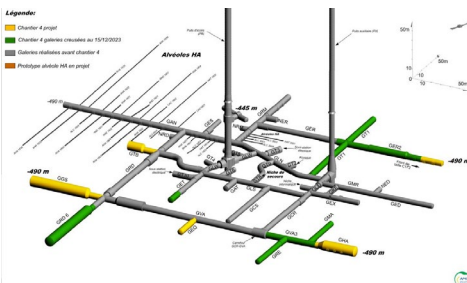
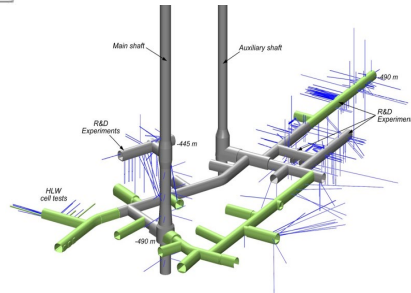
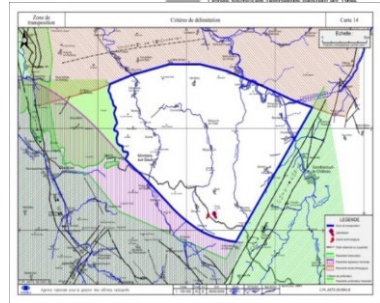


Andra's R&D programme to the Licence Application File of CIGEO

Challenges and lessons learnt

Jean-Charles Robinet
Andra

A journey of over 30 Years...



1991-1998 : Site Selection Process : **Meuse/Haute-Marne (Bure)** approved

2000-2005 : Underground Research Laboratory construction and first experimental Program

2006–2010 : Selection of Underground Footprint zone

2010 – 2022 : Développement of the URL with HL waste and IL-LL waste Demonstrators



2023 : Submission of the Licence application File

Site investigations – A continuous challenge

A few drillings to start...

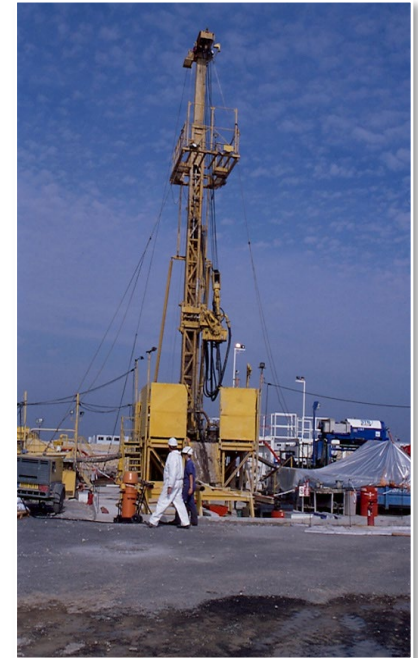
- Confirm rock suitability and **validate methodologies** (water pressure measurement, sampling plans, sampling water...)
- Build and train a skilled team

.... then ramping up to the selection of the site and the repository zone...

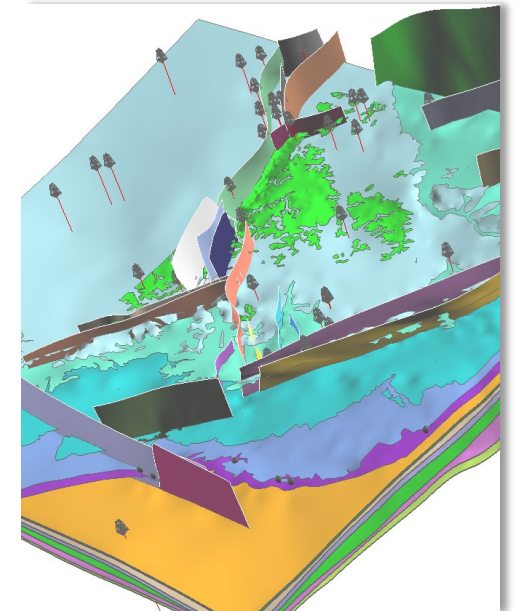
- Optimize borehole programs including a full set of characterizations **supporting the safety case and the conception**
- Use core for lab analysis rather than storage

.... and to prepare the construction

- Focus on surface geological formations
- Connect of geological models to the digital twin



12/1/2025



URL Development - A corner stone for Safety and Construction

Key objectives

- Confirm and improve critical parameter : pore water chemistry of the Callovo-Oxfordian formation, degradation of materials under site conditions, **hydraulic conductivity...**
- Characterization of the EDZ and its evolution under *in-situ* conditions
- Test excavation and support methods
- Demonstrate component performance (waste cells, seals...) under site conditions
- Prepare the construction phase (operational feedback)

Outcomes

- Ensure consistency between safety and construction phases
- Develop site specific concept (e.g. compressible lining) component performance (waste cells, seals...) under site conditions



Next steps...

See Stephan Schumacher's presentation tomorrow

