At Fraunhofer IZM, there is an extensive expertise in high precision approaches for active and passive alignment and assembly of optical and electrical components on micro benches. The alignment and reliable mounting of optical subcomponents such as semiconductor laser and photo diodes, micro lenses and micro prisms require far higher mounting and alignment accuracies than for micro-electronic parts.

Large volume production can take advantage of passive alignment schemes, where the mounting accuracy is achieved with highest accuracy components, which align themselves when being roughly brought into position.

For prototype or small series production with more flexibility and short product cycles, however, Fraunhofer IZM has state-of-the-art active alignment machines for sub-micron optical precision mounting, which are highly adaptable, and can also be used for improving and testing gluing and curing schemes (UV, IR-fibercoupled) for laser submounts and general fiber coupling.

IZM has most scientific and industrial testing and failure analysis machinery in-house to also prove the reliability of all mounting, soldering, gluing processes and is permanently expanding know-how and investing in current machinery.