



TAKING YOU
STEPS AHEAD



Innovating Optics Assembly by Decoupling Alignment and Fixation

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IMS Company Profile

IMS designs, builds, and supplies assembly production equipment

- high accuracy (range: 50 μm up to 0.1 μm)
- from low- to high volume ($>>$ 100.000 units/year, 2-60 sec cycle time)





Company Facts – Figures - Markets



Almelo (NL)
privately owned
est. 1999



staff
120(+)



net revenue
> 50 M€



global installed base



MEDICAL



SMART DEVICES



AUTOMOTIVE



Examples of Customer Products and Customers



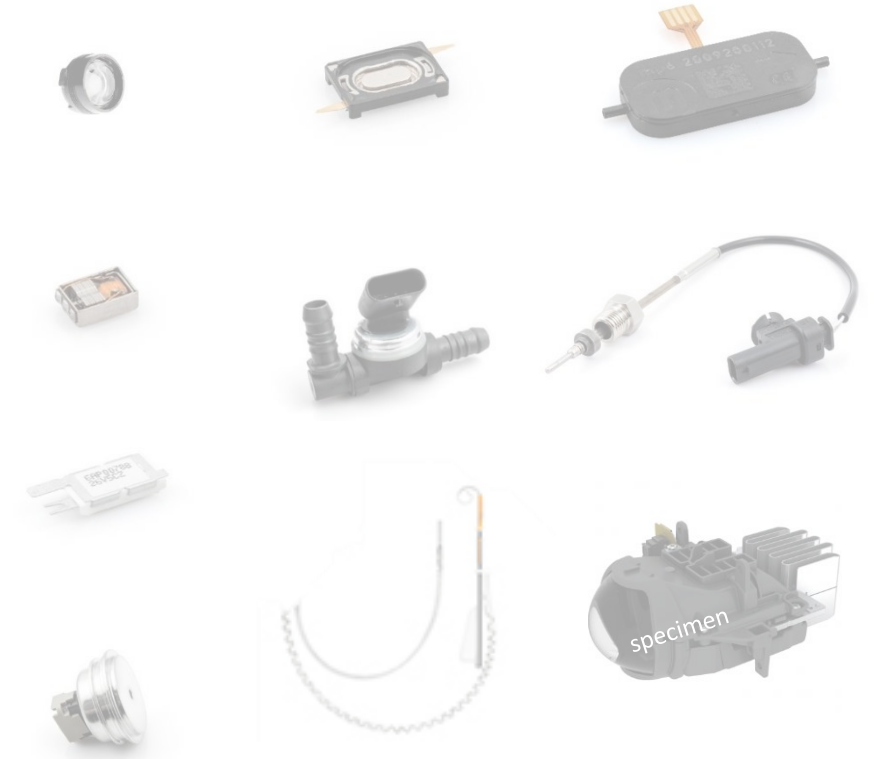
sensors



micro-optics



actuators

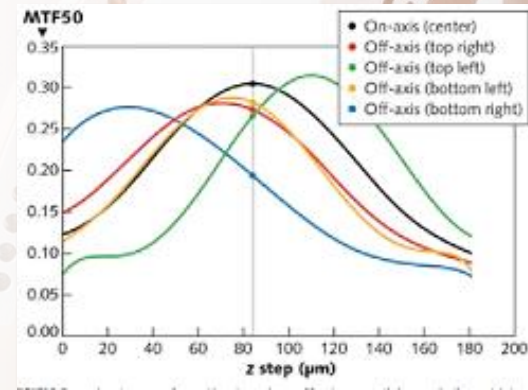


IMS Optics Alignment Workstation (OAS-x)

- Active alignment for lens2chip (up to 6 Degrees of Freedom)
- Alignment accuracy: $\pm 0.1 \mu\text{m}$
- Modular
 - Adjustable Field of View (10 – 160°)
 - Easy integration in assembly production systems
 - Allows scaling up from low to high volume

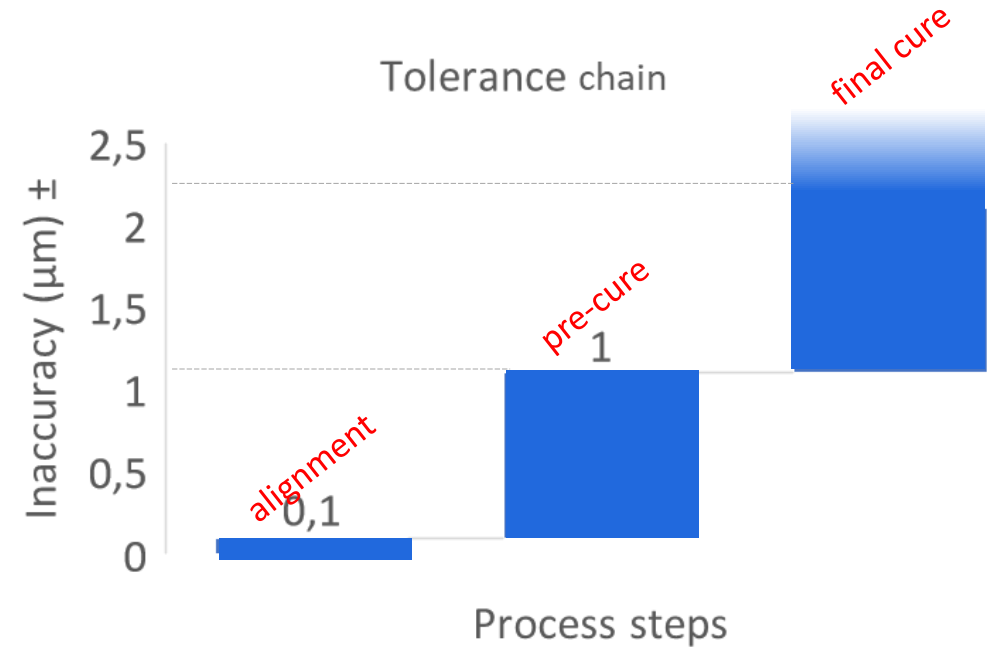
Typical customer requirements:

- Short cycle time: < 10 seconds (> 360 units/hour)
 - Camera frame rate ≥ 30 fps
 - includes < 1 sec CMOS power-up
 - alignment scan range 300 μm
 - includes 2 sec UV cure ('fast cure')

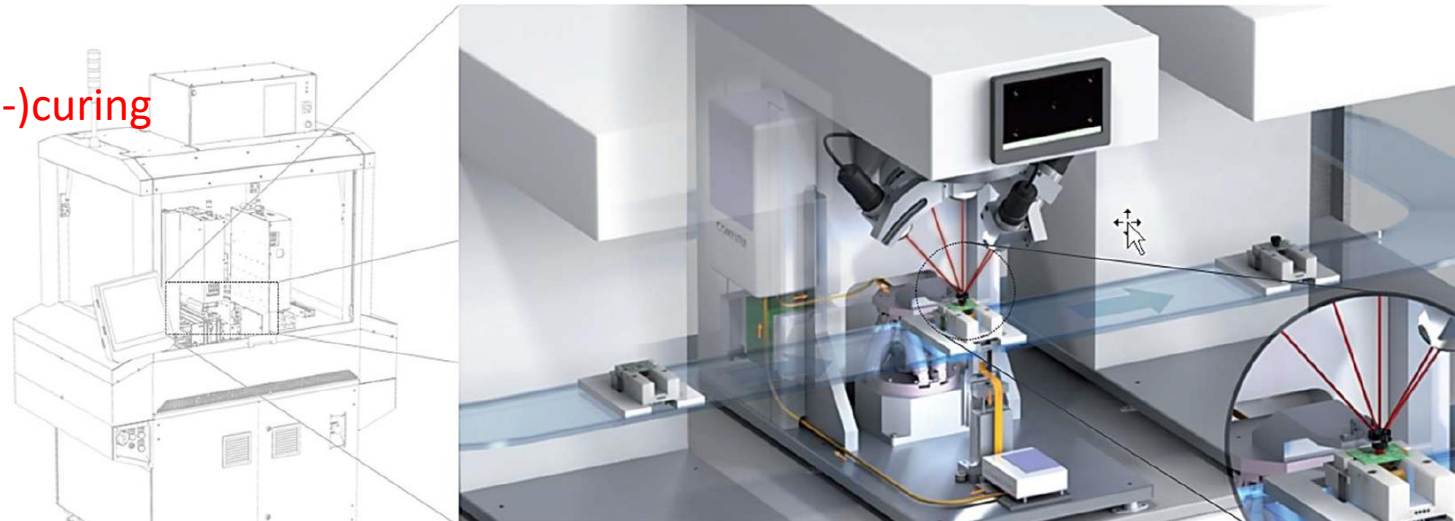


IMS Fixation: 'the Necessary Evil'

- Curing causes idle time of active alignment workstation ☹️
 - UV curing typically takes 2 to 15 seconds
- Glue shrinkage introduces alignment inaccuracy ☹️
 - e.g., pre-curing a bead of 200 μm with very low shrinkage (0.5%) causes alignment inaccuracy of 1.0 μm .



➔ It is worth trying to eliminate or replace (pre-)curing





The Option: Position Freezing Carrier (PFC-x)

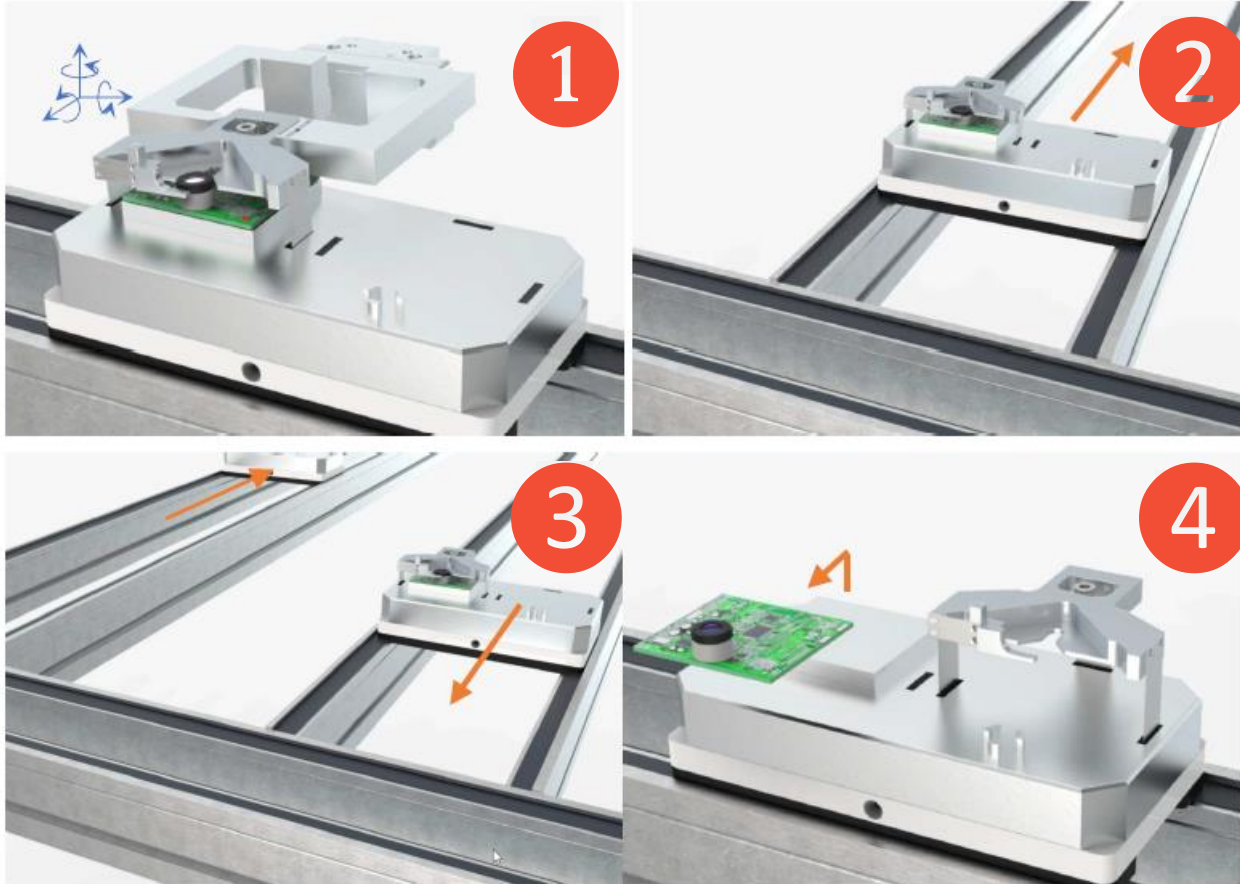
Decoupling Alignment and Fixation

- Secure aligned position without pre-cure
- Accuracy of 0.7 μ m in zoom direction
- Removes pre-cure step in alignment workstation
- Provides alternative fixation opportunities
- Higher efficacy of your equipment (lower TCO)



IMS Decoupling Alignment and Fixation: Parallel Processing

Parallel Processing provided by the Position Freezing Carrier



- 1 position freeze when alignment complete (no curing needed!)
- 2 move to parallel process for fixation
- 3 return from fixation
- 4 completed assembly removed from carrier

What can IMS do for you?

- we offer high accuracy active alignment
- we help you reduce production cycle time
- we offer means to consider alternative fixation methods

What can you do for IMS?

- present your production challenge to us
- provide samples for pre-automation study
- ... get in touch!





Thank you for your attention

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