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The FCC Robotic System for Safety and Availability

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The availability and safety of the Future Circular Collider (FCC) are critical factors for its operation. To enhance these parameters cost-effectively, the FCC Robotic System (FCCRS) has been conceived and it is under development during the last years. The FCCRS comprises a Remote Maintenance and Inspection System (RMIS) and a Surveillance and Emergency Shuttle (SES). This system will significantly improve machine availability, tripling the allowable mean time between failures for critical infrastructure. Integral to the FCC's safety strategy, the SES will minimize emergency intervention times and protect workers from hazardous situations. This presentation will also share insights from previous robotic interventions across the CERN complex, providing conclusions and recommendations for future machine and infrastructure design, as well as intervention protocols.

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