Construct your point cloud and accelerate your machine vision solution with the DLP® LightCrafter™ 4500 evaluation module and reference design!

The 3D machine vision reference design encompasses Texas Instruments’ DLP structured light software development kit (SDK). This design empowers developers with a framework to construct 3D point clouds by integrating TI’s digital micromirror device (DMD) in structured light solutions with cameras, sensors, motors or other peripherals.

Key Features and Benefits

- Fast, programmable pattern rates
  - Acquire 3D scan data in real-time on moving objects
  - Optimize scan speed and accuracy for multiple objects and environments using adaptive pattern sets
- Digital switching using reflective, reliable MEMS micromirrors
  - Minimal sensitivity to color, distance, movement and environment improves performance over time and temperature

Example Applications

- Industrial robotics
- Laser scanning alternative
- Medical imaging
- Biometrics

Access all design files and SDK source code at ti.com/dlp

DLP technology offers a complete solution

- **DLP Platform**: Generate high-speed programmable binary Gray code patterns
- **Calibration**: Projector and camera calibration generates system geometry
- **Camera**: High-speed synchronized captures
- **Decoder**: Decode Gray coded patterns to generate disparity map
- **Point Cloud Generator**: Reconstruct 3D point cloud
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