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LST South in the context of CTA+ Program

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In the context of the Italian Resilience and Recovery Plan INAF and INFN proposed the “CTA+” Program aimed at extending the scope and strengthen the scientific return of the CTAO Southern Array. The main objective of this program is to realize and implement 2 (possibly 3) end-to-end LSTs at CTAO-S as part of the LST Collaboration. The approved and fully funded program has formally started on January 1st, 2023 and has to be completed not later than December 31st, 2025. We are going to start immediately the procurement and implementation process for the 2 end-to-end LSTs, very similar to the 4 LSTs under construction at CTAO-N, even if some changes must be applied in order to be compliant with CTA south site requirements. The mechanical structure baseline design will be the same of the northern LSTs, apart from a few possible changes to fulfill the environmental specifications of the southern site and further reduce the construction risks and costs. The mirrors will be produced using the cold replica of glass slabs to make the 2 m mirrors i.e. the technology invented in Italy by INAF and presently used for LST- N. The camera will be almost identical to those of LST-N. The production of the cameras, mirrors and mechanical structures will be realized through large industrial contracts that will be supervised by the CTA+ management with the full support of the LST Collaboration. In this talk I will present the current status and the main objectives of the project.

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