

Celebrating 50 Years of Passion for Science

Since our establishment in 1974, New England Biolabs has been different. From our founding principles – placing the advancement of science and stewardship of the environment as our highest priorities – to our unique corporate culture, NEB's philosophy can be distilled down to three core values: passion, humility, and being genuine. As we reflect on the last 50 years and look toward the future, we remain steadfast in our commitment to uphold the principles that inspired our inception, which guided us through expansion, innovation, and global growth, all while empowering the creative spirit of scientific inquiry.

THE EARLY YEARS AND FOUNDING VISION

In 1972, a scientist named Don Comb left his associate professorship in the Biochemistry Department at Harvard Medical School – disenchanted with the traditional avenues of securing research funding and the rigidity of academia. Don had a penchant for asking big questions. He left academia with the goal of bringing together like-minded scientists to form a cooperative company that would provide essential tools for molecular biologists. Further, the company would use its revenue to fund independent research projects, an idea that was unprecedented at the time. And thus, in 1974 Biolabs was founded – soon to be known as New England Biolabs (NEB) – with the goal of enabling life science research, both within and outside the company.

In the early days, NEB focused on providing high-quality restriction enzymes. In 1972, Richard Roberts of Cold Spring Harbor purified some of the first restriction enzymes. In 1975, he became the Scientific Advisor for NEB – suggesting enzymes for manufacturing and then testing the first lots for quality. NEB became the first commercial source for restriction enzymes, which quickly emerged as a critical component in the recombinant DNA revolution. Don's approach was deeply rooted in principles that prioritized product performance and innovation. However, his vision extended beyond mere business success; he was determined to channel profits into research on neglected tropical diseases, an area often overlooked by mainstream funding. His provocative curiosity,

boundless enthusiasm, and staunch commitment to environmental conservation have left an indelible mark, inspiring many who worked with him and for him. Don's unconventional yet highly effective approach to running a company put people and passion for science at the forefront, sidelining traditional priorities of process and profit. His ethos was characterized by providing high-quality reagents at fair prices, the seamless integration of basic and applied research, and a strong emphasis on protecting the planet while advancing scientific endeavors.

Don hired scientists who were passionate and curious. He encouraged them to explore their own research interests while carrying out their job responsibilities. In doing so, NEB became experts in the functionality and biophysical properties of a wide range of enzyme activities, resulting in an in-depth understanding of product performance. This enabled the collegial exchange of ideas, protocols and techniques with customers – the beginning of a more personal approach to technical support that continues to this day.

Don Comb served as CEO until 2005, and his devotion to the advancement of science, stewardship of the environment, and altruistic philanthropy continues to be a priority today. Our employees are encouraged to pursue their passions, whether it be getting involved in groundbreaking research, helping out at a local science fair, or sharing ideas to improve the sustainability of our business practices – everyone feels a responsibility to each other and the community.

"Don's generosity and the faith that he had in each employee resulted in a family-like culture, where everyone has a voice and all employees feel valued."

– Jim Ellard, former CEO, New England Biolabs

EXPANSION AND INNOVATION LAY THE GROUNDWORK FOR GROWTH

While NEB was founded on a portfolio of restriction endonucleases, in-house research led to extensive insights into enzyme functionality. A notable milestone was the use of recombinant DNA technology to clone and express enzymes in *E. coli*. This breakthrough improved enzyme quality and yield, the latter prompting Don to reassess product pricing to ensure affordability for all researchers, once again reflecting his commitment to facilitating research.

Our dedication to research, rooted in our "by scientists for scientists" philosophy, not only drives the development of new products, but also uniquely positions us as both developers and users of our products. This is critical for staying connected to our customers and helping



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to drive scientific breakthroughs. Over the years, NEB scientists have discovered a wide range of enzyme specificities that act on both DNA and RNA. We have also extended our product offerings into areas related to PCR, gene expression, sample preparation for next generation sequencing, synthetic biology and RNA analysis. This expansion reflects our commitment to innovation and is a response to the diverse needs of the scientific community.

EMPOWERING CREATIVITY IN SCIENTIFIC INQUIRY

As has already been stated, Don Comb founded the company with the vision of using profits to fund a basic research program – a philosophy that continues to this day. Currently, scientists comprise 25% of our organization. There are ~30 research labs at our campuses in MA, USA, engaged in basic and applied research across various scientific disciplines. Our research divisions encompass RNA, Biochemistry and Molecular Biology, Molecular Genetics and Genomics, and Applied Molecular Biology. Here, we provide an environment where researchers can pursue their own ideas and actively collaborate with other scientists in academia and industry.

Our Applications & Product Development scientists are grouped into 10 teams – five that align with our product portfolio (Cloning and Nucleic Acid Purification, DNA Amplification, Next Generation Sequencing, RNA & Genome Editing, and Protein Expression), and then an additional five that are focused on foundational activities that benefit scientists across the organization. These teams are involved in Assay Development, Custom Product Development, Bioinformatics, Lyophilization Sciences, and Organic Synthesis.



NEB Headquarters in Ipswich, MA, is LEED-certified and designed with sustainability in mind.

"You never know which scientist is going to make a discovery. You never know which enzyme will be part of a new technology. So we allow scientists to take those opportunities to develop and advance into areas we've never dreamt about."

– Andy Bertera, Executive Director of Marketing and Sales, New England Biolabs

In the early days, Don traveled extensively and saw firsthand the suffering caused by various neglected tropical diseases (NTDs) – a term given to 17 understudied diseases that are collectively the second leading cause of disability worldwide after mental health issues. Don used what he knew best – science – to help make a difference. He established the NEB parasitology research program almost 45 years ago, and this work continues to forge new ground in an otherwise overlooked health crisis.

Our scientists are passionate about sharing their findings through publications, web tools and innovative products. To date, our scientists have authored or co-authored over 1,490 publications, and often present their findings at conferences and events worldwide.

SETTING THE STANDARD FOR ENVIRONMENTAL STEWARDSHIP

Don Comb incorporated his passion for the environment into his personal life and professional role at NEB. His commitment to environmental sustainability was evident in selecting the location of NEB's headquarters in Ipswich, MA, which emphasized minimal ecological impact. The sprawling 160-acre campus blends mixed forest, wetlands, and agricultural land; it offers public hiking trails, and provides a diverse wildlife habitat.

In 2003, after acquiring the property, an architectural competition was held to design a new 140,000-square-foot state-of-the-art laboratory facility. A unique stipulation was the preservation of three Copper Beech trees, demonstrating our commitment to integrating nature with development. This led to innovative solutions like underground retaining walls to protect the trees' root systems and prevent soil compaction during construction.



NEB's unique wastewater treatment facility treats the campus' wastewater for groundwater recharge.

The main laboratory facility is LEED® (Leadership in Energy and Environmental Design) and ISO 14001 certified, which dictates a framework of strict, environmentally-sound regulations. Additionally, NEB's campus hosts a unique Solar Aquatics Wastewater System®, which mimics natural processes found in streams and wetlands to treat the campus' wastewater, ensuring the water discharged is cleaner than when it was sourced.

Don's vision for environmental stewardship led NEB to become a pioneer in eco-friendly practices within the biotechnology industry, setting a precedent for others. As NEB continues to grow, it remains committed to decisions that protect the environment, underscoring the importance of corporate responsibility in preserving the planet for future generations.

ESTABLISHING A WORLDWIDE PRESENCE

Over five decades, NEB has expanded our global footprint with wholly-owned subsidiaries in countries that include Australia, Canada, China, France, Germany, Japan, New Zealand, Singapore, South Korea, and the UK. This enables us to provide rapid product delivery and direct, in-time-zone support. Each subsidiary is more than a distribution hub, it's a center of technical expertise. Our focus on hiring and extensively training highly qualified teams ensures that we're not just distributing products, but also providing valuable expertise and knowledge locally. This extensive distribution network supports our goals of being closer to our customers, understanding their needs, and delivering unparalleled value and support.

SUPPORTING CUSTOMERS DEVELOPING DIAGNOSTICS AND THERAPEUTICS: GMP-GRADE* AND LYOPHILIZATION CAPABILITIES

NEB has enjoyed decades-long sustainable growth by meeting the research community's needs with our commitment to research, comprehensive technical support, and a growing portfolio of cutting-edge life science reagents. In 2018, not far from our main campus in Ipswich, MA, NEB opened a state-of-the-art 43,000 sq. ft. production facility to manufacture GMP-grade materials. Products manufactured in this facility comply with the ISO 13485:2016 Quality Management Standards, addressing bioburden and endotoxin specifications on products, certified animal-free origin and manufacturing process, qualified equipment, utilities and QC test methods. This controlled manufacturing process allows us to support customers requiring a higher level of quality. It also enabled us to scale our production during the COVID-19 pandemic to meet the needs of customers developing diagnostic assays and vaccine developers.

Our response to the COVID-19 pandemic was multifaceted. Firstly, to protect our employees, our scientists were called to action and developed a saliva-based, 30-minute, colorimetric isothermal amplification-based COVID-19 assay. Also, as SARS-CoV-2 variants arose, we realized the impact this may have on amplification-based assays. To address this, our bioinformatics and bench scientists developed an open-access web tool for monitoring variants and their impact on primer design.

Meanwhile, our support for customers developing essential reagents for molecular diagnostic assays and mRNA vaccines became more apparent. To further strengthen our capabilities, we acquired Fluorogenics (now New England Biolabs Lyophilization Sciences™), a company with expertise in lyophilization. By integrating their lyophilization capabilities with our own expertise in enzyme manufacturing and assay development, we further solidified our ability to provide customized solutions to meet the growing global demand for diagnostic assays. This commitment is especially crucial in environments where traditional diagnostic facilities may be unavailable, emphasizing the need for simplified, robust, and stable assays that can make a real difference.

"Even as we have matured as an organization, we've purposefully maintained the ability to pivot and be flexible as we handle and support not just customers who are super small and nimble, but also those who are large and extremely sophisticated."

– Nicole Nichols, Executive Director Applications & Product Development, New England Biolabs

SUSTAINING OUR CORE VALUES THROUGHOUT GLOBAL GROWTH AND A CHANGING OF THE GUARD

In 2005, Don retired as CEO but remained active in his research. He was succeeded by Jim Ellard, who had joined the company in 1983 as a summer intern. During Jim's 17-year period as CEO, NEB experienced substantial growth, expanding into new markets and establishing

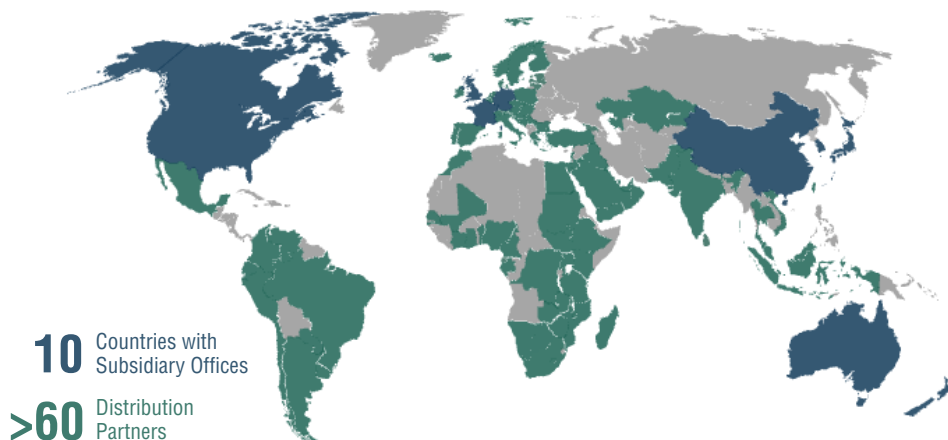
a significant global presence. This period saw the establishment of several global subsidiaries and distributors, the launch of the GMP-grade manufacturing facility, and the expansion of NEB's product portfolio and technical capabilities to support a wide variety of applications that impact human health. Jim's tenure, marked by strategic expansion and adept navigation through the challenges of the pandemic, was instrumental in shaping the company's global stature.

In 2022, Jim transitioned the company's leadership to Sal Russello, a seasoned member of the NEB community – with 16 years at the company and a 5-year tenure as Director of the OEM and Customized Solutions Department. Sal, recognized for his passion and dedication akin to Jim's, places significant emphasis on fostering meaningful connections and teamwork, aligning with NEB's core values. His dynamic approach focuses on building trust and collaborative relationships both within the organization and with our customers.

Under Sal's leadership, NEB is charting a course that not only continues to inspire and support scientific innovation but also prioritizes sustainability and community engagement at both local and global levels. We are excited to support both academic and industry researchers with innovative new products, and by bolstering our support for customers developing therapeutics and diagnostic assays. This strategy includes expanding the company's global footprint and our ability to scale manufacturing to meet our customers' needs – all while steadfastly adhering to our foundational values that were instilled by Don Comb.

"NEB's goal is to continue to build a sustainable business focused on enabling the scientific community, fostering curiosity, and giving back – to those closest to us and the world around us."

– Sal Russello, CEO, New England Biolabs



NEB's global distribution network ensures rapid access to NEB's products as well as valuable expertise and knowledge

*GMP-grade" is a branding term NEB uses to describe products manufactured or finished at NEB's Rowley facility. The Rowley facility was designed to manufacture products under more rigorous infrastructure and process controls to achieve more stringent product specifications and customer requirements. Products manufactured at NEB's Rowley facility are manufactured in compliance with ISO 9001 and ISO 13485 quality management system standards. However, at this time, NEB does not manufacture or sell products known as Active Pharmaceutical Ingredients (APIs), nor does NEB manufacture its products in compliance with all of the Current Good Manufacturing Practice regulations.