Maine Innovation Economy Action Plan

How Science and Technology Can Drive Economic Growth and Benefit All Maine People

2023-2027
VISION:
A resilient, innovation-driven economy that creates opportunities for all Maine people

• The 2023 Maine Innovation Economy Action Plan presents a vision for science and technology as drivers of economic opportunity across the state.

• It acknowledges the significant investments made to date and affirms the potential to realize even greater gains by replicating the proven success of partnerships between Maine researchers and innovators.

• Realizing this vision will require the commitment and coordination of researchers, educators, policymakers, and business leaders.

• This is possible through the pursuit of five complementary goals
Goal 1: Increase R&D to 3% of GDP while focusing on activities that directly support Maine industries

Goal 2: Strengthen pathways to successful commercialization

Goal 3: Prepare an innovation workforce

Goal 4: Help businesses and communities thrive in the face of climate change

Goal 5: Strengthen Maine’s R&D ecosystem
Goal 1:

Increase R&D to 3% of GDP while focusing on activities that directly support Maine industries

- Build on **existing strengths and assets** to help Maine develop the critical mass of talent and commerce needed for transformational growth.
- Expand the **R&D and commercialization capacity** of Maine’s public, private, and non-profit research institutions.
- Increase funding for the **Maine Economic Improvement Fund**, while documenting return-on-investment.
- Review, improve, reinstate, and expand state R&D **tax credits**.
- Create a dependable source of **public funding** for R&D investments and expand the **Maine Technology Institute**.
- Increase funding and assistance for companies and institutions applying for **federal R&D grants and contracts**.
- Strengthen partnerships between Maine research institutions and **national research institutions**.

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Maine Innovation Economy Action Plan
Goal 2: Strengthen pathways to successful commercialization

- Expand Maine’s successful **business incubators** and better support innovative new companies.
- Strengthen **R&D and commercialization support** for existing companies that are ready to grow.
- Increase incentives and supports for the **commercialization of licensed intellectual property**.
- Foster the **next generation of entrepreneurs** through programming in Maine’s schools, Career Technical Education Centers, and institutions of higher education.
- Facilitate research on issues that can affect the **timely commercialization** of R&D–driven discoveries.

Maine Innovation Economy Action Plan
Goal 3:

Prepare an innovation workforce

- Expand opportunities for student research.
- Expand STEM career explorations and internships to introduce young people to opportunities within Maine.
- Help students navigate efficient career paths through coursework and credentials.
- Encourage the contributions of all Maine people by removing barriers to education and employment for traditionally underrepresented groups, including those facing generational poverty and new Mainers.
- Create online and flexible STEM programs for those already in the workforce.
- Expand Industry 4.0 training programs that teach interested workers and employers how to use emerging technologies and real-time data.
- Support the role of extracurricular experiences in sparking interest in science and technology.
Goal 4: Help businesses and communities thrive in the face of climate change

- Expand Maine’s **clean energy** portfolio.
- Increase consumption of **local food** and **promote climate-smart agricultural practices**.
- Help Maine’s **fishing industry** anticipate and adapt to the interactive effects of ocean warming and sea-level rise.
- Utilize Maine’s forests and oceans to maximize **carbon sequestration** through strategic management and product development.
- Use **Artificial Intelligence** to help advance climate-smart practices in industry and reduce AI’s carbon footprint.
Goal 5:
Strengthen Maine’s R&D ecosystem

• Increase **funding predictability** by developing a schedule for bonding and state appropriations.

• Map Maine’s **innovation support ecosystem** to identify strengths, gaps, and opportunities to build a more nationally competitive environment.

• Develop, resource, and market a **central repository of information about Maine’s R&D assets**.

• Increase **public understanding** of R&D’s role in economic development.
The R&D Business Development System

Helps scientists understand the underlying causes of observed phenomena.

- **Basic Research**
  - Turns that work into new products or processes (or improves existing ones).

- **Applied Research**
  - Leverages that knowledge to achieve a specific, practical purpose.

- **Experimental Development**
  - Turns these ideas into tangible economic opportunities, ultimately generating wealth and resources to reinvest in the system.

- **Talent & Resources**
  - Business Development
Economic Impact

Science and Technology sector jobs are expected to grow faster than jobs in other sectors.

Source: Crawley and Bailey, 2022
Advancing Targeted Technology Sectors

This plan supports and advances the targeted technology sectors that have guided Maine’s R&D investments since 1999.

Heritage Industries correlate directly to individual target sectors.

- Agriculture
- Aquaculture & Marine Sciences
- Forestry & Forest Products

High-Growth Target Sectors combine elements of multiple sectors in new and creative ways, generating new opportunities across multiple industries.

- Aerospace
- Artificial Intelligence
- Bio-Based Alternatives
- Human Health
- Renewable Energy
State law directs the Maine Innovation Economy Advisory Board (MIEAB) to create a plan every five years to improve Maine’s standing in the global economy.

The 2023 plan is the culmination of 18 months of input from representatives of government, nonprofit, and private sector organizations. The board used stakeholder recommendations to craft this plan and incorporated stakeholder feedback on multiple drafts prior to adopting the final document.
Special Thanks

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MDI Biological Laboratory
Mook Sea Farms
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