A Pathway to Tech Valley

By

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Tech Valley has arrived and the Capital Region is thriving with new growth. New York State has done an excellent job attracting companies and high tech professionals to its new research center at the State University of New York at Albany. According to the Schenectady County Chamber of Commerce there are 1,000 technology companies, 50,000 employees with a $2 billion annual payroll in the Greater Capital Region.

These high tech companies have one essential requirement to meet if they are to survive in this enormously competitive market. There must be enough employees educated in a variety of technology careers to fill these high tech positions. The next ten years will be crucial for the success of most Tech Valley companies. Future success for these companies will depend on the Capital Region's ability to provide an adequate work force trained specifically on STEM - Science, Technology, Engineering, and Mathematics.

High school students completing these programs are prime candidates for technology careers with new Tech Valley companies like AMD, SEMATECH, GlobalSpec, General Electric's R & D Center, and Tokyo Electron Ltd. Many smaller Capital Region technology companies like MapInfo and Applied Robotics also have a need for young people with technology educations.

Attracting students to pursue courses in math, sciences and technology to prepare them for high tech careers has been a challenge nationally. Ideally, we need to start encouraging younger students to develop an interest in these STEM studies to guide them to technology careers. Perhaps the greatest method of informing young students about the exciting world of technology and space is the Challenger Learning Center's educational program.

Many people will ask; what is a Challenger Learning Center? The Challenger Learning Center is a space themed educational program that is designed to guide students in the 5^{th} – 8^{th} grades towards STEM - Science, Technology, Engineering, and Mathematics.

After the Challenger Space Shuttle exploded in flight on January 28, 1986, the descendants of the six astronauts and school teacher, Christa McAuliffe chose to build a Challenger Learning Center as a living memorial so the dreams of their loved ones would continue and inspire young people to follow their footsteps.

The first Challenger Learning Center (CLC) was built in the Washington D.C. area and now there are 54 centers in the United States, Canada and the United Kingdom. New York State currently has two centers, located in Rochester and Suffern. In the fall of 2007, the Challenger Learning Center of New York's Capital Region is scheduled to open in Schenectady, New York. The new CLC will serve schools in 19 counties of New York as well as southern Vermont and western Massachusetts. This is also the same region covered by the new Tech Valley in the Greater Capital Region.

The main purpose of a CLC is to inspire fifth to eighth grade children to seek an education that will create pathways to careers in technology and space. The Greater Capital Region is fortunate to have many institutions of higher learning like the State University at Albany, RPI and Union College. These highly respected schools have excellent programs to prepare students for high tech careers.

The CLC curriculum is designed for schools to fill a three month semester. To prepare for their trip to a CLC, students engage in a two month comprehensive integrated science curriculum that meets N.Y.S. standards. This is taught by their school's science teachers, who must be certified by CLC teachers. Prior to the trip the mission prep curriculum requires the students to write resumes and then complete a job application to the teacher for position assignments when they visit the center.

On the day of their visit to the space center, students receive a one hour briefing from the CLC staff and then the group is split into two groups. One group is assigned jobs in the mission control simulator and the other group goes into a space shuttle simulator. While the mission control group is preparing for their assignments, the students in the space shuttle experience a simulated take-off and flight into space. Within minutes the students dock and board a space station simulator where they are given assignments to perform their mission.

During the next hour they fly a simulated mission that will have several problems develop in the space station simulator that must be solved. Students in the space

station and mission control work closely together using the skills they learned during the school course to solve the problems. This intense joint problem solving creates a strong bond of team building that is an asset in today's high technology work environment.

At the end of the successful one hour flight into space, the groups exchange places and fly another mission into space. Following their visit to the CLC there is a one month curriculum taught in their classroom to complete the program. Immediately after the visit each student prepares a press release and the class holds a press conference at their school.

While the CLC is primarily an educational program for students, it has a significant appeal to the public. Many corporations, non-profit groups and high tech companies visit the center for team building and development or with an interest to improve their knowledge about space. The center will be available during the non-academic year, evenings and on weekends for the public.

The Challenger Learning Center of New York's Capital Region will be located on the first floor of the Schenectady Museum & Suits – Bueche Planetarium in Schenectady, New York. The CLC will also be a major attraction of tourism in the Greater Capital Region. It is believed that students and the public attracted to the center will also visit the museum and other areas of interest. The CLC will help the museum to promote the incredible rich technology history from the Mohawk Valley. The work of scientists such as Edison and Steinmetz, the birth of television, the early days of radio and the American Locomotive Company are examples.

Companies seeking to relocate in the Capital Region's Tech Valley will demand that the area has an adequate work force of people with educations in technology to meet their needs. Programs like the CLC, Project Lead the Way, and the educational curriculums in the region's high schools, colleges and universities will help meet this tremendous demand.