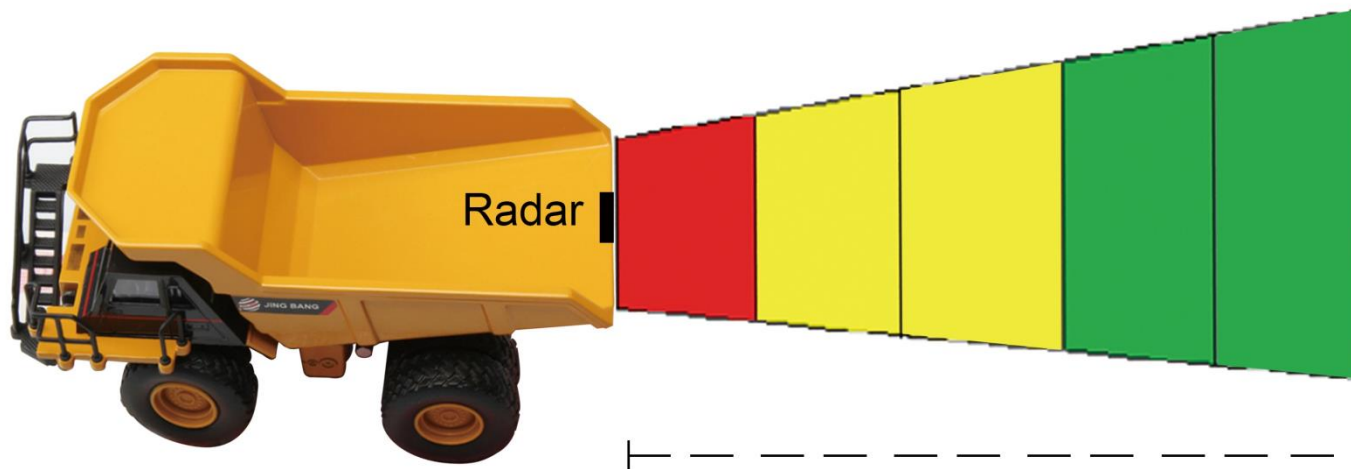


# R.O.D.

## Radar Object Detection System

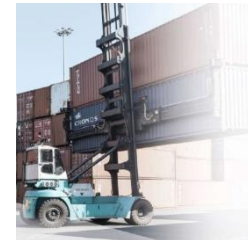


# Why use a radar system?

- To get the drivers attention in case of danger by using a visual or accoustic signal.  
You can't expect someone to notice everything during the working process.
- To notify third parties (people, vehicles) in case of potential danger. (lights, horn)

# R.O.D. - General

- For machines in the Construction world, Transport & Logistics (port, airport, warehouses, etc..), Agriculture etc...



- Use of FMCW technology to detect humans and objects.
- Visual and/or acoustic signals to warn the driver.
- 2 options
  - Linked to a visibility solution
  - Stand alone

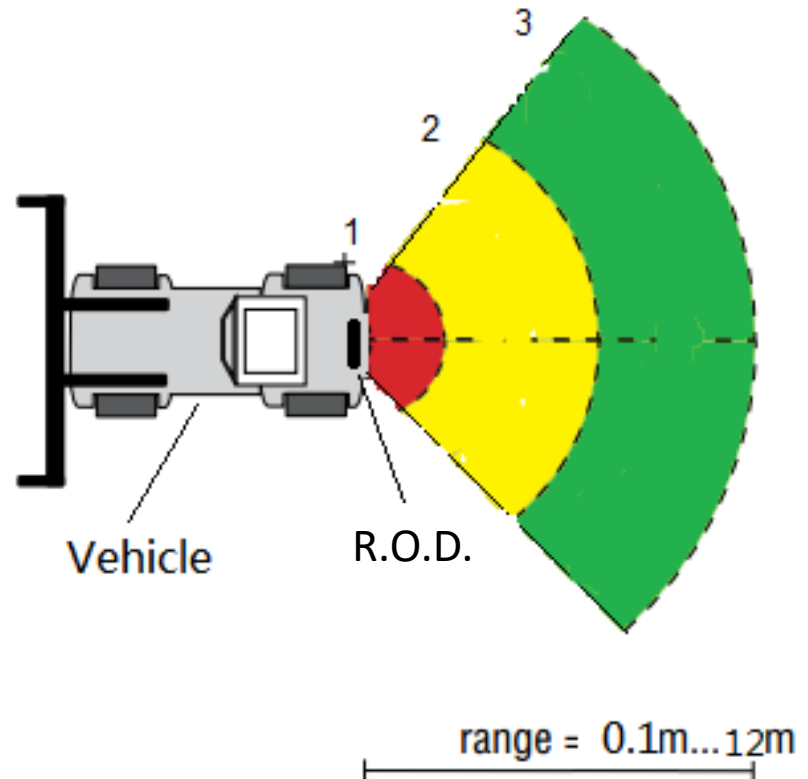
# R.O.D. - Technology

- FMCW technology
  - Frequency Modulated Continuous Wave: sending radio waves with a continuously varying frequency. Each wave has its own time stamp. The timing of detection after rebounding of the wave is compared to the time stamp.
- High performance measuring system
  - By using the FMCW-technology (use of radio waves) the system can detect objects without disturbing the signals which gives an accurate detection. It can even be used in extreme weather conditions.

# R.O.D. - Technology

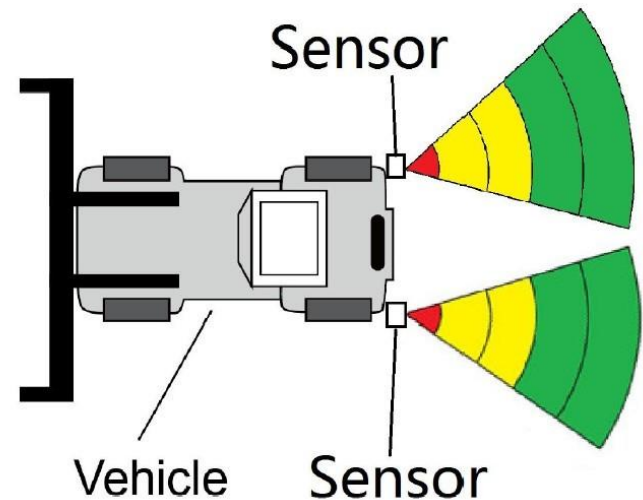
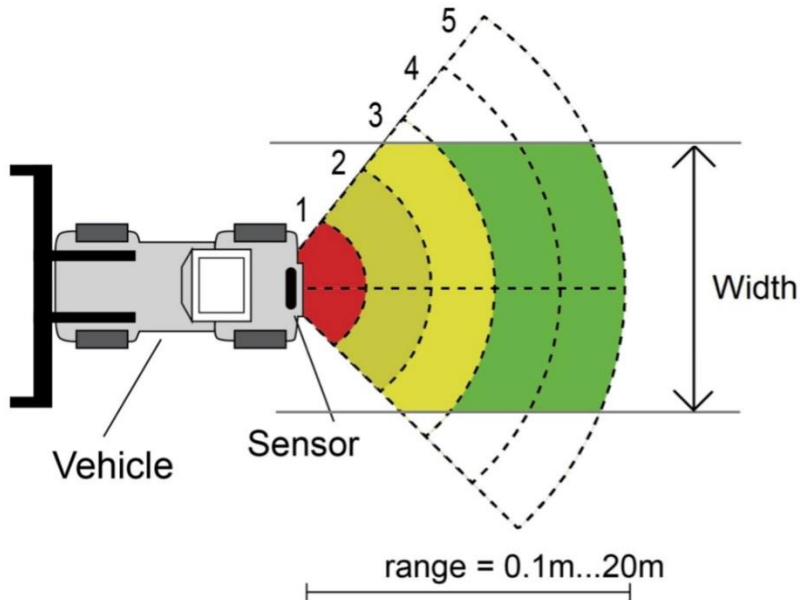
TVA-ROD-100°/1T1R AND TVA-ROD-56°/1T2R

- Extended field of view (100°)
  - 3 different pre-set detection zones (in depth)
  - custom detection zones optional



# R.O.D. - Technologie

- TVA-ROD-56°/1T2R : Field of view 56°
  - 3 different detection zones (in depth)
  - ALSO possible to adjust detection zones lengthwise
    - Increased options for use
    - Avoid unnecessary alerts
  - Possibility to install 2 sensors and adjust them individually



# R.O.D. - Performances

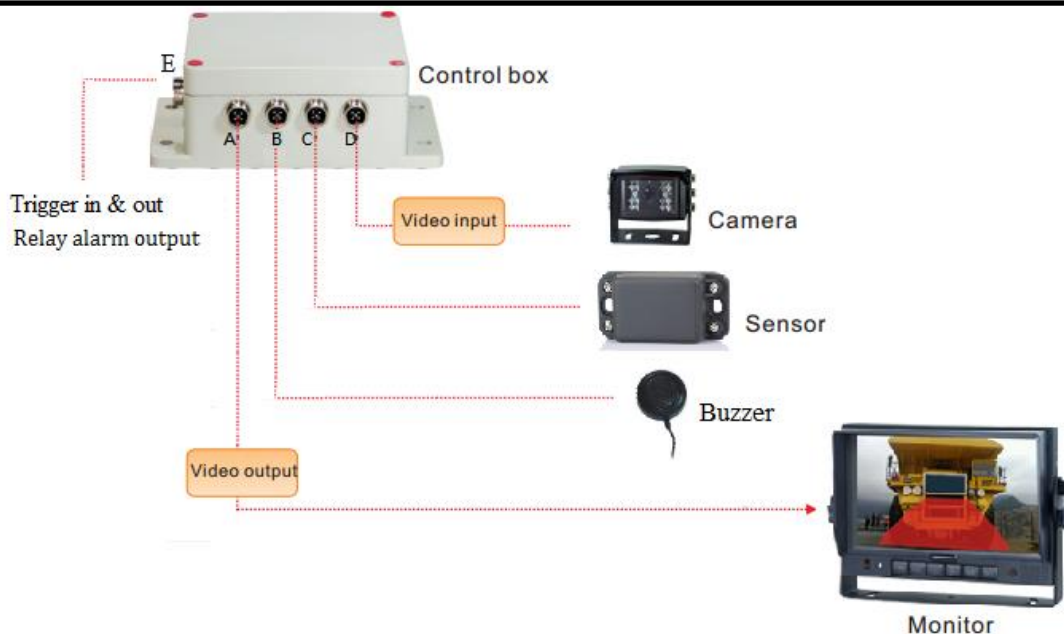
## 1. Linked to a visibility solution (Optional)

- **3 standard pre-set detection areas**
  - 0 to 4m (red)
  - 4 to 8m (yellow)
  - 8 to 12m (green)And/or
  - 3 different outputs (action dependent on the zone)
- **When detecting an object → Notify the driver**
  - Visual warning on monitor in color of the zone
  - Buzzer (reacts in function of the zone)



# R.O.D. - Performances

Detection	With visibility solution			
	Visual	Buzzer		
Object in zone 3 (8-12m)	Green	-	-	and/or Output 3 (eg light)
Object in zone 2 (4-8m)	Yellow	-	-	and/or Output 2 (eg horn)
Object in zone 1 (0-4m)	Red	-----		and/or Output 1 (eg slow down)





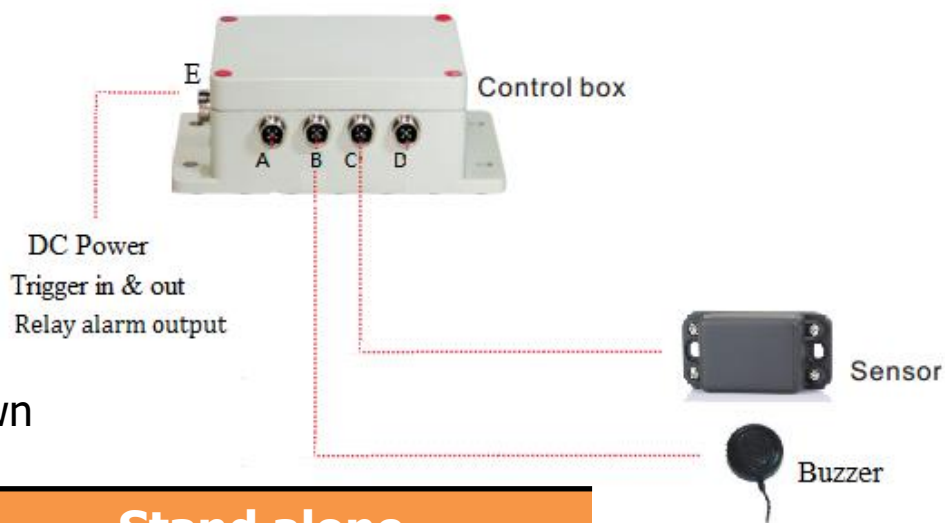
# R.O.D. - Performances

## 2. Stand alone (without camera system)

- **3 different outputs**

**Action depends on the zone  
(distance from object)**

- vb: - Green zone = light
- Yellow zone = horn
- Red zone = slowing down



Detection	Stand alone
Object in zone 3 (8-12m)	Output 3 (vb. light)
Object in zone 2 (4-8m)	Output 2 (vb. horn)
Object in zone 1 (0-4m)	Output 1 (vb. Slowing down)

# R.O.D. - Advantages

- Frequency Modulated Continuous Wave (FMCW) radar technology
- Detects excellently even from closeby
- Both standstill as well as moving objects
- Works effectively in poor visibility, cold, heat, dust, etc.
- Accident prevention
- Up until 3 fixed detection zones
- Linked to a visibility solution (mono- or multivision) or as stand alone

# R.O.D. - Advantages

- Multiple radar systems possible per vehicle (front and rear, sides)
- Multiple actions possible
- To notify the driver in case of danger, visual or acoustic signals can be used.
  - You can't expect someone to notice everything during the working process.
- Notifying of third parties (people, vehicles) in case of potential danger (light, horn).



V2S, the technology for your safety.

Together we would like to look for a solution for your visibility  
and safety problems.

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