Major Themes

- **Rapidly changing industry.** During the expansion of the internet and the IT industry in the 1990s, educational institutions across the United States expanded their IT programs in an effort to keep up with labor market demand. Concurrently, the rapid innovation common to IT resulted in ongoing challenges with the alignment between the KSAs desired by business and industry and those possessed by graduates of IT programs. Just after the turn of the century the majority of the IT industry experienced a rapid decline in stock value (commonly referred to as the dot-com bust) resulting in a rapid decline in the labor market for IT professionals, including massive layoffs in some areas of IT. It was in this climate that the Convergence Technology BILT was first established in 2002, at Collin College in Frisco, Texas. The BILT was developed as a means to create dynamic and robust industry endorsed programs of study that ultimately meet the labor market needs of business and industry in the region and result in positive employment outcomes for their students. Additionally, by building the college’s ability to adapt over time to meet the changing needs of the industry and its students, the BILT supports the long-term viability of the college’s IT programs of study.

- **Redefining traditional roles.** The BILT model is built on two core assumptions that underline the different roles in the BILT. These assumptions are:
  
  1. Business and industry leadership are uniquely positioned to a) forecast labor market needs in the field, and b) assess the KSAs necessary to successfully gain and retain employment.
  
  2. Faculty and administrators are experts in developing and delivering programs of study that result in students gaining the KSAs identified and prioritized by business and industry leadership.

Recognizing these two assumptions, an essential part of the BILT model is that programs of study are built in response to labor market forecasts and that curriculum for these programs is built based on the KSAs identified and prioritized by business and industry. Faculty review existing courses against the BILT’s KSA list to identify gaps. New or modified curriculum is developed to address the gaps. The BILTs then review faculty plans for courses, certificates, and degrees, giving feedback where necessary and providing validation of the proposed plan. The leadership role of business and industry in rating and prioritizing skills at the onset of curriculum development is one of the key areas where the BILT model differs from the more traditional industry advisory model. Further, the BILTs review the KSA list annually and make adjustments to address changes in technology. In practice, under the industry advisory model business and industry are commonly engaged at the curriculum review process, after faculty and administration have developed the program of study and its embedded curriculum. In many cases, this results in an inefficacious review of the curriculum that resembles less of an authentic endorsement and more of a ceremonial rubber-stamping of the curriculum.

**Business & Industry Leadership Team Definition**

NISGTC’s BILTs are national and local teams of business and industry leaders who meet quarterly and provide leadership in the development of curriculum in their specialty area. Building on the standards set by the Department of Labor, BILTs rank and prioritize the knowledge, skills, and abilities (KSA) necessary for graduates to successfully gain and maintain employment in their respective disciplines. Additionally, the BILT provides the college with a labor market forecast by discipline, allowing the college to develop programs that meet labor market needs and maximize employment outcomes for their students. The college then takes the results of the national BILTs and uses that information to work with their local BILTs.

**NISGTC is online at** http://nisgtc.org

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**The Business & Industry Leadership Team and the National Information, Security, and Geospatial Technology Consortium**

The National Information, Security, and Geospatial Technology Consortium (NISGTC) is a seven member national consortium collaborating to prepare students for employment in four information technology (IT) specialty areas: programming, networking and convergence technology, cybersecurity, and geospatial technologies. Building on the model provided by the National Science Foundation Convergence Technology Center, the consortium has developed a Business & Industry Leadership Team (BILT) for each specialty area. Additionally, leadership has provided technical assistance on the process of building a local BILT for interested colleges and consortia partners and support in connecting their local BILTs to the national NISGTC BILTs.

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Employment is a win-win-win. Improving employment outcomes for students is a win-win-win situation, benefiting students, employers, and the college. One of the key outcomes from building a BILT and building programs that are reflective of regional employment needs is improved employment outcomes for students. BILT leadership and BILT members report that by employing the BILT model they have seen a) reduction in the length of time between graduation and employment for students, b) a reduction in the need for on-the-job training for recent graduates, c) a reduction in the number of positions unfilled by regional employers due to a lack of qualified applicants, d) an increase in opportunities for students to develop relationships with employers prior to graduation (e.g. internships, job fairs, mentorships, etc.), and e) an improved reputation and enrollment rates for the colleges’ IT programs of study.

Industry driven curriculum development. Each BILT meets quarterly. Three of these meetings are held virtually via webinar or phone conference and last a maximum of 1.5 hours. These meetings are designed to elicit from business and industry leaders trends they are foreseeing in their field. This allows the program to continuously remain current, even in IT specialties that are highly emergent in nature. The colleges also share progress updates on adjusted curriculum, new programs and certifications at these meetings. Additionally, these meetings provide an avenue for the colleges to share information, as well as get feedback and support from the BILT, regarding funding opportunities and other initiatives that impact students outcomes in their programs.

The fourth meeting, conducted in-person annually lasts a maximum of 5 hours. At this meeting the BILT both conducts an in-depth review of the KSAs necessary to secure and maintain employment in their field and provides labor market analysis for the college that forecasts business and industry labor market needs over the next 2-3 years. Faculty are present in an observational role during these meetings. Faculty can ask questions as necessary, but business and industry retain the leadership role. The in-depth review of the KSAs involves a validation process where the business and industry rate each KSA on the following parameters: a) level of importance for entry-level employment, b) what level of proficiency is needed, c) how much time is spent utilizing this KSA by entry-level employees, and d) how difficult the KSA is to learn. Following this meeting the faculty conduct a crosswalk between the highest-rated KSAs and the existing curriculum. Faculty and administration use this crosswalk to update the curriculum, as well as determine changes needed in program structure and credentialing. The final step in the process is to validate the changes made with the BILT at a quarterly meeting.

“The BILT allows colleges to get industry leadership on curriculum to better prepare students to be workforce ready upon graduation.”

Matt Glover, Senior Director, Global Information Technology, AMX and BILT Chair; Ann Beheler, Executive Director of Emerging Technology Grants, Collin College; and Glenn Wintrich, Dell Innovation Leader, BILT Chair Emeritus.

Replicating the BILT model. Building on the model provided by the Convergence Technology Center’s BILT, the NISGTC consortium has established additional national BILTs in a) programming, b) cybersecurity, and c) geospatial technologies. Based on the experience gained through developing these BILTs, NISGTC consortium leadership have made observations of a few key areas in the development of a successful BILT. First, engagement of business and industry in the BILTs is relationship driven. Key individuals in business and industry do not respond to blanket emails or generic requests. They are more likely moved to action through a personalized and in-person invitation. When forming a local BILT, it is important to strive to build and maintain a balanced representation of different sizes and types of organizations from across the region. NISGTC leadership caution not to underestimate the importance of small employers, as small employers often represent an important part of the regional labor market demand in the field. Likewise, rural colleges are encouraged to ensure they tap the full potential of the region, as employment outcomes for programs of study are typically the strongest where there is a regional labor market demand for graduates. The National BILTs focus on companies with a national view providing local BILTs with a strong a foundation of KSAs to build on.