

THE CASE FOR A STATEWIDE STEM ORGANIZATION

Who We Are. Engineers & Scientists of Milwaukee (ESM) was founded in 1905. Originally conceived as a "cooperative body, broad enough in scope to meet the needs of all engineers in the community", ESM has evolved into Southeastern Wisconsin's leading technical organization providing and/or promoting educational outreach programs emphasizing STEM (Science, Technology, Engineering and Mathematics). Our mission is to accelerate regional prosperity by:

- Creating STEM awareness in the community
- Engaging students to advance STEM competencies
- Optimizing the effectiveness of STEM programs
- Leading a collaborative approach to STEM talent development

What We Do. We accomplish this mission through the direct management of educational programs (including Future City Competition, Rube Goldberg Machine Contest, and Website Design Camp), annual events (including the Engineers Week banquet, ESM Scholarship Golf Outing, and the sySTEMnow conference), and our awards program (including Engineer of the Year and the coveted "Stemmy" award for excellence in STEM).

We also aggressively support and promote affiliated STEM programs including the Badger State Science and Engineering Fair, the *FIRST* family of robotics programs, 4-H Gateway Academies, iFAIR, STEM Fest, and of course, Project Lead The Way (PLTW).

How We Do It. ESM views the STEM education challenge (and its ultimate solution) holistically; not as an issue which belongs solely to PK-12 education, but rather as a talent development continuum in which PK-12 education, higher education, and the public and private sector STEM workforce are inter-dependent constituencies.

ESM connects resources and needs by creating partnerships between the STEM workforce and the education community. We strive to fully engage the workforce in the STEM initiative, recognizing that they are the end user in the STEM talent pipeline, they have reliable and available resources, and they have been vastly under-utilized and under-leveraged in the development of STEM talent.

We encourage our partners to commit to building tomorrow's STEM workforce through a combination of advocacy, funding, in-kind services, and volunteerism.

What is the benefit of an independent statewide STEM organization? In order for Wisconsin to be globally competitive in an innovation economy, we must have a reliable talent pipeline producing well-qualified, STEM-competent workers. This strategic vision can be realized through the development, implementation, and active management of a single organization empowered to connect STEM-related resources and needs across the state. The STEM challenge in Wisconsin goes beyond the realm of PK-12 education and its solution will rest in the hands of a broader set of partners than just our PK-12 leaders.

The most innovative aspect of the statewide STEM organization is that it will address and represent the STEM challenge through all of its public and private sector partners, and will include comprehensive and current information on all STEM programming efforts in the state.

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STEM is hot right now. Many regions and states have launched STEM efforts. Most are one-dimensional; addressing the STEM challenge through the lens of a single functional organization (for example, an effort led by post-secondary educators might lack the perspective of K-12 educators or employers). Many are limited to specific, parochial programs.

The Wisconsin STEM Coalition. Based on our success with respect to STEM awareness and outreach efforts in Southeastern Wisconsin, ESM believes that successful outcomes are realized through comprehensive collaboration with a broad array of organizations and individuals linked by a common need to improve STEM talent development. Accordingly, ESM is advocating for the implementation of an independent statewide STEM organization... the Wisconsin STEM Coalition.

In 2009, ESM took the first steps towards the creation of a statewide STEM initiative by assembling an informal consortium of educators and workforce partners in an effort known as *WISTEM.org - Wisconsin's Source for all Things STEM*. The group has since grown to include dozens of associations, businesses, economic/workforce development agencies, foundations, government agencies, PK-12 education, higher education, etc.

Continued growth of this effort, however, is contingent upon the formalization of an organizational structure, providing not only a home for the *WISTEM.org* web portal, but an established, sustainable base of operation for all STEM efforts across the state.

The Wisconsin STEM Coalition will:

- be an independent, non-profit organization with a small full-time staff, a relatively small board of directors, a larger advisory board, and appropriate committee structure
- serve as the catalyst for:
 - increasing awareness of the STEM challenge... serving as the voice of Wisconsin STEM to the general public, stakeholders, elected officials, media, etc.
 - creating partnerships and collaborative efforts between education and the workforce
 - bringing consistency, efficiency, and synergy to existing STEM programs (rather than creating new programs)
 - continually assessing and improving the STEM environment
- participate in an ongoing dialog with other state and national STEM efforts; especially so with neighboring states
- provide a home for - and a chance to scale up - several local and regional STEM efforts
- provide measurable goals and an annual report card on STEM progress in Wisconsin
- be responsible for:
 - advocacy
 - marketing/PR
 - *WISTEM.org - "Wisconsin's Source for all Things STEM"*
 - event management
 - regional implementation of statewide STEM efforts aligned with economic development regions, technical college districts, or other entities

Wisconsin's future prosperity and competitive position will be won or lost based on the quality of our human capital and our collective capacity for leadership in innovation. We believe the Wisconsin STEM Coalition will energize and synergize our efforts towards the successful fulfillment of this vision.