

Phorest

Safeguarding the wellbeing of people and planet by creating an eco-friendly pharmaceutical industry

In a nutshell

The pharmaceutical industry is at a crossroads. Over 99% of its production is powered by petroleum-based raw materials. The production of 1kg of medicines generates around 200kg of toxic waste. This makes the pharmaceutical sector responsible for 15b kilogrammes of waste and 5% of global emissions produced worldwide each year. Over 70% of these emissions come from their supply chain and, in particular, production. This reliance on fossil fuels not only has a significant impact on the environment but increases the risk of supply chain risk, with production shifting to less regulated regions in Asia. With the daily use of medicines growing year on year (with a 12% increase expected by 2028), demand for medicines will only increase. If the pharmaceutical industry is going to meet societal and regulatory expectations, while still being sustainable as a business, there needs to be a step change in the way they create and produce their drugs. While up to 70% of manufacturers have set decarbonisation targets, fewer than 20% of them have detailed implementation plans. Phorest offers a game-changing solution by converting agricultural waste into valuable compounds for research and development, paving the way for a more eco-friendly pharmaceutical industry.

Why is our technology important?

Phorest's technology replaces the industry's reliance on damaging fossil fuels by converting lignin (an abundant waste material from agriculture) into the essential chemicals needed for the pharmaceutical industry. Approximately 50m tons of lignin are produced in Europe every year. Much of this supply is burnt in biorefineries or landfilled. Only 2% is used for low-value commercial purposes, leaving plenty to spare for other applications (including pharmaceuticals but also with possibilities in the agrochemistry and flavours/fragrances sector). By using this abundant polymer as the base for medicine development, we can reduce the sector's environmental impact and also ensure the stability and security of the pharmaceutical supply chain. Phorest is building a world where sustainability and cutting-edge healthcare work hand in hand and natural resources form the foundation of life-saving innovation.

The benefits of our solution

- Lower environmental impact: By substituting petroleum-based chemicals with those derived from agricultural waste, we expect to cut down pollution and toxic waste production by up to 40% initially, with the ultimate goal of achieving net zero emissions
- Supply chain security: Our technology allows for localised, controlled production using widespread bio-derived feedstocks, reducing dependency on external sources
- Sustainability in healthcare: Phorest is answering the questions posed by increased societal and regulatory pressure by integrating sustainability into the heart of healthcare innovation

Keywords

Pharmaceutical industry | Medicine development | Sustainability | Supply chain resilience | Cleantech | Plant-based economy | Platform chemicals | Agrochemistry | Fragrances

Founding Team

Dr. Serhii Shyshkanov (CEO)

<https://www.linkedin.com/in/serhii-shyshkanov/>

Dr. Anastasia Komarova

<https://www.linkedin.com/in/anastasia-komarova-2a9aba14b/>