CLAIMS:

1. A computer implemented method of providing an indicator useful for piloting an aircraft (100), the aircraft comprising an antenna configured to communicate with a remote transceiver (200, 250), the method comprising:

(a) obtaining (S100) an antenna envelope (150) characterizing directions relative to the aircraft for which a directive gain of the antenna exceeds a predetermined threshold;

(b) obtaining positional data of the aircraft and of the transceiver;

(c) determining (S200) a direction of the transceiver (200) relative to the aircraft;

(d) calculating (S400) a maneuvering range of the aircraft by comparing the antenna envelope and the transceiver direction, wherein the maneuvering range is indicative of eligible orientations of the aircraft for maintaining the direction of the transceiver relative to the aircraft within the antenna envelope; and

(e) outputting (S500) data (52) indicative of the maneuvering range.

2. The method according to claim 1, wherein when the transceiver direction is out of the antenna envelope (150), the maneuvering range is empty.

3. The method according to any of the preceding claims, wherein the data indicative (52) of the maneuvering range comprises roll and/or pitch variation maximum values to maintain the transceiver (200) within the antenna envelope (150).

4. The method according to any of the preceding claims, further comprising:

(a) calculating a recovery range of the aircraft (100), the recovery range defining potential orientations of the aircraft for returning the direction of the transceiver (250) relative to the aircraft within the antenna envelope (150); and

(b) outputting (S500) data indicative of the recovery range.

5. The method according to claim 4, wherein when the transceiver direction is in the antenna envelope (150), the recovery range is empty.

6. The method according to any of claims 4 or 5, wherein the data (54) indicative of the recovery range comprises roll and/or pitch variation minimum values to return the direction of the transceiver (250) relative to the aircraft within the antenna envelope (150).

7. The method according to any of the preceding claims, wherein obtaining the antenna envelope (150) is performed using data indicative of a reference antenna radiation pattern.

8. The method according to claim 7, wherein the reference antenna radiation pattern involves a scanning capability of the antenna and/or interferences between the antenna and the aircraft structure.

9. The method according to any of claims 4 to 6, wherein the data (52, 54) indicative of the maneuvering range and/or of the recovery range are output(50, 56, 300) :

to a pilot of the aircraft or

to an autopilot system of the aircraft or

to a control station of an unmanned aircraft vehicle, which is remote from said unmanned aircraft vehicle.

10. A machine-readable memory tangibly embodying a computer program comprising software code adapted to perform the method according to any of claims 1-9.

11. A system for use in providing an indicator useful for piloting an aircraft (100), the aircraft including an antenna configured to communicate with a remote transceiver, the system comprising:

(a) a memory (10);

(b) a positional module (20) configured to obtain positional data of the aircraft and of the transceiver;

(c) a processing module (30) communicatively coupled to the memory (10) and to the positional module (20), wherein the memory (10) includes instructions for causing the processing module (30) to:

i) obtain an antenna envelope (150) characterizing directions relative to the aircraft (100) for which the directive gain of the antenna exceeds a predetermined threshold;

ii) determine a direction of the transceiver (200) relative to the aircraft;

iii) calculate a maneuvering range of the aircraft by comparing the antenna envelope and the transceiver direction, wherein the maneuvering range is indicative of eligible orientations of the aircraft maintaining the direction of the transceiver relative to the aircraft within the antenna envelope; and

iv) output data indicative (52) of the maneuvering range.

12. The system according to claim 11, wherein the memory further includes instructions for causing the processing module to:

(a) calculate a recovery range of the aircraft, the recovery range defining potential orientations of the aircraft for returning the direction of the transceiver (250) relative to the aircraft within the antenna envelope; and

(b) output data (54) indicative of the recovery range.

13. The system according to any one of claims 11 or 12, further comprising an output unit (40, 50) configured to output the data (52, 54) indicative of the maneuvering range and/or the recovery range

to a pilot of the aircraft or

to an autopilot system of the aircraft or

to a control station of an unmanned aircraft vehicle, which is remote from said unmanned aircraft vehicle.

14. A computer implemented method of providing an indicator useful for piloting an aircraft (100), the aircraft including an antenna configured to communicate with a remote transceiver (200, 250), the method comprising:

i. obtaining (S100) an antenna envelope (150) defining directions relative to the aircraft for which the directive gain of the antenna exceeds a predetermined threshold;

ii. obtaining positional data of the aircraft and of the transceiver;

iii. determining (S200) a direction of the transceiver (250) relative to the aircraft;

iv. calculating (S450) a recovery range of the aircraft by comparing the antenna envelope and the transceiver direction, the recovery range defining eligible orientations of the aircraft for returning the direction of the transceiver relative to the aircraft within the antenna envelope; and

v. outputting (S500) data (54) indicative of the recovery range.

15. A system for use in providing an indicator useful for piloting an aircraft (100), the aircraft including an antenna configured to communicate with a remote transceiver (200, 250), the system comprising:

(a) a memory (10);

(b) a positional module (20) configured to obtain positional data of the aircraft and of the transceiver;

(c) a processing module (30) communicatively coupled to the memory (10) and to the positional module (20), wherein the memory (10) includes instructions for causing the processing module (30) to:

i) obtain an antenna envelope (150) characterizing directions relative to the aircraft (100) for which the directive gain of the antenna exceeds a predetermined threshold;

ii) determine a direction of the transceiver (200) relative to the aircraft;

iii) calculate a recovery range of the aircraft by comparing the antenna envelope and the transceiver direction, the recovery range being indicative of eligible orientations of the aircraft for returning the direction of the transceiver relative to the aircraft within the antenna envelope; and

iv) output data (54) indicative of the recovery range.