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The remote handling systems of ifmif-dones

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The DEMO Oriented Neutrons Source (DONES) consists of complex systems and massive components that need to be on site assembled and maintained. For several of them it is required to perform maintenance, inspection and monitoring tasks over many years in a hostile environment and in efficient, safe and reliable manner. The maintenance of DONES' systems and components, located mainly in the Test Systems (TS), in the Lithium Systems (LS) and in the Accelerator Systems (AS), is classified as a remote handling (RH) Class 1st activity and as such is considered a crucial and essential activity whose success will strictly depend on the DONES RH capability. According to this, a Remote Handling Systems (RHS) for DONES, which comprises the whole set of Remote Handling Equipment (RHE) and tooling for the execution of maintenance tasks, has been designed. A wide range of technologies is involved: special cranes, manipulator arms, lift interface frames, special cameras, control systems and virtual reality.

In this paper an overview on the design of the main robotic systems and tooling of the RHS of DONES, including design requirements, functions and maintenance tasks to be performed, is given.

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Co-authors: MICCICHÈ, Gioacchino (ENEA); Dr ASCOTT, Mark (Race, Culham Science Centre for Fusion Energy); Dr BAKIC, Ante (INETEC Ltd); BERNARDI, Davide (ENEA); Dr BRENOSA, Jose (Centre for Automation and Robotics, Universidad Politècnica de Madrid,); Dr COLOMA, Sofia (Centre for Automation and Robotics, Universidad Politècnica de Madrid); Dr CROFTS, Oliver (Race, Culham Science Centre for Fusion Energy); Dr DI GIRONIMO, Giuseppe (Create Consortium); Dr FERRE, Manuel (Centre for Automation and Robotics, Universidad Politècnica de Madrid); Dr FISCHER, Georg (Institut für Fördertechnik und Logistiksysteme, Karlsruher Institut für Technologie); IBARRA, Angel (CIEMAT); Dr KARAP, Attila (Fuziotech Ltd, Wigner Research Centre for Physics); Dr KISS, Istvan (Fuziotech Ltd, Wigner Research Centre for Physics); Dr KUNERT, Christoph (Institut für Fördertechnik und Logistiksysteme, Karlsruher Institut für Technologie); Dr LORENZELLI, Luciano (ENEA,); Dr MITCHELL, George (Race, Culham Science Centre for Fusion Energy); Dr MITTWOLLEN, Martin (Institut für Fördertechnik und Logistiksysteme, Karlsruher Institut für Technologie); Dr PAGANI, Paolo (Institut für Fördertechnik und Logistiksysteme, Karlsruher Institut für Technologie); Dr PAPA, Stefano (Create Consortium); Dr POREMPOVICS, Garbor (Fuziotech Ltd, Wigner Research Centre for Physics); Dr TADIC, Tonci (Ruder Boskovic Institute); Dr MATYAS, Toth (Wigner Research Centre for Physics)

Presenter: MICCICHÈ, Gioacchino (ENEA)

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