

Promex

Microelectronics Assembly Technologies

ECTC Panel Participation “CHIPS ACT Implications”

- Richard F. Otte
- Promex Industries Inc.
- May 30, 2023

**Where do firms, like us, find
the other 2/3 of the \$?**

“Other” Funding Sources

- Operating Funds
- Loans against Company Assets
- Industrial Partners
- Local Government. Especially States
- Professional Investors
 - Family Offices
 - Some Private Equity

**Who will the customers
be for US based
Packaging services ?**

Two Separate Needs

- More Than Moore Concept
 - Smaller nodes
 - Added functionality
- Smaller Nodes Need Advanced Packaging
 - Highest density devices to maximize performance
 - Chiplets
 - Silicon Interposers 2 micron lines & spaces
- Added Functionality Needs mostly Mainstream Packaging
 - Heterogeneous Integration
 - More than Silicon on wafer
 - Unique, non-electronic parts
 - Standard Packages
 - BGA, QFN, etc

What Can be Done to Invigorate On-Shore Packaging ?

- The Barriers:
 - Limited on-shore capability
 - Higher on-shore **volume** Costs
- The Benefits:
 - Turn time
 - Able to Visit, Communication, learn
 - Alternate Source
 - Confidentiality
- Consider On-Shore Carefully

Overcoming On-shore Assembly Barriers

- Focus Investment on the Emerging and Next Generations of Packaging
- Establish and Demonstrate on shore capability
 - Develop Better Technologies
 - Build Pilot Lines
 - Demonstrate Capability & Performance
 - Then Establish Relationships and then Price
- Where is the need & demand ?
 - Heterogeneous Integration
 - Advanced Packages
 - Chiplet Package Assembly