



**FUTURE
CIRCULAR
COLLIDER**
Innovation Study

EXCAVATION MATERIALS MANAGEMENT PLAN: PROGRESS AND ONGOING WORK

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WG3 – Integrate Europe

Task 3.4 - Management of excavated materials

D3.4: Preliminary excavation materials management plan (CETU)

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Description of deliverable D3.4 *Preliminary excavation materials management plan*

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Description of deliverable D3.4 Preliminary excavation materials management plan

As mentioned in the FCCIS Program ...

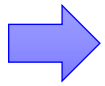
*“A technical/managerial report that summarises the approach for managing the approximately **9 million cubic meters of excavation materials** in a resource- and cost-effective way, pointing to innovation potentials with economic benefits for companies and environmental advantages for the European society.*

The plan is considered to be preliminary, since specific management processes, the economic viability and the environmental benefits of the envisaged excavation materials use cases depend strongly on the precise sub-surface investigations, the evolution of legal frameworks in the EU and Switzerland and the response of companies to market surveys, all of which are expected to evolve after this H2020 project ends.”

Objectives

As part of WP3 ...

“The project can only be implemented if both, a territorial implementation scenario is societally acceptable and if the required performance for scientific research can be delivered.”



This also includes : **the Owner's Strategy** as regards management and use of huge quantities of excavation materials, preservation of natural resources and avoidance of final disposal

At this stage of development, the Owner has to demonstrate that he has tackled the problem and that the feasibility of the project has been studied as regards excavated material management to limit environmental impacts.

This may have economic consequences but both cost and risk have to be controlled.

Content

Chapter 1. An exceptional project concerning the management of excavated materials

- 1.1. Introduction
- 1.2. CERN's Future Circular Collider
- 1.3. Context and challenges
- 1.4. The project owner's priorities and commitments in terms of excavated materials management

Chapter 2. Risk management process for the MATEX

- 2.1. Risk process
- 2.2. Project phases and associated activities
- 2.3. Subsurface investigations
- 2.4. Impact of excavation methods on use
- 2.5. Strategy for handling and treatment of polluted materials
- 2.6. Quality management

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Chapter 3. Management and use of excavated materials

- 3.1. Regulatory requirements
- 3.2. Identification of possible use cases
- 3.3. Excavation material use case descriptions
- 3.4. Logistics: treatment, transport, delivery, storage and disposal

Chapter 4. Innovative roadmap and action plan

- 4.1. Predicted schedule and inventory of excavated materials
- 4.2. Evaluation of excavated materials use
- 4.3. Planned excavated material use
- 4.4. Strategy for construction contracts with regards to excavated materials

+ References and appendices

Contributors



REPUBLIQUE
ET CANTON
DE GENEVE

POST TENEBRAS LUX

GESDEC

Collaboration with external experts:

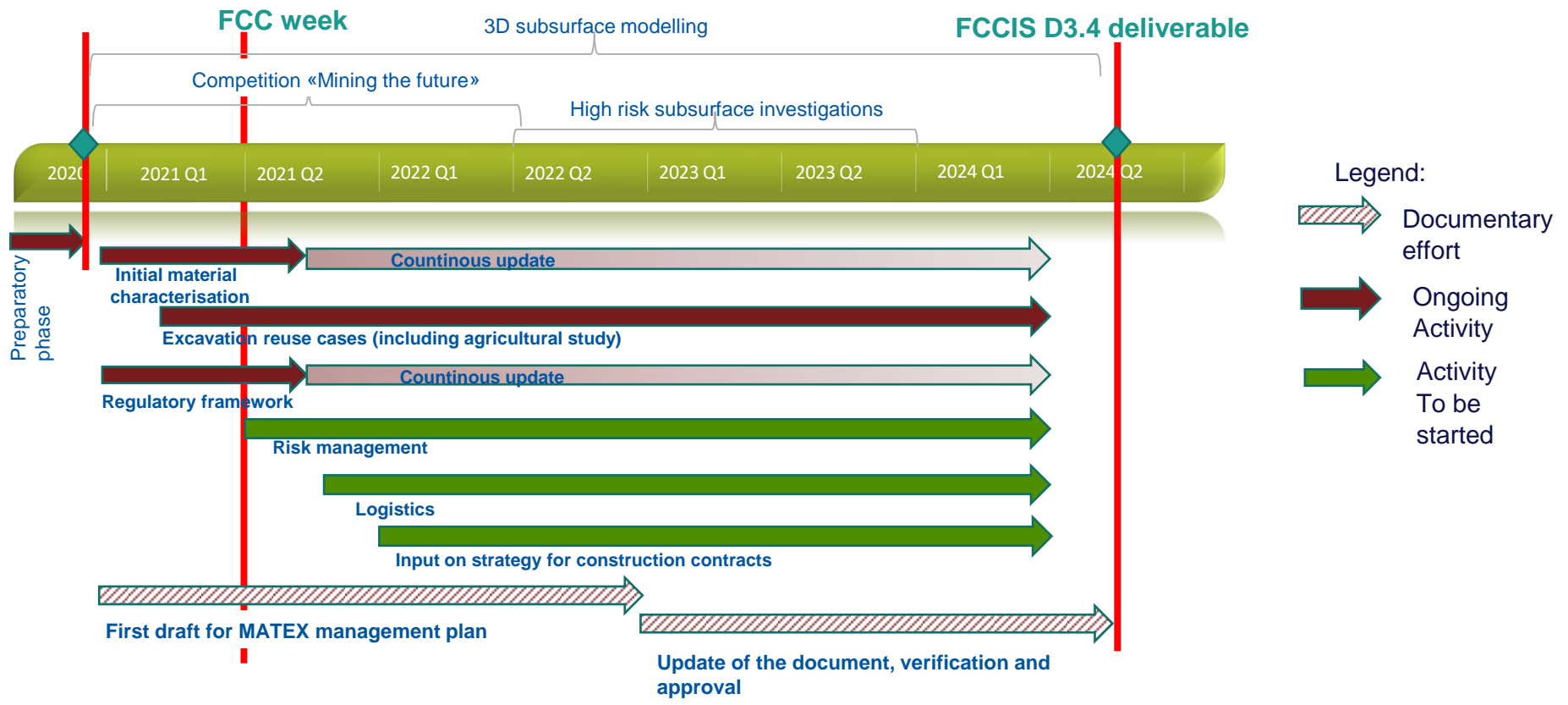
- *Regulatory framework*: University of Lyon 3,
- *3D subsurface modelling*: University of Geneva, GESDEC, University of Grenoble, Université "La Sorbonne" (Paris)

Support by external consultants:

e.g. Inventory of regional opportunities:
SETEC/Lerm

Progress and provisional schedule

	Writing	Review	Deadline	Notes
Chapter 1. An exceptional project concerning the management of excavated materials				
1.1. → 1.4.	CERN	All	March 2021	Review in progress
Chapter 2. Risk management process for the MATEX				
2.1. Risk process	CETU	MUL	June 2021	In progress
2.2. Project phases and associated activities	CERN/CETU	All	June 2021	In progress. Collection of information ongoing.
2.3. Subsurface investigations	CERN/MUL	CEREMA/CETU/ CERN	June 2021	In progress. Geological investigations by M. Haas (PhD)
2.4. Impact of excavation methods on use	CETU/CERN	MUL	December 2021	Collection of information ongoing
2.5 Strategy for handling and treatment of polluted materials	CETU/GESDEC	CEREMA/MUL	December 2021	Interface with environmental impact evaluation
2.6 Quality management	CETU	CEREMA	December 2021	Acceptance conditions: SETEC work on inventory of local installations. Collaboration with other owners?
Chapter 3. Management and use of excavated materials				
3.1 Regulatory requirements	CETU/GESDEC	CEREMA	June 2021	In progress
3.2 Identification of possible use cases	CEREMA/MUL	CETU	After « Mining the future »	Input: SETEC work on inventory of local installations
3.3. Excavation material use case descriptions	CEREMA/MUL	CETU	To be started	the competition“ mining for future” will provide input
3.4. Logistics: treatment, transport, delivery, storage and disposal	To be decided	To be decided	To be started	
Chapter 4. Innovative roadmap and action plan				
4.1. → 4.4.	CERN/CETU	CEREMA	To be started	



“Mining the Future”: Mineralogical, chemical and geotechnical characterization ongoing: first results are available on **ZENODO**
First draft of the management plan available at the end of 2022





Thank you
for your attention.