CLAIMS

1. A computer program product being configured, when executed on a processing unit of a system for autonomous robotic surgery,

to control a movement of a robotic device so as to perform a surgical procedural step, wherein controlling of the movement is based on information including a spatial position and orientation of at least a part of the robotic device,

wherein a trigger information causes the system to receive a projection image, wherein the projection image is generated while the robotic device is not moving,

to process the projection image and to determine a spatial position and orientation of at least the part of the robotic device based on the projection image, and

to control a movement of the robotic device so as to perform a next surgical procedural step.

2. The computer program product of claim 1, being further configured to generate the trigger information, wherein the trigger information is generated based on data received from at least one out of the group consisting of a sensor at the robotic device, a navigation system, a tracking system, a camera, a previous projection image, an intraoperative 3D scan, a definition of a space of movement.

3. The computer program product of any one of claims 1 to 2, being further configured to determine a deviation of the determined spatial position and orientation from an expected spatial position and orientation, wherein calibration information is generated based on the determined deviation.

4. The computer program product of any one of claims 1 to 3, being further configured to determine an imaging direction for a next projection image.

5. The computer program product of any one of claims 1 to 4, being further configured to cause an imaging device to generate a projection image.

6. The computer program product of any one of claims 1 to 5, being further configured to control the imaging device to move to a new position for generating a projection image from a different imaging direction.

7. The computer program product of any one of claims 1 to 6, wherein controlling of a movement of the robotic device is further based on at least one out of the group consisting of image processing of a further projection image, information from a tracking system, information from a navigation system, information from a camera, information from a lidar, information from a pressure sensor, and calibration information.

8. A system for autonomous robotic surgery, the system comprising a processing unit configured to execute the computer program product of any one of claims 1 to 7.

9. The system of claim 8, further comprising a robotic device, wherein the computer program product is configured to control a movement of the robotic device.

10. The system of any one of claims 8 to 9, further comprising an imaging device, wherein the computer program product is configured to control a movement of the imaging device and/or to control a generation of a projection image by the imaging device.

11. The system of any one of claims 8 to 10, further comprising at least one device out of the group consisting of a navigation system, a tracking system, a camera, and a sensor, wherein the controlling of a movement and/or the determination of a spatial position and orientation is further based on the information received from the at least one device.