

To: Micro Nano Technology Education Center (MNT-EC)
From: Cait Cramer & Matthias Pleil
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Subject: Defining the BILT & IWG

Summary

During Year 1, there has been murkiness surrounding the difference between the MNT-EC BILT and the MNTeSIG Industry Working Group (IWG). Though much of the work is related and there is overlap between the two industry-focused groups, there are differences in their scope and precise tasks.

The BILT serves like an advisory board or board of directors, as they operate as an industry-lead team to drive the mission and vision of MNT-EC. Providing information as to where the industry is heading, what are the needs of industry and define required KSA's standards.

The IWG is an academic-lead group, started within the MNTeSIG community, consisting of mostly academics and a few industry representatives working to define and implement initiatives that support the IWG mission: *"The MNTeSIG Industry Working Group supports knowledge exchange between industry and academia to grow the micro-nanotechnology (MNT) technician workforce pipeline and increase enrollment in MNT education."*

The IWG supports the MNTeSIG BILT – one analogy is that the BILT are the "generals" and the IWG are the "boots on the ground."

The purpose of this living document is to detail the difference between these two groups and define the relationship between them.

BILT

The BILT is designed to be an industry-lead team driving the big-picture mission and vision of MNT-EC.

MNT-EC Individual Roles and Responsibilities

- Jared Ashcroft, MNT-EC PI
 - Attend all meetings, including planning meetings
- Billie Copley, MNT-EC PM
 - Attend all BILT meetings
- Terryll Bailey, MNT-EC Evaluator
 - Attend all meetings, including planning meetings
- Cait Cramer, MNT-EC BILT co-facilitator
 - Attend all meetings, including planning meetings
 - Main *facilitator* of the meeting at first.
 - Point of contact for BILT co-chairs
 - Report out to Jared & Billie once a month
- Matt Pleil, MNT-EC BILT co-facilitator/advisor
 - Attend all meetings, including planning meetings
 - Report out to Jared & Billie once a month

- John Wood, MNT-EC BILT strategic advisor
 - Attend all meetings, including planning meetings, advise.
- Janet Pinhorn, Administrative Assistant
 - Attend all meetings, including planning meetings
 - Creating availability/doodle polls
 - Sending Emails to BILT
 - Taking notes
- Ann Beheler, BILT co-facilitator/advisor for Year 1-2
 - Attend all meetings, including planning meetings
 - Answer questions Cait & Matt have
 - Offer insight with respect to what has and has not worked historically
- All other MNT-EC members
 - Will receive invitations to BILT Meetings
 - Are asked to observe during the meetings
 - Questions may be sent to the facilitators via chat

BILT Industry Leadership

We currently have three co-chairs to lead the BILT. All three are serving in an interim capacity. The goal is to find industry representatives who will be involved, strong advocates, and effective BILT meeting leaders.

1. Todd Christenson
2. Robert Giasolli
3. Aaron Santos

Once the correct BILT leadership is identified, BILT meetings should be industry-led. Cait & Matt's role in the BILT changes from lead facilitators during meetings to MNT-EC and IWG contacts for the BILT leaders.

BILT Structure

This is the proposed BILT structure to allow KSA voting to be relevant to a particular sub-discipline within Micro Nano Technology (MNT).

- SuperBILT
 - Current members which act as a founding board
 - Hand-picked to represent diverse geographies & industries
 - Meet once a year to discuss BILT structure, etc.
- BILT Subteams
 - Decided on by the SuperBILT
 - Will involve more industry recruitment including SME's
 - Meet once a year to discuss KSAs, half a day (~4 hours)
- Trends meetings
 - Combination of SuperBILT & BILT Subteams
 - Meet twice a year, 90 minutes
 - Present on current trends and forecasted Workforce needs.

We will be starting with the subdiscipline of Microsystems, which includes Semiconductors & MEMS. The SuperBILT will identify additional sub-disciplines to pursue, which may include nanobio, materials, optics/photonics, etc.

BILT Meeting Schedule

- ✓ Summer 2021 (June 24th) – SuperBILT/Trends Meeting
- ✓ Fall 2021 – KSA Voting meeting for Subdiscipline #1 (Microsystems)
- ✓ Winter 2021 – Trends Meeting
- ✓ Spring 2022 - KSA Voting meeting for Subdiscipline #2 ()
- ✓ Summer 2022 - Trends Meeting
- ✓ Fall 2022 - KSA Voting meetings for Subdiscipline #1 & 3 ()
- ✓ Winter 2022 - Trends Meeting
- ✓ Spring 2023 - KSA Voting meetings for Subdiscipline #2 & 4 ()
- ✓ Summer 2023 - Trends Meeting
- ✓ Fall 2023 - KSA Voting meetings for Subdiscipline #1, 3 & 5 (?)
- ✓ Winter 2023 - Trends Meeting
- ...

BILT Meetings Defined

Trends Meetings

are technology trends ***3-5 years down the road***. What new technologies are coming down the road that will direct KSAs. All subdisciplines present.

- Opportunity for academics to listen to what is coming up.
- “Seed” the conversation by individually asking 2-3 BILT Members to please think about it ahead of time.
- Outcome: Loose road-mapping exercise for us (MNT-EC Team) to take to Industry WG & Curriculum WG.
- Trends meetings: 1 or 2 hours? Discuss/vote

KSA Meetings

are going to be ***2-4 hours***. BILT needs to be aware of this and able to commit to it. Explain *why* it is so long and *why* it is critical for our success.

- First 30-45 minutes is voting. Allow industry members to do this ahead of time and skip this time period, but provide it for industry members who don't have time to do it individually or have questions
- Review all KSA's, but only have full discussions if vote is split or average.
 - Very low-ranking KSAs are discarded
 - Unanimously high KSAs are maintained
 - Splits are discussed and reconciled

IWG

BILT Support

The IWG has been and will be continually involved in BILT support in the following ways:

- Recruitment of BILT and IWG industry members
- Development of the initial KSA list for BILT sub-discipline voting
- Submission of additional KSAs for BILT sub-discipline consideration

- Partner with the MNT-EC Curriculum sub team to turn BILT KSA results into curriculum and to map KSA's to existing curriculum. This will support new programs and the updating of existing MNT programs to ensure students provide a value add to industry, i.e., shorter onboarding, better technical problem solving and team working KSA's.

Industry and Academic Synergy

The IWG also will work to engage the MNT industry outside of the BILT by:

- Including industry members that want to be involved in MNT-EC in a capacity other than the BILT
- Establish and maintain relationships with professional organizations within MNT (MANCEF, SEMI Works, etc.) to get continuous industry input
- Developing programs to connect students and potential future students with the MNT industry
 - Company presentations/seminars
 - Site visits/tours
 - Internships/work-based learning opportunities
 - Lunch & learns
 - Mock interviews
 - MNT industry fair
- Build an online presence to better facilitate connections between students, academic institutions, and industry
 - MNT Industry Map
 - MNT Academic Program Map
 - MNT Recent Grad database
 - MNT Job Posting database
 - Collection of Videos and Resources for
 - Recruitment
 - Curriculum