

# Short Range Radar Applications - Drones



**Detect objects in front of drone for collision avoidance**

- Short range radar can enable autonomous flight
- Collision Avoidance - avoid other drones, airplanes, power lines, trees, etc.
- Soft Landing – scan landing zone for any obstacles, flat surface
- Modules
  - OPS241-A
  - OPS241-B



**Detect landing space for obstacles**

# Short Range Radar Applications - Robotics



**Location Detection, Collision Avoidance**

- Collision Avoidance – prevent running into people, other robots, cars, etc.
- Location Detection – use ranging to map where walls, hallways are
- Modules
  - OPS241-A
  - OPS241-B

# Short Range Radar Applications – Car Traffic



**Car Traffic Monitoring**



**Parking Garage Counting**

- Traffic Congestions - detect speeds of cars on roads, highways to report traffic levels
- Street Light Control - track presence of cars to set which lights should be green or red
- Check speeds of cars
- Parking Garage Counting - track car entry and exits to report available parking spaces
- Modules
  - OPS241-A

# Short Range Radar Applications – Automatic Doors



**Automatic Doors**

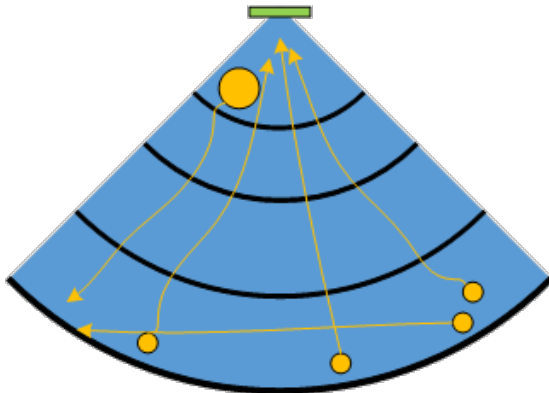
- Automatic Doors – track when person approaches door
- Modules
  - OPS241-A



# Short Range Radar Applications – People Traffic



**Traffic Monitoring - People**



- Traffic Monitoring – track when busiest foot traffic happens
- Store/Office Occupancy – track how many people have entered/exited store for office
  - Improve operational efficiencies for HVAC
  - Increase sales by adjusting signage based on foot traffic
  - No privacy concerns such as with cameras
- Modules
  - OPS241-A
  - OPS241-B

# Short Range Radar Applications – Tanks/Silos

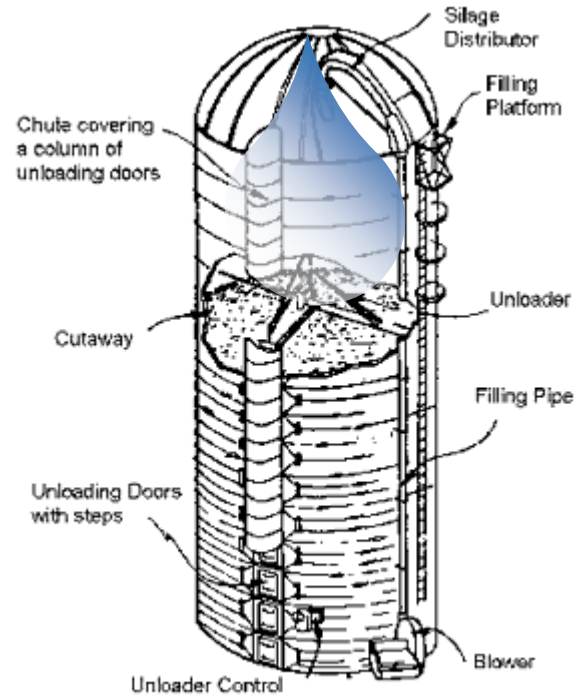


Figure 2. A typical top-unloading or conventional silo

- Capacity Measurement – measure range to fill level of tank/silo to measure volume
  - Immune to dusty conditions
  - Accurate measurements
- Modules
  - OPS241-B

## Tank/Silo Capacity Measurements

# Short Range Radar Applications – Smart Home



**Room Occupancy, Traffic Monitoring**

- Smart Homes – track room occupancy and traffic flow
  - Improved HVAC operation
  - More efficient electricity/lighting usage
- Medical Emergency – detect elderly who have fallen, not moving
- Modules
  - OPS241-B

# Short Range Radar Applications - Home/Office Security



**Outdoor Security**

- Security Monitoring – detect people outside of buildings or where they should not be
  - No need to monitor cameras or use to filter alerts
- Modules
  - OPS241-A