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Industrial Efforts for X-Band Accelerator Structure Fabrication (Europe)

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Since 2007, CERN has been fabricating normal conducting structures in collaboration with industry. With PSI joining some years later, only academic institutions have been pushing for further developments of high gradient structures manufacturing in Europe.

This trend appears to be changing with growing interest from European industry, recognizing the potential of high gradient, X-band structures. Thanks to public money funding initiatives like iFast, Muhic, DEFT, XFel, Horizon 2020 with AWAKE, EuPRAXIA or Compactlight, new partnerships between research institutions and companies, have come to light enabling knowledge and technology transfer between academia and industry. This presentation highlights the importance of this collaborative approach in overcoming the significant fabrication challenges associated with X-band structures. Specific examples of these advancements will be showcased, focusing on challenges like achieving tight tolerances on large copper structures and implementing innovative brazing techniques.

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