

EPIC Online Technology Meeting on MicroLEDs Technology and Applications



Finetech GmbH & Co. KG

...simply accurate



What We Do

Worldwide leading **equipment** for challenging **sub-micron** die **bonding** applications.

For each stage from **R&D** to industrial automated **production**.

...simply accurate



Sub-Micron Bonding Equipment for ...

Prototyping

Research & Development

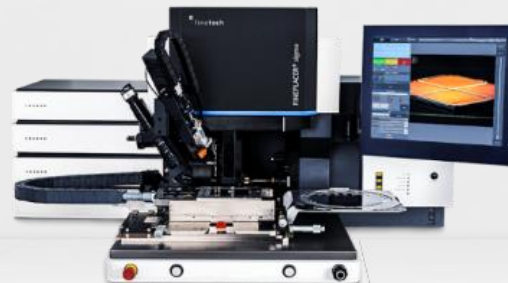
High Yield Production

FINEPLACER® lambda 2



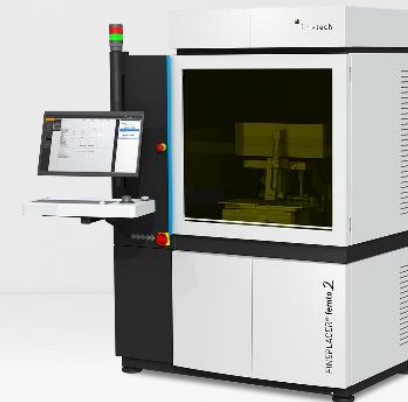
- **0.5µm** placement accuracy
- Manual or motorized arm
- Dice from wafer- & gel packs

FINEPLACER® sigma



- **0.5µm** placement accuracy
- Semi-automatic system
- With vision system
- Dice from wafers, wafer- & gel packs

FINEPLACER® femto 2



- **0.3µm** placement accuracy
- Automatic system
- Dice from wafers, wafer- & gel packs
- Multi chip capability

Bonding of single MicroLEDs

Challenges

Tool design and size:

New: tool tip with $\leq 30\mu\text{m}$ hole

Tip size: $50\mu\text{m} \times 50\mu\text{m}$ (limit today)

Alternative design

Vacuum control (sensitive vacuum option)

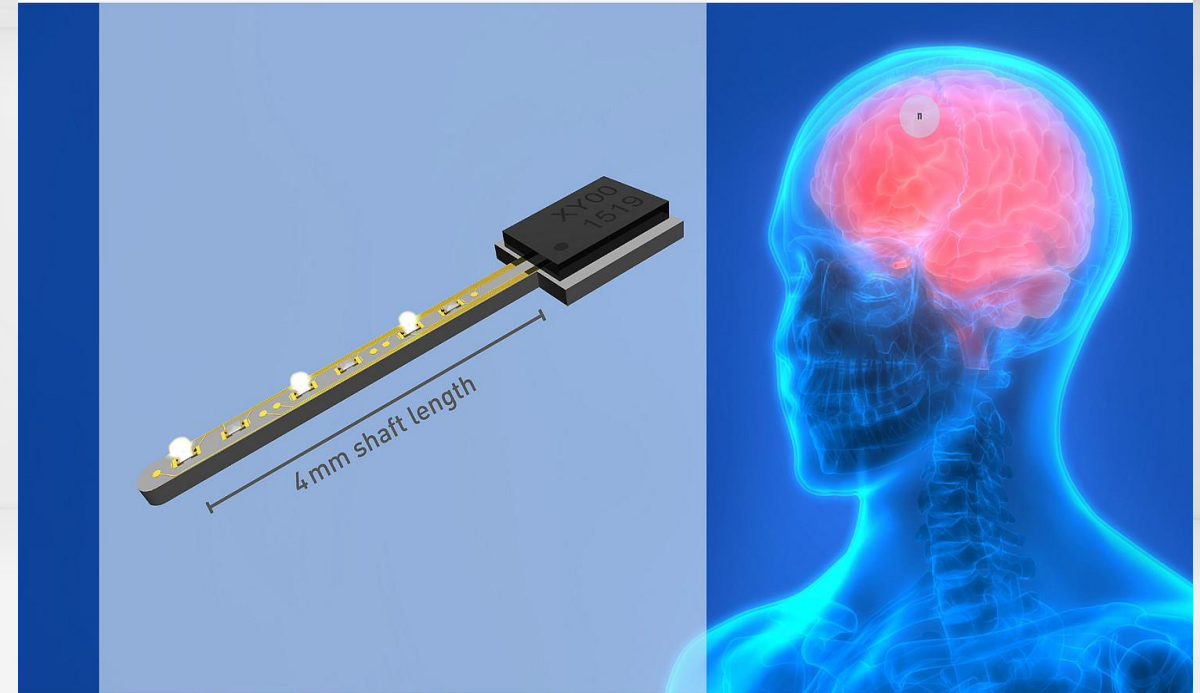
Detection

Handling

Thermal behavior

Tool heating possible

Limited heat performance due to low thermal mass



Further Information and Application video available on
finetech.de/epic-otm/

CANDO Optrode and Neuron
Source: www.cando.ak.uk

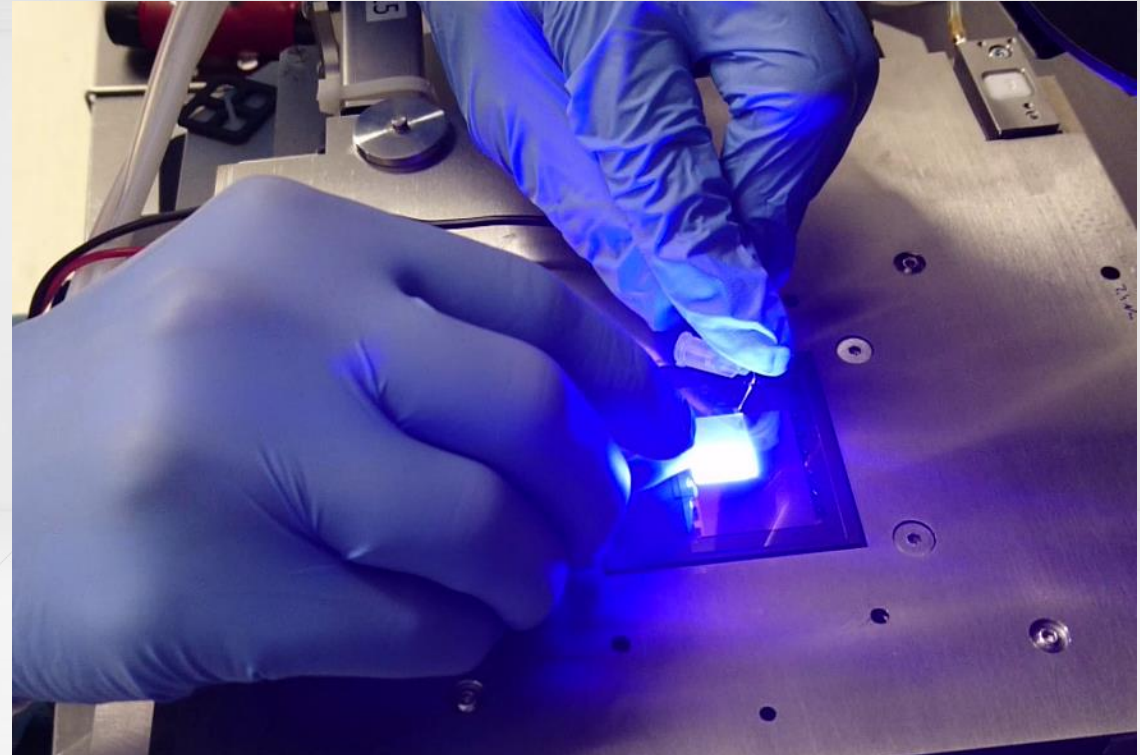
MicroLED array bonding for R&D

Application details:

- Array sizes 10 x 15 mm
- Bump pitch 25 micron
- In bumps
 - diam. 14 μ m
 - 10 μ m in height
- 4 arrays to bond onto one carrier

Challenges:

- Cleaning process (In)
- Accuracy and coplanar attach
- Process control



*Information and Application video available on
finetech.de/epic-otm/*

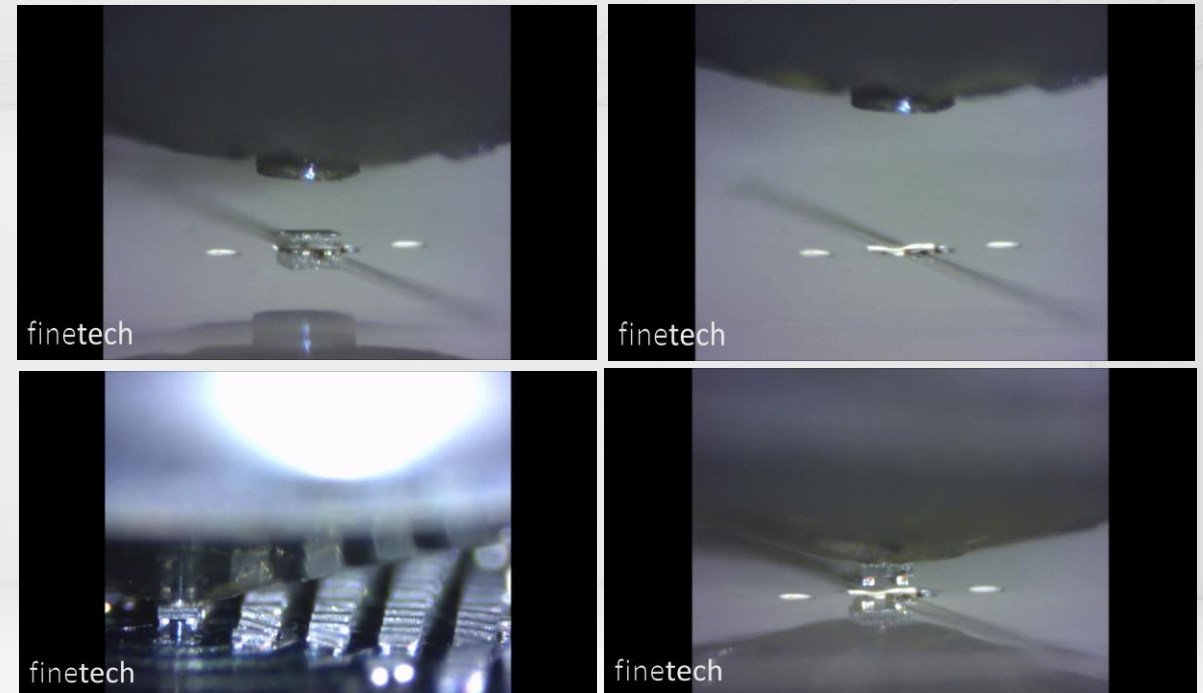
Micro/MiniLED rework

Application: LED back light panel, μ LED display

- Panel size up to 500 x 350 mm²
- LED size 125 x 250 μ m² and smaller
- Manual or fully automated rework process

Challenges:

- Local heating concept
- Component removal and site cleaning
- Solder paste transfer (in some cases)
- Process automation



Further Information and Application video available on [finetech.de/epic-otm/](https://www.finetech.de/epic-otm/) Source: Samsung

What we can offer...

Choose the path that suits you best

What Finetech can do for you

- R&D solutions for μ LED bonding
- Rework solution for Mini/ μ LED panel
- Application and process support in our labs worldwide *
- Supply of R&D and production processes and equipment

What you can do for Finetech

- Get us involved at an early stage for new product developments
- Talk to us about your technology roadmap



*) material to be provided by customer



Call us

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Contact us

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