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## Current Status Ultrasound and Future Perspectives of Supplemental Breast Ultrasound Screening in Europe

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Mammography screening has proven to be effective in organized population-based programs to reduce breast cancer (BC) mortality. However, BC screening is challenged by a significant rate of metastasized BC and suboptimal interval cancer rates. Women with dense breasts (ACR grades C&D), who comprise approximately 40-50% of the screening population in the western world, represent a large group of women at increased risk of BC for whom there is an unmet need for improved screening. This necessity has been addressed in several countries and considered in various screening programs. Different approaches for supplemental screening have been investigated over the years. Due to its low cost, ubiquitous availability and lack of adverse tissue effects, ultrasound (US) is the most widespread supplemental screening technique for women at an average risk for BC. The development of automated breast US offers an additional tool that can be used for BC screening, decoupling image acquisition from image interpretation. Several studies have consistently demonstrated that supplemental US improves BC detection rates, identifying mostly small, node-negative tumors. At the same time, it leads to a significant decrease in the rate of interval cancers. However, this increased additional cancer yield comes at the cost of an increase in recall rates and false positives. Moreover, an additional US examination needs additional manpower resources, whether it is performed by a physician or sonographer. For these reasons, its implementation in different screening programs is still variable and debated. Furthermore, there are large differences in the use of breast US between national organized screening programs and opportunistic BC screening.

This presentation will provide the audience with a comprehensive overview on the current status, potential and limitations as well as future prospects of supplemental breast US screening in Europe.