

## Deliverable D1.2

# Drillability mapping and state of the art of the drilling methodologies

### WP 1

<b>Grant Agreement number</b>	792355
<b>Project acronym</b>	GEO4CIVHIC
<b>Project full title</b>	Most Easy, Efficient and Low Cost Geothermal Systems for Retrofitting Civil and Historical Buildings
<b>Due date of deliverable</b>	30/06/2019 (M15)
<b>Lead beneficiary</b>	UNIPD DG
<b>Other authors</b>	Dalla Santa Giorgia (UNIPD DG) Galgaro Antonio (UNIPD DG) Di Sipio Eloisa (UNIPD DG)

#### *Dissemination Level*

<b>PU</b>	Public	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	<b>X</b>
<b>CI</b>	Classified, as referred to in Commission Decision 2001/844/EC	

## Publishable summary

The *D 1.2 - Drillability mapping and state of the art of the drilling methodologies*, is a confidential document delivered in the context of WP1, *Task 1.2: Mapping of ground eligibility for drilling methodologies and borehole heat exchangers*. In this task, two deliverables are foreseen, this and a final one at the 36<sup>th</sup> month entitled *D 1.6 - Integration of the drilling developments in the implemented drillability mapping*.

“Drillability” is understood as the prediction of the most suitable drilling methods and related borehole heat exchanger types for a given underground, with the estimated installation time in function of the rig and drilling technique types and the local geological constrains.

This document describes all the activities performed in order to define the drillability of the different geological context in Europe and in the real test sites selected for the project and, finally, present the first drillability maps produced.

The drillability maps are produced both at European scale and at local municipal scale, with different purposes. The first aims at providing a first overview of the faster/cheaper drilling technique applicable all around Europe; it is addressed to interact with the applications for support of shallow geothermal workers to be developed in Task 4.4. The second kind of map further improve and complete the techno-economic maps already developed within the previous EU funded project Cheap-GSHPs and representing the feasibility of several kind of heat exchangers and the potential savings in terms of costs and efficiency. In this case, the drillability maps want to suggest a preferable drilling technique at local scale and provide a first evaluation of the drilling time and costs.

The mapping method will be further implemented and verified during the next working period, in order to finally verify the maps by comparison with the measured drilling times and drilling costs and techniques applied in the real demonstration cases. This further work will be finalized and presented in the deliverable *D 1.6 - Integration of the drilling developments in the implemented drillability mapping*, to be released at the 36th month.