

Software architecture

AVOPSIM is four software layers on one engine, running on three hardware configurations. The same software runs on every configuration, so a program can start on a laptop and move to a full cabin without changing anything but the station.

Each layer builds on the one below it. Microsoft provides the core; AVOPSIM provides the three above.

Layer	Name	Provided by
01	Core: Microsoft Flight Simulator 2024	Microsoft and Asobo
02	Scenery: the airport digital twin	AVOPSIM
03	Vehicles: your fleet, modeled per unit	AVOPSIM
04	Mission module: missions, Mission Editor and Examiner Console	AVOPSIM

01 · Microsoft Flight Simulator 2024



The simulation engine. Global terrain, live and preset weather, a full day and night cycle, vehicle physics, multi-screen and VR support, maintained and updated by Microsoft and Asobo. AVOPSIM does not rebuild any of this, which is where the cost saving comes from.

- Photorealistic world outside the airport boundary
- Live or preset weather: rain, snow, fog, wind, visibility
- Day and night cycle, any season
- Licensed separately, Standard Edition

02 · The airport digital twin



Your airfield reproduced 1:1 from operational drawings and survey data and loaded into the engine as scenery: runways, taxiways, aprons, service roads, buildings and terrain, with signage, markings and lighting placed as on the live airfield.

- Signs, markings, hold points and hotspots
- Centerline and edge lights, stop bars, guard lights, apron floods
- Terminal, hangars, fire station and landmarks
- Updated when the airport layout changes

See [The airport digital twin](#) for how it is built and maintained.

03 · Your fleet, modeled per unit

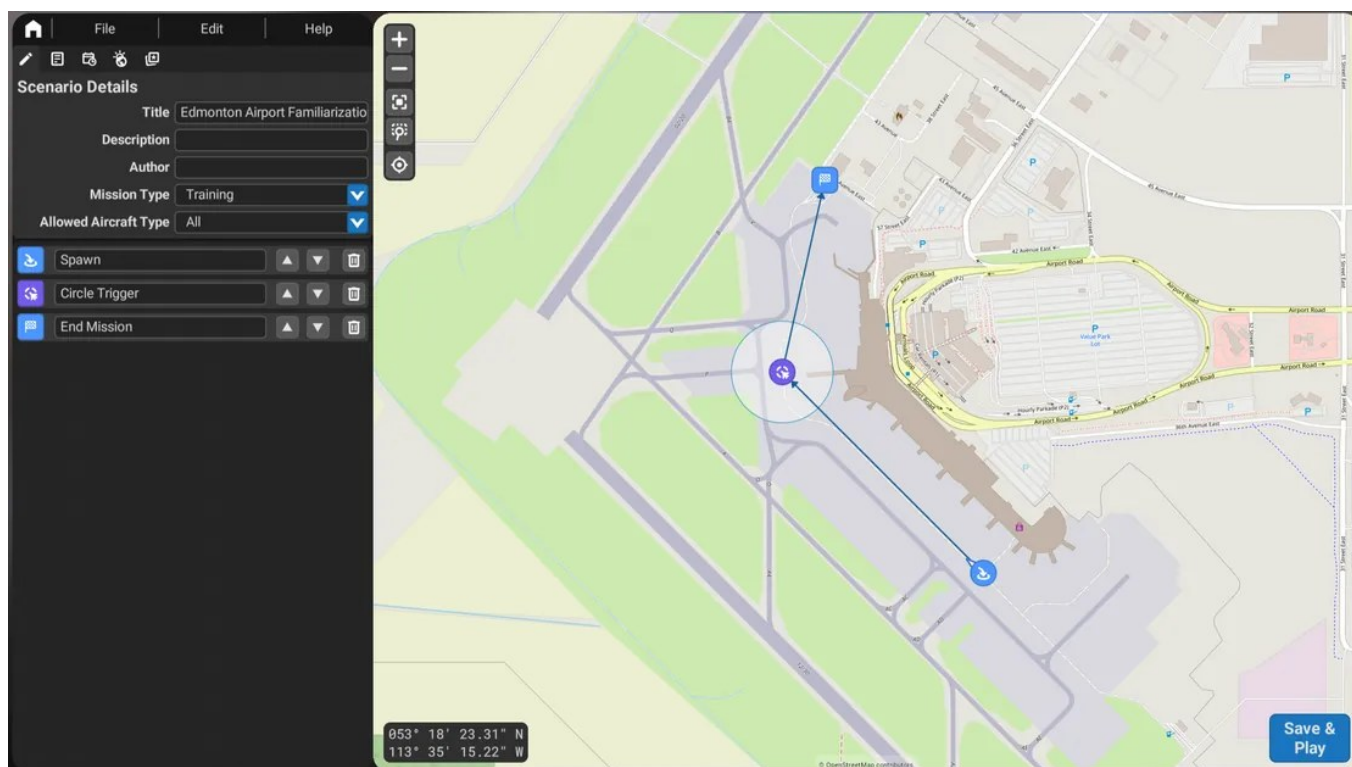


Drivable vehicles matched to the airport fleet in its own livery: dimensions, acceleration, braking, steering and traction, a modeled cabin with working instrumentation, and the specialist functions each unit performs.

- Operations pickups, ARFF, winter units, GSE, boarding bridges
- Cabin instrumentation and controls
- Plow, broom, blower, belt, tow, turret and boom functions

See [Vehicle modeling](#).

04 · Missions, Mission Editor and Examiner Console



The training layer. Scored missions built on your routes and procedures, an editor for instructors to author new scenarios on the airport map, and a web console to launch, monitor and assess several stations at once.

- Missions delivered in blocks of 20, extended by your instructors
- Moving aircraft and vehicle traffic, triggers and conflicts
- Pass and fail constraints, violations and timings logged
- Examiner Console: one instructor, several stations, records kept

See the [Instructor Tools](#) manual.