PDC Trainer: Martin Metzler
Job position: Senior Manager Technical Business Development

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Title of the Presentation: ***Fundamentals and Applications of Modern Interconnection Materials for Electronics Packaging***

Martin Metzler is Senior Manager Business Development at MacDermid Alpha Electronics Solutions, where he leads since two years a Europe-wide team focusing on Technical Business Development across Circuit Board Assembly and Semiconductor Assembly Solutions. His work centers on early customer engagement and the integration of advanced materials and processes into electronic applications. Prior his current position, he spent over twelve years at Continental AG and Vitesco Technologies in roles spanning power electronics development, materials and process innovation, and technology management. He most recently managed SiC power module development and established a global expert network on sintering. Martin holds a Dipl.-Ing. degree in engineering from the University of Applied Sciences in Nuremberg, specialising in manufacturing technology.

Professional Development Courses Outline:

Part 1: Fundamentals of Interconnection Technologies

- Differences between soldering, hybrid sintering and sintering
- Overview of material properties

Part 2: Process in Detail

- Soldering: classical technologies, strengths & limitations
- Hybrid Sintering: principles, material combinations, process window
- Sintering: mechanisms, requirements, reliability

Part 3: Application Examples & Case Studies

- Trends in reliability and miniaturization
- Automotive and industrial applications
- Power electronics

Part 4: Practical Aspects & Discussion

- Selecting the right interconnection technology
- Selection of suitable test methods
- Common failure modes and mitigation strategies