

A large, white, stylized graphic element consisting of three vertical bars of varying heights, connected at the top and bottom by a horizontal bar, forming a shape reminiscent of a stylized '1' or a bracket.

#12014

**INFOCUS:**



## **NCAB Group Production Insight Trips**

**– An opportunity to broaden your competence**



Every year, NCAB group invites a number of its customers to participate in a *Production Insight Trip* to the city of Shenzhen in China. As the name suggests, these trips are designed to give participants a broad and practical understanding of the PCB manufacturing process and of NCAB's operations in China. The programme comprises visits to a number of NCAB's most important factories as well as attending training sessions covering issues relating to PCB production.

The week-long trip to Shenzhen in south-east China is an intensive one. Apart from the visits to the factories, key NCAB staff members are on hand to tell about the company's approach, covering everything from studying the raw materials market to choosing materials and logistics. Michael Larsson, Key Account Manager at NCAB Group Sweden, was among those who travelled to China in November 2013.

"These trips are a particularly good way of showing people how local NCAB staff handle factory management, as well as how and why we choose to work with specific factories. It gives customers a real chance to build up their competence, enabling them to make better judgments regarding their own, or their customers products."



Every year, NCAB group invites a number of its customers to partake in a Production Insight Trip to China.

### THE FACTORY IN ITS CONTEXT

Michael Larsson underlines that this competence is valuable for everyone who works with PCBs, whether you are a CAD designer, designer, purchaser, or quality controller – and irrespective of whether you work at an OEM or EMS company.

"A few of our customers had already visited PCB factories, but this trip was designed to give them a more detailed insight, a valuable perspective of the entire supply chain and production process. When you've seen and built a more detailed picture of the different stages of the process, you'll gain some entirely new insights and realize what aspects of your work can influence the production process, whatever your job function is. For example, if you're a designer, these trips can help you arrive at better solutions, or if you're a buyer, they can help understanding and deciding how to minimize risk factors."

### ILLUSTRATES THE CONSEQUENCES OF DIFFERENT CHOICES

The Production Insight trips could of course just focus on visiting factories in Europe, but there is essentially very little large scale PCB production remaining in Europe, so China is the place to visit in order to gain the insights Michael Larsson refers to.

"NCAB's basic idea is to bridge the gap between European and Asian production, to receive the cost benefits without risking the quality. Our goal is to provide the right quality at the right price - in every individual case. We achieve this by, among other things, having our own skilled staff located in China. During our production insight trips we try to show just how - and how much - the choices of

**"During these trips we try to show just how - and how much - the choices of manufacturing facility or methods affect price and quality."**

**MICHAEL LARSSON, NCAB GROUP SWEDEN**



manufacturing facility or methods affect price and quality."

NCAB has a well-proven policy of total transparency between customers and factories and those customers participating in the trip to Shenzhen have every chance of building up relationships with NCAB staff at all levels. "Those of us involved from NCAB also contribute by answering the many questions that arise during the factory visits and seminars." Michael says and adds, "There is a lot to explore and discover when it comes to unraveling the many aspects of the manufacturing process."

### A GOOD INTRODUCTION TO CHINA

Obviously, just travelling to and seeing China can in itself be a source of inspiration for those who've never been there before. So the arrangements also take up issues from a broader perspective and include a presentation covering business, culture and the future development of China. Michael Larsson describes Shenzhen as a remarkable city, not least due to its phenomenal growth in recent decades:

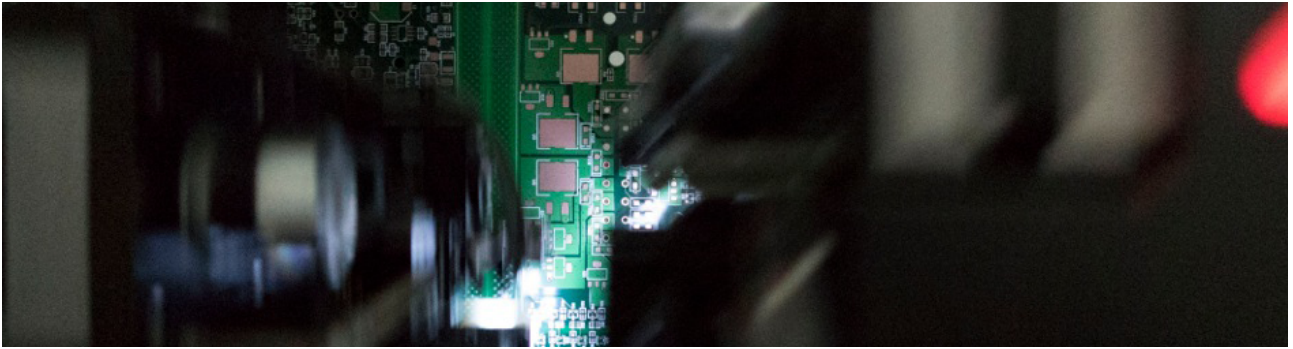
"30 years ago it was just a small town with 30,000 inhabitants and today it is home to an estimated 14 million inhabitants. So, very much a modern city whichever way you look at it. It serves as a great introduction to China for the first time visitor. I should also mention that the trip includes a number of visits to genuine Chinese restaurants with menus that contain just about everything you can wish for," Michael Larsson concludes.

#### THE MOST IMPORTANT POINTS DURING A PRODUCTION INSIGHT TRIP

- Technical seminars covering the basics of PCB production and the essential factors required to remain competitive.
- Visits to NCAB's most important factories in the Shenzhen area.
- A presentation of NCAB's operations in China, not least within factory management.
- A presentation about business culture and future developments in China.

## ”Confirmed the significance of precision”

Trimble Sweden was one of the companies who choose to send a representative on the NCAB Group’s last Production Insight Trip. The Swedish company Trimble, is regarded as a global leader within location based measurement solutions for surveying, transportation & telecommunication. The latest Trimble S8 Total Station is so precise that from a distance of 1000 meters, it has an angular measurement tolerance of 0.8 mm and distance measurement tolerance of 1.8 mm.



A PCB takes shape.

Kjell Lindahl is a PCB quality control manager at Trimble Sweden and is one of four Trimble employees who participated in the insight trip.

”Given the high precision and cost of Trimble’s products, the company has to be able to rely on the quality of their components,” says Kjell. ”The confidence factor is crucial when it comes to our EMS suppliers. As it’s vastly expensive to dismantle instruments, having substandard PCBs at the heart of the unit would create significant problems.”

### What made you decide to travel to China?

”I took over responsibility for the quality control of our electronics products two years ago, but had, prior to that, realized that one can’t take for granted that PCBs always work as they should; faults can occur. I had been to China on several occasions previously, but had never visited a PCB manufacturer. For me, the trip was quite simply a way of learning more about PCBs and the production conditions in China. It felt like a really good idea, especially as we have by default been turning to NCAB for advice on quality issues.”

**”The trip confirmed my feelings that PCBs are complex products that have to be handled with care and precision and require clear quality specifications and documentation.”**

### KJELL LINDAHL, TRIMBLE

#### What did you learn from the trip?

”We visited no fewer than five factories, and had a number of seminars where we heard about both technology and Chinese business culture; so it was certainly useful. The trip confirmed my feelings that PCBs are complex products that have to be handled with care and precision. The importance of appropriate quality requirements were very evident, and as customers, we really saw the need to provide clear quality specifications and documentation. I found the talk by NCAB China’s managing director Jack Kei, about Chinese business culture and the nation’s plans for the future, particularly interesting.”

#### Did you learn anything new?

”It was great to have a chance to see the varying standards of PCB factories, even though it wasn’t all that surprising. One thing that was brought home to me was the level of influence NCAB exercise over

the factories by virtue of their importance as a customer. One of the factories we visited had modified their production process to enable them to produce flex boards according to NCAB’s specifications. I was quite impressed by that. Also, I was surprised to see that NCAB had their own people at the factories.”



”We visited no fewer than five factories, and had a number of seminars where we heard about both technology and Chinese business culture; so it was certainly useful,” says Kjell Lindahl at Trimble.

#### How did the trip work out in general?

”It was extremely well organized. NCAB Group China looked after us very well and the group activities were enjoyable. It was also interesting to get the opportunity to meet colleagues from other areas and industries. All four of us from Trimble found the experience both enjoyable and fruitful. I can definitely recommend it to others.”

#### TRIMBLE, IN BRIEF

- Established 1978
- Turnover \$2 billion (2012)
- Offices in over 30 countries.
- Supplies positioning solutions for advanced surveying for farming, building, transportation and telecommunication industries.
- World leading measurement tools manufactured in Danderyd, north of Stockholm, Sweden.





## "Gave me an insight into how it all actually works"

Two PCB – CAD designers from Axis Communications were among the group who travelled to China. Axis is a world-leading producer of digital security and surveillance security cameras and supporting systems. It is renowned for its robust cameras and cutting edge technology and strives continuously to produce better systems incorporating increasing levels of functionality. The company has expanded rapidly and the PCB – CAD Department has grown in pace with that.



"A few of our customers had already visited PCB factories, but this trip was designed to give them a more detailed insight, a valuable perspective of the entire supply chain and production process," says Michael Larsson, NCAB.

"There are eight of us working with this," says John Zevallos, one of the two CAD designers who participated in the trip to China. "It's vital our PCBs work come rain or shine and we in the CAD department act as a hub between different departments. Even if our EMS suppliers are the ones who order the PCBs, we still want to be actively involved ourselves, given how important PCBs are for us."



"How are the PCBs that I've designed manufactured in practice? Why do the plastic bags contain silica gel? The trip offered me a hands-on way of seeing for myself," says John Zevallos.

### What prompted you to take part in the trip?

"I have always been curious about how PCBs are produced in Asia. I wanted to see for myself how they manage to do things so quickly and cost effectively. Sure, I have read about it and seen pictures, but it isn't the same thing as seeing it first hand. How are the PCBs that I've designed manufactured in practice? How does large-scale production actually work? How do they wash the boards? Why do

the plastic bags contain silica gel? And what about work safety and security? The trip offered me a hands-on way of seeing for myself."

**"Seeing the production chain where it's actually happening enables you to build an idea of the time it takes to produce different types of board and of the factors that steer the price differences."**

**JOHN ZEVALLOS, AXIS**

### What have you brought back with you?

"A stock of knowledge about the production, technology and processes involved. It's helped greatly when it comes to ways of optimizing the design of the boards, or being able to choose solutions at the design stage that better adapt the PCBs for production. What I found particularly interesting was to see the variety of ways the factories manufactured their boards. Now we know what the different factories can deliver and what we can do ourselves to influence things.

"Seeing the production chain where it's actually happening enables you to build an idea of the time it takes to produce different types of board and of the factors that steer the price difference between double sided and multilayer PCBs. It was also fascinating to see how small you can make the items nowadays."

### What are your impressions of NCAB's operations in China?

"I think that NCAB have an excellent factory certification process and I like the way they actively and continuously look for new factories. NCAB leave no stone unturned when it comes to asses-



## ”Seeing a product take shape in this way and gaining insight into how things work is valuable for everyone working with PCBs.”

**JOHN ZEVALLOS, AXIS**

sing each factory’s capacity. They are well acquainted with the individual factories and what they can or can’t manage. So they know exactly where to place orders in relation to the requirements in each individual case. For example, you can’t place small volumes with large factories, as they don’t have the right kind of personnel, tools or processes.”

**Would you recommend this kind of trip to others?**

”Oh absolutely. It’s excellent and you learn a lot. Seeing a product take shape in this way and gaining insight into how things work is

valuable for everyone working with PCBs. CAD and design people should definitely take this opportunity to learn about the processes involved firsthand.”

### AXIS COMMUNICATIONS IN BRIEF

- Established 1984
- Turnover almost SEK 4.2 billion (2012)
- Head Office in Lund, Sweden.
- 1500 employees in 40 locations around the world.
- Market leader in network video.
- A driving force behind the shift from analog to digital technology.

## Questions around the world: What can customers from your market gain from participating in a Production Insight Trip?



### FINLAND

**TEEMU SUURONEN**

Key Account Manager, NCAB Group Finland

”They can see what happens behind the scenes and how NCAB Group adds value, that is, what the process of securing quality and lead times actually involves in practice. That, as well as the work involved in ensuring that our factories meet our customer’s requirements. I think it’s useful also insofar as you get a chance to update your view of China and see what a thriving and modern city Shenzhen is. You’ll find more flashy cars and skyscrapers there, for example, than in Manhattan.”



### POLAND

**MICHAL KOPCEWICZ**

Managing Director, NCAB Group Poland

”These trips provide an introduction to and information about how we handle the PCB production process as well as a thorough overview of what our factories do for them. But they’re also a way of building a platform for improved and easier communications between our customers and our people at NCAB. We want to share our knowledge of PCBs with our customers to enable them, for example, to identify time and cost issues in the manufacturing process.”



### NORWAY

**ØRJAN ØDEGÅRD**

Key Account Manager, NCAB Group Norway

”We’ve received extremely positive feedback from customers who’ve participated in previous trips. Looking at a PowerPoint presentation is one thing, but there’s nothing like seeing it with your own eyes, experiencing the atmosphere, learning about the culture and meeting everyone involved. It’s important that our customers get to see the focus we put on the factories to having our organizations right there, on site, our personal contacts and our extensive operations in China.”

# Transparency, innovation – partnership

HANS STÄHL  
CEO NCAB GROUP



It has been 10 years since we started organising Production Insight Trips. Why do we choose to invite our customers/partners to see NCAB's operations in China and introduce them to our factories and Factory Management? It's because we believe in transparency and want to continuously develop our products, services and knowledge base together with our customers. The more knowledge we can jointly own about all the processes involved, the better our ability to produce a more efficient and rational final product. I am convinced that this is the way to reduce costs in the entire supply chain.

When I started at NCAB 10 years ago, the factories we worked with were a closely kept secret. This led to issues when hand-

ling, for example, new technology, claims, lead times, etc. So we decided to "open up" NCAB and work in a more open way. That enabled us to make the entire supply chain more effective.

Initially, our customer trips to China were part of our more open approach. The concept has since been broadened, with several NCAB companies organising trips with a comprehensive programme comprising everything from courses in PCB technologies, factory visits and guided tours of Hong Kong. A visit to China is a supremely fascinating venture. The nation is developing at an incredible pace; so do take the opportunity next time round. You'll bring new information and knowledge back with you that can help to significantly improve your product.



Read more about Axis and Trimble.

- » [Axis Communications](#)
- » [Trimble](#)

## Subjects we have covered earlier

Do read our earlier newsletters. You will find them all on our website, [www.ncabgroup.com/newsroom/](http://www.ncabgroup.com/newsroom/)

» **The Components Industry**

2013 11 18 | NEWSLETTER 4 2013

» **High product mix**

2013 09 24 | NEWSLETTER 3 2013

» **Prototype manufacturing**

2013 06 11 | NEWSLETTER 2 2013

» **Russia in from the cold**

2013 03 26 | NEWSLETTER 1 2013

» **Looking to the future: Western Europe**

2012 12 19 | NEWSLETTER 4 2012

» **The American market**

2012 10 24 | NEWSLETTER 3 2012

## Are we taking up the wrong subjects?

We are always looking for interesting subjects that we could take a more in depth look at. If there is something you would like to learn more about, or perhaps you would like to comment on anything we have written, do get in touch with us and tell us more.

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