Organisation name and webiste: Technische Universiteit Delft (TU Delft), https://www.tudelft.nl/	
General Description	TU Delft is the oldest, and with 25,000 students and 6000 employees, also the largest technical university of the Netherlands. The common mission of the 8 different faculties (offering 16 bachelor's and more than 30 master's programmes) is: *impact for a better society*.
Scientific group of reference	Associate Professor Dr. Hadi Hajibeygi will commit 10% of his time to lead the research, training and supervision at TU Delft. Hadi Hajibeygi was lead PI of various research projects from Schlumberger, Shell, ADNOC, +1.2m€, completed. Hadi Hajibeygi received a grant from the Ministry of Sciences, Research and Art of State of Baden-Wurttemberg, Germany, together with SimTech Centre of Stuttgart University, 50k€, 2017-2020. Hadi Hajibeygi is awarded 25k€ by the government of the Netherlands (RVO and Ministry of economic affairs) to organise the 1st international summer school on H2 storage in Delft in summer 2022. Dr. Maartje Boon, senior research associate, will commit 10% of her time to support the research, training and supervision at TU Delft.
Key Research Facilities, Infrastructure and Equipment	TU Delft is home to one of the world's leading Geoscience and Engineering departments with subsurface storage as one of the key strategic multidisciplinary themes. The key scientific expertise include characterisation, modelling, simulation, monitoring, optimisation and safety assessments of subsurface formations. Part of the training of the PhD students will be provided by the Delft Advanced Reservoir Simulation (DARSim) research group. DARSim is established in 2013 for development of advanced modelling and simulation methods for complex processes in the subsurface geological formations. In addition, the PhD student will have access to the state of the art Laboratory of Geoscience & Engineering which is equipped with highly advanced instrumentations and set-ups to qualify and quantify chemical and physical processes in rocks and soils under deep and shallow in-situ conditions. Experimental equipment key to the proposed research project are the tri-axial stress/strain devices.
Status of Research Premises	The computational facilities, as well as the laboratory facilities in the department of Geoscience & Engineering at TU Delft are owned by TU Delft and are wholly independent from other beneficiaries and/or partners in the consortium.
Involvement in Research and Training Programmes	1. Hadi Hajibeygi is a NWO-Vidi laureate, project 'ADMIRE' subsurface energy storage, 820k€ (cash)+180k€ (in-kind), 2019- present. 2. Hadi Hajibeygi is the co-PI of Science4Steer project with NWO (Dutch National Science Foundation) NL to study induced seismicity of Groningen Field, 1.4m€, Started Sep/2019, 4 years. 3. Hadi Hajibeygi is the PI of SafeInCave project sponsored by Shell involving geo-mechanical simulation of salt caverns under cyclic loading for safe underground hydrogen storage, 468k€.
Publications/datasets/ softwares/ Innovation Products/ other achievements	1. Ramesh Kumar, K., Makhmutov, A., Spiers, C. J., & Hajibeygi, H. (2021). Geomechanical simulation of energy storage in salt formations. Scientific Reports, 11(1), 1-24.. https://doi.org/10.1038/s41598-021-99161-8 2. Hashemi, L., Glerum, W., Farajzadeh, R., & Hajibeygi, H. (2021). Contact angle measurement for hydrogen/brine/sandstone system using captive-bubble method relevant for underground hydrogen storage. Advances in Water Resources, 103964. https://doi.org/10.1016/j.advwatres.2021.103964 3. Hashemi, L., Blunt, M., & Hajibeygi, H. (2021). Pore-scale modelling and sensitivity analyses of hydrogen-brine multiphase flow in geological porous media. Scientific reports, 11(1), 1-13. https://doi.org/10.1038/s41598-021-87490-7 4. Kumar, K. R., & Hajibeygi, H. (2021). Multiscale simulation of inelastic creep deformation for geological rocks. Journal of Computational Physics, 440, 110439. https://doi.org/10.1016/j.jcp.2021.110439 5. Hajibeygi, H., Olivares, M. B., HosseiniMehr, M., Pop, S., & Wheeler, M. (2020). A benchmark study of the multiscale and homogenization methods for fully implicit multiphase flow simulations. Advances in Water Resources, 143, 103674. https://doi.org/10.1016/j.advwatres.2020.103674