

smttoday

The Future of Electronics Manufacturing

REAL 3D OPTICAL INSPECTION FOR PCBA

Jaroslav Neuhauser explores
3D AOI technology

RELIABILITY RULES

Mike Konrad takes a look at the
meaning of 'rules' within the
Electronics Assembly Industry

RED CARPET

Who's doing what, where?

INSIDE

SMT HYBRID PACKAGING NUREMBERG, GERMANY

6TH - 8TH MAY 2014

MEET THE CEOs Page 6

Tetsuro Nishimura, Nihon Superior Co. Ltd. (cover)

David Raby of STI Electronics Inc.

Bob Black of Juki Automation Systems Inc.

Don Miller of Nordson YESTECH

Chris Larocca of OK International Inc.

Volker Pape of Viscom AG

MAGAZINE CONTACTS...

Editor Lin Ramsay
lin@smttoday.com
+44(0)1292 834009
skype: lin-smttoday

Design Big Blue Dog
bigbluedogdesign.com
+44(0)1292 280022

Website smttoday.com

Advertising Enquiries

To enquire about available advertising opportunities, please use the contacts below for more information.

European Advertising europe@smttoday.com
UK Advertising uk@smttoday.com
USA Advertising usa@smttoday.com

NEXT EDITION

July 2014

Book your space now and have your products and services exposed to the right people at the right time.

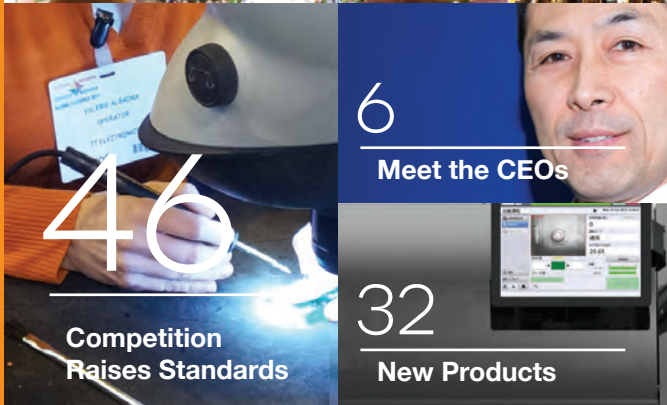


DIRECT
MARKETING



4

SMT Hybrid Packaging 2014, Nuremberg



6

Meet the CEOs

46

Competition
Raises Standards

32

New Products



22

DEK Launches Gemini Platform

INSIDE THIS ISSUE...

SMT Hybrid Packaging 2014

Take a look into some of the featured products

4

Technology Today

Industry experts share their knowledge

- 6 Meet the CEOs
- 10 Reliability Rules
- 15 Real 3D Automatic Optical Inspection for PCBA
- 20 Cracking the Code of the IPC Assembly Specifications
- 22 DEK Launches Gemini Platform
- 24 National Electronics Week ADEC EXPO, South Africa
- 26 A First Look at Black Chrome Solder Tips
- 28 It's A Panel Game!
- 36 The Advantages and Disadvantages of Vapour Phase Soldering
- 44 NEW UK 2014
- 46 Competition Raises Standards
- 48 Selective Soldering with a PLUS of Flexibility

Industry Insight

Gene Weiner, takes a look at bypassing 2.5D

14

New Products

Exciting new industry innovations

32

Industry News

What's happening in the world of electronics

38

Red Carpet

Photo gallery of industry personalities and events

52



AN INTERVIEW WITH TETSURO NISHIMURA

Nihon Superior Co. Ltd. was founded in 1966 when it began marketing unique flux products imported from the United States. The company made its mark on society by gathering the most advanced soldering and brazing technologies and products from around the world and supplying them to companies in the metal-joining industry.

A turning point for the company came when it started developing its own soldering materials and with the success of its unique SN100C lead-free solder alloy, Nihon Superior has become a major player in the global market. To support the growing demand for its products, Nihon Superior has established manufacturing and sales centres in Japan, China and other Asian countries as well as the United States and formed business partnerships with companies in other markets. Our editor recently spoke with Tetsuro Nishimura, President, to gauge the company's thoughts on current and future issues.

Q. How is the current market in Japan? Where do you see it in five years from now?

A. Very quiet. We have had some changes in the economy. For example, tax has increased from 5% to 8% and that has caused some big movement. It was busy before, but now it is weak and during the next five years we expect that there will be more big changes in the Japanese economy.

Q. How important is a global customer base to Nihon Superior? What advantages does this bring customers?





A. They are absolutely important for us. They have different ways of thinking and different rules and the new ideas and agendas are great for new products. In order to get additional information and to deliver the latest information to our customers, we opened a new Research and Development Centre in Malaysia last September. In May of this year, to support customers worldwide, we will also open a new sales company in Malaysia, Nihon Superior Asia Sdn. Bhd. (NSA). This will cover sales from the Philippines to India, including Singapore, Malaysia and Indonesia. We also expect NSA to be the hub base for all sales and technical support throughout the South East Asian countries through the connection with our subsidiaries in Thailand and office in Vietnam.

Q. How has 2014 started for Nihon Superior? Do you anticipate much growth this year?

A. The market is weak, but it has been busy for us so far. We may face difficulty for the next half year, but this is a good chance for us to settle down and develop something new. We estimate to be plus 10% by the end of this year.

Q. What new markets will the company focus on entering? Why these?

A. We are trying to develop semiconductors and vehicle markets. We have especially developed the home appliance markets so far, and we have been expanding the results to other markets little by little. Now is the time to expand the results widely to products with high-reliability requests. We have developed a Sn-Zn+Ag solder alloy for soldering Ag electrode on vehicle glass. This solder LF-Z3 drastically holds down Ag erosion that occurs even with high Ag solders. With this solder, and an exclusive use flux, we find it may enable one of the tasks of lead-free soldering on vehicle products to be cleared.

“WITH THIS SOLDER, AND AN EXCLUSIVE USE FLUX, WE FIND IT MAY ENABLE ONE OF THE TASKS OF LEAD-FREE SOLDERING ON VEHICLE PRODUCTS TO BE CLEARED

We have also developed new products such as “Alconano” nano silver paste. This has already been accepted at Shindengen Electric Manufacturing Co.,

Ltd. for power modules for robots. We believe that these results will be a foothold for the new market.

Q. In order to enter these new markets, will you expand your network of global licensees? How do you decide which companies to bestow with this honor?

A. We will consider it very carefully but in a positive way, whether it will expand the new market or just cause unnecessary competition.

“SN100C (031) IS DESIGNED TO IMPROVE THE EFFICIENCY OF ELECTRONICS ASSEMBLY. IT OFFERS FAST SEQUENTIAL SOLDERING BY REDUCING FLUX SPATTERING AND EXCELLENT SPREADING

Q. Congratulations Mr. Nishimura – we understand that Nihon Superior won an industry award at the IPC APEX EXPO for SN100C 031. Can you briefly describe this product and tell us how it meets industry challenges?

A. SN100C (031) is designed to improve the efficiency of electronics assembly. It offers fast sequential soldering by reducing flux spattering and excellent spreading. This allows shorter solder time consumed per joint and improves working efficiency, especially for those at mass production. Also, at the same time, it has a high reliability. It is SVHC-free, which means it contains no ingredients in the EU REACH Regulation list of Substances of Very High Concerns. It also has less cracking of flux residue after soldering which helps to prevent solder corrosion in high humidity circumstances.



Q. Speaking of new products, are you experiencing success with the Alconano range of nano-silver products? What prompted the company to create and introduce this platform?

A. Yes. As mentioned above, we received approval from Shindengen Electric Manufacturing Co. Ltd. for power modules. There are other cases coming up constantly, and we are trying to follow up and find the best answer to customers. Since, in most cases, our customers are trying to build up new technologies, it is more like a challenge for us too. There are many tasks to be cleared but at the same time, we gain a lot from them. The curiosity and the inquiring mind to new products and new markets led us here.

“SINCE, IN MOST CASES, OUR CUSTOMERS ARE TRYING TO BUILD UP NEW TECHNOLOGIES, IT IS MORE LIKE A CHALLENGE FOR US TOO

Q. By the end of 2014, what goals do you hope to accomplish for the company?

A. First of all, we would like to get Nihon Superior Asia on the road. We believe this will be helpful for both our customers and ourselves. Eventually, we would like to strengthen the linkage with our R&D center in Malaysia and Japan to respond to expectations from our customers.

Our aim, to expand SN100C and other NS products worldwide, has never changed and will remain unchanged. We are always watching carefully for customers' requests and thinking hard about what solutions we can provide. ■

Your Partner for Soldering Solutions

Lead-Free Solder

SN100C[®]



NEW



ePaste Lead-Free Solder Paste

SN100C P506 D4

Nihon Superior SN100C P506 D4 is a lead-free, no-clean solder paste that can be stored at room temperature for more than 60 days without deterioration. This new material will not only simplify stock management, but also improve productivity with excellent consecutive printability.

- Excellent Storage Stability
- Stable Consecutive Printability
- Minimized Mid-Chip Beading
- Compatible with both Linear and Soak Reflow Profiles

Continuous Printability Test		0h	10h
PCB pattern QFP 0.4mm pitch Printing environment 16 ~ 25°C 40%RH No printing defects after 10 hours of consecutive printing.			

【Head Office】NIHON SUPERIOR CO., LTD.
 NS Bldg., 1-16-15 Esaka-Cho, Suita City, Osaka, Japan 564-0063
 TEL: +81-(0)6-6380-1121 E-mail: info@nihonsuperior.co.jp

【Overseas Affiliates】
 Singapore, Malaysia, Thailand, Vietnam,
 China(Suzhou, Shanghai, Donguan, Hong Kong), Taiwan, USA

www.nihonsuperior.co.jp

Q nihon superior