



Company headquarters of the electronics manufacturer Titan Time Products Limited in Goa, India.

Titan and Ersas – High precision everywhere!

In terms of electronics manufacturing, Titan Time Products Limited offers its clients a wide spectrum in the medical, automotive, instrumentation and aerospace industries. The company is a 100% subsidiary of Titan Company Limited, one of the leading Indian jewellery and

timepiece brands, and part of the Tata Group. As of this year, Titan – which was founded in 1992 – has been using an Ersas reflow soldering system of the type HOTFLOW 3/14 for electronics manufacturing.

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HOTFLOW 3/14: reflow oven with over 4 m process length, designed for high throughput requirements and maximum flexibility.

Please allow a brief historical discourse at this point: Goa was a Portuguese colony for 450 years before it was annexed by India in 1961. This heavenly strip of coast on the shores of the Indian Ocean quickly became a dream destination for many backpackers. Yet there are no signs of this on the premises of the electronics manufacture Titan Time Products Limited. Here, at L15 – Verna Industrial Estate, the atmosphere is one of concentrated business. Only the outside architecture of the Titan building in colonial style reminds visitors of the Christian past of the former colony, while inside everything is oriented towards high-tech manufacturing in the 21st century.

The Indian electronics manufacturer Titan with its team of 170 employees focuses completely on the production of high-quality board assemblies which are produced to order for leading European and US American companies. The company claim "in Pursuit of Excellence" is more than just an empty saying: Titan has received multiple awards for its outstanding work, including the TPM Excellence Award (2007), Elcina-Dun & Bradstreet Award for Quality (2008), CII-EXIM Award for Business Excellence (2006) or the Frost & Sullivan Award for Manufacturing Excellence (2005). The Titan standard with outstanding quality is made possible by equipment to the very latest technical standard as well as quality management certificates in

compliance with the standards ISO/TS 16949 and OHSAS 18001

HIGH-PRECISION ELECTRONICS MANUFACTURING AS STANDARD

After it was founded in 1992, Titan Time Products Limited concentrated on manufacturing high-precision boards for quartz timepieces on the basis of Swiss technology. This high technological standard was continued on into the 21st century, where the Titan team is now able to carry out wire bonding on clean-room level. "Our strength is without doubt our high-precision electronics manufacturing – for no less than 25 years now, we have been very successful in exercising a positive influence on the quality of products in all the areas we work in," says Shireesh Phal, Senior Manager EMS Production at Titan and part of the company since 2006.

Whether small, medium or large batches are required, a high product mix from the smallest to very large board assemblies – Titan uses the most suitable technologies to develop optimum products for its customers, without cutting corners in terms of quality. Key applications include the manufacturing of automotive sensors, industry controllers, high-frequency board assemblies and medical equipment. As far as the issues of increasing miniaturisation and high-precision soldering are concerned,

Infobox

Titan Time Products Limited

- Founded in 1992**
- Branches**
Medical, automotive, instrumentation and aerospace industries
- Headquarters**
Goa, India
- Workforce**
170 Employees



Satisfied with their decision to invest in the Ersa reflow oven: Titan employees Dattaprasad Patil and Shireesh Phal with Ersa Area Sales Manager Christian Ott (centre).



the Titan team always keeps abreast of the latest technological developments and impressively proves its sound know-how in the field of electronics manufacturing time and time again, resulting in perfect products.

There are two factors which play a major role for Titan in electronics manufacturing: fast set-up and improved quality. To this end, Titan invests consistently in the latest technology in order to stabilise its position as the leading Indian electronics manufacturer and expand this in the future, too. On account of the climatic conditions with often high air humidity, successful electronics manufacturing in India requires precisely controlled temperature and humidity conditions within production – with another Titan requirement being no strain on the environment.

FIRST SOLDERING SYSTEM FOR MORE THROUGHPUT IN TOP QUALITY

System supplier Ersa, which offers probably the most comprehensive product portfolio on the global market in the world of electronics manufacturing, was approached with these requirements around two years ago. The growth curve of the Titan business has developed dynamically over the past few years

– which enabled the company to add a further reflow system to the machine park. The Titan “wish list” included points such as top temperature transmission for all kinds of flat modules, intelligent control of energy management, cooling and process gas cleaning.

“During the evaluation phase, Ersa quickly came up on our radar thanks to their in-depth know-how in the field of electronics production equipment. During system tests, we were very impressed with the openness and expertise with which the Ersa service engineers explained the system features of the soldering machines to us – at the end of the day this was the deciding factor, alongside the performance of the machine itself,” says Shireesh Phal, who has worked in manufacturing for 21 years, the last 11 of which have been spent exclusively in electronics manufacturing. Titan had already had experience with Ersa products. Several Ersa soldering stations and soldering irons were in use for manual soldering, for example.

FAST SWITCHING BETWEEN O2 AND N2

The Ersa reflow soldering system HOTFLOW 3/14 was able to score with arguments such as “on the fly” mainten-

ce for increased machine availability, Ersa Process Control (EPC) for continuous process monitoring and the Ersa auto-profiler for the immediate determination of temperature profiles. "We decided in favour of the reflow oven from Ersa because in our variant mix we also fall back on nitrogen-based soldering – with the HOTFLOW 3/14 Ersa offered us the unique option of simply switching between O₂ and N₂," says Shireesh Phal, explaining the decision.

The third generation of the reflow system HOTFLOW 3/14, which has been available since 2015, has a continuous process tunnel for optimised heat transfer despite reduced energy and nitrogen consumption, improved cooling and optimised process control. It sets the industry standard for the ratio between productivity and footprint, which significantly increases productivity through double or four-fold transport options – advantages which are also brought to bear in India.

With the Ersa HOTFLOW 3/14 Titan has since been offering its customers two independent, fully automated SMT lines for flexible manufacturing, which cover all customer requirements from prototyping through to large production batches. One highlight of the products manufactured is technology which saves lives every day: Titan Time Products Limited produces electronic capsules which can be used to diagnose malaria and tuberculosis – a method used for examining patients within the depths of the Indian jungle without a doctor being present and for looking after them via the internet.

"A special temperature profile is required for this application; our special heat transfer has proved outstanding and in this case even helps to save lives. It goes without saying that the proverbial Titan excellence and the sturdy, reproducible quality of our Ersa reflow system is more important than ever here. The low consumption and low heat radiation of our HOTFLOW 3/14 also contribute to sturdy, cost-efficient production – an

Ersa Area Sales Manager Christian Ott (right) and Titan Senior Manager for EMS Production Shireesh Phal at the HOTFLOW 3/14.



Ersa HOTFLOW 3/14: Optimum access possibilities for fast and straight forward maintenance.

important point when the high temperatures in India are considered," explains Ersa Area Sales Manager Christian Ott, who was one of those who initiated and expanded the business relationship with Titan. On the back of good experience with Ersa tools, the HOTFLOW 3/14 is the first reflow soldering machine to be installed at the Titan location.

If the quality-oriented business of the electronics manufacturer Titan continues to develop as positively as over the past few years, the first Ersa machine, which has proved itself in every way since on-site commissioning, could soon be followed by a second ... ■

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