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# My Turn: Support federal investment in science

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Despite being one of the nation's smallest states, New Hampshire punches far above its weight in contributions to science and innovation.

Most of the state's largest employers, such as Infosys, Dataserv, Dartmouth-Hitchcock Medical Center and DEKA Research & Development Corporation (founded by fellow New Hampshire Dean Kamen), boost the New Hampshire economy through investments in science and technology, providing jobs to thousands of Granite State citizens.

Across the country, investments in scientific and engineering research and development have created millions of jobs and improved state economies. According to a Congressional Research Service report, scientists and engineers only account for about 5 percent of the nation's workforce, but they help create jobs across the rest of the economy.

Scientists' discoveries and products extend far beyond the research laboratory, affecting people across the business sector – from designers to builders to consumers.

Yet the White House's fiscal year 2018 budget proposal seeks to walk away from the investments in scientific research and development that made America great, threatening our nation's ability to invent and develop the next generation of technologies that stimulate the competitiveness of the New Hampshire and American economy. Investment in research and development ultimately makes us safer and healthier, and creates jobs supporting the people of New Hampshire.

My own work, the invention and commercialization of the CMOS image sensor “camera on a chip” that enables every smartphone to have a tiny built-in camera, enables swallowable pill-cameras, Go-Pro cameras, automotive cameras and in fact, about four billion new cameras each year, was funded by NASA in the early 1990s.

Thankfully, the White House budget proposal is not final – it is up to our members of Congress to determine funding and appropriate funds. When considering the 2018 budget, Congress must continue to uphold and protect its bipartisan support for investment in basic and applied scientific research for the U.S. to maintain leadership in innovation.

Throughout the presidential campaign, we heard that this administration would “make America great again.” For over a century, we have been great when it comes to scientific discovery and innovation. But other countries recognize the enormous value of research and development, and the foundation it lays for enhancing 21st-century economic growth and global competitiveness.

For example, from 2000 to 2013, China’s investments in research and development grew 17 percent, South Korea’s 8.3 percent and Russia’s 8.2 percent, while the U.S. stagnated. There is a clear trend among global leaders that investing in research and development is a critical factor in determining a nation’s ability to grow its economy and help solve challenging problems.

For generations, lawmakers on both sides of the aisle have supported continued investment in basic and applied research because they witnessed and celebrated the profound and positive impacts that these investments have on our health, economy and global leadership. Across every industry and sector, investment in research and development provides clear opportunities for Americans and advances economic prosperity.

I applaud Sen. Jeanne Shaheen for her leadership on the Senate Appropriations Committee in providing robust funding for research and development in the recently passed 2017 appropriations, and urge her and her colleagues to further strengthen our national commitment to investing in scientific research as they negotiate the 2018 budget.

(Eric Fossum is a professor of engineering and director of the Ph.D. Innovation Program at Dartmouth College, and is a fellow of the National Academy of Inventors.)

