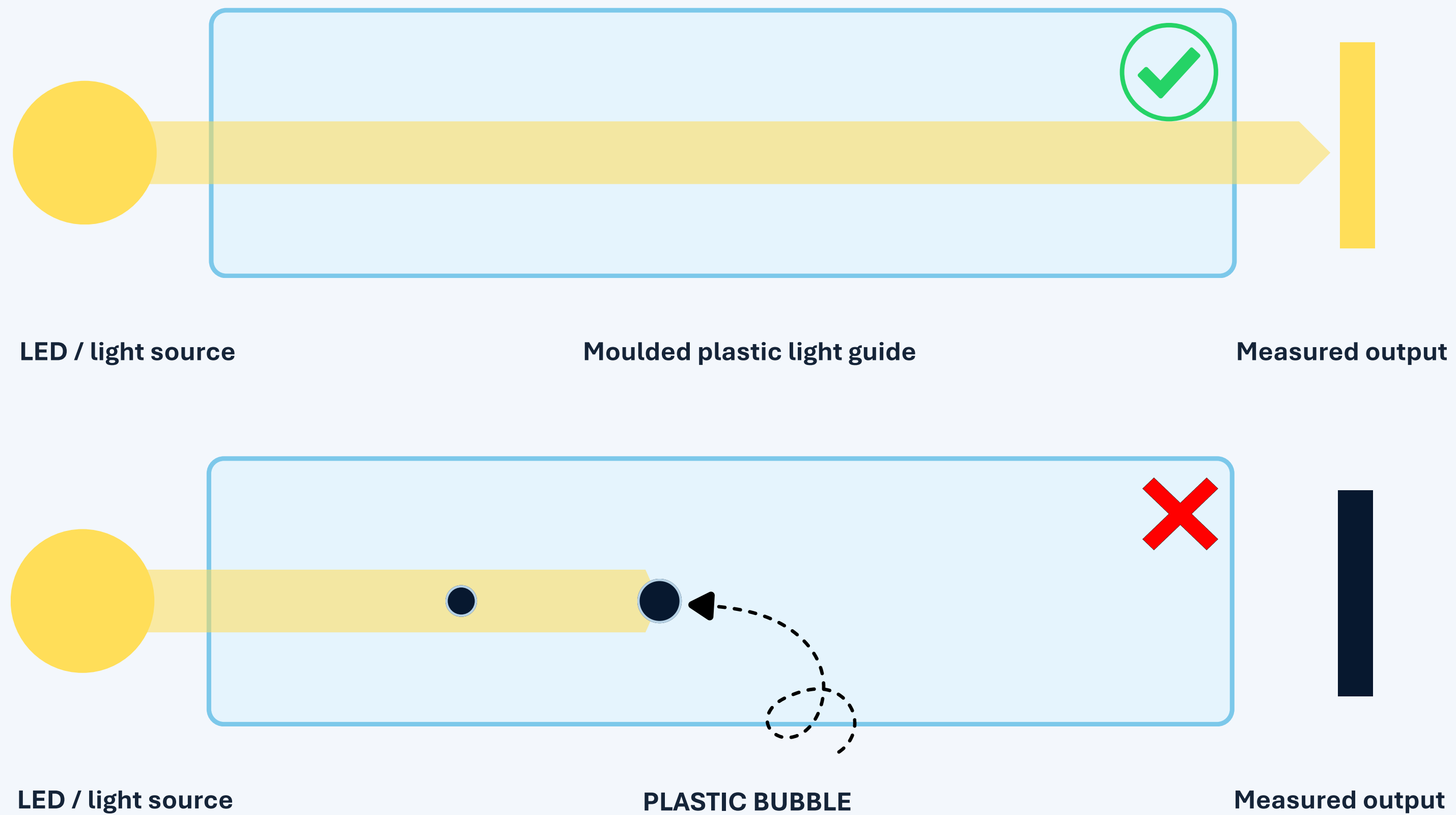


OPTICAL INSPECTION

Detect hidden light-guide defects before they become lighting failures

A dedicated MCM inspection concept for moulded plastic light guides where bubbles, inclusions or material defects can interrupt or distort light transmission.



Production challenge

Moulded plastic components can look acceptable from the outside while internal bubbles, inclusions or material defects alter how light travels through the part. A manual check can be subjective and may not reveal subtle transmission problems consistently.

MCM solution

MCM developed a controlled optical inspection approach that illuminates the light guide and evaluates the resulting light distribution. The system compares the observed transmission pattern with the defined acceptance criteria and produces a repeatable pass/fail decision.

TECHNOLOGIES USED

Machine Vision

Controlled Lighting

Optical Inspection

Pass / Fail

Talk to an MCM engineer

Tell us what must be inspected or tested. MCM can review the application and define the most robust approach for your production conditions.

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on WhatsApp

COMMERCIAL CASE STUDY

From production challenge to repeatable quality decision

The system concept, test coverage and final acceptance criteria are tailored to the product, process and production environment.

What the system checks

- Light transmission through the plastic part
- Uniformity of the illuminated area
- Internal bubbles or inclusions affecting light
- Reduced / interrupted light output
- Repeatable pass / fail against defined criteria

Customer value

- More objective inspection than visual judgement
- Earlier detection of hidden optical defects
- Repeatable quality criteria across production
- Lower risk of defective illuminated parts moving downstream

Typical MCM project path Sample / requirements → Feasibility → Engineering → Build & FAT → Installation → Support

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