



## **New study released by WifiForward finds unlicensed spectrum generated \$222 billion in value to the U.S. economy in 2013 and contributed \$6.7 billion to U.S. GDP**

The Federal Communications Commission (FCC) makes spectrum available either on a licensed or unlicensed basis. Any innovator can use unlicensed spectrum just by following technical rules—without having to comply with a maze of regulations. This low-regulation system enables millions of unlicensed offerings such as Wi-Fi hotspots, medical equipment, industrial/logistics/inventory systems, wireless headsets, cordless phones, remote car door openers, Radio Frequency Identification (RFID) technologies and wireless keyboards.

In the few studies that exist, researchers agree that keeping a portion of the spectrum unlicensed generates significant economic value. But the technologies that use unlicensed spectrum are growing so fast that any research completed even as recently as two years ago is obsolete: Wi-Fi traffic in the United States is growing at 68% per year, and the number of homes with Wi-Fi is expected to reach 86% by 2017 (up from 63% today).

The new WifiForward study by Columbia Business School Professor Raul Katz quantifies the enormous contribution of unlicensed spectrum use to the U.S. economy. The study measures the impacts in two ways:

- The direct contribution of technologies, applications, and computer-mediated transactions that run on unlicensed spectrum bands to the nation's GDP; and
- The economic surplus generated from the adoption of unlicensed technologies.

The new WifiForward study makes three general conclusions:

*Wi-Fi increases the value of wireline broadband and makes cellular data service faster and cheaper.*

- Wi-Fi Offloading—free and paid Wi-Fi in public places, which carries excess cellular traffic and improves broadband speeds—generates economic value for consumers and producers as well as contributes directly to the GDP. **Wi-Fi offloading generates a total economic surplus of \$12.602 billion and contributed \$3.102 billion to GDP in 2013.**
- 63% of U.S. households are equipped with Wi-Fi. **The benefits and savings associated with Wi-Fi-enabled homes represents a total economic surplus of \$36 billion.**

*Without Wi-Fi, there would be no iPad. The unlicensed spectrum frequencies used for Wi-Fi, as well as other uses, are a platform for innovative services and new technologies. That's good for consumers and the economy.*

- There were 137 million Wi-Fi-only tablets sold by U.S. manufacturers in 2013. **These sales resulted in a total value to the economy of a \$42.872 billion surplus.**
- RFID sensors are used heavily in two of the largest sectors of the U.S. economy, retailing (6.1% of GDP) and health care (7.4% of GDP), to track merchandise and improve health care outcomes. **RFID use generated a total surplus of \$130.83 billion.**

*Unlicensed spectrum supports the launch of innovative business models.*

- Wireless Internet Service Providers (WISPs) provide access to broadband services, particularly in rural and hard-to-serve areas. **WISPs contribute \$1.439 billion to the GDP.**
- Bluetooth-enabled products (e.g. chipsets to enable hands-free wireless calling), ZigBee-enabled products (e.g. home automation), and WirelessHART (e.g. industrial monitoring systems) are new business models. **These products generate revenues that directly contribute \$2.166 billion to the GDP.**