I CLAIM:

1. A three-wheeled vehicle, comprising:

a single front wheel;

two rear wheels;

a passenger cabin;

an electronic steering control unit; and

a steering input device configured to send an electronic signal to the electronic steering control unit corresponding to an input received at the steering input device associated with turning the three-wheeled vehicle;

wherein the electronic steering control unit is configured to counter-steer the front wheel in response to receiving the electronic signal, wherein the counter-steering of the front wheel initiates a leaning of the passenger cabin a direction of turning of the three-wheeled vehicle.

2. The three-wheeled vehicle of claim 1, further comprising a single actuator arm coupled to the front wheel configured to steer the front wheel in response to signals received from the electronic steering control unit.

3. The three-wheeled vehicle of claim 1, wherein the rear wheels are mechanically coupled to the passenger cabin and are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle in accordance with the leaning of the passenger cabin.

4. The three-wheeled vehicle of claim 1, further comprising a actuator arms coupled to the rear wheels, wherein the actuator arms are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

5. The three-wheeled vehicle of claim 4, wherein the actuator arms are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle based on steering signals received from the electronic steering control unit.

6. The three-wheeled vehicle of claim 1, further comprising a rotary actuator coupled to the rear wheels and configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

7. The three-wheeled vehicle of claim 6, wherein the rotary actuator is configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle based on steering signals received from the electronic steering control unit.

8. The three-wheeled vehicle of claim 1, further comprising a stability control unit coupled to the rear wheels and configured to receive stability control signals from the electronic steering control unit.

9. The three-wheeled vehicle of claim 8, wherein the stability control unit is configured to slow down the rotation of an inner rear wheel relative to the direction of turning of the three-wheeled vehicle.

10. The three-wheeled vehicle of claim 8, wherein the stability control unit is configured to increase the rotation of an outer rear wheel relative to the direction of turning of the three-wheeled vehicle.

11. The three-wheeled vehicle of claim 1, wherein the steering input device comprises a hand-wheel or a joystick.

12. The three-wheeled vehicle of claim 1, further comprising:

a steering column coupled to the steering input device; and

two redundant actuators rotationally coupled to the steering column and configured to detect steering direction intent and torque input of the steering input device.

13. The three-wheeled vehicle of claim 1, wherein the electronic steering control unit is configured to counter-steer the front wheel in response to receiving the electronic signal when the three-wheeled vehicle is travelling at a speed above a threshold speed.

14. The three-wheeled vehicle of claim 13, wherein the threshold speed is approximately 30 kilometers per hour.

15. An electronic steering control unit for a three-wheeled vehicle, comprising:

an input unit configured to receive a first electronic signal corresponding to an input received at a steering input device, the first electronic signal associated with turning of the three-wheeled vehicle; and

an output unit coupled an actuator arm that controls steering of a single front wheel of the three-wheeled vehicle, wherein, in response to receiving the first electronic signal from the input unit, the output unit is configured to send a second electronic signal to the actuator arm to counter-steer the front wheel, wherein the counter-steering of the front wheel initiates a leaning of a passenger cabin of the three-wheeled vehicle a direction of turning of the three-wheeled vehicle.

16. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a motor unit that controls actuator arms coupled to rear wheels of the three-wheeled vehicle, the actuator arms configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

17. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a rotary actuator coupled to rear wheels of the three-wheeled vehicle, the rotary actuator configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

18. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a stability control unit coupled to rear wheels of the three-wheeled vehicle, the stability control unit configured to control the rotation of each of the rear wheels.

19. The electronic steering control unit of claim 18, wherein the stability control unit is configured to slow down the rotation of an inner rear wheel relative to the direction of turning of the three-wheeled vehicle.

20. The electronic steering control unit of claim 18, wherein the stability control unit is configured to increase the rotation of an outer rear wheel relative to the direction of turning of the three-wheeled vehicle.

I CLAIM:

1. A three-wheeled vehicle, comprising:

a single front wheel;

two rear wheels;

a passenger cabin;

an electronic steering control unit; and

a steering input device configured to send an electronic signal to the electronic steering control unit corresponding to an input received at the steering input device associated with turning the three-wheeled vehicle;

wherein the electronic steering control unit is configured to counter-steer the front wheel in response to receiving the electronic signal, wherein the counter-steering of the front wheel initiates a leaning of the passenger cabin a direction of turning of the three-wheeled vehicle.

2. The three-wheeled vehicle of claim 1, further comprising a single actuator arm coupled to the front wheel configured to steer the front wheel in response to signals received from the electronic steering control unit.

3. The three-wheeled vehicle of claim 1, wherein the rear wheels are mechanically coupled to the passenger cabin and are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle in accordance with the leaning of the passenger cabin.

4. The three-wheeled vehicle of claim 1, further comprising a actuator arms coupled to the rear wheels, wherein the actuator arms are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

5. The three-wheeled vehicle of claim 4, wherein the actuator arms are configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle based on steering signals received from the electronic steering control unit.

6. The three-wheeled vehicle of claim 1, further comprising a rotary actuator coupled to the rear wheels and configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

7. The three-wheeled vehicle of claim 6, wherein the rotary actuator is configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle based on steering signals received from the electronic steering control unit.

8. The three-wheeled vehicle of claim 1, further comprising a stability control unit coupled to the rear wheels and configured to receive stability control signals from the electronic steering control unit.

9. The three-wheeled vehicle of claim 8, wherein the stability control unit is configured to slow down the rotation of an inner rear wheel relative to the direction of turning of the three-wheeled vehicle.

10. The three-wheeled vehicle of claim 8, wherein the stability control unit is configured to increase the rotation of an outer rear wheel relative to the direction of turning of the three-wheeled vehicle.

11. The three-wheeled vehicle of claim 1, wherein the steering input device comprises a hand-wheel or a joystick.

12. The three-wheeled vehicle of claim 1, further comprising:
a steering column coupled to the steering input device; and
two redundant actuators rotationally coupled to the steering column and configured to detect steering direction intent and torque input of the steering input device.

13. The three-wheeled vehicle of claim 1, wherein the electronic steering control unit is configured to counter-steer the front wheel in response to receiving the electronic signal when the three-wheeled vehicle is travelling at a speed above a threshold speed.

14. The three-wheeled vehicle of claim 13, wherein the threshold speed is approximately 30 kilometers per hour.

15. An electronic steering control unit for a three-wheeled vehicle, comprising:

an input unit configured to receive a first electronic signal corresponding to an input received at a steering input device, the first electronic signal associated with turning of the three-wheeled vehicle; and

an output unit coupled an actuator arm that controls steering of a single front wheel of the three-wheeled vehicle, wherein, in response to receiving the first electronic signal from the input unit, the output unit is configured to send a second electronic signal to the actuator arm to counter-steer the front wheel, wherein the counter-steering of the front wheel initiates a leaning of a passenger cabin of the three-wheeled vehicle a direction of turning of the three-wheeled vehicle.

16. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a motor unit that controls actuator arms coupled to rear wheels of the three-wheeled vehicle, the actuator arms configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

17. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a rotary actuator coupled to rear wheels of the three-wheeled vehicle, the rotary actuator configured to steer the rear wheels in the direction of turning of the three-wheeled vehicle.

18. The electronic steering control unit of claim 15, further comprising:

a second output unit configured to send a third electronic signal to a stability control unit coupled to rear wheels of the three-wheeled vehicle, the stability control unit configured to control the rotation of each of the rear wheels.

19. The electronic steering control unit of claim 18, wherein the stability control unit is configured to slow down the rotation of an inner rear wheel relative to the direction of turning of the three-wheeled vehicle.

20. The electronic steering control unit of claim 18, wherein the stability control unit is configured to increase the rotation of an outer rear wheel relative to the direction of turning of the three-wheeled vehicle.