

Secondary Equipment (TechARENA)



P. Connock
Chairman
memsstar Limited, Edinburgh, United Kingdom

Biography

Peter Connock has been working in the semiconductor industry for over 30 years with positions in development, customer service, marketing and management at Edwards, Applied Materials and memsstar. His current role, Board Chairman at memsstar, has involved both operational and strategic activities in the global MEMS market and European secondary equipment industry.

Peter has complemented his operational activities by establishing a long-term relationship with SEMI - serving on SEMICON, ISS and now the SEA committees for many years.

As well as working with memsstar Peter is closely involved in the ENIAC & ECSEL EU funding programme for technology with special responsibility, as part of the AENEAS industrial association, for encouraging SME involvement in EU funded projects.

Peter specialises in working with SME's at Board level in strategic marketing and business development. He is currently on the Board at several SME's and industrial organisations.

Secondary equipment opportunities, risks and advantages



C. Clerc
Director- Industrial Engineering & Process Technical Committee
STMicroelectronics, Rousset, France

Abstract

STMicroelectronics is a global Semiconductor Leader and the Largest European Semiconductor Company. With Front-End Manufacturing sites in Europe (Italy and France) and in Singapore the pressure on cost is enormous to continue to be competitive, means the use of second hand equipment to increase or adapt capacity in 8" is mandatory. 200mm second hand equipment can be addressed in different way and opportunities according tools set, European constraint and tools available on the market. The presentation will be done to show the ST approach, the challenges (more and more important in Europe) and the different opportunities existing.

CV of presenting author

Christian CLERC, STMicroelectronics, WW Engineering programs director. 33 years' experience in Semiconductor Operations

Graduated of the Science and Technology university of Marseille with license in chemistry and a master of metallurgy, he started in 1981 in Eurotechnique, Rousset (France) as lithography process engineer, moving

to process and maintenance in etch and litho areas . In the 90's has been in charge to implement the TPM (total productive maintenance) and the CIP (capacity improvement program) approaches in manufacturing area. Next he get different responsibilities in the global operation covering process, maintenance, manufacturing and process control.

He was in charge in 1999 of the new 8" fab start up in Rousset (France) for equipment choice, hook up, installation, qualification. In 2001 in charge of the fab ramp up with stabilization of the maintenance in term of equipment performances (reliability, cost of ownership, and OEE improvement programs).

Since 2005, he is responsible in Front End central function WW for the Engineering programs covering manufacturing execution in process, equipment and industrial Engineering, managing and coordinating the assets across the company WW.

Change, Challenge and the Enduring Success of Cooperation



L. Guttadauro
Executive Director
Fab Owners Association, Cupertino, CA, United States

Abstract

Cost is a key issue in any business environment and the most talked-about challenge facing the semiconductor industry. For integrated device manufacturers (IDMs), foundry-floor efficiencies and overall wafer costs are crucial because their business model is based on manufacturing excellence. Fabless companies address the issue by slicing silicon real estate and driving to smaller geometries, only to see the cost of more advanced processes rise. And, for some OEMs and fabless, off-shoring manufacturing to cheaper locations provides an answer.

However, successful IDMs understand that the key to their manufacturing efficiencies is supplier cooperation. Suppliers give the objective view only outsiders can deliver. Cooperation makes it work.

This presentation will discuss methods for identifying complementary strengths between IDM and supplier, defining problems, and formulating solutions. Case studies will be cited to demonstrate how a cooperative approach resulted in streamlined processes, improved factory floor efficiencies, and lower costs.

CV of presenting author

L.T. resides in Cupertino, California. He has had a continuous career in the sales, marketing and engineering of integrated circuits since the late 60's, with Transitron, IBM, Zilog, VLSI Technology, Amkor and lastly as worldwide VP of Product Marketing for Tower Semiconductor.

L.T. founded the Fab Owners Association, a non-profit semiconductor industry trade association and FOA Purchasing Partners, Inc., a Group Purchasing Organization dedicated to lowering the cost of doing business for semiconductor manufacturers and suppliers to the industry.

L.T has a BA degree in Business Administration and Management from Columbia Pacific University.

Secondary Equipment and 300 mm - Opportunities & Challenges



A. Janker
Senior Director Purchasing
Infineon Technologies AG, Purchasing, Regensburg, Germany

Abstract

Infineon Technologies as leading manufacturer of power devices operates four semiconductor frontend fabs in Dresden and Regensburg (Germany), Villach (Austria) and Kulim (Malaysia). In order to fulfill the increasing customer demand and to stay cost competitive with its large manufacturing footprint in Europe, Infineon started the 300 mm project for power with a ramp to a high volume production in Dresden and a strong focus on further development in Villach. In order to compete with the installed base of mostly depreciated 200mm tools, secondary equipment is key to bring discrete power products on 300mm. Technically this includes some challenges for the implementation of the Infineon thinwafer process on 300 mm.

The experiences and the learnings in this project with buying and using secondary equipment for 300 mm - including its challenges and opportunities - is shown by focusing on the:

- Infineon frontend production strategy
- 300 mm project for power device production
- Secondary market for 300 mm
- Requirements for the successful use of secondary equipment
- Examples of successful purchases
- Expectations to equipment suppliers

CV of presenting author

Achim Janker is Head of the Frontend Purchasing Organization at Infineon Technologies AG.

He started his professional career at Siemens Semiconductor in 1990. He gained extended experience in purchasing equipment as a member of project teams for setting up new production sites in Europe, the U.S. and Asia. 1998 he took over the responsibility for the purchasing organization of the Siemens semiconductor manufacturing plant in Regensburg including waferfab-, assembly & test- and optoelectronics-productions. In 1999 the Siemens Semiconductor division was carved out to Infineon Technologies.

From 2003 Achim Janker was responsible for the worldwide procurement of the assembly & test production cluster in Asia. He focused back on the frontend when he became head of the frontend purchasing organization of Infineon Technologies AG in 2006.

Automation challenges for secondary equipment



M. Schulze

Head of Business Unit

AIS Automation Dresden GmbH, Business Unit 1 - Equipment Control, Dresden, Germany

Abstract

The secondary equipment market has a second face which is not so well known like the trade with complete tools. It's the possibility to turn an old tool into a new by doing a so called tool refurbishment. Many tools of the elder generation have several issues: no spare parts, decreasing throughput, increasing instability. Most of the tool owner see only the way to replace the tool after many years with a new one. But the process results on the old tool have been good over the years - if there would not be these terrible issues ... We will show you a way to go and the challenges on it. On this way the good (most) parts of the tool are kept for the second life time, obsolete parts will be replaced. Typically the core problem is a special main controller with special hardware and special development environment, and typically all these things are no longer available - experts to work with these things included. We provide a solution based on state of art control software with an open architecture for easy extension. The usage of standard automation components from the free market ensure independence from any special hardware design. These components can be easily exchanged with components from another supplier in future. Some of these refurbishment projects are challenging due to special requirements or missing documentation. We can show how to turn challenges into solutions.

CV of presenting author

Mirko Schulze was born in Dresden on Dec-15 in 1968. After school time he started his first professional education in communication technology. After that he studied automation technology at Technical University Dresden 1989-1994. He has been with AIS since October 1994, started as software application engineer until end of the nineties. Around 1999 Mirko took over management tasks, worked as group leader and project manager. His role turned into department manager, experiences with small and big teams & projects worldwide. He is the head of business unit "Equipment control" at AIS since 2012.

Secondary equipment- a strategic approach in a 200mm semiconductor and MEMS Fab



T. Widmer
Vice President
Robert Bosch GmbH, Reutlingen, Germany

Abstract

200mm semiconductor production in Europe stays under enormous cost pressure. Competitiveness can only be maintained, if all factors of cost are attacked consequently. The use of secondary equipment is one of the important pillars to stay competitive.

The presentation will show challenges and experiences regarding the integration of secondary equipment in an operating 200mm semiconductor and MEMS Fab.

Focus is also given on the influence of the secondary equipment approach to the demands for the Fab automation concept. The presentation will show based on examples what the main obstacles are and how to overcome them.

CV of presenting author

Dr. Thorsten Widmer was born and educated in Germany. He graduated in physics at TU Braunschweig in 1992. After PhD graduation in Paderborn in 1995 he worked for three years as post doc at TU Braunschweig. In 1998 he started at Robert Bosch Reutlingen in diode manufacturing area. As section manager he was responsible for the process engineering and international customer support. Between 2003 and 2006 he worked as departmental Manager for Robert Bosch sensor manufacturing in Hatvan Hungary. From September 2006 until 2010 he was the responsible Project Manager for the set up of the new 200 mm semiconductor production at Robert Bosch in Reutlingen. Since October 2010 he is Vice President Wafer Production in Reutlingen.

State of the art RF generators - cost-efficient adaptation to your systems



T.K. Andreea Vasiliu
Productmanager RF-Systems, Business Manager
TRUMPF Hüttinger & SPM, Freiburg, Germany

Abstract

Development of 450mm Systems are ongoing and a long term goal due to the fact that 300mm tools still have a lot of room for improvements to increase their production yield. 6" and 8" are treated as a legacy product and don't receive that all the improvements.

The mission is to support a variety of tool designers and provide top class performance with stability, reliability and repeatability of power with respect to install-base standards and requirements. The solution we do offer to tool designers assure full compatibility with legacy products and deliver visible improvement in production performance (yield, energy consumption, and other).

CV of presenting author

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