



## SHale gas Exploration and Exploitation induced Risks



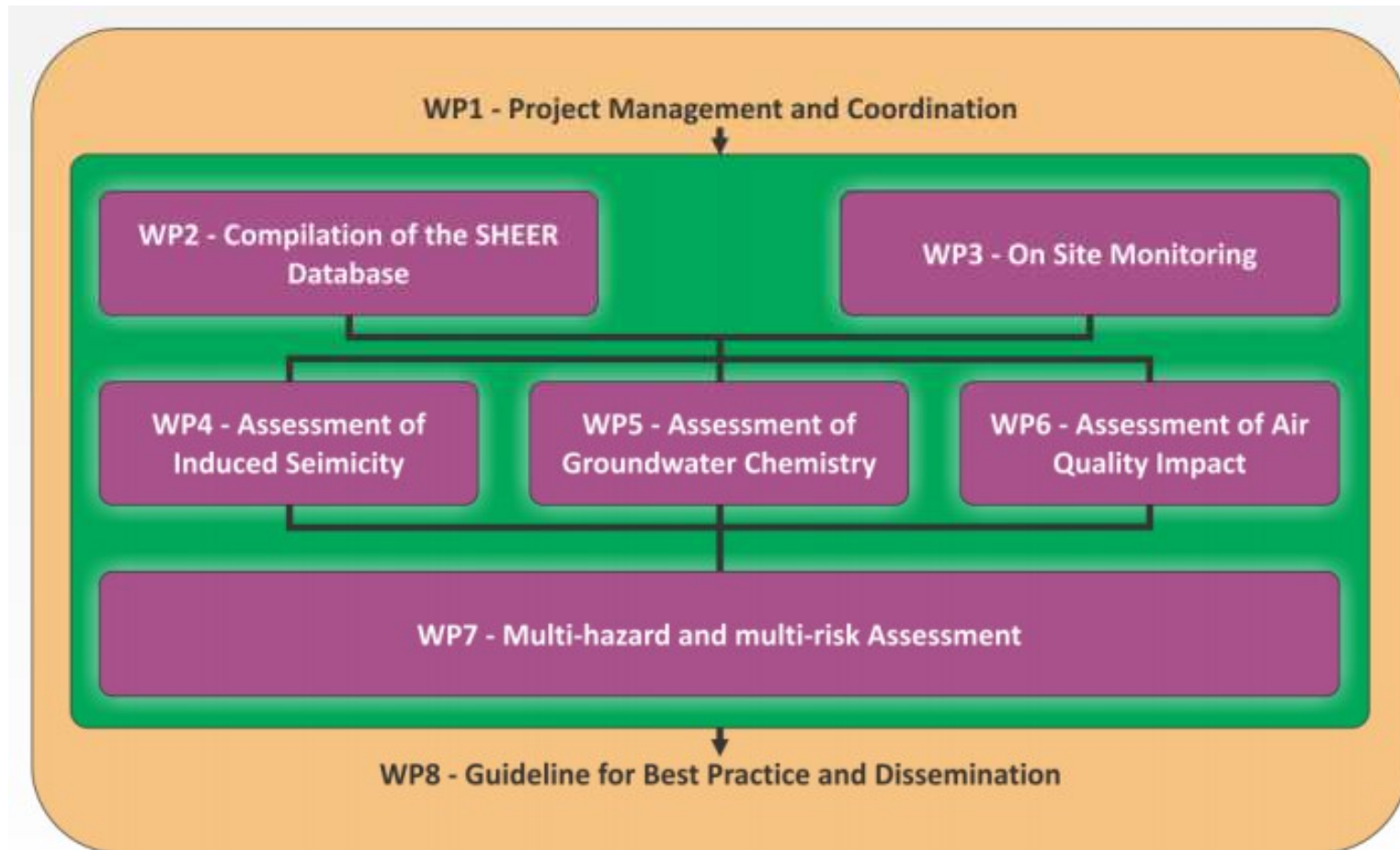
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WP7 → WP8

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**Final Meeting**  
Krakow, 26-28 April 2018

# Link from WP7 to WP8

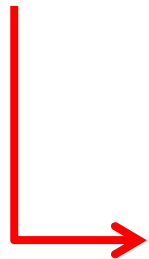


# The link between WP7 and WP8

**WP8:** “In this task in undertaking risk management of shale gas exploration and exploitation, risk components would be considered in line with the interpretation of the ISO 31000 risk management process, while the approach for risk analysis will be based on the multi-risk framework proposed in WP7”



**Task 8.2:** Risk management of shale gas exploration and exploitation  
→ **D8.3** – Guidelines for risk management of shale gas exploration and exploitation (RSKW Ltd)

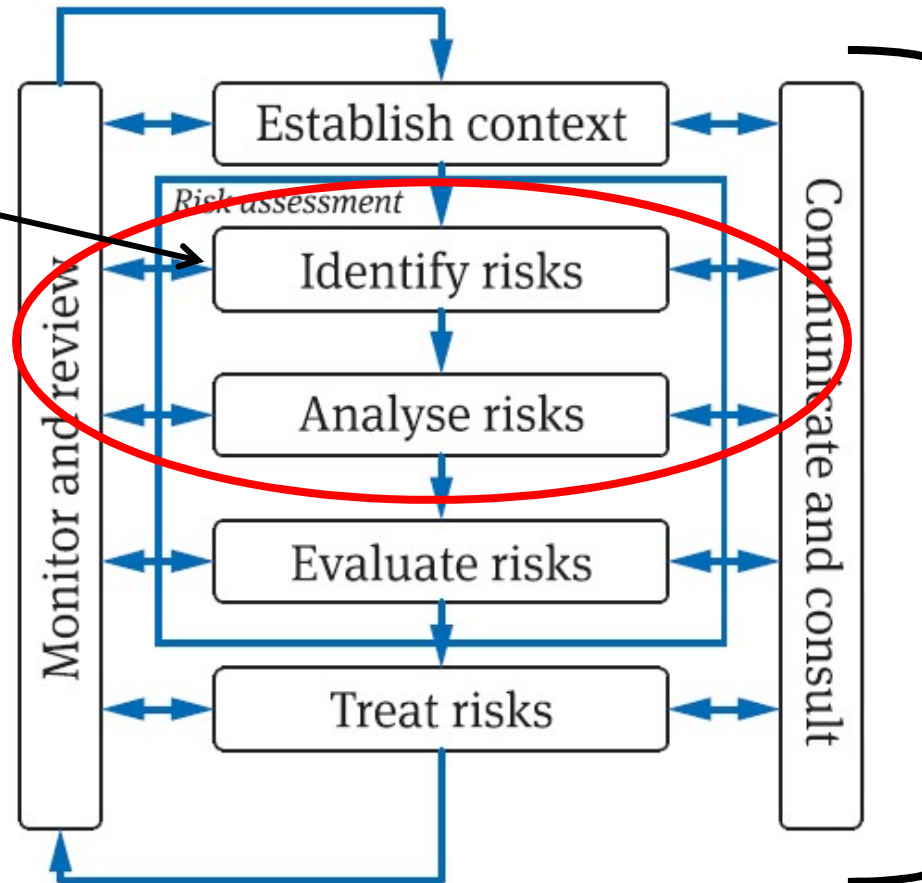


## **WP7 – Multi-hazard and Multi-risk Analysis**

- **D7.1** – Framework for holistic multi-risk assessment of shale gas operations: (1) methods for identifying and structuring scenarios. Garcia-Aristizabal et al., 2016.
- **D7.2** – Framework for holistic multi-risk assessment of shale gas operations: (2) Probabilistic framework. Garcia-Aristizabal, 2017a
- **D7.3** – Multi-risk assessment in a test case. Garcia-Aristizabal, 2017b.

# Risk Assessment Process

**WP7  
Multi-hazard**



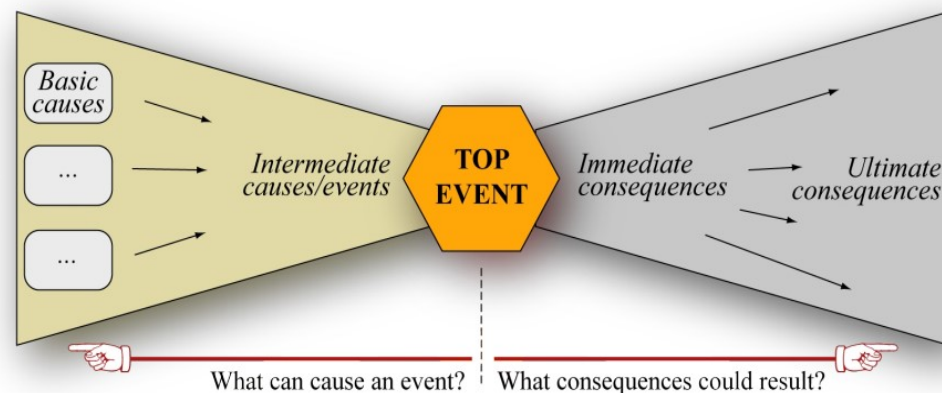
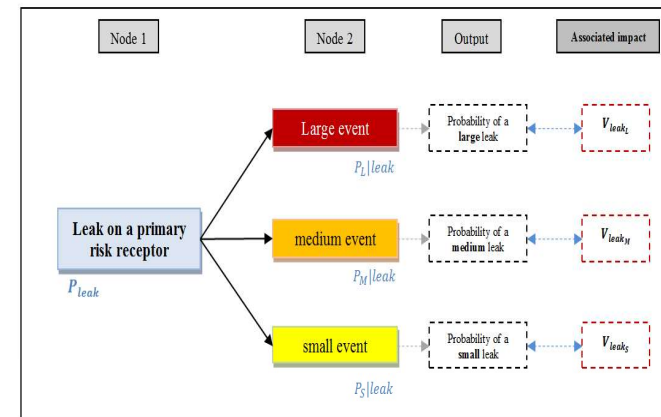
**WP8  
Risk  
Management**

(ISO, 2018)

# Multi-risk Analysis

## Risk analysis techniques:

1. **Risk specific analysis** i.e. Air, seismic water. Baseline measurements, fracture/geomechanical models, groundwater flow models, atmospheric predictions
2. **Multi-risk analysis** – predictive models to understand cause and effect
3. **Contextual Analysis** – WP8



(Garcia-Aristizabal *et al.*, 2016)

# A Combined Approach

