

LifeX Holdings LLC

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Senate Majority Policy Committee

Hearing on Pennsylvania as an Innovation Leader – Shaping the Future for Tomorrow

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Southwest Pennsylvania’s Life Science Ecosystem

Pennsylvania, already a global leader in life science research, is poised to rapidly accelerate the industry through strategic statewide and regional investments.

Southwest PA can lead the way as it has unlimited potential to develop into a life science innovation cluster, readily translating medical discoveries into industry changing products, providing significant societal benefit and large-scale economic growth.

In recent years, the region has transformed from a traditional manufacturing center into a cutting-edge research powerhouse. Today, the region is ranked 12th nationally in NIH funding received, above metros like Atlanta, Denver, and Dallas¹. In fact, if the region was a State on its own, it would be ranked 16th in the country for NIH funding, ahead of 35 other states – such as Connecticut, New Jersey, Indiana, and Virginia – all believed to have well developed life science ecosystems. And the sector in our region is growing, with life science employment in the area jumping 20% since 2019, compared with 14% nationally². To drive this momentum forward, regional stakeholders are mobilizing to bolster discovery and innovation, foster and retain new company starts, attract new skilled talent and capital, and create economic growth and accessible good jobs.

However, this growth will not happen on its own. Up to this point, the region’s life science industry outcomes have lagged behind its potential, with **lower employment, entrepreneurship and start-ups, productivity, venture capital growth, and number of companies** in non-clinical care life sciences than national average and peer regions³ - a stark contrast against its nationally-renowned research excellence.

¹ 2023. *2023 U.S. Life Sciences Outlook*. CBRE. <https://www.cbre.com/insights/books/2023-us-life-sciences-outlook/>

² 2023. *2023 U.S. Life Sciences Outlook*. CBRE. <https://www.cbre.com/insights/books/2023-us-life-sciences-outlook/>

³ 2017. *Capturing the next economy: Pittsburgh’s rise as a global innovation city*. Brookings Institute. <https://www.brookings.edu/articles/capturing-the-next-economy-pittsburghs-rise-as-a-global-innovation-city/>

For example, while Southwestern PA conducts 200% more research in medical science than the national average, the region employs 90% *fewer* workers in pharmaceutical preparation⁴.

Today, with Commonwealth leadership advocating for proactive life science initiatives, coupled with new federal government support and revitalized industry engagement, conditions are ripe to **fully realize the sector's economic potential** across Southwest PA. Other forward-thinking states have already been expanding their investments in life sciences, resulting in clear economic gains – stronger employment growth in these sectors, increase in start-ups, and investments from large corporations. Over the last decade, the top ten states for life science incentives - including Indiana, North Carolina, Ohio, and New Jersey, but not Pennsylvania -⁵ have all demonstrated **greater overall job growth than Pennsylvania**⁶. These states invested in a comprehensive set of approaches, from large capital funds that support new start-ups, to funding for robust entrepreneurship support resources and coordinated workforce development, to supporting physical infrastructure for place-based economic strategies.

Our region must focus on creating, developing, and growing our early-stage life science companies in order to create a robust ecosystem that employs a broad cross section of residents and accelerates our economy. Not only will growing our pipeline of start-ups lead to new large-scale, established companies anchored in our region, but this **foundation of robust innovation activity** is also required to attract existing large life science companies to establish a presence here locally.

Now is the time for the Commonwealth to launch a new approach to strengthen and catalyze the life sciences economy in Southwest PA. An investment of in our region during this unique time will catalyze our opportunity to grow a sustainable industry capable of providing high paying jobs, economic prosperity and life impacting discoveries.

What are the top three priorities for Pennsylvania to disrupt its life science sector?

1. ***Support a single multi-stakeholder life science organizing entity.*** To launch the next phase of sustained growth, the Commonwealth should create a new singular statewide life science organizing body that coordinates life science initiatives across the existing Life Science Greenhouse architecture. This entity will help guide intentional life science investment and collaboration across all levels of government and local institutions, private industry, and philanthropy by providing coordination across the entire state. For the individual Greenhouses to scale with the existing growth opportunity, they will require funding beyond the annual \$1M grant they each receive annually.
2. ***Scale up targeted funding and investments for companies, particularly for early- and mid-stage entities.*** The lack of capital targeted at life science remains the predominant obstacle to growing the life science sector. Bold investments in funds that help de-risk promising science – both on and off

⁴ 2017. *Capturing the next economy: Pittsburgh's rise as a global innovation city*. Brookings Institute.

<https://www.brookings.edu/articles/capturing-the-next-economy-pittsburghs-rise-as-a-global-innovation-city/>

⁵ 2023. *2023 U.S. Life Sciences Outlook*. CBRE. <https://www.cbre.com/insights/books/2023-us-life-sciences-outlook/>

⁶ 2012-2022 Quarterly Census of Employment and Wages, Bureau of Labor Statistics.

campus - are foundational to new company growth. Similarly, risk-reducing capital is needed to enable real estate development projects necessary for start-ups, such as life science-specific acceleration labs.

- 3. *Scale up and align workforce development at all levels.*** The Commonwealth must act quickly to support alignment of workforce development efforts, pathways, and job opportunities in order to grow the pool of life science talent state-wide – and avoid being left behind by efforts of other states nationally. Close ongoing coordination with industry and communities will be necessary to ensure actual career pathways and economic mobility for entry-level technicians.

Summary

Southwestern PA, known for its steel that built the world, is now forging a new future as a leader transforming life sciences and healthcare. The opportunity to capture this momentum as a leading, emerging life sciences hub will be propelled forward by a platform capable of translating the substantial number of regional innovations being discovered here, into products with global healthcare impact and significant local economic prosperity. This ecosystem will equitably engage the regional workforce; accelerate technology transfer based on existing local, state, and federal investments in biotechnology; seed new domestic supply chains for life sciences across Southwestern Pennsylvania; and improve access to healthcare delivery and individual and community health outcomes for urban and rural patients alike.

To make certain that this reality occurs, bold action is needed. The opportunity for Southwestern PA to be a national leader in life science commercialization can still be lost as other competing regions outside the Commonwealth are making the necessary investments to ensure their long-term success in this field. And they are doing so with resources that far outpace our region's outlays. A failure to act will result in stagnation of local life science commercialization opportunities and migration of our technologies, start-up companies and corporate partnerships to other universities and locales that have made these activities a priority. Even more importantly though, the large number of potentially life impacting discoveries being made by the regional entities will never have the chance to deliver their benefit to society, an even bigger loss for not just our region but for the world.