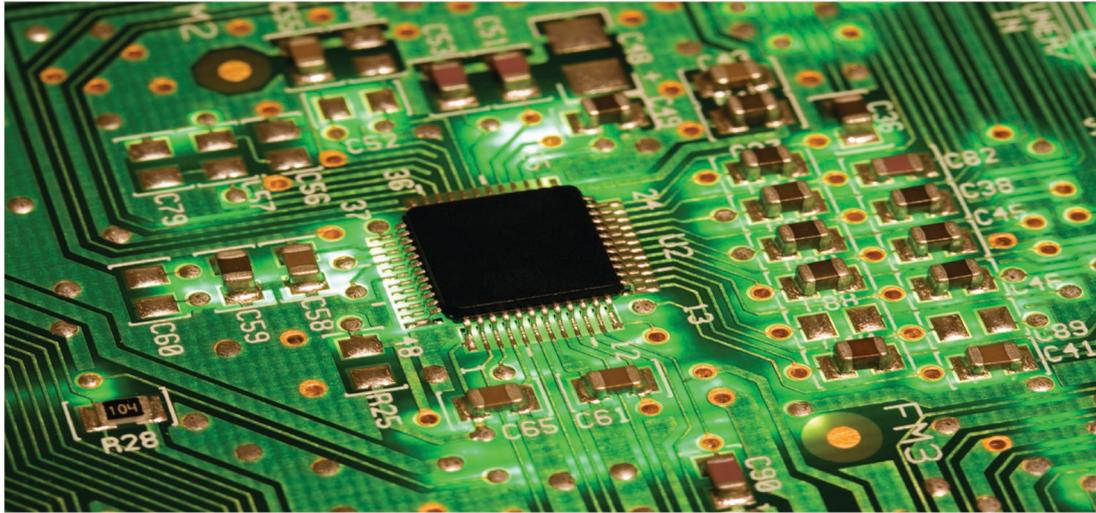


Case Study

Titan Time Products Limited



TTPL installs DuCool unit with existing conventional equipment.

Titan Time Products Limited, manufacturing chip on board assemblies needed a simple and cost-effective solution to manage its humidity. Ducool Systems provided that solution with its liquid desiccant dehumidification systems. As a result, the company has been able to control humidity, reduce energy consumption, and save money on operating expenses.

Background

Titan Time Products Limited is India's Leading Electronic Manufacturing Services Provider specialising in PCB Assembly, Small Form Devices and Box Build Devices. TTPL is a fully owned subsidiary of Titan Industries Limited, a TATA enterprise. It's Chip-on Board Assemblies use fully automatic wire bonders designed for providing a total fine pitch, high speed and flexible wedge bonding package.

TTPL is based in Verna, Goa which is subjected to heavy rainfall during the monsoons and high humidity during monsoon and summer due to its proximity to the Sea.

Challenge

For the fine pitch wire bonding process which takes place in the chip-on-board assemblies, the temperature to be maintained was 22°C with a stringent RH requirement of 45%. If the RH in the room went above 50% or below 40% the bonding process would come to a halt as the quality of bonding reduced. Condensation on the surface of PCB semiconductor during assembly was also a major issue due to high humidity.

Goa being near the sea is plagued with continuous and incessant rainfall having average humidity of 70-90% for most part of the year. The conventional chilled water cooling system at the facility could not maintain the required air - conditions with precision and also the energy consumption was quite high. This led to costly downtimes as the conditions could not be maintained which further led to decrease in the productivity and increased rejection rate.

DuCool Advantage

TTPL adopted our liquid desiccant technology to remove 40 pounds per hour of moisture load along with cooling. They incorporated one of our 1800 CFM variant in their Chip-on-board facility. As the entire latent load was handled by our machine, no over cooling was required improving efficiency of the existing chiller. Minimal amount of sensible load had to be handled after the treatment through our unit avoiding the heating required previously. This provided TTPL with above 30 % energy savings also the air after treatment through our liquid desiccant solution was much cleaner providing better Indoor Air Quality.

