

September 10, 2025

For a bright tomorrow: Thünen Institute launches EiLT

The Thünen Institute now has its own landscape laboratory, starting out with nine experimental fields. At the Trenthorst site (Schleswig-Holstein), models for future land use are being developed, researched, and tested on an area of 600 hectares. The researchers aim to overcome traditional forms of land use and system boundaries.

Braunschweig, Trenthorst (September 10, 2025). With EiLT, the Experimental Interdisciplinary Landscape Laboratory at the Thünen Institute, the federal research institute is taking a decisive step toward the future: on 600 hectares of land, scientists from the fields of agricultural, forestry, and fisheries ecology, socioeconomics, and agricultural engineering are devising, researching, and testing innovative land use systems. In doing so, they are consciously and deliberately overcoming traditional forms of land use and system boundaries, always considering the dimensions of humans, nature, and technology in a coherent manner. Cattle farming merges with forestry research, fish ponds are integrated into arable farming, and hedges meet artificial intelligence.

EiLT is not only the abbreviation for the scientific project name “Experimental Interdisciplinary Landscape Laboratory at the Thünen Institute for Research, Development, Testing, and Demonstration of Land Use Systems of the Future.” EiLT also means: We are living in a time when time is running out. In just a few years, forestry, agricultural, and food systems will have to look different from today, not least due to climate change. “We want to use science to provide impetus for this change. We want to leverage untapped potential and synergies for the production of food, wood, and energy, for climate protection, and for nature conservation. In doing so, we are asking ourselves the central question of how we can reconcile climate, environment, and economic efficiency,” said Thünen President Prof. Dr. Birgit Kleinschmit at the official launch. “The concepts for this were developed in the minds of our scientists. Now we are researching and demonstrating whether practice lives up to theory,” said the president. EiLT is designed for the long term and forms a new research infrastructure at the Thünen Institute, which will be supported by interdisciplinary and transdisciplinary collaborations in the future.

The landscape laboratory at the Trenthorst site is initially starting with nine experimental fields: cattle and climate, climate-adapted trees, hedgerows, meadow-field-animal-woodland, grassland without ruminants, farm refinery, energy and food, green mineral fertilizer, ponds and water. The impact of alternative forms of land use on biodiversity is being assessed by EiLT using eDNA analyses along measurement and observation points, known as transects. With its broad technical expertise, the Thünen Institute provides the ideal conditions for scientists, economists, and technologists to work hand in hand to conduct research and develop new ideas. The size of the areas in Trenthorst also allows for experiments that cannot be carried out on this

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scale and over such a long period of time at other locations. That is why the scientists deliberately opted for a landscape laboratory rather than real-world laboratories. “Our work is primarily scientific. The ideas that prove viable here can be researched in real-world laboratories in the future. We will then engage in dialogue with all relevant and affected status groups,” explains Dr. Malte Krafft, coordinator for EiLT.

All areas of experimentation focus on the sustainable use of scarce resources and synergy effects. Birgit Kleinschmit: “The results are as open as the future, but we want our experiments to provide the basis for shaping that future.”

Further information:

Website of the Landscape Laboratory: www.eilt.thuenen.de (only in German)

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Photos can be downloaded in the [newsroom](#).



Impressions from the EiLT landscape laboratory with hedges and copes in agricultural landscapes. © Thünen Institute/Nadine Zirbes