

Final Report of the May 8 “Electronics Day”: Where the industry stands today in the face of disruptive business models and technologies that revolutionize manufacturing.

Members of the Sustainable Electronics Manufacturing (SEM) Working Group convened on the occasion of the “Electronics Day” held at SMT in Nuremberg, to discuss how to retain Europe’s industrial value and evaluate new avenues of sustainable growth for the electronics industry. The open debate on emerging business models and on the latest innovations in material science extended to the main drivers of change surrounding the fourth industrial revolution and new manufacturing approaches for increased miniaturization, reliability and performance.

Milan, May 8, 2014 – Experts and visionaries joined efforts at the annual “Electronics Day” in Nuremberg, seeing new sights set by the Sustainability Summit’s SEM Working Group. The fourth Electronics Day engaged an audience representing industry leaders such as Bosch, Continental and Siemens from Central, Eastern and Southern Europe, the US and the Far East. Remarkably controversial statements gave life to this year’s debate and saw participants divide themselves between the advocates and challengers of the Industry 4.0 vision, now popular in Germany. The technology focus of the year was on materials for electronics manufacturing. Experts, representing today’s leading suppliers, presented the latest improvements addressing the industry’s needs, while commenting on the possibility of disruptive manufacturing concepts potentially leading the industry towards new assembly techniques and materials.

“Following the flow of continuous improvement, innovating within traditional approaches, or rethinking manufacturing from scratch? This year’s remarkably hot debate questioned the resilience of our electronics manufacturing ecosystems altogether,” said Sophie Boyer de la Giroday, host of the event and President of Wise Media.

High-level trends were discussed, illustrating how the Industry 4.0 scenario is promoted as a revolution also necessitating action within the electronics industry. In the era of consumerization and online shopping, phenomena such as the disruption of traditional supply chains in the globalized market of consumer electronics see manufacturers impacted in their revenues and their brand value potentially exposed to the corrosive feed-back via social media wherever a product does not satisfy their clients’ expectations on the spot. On the manufacturing side, the effort to offer increased levels of flexibility and adaptive responses to the demands expressed by today’s end-users goes hand in hand with the need to meet increasing challenges brought about by miniaturization, high-end markets such as automotive and the lead-free revolution.

“In Nuremberg we saw yet another milestone marked for the electronics manufacturing industry’s most vibrant thought leadership symposium bringing together a vision encompassing the different aspects of this multifaceted scenario,” added Sophie Boyer de la Giroday.

As grounded discussions opened future directions for the industry on the occasion of SMT Hybrid packaging 2014, the SEM Working Group's members tuned in with the Electronics Day's mission to bring together leading international experts and visionaries from the industry to explain the latest trends spanning across the value chain of electronics manufacturing.

The experts from the industry scored high, illustrating the breadth of advances made in industrial thinking and in material science. Papers were presented by Günther Trautzl of the leading association within the data collection sector AIM Global and by Michael Ford of Mentor, to illustrate the overall progress made in the cultural shift towards the Industry 4.0 model in different vertical sectors. AIM Global presented the current efforts being made to develop a common language for the machines populating the manufacturing environment, while Mentor grounded the Industry 4.0 vision in the specific context of electronics manufacturing.

Both representations engaged at the working table - visionaries and experts - agreed on the fact that although the United States and Europe are rich in knowledge, vision and expertise, the Industry 4.0 opportunity also seems to benefit different regions of the world, where smart new approaches, processes and measures tend to be embraced at a speed that surpasses what is happening in the long-established economies.

Key presentations on the current state-of-the-art in materials for electronics manufacturing were held by Chris Palin of Humiseal, Joseph Fjelstad of Verdant Electronics, Gerjan Diepstraten of Vitronics Soltec and Richard Boyle of Henkel, who covered a raft of topics from circuits reliability in harsh environments, conformal coating, new substrates and soldering issues.

Considerations about the current market outlook were followed by the description of emerging manufacturing approaches and the materials involved, in the light of the continuing miniaturization of electronic systems. Critical reflections were made about the complexity and challenges still related to the solder joint as a necessary manufacturing step in SMT and about the cost/opportunity of evaluating radical changes in production paradigms (such as embracing the solderless process entirely). Contributions from the media partners included moderation of a session by Phil Stoten of EMSNow and an external paper on graphite by Riccardo Busetto of PCB Magazine.

Sustainable electronics manufacturing was discussed - focusing on the issue of reliability of electronics in its multi-faceted aspects and necessary considerations for operational needs in harsh environments and of high performance systems, such as automotive electronics. An important takeaway from the event came as a key encouragement to the entire industry, which was invited to embrace an almost philosophical approach to the issue of responsible resource management and design for durability. Recommendations were made to all players to consider conceiving products for either life-time durability and longevity or for total recycling.

The consistently positive feedback was provided to the organizers immediately after the event including the following comments: "Introduction and the general presentation are really top of wave. Excellent! Very well organized" (P.Alegre, Electronics Market Manager, Lubrizol); "Good atmosphere. I liked the interactive discussion very much. It is definitely good to have controversial topics and discussion afterwards - to solder or not to solder that is the Question! Excellent moderations." (G.Trautzl, Key Account Manager, ICS); "A very nice opportunity to nurture our industry with visionary statements and expert insight." (S. Geitner, Test Engineering, Siemens); "Let us look at the future! Another Topic for next Electronics Day might be 3-D printing in electronics." (L. Nunes, Technician, Bosch Car Multimedia).

The Sustainability Summit SEM Working Group welcomes comments and suggestions to further nurture a year-long debate via its official digital media platform and can be addressed by writing to sd@hadrianmedia.net.

About the SEM Working Group

The Sustainable Electronics Manufacturing (SEM) Working Group is an industry-wide initiative, involving key international publications, events and associations to collaborate on and support a radical change in the paradigms of electronics manufacturing. Advocating for a new philosophy of sustainability, it invites the players of the electronics industry to embrace a smarter approach to its economic and technological challenges, for the sake of driving the market while preserving the planet. Among the media partners, events and industry organizations that contributed to the establishment of the initiative as supporters, are the publications, EE Times Europe, EMSNow!, Global Identification, OnBoard Technology, PLUS, PCB Magazine, Sustainable Development, the events, QUID, Productronica, SMT/Hybrid/Packaging, the Sustainability Summit.

About the Sustainability Summit

The Sustainability Summit is the world's prime independent initiative focusing on policies, resources and technologies for more sustainable development across the world's societies and economies. The Summit caters for a globe-spanning and high profile audience of policy and decision makers in the public and private sectors and has carried out its activities since 2010, with the patronage and support of governments and public authorities in the different continents. It engages a world-class community of via dedicated chapters organized as Working Groups, addressing challenges and opportunities faced within key vertical sectors. Endorsed by the European Commission, the Sustainability Summit looks at 2015 and 2020 as major milestones within the community's roadmap of international events. On February 24-25, the Sustainability Summit 2014 took place in Abu Dhabi under the patronage of the UAE Deputy Prime Minister and Minister of Interior, endorsed by the European Commission and by the Emirates Identity Authority. The event was organized by Wise Media at the Emirates Center of Strategic Studies and Research and featured the following high-profile initiatives: ID WORLD Abu Dhabi, Future Cities Conference, Postal Innovation and Global Migration Summit.

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