



**Łukasiewicz**  
Institute  
of Aviation



Advanced tool for UAV engineering  
concepts testing and pilot training

**ESIM**  
**SIMULATOR**  
**ENGINEERING**

As part of their work on unmanned technologies, Łukasiewicz – Institute of Aviation engineers have developed an engineering simulator for optimizing the design of unmanned systems, which can also serve as a training simulator for UAV pilots in a safe environment.

## CHARACTERISTICS

- **Digital model creation (Digital Twin)**  
Creating an accurate and realistic model enables the behavior of a real UAV to be accurately reproduced in simulations.
- **Concept development**  
The product enables testing of various engineering concepts and solutions in a controlled environment.
- **Digitization of characteristics**  
Preservation of the actual parameters of the simulation object.
- **Module implementation**  
The software enables the implementation of various modules, algorithms and engineering solutions in simulations.
- **Model implementation**  
Full implementation of the aircraft model in the simulator.



- **Embedding in the environment**  
Diverse environment and atmospheric conditions allow simulation of various UAV flight scenarios.
- **Virtual model testing**  
Ability to perform advanced tests, allowing analysis of the parameters used in the model and their optimization.



## COMPETITIVE ADVANTAGES

- Training pilots in a variety of conditions.
- Risk reduction.
- Time and cost savings.
- Ability to simulate risky operations and engineering projects.



The Łukasiewicz Research Network – Institute of Aviation offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

al. Krakowska 110/114, 02-256 Warsaw, Poland  
e-mail: [info@ilot.lukasiewicz.gov.pl](mailto:info@ilot.lukasiewicz.gov.pl) / [www.ilot.lukasiewicz.gov.pl](http://www.ilot.lukasiewicz.gov.pl)