segments have the potential to generate over $1 trillion in equity value over the next decade.

*Other Facts and Figures*

* More than 3.3 million jobs rely on GPS technology, including approximately 130,000 jobs in GPS manufacturing.
* The National Coordination Office for Space-Based PNT estimates there are 900 million GPS receivers in the U.S., 99% of which are operated by the private sector and consumers.
* According to the Department of Homeland, GPS is essential to 14 of the 16 industries that are classified as part of the Nation’s critical infrastructure, including the communications and transportation sectors.
* The GPS market is estimated to reach $128.7 billion by 2025, according to KBV Research.
* GPS, which is critical to the FAA’s continued modernization of America’s air transportation system, known as NextGen, is estimated to help generate $133 billion in benefits through 2030 for the National Aerospace System.

**Examples of GPS-Enabled Applications**

GPS is an essential utility for the US economy – it is used for aviation, agriculture, construction, timing, public safety, automotive, science and a myriad of other applications. GPS is also critical to the burgeoning unmanned aerial vehicle and driverless car industries

**Precision Agriculture**

* GPS is critically important to the commercial agriculture, mining, forestry, and rural manufacturing industries.
* GPS has in fact become the single most significant technological advancement for American farm equipment in the past two decades.
* According to last year’s RTI study, since 1998, GPS adoption in agriculture has yielded over $5.8 billion in economic benefits.
* The RTI study found that during planting season, if GPS were interrupted, the economic impact to the agriculture sector could amount to losses of $15 billion due to lower crop yields.
* An earlier study suggested that GPS-enabled precision agriculture could save farmers an estimated 10 to 15 percent in operating costs and purchased inputs. This same study pegged the benefits of GPS to precision agriculture between $10 and $17 billion.

**Digital Construction**

* The comprehensive use of digital construction technologies and systems, including GPS, can reduce costs in engineering and construction of projects by 13 to 21%, and by 10 to 17% in the operations phase.
* Another study estimated that digital construction technologies can increase machine productivity by 30%; a reduction in rework by 50%; and an improvement in overall project delivery costs by as much as 30%.

**Telecommunications Sector**

* GPS has had a substantial impact on the telecommunications sector. According to RTI, the benefits of GPS to the industry are estimated to range from $81 billion to $686 billion.
* A 30-day GPS outage would result in an estimated $5.5 to $14.2 billion in economic loss to the telecom sector.

**Professional Surveying**

* According to RTI’s 2019 study, GPS has conveyed $48.1 billion in benefits to the surveying industry since 1984.
* Over the past decade, GPS has provided the surveying industry with an average of $2.7 billion per year in economic benefits.

**Consumer Products**

* According to the research firm Gartner, spending on wearables will reach $52 billion this year, a 27% increase from 2019.
* Research firm IHS Markit estimates that global consumer spending on mobile apps will reach $74 billion this year, up from $54 billion in 2016.
* A study by Deloitte estimates $484 billion globally in smartphone sales this year.