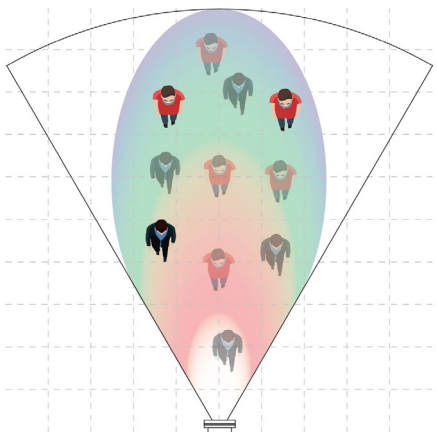
RADAR Resolution

The RADAR resolution is the ability of radar sensors and systems to clearly separate nearby targets (separability). The following overview shows the different radar resolutions, depending on the given information.

Dimensions of separation



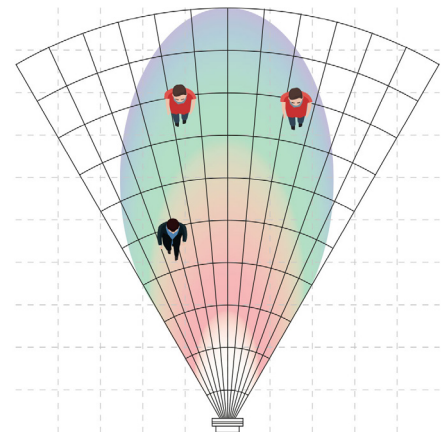
1D-RADAR

Object Separation via

- **Velocity**

- No Separation of objects with same speed
- No information about object location
- CW-Radar

Application:
motion sensors (e.g. automated doors)



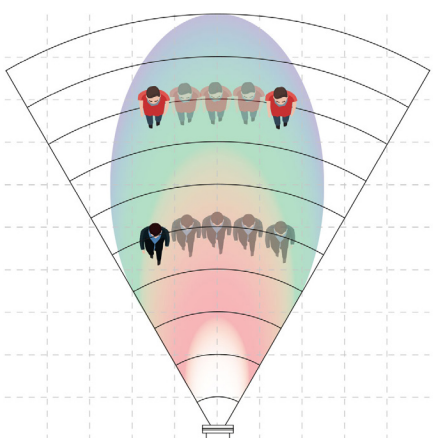
3D-RADAR

Object Separation via

- **Velocity**
- **Distance**
- **Angle in azimuth**

- Object location possible
- MIMO-Radar (FMCW)

Application:
radar for area surveillance or dual-technology-sensor (e.g. with camera)



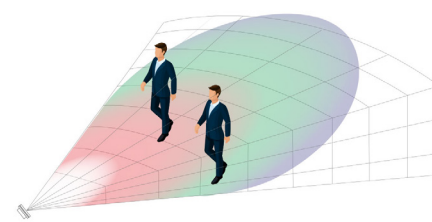
2D-RADAR

Object Seperation via

- **Velocity**
- **Distance**

- No Separation of objects with same speed and distance
- Object location possible (no angle information)
- FSK-Radar

Application:
Traffic speed measurement (speed enforcement, speed signs)



4D-RADAR

Object Separation via

- **Velocity**
- **Distance**
- **Angle in azimuth**
- **Angle in elevation**

- Object location possible
- MIMO-Radar (FMCW)

Application:
high advanced traffic monitoring and intersection management