Remote Handling of Active Samples

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ABSTRACT:

As part of the MRF core activities, active samples are prepared in a suite of hot-cells and then transferred via a shielded trolley into a suite of reinforced concrete shielded rooms. Once the trolley had been moved into a room, the active samples delivery process proceeds robotically under the supervision of a remote operator. During the delivery process, the trolley exposes the sample which is then collected by a collaborative robot. As an intermediate step, the sample is placed by the robot into a shielding castle so that the operators can access the room again and withdraw the trolley ready for another delivery. At this point the robot interacts with a specially adapted scientific instrument to ready it for receiving the sample. The sample is then withdrawn from the shielding castle and delivered to the scientific instrument. Adaptations which enable the robotic handling of the samples include specially adapted sample carriers and receptacles. Further the scientific instruments are modified so that they can be operated by the robot.