AGENDA

Wednesday 5th of September

12:45 PM – 1:20 PM: Registration: badge collection

1:20 PM – 1:30 PM: Welcome and Introduction
Yole Développement and CIOE

1:30 PM – 5:40 PM: Forum
1:30 – 2:00 – Opening presentation: Yole Développement

2:00 – 2:25 – Fs (Femtosecond) Laser as Unique Tool in Semiconductor Manufacturing
Quentin Mocaer, Segment Line Manager- Semiconductor, ALG (Amplitude Laser Group)

Femtosecond lasers are now broadly used in industry such as Display or Consumer Electronics, while they are just emerging in the semicon field. From full-wafer dicing and low-k material removal, to Through Glass Via drilling and wafer metrology, industrial femtosecond lasers are opening great opportunities while catching up with the industry demanding throughputs.

2:25 – 2:50 – Advanced Laser Processes in Mobile Devices
Dirk Müller, Director of Strategic Marketing, Coherent

Despite the fact that the number of mobile devices sold every year seems to have stabilized, the number of laser-based processes in this field seem to grow rapidly as lasers are playing an increasing role in more-and-more manufacturing steps flowing into mobile devices. The display technology is progressing at breathtaking speed and we are becoming used to stunning picture quality of mobile devices. Flexible OLED displays have created a big wave in the market and several emerging display technologies are on the horizon that will bring e.g. ultimate power efficiency, highest ppi for AR/VR, or super-large high-resolution cinema. Today's high resolution and brilliant displays would not be possible without lasers. Laser processing plays a vital role in display manufacturing in order to make the "perfect cut", for patterning, LTPS- Annealing (ELA), Laser Lift-Off (LLO) and Laser Induced Forward Transfer (LIFT) to name just a few. Similarly, inside mobile devices a variety of components, such as sensors, logic, memory and batteries, benefit from a laser's ability to impinge energy of a very controlled dosage with micron precision. Advanced packaging of ICs are increasingly benefitting from laser processes that help interconnect devices as well as shrink their size. We will demonstrate how lasers enable the most advanced flexible OLED displays and where lasers are poised to play a role in future display concepts. In addition we will give an update on the most advanced packaging processes such as micro-via drilling, redistribution layer structuring and wafer dicing. When spanning the gamut between displays and IC packaging, similarities as well as differences between these seemingly unrelated technology segments are highlighted.

2:50 – 3:15 – The laser – A versatile Tool for Smart Manufacturing

Dr. Matthias Koitzsch, Director Technical Sales Support, TRUMPF

This presentation elaborates the role of lasers as smart production tools within the advent of the Industry 4.0 revolution. Core aspects of Industry 4.0 can be described via the horizontal and the vertical approach of industrial production:

- Horizontal approach: The focus is on the complete value chain forming an efficient process flow from order entry via order management, procurement, production and finally delivery. Main aspects of the horizontal approach are traceability of individual orders, stability and flexibility of the whole production process and high utilization of the production line.
- Vertical approach: The focus of the vertical approach is on individual production systems, such as laser joining processes. Sensors on process and tool level as well as additional smart services based on process and machine data are taken into consideration resulting in an intelligent integration and networking of production tools. Main aspects of the vertical approach are availability and energy efficiency of production tools, transparency within the pool of equipment and eventually asset management.

We will present why and how the laser as a versatile production tool perfectly fits for Industry 4.0 applications. Latest developments will be highlighted that even further improve the laser as the tool of choice for smart manufacturing, such as condition based services and intelligent process sensor systems. We will also discuss main fields of applications the laser is currently being used in industrial production, such as e-mobility applications and 3D metal printing.

3:15 PM – 4:00 PM: Coffee Break and Networking

4:00 – 4:25 – Laser Based Micro Fabrication Systems for Electronics Packaging

Dr. Haibin Zhang, Director of Strategic Marketing, Electro Scientific Industries, Inc.

As devices and packages shrink in size, advanced packaging has become a critical avenue in semiconductor and consumer electronics manufacturing industry. Laser based micro-fabrication systems provide benefits in quality, speed, cost, and are playing important roles as the feature sizes in packages shrinks at an increasing rate. In this presentation, we will review several laser based key applications in packaging, including via drilling, wafer cutting, patterning. We also discuss the key technologies for high precision laser systems that enables next generation feature minimization with extremely high speed and low overall cost.

4:25 – 4:50 – Laser Applications of Semiconductor Devices

Koichi Shigematsu, Global Technology SolutionsDept., DISCO Corp.

Laser technology is an important technology that bringing science to our comfortable living. General introduction of laser applications for semiconductor market. DISCO's experience of various devices/materials processing examples.

4:50 – 5:15 – TBA

TBA

5:15 – 5:40– TBA

TBA

5:40 – 6:00 – Thank you and adjourn
Yole Développement and CIOE