From Human to Planet: Smarter Manufacturing for Sustainability

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What if there was a smart factory where heat from servers in the production house is rerouted to keep the manufacturing space warm? Which piped in fresh air to cool the servers rather than energy-inefficient air conditioning? A factory the size of seven full-sized football pitches which produces energy from solar panels on the roof?

What if there was a factory with sustainability at its heart?

There is: the new Lenovo factory in Budapest, Hungary, where the latest innovation is being used to advance Lenovo's efforts against climate change.

And there couldn't be a more important moment for this factory to be built. With the importance of sustainability front of mind for so many, Lenovo is constantly reaffirming its vision for net-zero emissions, ensuring an emissions reduction approach aligned to the latest climate science.

But these goals can sometimes feel remote and hard to comprehend, begging the question – what does this actually mean on the ground?

Our flagship factory answers this question, and more. All the more reason to look closely at the work being done there to innovate sustainably, and the inspirational people who are making it happen.

Video: Watch the video on YouTube
https://www.youtube.com/watch?v=MCTxU4G-HQs

Inside the Factory

Szabolcs Zolyomi, the factory's Site Leader, has a palpable passion for sustainability that can be felt in any conversation.

"There is a misconception that you can't be a manufacturer and an environmentalist," he says. "This is not true. I am passionate about creating, as much as I am passionate about protecting the environment."

And after 25 years honing his skills as both a sustainability advocate and manufacturing expert, he has much to be excited about. Not only is he overseeing Lenovo's first EMEA in-house manufacturing facility, at the same time he is pioneering sustainable innovation for the business.

Covering almost 50,000 square metres across two buildings and three floors, the new site is one of Lenovo's largest and smartest manufacturing facilities. The production line can produce more than 1,000 servers and 4,000 workstations a day – each one built specifically to customer requirements.

The opening of the site also marks a significant milestone in Lenovo's manufacturing and optimisation journey – a key factor of our emissions reduction – bringing smarter technology closer to Lenovo's Europe customers and reducing emissions for its delivery.

In a way, this shiny new factory is a microcosm for our wider sustainability work. "We know our vision to provide smarter technology for all requires a lot of energy," adds Szabolcs. "But we're committed to making this consumption as sustainable as possible, constantly pushing the envelope to be more sustainable than yesterday".

And in every corner of the factory, there is evidence of the concrete steps Lenovo is taking to embed sustainability in its processes.

Building the smarter future

On a macro level, the factory is one of the most environmentally conscious production facilities Lenovo has ever built, with each of the factory's buildings fitted out with solar panels. The solar panels' capacity will shortly be upgraded, with the result being the potential for industrial-scale energy production.

The factory's sustainability is not only supported by structural advancements, but by the manufacturing processes used within it. For example, Lenovo's Low Temperature Solder process is used, which reduces carbon emissions for product soldering by 35%.

This efficient energy is then being channelled into forward thinking manufacturing processes such as the Lenovo Value Recovery programme (LVR). LVR extends the useful life of hardware by offering refurbished servers and spare parts to customers, reducing e-waste and helping Lenovo reach its sustainability goals.

Every light in the factory has been installed with motion detectors to prevent wasted energy. Employees travel to work in free shuttle buses, rather than driving hundreds of cars to and from the facility. These simple steps, such as ensuring all devices are automatically switched off when not in use, ensure that no stone is left unturned.

Steps are also being taken to tackle the emissions caused by mass heating and cooling. In the factory, heat from other areas of the production house is being rerouted to keep the manufacturing space warm. While in winter, the same space will use cold air from outside the factory to cool it down – a process known as air-side free cooling.

Building 5,000 devices locally is also dramatically reducing the freight miles these products incur, providing more efficient and sustainable transportation options. “Localisation is crucial to efficiency,” explains Szabolcs. “Being able to ship our packaging, and our products from the local area drastically reduces our emissions.”

It’s in the details

This investment in sustainability, combined with the most innovative manufacturing processes, is one step toward Lenovo’s emission reduction goals and vision for net-zero.

But progress can also be found in the details: the everyday habitual changes to culture that are embedding sustainability in the very fabric of our production lines.

“Often a lack of knowledge holds us back,” says Szabolcs. “So, we’ve invested in educating our staff to practice our most sustainable policies.”

Sustainability commitments can sometimes seem abstract and remote, but the sustainable innovation found at Lenovo’s flagship Hungary factory demonstrates their very real impact. And this is just the beginning. Across EMEA, Lenovo is committed to using the work being done in Hungary as a manufacturing blueprint to reduce emissions, with plans to replicate sustainable best practices throughout Lenovo’s global manufacturing facilities.