



# **UAS Simulator KS-1**



## Executive Summary

**I2M Systems Inc.**, together with the National Aviation University of Ukraine (NAU) has developed a series of Unmanned Aerial System (UAS) Simulators.

The KS-1 model is field proven and has been used by Government Civil, Military and Educational institutions.

To reduce the cost in some case it may be possible to retain the existing consoles and operational displays, only the central processing equipment such as servers and client computers will be delivered. Included in the server-client architecture is I2M's full featured software.





## KS-1 Specifications

### High-Fidelity Simulation for Training, Research & Development, Test & Evaluation

#### Capabilities Include:

Crew and Individual Training;

Stand-Alone and Distributed Training;

Normal and Emergency Procedure Training;

Content-Rich Scenario-Based Mission Training;

Ability to modify the Scenario-based maps, terrain and meteorological conditions;

Recording of flight information;

#### High-Fidelity Software Includes:

1. Aero (Including Wind Effects and Turbulence);
2. Heads-Up Displays (HUD) with High-Fidelity Out-the-Window and Sensor Scenes, Environment Effects and Special Effects
3. Heads-Down Displays (HDD) and Tracker Displays
4. Instructor Operator Station (IDS)
5. Ability to Integrate Entire Simulator / Simulator Components into



Instructor-Led, CBT or WBT Academic Courseware; I2M Systems together with its partner, National Aviation University of Ukraine(NAU) has developed a curriculum and the complete courseware materials for 4-year undergraduate degree that has been used at NAU for the last 6 years.

## KS-1 Supports

1. Normal Procedures / Checklist Functionality / Communications;
2. Critical Action Emergency Procedures--Takeoff, In-Flight and Landing;
3. Sensor and Auto pilot Operations;
4. Open concept architecture allowing the trainees to modify the configuration of Auto pilot and other elements of the simulator;
5. Individual and Crew Training;
6. Stand-Alone or Distributed Mission Operations (DMO) Training;
7. Anywhere / Anytime Geo-Specific Training/Mission Rehearsal Using Terrain Generation Capabilities Content-Rich, AI-Driven Scenario-Based Mission Training Provided by I2M developed based Scene Content Capability (ability to utilize numerous map formats, including the Google maps);
8. Content Realism and Density needed to Effectively Simulate Real-World;
9. Employment Missions in Virtually any Urban or Open-Terrain Environment.

## KS-1 Deliverables

### **Package contents:**

Console with computer and two monitors.

Monitor of the operator-instructor .

The controls of the UAV:




- joystick;
- throttle control;
- pedals;
- keyboard.

Complete Software package.

Documentation:



- Instructor manual;
- Student Manual;
- Standard curriculum for operator training.



**The simulator KS-1 for Remotely Piloted Aircraft Systems (RPAS) external pilots preparation**

**I2M Systems Inc.**  
Simulator purposes:

- RPAS external pilots preparation;
- working out of algorithms of RPAS control for all flight modes;
- work up of new modes and flight exercises;
- training of operators to actions in special cases, at equipment failure;
- estimation of operators psycho-physiological abilities.



Simulator KS-1 for training UAV operators allows to:

- significantly reduce the time and costs of training;
- reduce the amount of real UAV flights in the learning process up to 70%;
- conduct training in conditions closely to the real action of the operators;
- simulate the use of different variants of the payload;
- hold classes regardless of weather conditions;
- maintain the necessary skills of the operators in the absence of actual flights of the UAV.