# CCD & CMOS CAMERA

**Note**: This document helps us to pick the right camera for the right application. Below details collected from the International standard journals and Most Trusted videos. The most important factor only attached in this document based on our "RADSSOON" application.

## CCD-CHARGED COUPLE DEVICE:

- It requires a high-power source
- Not used in consumer products
- Cost is high
- High Image Quality
- Mainly used in Industry
- It works in vertical shift line and Horizontal shift line (Photon Input)
- Processing Speed is less
- Size of CCD is large compare to CMOS for system integration
- Voltage Range 7v to 10v more power
- High fill factor
- High sensitivity
- High dynamic range
- Blooming is a big threat to CCD
- Anti-blooming must be needed
- No Image Preprocessing required

## CMOS- COMPLEMENTARY METAL-OXIDE SEMICONDUCTOR:

- It requires a Less-Power source
- Used in every consumer products
- Cost-effective
- Less Image Quality
- Not used in Industry
- In CMOS selection of lines active and it reads the data line by line
- Processing speed is High
- Size of CMOS is compact compare to CCD
- Size of CMOS is less compare to CCD for system integration
- Voltage Range 3.3v to 5v less power required
- Less fill factor
- Less Dynamic Range
- No Blooming Effect
- Rolling shutter is a big threat to avoid the Rolling shutter problem use a Global shutter for CMOS camera.
- Preprocessing required

## USES:

**CCD:** Scientific, Industrial, Medical Image Application

**CMOS:** Surveillance Camera, Security Purpose, Biometric, etc