National BILT Meeting Minutes
"Mega-BILT" Trends Discussion

MEETING DATE: **Tuesday, April 28, 2026**	MEETING TIME: 10:30am-11:30am Eastern	MEETING PLACE: Zoom
RECORDER: Mark Dempsey	RECORDING: Available upon request	PREVIOUS MEETING: Data management vote meeting – March 24, 2026

MEMBERS PRESENT

BILT:		
Phillip Andrews, SMU	Cody Hooper	Harvendra Singh
Ali Asghari	Corey Kirkendoll	YASH Technologies
Stacy Brandenburg, Hye Tech Network and Security Solutions LLC	James McClain	
Laura Chappell, Chappell University	Lynne Reynolds, Milestone Technologies	
Brian Cunningham, J Strategies	Mark Richter	
Vincente D'Ingianni	Lee Rosenfeld, McGraw Hill Education	
Yolanda Eyre, Breakthrough T1D	Titus Samuel	
NITIC staff: Ann Beheler, Mark Dempsey, Christina Titus, Larry McWherter, Stephanie Schuler, Alie Hernandez, Andie Bonkowske, Grayson McKeown, Debbie Hecht		

Agenda items	Discussion
NITIC and BILT overview	Larry welcomed the group and asked BILT members to keep comments short and use the "raise hand" feature in Zoom to help give as many people as possible the chance to share. He then provided an overview of the NITIC grant. He explained that today's meeting will discuss the current state and future trends of the IT industry. Larry further told the BILT members that their anonymized feedback will be widely disseminated by NITIC to educators nationwide. He also publicized NITIC's webpage (www.nitic.org). Ann provided an overview of the BILT (Business and Industry Leadership Teams) model. BILTs are energized business advisory councils that employ structured, repeatable processes. By putting employers in a co-leadership role, BILTs help align curriculum to workforce needs and build relationships between educators and employers. There are two kinds of BILT meetings: multi-discipline trends meetings like this one and specific single-discipline meetings that allow for prioritization of granular entry-level job skills.
Trends: What roles are you having trouble filling?	Ann posed her first open-ended discussion questions to the BILT group: What roles are you having trouble filling? One employer noted that AI is the "number one topic" in everything their company does. The company has made significant investments in AI. Change is coming quickly. Jobs are going to change. Workers will become "managers of AI agents." You cannot create an AI gent and turn it loose. The agents need to be managed. AI will not replace jobs – AI will free up workers' time to focus on more important tasks. AI will allow us to automate the more mundane and boring tasks. The company's customers biggest concern is how to put guardrails around personally identifiable information (PII) and prevent data leakage.

	Regarding AI guardrails, Ann noted a recent news story about an AI agent tasked with cleaning up servers and ended up deleting everything. https://gizmodo.com/claude-powered-agent-apparently-deletes-company-database-debases-itself-further-in-confession-2000751528 Another employer agreed that AI will lead to the Fifth Industrial Revolution. AI will be everywhere. The people they work with are projecting at least 15 new professions and AI, and all of them will need college degrees. Leadership further sees a "sensory economy" whereby AI is connected to data analytics. Another employer noted that a big role that's going unfilled is data governance. Too many people mistakenly think they know how to set this up. They don't understand what it means. It's not data management. Without good data governance, there is no good AI. It's data governance that will set all the guardrails and alert workers to data quality problems. They're not sure what students are learning about data governance, especially as it relates to technology. From the chatbox: "Data Governance is the back bone of what we place guard rails around! It is huge part of safe AI." Another employer agreed about this data governance point. Their company has a big data governance practice and are expanding it to handle more AI tools. But they also wanted to share his concern about a lack of foundational understanding among new hires. They worry students are not taught "how stuff works." They're working with developers around the world who don't understand that underneath the virtual systems, there's physical objects, physical servers that everything is running on. Everything they do is constrained by the laws of physics – for example, information cannot travel faster than the speed of light. A data center on the West Coast needs time to communicate with a data center on the East Coast – and sometimes the communication won't get delivered at all. AWS, the most mature cloud provider, guarantees six nines of packet loss. So out of every million messages you send, one isn't going to make it. There are developers who don't know that. They don't know how the system works, and until they do, the AI systems they are building could have "massive hidden defects." Two other employers agreed: students need to understand how computers work. Do not stop focusing on the fundamentals. The younger employees should be dragging him towards newer technologies, but that is not what's happening. He does not have technicians to support multiple data integrations running 24-7 around the world because they don't understand how these applications work. With everything running in the cloud, new hires have less understanding of physical servers. From the chatbox: "IMO AI is a great tool and agents can do a great deal of things, however if you do not know what you are doing, AI is NOT the resource to learn from. It hallucinates and will make up stuff. So if you use AI to code and know how that code is built you will catch the mistakes. Students who rely on AI fully will fail miserably at the task." From the chatbox: "Finding a data architect or solution architect is tough. The basics don't seem to be taught." One employer noted that new hires don't have "domain knowledge." They don't understand business processes of the company they're working for. Technology can be automated and powered by AI tools. All of that can be learned and managed. But new hires often lack an

	understanding of the industry they're working in, like manufacturing or energy or finance. Because IT – which may be only 2% of the company budget - enables the business, students need a basic understanding of accounting processes and business strategies. Everything they do supports the other 98%. New hires need to understand what certain AI tools or IT systems are providing the company. This same employer also noted that while we spend a lot of time discussing new technologies, many companies still run on 40- to 50-year-old legacy systems. These systems still work, so many businesses are reluctant to change. But soon there will be a huge "digital transformation" across all of the older technologies and applications. To manage that modernization shift, the younger workers will need to understand the older systems. Students will benefit if they can get a little "flavor" of older technologies.
Trends: How to teach all of this in a two-year program?	Ann posed a new question: <u>how are we going to teach all the fundamentals and AI in a two-year degree?</u> From the chatbox: "I don't think you can teach everything in a 2 year degree." One employer expects to see much more AI integration soon in cybersecurity. Hackers can use AI to do things they could not do previously. The cybersecurity professional gap is only going to get bigger. Students need to learn cybersecurity skills with the understanding that those roles and jobs will change. Today's SOC analyst may soon become an AI-assisted threat hunter. Graduates with some level of security-plus-AI skills will have an edge in the workforce. As far as squeezing it all into a two-year degree, he agrees it is hard to teach the level of depth students need in such a short amount of time. Another employer noted that his company has been pushing AI development tools. They have noticed that more junior engineers are being asked to do things that once would have been handled by more senior engineers. But to handle that, the junior engineer needs to know the fundamentals. How do you teach all of this? This employer suggested using AI. They're constantly on Claude asking for help re-learning things about the network that's been long forgotten. Maybe students no longer start with "Hello World." Maybe they start by building an entire server stack in the cloud. That way, the assignment becomes understanding and validating the code that's generated. The syntax he's been using for 20 years is out of date. Software development now looks like spec. You write the documentation, allow the code to be written by AI, then validate the output. They think the answer is to shift education more to reading validating code, not writing code. From the chabox: "I stress to my students and customers, understand OSI model." Another employer suggested that it's not the technical skills that students may be lacking – she had a good experience with DeVry and thinks they're format and structure could be updated for today. Ann replied that it would be a challenge to change college formats to match something like DeVry. Curriculum and accreditation processes and approvals are just very slow. That same employer next mentioned a concern over the lack of communication skills in new hires. People don't know how to ask questions. Developers just say "okay this is what the user wanted" without critically thinking if that's really what the user needs. Suggest a better way. Confirm again what the application needs to do. Look at the data and ask questions. A lot of her classmates got a 4.0 in the technical classes but struggled in the communication classes. This same employer also stressed the value of data security and governance. These

	skills are foundational and will remain relevant for the foreseeable future. They're timeless. They won't change. Ann noted that NITIC will be hosting a BILT prioritization meeting on June 9, looking at individual professional "soft" skills in IT. Everyone will be invited. From the chatbox: "Don't change from teaching the fundamentals. Hardware and software didn't fundamentally change over the past 50 years — we just got faster, more precision, and better connected. Neural networks have been around for years. While you teach the fundamentals, the newer tools will be influencing how the students learn. But students without the basics are not useful" From the chatbox: "A thought on teaching the foundations and aligning to industry certifications is the CDMP Associate (Cert Data Management Professional)." Ann further noted that she's worried the BILT still seems to want everything to be covered in a short program: the foundations knowledge, the business skills, the communication skills. All of it with AI layered on top. Ann explained that typical two-year degrees at community colleges are about 60 semester hours. Each semester-hour represents around 40 actual clock hours of time working with a student. It's not very big. One employer noted that he's having to "spoon feed" his new developers. If he gives them an assignment end-to-end, they will build it from scratch. But the world is moving to visual development, which supports modular and component development. He has a new hire that treats every problem like it's "brand new." If he gets two similar problems, he doesn't think to reuse solutions and elements across both problems. He rebuilds the answer from scratch. What takes days for him should take minutes. He's having trouble getting his engineers to understand that using new technology can help build an end-to-end integration in 15 minutes. His team needs to learn how to modularize. It's like using Legos. You learn and understand as you build. Another employer agreed that two years is not enough time for deep dives. He was earlier proposing broad introductory classes. He doesn't expect someone to become fluent in Python, but students would be exposed to it and understand AI concepts like LLM and algorithms and hallucination and token usage and deep knowledge. They need to know those concepts. But to really specialize in specific IT areas, students will likely need another two years. He agreed with others that public speaking is a critical skill. Developing soft skills is important, especially in customer-facing roles. And unless you're a backroom developer, you're going to be dealing with customers. He just wanted to clarify: earlier he wasn't advocating a change to degree program to just focus on AI. His point is that AI is going to become more and more central to IT. From the chatbox: "Issue is kids are using this tech today to try and generate papers for assignments. Balance is a key word here." From the chatbox: "It is advanced autocomplete to which you can ask very detail questions, not a replacement for your critical thinking." From the chatbox: "We have folks come to us who are brilliant in tech but cannot hold a conversation or know when to switch gears from super tech to explaining a concept to a C level person. I can teach anyone tech, but teaching people to speak and how to speak is not easy."

	From the chatbox: “How to fit all this into a 2-year program? I'd start by looking at the 2-year program topic-by-topic to see what can be "woven in" vs. what can be raised/lowered in priority. Can any of the fundamentals be pushed down to the high school level?” From the chatbox: “It needs to be a full, real case work or hackathon-like teaching experience. So they see it all working together with an understanding of.” From the chatbox: “Have we asked AI how to fit this in?”
Trends: Do entry-level workers need AI literacy?	Ann posed her next question: do entry-level IT workers need to be literate in AI when you hire them? Does that give them an advantage? A Lightcast report compared two identical jobs and determined the one with an AI component pays 28% more. LEARN MORE: https://lightcast.io/resources/blog/beyond-the-buzz-press-release-2025-07-23 One employer compares this to the question: would he hire you five years ago if you didn’t know how to use a compiler? No. The same is true today – if you don’t know how to use AI, you will not be considered. Every role requires it. He’s not sure interviewing has yet caught up to this, but he predicts soon the job interview will involve interacting with AI and validating that the output is correct rather than discussing older technology. Businesses are still learning how to conduct interviews that feature AI skills. Students need to be able to write a spec, use integrations in your IDE, and iterate on a problem with the AI. Another employer asked if prompt engineer is a part of that. The first employer said yes. And prompt engineering may be the answer to how to teach so many things in just two years. LLMs can allow deep questions about what was produced. “Why did you produce the code this way?” Ask for resources to validate the code. But this only works if you understand the fundamentals and can identify “garbage” output. One employer admitted he’s become spoiled by using AI to develop code and answer questions. He worries this generation will soon become too reliant on AI, which is why he’s so adamant about teaching foundational fundamentals. Computers are faster and more precise and better connected, but fundamentally they work the same way. “Software is software.” From the chatbox: “I am concerned that students, new hires, and even ME, are losing their ability to develop without AI.” From the chatbox: “Toast Masters will be helpful for clarity in communication and public speaking.” The BILT seemed to agree the everyone in every field needs an AI literacy course. One employer noted that AI is a tool like the calculator. Another employer agreed, and acknowledged that students are already using AI, but he wants to be sure they are learning how to use AI appropriately and safely. Ann agreed. Using AI tools is becoming common, but understanding and following responsible guardrails is less common. Another employer noted that every company now has a manager assigned the task of making sure AI is used responsibly. Companies follow this “responsible AI charter” for every project and initiative. From the chatbox: “The class teaches the questions to ask, not the answer to those questions. Oddly enough, the AI can help answer those as long as you can detect the slop and know how to validate its sources.”

	From the chatbox: "I think they need to be FAMILIAR with AI (must have) and AI literacy will give them an edge." From the chatbox: "AI is evolving, it is like a running train, how do we handle learning while in college? It is going to be incremental learning with basics learnt in college." From the chatbox: "To be perfectly honest AI is the Wild West today and most of us are building the plane in flight." From the chatbox: "I don't think I have done anything without asking the AI. But yes, one concrete usage - Take your existing assignments and use the AI to make them more challenging to test the skill of using AI against the fundamentals. This was how we have been instructed to fix our interview questions - which the AI crushed in 2 minutes when I put them at it the first time around."
Trends: What issues are you having with new hires?	Ann posed another question: <u>What sorts of issues are you having with entry-level employees? Are your requirements changing, either with respect to numbers or job responsibilities?</u> One employer agreed that responsibilities are changing because more and more of the infrastructure is becoming automated. People are writing more things in tools like Jenkins and Ansible, but AI helps augment that work. Companies are also using AI-like tools to "digest the information" coming out of the logs. Overall, AI is continuing to expand and encroach. Ann wondered if this means companies are hiring fewer people. One employer has seen companies lay of a lot of people and then scramble to plug in AI systems to replace them. He's skeptical of companies who plan to use AI to replace tech engineers in the next 12 months. AI is still in its infancy. Another employer agreed we are in the "messy middle." No one has figured out yet how to use AI. Companies are realizing they can do things cheaper so they may not need as many engineers. He's still waiting for someone to use AI to do something that's never been done before – when that new thing happens, many of those engineers may be brought back because then we will again need that foundational computer and IT knowledge. Businesses are still trying to figure it out. We know we need AI and it's going to change everything. That's all we really know. From the chatbox: "AI is like a toddler with a ton of information but zero experience or wisdom to use it." From the chatbox: "If you ignore AI you will be a part of the first folks to become a dinosaur." This same employer is interested in how AI can make it easier for people to enter IT. The technical complexity may no longer be a barrier. We may see things that once required a team of ten now handled and managed by a single person with no technical background. From the chatbox: "I had to pass an Excel literacy test to graduate high school about 2000 years ago because it wasn't woven into our curriculum yet. I think we haven't yet gotten there for AI. We are in this middle gap. The students hitting college today will need help. Eventually, it will be known for sure." Another employer noted that customer service, the internet, and social media have been taken over by AI and bots and targeted advertisements. He hopes the pendulum will soon

	swing back to more human interactions. One employer mentioned again the value of data. They see a weakness in data architecture and solution architecture. Students need to learn how to think – she's worried a reliance on AI is taking that ability away. Use AI to solve a problem, try and validate the answer Ann wanted to be sure no BILT member who wanted to speak and share, but hadn't yet had a chance, could contribute. Another employer pointed to a comment in the chatbox. Should we ask an AI LLM for help deciding how to organize curriculum with an AI element? That could be a good starting point for a future discussion. Ann noted she uses an AI bot to help develop entry-level job skill lists for BILT prioritization votes. She still verifies the output. Another employer commented further on the idea to AI to address some of these questions. AI is a part of their "normal workflow" where there's a problem to solve. It's a good way to brainstorm. The idea is to take the curriculum that would be currently offered in a two-year program and use an LLM or make an AI agent that understands the parameters and variables. Then ask it to make a proposal that the BILT can then discuss. She thinks this could make for a fascinating meeting. From the chatbox: "My best advice is the instructors who have experience you have unique opportunity to teach critical thinking and skills that are important, but no longer popular." From the chatbox: "With regard to the impact of thinking when using AI, I believe AI will change the level of thinking from details toward higher level."
Conclusion	Ann announced the next meeting – June 9 to vote and discuss entry-level professional "soft" skills. Tentatively in August, the BILT will prioritize AI literacy skills. Ann works with other schools and NSF centers and believes that employees across all technical disciplines need foundational AI literacy. Larry thanked the BILT for attending and endorsed the idea of maybe using AI to help answer some of the curriculum questions and develop a plan. Mark shared a link to an industry newsletter that featured the BILT and Ann's work at Miami Dade College and the National Applied AI Consortium.
Next Meeting: Tuesday, June 9 (10:30am-12:00pm Central/11:30am-1:00pm Eastern) – job skills vote and discussion on professional "soft" skills	