

# **BGA Reballing for Mission-Critical Applications**

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Critical US defense, military, and space programs rely heavily on high pin-count integrated circuits (ICs). These ICs typically have small solder balls that attach and connect the component to the printed circuit board – these are known as Ball Grid Arrays (BGAs).

The RoHS ban of Pb in electronics has resulted in a rapid industry conversion to Pb-free solders. Performance data indicate that Pb-free solders have lower reliability in extreme environments. Mixing Pb-free BGAs within a Sn-Pb assembly poses further risks. With the diminishing supply of Sn-Pb components, the military and aerospace community utilize reballing to convert Pb-free BGAs back to Sn-Pb.

This presentation will explore why reballing is necessary, share lessons learned, and highlight common pitfalls (specifically regarding reliability), when performing BGA reballing.