

ARIA PROJECT: AGREEMENT TO SUPPLY ARGON FROM COLORADO AND NEW TECHNOLOGY CONFIRMATION



The visit to the United States of INFN and the Sardinia Region for the ARIA project was successfully carried out in February. The visit was also attended by the Consul General in Houston Federico Ciattaglia and led to the confirmation of agreements for the supply of argon from Colorado, which will then be treated in the ARIA plant in Seruci, before being sent to the Gran Sasso National Laboratory for its use in the DarkSide-20k experiment. Thanks to this

agreement, the activities of the ARIA project continue according to plan. The project is funded by INFN and the Autonomous Region of Sardinia through the Regional Planning Centre, and jointly implemented by Carbosulcis and INFN, with the collaboration of various scientific institutions, including the University and the INFN Division of Cagliari, the Gran Sasso National Laboratory, Princeton University, Fermilab and the Aria Foundation.

At the same time, the further test carried out in the ARIA prototype tower, called Seruci-0, 24 meters high, was successfully completed: the first results indicate that the prototype plant has already demonstrated the isotope separation of the ^{36}Ar atom and ^{38}Ar compared to ^{40}Ar . After the positive outcome of the first isotope distillation tests carried out in 2019 using nitrogen, these new measures, based on the use of argon, although preliminary, represent a fundamental milestone: they confirm the technology on which ARIA is based and open the road to the full realization of the DarkSide-20k experiment.