

# Used Fuel Disposition Campaign

## KOSINA Collaboration

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# What is KOSINA?

## == KOSINA Project ==

- ❑ **BMW/PTKA launched the R&D project KOSINA on July 1 , 2015**  
(Konzeptentwicklung für ein generisches Endlager für wärmeentwickelnde Abfälle in flach lagernden Salzschieben in Deutschland und Überprüfung des entwickelten Sicherheits- und Nachweiskonzeptes)  
*= development of a concept for a generic repository for heat generating waste in bedded salt in Germany as well as the review (adaptation) of existing safety and safety demonstration concepts*
- ❑ **Partners: BGR, GRS, IfG, and DBE TEC**
- ❑ **Duration: 32 months (end of project: February 28, 2018)**

## Objectives

- ❑ major objective:
  - development of a technical site-independent concept for a repository for heat generating waste and spent fuel on the basis of generic geologic models for bedded salt including a safety and safety demonstration concept
- ❑ detailed objectives:
  - development of a generic geologic model (+ parameters)
  - development of a safety and safety demonstration concept
  - development of technical repository designs
  - demonstration of geomechanical integrity
- provide a technical-scientific basis for the safety oriented evaluation of repository systems in different host rocks according to the site selection law.

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## Work Program

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**WP 1: Compilation of basic planning data and requirements (all)**

**WP2: Development of generic geologic models and derivation of model parameters (BGR and IfG)**

**WP3: Development of safety / safety demonstration concepts (GRS)**

**WP4: Analysis of geo-mechanical integrity (BGR und IfG)**

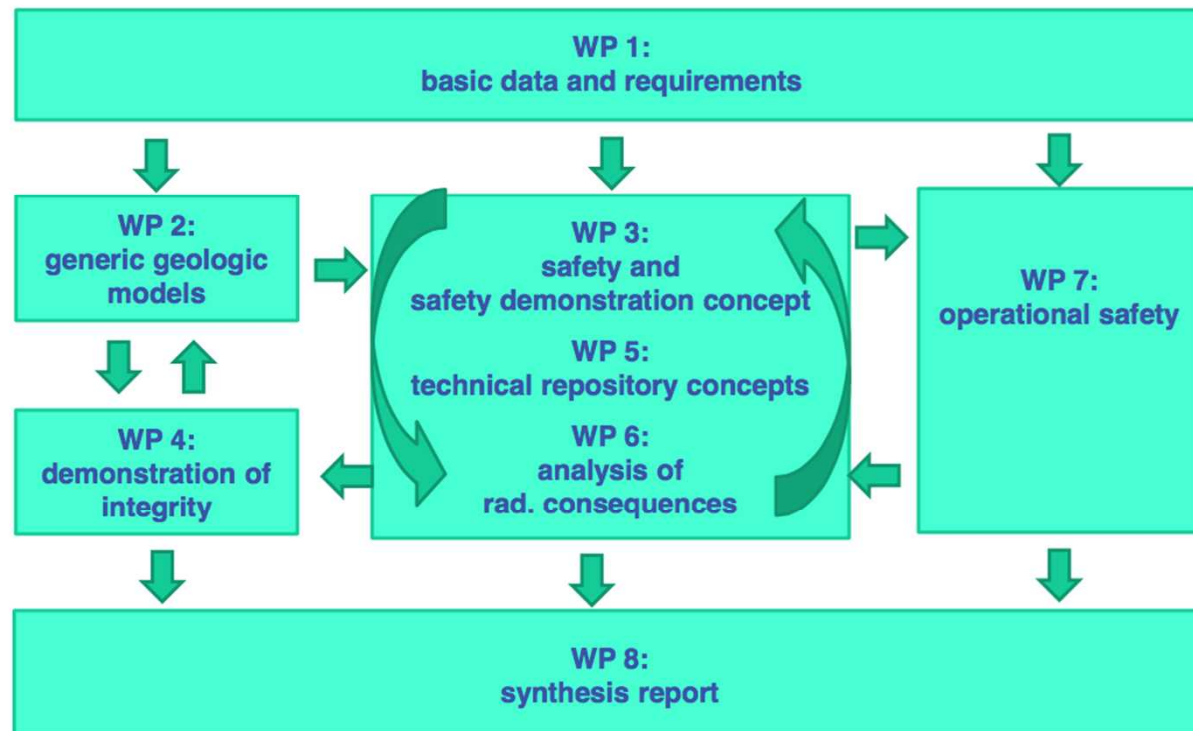
**WP5: Development of repository designs for 4 variants (DBE TEC)**

**WP6: Analysis of radiological consequences (GRS)**

**WP7: Evaluation of operational safety (DBE TEC)**

**WP8: Synthesis report (all)**

## Interdependencies of Work Packages



# KOSINA Current Status

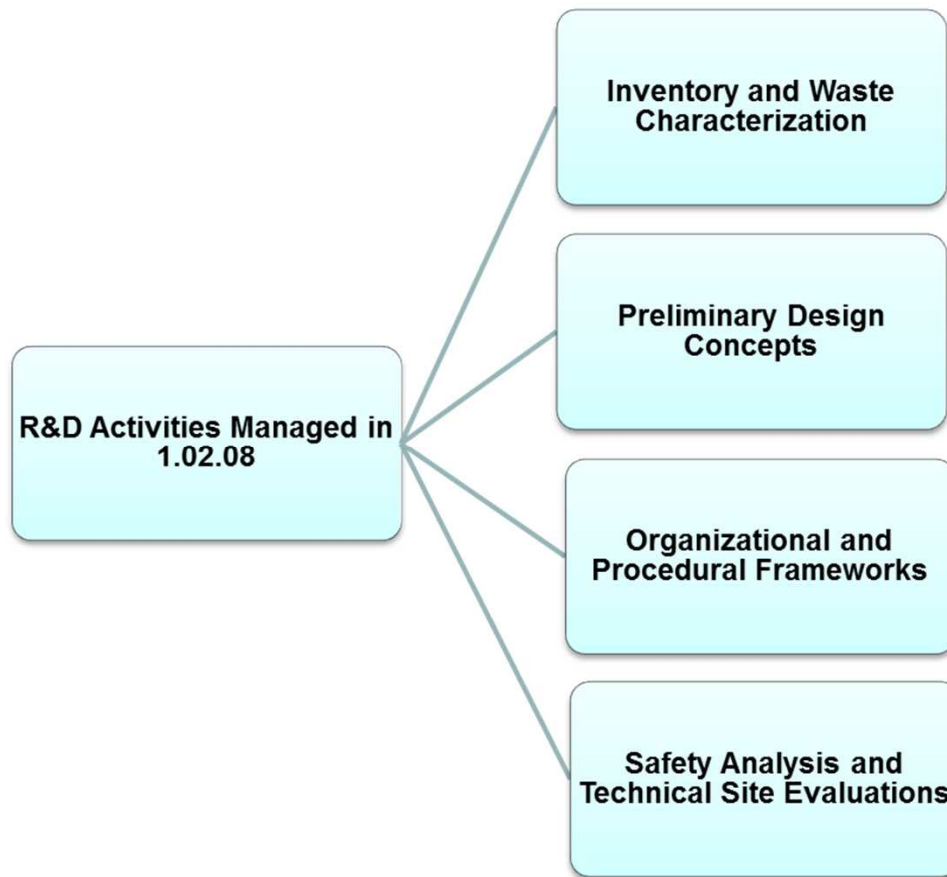
## Achievements

- ✓ **WP1:** Set of basic design data and requirements accomplished (waste inventory, legal design requirements, description of geological situation for bedded salt, survey of existing safety and demonstration concepts)
- ✓ **WP2:** Generic geologic model and model parameters developed for type bedded salt
- ✓ **WP3:** Draft outline of a safety and safety demonstration concept
- ✓ **Interim Report** (December 2015) on basic data and repository design requirements, on geologic models as well as on the outline of a safety and safety demonstration concept published

## Outlook

- step by step implementation of work program according to project schedule
- R&D project KOSINA is going to fill a gap on repository design and safety demonstration concepts
- R&D project KOSINA results will not be fully available for the final report of the Repository Commission (June 2016)
- However the expected results/final report will be available when a new site selection process is going to be implemented (2017/18 )

# Structure of Technical Work Areas



**Potential areas of collaboration with KOSINA:**

- ***Inventory – comparison of the OWL (online waste library) inventory by means of comparison with the German data management plan.***
  
- ***Safety Analysis – FEPS comparison and/or a PA comparison***
  
- ***Design Concepts –current plan to study salt discontinuities. This concept into an investigation of localized permeability effects.***
  - *Design selection criteria development and thermal analysis were also areas of potential interest.*