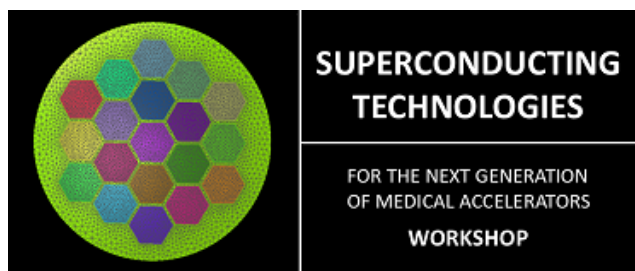


## Academia-Industry Matching Event on Superconductivity for Accelerators for Medical Applications



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### **Radiopharmaceutical production process**

*Thursday 24 November 2016 15:20 (20 minutes)*

Radioisotope production is the first step in radiopharmaceuticals production workflow. In an accelerator based radiopharmaceuticals production facility, the impact of the radiopharmacy equipment on its global footprint is sometimes as important as the accelerator itself. Accelerator design, size and energy has a direct impact on the global installation scale: power electronics, shielding, bunker, etc. Superconducting cyclotrons reduce considerably the footprint of this part of the installation if compared to traditional resistive ones allowing their installation in small hospitals or research centres. Apart from the cyclotron it is needed to develop new targetry adapted to this new production scale model for a cost effective radioisotope production. To achieve a compact radiopharmaceutical production system, we need to scale also the rest of the radiopharmacy equipment: synthesis modules, hot cells, dose calibrators, dose dispensers and quality control equipment. Recent developments include microfluidics based synthesis modules and compact quality control solution. Once all this technological development will match this new radiopharmaceuticals production model, the next challenge will be to make it compliant with nuclear and pharmaceutical regulations which have been created based on traditional radiopharmaceutical production.

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**Session Classification:** Radioisotope production