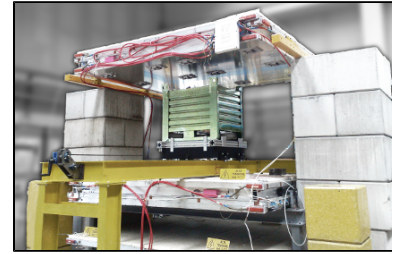


# Cosmic Muon Tomography project

The CMT project is a collaboration of the Università degli Studi di Padova and the Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Padova. The project is aimed to build a complete scanning system to test the usability and the effectiveness of the Muon Tomography. We want to use muon tomography to inspect non accessible volumes. We are working on several, applications, from homeland security and environmental protection to quality control and human safety.

The most immediate application is to assess or exclude the presence of high density objects. This could allow the detection of hidden, shielded radioactive sources inside scrap metal headed to a melting facility. Another application can be the identification of the presence of a nuclear device hidden in a van. We use it as a tool to identify a heavy material inside the scanning volume basing on its density.

But we plan to test its capability to check the distribution of radioactive waste inside the proper containers and to monitor the density distribution of melted metal inside a melting tank too. Our goal is to reach a high detection efficiency of the technique itself, while keeping a low rate of false positives with short inspection time. And short computational time too!



For further details:

- [Overview](#)
- [Technique](#)
- [Test cases](#)
- [References](#)