Microelectronics Workforce Development: A Learning Partnership Case Study

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Parallax Advanced Research
Microelectronics Workforce Development:

A Learning Partnership Case Study

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VP & Chief Talent Officer
Activity Session Objectives

• Explore the Microelectronics Workforce Development Ecosystem Case Study
• In small groups, consider and apply case study techniques such as:
  Stakeholder analysis
  Value proposition
  Complementary contributions
  Learning partnership sustainment
• Out-brief key learnings/take-aways
Microelectronics (ME) drives the U.S. economy and the centerpiece of everything digital

- Trusted and assured ME is one of the DoD’s top technological priorities
- The U.S. needs to be competitive in the global marketplace to protect its national security and fuel its economy.
- Severe talent shortages and inadequate training/education throughput for skilled ME professionals is an economic and national security concern
- Learning partnerships had to be formed to build and sustain an ecosystem of talent to meet demands noted above
To address these concerns, we established the ME WFD ecosystem of learning partners.
Why a Learning Ecosystem? **

- competing and constantly changing systems
  - limited resources
  - broad capabilities
  - need for integration

** Adapted from:
What We Did:
• Issued a needs analysis survey to initial stakeholders (this inventory grew considerably over 6 months) – see salient findings below
• Held a virtual 2-day ME WFD ecosystem forum to glean perspectives

What is the Opportunity?
And then: How might we solve this problem?

The ME industry in the US doesn’t have the skilled/educated labor it needs
ME related research must be increased in US colleges and universities
Increased K-12 student experiential learning in ME is critical for building the future pipeline
What We Did:
Based on forum outcomes (see below), forged 1:1 and collective relationships with academia, industry, and government (see right)

Cross-sector collaborations
Educational partnerships
K-12 outreach
Needs assessment
Curriculum & infrastructure

Who Has Equities?
Stakeholder Analysis was Essential

Office of Workforce Transformation JobsOhio
### How Will Partners Contribute?

Or: What is their unique value proposition?

<table>
<thead>
<tr>
<th>Entity</th>
<th>Roles/Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio Department of Higher Education</td>
<td>• Policy oversight</td>
</tr>
<tr>
<td></td>
<td>• Political subdivision of the State of Ohio</td>
</tr>
<tr>
<td>Parallax Advanced Research</td>
<td>• Backbone organization</td>
</tr>
<tr>
<td></td>
<td>• Needs assessment</td>
</tr>
<tr>
<td></td>
<td>• Evaluation</td>
</tr>
<tr>
<td>Ohio TechNet (OTN)</td>
<td>• Consortium</td>
</tr>
<tr>
<td></td>
<td>• 23 Ohio community colleges</td>
</tr>
<tr>
<td></td>
<td>• Career technical centers</td>
</tr>
<tr>
<td></td>
<td>• Partner with manufacturing associates/institutes</td>
</tr>
</tbody>
</table>

Note: The table above reflects a sample of stakeholders (not all are listed)
What We Did:

- Sustaining the learning partnerships involved initiatives such as:
  - Applying for grants together
  - Holding site visits to learn more about each other and build synergistic relationships
  - Having recurring ecosystem meetings

How Will the Ecosystem Sustain?

Or: What’s the WIIFM for staying engaged?

<table>
<thead>
<tr>
<th>ME WFD Learning Partnerships Ecosystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
</tr>
<tr>
<td>Builds a WFD ecosystem designed around meeting employers needs and providing good jobs.</td>
</tr>
<tr>
<td>Work-to-Learn and ME Maker’s Space</td>
</tr>
<tr>
<td>Provides job-centered locations for learning from K-12 to advanced degrees; reskilling and upskilling to fill labor shortages.</td>
</tr>
<tr>
<td>Growth of Ohio High-tech Sector</td>
</tr>
<tr>
<td>Attracts high-tech, high paying jobs in emerging industry sectors that result in better amenities and higher quality of life.</td>
</tr>
<tr>
<td>Growth of Ohio ME Cluster</td>
</tr>
<tr>
<td>Builds a high-tech cluster of ME employers and attractive education and skills programs for an industry of economic and national importance.</td>
</tr>
<tr>
<td>Work-based Learning and Education</td>
</tr>
<tr>
<td>Provides good jobs at every skill and education level for all communities.</td>
</tr>
</tbody>
</table>

Showcasing the value proposition is crucial to partner and prevail
In summary ... what we learned

Ask these questions

- What is the opportunity?
- Who is involved? Who cares? Why?
- How will they contribute? Add value?
- How can you maximize synergy and minimize unhealthy competition?
- What is needed to sustain the ecosystem of learning partnerships?

How to Achieve

- Conduct needs analysis (NA)
- Conduct stakeholder analysis and use NA results
- Build relationships to discover their unique value proposition
- Showcase each stakeholder’s strengths as complementary
- Promote positive return on investment for each party and the collective

To partner and prevail
Activity
To Partner & Prevail: Stakeholders Are Essential!

Focus on the reality and importance of stakeholders

Explore who are your stakeholders

Diagnose health of your stakeholder relationships

Consider an action plan going forward
Definitions

Stakeholder:

- Anyone who is influenced by or could influence you and/or your project.
- Think of each stakeholder as a piece to the jigsaw puzzle for how you get your job done.

Stakeholder Analysis:

- The process of understanding of the motives, power base, alliances, goals, etc. of each stakeholder.

For this activity, think of a stakeholder that you would like to analyze during the next few minutes.
Stakeholder Analysis

Consider these questions.

Conducting a thoughtful stakeholder analysis involves working through the questions in the graphic to the right.

- **Start with question 1** and work your way clock-wise.
- **Take your time** in answering these questions for each stakeholder in your network.

The answers matter.

The answer to each question will solidify your understanding of and appreciation for each stakeholder in your network.

It’s imperative that each of us build & sustain healthy relationships with stakeholders.
Why Stakeholder Relationships Can Suffer

Relationships can go astray.
There are several reasons why this can happen. Above all, we are human! Dealing with another person can be challenging at times.

Activity:
For your stakeholder analysis,

- Think about any current stakeholder relationship that may suffer from any of the reasons shown in the blocks to the right.
- Then, consider how you could solve that obstacle with that stakeholder.
Stakeholder Mapping Activity

Instructions:

First, draw a map of your stakeholder network, with you in the middle

Second, draw lines in various configurations (see legend box) to indicate the current health of that stakeholder relationship

Third, reflect on your map. Consider questions such as:

- For those relationships that are healthy, what makes them so? How did that come about?
- For those that are a mixed bag, what can be done to get them to a healthier state?
- For those that are new, how can I build that relationship, and promote trust and credibility?
- For those that are dysfunctional, what are initial thoughts about how to fix that?
- Refer to “Why Stakeholder Relationships Can Suffer” and “Where Are Your Stakeholders” slides as you think about how to optimize each stakeholder relationship.

Legend:
- Solid line: healthy
- Dotted line: mixed bag
- Zig-zag line: new
- Line with Xs: dysfunctional
Stakeholder Mapping Example

Stakeholders can vary so please adapt this example to meet your environment
Small Group Activity

**In your group, discuss:**

- What’s working well with a stakeholder and why
- Where you are having challenges and why
- How you are contributing to the situation
- **How can you optimize stakeholders to partner and prevail?**
Thank You!!!

For More Information

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