Insitu's UAS (unmanned aerial system) is configured for land- or sea-based operations, and includes the aircraft, launcher, retrieval system, Ground Control Station (GCS), software, associated spares, and auxiliary equipment. The platform is flexible, expandable, and can be quickly reconfigured in the field.

The A-15 and A-20 aircraft are long endurance UAV composed of five to six major modules that are replaceable at the field site. The most common payload, an inertial-stabilized camera turret, allows for the tracking of a target of interest for extended periods of time, even when the target is moving and the aircraft nose is seldom pointed at the target.

The A-15 and A-20 aircraft feature a high aspect ratio swept wing, shoulder-mounted on a cylindrical fuselage using blended fairings. The aircraft are tailless, with a rear-mounted engine driving a pusher propeller. The structure is carbon fiber composite with fiberglass winglets. Two sets of elevons on the wings provide pitch and roll control, with rudders on the winglets at the wingtips for directional control. The aircraft design is tightly integrated and provides redundancy where experience has indicated the need.

The UAV (unmanned aerial vehicle) is built to carry customer-supplied sensors and processors, and to provide a flexible aerial platform with power, communications, and volume for additional payloads. The aircraft is designed to handle multiple, highly persistent sensing roles, including:

- Intelligence, surveillance, and reconnaissance (ISR).
- Communications relay.
- Battle damage assessment (BDA)
- Customer-supplied sensing and surveying missions.

The UAS crew is a team of highly-trained operators who plan and execute operations from launch, through flight, to retrieval. Operators become qualified by successfully completing Insitu's intensive training program. In addition to learning how to plan and conduct operations under normal conditions, a UAS crew is trained to handle difficult situations and unexpected problems. Although operators can readily experiment with adverse situations or failure modes while practicing on simulators, when a real aircraft is flying, the operator must thoroughly know the systems and procedures. Operators are trained thoroughly on what is going on behind the ground system interface. An operator doesn't have to be an engineer, but does understand the workings of the software and hardware, and the performance of aircraft and autopilot systems.