

DISCUSSION DRAFT

Research Centers of Excellence



Market-led collaborations for global leadership

Global Massachusetts 2024 is an initiative of Mass Insight Global Partnerships that convenes leaders from major business groups, industry, and higher education to build consensus for a comprehensive 10-year economic agenda that will position Massachusetts to win the competition for talent and innovation – the key to securing prosperity for all citizens.

Building on the success of the 2006-2008 Global Massachusetts initiative, this new effort will outline how the Commonwealth can grow in the next 10 years, where the

opportunities lie, and how government can target limited resources to realize the opportunities.

By consulting leaders in key growth sectors, the broader infrastructure community, and international business and government representatives, Global Massachusetts 2024 is establishing a 10-year vision for the Commonwealth on how government and industry leaders can partner and structure talent and technology resources to grow. This report is a *discussion draft* focused on **Research Centers of Excellence**.

Global Massachusetts **2024**
Winning the Competition for Talent and Innovation

A partnership
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Research Centers of Excellence: Market-led collaborations for global leadership

As the state seeks to establish direction and to build momentum on S&T policy, it should consider an approach with a successful track record both here and in other states: Research Centers of Excellence. The approach to Research Centers of Excellence has evolved considerably since the 1980s, when the concept first emerged in Massachusetts. Those fledging efforts (e.g., Dukakis-era Innovation Centers) were disconnected from the state's institutions of higher education – the engine of Massachusetts' innovation economy. Today's Research Centers of Excellence are founded with explicit ties to a university or universities. They involve significant investment in shared infrastructure that brings together not just faculty from multiple universities but industry researchers as well. The close involvement of industry ensures that the Research Centers will be market-led in their research and commercialization efforts. Research Centers are explicitly focused on developing a robust talent pipeline. And, finally, they can serve as incubators for the next generation of innovative start-ups.

Research Centers of Excellence can be a very effective means of marshalling critical mass in financing, research, and talent in important sectors, and cross-disciplinary Research Centers of Excellence provide a unique opportunity to develop a highly influential innovation community across the Commonwealth.

A five-year, \$50 million capital budget could create a network of five centers capable of exploiting the state's applied research and commercialization capabilities in areas such as Big Data, robotics, or cybersecurity. This approach offers a faster path to scale and cross-sector collaboration than investments in isolated tactics or companies. It also addresses directly the state's legacy of excessive fragmentation and closed silos.

Established as independent, not-for-profit entities and overseen by multi-disciplinary governance boards, each Research Center of Excellence would be required to match the state investment with additional funding from commercial partners and should be expected to undertake "fee for services" activities. Once established, the Centers will provide an excellent foundation to pursue additional funds from federal research grants and initiatives. These requirements will ensure that initial "seed" funding by the state is significantly leveraged and will also help each Center identify an ongoing, sustainable source of revenue.

Each Center would invest in shared infrastructure, allowing for the colocation and accelerated development of talent. By working with multi-disciplinary teams and engaging with industry members on research agendas, these Centers would deliver significant benefits.

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Benefits:

State-wide Economic Impact

Locating Centers across the Commonwealth, especially in Gateway cities will boost local innovation economies and will have immediate beneficial spillover effects through development of supplier networks and community support services.

Vehicles for institutional change

Centered at the intersection of university, industry, and government partners, the Centers will help establish multi-disciplinary communities of practice with more closely aligned interests, operating approach, and sense of the possible.

Talent attraction and development

The Centers will develop a robust and effective talent continuum by connecting the K-12 STEM initiative to the state's two- and four-year colleges and then aligning those educational efforts with the workforce needs of industry.

Additional inbound investment

By establishing strong foundations in key sectors or multi-disciplinary areas, the Centers will attract additional investment and attention from major corporations and will position the state to be more competitive for federal grants.

Cross-disciplinary industry benefits

There's a strategic advantage to focusing on disciplines like cybersecurity, Big Data and robotics because they all service multiple industries. A Big Data Research Center of Excellence, for example, would benefit far more than the tech sector by bringing innovation and talent to the likes of financial services, biotech, health care, retail, and government.

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2024

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