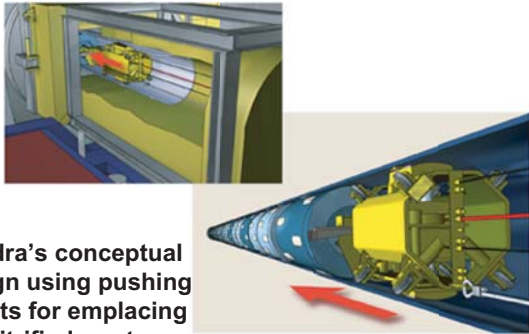


ESDRED - An Integrated Project Focused on Technology Development (2/3)

Wolf K Seidler, Jean-Michel Bosgiraud

Andra - Agence nationale pour la gestion des déchets radioactifs

MODULE 2- WASTE CANISTER TRANSFER AND EMPLACEMENT



Andra's conceptual design using pushing robots for emplacing vitrified waste (C type canisters)

Emplacement of canisters using pushing robot



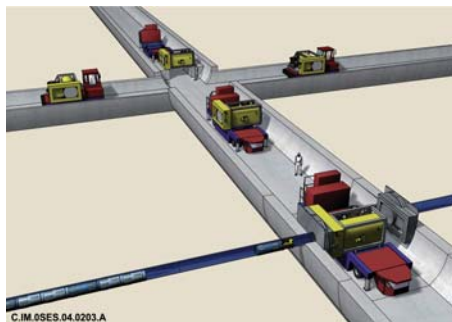
Andra's prototype pushing robot test bench set up at Musthane Lille / France October 2005



First full scale prototype pushing robot in extended position showing also canister and ceramic sliding runner



Front view of first pushing robot showing 3 fingers for gripping canister and 2 inflatable toric jacks



General layout of Andra's vitrified waste disposal concept



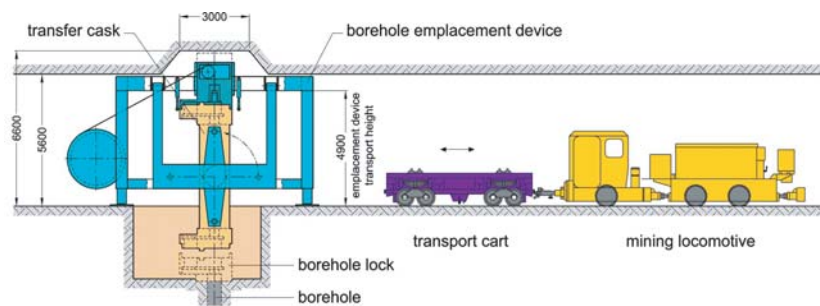
Second generation pushing robot during fabrication



Shielding cask door frame and viewing window



Test bench set up at Saint-Chamond



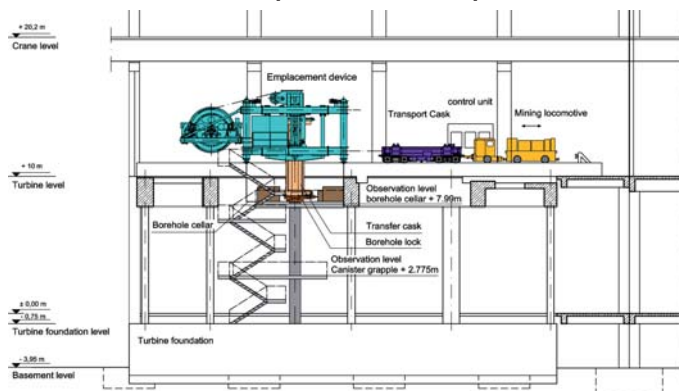
DBE TECHNOLOGY's vertical borehole emplacement concept



Newly fabricated transport cart and transfer cask



Newly fabricated borehole lock installed in borehole cellar



Layout of DBE TECHNOLOGY's demonstration facility for vertical emplacement of BSK-3 canisters



Vertical emplacement device set up in demonstration facility at Landesbergen



Emplacement device set up over borehole mock-up accepting transfer cask



Emplacement device swivelling the transfer cask into an upright position



Emplacement device lowering down the transfer cask



Transfer cask docked onto the borehole lock ready for emplacing BSK-3 canister into the borehole