

# Remarks of John W. Leikhim, Director, Corporate Innovation Capability, Procter & Gamble

## Innovation and Design: Keeping America Competitive

(a Congressional briefing luncheon)  
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Good afternoon. I'm honored to have the opportunity to speak with you today about an important issue that all of us at Procter & Gamble are passionate about—innovation. Not just good ideas, but good ideas that consistently translate into great products and services that improve lives and win in the global marketplace. Systematic and sustained innovation is the foundation of our economic engine—not only for P&G, but—as I think you will agree—for American business overall.

Throughout history, America's economic strength and global leadership has always depended on technological advances—from the invention of the electric light—to the personal computer and bioengineering. But now is a pivotal point in our history. A time when we must make strategic choices to ensure the U.S. continues to lead the world in innovation.

When you think about companies at the forefront of technological innovation, which ones come to mind? Apple? Microsoft? IBM? 3M? GE? Procter & Gamble?

You don't need to apologize if P&G did not immediately come to mind. You see, our innovation is a kind of magic that becomes such a part of peoples' everyday lives that it's easy to take for granted ... which is exactly as it should be. But P&G's need for cutting edge science and high end technology is no different from any business—or country for that matter—that depends on technological leadership to fuel product development and growth. High end technology is required whether you are talking about a new high efficiency jet aircraft engine, a new software breakthrough or a new toothpaste that fights gum disease.

Procter & Gamble competes globally in the fast moving consumer packaged goods industry. We're a 70-billion-dollar-plus knowledge-based company, growing worldwide at five to seven percent annually.

We were founded in Cincinnati 169 years ago and today we operate in 160 countries marketing over 300 brands to more than 3 billion consumers. But the U.S. remains at the heart of our business with 45 percent of our sales originating here. And—while we tap the innovation sources of the globe, it's the United States that's at the very core of our research and development enterprise.

Some business analysts like to characterize P&G as a "soap company" or a "beauty company," ... but the truth is, P&G is fundamentally a "research and development company." We have to be—because innovation is our lifeblood. It is what fuels our growth.

Each year, P&G invests \$2 billion in R&D. Put that in perspective, that places us 15th-highest in the U.S. for R&D spending, outside of the pharma industry. We have more than 9000 R&D associates including 1100 PhDs. We have 60% of these resources in 15 centers across 4 states of the U.S.

We lead innovation in more than 40+ product categories, for which we hold more than 27,000 patents. Our research & development organization is fluent in a broad range of competencies including chemistry, engineering, materials science, biological sciences, medicine, and mathematics.

That breadth is driven by our company purpose which calls for us to provide consumers with products that improve the quality of their lives. These may be improvements such as making small tasks easier and more pleasant, enhancing beauty, or improving health. Our brands—including Pampers, Crest, Tide, Olay, Pringles, Duracell, Gillette, Bounty, Folgers—touch consumers around the world—3 billion times every day.

An example of P&G's market creation innovation at its very best is Crest Whitestrips.

Just about everyone wants a bright healthy smile, but not everyone can spend \$600 for the dental visits needed to achieve whiter teeth. And unlike the stereotypical eureka moment, a lone P&G scientist didn't accidentally stumble onto the Crest White Strips formula late one night at the lab.

What we did do was work backward from the consumer need for a convenient, affordable solution to whiter teeth.

We brought together a diverse team of experts across our technology centers who were at the leading edge of their fields—from our flexible films group—from our adhesives group—dental experts from our oral care organization—and bleaching experts from our laundry business.

And through solution-focused R&D, we delivered Crest Whitestrips—with a level of tooth whitening that surpasses anything else available in the retail market and consumers pay only \$35.

The result: creating a new category that had nothing to do with semiconductors or text messaging that went from zero to \$300+ million in 2 short years. An entirely new category researched, developed and launched from the U.S. to the global market.

It was the same story of how innovation spawns new business with Swiffer line of products that has reinvented quick home cleaning. Many technologies, substrates, chemistry, electromechanics have come together to create this new category. Today, nearly a billion dollars in sales. This market did not exist 5 years ago.

Or consider this example from our Gillette business. Gillette was the first consumer packaged goods company to use diamond like-carbon coating and the first anywhere to use it on a 3-dimensional object; coating the edge of a shaving blade and shaping the tip to a thickness of a few hundred atoms. This was the magic to Gillette Mach 3 and now Fusion which expanded these categories. Prior to this, the technology had only been seen in the semiconductor industry.

All these examples represent technology challenges that had never been resolved before.

Is market growth good for P&G? Of course it is ... as well as for our investors and the U.S., since P&G is one of the most widely held stocks in the country. But there's also the multiplier effect that goes beyond our own company's growth to fuel growth throughout the economy.

P&G is a large consumer of U.S. products and services, spending more than \$8 billion domestically each year with our suppliers—who in turn buy from their vendors—and that \$8 billion continues to recirculate throughout our economy contributing to the country's economic well-being.

Today innovation is a fundamental requirement for success in our global marketplace, where advanced technological developments happen at blinding speeds—creating worldwide opportunities, but enormous challenges as well.

I am here today to offer P&G's views on innovation from the perspective of a major global corporation based in the U.S. From our point of view, the key to success in the global marketplace is simply this... fueling speed to market—via innovation. Innovation in products, supply chains, and business models. The future belongs to fast... nimble... quality innovators.

Today's "new economy" is global and frictionless. It's knowledge-based and founded on models of open innovation.

We're in a marketplace characterized by rapid change, elimination of geographical boundaries, remarkably fluid global capabilities, and the relentless drive to lower costs.

Tom Friedman, author of *The World Is Flat*, does an excellent job of describing the flat world we inhabit today. We all know that many countries in low income markets are now an excellent source of quality, low-cost manufacturing. But here's today's reality—we're now seeing a rapid growth of innovation support industries in these markets—everything from "back office" support, to literature search capabilities, to higher-end analytical, engineering and modeling capabilities.

And here's another emerging trend—beyond manufacturing and services, we're finding new sources of true innovation, new materials, new products, new manufacturing processes in these same low income markets. The rise of an excellent scientific and engineering talent community that's fully engaged in the entrepreneurial world. And we find this in universities, government institutes, and private companies.

The harsh reality is that if U.S. based companies don't keep innovation at the forefront, then innovation and economic growth is going to happen somewhere else.

Science will continue to advance, but others will reap the rewards. Other countries willing to make investments in leading-edge R&D areas ... countries like Singapore, Korea, China and India.

As for the "innovation industry," ... the U.S. no longer has a monopoly on the talent pool for the kind of game changing, disruptive technologies that are the seeds for new market creation.

We see new collaborative alliances forming, where academia and industry enabled by governments are driving innovation.

We have that same potential in the U.S. with the NSF in alliance with industry and academia.

The NSF has the role to be the premiere federal resource for creating high technology products to stimulate our nation's innovation leadership and contribute to the U.S. economy.

While the U.S. does invest in the physical sciences that are closely linked to our business, we see the opportunity for more.

One clear opportunity is the development of biologically derived raw materials from renewable resources. These are biopolymers and biosurfactants derived from plant based sources.

These more readily biodegradable materials represent a win for consumers. A win for the U.S. agricultural industry, and a win for a sustainable material society.

But there are many challenges to realizing this potential.

Key to successful scientific commercialization of these bio-materials is a fundamental understanding of these new compounds. Challenges include:

- Ensuring reliability of feedstock sources
- Lowering production costs to make the new materials cost competitive with synthetic materials, and
- Ensuring consistent quality, reducing feedstock variability.

Accelerating the fundamental science learning about biomaterials will speed commercialization, increasing the likelihood of overall success in the marketplace.

So—from the perspective of a large commercial enterprise, like P&G—whose present and future is driven by creative scientific thinking—what is the current state of American innovation? Where do we risk important gaps? And what are the implications for the capability and growth of the entire U.S. innovation "ecosystem?"

Foremost is the issue of gaps in our education system—and their negative implications for developing talent in our resource pipeline—a growing problem in the U.S. that clearly threatens our future economic position.

The National Academy of Sciences in their report, *Rising Above the Gathering Storm*, and the Council on Competitiveness in their report, *Innovate America*, have outlined problems facing the United States that must be addressed if we are to remain a leader in innovation. As the NAS report noted, “the scientific and technical building blocks of our economic leadership are eroding, at a time when many other nations are gathering strength.”

This report makes a compelling case for the decline of science, technology, engineering, and mathematics capabilities. The outages relate to problems found in K-12 education; a shortage of university graduates in key fields; basic research gaps; and a general decreased attention to these fields of study not only in our society, but in our public policymaking as well. These factors threaten America’s innovation pipeline.

As a result, over the next ten years, talent in the physical sciences is retiring faster than it’s being replenished .

Collectively, these issues converge into a real concern—as our economic leadership depends upon trained, engaged scientific minds that fuel innovation and the vital knowledge-based businesses and the well-paying jobs they generate.

P&G’s range of products requires us to utilize a very broad range of science and technology. And we’re continually adding new science and technology platforms to our research and development portfolio. Perhaps as my Crest Whitestrips story illustrated, many innovations come from focused collaborations across several disciplines.

An example of an important emerging platform is nanotechnology—which develops uses for phenomena and structures that only occur at the nanometer scale, the scale of several atoms.

A promising application of this technology is in our Duracell portable power battery business, where we see opportunities to enhance primary batteries and rechargeables.

Nanoparticles present the opportunity to accelerate the electrochemical processes at work inside batteries, they improve the charge/discharge cycle performance and increase the power output while reducing cost.

P&G isn’t the same business that started by making soap candles in 1837. Understanding emerging trends and embracing change through leadership in innovation have been key to P&G’s economic growth for nearly 170 years. And those same characteristics are true more broadly for our situation here in the U.S.

We need thoughtful approaches and silo-busting collaborations across government, academia and industry. This will develop the talent and the capabilities necessary to sustain and create new knowledge-based businesses and high tech manufacturing.

And to do that, clearly, we must act now. Our government, the academic community and industry together must take measures to ensure America secures its position as a continued world leader in innovation.

The national academy of sciences has recommended actions to address four general areas:

- Enhancing K-12 education;
- Basic platform research;
- Higher education; and
- Economic policy.

These recommendations are captured in several pieces of legislation before Congress today which have bipartisan support. We are hopeful we will see passage of appropriate legislation that builds America’s innovation and competitiveness.

P&G is supporting these initiatives because—as an innovation driven company—P&G must operate in a U.S. business environment that fosters superior capability in research and development.

Investment in innovation will boost the U.S. economy and strengthen our ability to compete effectively in the rapidly changing global business environment. There is no question about the nation's need for a more robust, home-grown pool of energized, creative talent. We must have innovators proficient in platform technologies from the physical sciences, engineering and mathematics.

But to maximize our opportunities—to create knowledge based businesses—we need even more help. We need new approaches to collaboration between academia and industry—enabled by government support.

This will require us to engage in new kinds of relationships. We literally need to “innovate the way we innovate” creating entirely new models for effective collaboration maximizing the strengths of the university and corporate R&D community.

We believe there is value in adding business representation to the mix of government and academia. The business input to this dialogue can be in setting the right targets and increasing the probability of new emerging technologies quickly being monetized, significantly impacting the economy.

In closing, let me leave you with three major responsibilities—that we believe government, academia and industry share—to overcome our innovation challenge in the U.S.:

First, in terms of education we have the responsibility to create interest and passion for the physical sciences and mathematics. We must attract high quality teachers for K-12 education. We have the responsibility to provide high-quality university education to prepare technical talent with the proper academic breadth to meet future needs.

Second, we have the responsibility to create important new technology platforms—the source of creating new to the world businesses—through our leadership in basic research.

And finally, we have the responsibility to bring innovative talent and innovative research together; transforming new scientific advancements into practical new products and services—launched through the creation of knowledge-based businesses—not only in the high focus IT/pharma/computer world, but also in the consumer and industrial markets.

At Procter & Gamble, our corporate tradition is rooted in the principle of doing what's right for the long-term. We are greatly encouraged by the opportunities we have before us today. To do what is right for the long term—to keep the United States at the forefront of scientific advancement and research and development. Steps must be taken to ensure that America continues to lead the world with economic opportunity and innovation for decades to come.

I truly appreciate your time here this afternoon and I look forward to engaging with you in more dialogue on this important topic.

Thank you.