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ABSTRACT

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INNOVATION

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- Innovation encompasses research, invention, integration, product development, and marketing.
- Innovation is not limited to traditional fields of technology but encompasses new services, marketing practices, and organizational changes.
- Innovation drives productivity and economic growth -- but works differently in different sectors and under different business models and market conditions.
- Information technology plays a critical role in enabling innovation across all sectors of the economy. IT enables change in how other technologies are researched, developed, and applied, and it enables fundamental change in business processes, commerce, social interaction, education, and entertainment.

Background: Innovation works very differently in IT and services than in chemicals and pharmaceuticals, and these differences have become conspicuous in the debate over patent reform. Because of the scope of innovative activity and enterprise in IT and its impact across the economy, it is important that policymakers understand the economic forces at work in IT, digital information, and IT-dependent services.

IT-related innovation is distinguished by:

- **Standards.** Standards are strategically important for defining new areas of technology, developing new markets, and ensuring interoperability.
- **Patents.** Patent practice in IT is dominated by the acquisition and non-exclusive licensing of patents in volume. The fact that IT products are complex and may be infringed by many patented functions makes IT uniquely vulnerable to patent trolls.
- **Infrastructure.** Infrastructure provides global access to products and services and minimizes barriers to innovation to participating in business and commerce.
- **Complements.** Complements, such as content and services, are

US Innovation Policy: Innovation policy in the U.S. features two pillars: the patent system, which dates to the Constitution, and federal funding of research, which dates to World War II. The Bayh-Dole Act (1980) links the two, providing a template for commercializing federally funded research.

Other programs and laws associated with innovation policy include: the Small Business Innovation Research (SBIR) Act, which reserves a percentage of the budget of federal research agencies for small businesses; the Research and Experimentation Tax Credit (sometimes wrongly referred to as the “R&D tax credit”); and the Technology Innovation Program, a program to support “high-risk, high-reward research in areas of critical national need” – a successor to the politically controversial Advanced Technology Program.

The America COMPETES Act of 2007 emphasized increased investment in research in the physical sciences and education in science, technology, engineering and math (STEM). However, the authorizations contained in the Act remained largely unfunded until the Obama Administration’s stimulus package, the American Recovery and Reinvestment Act of 2009 (ARRA).

The Obama Administration released *A Strategy for American Innovation* in September 2009 with a revision on February 2011. The Strategy encompasses a wide range of innovation policies and programs. Some of the elements concerned framework conditions, such as physical infrastructure and proper functioning of financial markets; others were programs already funded under the stimulus legislation (ARRA) earlier in 2009. New elements included:

- Support for incubators and clusters of innovation under the Economic Development Administration.
- The Open Government Initiative. Capitalizes on the power of information technology, especially Web 2.0 technologies, as well as the economic value of government data.
- General authority for federal agencies to implement prizes.

The America COMPETES Act was due for reauthorization in 2010 but after stalling in the spring, it suddenly resurfaced late in the lame duck Congress and passed both houses with little debate. It includes a mandate to the Department of Commerce to conduct a one-year study on U.S. competitiveness and innovative capacity to be followed the formulation of a national strategy. This may help lay the groundwork for a broad agency-level focus on innovation policy, possibly as part of the President’s promise to reorganize the federal government

CCIA’s position: CCIA believe Innovation is essential to promoting productivity and economic growth, and the U.S. needs a strong, coherent, and farsighted strategy for innovation. Information and communications technologies enable innovation throughout the economy – and should figure prominently in the design of a national innovation strategy.