

# **With the advent of the Phased Array and FMC/TFM, are single element probes dead?**

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The emergence of Phased Array and FMC/TFM technologies in the field of Ultrasonic Testing (UT) has led to significant advancements, raising questions about the relevance of traditional single element probes. This white paper explores the enduring value of single element probes in the various areas versus array technologies. While Phased Array and FMC/TFM offer substantial benefits, particularly for applications that are beyond the reach of single element probes, these older technologies are far from obsolete. Single element probes continue to offer advantages in terms of simplicity, cost-effectiveness, and ease of use, making them ideal for certain applications and environments. Their robustness and minimal setup requirements make them particularly suited for quick assessments and inspections where advanced features may be superfluous. Furthermore, single element probes excel in certain niche applications where high-frequency, pinpoint accuracy is required. The paper delves into specific use-cases where single element probes are not only viable but advantageous, thereby offering a balanced perspective on their ongoing relevance. It also outlines the complementary roles that both advanced and traditional technologies can play in a comprehensive UT strategy. In conclusion, while Phased Array and FMC/TFM technologies bring a wealth of capabilities to the table, single element probes remain an indispensable tool in the UT arsenal. By providing this nuanced overview, this paper aims to guide industry professionals in selecting the most appropriate UT tools for their specific needs, thereby optimizing both effectiveness and efficiency in Non-Destructive Testing processes.