CLAIMS

1. An aircraft comprising:

an aircraft propulsion system for propelling the aircraft; and

a self-propelled payload (SPP) system mounted onto the aircraft, wherein the SPP system comprises an SPP propulsion unit independent of the aircraft propulsion system, the SPP includes a controller for controlling the SPP propulsion unit to compensate for a change in a center of gravity of the aircraft due to a payload of the aircraft which includes the SPP; and

wherein compensating for the change in the center of gravity due to the payload improves operational effectiveness of the aircraft.

2. The aircraft of claim 1 wherein the aircraft comprises an unmanned aircraft.

3. The aircraft of claim 1 wherein the payload comprises at least one additional payload and the SPP system.

4. The aircraft of claim 1 wherein the SPP system comprises:

an SPP housing unit, the SPP includes

a mount for mounting onto the airplane, the mount includes a housing body joint,

a housing body, the housing body coupled to the mount by the housing body joint;

an SPP payload unit, the payload unit includes the SPP controller for controlling the SPP propulsion unit, the SPP payload unit is disposed onto the housing body; and

the SPP propulsion unit.

5. A self-propelled payload (SPP) system for an aircraft comprising:

an SPP mount configured to mount the SPP system onto an aircraft;

an SPP propulsion unit, wherein the SPP propulsion unit is independent of the aircraft's propulsion system;

an SPP controller, the SPP controller is configured to control magnitude and direction of trust of the SPP propulsion unit to compensate for the change in a center of gravity of the aircraft due to a payload of the aircraft which includes the SPP system; and

wherein compensating for the change in the center of gravity due to the payload improves operational effectiveness of the aircraft.

6. A method of operating an aircraft comprising:

providing an aircraft with an aircraft propulsion system for propelling the aircraft;

mounting an SPP system onto the aircraft, wherein the SPP system includes

an SPP propulsion unit, wherein the SPP propulsion unit is independent of the aircraft's propulsion system, and

an SPP controller, the SPP controller is configured to control magnitude and direction of trust of the SPP propulsion unit to compensate for the change in a center of gravity of the aircraft due to a payload of the aircraft which includes the SPP system; and

operating the aircraft using the aircraft propulsion system, wherein during operation, SPP system is activated to compensate for the change in the center of gravity due to the payload to improve operational effectiveness of the aircraft.