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# Development of a MTCA.4 LINAC LLRF system for the MedAustron LINAC upgrade

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MedAustron is a synchrotron-based particle therapy center located in Wiener Neustadt, Austria. The acceleration of the protons and heavy ions is achieved through a LINAC injector followed by a synchrotron, featuring three irradiation rooms for particle therapy and one room for non-clinical research. In the course of an ongoing development project, the LINAC LLRF will be upgraded to a state-of-the-art system. The MTCA.4 architecture which is envisioned for the upgrade is foreseen to be expanded for LINAC beam diagnostics and Synchrotron LLRF upgrades together with the RF knockout extraction system. This development project is being carried out through a collaboration between MedAustron and Instrumentation Technologies, combining the expertise and resources of both teams. Suitable commercial MTCA.4 components have been identified and evaluated against the requirements of the applications and the hard- and software system architecture of the aforementioned systems has been defined. This contribution describes the LLRF requirements, the proposed solution, selected MTCA.4 components used for the application and reports on the preliminary collaboration results.

## Summary

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