CLAIMS

WHAT IS CLAIMED IS:

1. A robotic arm system, comprising:
a robot comprising a robot flange;
a mask coupled to the robot flange;
a ventilator coupled to the mask;
a plurality of controllers operable to:
change a pose of the robot flange.

2. The system of claim 1, wherein the plurality of controllers are further operable to deliver gas from the ventilator to the mask.

3. The system of claim 1, wherein the robot comprises the ventilator.

4. The system of claim 1, wherein the robot comprises a robotic arm configured to move the robot flange along a plurality of degrees of freedom, and wherein the robot flange is coupled to a distal end of the robotic arm.

5. The system of claim 1, further comprising a gas tube coupled to the mask and the ventilator, the gas tube configured to carry gas between the ventilator and the mask.

6. The system of claim 5, wherein the mask includes a first opening configured to couple to the robot flange, and a second opening configured to couple to the gas tube, and wherein the ventilator includes a first opening configured to couple to the gas tube.

7. The system of claim 6, wherein the second opening of the mask comprises a plurality of mask sensors, and wherein the first opening of the ventilator comprises a plurality of ventilator sensors.

8. The system of claim 7, wherein the plurality of controllers are further operable to:

determine a plurality of factors regarding the mask based at least in part on sensor data from the mask sensors; and

determine a plurality of factors regarding the gas tube based at least in part on sensor data from the ventilator sensors.

9. The system of claim 1, further comprising a computer vision system.

10. The system of claim 9, wherein the plurality of controllers are operable to change the pose of the robot flange based at least in part on image data from the computer vision system.

11. The system of claim 9, wherein the computer vision system comprises an active illumination system configured to emit light in a field of view of the computer vision system.

12. The system of claim 1, further comprising a plurality of biometric sensor systems.

13. The system of claim 12, wherein the plurality of controllers are operable to change the pose of the robot flange based at least in part on biometric data from the plurality of biometric sensor systems.

14. The system of claim 12, wherein the plurality of controllers are further operable to deliver of gas from the ventilator to the mask based at least in part on biometric data from the plurality of biometric sensor systems.

15. The system of claim 12, wherein the plurality of controllers are further operable to estimate a state of a user based at least in part on biometric data from the plurality of biometric sensor systems.

16. The system of claim 1, further comprising a sensing system.

17. The system of claim 16, wherein the plurality of controllers are operable to change the pose of the robot flange based at least in part on sensor data from the sensing system.

18. The system of claim 16, wherein the plurality of controllers are further operable to deliver of gas from the ventilator to the mask based at least in part on sensor data from the sensing system.

19. The system of claim 1, wherein the ventilator is a positive airway pressure ventilator.

20. The system of claim 1, wherein the mask is at least one of a nasal mask, a mouth mask, or a face mask.