

**AN AIRCRAFT CONFIGURED FOR AT LEAST A VTOL OR STOL MODE AND A
FORWARD FLIGHT MODE**

ABSTRACT

5 An aircraft configured for at least a Vertical Take-Off and Landing (VTOL) or
Short Take-Off and Landing (STOL) mode and a forward flight mode. The aircraft
comprising: a fuselage providing static lift, including at least a portion filled with a gas at
a preselected pressure, at least two fixed wings providing aerodynamic lift during forward
10 flight mode, attached to or integrated with said fuselage, and at least one propulsion
unit(s) propelling said fuselage and including a controlled thrust vectoring system
configured to provide a substantially vertical thrust vector during VTOL or STOL mode
and a substantially horizontal thrust vector during forward flight mode, wherein said gas
and said preselected pressure being selected, such that said gas at said preselected
15 pressure within said fuselage has a density less than that of air at standard sea level
atmospheric conditions.

FIG. 1