

Reviewer 1

It was a pleasure to read the article titled “V3Geo: A cloud-based repository for virtual 3D models in geoscience” written by Simon John Buckley, John Anthony Howell, Nicole Naumann, Conor Lewis, Magda Chmielewska, Kari Ringdal, Joris Vanbiervliet, Bowei Tong, Oliver Severin Mulelid-Tynes, Dylan Foster, Gail Maxwell, and Jessica Pugsley. In this article they present a tool/platform to make 3D geological data accessible for example for teaching, but also accompanying publications and just as shared data. The article is well written and without being aware of this upcoming publication, I actually used the V3Geo earlier this year to publish data for a publication. Hence, I first hand experienced the workflow and can confirm the suggested user experience in the article.

Dear Tobias,

Many thanks for taking the time to review our paper, and also for your positive response.

Nevertheless, I do have two minor comments (accepted subject to minor revisions), which I would like the authors to address:

Could the authors clarify what the difference (advantages/disadvantages) are between e-rock? Since e-rock, seems to be a very similar to V3Geo and thus in disagreement to the authors statement: “Although these studies highlight the practical benefits of web-based sharing of 3D models in geoscience, no current single repository has been presented for scientific and professional purposes. Solutions are limited in file (and therefore dataset) size, precluding many of the details needed for interpretation, do not allow supplementary interpretations or datasets, or are too broad in scope, covering all areas of society rather than being tailored to the geoscience community” (Line 72-75) Regarding the interpretation of data sets – V3Geo seems to me from a user perspective not yet different to other solutions on the market. Is the data interpretation only possible via Lime or did I overlook some of the features. Please clarify.

V3Geo has several main advantages as we see them. A) the database can handle very large and high resolution datasets comprising multiple sub-model sections (<https://v3geo.com/model/367> is a good recently published example, comprising 24 input sections each with around 3 million triangles). B) V3Geo has close to 300 contributions from around the world at the time of writing. C) Models are searchable based on the underlying data standard and database. D) Models get a basic quality control. E-Rock is a great initiative to create collections of virtual geology datasets, by embedding 3D models from Sketchfab within their own webpage with supplementary descriptions and diagrams, rather than a database. If desirable for the project, it would even be an option to embed the V3Geo models within relevant e-Rock pages to expand the collection of models available to the community as a portal with specialised focus. We have altered the sentence on e-Rock to reflect your comments. It is indeed important that the differencing is clear and to stress that both can coexist.

Regarding interpretations, V3Geo has display of interpretations built into the database, schema and 3D viewer. Upload of interpretation files and associating them with an author’s model is currently work in progress at the time of writing. We plan to support interpretation overlays (most applicable to LIME in the first instance) and generic polylines, in line with the API reaching a stable release (mentioned in Section 2.3.5). Other data types will be considered in future updates.

The authors mentioned the V3Geo platform has been designed to handle different scales of model (microscopic, hand specimens, outcrop, etc. (See Line 11-12, 26-27) However, the text is only talking about outcrop-models. Will the focus stay on outcrop models? Will V3Geo take at the same time hand samples into account, making it more similar to e-rock? Similar, what about the microscopic

scale? Are these mentioned, because the platform could be used as a framework for similar data platform related to microscopic samples? Please explain, why the mention of microscopic when the text is all about outcrop scale?

You are correct to point out that the content of V3Geo at time of submission is skewed towards geological outcrops rather than hand samples etc. This reflects the authors' main field of research and general network. In the meantime, several hand samples have now been contributed (e.g. <https://v3geo.com/model/343>) and we have tested the system with both 3D fossil models and a 3D model generated from SEM data. There are also several landslide models in the database (e.g. <https://v3geo.com/model/228>), and we are in correspondence with other contributors outside of pure geology. We have made some minor adjustments of the manuscript to, we hope, provide a more balanced use of "3D models" rather than "outcrops".