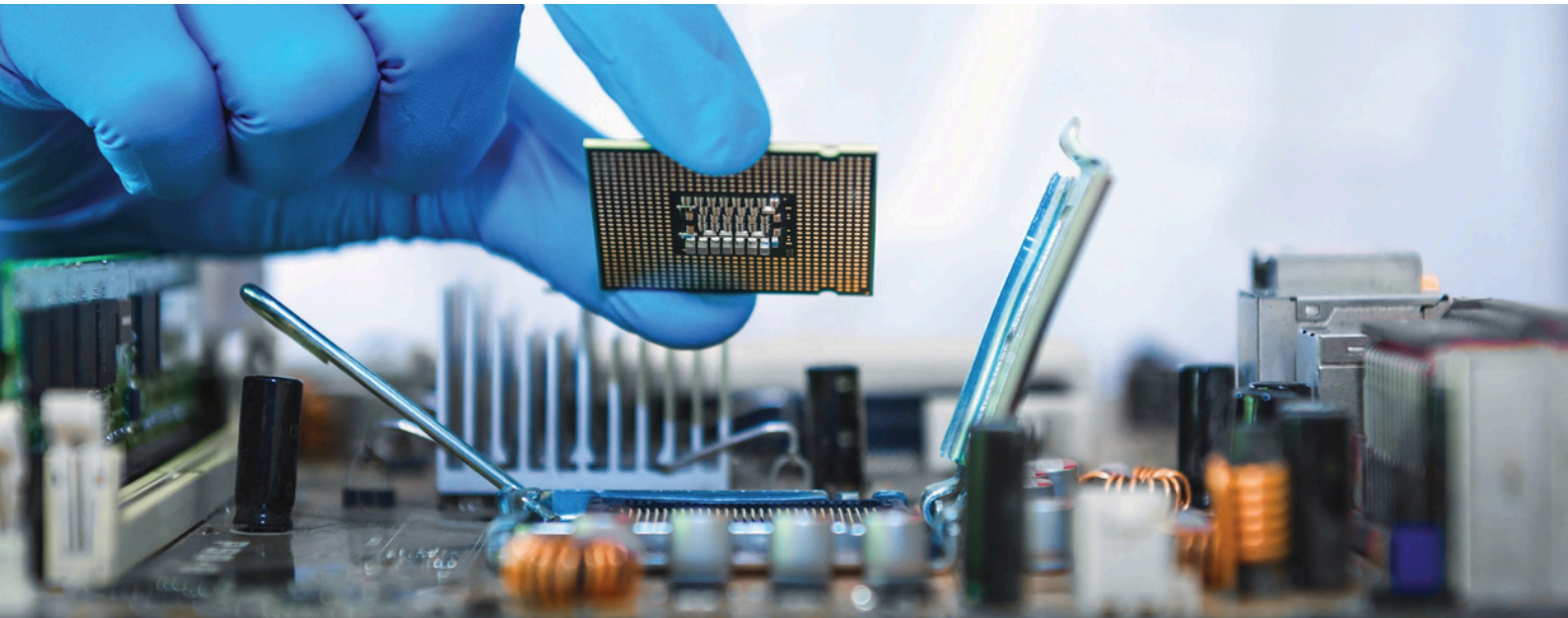


# Wave Soldering

## Nitrogen, equipment and expertise



It's easy to see  
the advantage

- ✔ Control Atmosphere Quality
- ✔ Reduce Dross and Flux
- ✔ Reduced Solder Joint Defects

### For Electronic Manufacturing

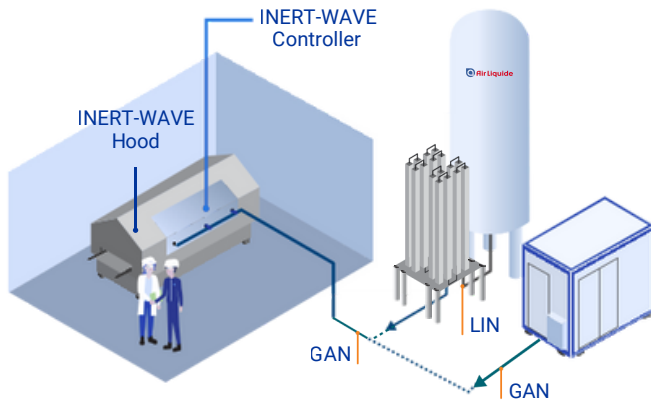
Oxidation reaction and poor wettability during wave soldering of printed circuit boards (PCBs) weakens electronic solder joints. To offset these side effects during wave soldering, using nitrogen to inert the atmosphere during assembly has become a globally-accepted practice.

Air Liquide offers a comprehensive retrofit solution designed to help you create and carefully maintain an inert atmosphere during wave soldering. This includes quality nitrogen and delivery equipment—all backed by a network of expertise in electronic manufacturing—to help you improve solder wettability of solder and reduce oxidation. For you, this means increased efficiency, savings and optimal solder joints.

# Wave Soldering Nitrogen, equipment and expertise

## Our INERT-Wave solution

Customised solution to optimise your gas consumption, limit defects, and safely maintain your process



From liquid storage to an on-site gas production system, your nitrogen requirements are carefully calculated by our team to ensure optimized performance of your wave process. With a variety of supply modes and reliable delivery, you get the quality nitrogen you need, when and where you need it.



INERT-WAVE is a patented system that diffuses nitrogen through plenums for optimal inerting of the solder pot to consistently ensure a low level of residual oxygen within the wave process. Hot nitrogen increases the heat transfer to the PCB and avoids clogging of the diffuser.



Tap into the full support of Air Liquide application engineers, backed by a global network of experts, who are dedicated to work with you—from system audit to efficient design and build to implementation and maintenance.

## Contact us

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## Up to 80% Reduced Dross

Dross consists of mostly tin oxide mixed with good solder. Through specific blanketing performed with an Air Liquide retrofit solution, dross formation in your equipment is reduced dramatically.

## Up to 40% Reduced Flux Consumption

Fluxes are chemical cleaners sprayed on the PCB. With the optimal inerting achieved by an Air Liquide retrofit solution, oxides are reduced and solder wettability improves significantly.

## Up to 40% Reduced Soldering Joint Defects

The quality of the soldering process depends largely upon the ability of the molten metal to stick or wet on the other surface. With Air Liquide, the surface tension is significantly increased on the wave of molten alloy, improving wetting and reducing soldering joint defects.

## If you want to reduce your carbon footprint

**ECO CHILLER** is our heat exchanger system that allows you to recycle the cold of liquid cryogen vaporisation back into your cooling system.

- Reduce process emissions
- Save energy
- Reduce gas waste

