

## Best Practices from the CCTA: Centers Collaborative for Technical Assistance

The National Science Foundation's Advanced Technological Education (NSF ATE) program focuses on the education of technicians for the high-tech fields that drive the nation's economy. The faculty members of community colleges, which are the main source of technician education in the United States, have leadership roles in the initiatives that involve partnerships with industry and other educators. Since 1994, NSF ATE initiatives have developed a wide-range of innovations to better serve students and inform educators.

Five NSF ATE centers formed the Centers Collaborative for Technical Assistance (CCTA) in response to a Department of Labor request to NSF for technical assistance services to recipients of Trade Adjustment Assistance Community College and Career Training grants. The five centers are National Center for Convergence Technology (CTC), South Carolina ATE National Resource Center (SCATE), Florida Advanced Technological Education Center (FLATE), Bio-Link National Center (Bio-Link) and Maricopa Advanced Technological Education Center (MATEC). The identification and sharing of NSF ATE best practices are among the services CCTA offers.

# WHY BUILD A BILT ... AND HOW TO BUILD IT

A Business and Industry Leadership Team (BILT) is a group of technology-savvy employers who work in partnership with educators to co-lead a technical education program. BILT members' engagement goes beyond typical industry advisement to co-ownership of curriculum to develop workforce-ready technicians.

The right people to serve on a BILT are individuals who hire or influence their companies' employment decisions. They must also be forward-looking people who can predict the skills that program graduates will need to gain employment in 12 to 36 months. The most effective BILTs have 12 to 30 active members who interact with educators in an ongoing process of program improvement.

Principal Investigator Ann Beheler and the team at the National Convergence Technology Center (CTC) developed the BILT process after the dot.com bust to re-invigorate Collin College's information technology program. Feedback from BILT members provided critical information for the college's successful grant proposals to the National Science Foundation and U.S. Department of Labor. The CTC team has implemented national and regional BILTs and guided other educators in the use of this strategic model for transformational change.

“What a great opportunity for us to be able to participate in a really meaningful way where we can lead the curriculum development, watch it mature, and guide and coach our academic leadership to deliver students we want to hire.”

## BEST PRACTICES FOR STARTING A BILT

- Prepare your pitch to potential BILT members with a brief explanation of what BILT members will gain by attending one in-person meeting that lasts about five hours and three 90-minute virtual meetings per year.
- Think through your answers to likely questions they may ask.
- Identify the large and small companies that would likely employ your students.
- Make direct phone calls or write personalized, stamped letters to invite the CEOs or front-line managers who are most deeply involved in the technology your program teaches.
- Follow up on responses and referrals. Those who agree to participate should receive an immediate, personalized letter of thanks with the time, date, and place of the first meeting and a brief agenda. Send email reminders two days in advance. Negative responses deserve a courteous personal letter to keep the door open for future involvement.
- In order to have at least 15 attendees at the first meeting, invite at least 30 people.
- Call each BILT member once a year to obtain his/her feedback and to thank him/her for participating
- Include BILT members' names and companies on press releases about program accomplishments.

**MATT GLOVER**  
CTO, LE-VEL LLC  
BILT CHAIRMAN FOR  
NATIONAL CONVERGENCE TECHNOLOGY  
CENTER



BILT members also mentor students by providing guidance on creating portfolios, writing resumés, building interview skills, and supporting virtual internship teams. These interactions give students glimpses into real-world practices. These experiences strengthen students' employment prospects with the soft skills that employers want.

# BILTS IDENTIFY KNOWLEDGE, SKILLS & ABILITIES OF ENTRY-LEVEL TECHNICIANS

The primary task of a BILT is providing insights for educators to prepare technicians qualified for careers in current and emerging technical fields. To achieve this goal, BILTs use a modified curriculum development process to identify the knowledge, skills, and abilities (KSAs) necessary for entry-level technicians. This process begins with educators creating a list of proforma KSAs.

“The value proposition for BILT members includes developing two-year college graduates with the applied skills that they and other employers need; lowering in-house training costs; learning about industry trends; and contributing to the education of people in the community where they live and work.”

**ANN BEHELER**  
PRINCIPAL INVESTIGATOR  
NATIONAL CONVERGENCE TECHNOLOGY CENTER  
COLLIN COLLEGE, FRISCO, TEXAS

BILT members review the proforma list of KSAs at their first in-person meeting and rank each from 1 for “least important” to 4 for “most important.” Faculty members attend this meeting to listen and learn which KSAs employers want grads to know for the next 12 to 36 months.

After this multi-hour meeting, the educators use the ranking data and discussion points to align the curriculum more tightly with the KSAs. The “crosswalk” comparison of the KSAs with existing courses identifies curriculum gaps that the educators usually address by adjusting content, adding modules, or creating new courses. BILT members update the KSA list annually.

At the BILT’s quarterly virtual meetings, members share information about industry trends and hear from the educators about the implementation of program revisions. When highly-ranked skills are beyond the scope of the college’s mission or capacity, the educators explain this, too.

“If there’s something BILT members want that can’t be done, you tell them that. It’s not that we do everything they want. It’s that we explain that we did or didn’t do it, and have a reason,” Beheler said.

“The Maricopa County Community College District is adapting the BILT model to guide workforce development in four major industry sectors.”

**MICHAEL LESIECKI**  
EXECUTIVE DIRECTOR, MATEC  
MARICOPA COUNTY COMMUNITY  
COLLEGE DISTRICT, PHOENIX, ARIZONA

“The BILT model allowed SHINE to scale its advisory board, from a local group into a regional group. Using the BILT model helped SHINE strengthen regional industry connections and gain input to improve technician training.”

**PETER KAZARINOFF**, CO-PRINCIPAL INVESTIGATOR  
SEATTLE’S HUB FOR INDUSTRY-DRIVEN NANOTECHNOLOGY EDUCATION (SHINE)  
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## THANKS TO BILT INVOLVEMENT, GRADUATES ARE HIRED, STAY EMPLOYED, AND LATER GAIN PROMOTIONS.

With the BILT’s leadership, CTC supports the Convergence College Network (CCN) that now numbers 50 colleges nationwide. More info can be found at: [bit.ly/aboutBILT](http://bit.ly/aboutBILT)

**CCTA** | **CENTERS COLLABORATIVE FOR TECHNICAL ASSISTANCE**

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