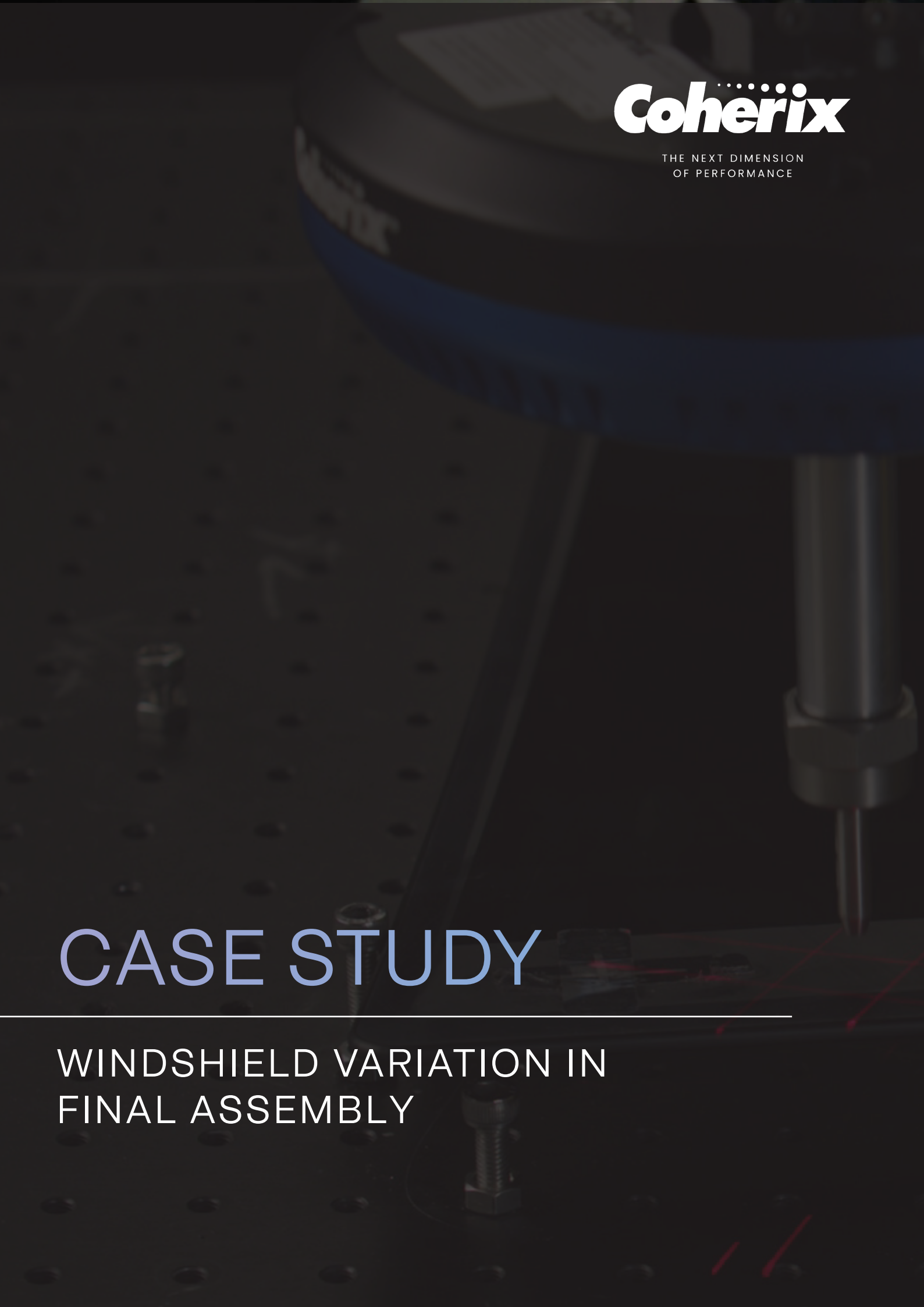


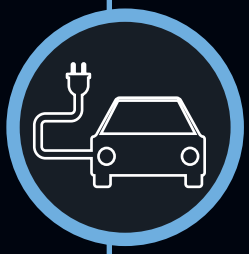
Coherix

THE NEXT DIMENSION
OF PERFORMANCE

CASE STUDY

WINDSHIELD VARIATION IN FINAL ASSEMBLY

HOW AN EV OEM USED Z-TRACKING TO OVERCOME PART-TO-PART VARIATION



A global EV manufacturer was experiencing issues with shape variation on the windshields and glass roofs for their vehicles in final assembly. They have a tolerance of +/-4mm for the glass curvature, which is already very significant. But the glass received can even exceed that tolerance due to their unique stacking method.

The urethane bead dispensed on windshields plays a critical role in sealing the glass into the car body, directly contributing to the vehicle's safety restraint system. As such, meeting the precise profile and volume specifications is essential for the overall safety of the vehicle. These beads are dispensed from a nozzle that moves along the glass surface. However, when the OEM received windshields that varied from part to part, it caused the nozzle to drift away from the glass, leading to irregular bead patterns. In some instances, the nozzle collided with the bead or glass, resulting in broken glass or snapped off nozzles.

The OEM was dedicating numerous skilled labor hours to reprogramming the robot path in an attempt to accommodate the unique shape of each windshield. They estimated that 4-5 hours per week were spent addressing the part-to-part variation in the windshields.

After conducting research online, the EV manufacturer discovered Z-Tracking, which dynamically adapts to each parts' individual variations to maintain acceptable tip-to-part distance.

Once the OEM integrated Z-Tracking into their Coherix 3D sensors, they achieved a reduction of 5 hours a week in unscheduled downtime, eliminating the need to halt production for reprogramming the dispense path. Additionally, they realized substantial cost savings by minimizing scrap and eliminating the need for rework.

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