

CHAPTER I

A strong STEM education program is fundamental to building the talented workforce and providing the supportive research and infrastructure necessary for an innovative culture.

CONVERGENCE OF DEMOGRAPHIC, TECHNOLOGICAL, AND GLOBALIZATION TRENDS

The following is a simplistic description of three major trends affecting the U.S. and Illinois:

- Demographic - The population is getting older, poorer, and more ethnically diverse.
- Technological - Broadband and other media are changing how we communicate and access information. Technology is increasing productivity in major workforce areas such as manufacturing.
- Globalization - The U.S. workforce is competing with a global pool of workers, and the U.S. is only one of several world economic leaders.

Each of these statements is true; however, taken separately, they fail to convey the impact that the combined trends are having on the U.S. More than 20 recent national reports reacted to the combined trends by declaring a "crisis." Like other commentators, the Council on Competitiveness and the Business Roundtable identified an urgent need to respond to the crisis through vast improvements in mathematics and science education. For Illinois, the convergence of these trends contributes to the following:

- The decline of the middle class
- A projected shortage of skilled workers for the future
- Increasing competition due to economic globalization

Keeping Illinois competitive will require addressing these gaps in innovative ways, and a strong STEM education program is fundamental to building the talented workforce and to providing the supportive research and infrastructure necessary for an innovative culture.