

# SVEC's Quality Offensive

- *Large investment in Quality Assurance*
- *Expanding VSAT and Ka-Band production*
- *Opening a new fully automatic satellite dish production line*
- *Focusing on top-of-the-line Quality dishes*

■ A large dish highlights the location of SVEC's administration building in Chengdu in China's Sichuan province. The manufacturing facilities can be found directly behind the administration building.







■ SVEC CEO Wang Duo

## High Investment in Product Quality

SVEC (Sichuan Video Equipment Company) has been manufacturing satellite antennas of all sizes since 1993. Production quantities are enormous: SVEC manufactures several million dishes each month. The most popular dish types are 60 and 75cm offset antennas. Next in line are 1.2 and 1.5-meter diameter dishes. But SVEC also manufactures large segmented

dishes with diameters of 2.4 meters. Lately SVEC is concentrating on expanding their professional VSAT antenna business. "We also offer Ka-Band dishes for Internet-via satellite", we learn from Becky, Manager of the International Sales Team. And, really, that's the reason why we came to pay a visit to SVEC: professional products require professional production.

We already reported on SVEC back in TELE-satellite 02-03/2010 issue. Even back then we already mentioned how SVEC was becoming active in VSAT and the Ka-Band. Since then SVEC has invested enormously to not only guarantee production quality but also to raise the quality to new levels; levels that are unheard of for a manufacturer that produces millions of dishes every month.



"We are currently installing a robotically controlled production system at our location in Jiangzhou not far from Shanghai", explains Becky to us, "It's an assembly line similar to what you'd see at an automobile manufacturer. The manufacturer of the assembly line adapted it to our satellite dish production line."

As soon as the new production line goes into operation, which is planned

to take place around the same time this edition of TELE-satellite is published, SVEC will be able to produce satellite dishes at quality levels that have up until now been unreachable. Becky explains: "Thus far, the raw dishes have been manually dunked in various baths to remove any oil residue to prepare the dishes for the spray painting station and so on." With the new assembly line all of these tasks will now be handled automatically.

"We will then only need two technicians to watch over the system." That portion of manual work will disappear: "The application of paint to the dishes can then lie within extremely tight limits." It's a precision that currently cannot be reached with manual spray painting.

Becky points out yet another advantage of this new production system: "We can therefore react very quickly



■ A look in SVEC's showroom with a variety of satellite dish types and shapes.

COMPANY REPORT Professional Dish Manufacturer SVEC, China

### SVEC Dishes from Chengdu/Sichuan

Alexander Wiese

The Sichuan province is well known outside of China for its spicy cuisine. A national favorite is the "Hot Pot" in one pot with two separated sections a very spicy soup and a mild soup are heated up into which chopsticks are used to dunk in different types of food for a few minutes. This could be thinly sliced pieces of meat or vegetables. Along with that you drink sweetened Wang Lo Kat herbal tea to offset the spiciness of the Hot Pot. The company SVEC in Sichuan's capital city of Chengdu, a city with eight million inhabitants in southwestern China, has its own spicy menu. SVEC is looking for new challenges adding to their production of satellite dishes: they want to play a much bigger role in the world market with high quality products.

The city of Chengdu itself has a long tradition for electronic components in China. The University of Electronic Science and Technology is very famous and has set up one of the most famous research institutes in all of China's universities. It is said that the best engineers in electronic components are to be found in Chengdu. About 30 factories are located in Chengdu.

In the high-tech development park, west Chengdu, one of SVEC's manufacturing facilities is located. It is a modern well equipped factory with very high standards but still within its city limits.

At the conference table in the business office, Wang Qian, SVEC's General Manager, explains the company's strategy. She begins with the production of 6-meter diameter antennas for the Chinese. "In our first year our production reached 50,000 units."

**TELE-satellite World search results:**

Country	Company	Product
China	SVEC	Satellite Dishes
USA	...	...
...	...	...

■ SVEC company report in TELE-satellite 02-03/2010  
[www.TELE-satellite.com/TELE-satellite-1003/eng/svec.pdf](http://www.TELE-satellite.com/TELE-satellite-1003/eng/svec.pdf)





to large orders." The extra costs of this new system will be recovered through its greater flexibility and above all through the higher quality of the satellite dish.

The investment in this new assembly line, that came at a cost of US\$ 1.6 million, turns out to be not their only investment over the past several years. "We also invested heavily in our quality assurance", says Becky who then provides us some specifics: "We installed a new microwave chamber, a Far-Field test

station, refurbished our aging chamber and erected a precision measurement chamber."

SVEC CEO Wang Duo invested quite a bit of money in order to manufacture products at yet higher levels of quality in order to step into the more demanding world of VSAT and Ka-Band. SVEC wants to not only take their millions of satellite dishes to new and higher levels of quality, they also want to be able to deliver high quality products to the professional world as well.

SVEC has invested in such a way that they are properly prepared for the future. Quantity alone is not enough; the quality must also be right so that the customers' requirements can be fulfilled. SVEC has reached that potential.

1. A look at SVEC's dish production: 60cm diameter antennas as well as 1.2-meter segmented dishes are prepared for shipping here.
2. The SVEC dishes are packed with all the required mounting components.



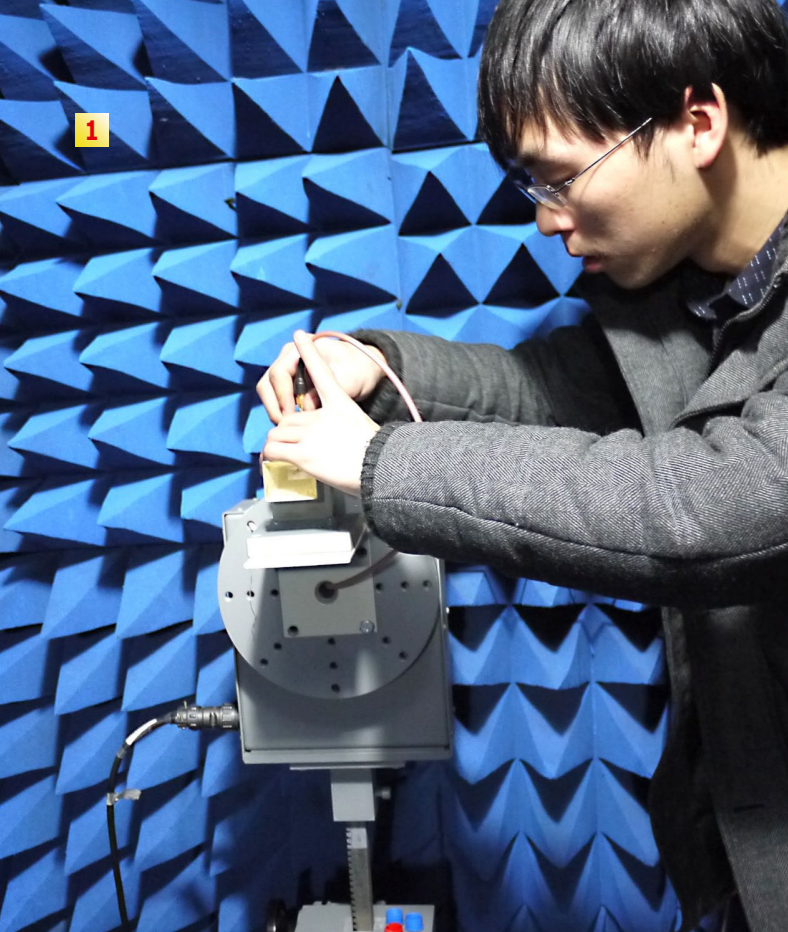


# SVEC Sales Team

1. Kahlo, named herself after the painter Frieda Kahlo, handles the SVEC advertisement in TELE-satellite.
2. Becky runs the SVEC sales team with 15 employees
3. Milton and his team take care of SVEC customers in North and South America
4. Betty Lee runs the sales team for India and Africa
5. A look into the SVEC sales team offices. To the left is Belinda, responsible for The Far East and to the right is Nina, responsible for The Middle East.



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## Quality Control at SVEC: Microwave Chamber

1. One of the engineers in the Quality Assurance Team is Xin Giang. Here he can be seen mounting a reception probe for the Ka-Band in the Microwave Still Room. This room was newly installed by SVEC in 2011. Send and receive dishes are tested here. The chambers guarantee that there is no external influence and the Styrofoam spikes keep signal reflections to an absolute minimum.
2. The Microwave Still Room measures 8m long, 4m wide and 3m high. While the reception probes are mounted on one side of the chamber, the transmitting probes are located on the opposite side.
3. As soon as the send and receive probes of the test sample are installed, the test engineer steps out of the chamber and reads the results from the Agilent Signal Analyzer (up top in the rack) at the measurement station. In the rack at the bottom can be found the motor controls to operate the two probes remotely.
4. The software permits extremely fine control of the send and receiver probes. In this way satellite dishes and LNBS can be tested in any position so that the reception characteristics can be automatically evaluated. This generates, for example, graphics showing the reception angle window of an offset dish.

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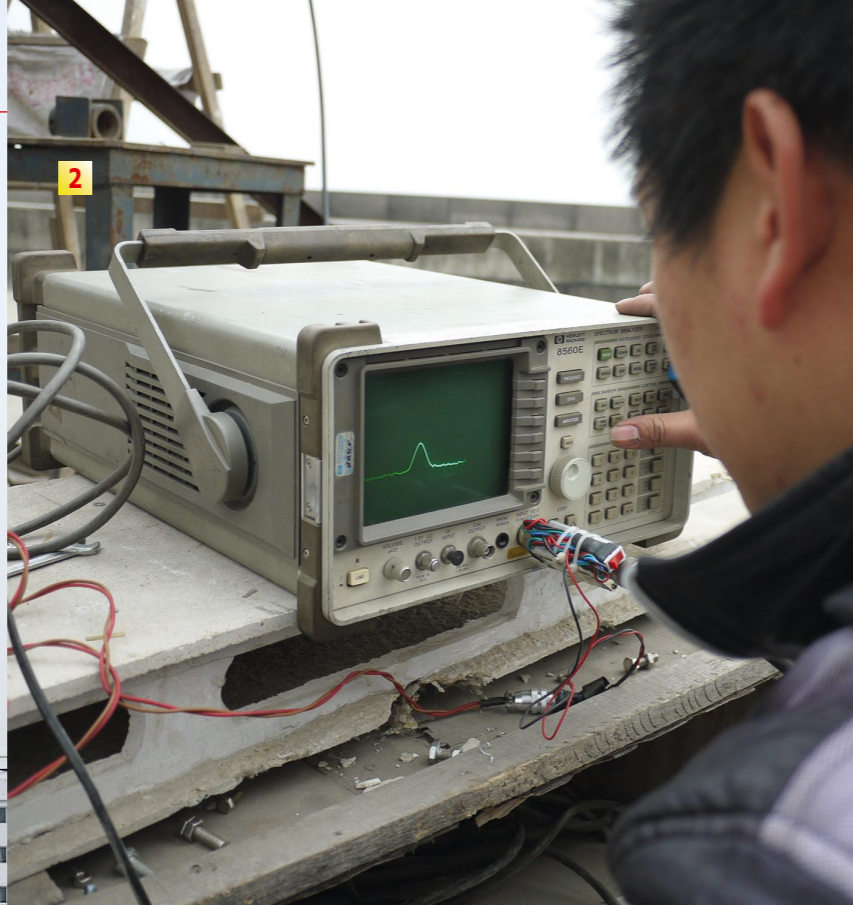
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## Quality Assurance at SVEC: Far Field Test

1. The quality assurance engineers erected a VSAT reception system on the roof of SVEC's administration building. Here they can test the actual reception of a VSAT signal.

2. The technician is adjusting the professional analyzer to measure a VSAT antenna.

3. SVEC has erected their own test strip for direct measurements. SVEC engineer Huang Jifa (pictured) explains to us what's going on: "I'm mounting a test dish from SVEC's production line here on the roof. In that hut on the far side of the lake is a reception station. It's about 300 meters away." From here SVEC can test every production variant from the small 45cm dish all the way up to the 1.5-meter antenna.



## Quality Assurance at SVEC: Aging Chamber

1. In this chamber all of the mounting components, screws, feed, mount, etc. are hung in place. Quality Engineer Zhong Hua Ping (pictured) tells us what happens next: "These pieces remain in this chamber for 500 hours, almost three weeks, and are sprayed with 5% saltwater at 34°C." After three weeks the components have been artificially weathered as if they had been out in the open for seven years.

2. Quality Engineer Zhong Hua Ping retrieves a dish mount from the chamber and inspects the cross scratched into the surface. "We purposely put scratches in the paint to see how the rust developed." In this way SVEC with this aging chamber can determine what influence the handling of the material has on the aging process.



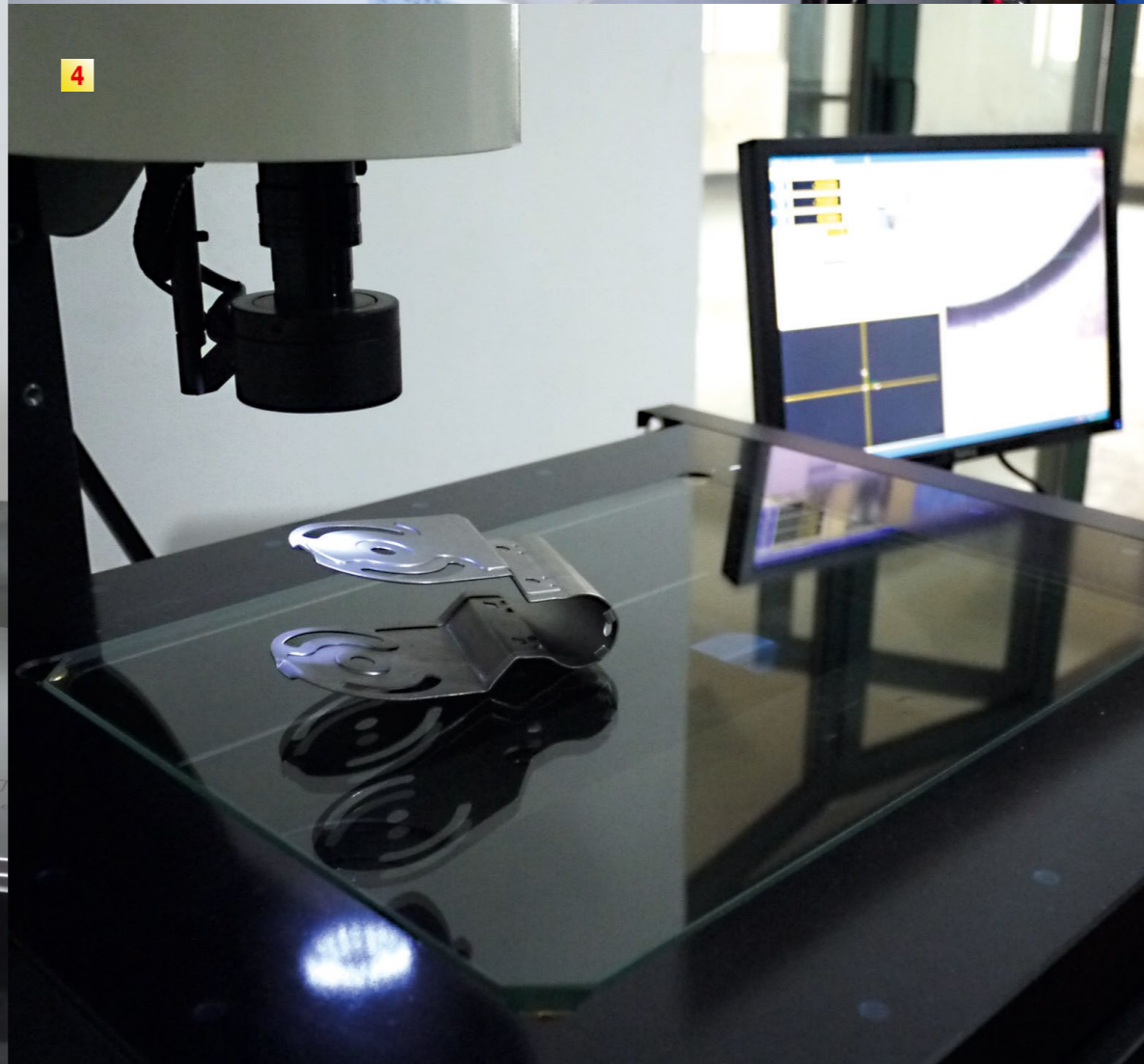
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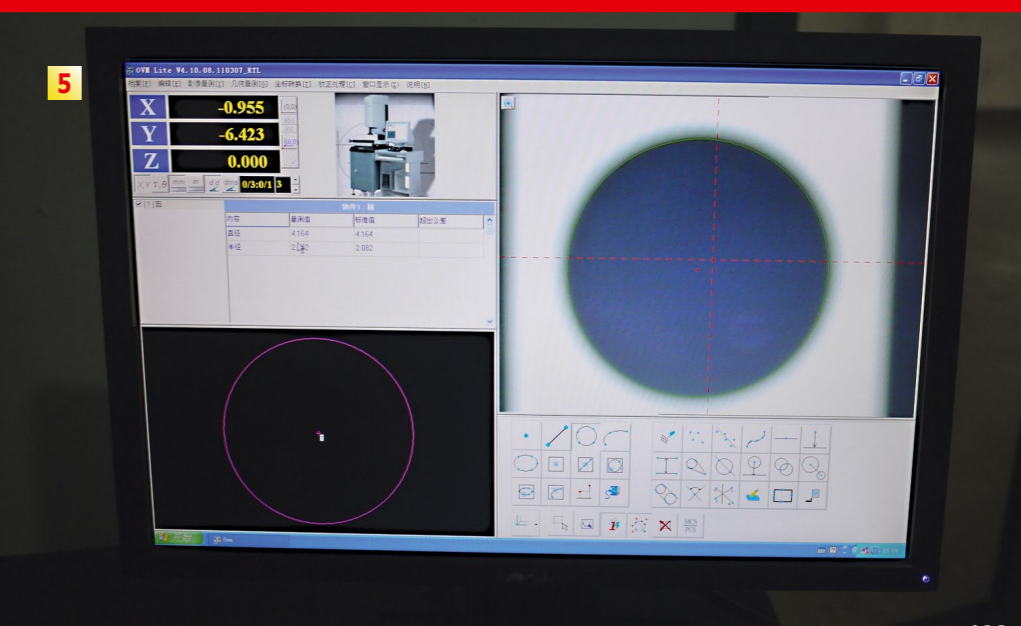
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## Quality Assurance at SVEC: Precision Measurement Chamber

3. This recently installed system permits the extremely precise measurement of a dish. The system is compatible with dishes up to 1.2 x 1.5 meters in size with a maximum height of 1.0 meters. The dishes are set up with calibrated measurement points. After that the Root Mean Square machine drives to each of the measurement points logging the results. SVEC can in this way monitor the precision of the offset as well as the parabolic shape.

4. An optical microscope is also used to monitor these precise measurements. The precision of the mounting holes on a mast bracket are being checked here. The microscope acts as a TV camera and displays the image on the adjacent monitor.

5. The precision of a mounting hole is checked here. The microscope provides a 72x magnification.



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