



The nano-factories can be used to add temporary capacity to existing factories, or to manufacture products locally | Photo source [Unilever](#)

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NANO-FACTORY BRINGS PRODUCTION LINE TO WHERE IT'S NEEDED

  MANUFACTURING

Unilever has developed a portable mini-factory that can save money and resources by manufacturing small amounts of products locally

Spotted: Even large manufacturers sometimes need to produce small amounts of a product – perhaps to produce a seasonal variant, respond to demand in a local market or to test a product before a full-scale launch. It's not always cost-effective or efficient to do this on a full-scale production line. Food giant Unilever has devised a clever solution – a nano-factory.

Unilever's engineers have created a fully-functioning, mini-production line that fits into a 40-foot shipping container. The tiny factory contains everything needed to produce a batch ready for sale. Because of its size, the diminutive factory can be transported by cargo ship or on the back of a truck, needing only a place to plug in its electricity cable and a water hose in order to start production.

On top of its ease of transport, the factory is fully digitised, allowing it to be programmed and controlled remotely. Instructions can be entered by a single person from a central location, with sensors on the factory 'floor' sending back data that can be used to make real-time adjustments and fix any issues that come up. Because of this, the factory only needs three on-site operators per shift.

Although the nano-factories are not designed as a replacement for a full-scale production line, the units can be connected together to scale up production. Engineering Manager Olivera Trifunovic, a joint lead on the project, [explains](#): "If we build a network of these, we get flexibility in our supply chain which we don't have everywhere right now. We can see a future where we have a truly

dynamic model, with thousands of local production lines all over the world instead of one big one in a massive building. We have a completely movable asset that you can pick up and drop anywhere.”

Bigger is not always better, especially when it comes to sustainability. A number of manufacturers are realising that producing only what is needed and moving manufacturing closer to the user, can save on waste and make production more efficient. We have seen this in innovations such as a [clothing designer](#) who only manufactures what they sell and a [handbag collection](#) that is shipped flat and assembled at home.

Written By: Lisa Magloff

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Takeaway:

This initial prototype was initially developed to produce liquid bouillon for its Food Solutions business, but Unilever hopes to roll out the nano-factories in other divisions, to produce products like mayonnaise, ketchup, and ice cream. Eventually, the small factories could end up cutting down on waste considerably. They could be moved closer to where supply is greatest, cutting down on shipping miles and producing products only as needed – cutting down on waste. Trifunovic says that the factories, “offer an exciting new way of manufacturing. A way that is less wasteful, promotes locality, and reduces food and fossil fuel waste.”