CLAIMS

1. A system for increasing an overlapping area of image tiles continuously captured by an image capturing device directed at one or more objects, the system comprising:

an image capturing device directed at said one or more objects and configured to continuously capture a plurality of image tiles in a specified image orientation;

a rotation mechanism configured to rotate said image capturing device; and

a computer processor configured to:

receive momentary orientation measurements of said image capturing device;

calculate in real-time, based on said measurements, a shift in orientation of said image capturing device relative to said specified image orientation; and

provide instructions to said rotation mechanism for rotation in real-time of said image capturing device, to compensate for said shift, yielding a plurality of image tiles which are captured at said specified image orientation and are mostly overlapping,

wherein said image capturing device is mounted on a non-stationary platform which changes a position thereof with respect to said one or more objects .

2. The system according to claim 1, wherein the platform is an aerial platform and wherein said platform changes the position thereof along a flight route.

3. The system according to claim 2, wherein said flight route is circular.

4. The system according to claim 1, wherein the platform is one of: a naval vessel, a ground vehicle, an aerostat, and a semi-stationary platform.

5. The system according to claim 1, wherein the specified image orientation is selected so as to reduce capturing of regions of said overlapping area indicated as non-relevant regions.

6. The system according to claim 1, wherein the specified image orientation is determined by one of: an automatic decision module, a human operator.

7. The system according to claim 1, wherein said capturing device is configured to capture an NxM array of partially overlapping tile images constituting one large image, wherein N and M are integers, wherein each of said NxM tile images are associated with a respective specified image orientation and wherein the computer processor and the rotation mechanism

are further configured to operate for each of said NxM tile images separately, based on the respective specified image orientations.

8. The system according to claim 1, wherein the rotation mechanism comprises at least one gimbal.

9. The system according to claim 1, wherein the capturing of image tiles at said specified image orientation comprises a Schmidt–Pechan prism having two parallel surfaces.

10. The system according to claim 9, wherein the width of the beam of the image at the beam input side of Schmidt–Pechan prism and the width of the beam at beam output side of Schmidt–Pechan prism are similar in size.

11. The system according to claim 1, wherein said image capturing device is configured to capture at least two non-overlapping sets of image tiles each associated with a respective at least one object and a specified image orientation and wherein the computer processor and the rotation mechanism are further configured to operate for each of the at least two non-overlapping sets of image times separately, based on the respective specified image orientations.

12. A method of increasing an overlapping area of image tiles continuously captured by an image capturing device directed at one or more objects, the method comprising:

directing said image capturing device at said one or more objects and continuously capturing a plurality of image tiles in a specified image orientation;

receiving momentary orientation measurements of said image capturing device;

calculating in real-time, based on said measurements, a shift in orientation of said image capturing device relative to said specified image orientation;

providing instructions for rotation in real-time of said image capturing device, to compensate for said shift; and

rotating, using a rotation mechanism, said image capturing device based on said instructions, yielding a plurality of image tiles which are captured at said specified image orientation; and are mostly overlapping,

wherein said image capturing device is mounted on a non-stationary platform which changes a position thereof with respect to said one or more objects.

13. The method according to claim 12, wherein the specified image orientation is determined by one of: an automatic decision module, a human operator.

14. The method according to claim 12, wherein the specified image orientation is selected so as to reduce capturing of regions of said overlapping area indicated as non-relevant regions.

15. The method according to claim 14, wherein the specified image orientation is changed dynamically over time.