From lab to cloud: Berlin startup launches digital simulation platform to end years-long bottleneck in materials testing

Berlin-based company ecopals has launched Simpal, a virtual laboratory designed to accelerate materials development through digital simulation.

BERLIN, GERMANY, September 24, 2026 /EINPresswire.com/ -- • New materials can take up to 20 years to reach first industrial application, with extensive physical testing contributing significantly to development time and cost.
• Simpal digitally simulates key material properties including tensile strength, viscosity and thermal behaviour.
• The technology is being developed into a scalable cloud software platform for industries including automotive, aerospace, construction, and chemicals.

Berlin-based deep-tech company ecopals has launched Simpal, a virtual laboratory that accelerates materials development through digital simulation. The platform enables companies to evaluate material formulations and their expected physical behaviour before committing to extensive laboratory testing.

Material development remains a domain highly dependent on physical experimentation. Thousands of possible formulations are considered during the engineering of a new material, while only a limited number can be tested physically due to time and cost constraints. New materials often take up to 20 years to reach their first industrial application. A single unsuccessful formulation adds weeks to a development program, creating significant costs across repeated testing cycles.

Simpal addresses this bottleneck by moving the experimental process into a digital environment. Formulations that would previously require extensive physical testing can now be evaluated computationally from the beginning. The platform combines multiscale molecular dynamics simulations with physics-informed machine learning models to predict physical material properties such as tensile strength, viscosity and thermal behaviour before a physical prototype is produced. Applied to materials science, where even large industrial companies have so far had limited access to practical digital simulation, the platform enables a broader range of formulations to be assessed computationally.

Simpal is available as a scalable cloud-based software platform for industrial companies,

providing access to digital material models and simulation capabilities without requiring customers to build the underlying computational infrastructure themselves.

For industries including automotive, aerospace, and construction, where material properties directly influence product performance, processing and sustainability, digital simulation offers an additional tool for accelerating development and reducing unnecessary experimental iterations.

About Simpal:
Simpal is a virtual laboratory for the development of complex materials formulations. The platform processes digital material models from the molecular level to the macrostructure and translates complex simulation data into clear physical metrics, including flow behaviour, viscoelastic properties, deformation patterns, compatibility and processing windows. Through physics-based virtual experiments, unproductive laboratory cycles are avoided, trade-offs in material design are identified early, and final validation is accelerated on the basis of clearly defined assumptions. Simpal.ai

Arianna Elsässer
fph GmbH
+49 170 2882433
arianna.elsaesser@fph.berlin
Visit us on social media:
LinkedIn

This press release can be viewed online at: https://www.einpresswire.com/article/944817112

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.
© 1995-2026 Newsmatics Inc. All Right Reserved.