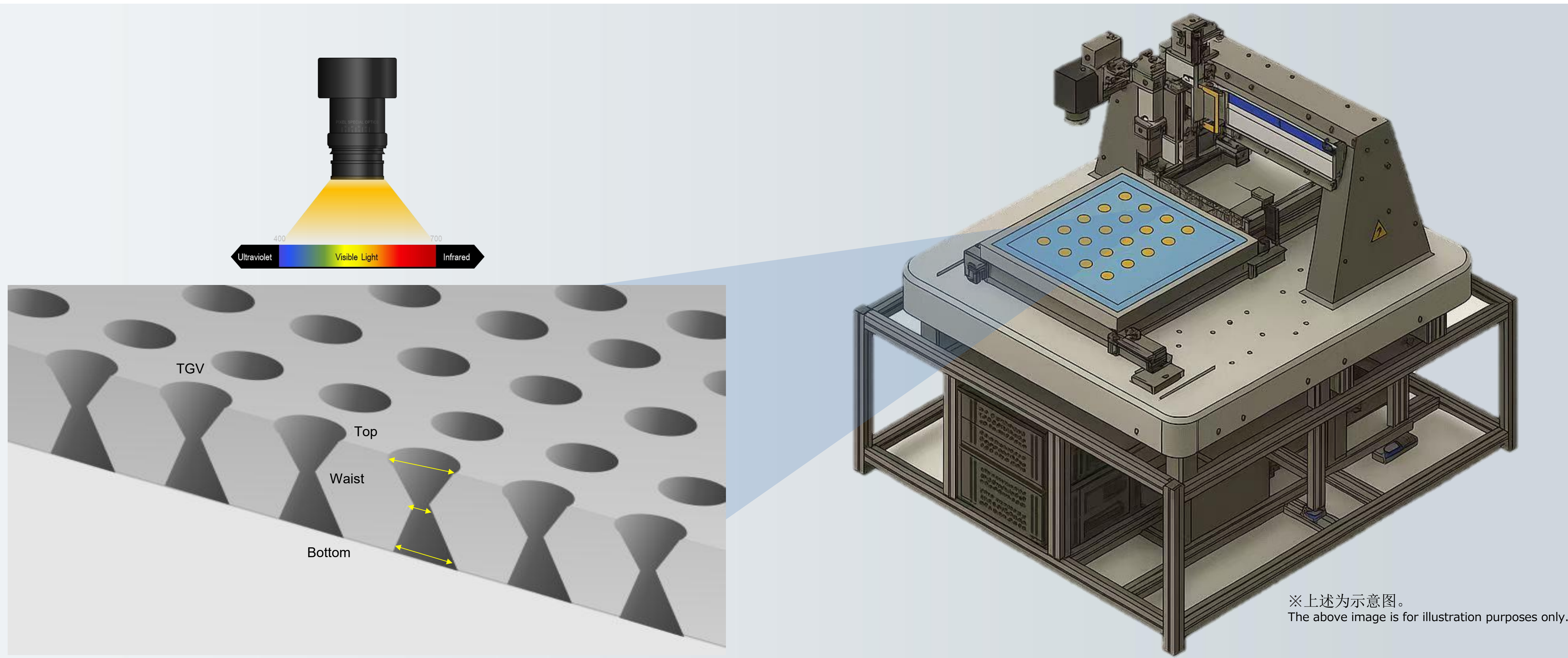




TGV工艺全流程光学检测解决方案
—涵盖激光改质、蚀刻、金属化、铜填充及RDL/ABF层构建等完整制程—
Complete Optical Inspection Solutions for TGV Process
– Covering Laser Modification, Etching, Metallization, Cu-filling, and RDL/ABF Layer Construction

可对应所有TGV检测项目 | Wide range of applications for glass panels processes

玻璃面板作为新一代半导体封装材料备受关注。

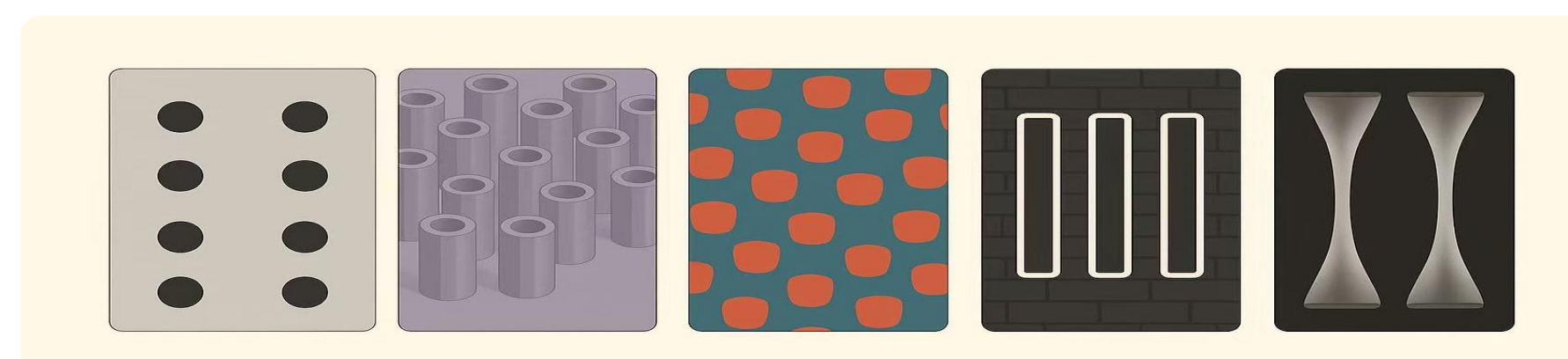
该系统可同时测量玻璃面板顶部、侧面和底部三处尺寸，通过图像检测通孔内异物、空隙、裂纹及划痕等缺陷，并完成各部位的精确测量。
Glass panels are gaining attention as next-generation semiconductor packaging materials. Our solution enables simultaneous measurement of top, waist, and bottom dimensions, while also providing image-based inspection of via contamination, voids, cracks, and scratches.

TGV应用领域：Probe Card, Glass Interposer, LED B/L, Glass Substrate

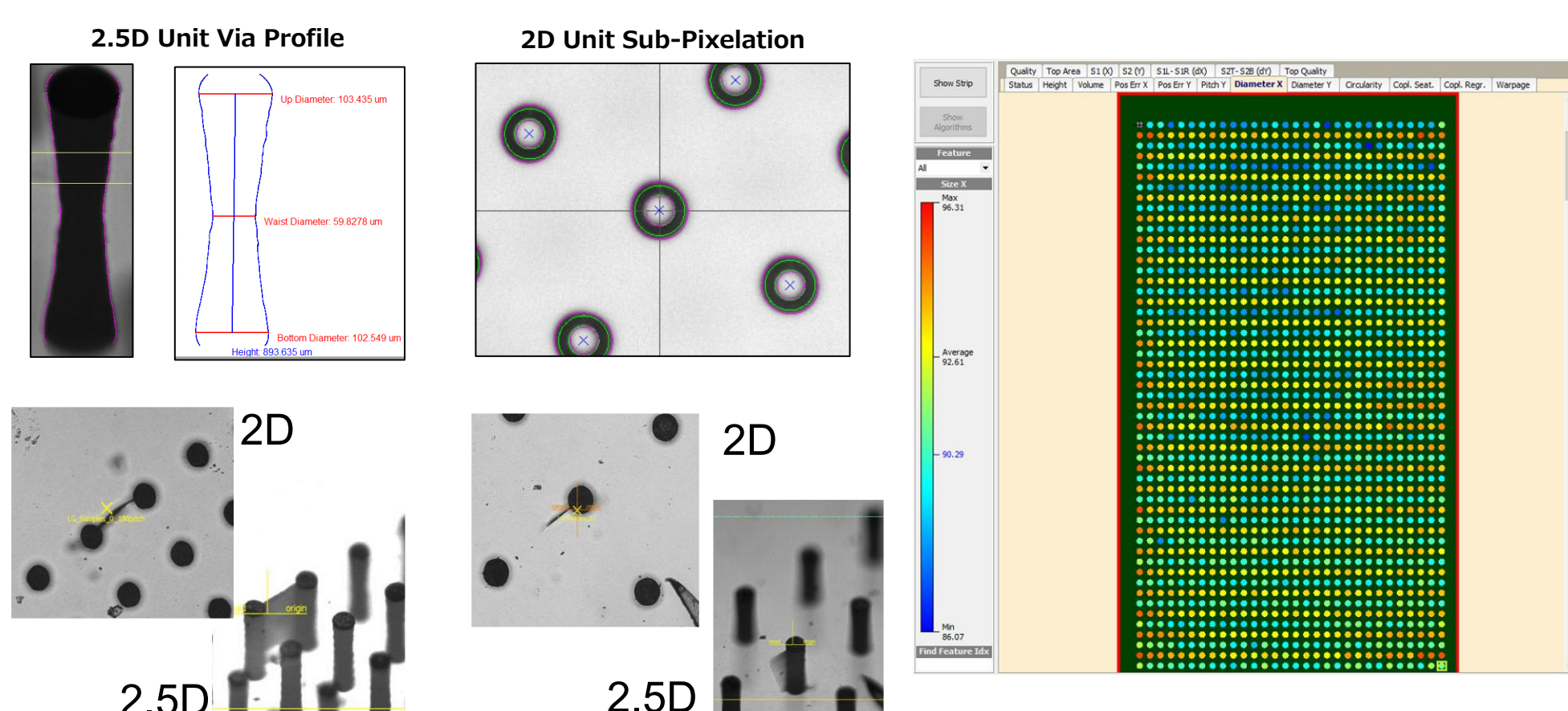
多视角测量/焊盘自动识别功能
Multi-view angle inspection/Auto-identification of via

实现光学系统在深景深条件下的2D/3D检测
3D/2D inspection with large depth of field

基于2D/3D图像处理技术应用的高精度品质检测
2D/3D imaging technology is suitable for quality monitoring and analysis



TGV Process	Image	AOI	3D NIR
Laser Modification		Miss fire / Position error	
TGV Etching		Surface defect Diameter (top/waist/bottom) Via shape /taper angle Through / blind via Roundness	
Seed layer		Diameter	Glass Inner crack / Via condition
Via filling		Top Diameter	Glass Inner crack / void
Glass Dicing		Edge Chipping	Glass Inner crack



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