

## How will the global chip shortage affect the HVACR industry?

### A look at far-reaching consequences on supply chain and performance of products

**From smartphones to cars, many everyday items that society depend on are, in turn, reliant on semiconductor chips. The chip serves as the brain within an electric device responsible for its function. However, there has been a global shortage caused by the high demand of electronic devices during the pandemic. Nils Meinhardt, Global Product Manager, HVACR Industry at UL, shares his insights on the potentially far-reaching consequences this shortage will have on the supply chain and performance of the HVACR sector.**



Nils Meinhardt

In what way is the HVACR sector affected by the global chip shortage? Which product areas or products are most vulnerable to this shortage?

The global chip shortage is impacting the supply chains of the manufacturers at various levels. The shortage starts from raw materials and may have an impact at all levels of the supply chain. With higher technological product sophistication, the utilisation of microchips is growing.

In the HVACR industry, microchips are used to enable an extensive amount of product functionalities, from temperature control up to artificial intelligence algorithms. This applies to the complete HVACR sector but with a greater impact on more sophisticated products.

Which stakeholders within the supply line are most affected, and what are the potential consequences? Could this, for example, potentially affect the price of some products?

The most affected stakeholders of the supply chain are suppliers of raw materials such as plastic and steel. On the component side, microprocessors and electronics have also been impacted. In addition to the increased raw material input costs, global container shipment slot shortages and an increased microchip demand from specific industries are also causing a shortage in microchips and significant price increases.

What strategies are companies implementing to cope with these disruptions?

Sourcing departments are under pressure to secure the supply chain and look for alternate suppliers. Several factors can play a role in strategy development. This includes the duration of this shortage, which will drive companies to decide if they should absorb the input cost pressures.

If companies shift their components, materials, and ingredients to avoid disruption in the supply chain, will this affect their existing certifications? If so, in what way?

Not every component or material has an impact on the certification of a product. There are some critical components that need evaluation and potentially may require additional evaluation before being used. Timing is very critical in this case since, depending on the technical specification of the component selected, the specific test plan may lead to extended or reduced testing. The UL listing

program helps manufacturers to manage component suppliers to shift faster and with minimal re-certification effort.

Could such changes have a potential impact on the reliability or performance of certain HVACR products?

The short answer is yes. The potential impact may be present from different perspectives, starting from the safety of the products through to their reliability. Now more than ever, timing is critical to ensure safe products arrive on the market on time.

What can companies, such as UL, do to inform and educate consumers on the potential effect material changes might have on products on the market?

UL strengthens the relations with our customers by providing timely responses to their enquiries. UL can also evaluate alternate material selections and their potential impact on the safety of their products. On the other side, UL is also anticipating the need of the customers by developing new testing capabilities to be ready to support them when needed.

We have also set up a [dedicated website](#) for news, resources, and links to tools like UL Product iQ® and UL Prospector® databases that can help you to quickly locate UL Certified products, components, materials, and ingredients. With this UL wants to support the industry to keep their projects moving.