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# Joint Activities update DOPAS Johanna Hansen IGD-TP Exchange Forum no 3

*“The research leading to these results will receive funding from the European Union's European Atomic Energy Community's (Euratom) Seventh Framework Programme FP7/2007-2011 under grant agreement no 323273, the DOPAS project”.*

03/12/2012



# Joint Activity N° 2

TEP

Full-scale demonstrations of plugging and sealing

**SRA**

Key Topic : N°3

Topic :6

Topic priority : High

Posiva Oy

Andra  
Nagra  
NDA  
(BMW)  
Rawra  
SKB

DBE TEC  
GRS  
CTU  
NRG  
GSL  
VTT  
UJV

BTECH

*Euratom FP7 Project: DOPAS*

03/12/2012



2  
Exchange Forum N°3

## Objectives of the Joint Activity

DOPAS aims to improve the adequacy and consistency regarding industrial feasibility of plugs and seals, the measurement of their characteristics, the control of their behavior over time in repository conditions and also their hydraulic performance acceptable with respect to the safety objectives. This DOPAS project addresses the design basis, reference designs and strategies to demonstrate the compliance of the reference designs to the design basis, for plugs and seals in geological disposal facilities.

**Schedule and Milestones: 1st September 2012- 31st August 2016, 48 months**

## Expected Results of the Joint Activity

Five different demonstration experiments are part of the project and will take place in France, Czech Republic, Sweden, Finland, and Germany. They are in different states of development. The Swedish demonstrator is constructed prior to start of the DOPAS project and will basically provide experience on demonstration of compliance of reference design to the design basis. German demonstrator will be installed after the DOPAS project and will focus on demonstration of suitability by performance assessment. The French, Finnish, Swedish, Czech and German experiments will address developments in all phases of design basis, reference designs and strategies to demonstrate compliance of reference designs to design basis. The studied concepts will be developed in the DOPAS's five thematic scientific/technological work packages, which each integrate the results of the individual experiments.

**Inputs**  
 Boundary conditions & Regulatory requirements & Site characteristics  
 Disposal concept & WMO stakeholder requirements  
 Repository subsystem (plug and/or seal) requirements  
 and state-of-the-art in subsystem design

**Design basis for repository subsystem**

Engineered barriers  
 Underground openings ↔ Long-term repository safety

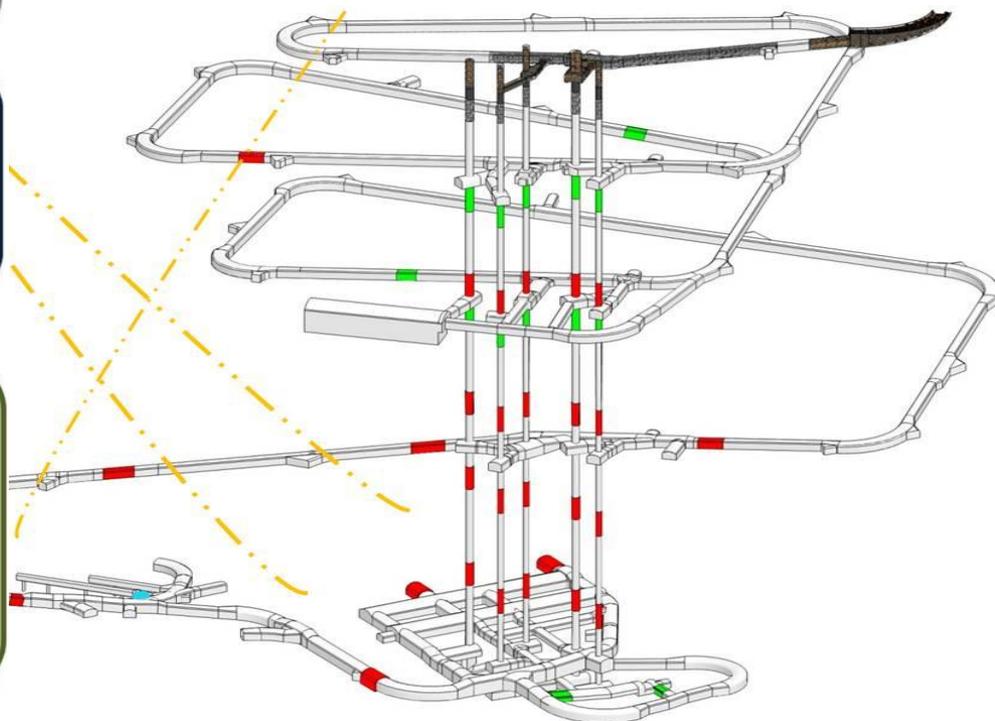
**Design of repository subsystem**

Extended knowledge base ↔ Technical feasibility  
 Technological development

Full scale insitu demonstration experiment (5 demonstrations)

**Performance and Safety Assessment**

**Outputs**



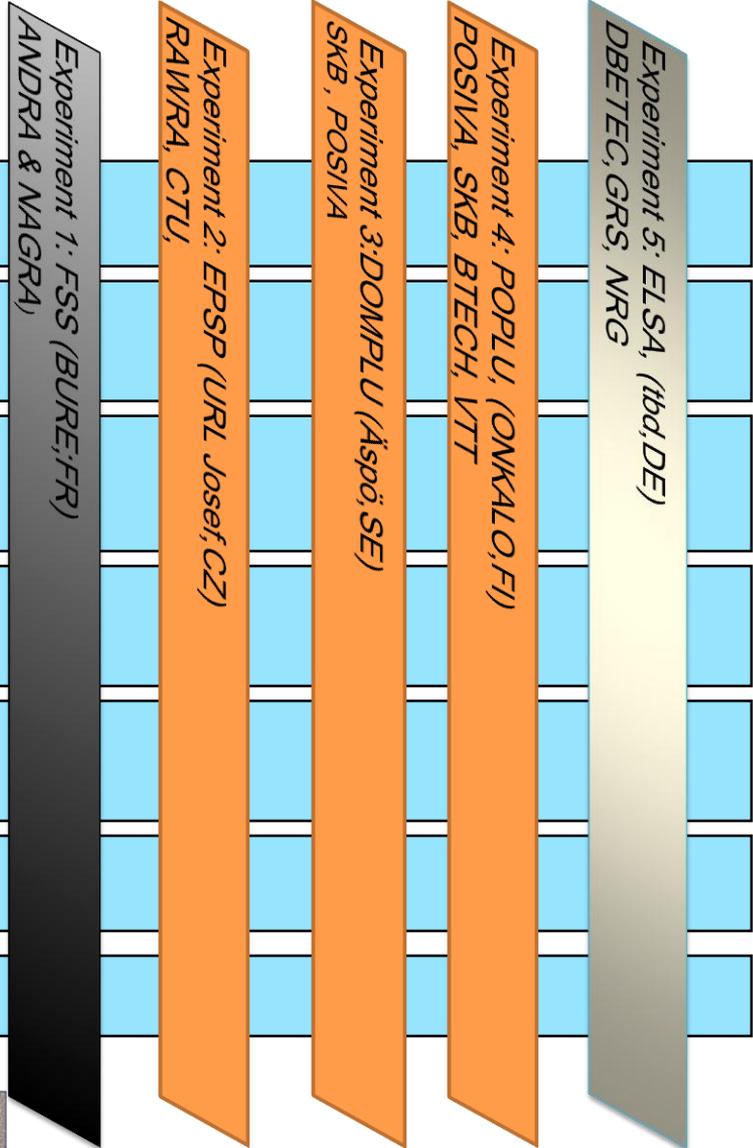
- BOREHOLE PLUG
- INTRUSION OBSTRUCTING PLUG
- HYDRAULIC PLUG
- MECHANICAL PLUG
- DEPOSITION TUNNEL END PLUG (HYDRO-MECHANICAL PLUG)

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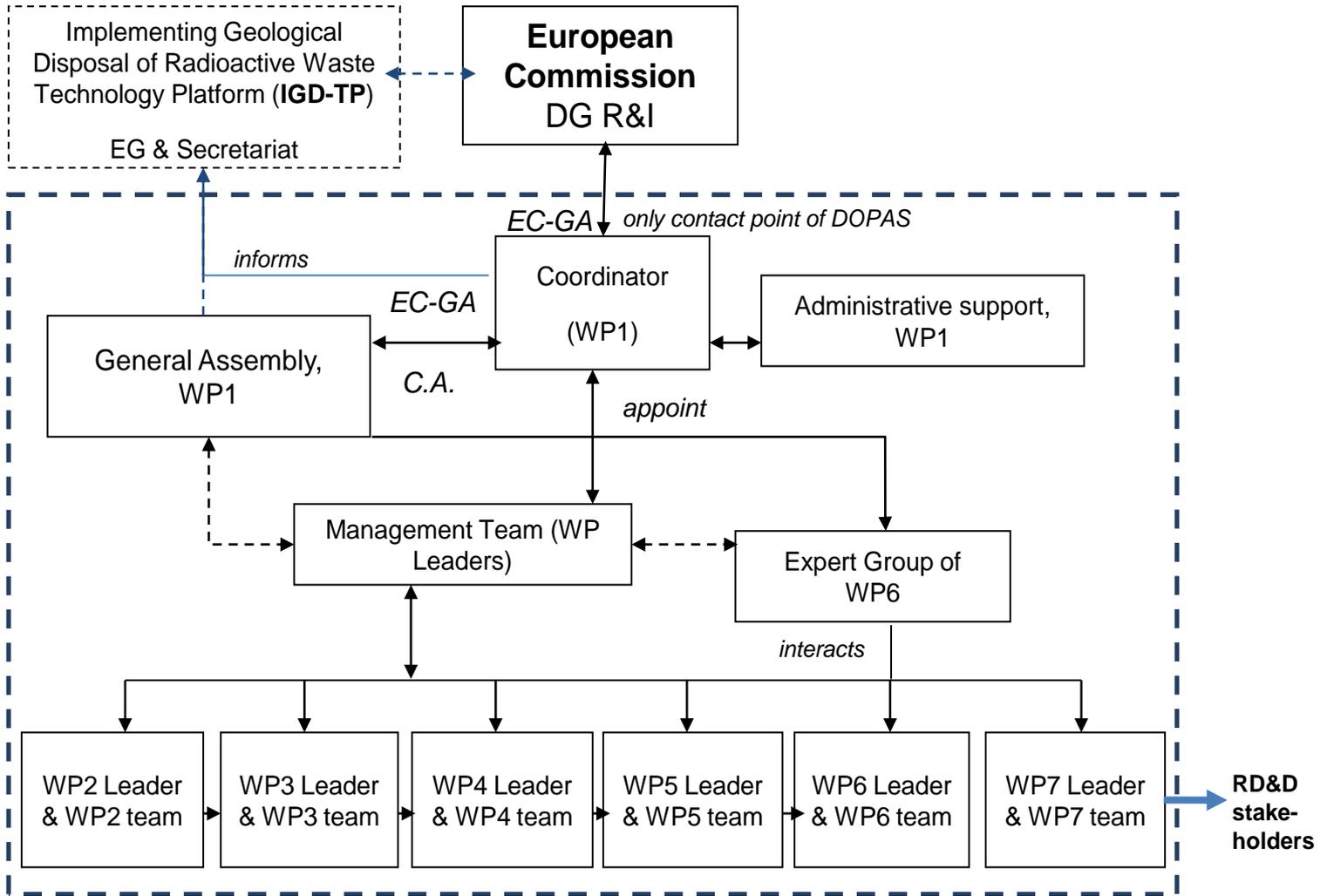
# DOPAS

- WP1 Project Management and Coordination (Posiva)
- WP2 Definition of requirements and design basis of plugs and seals (SKB)
- WP3 Design and technical construction feasibility of plugs and seals (Andra)
- WP4 Appraisal of plugs and seals system's function (NDA)
- WP5 Performance assessment of the plugs and seals systems (GRS)
- WP6 Integrative analysis of results (Posiva)
- WP7 Dissemination (Posiva)



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# DOPAS Project Budget and EC Financial Contribution Granted (no 323273)

<b>DOPAS TOTAL</b>	WP1	WP2	WP3	WP4	WP5	WP6	WP7	TOTAL
Person months	25.3	52.5	359.5	75.2	221.5	33.5	33.2	800.7
Total project budgeted costs MEur	0.55	1.06	8.48	1.68	2.62	0.70	0.65	15.74
<b>Requested EC contribution MEur</b>	0.55	0.62	4.22	8.39	1.43	0.39	0.65	<b>8.70</b>

03/12/2012

