WHAT IS CLAIMED IS:

1. A system for updating a Highly Automated Driving (HAD) map, comprising:

a communication interface configured to communicate with a plurality of terminals via a network;

a storage configured to store the HAD map; and

at least one processor, configured to:

identify a target region including at least one changing object;

instruct the plurality of terminals to acquire data of the target region at varying view positions;

receive the acquired data from the plurality of terminals;

construct a three-dimensional model for the at least one changing object from the acquired data; and

update the HAD map based on the three-dimensional model.

2. The system of claim 1, wherein the plurality of terminals include at least one camera configured to acquire image data.

3. The system of claim 1, wherein the plurality of terminals are positioned based on the HAD map.

4. The system of claim 1, wherein the plurality of terminals are configured to:

acquire image data indicative of objects associated with the HAD map;

detect the at least one changing object based on the image data; and

report the at least one changing object to the at least one processor.

5. The system of claim 1, wherein the at least one processor is further configured to reconstruct the at least one changing object using a Structure from Motion algorithm.

6. The system of claim 5, wherein a predetermined shape is used as a constraint for the Structure from Motion algorithm.

7. The system of claim 1, wherein the three-dimensional model is a point cloud model.

8. The system of claim 1, wherein the at least one processor is further configured to cause to adjust the plurality of terminals to acquire supplemental data based on the three-dimensional model.

9. The system of claim 1, wherein to update the HAD map, the at least one processor is further configured to match a first point cloud associated with the at least one changing object with a second point cloud associated with the HAD map.

10. The system of claim 1, wherein to update the HAD map, the at least one processor is further configured to transform the three-dimensional model into a coordinate of the HAD map.

11. A method for updating a HAD map, comprising:

identifying, by at least one processor, a target region including at least one changing object;

instructing, by the at least one processor, the plurality of terminals to acquire data of the target region at varying view positions;

receiving the acquired data from a plurality of terminals;

constructing, by the at least one processor, a three-dimensional model for the at least one changing object from the acquired data; and

updating, by the at least one processor, the HAD map based on the three-dimensional model.

12. The method of claim 11, further including positioning the plurality of terminals based on the HAD map.

13. The method of claim 11, further including:

acquiring, by the plurality of terminals, image data indicative of objects associated with the HAD map; and

detecting, by the plurality of terminals, the at least one changing object based on the image data.

14. The method of claim 11, further including reconstructing the at least one changing object using a Structure from Motion algorithm.

15. The method of claim 14, wherein a predetermined shape is used as a constraint for the Structure from Motion algorithm.

16. The method of claim 11, wherein the three-dimensional model is a point cloud model.

17. The method of claim 11, further including causing to adjust the plurality of terminals to acquire supplemental data based on the three-dimensional model.

18. The method of claim 11, wherein updating the HAD map further includes matching a first point cloud associated with the target region with a second point cloud associated with the HAD map.

19. The method of claim 11, wherein updating the HAD map further includes transforming the three-dimensional model into a coordinate of the HAD map.

20. A non-transitory computer-readable medium having a computer program stored thereon, wherein the computer program, when executed by at least one processor, performs a method for updating a HAD map, the method comprising:

identifying a target region including at least one changing object;

instructing a plurality of terminals to acquire data of the target region at varying view positions;

receiving the acquired data from the plurality of terminals;

constructing a three-dimensional model for the at least one changing object from the acquired data; and

updating the HAD map based on the three-dimensional model.