

# CONSTRUCTION AND OPERATIONS

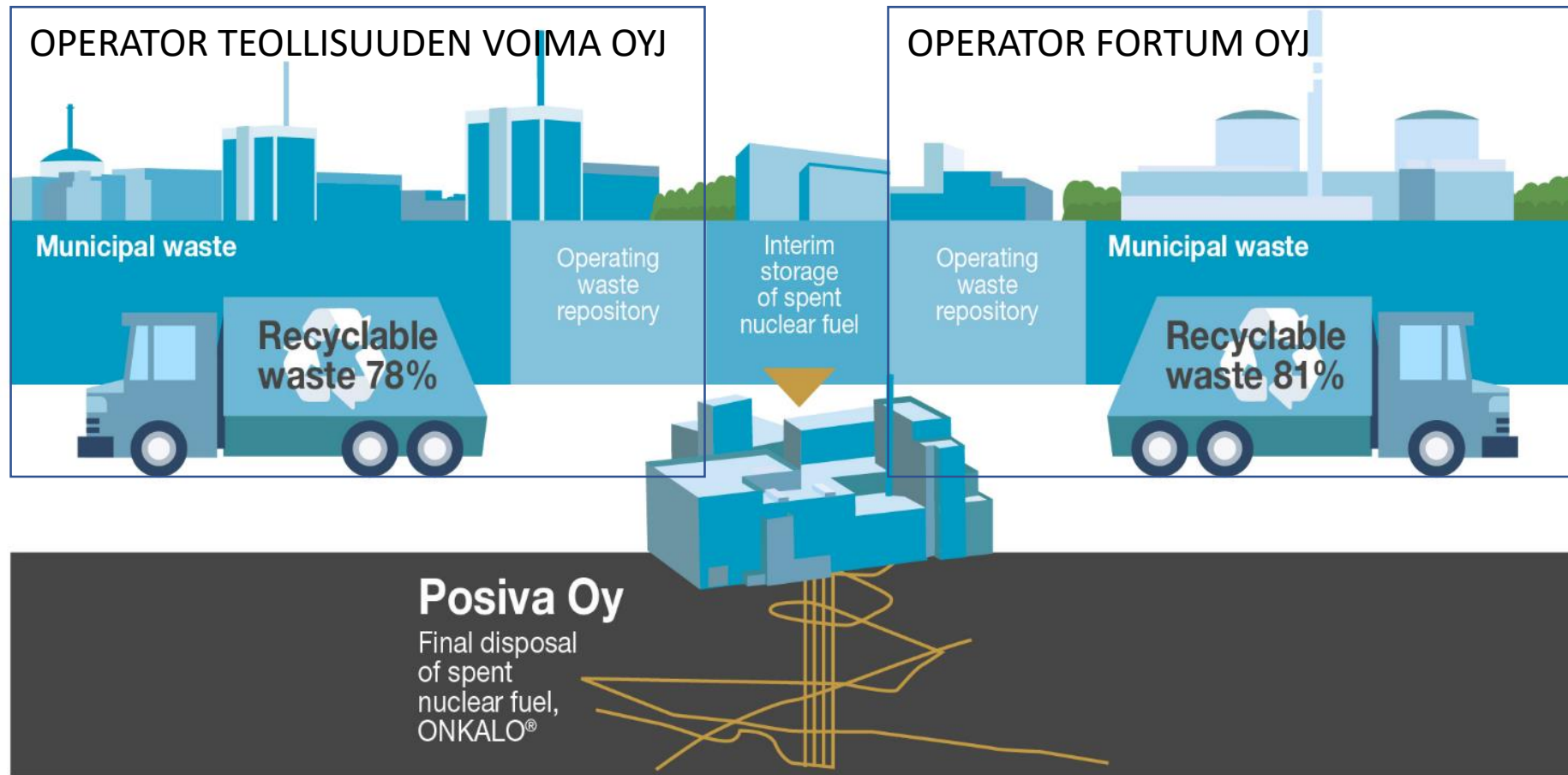
Encapsulation plant and Final Disposal Facility for Spent  
Nuclear Fuel – Case Posiva

September 14, 2020 • Tiina Jalonon

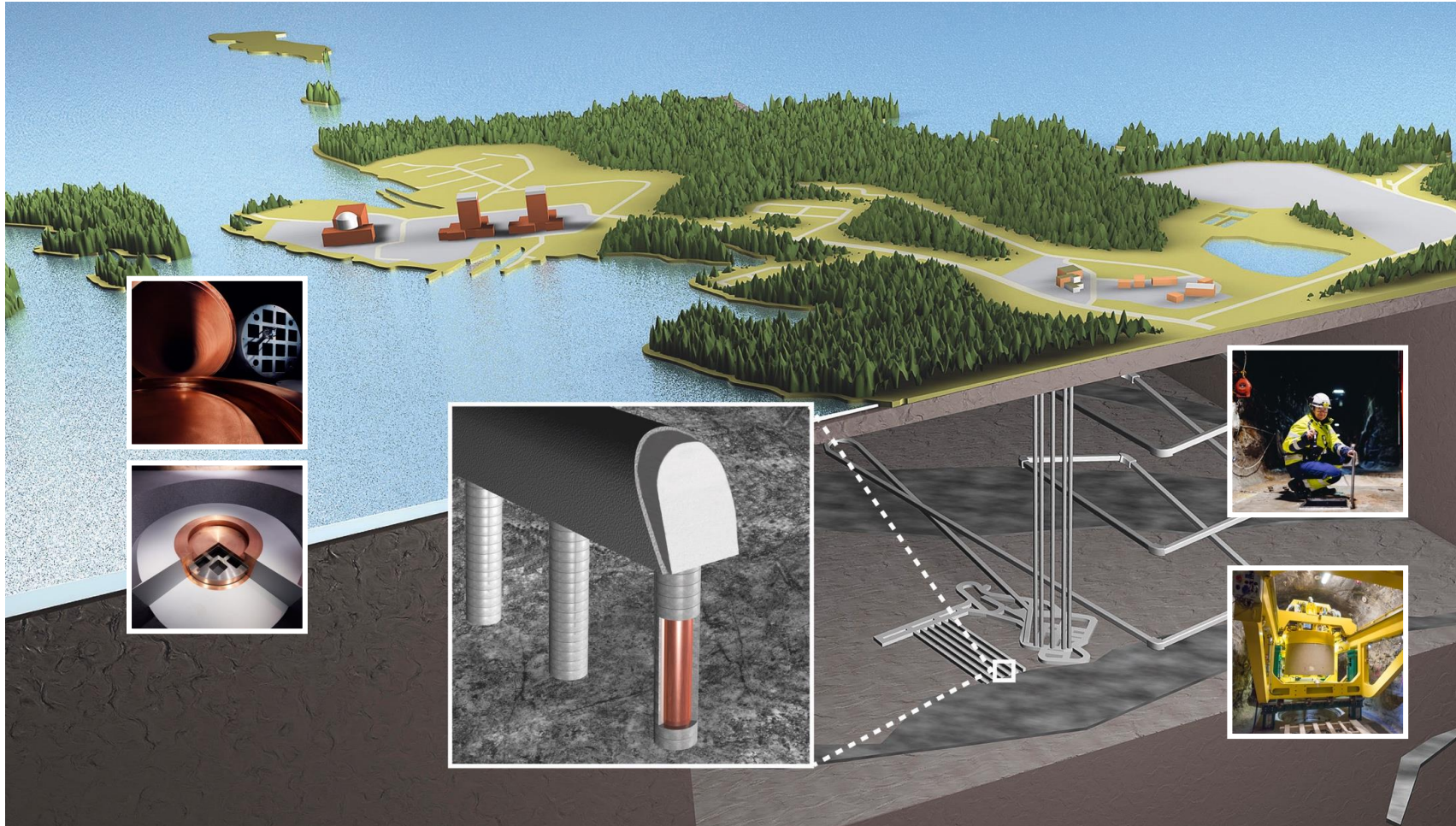


*The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 847593.*

## ROLES IN RADIOACTIVE WASTE MANAGEMENT IN FINLAND

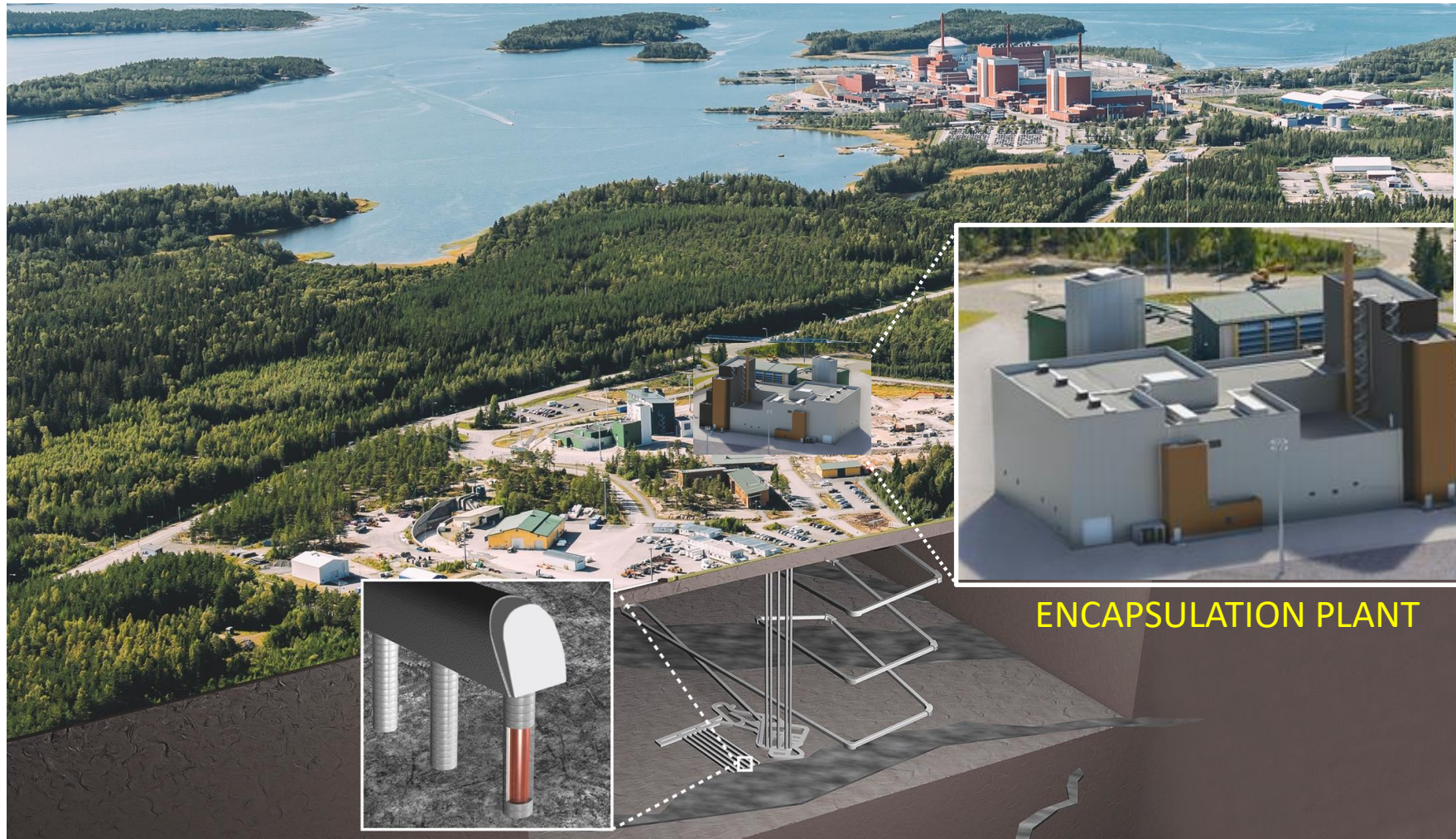


## SAFE AND FEASIBLE FINAL DISPOSAL CONCEPT AT OLKILUOTO





# ONKALO® SITE AT OLKILUOTO



ENCAPSULATION  
PROCESS AND SYSTEMS

ENCAPSULATION PLANT



## ENCAPSULATION PLANT CONSTRUCTION SITE

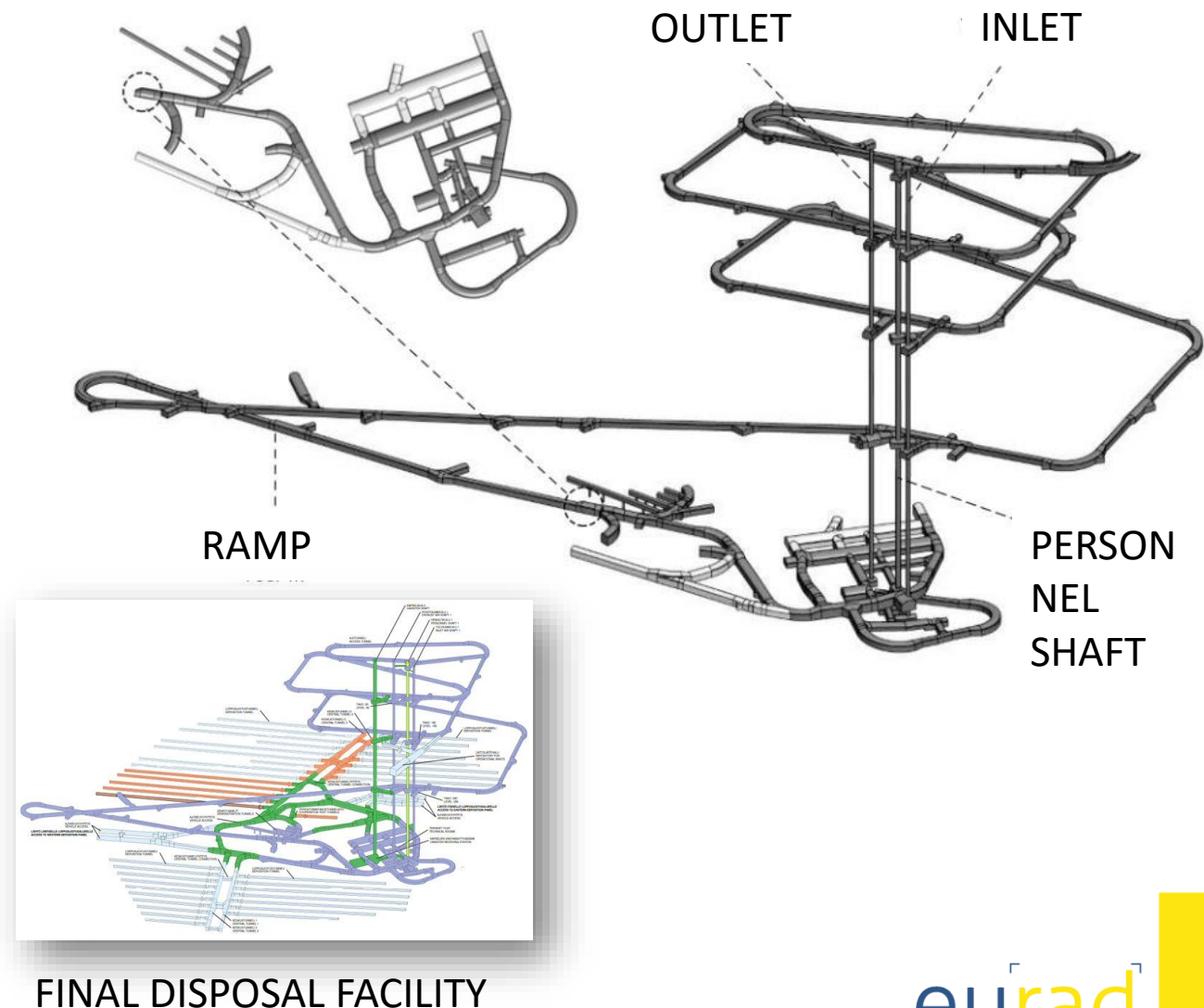


September 14, 2020

Introductory Course on EURAD and Radioactive Waste  
Management

## ONKALO®

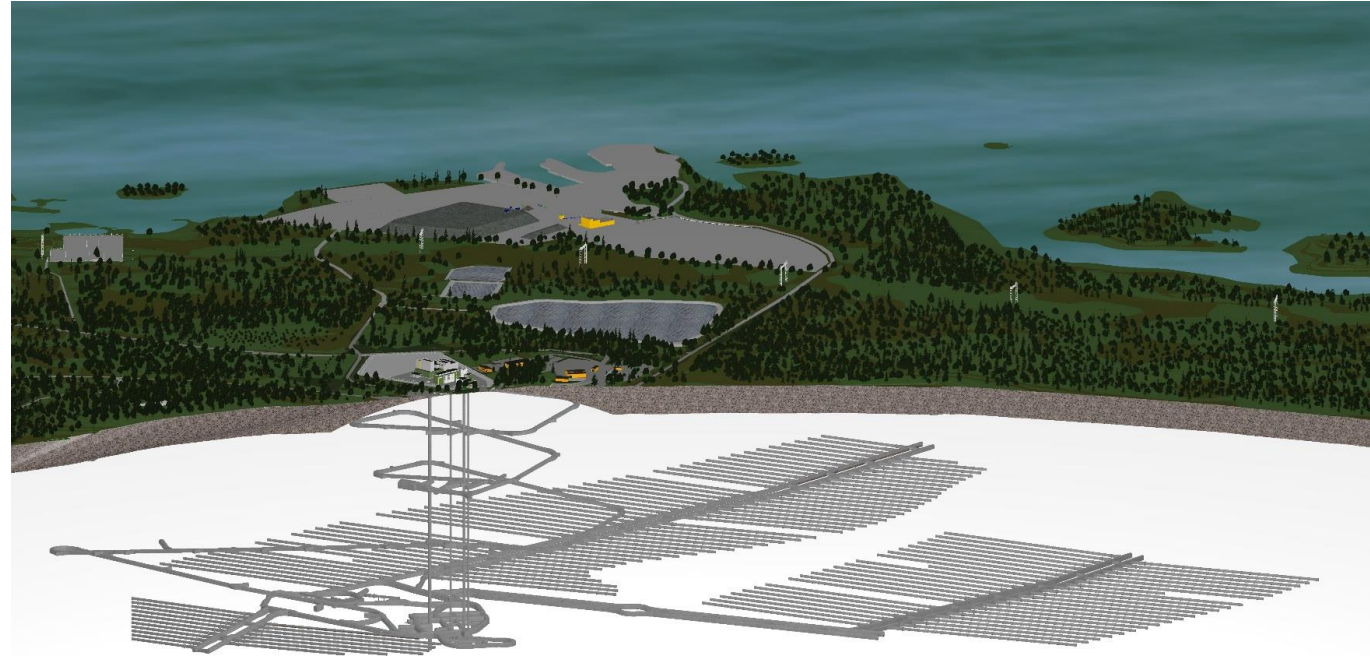
- Perform site confirming studies after Olkiluoto site selection
- Develop Construction Methods for a DGR
- Carry out demonstrations at the disposal level
- A learning experience for Posiva's own staff and contractors
- Both an underground research facility and a final disposal facility
- Rehearse construction under supervision of a nuclear safety authority



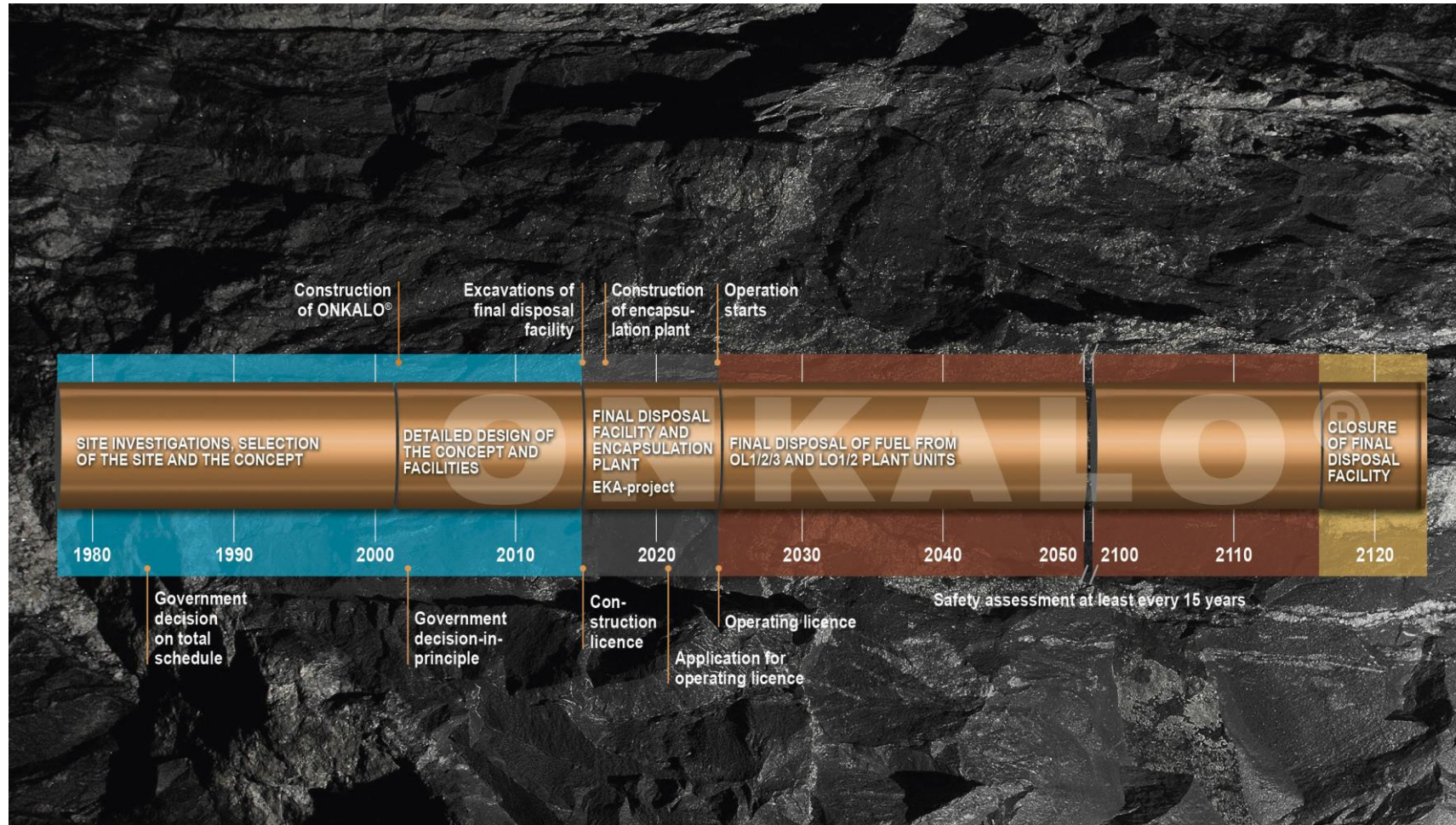


## CONSTRUCTION OF THE FINAL DISPOSAL FACILITY

- Repository capacity is 6500 tU (about 3250 canisters)
- The repository consists of four shafts, a ramp, central tunnels, deposition tunnels, auxiliary rooms for parking and maintenance, social rooms
- Depth of the tunnel system -400-455 m and the extent is about 2 km<sup>2</sup>
- The volume of the underground rooms about 2 million m<sup>3</sup>
- Tunnel length about 60-70 km in total
- Construction and operating time approximately 100 years



## LIFE-SPAN OF POSIVA'S FINAL DISPOSAL FACILITY PROJECT – 150 YEARS





## PREPARING FOR THE OPERATIONAL PHASE

- **A programme launched aiming at gaining an operating license: an operating license application, as-built documentation of the facilities, commissioning test**
- **Production phases and disposal frequency decided**
- **Operating organization and outsourced resources defined**
- **Purchase strategy and processes to support the operations at the site and in the final disposal facility defined**
- **Supply chain definition and management including logistical solutions**