

Study Shows Importance of Commercial GPS to the U.S. Economy

3.3 Million U.S. Jobs and \$96 Billion in Annual Direct Economic Benefits Attributable to GPS

An economic study vividly demonstrates the vital importance the Global Positioning System (GPS) plays in the U.S. economy.

The June 2011 study found that more than 3.3 million U.S. jobs in agriculture and industries relied heavily on GPS technology and that if use of GPS were disrupted it would pose the threat of direct economic costs of up to \$96 billion to U.S. commercial GPS users and manufacturers. Given continuing innovations in the use of GPS and virtually constant increases in reliance on it, the impact would now be even greater.

The report was written in the context of consideration of the proposal by a company, LightSquared, to deploy 40,000 high-powered ground stations in satellite spectrum adjacent to spectrum used by GPS.

Conducted by Dr. Nam D. Pham of the Washington, D.C.-based NDP Consulting Group, the study states that the commercial adoption of GPS continues to grow at a high rate and is expected to annually create \$122.4 billion in benefits and grow to directly affect more than 5.8 million jobs in the downstream commercial GPS-intensive industries. The study makes clear that its analysis is confined to the economic benefits of GPS technology to commercial GPS users and GPS manufacturers, mainly high precision GPS users, and the economic costs of GPS signal degradation to only those sectors. The report therefore does not capture the considerable benefits and costs to consumer users of GPS, other non-commercial users and military users.

The analysis shows that GPS equipment revenues in North America in the 2005-2010 time period averaged \$33.5 billion per year and that commercial sales accounted for 25 percent of the total, while the consumer and military markets respectively made up 59 percent and 16 percent of the total. The report notes that the U.S. government has already invested \$35 billion in taxpayer money in the GPS satellite constellation and continues to invest in GPS at a rate of about \$1 billion a year.

Referring to possible disruptions to GPS from harmful interference, the report states, “The commercial stakes are high. The downstream industries that rely on professional and high precision GPS technology for their own business operations would face serious disruption to their operations should interference occur, and U.S. leadership and innovation would suffer.”

The analysis and views in the study, which was commissioned by the Coalition to Save Our GPS, are solely those of the author, Dr. Pham, a managing partner of NDP Consulting Group who was

formerly a Scudder Kemper Investments vice president, chief economist of the Asia region for Standard & Poor's DRI and World Bank economist.

Comments then by representatives of several Coalition member organizations helped explain the diverse uses of GPS:

- Ken Golden, director of global public relations at John Deere: "The use of GPS technology is vital to thousands of people who make their living with agricultural and construction equipment. . . . In agriculture, the loss of a stable GPS system could have an impact of anywhere from \$14 to \$30 billion each year. That could significantly erode the strong competitive global position of U.S. farmers in the world agricultural economy. Serious impacts to the productivity of those in the construction business also will be apparent."
- Siamak Mirhakimi, general manager, Caterpillar Electronics & Systems Integration: "High precision GPS continues to be widely adopted technology in heavy construction and civil engineering due to the benefits of increased productivity, improved job site safety, faster completion times for projects and reduced fuel and rework costs. . . . Allowing any company to cause interference to the GPS band would be a major step backward and significantly impact this domestic industry, which has invested billions of dollars in GPS enabled products and which employs over a million people in the U.S."

The report, which traces the development of GPS from its U.S. military origins to today's widespread commercial and consumer use of GPS, states that "the economic benefits of GPS to the U.S. economy are substantial. GPS manufacturers create employment, provide earnings, add value, and generate tax revenues for governments. Importantly, GPS technology improves productivity and produces cost-savings for end-users."

The report details the labor, capital, materials and efficiency savings in three industries: precision agriculture; engineering construction, heavy and civil and surveying/mapping; and commercial surface transportation. The report notes as well that GPS technology "creates direct and indirect positive spillover effects, such as emission reductions from fuel savings, health and safety gains in the work place, time savings, job creation, high tax revenues, and improved public safety and national defense."

The full report is available [here](#).

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