



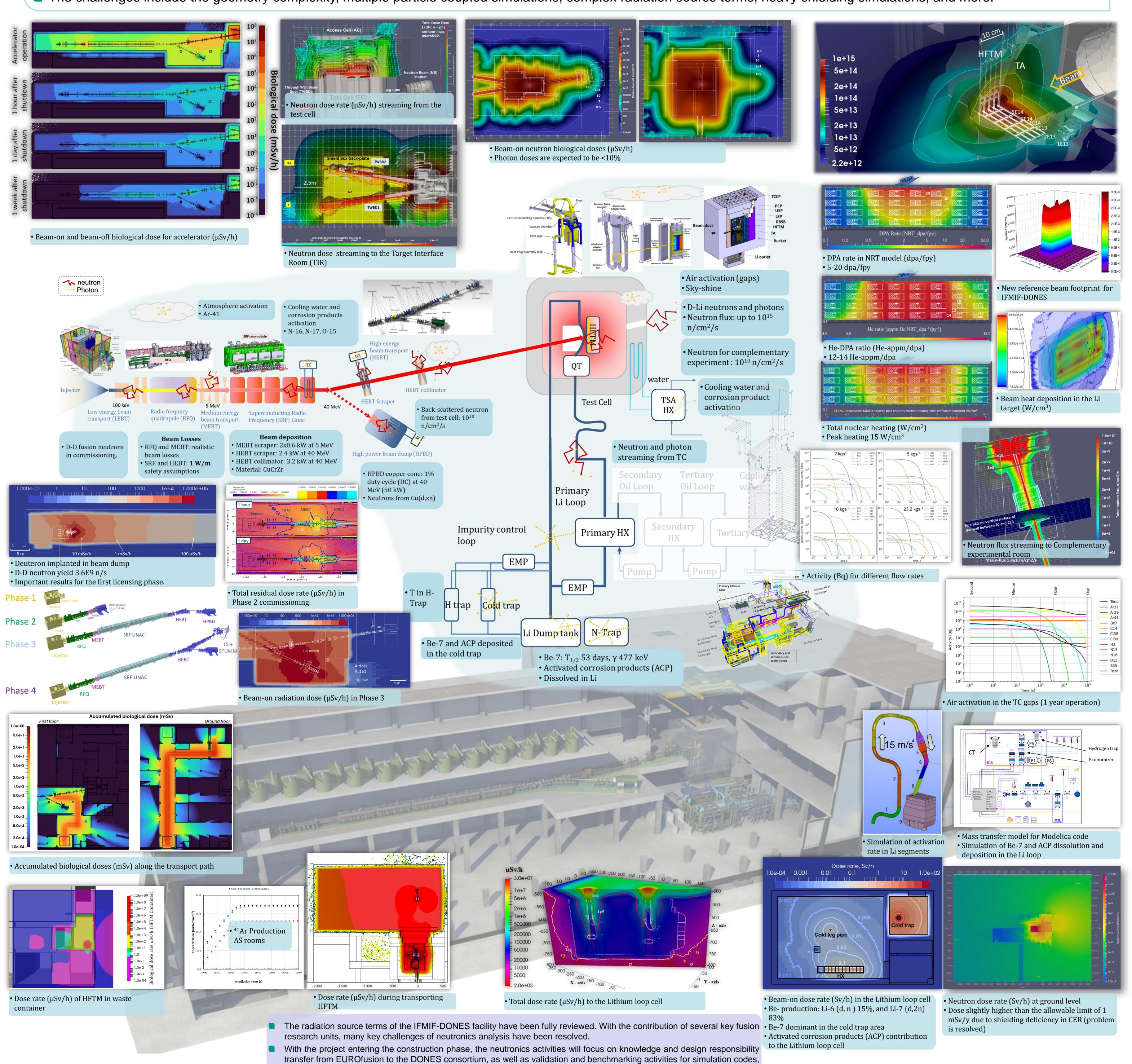
## Challenges and Achievements in IFMIF-DONES Neutronics Activities

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## Introduction

- IFMIF-DONES is an accelerator-based neutron irradiation facility that provides the necessary irradiation data for the qualification of materials for the DEMO fusion power plant.
- It utilizes a 125 mA and 40 MeV deuteron beam to produce intense neutrons in the flux of 10<sup>14</sup>-10<sup>15</sup> n/cm<sup>2</sup>/s. This facility will serve as a critical tool for irradiating and testing material samples, as well as addressing radiation safety concerns.
- The challenges include the geometry complexity, multiple particle coupled simulations, complex radiation source terms, heavy shielding simulations, and more.









mock-up experiment validations, etc.