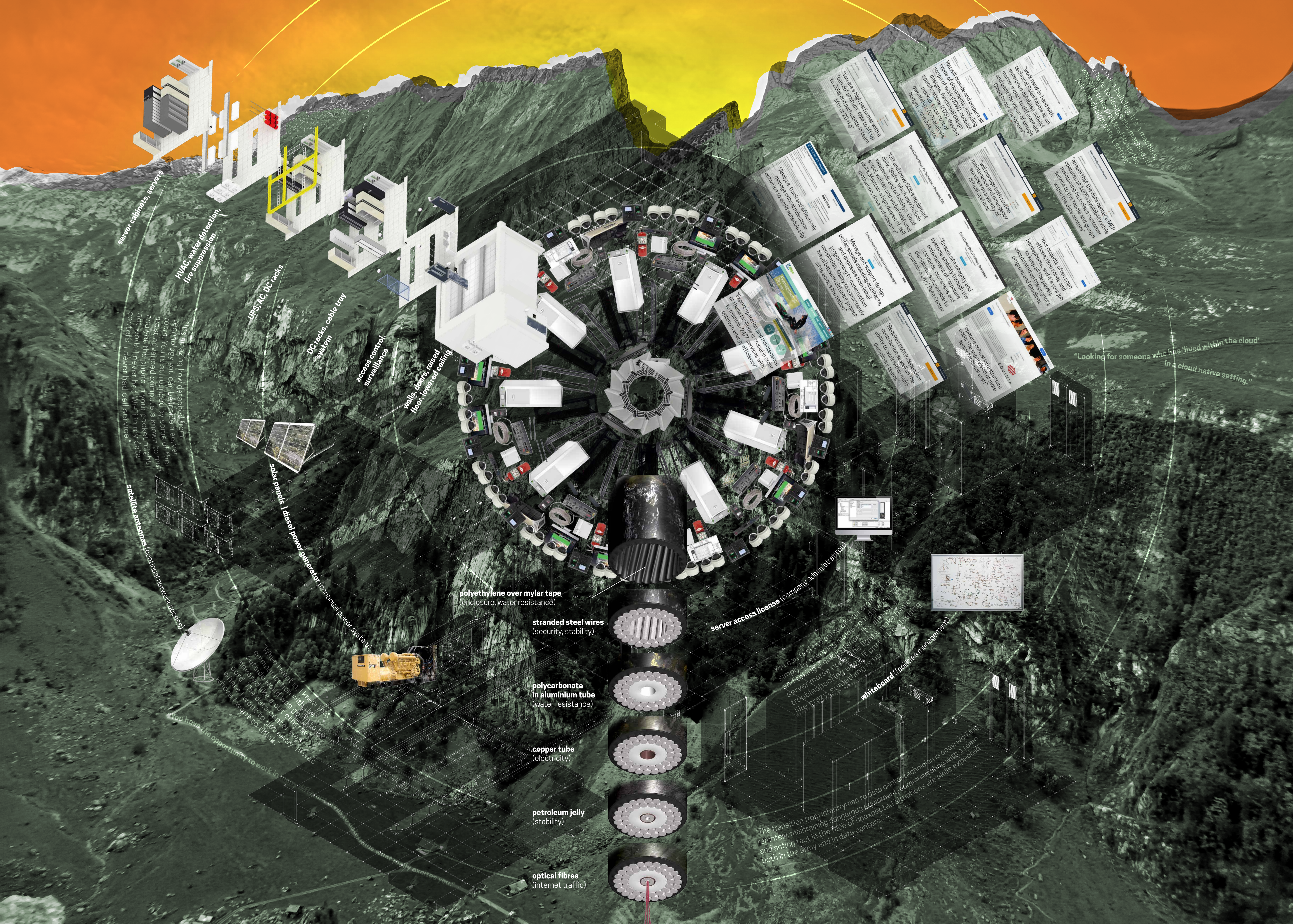
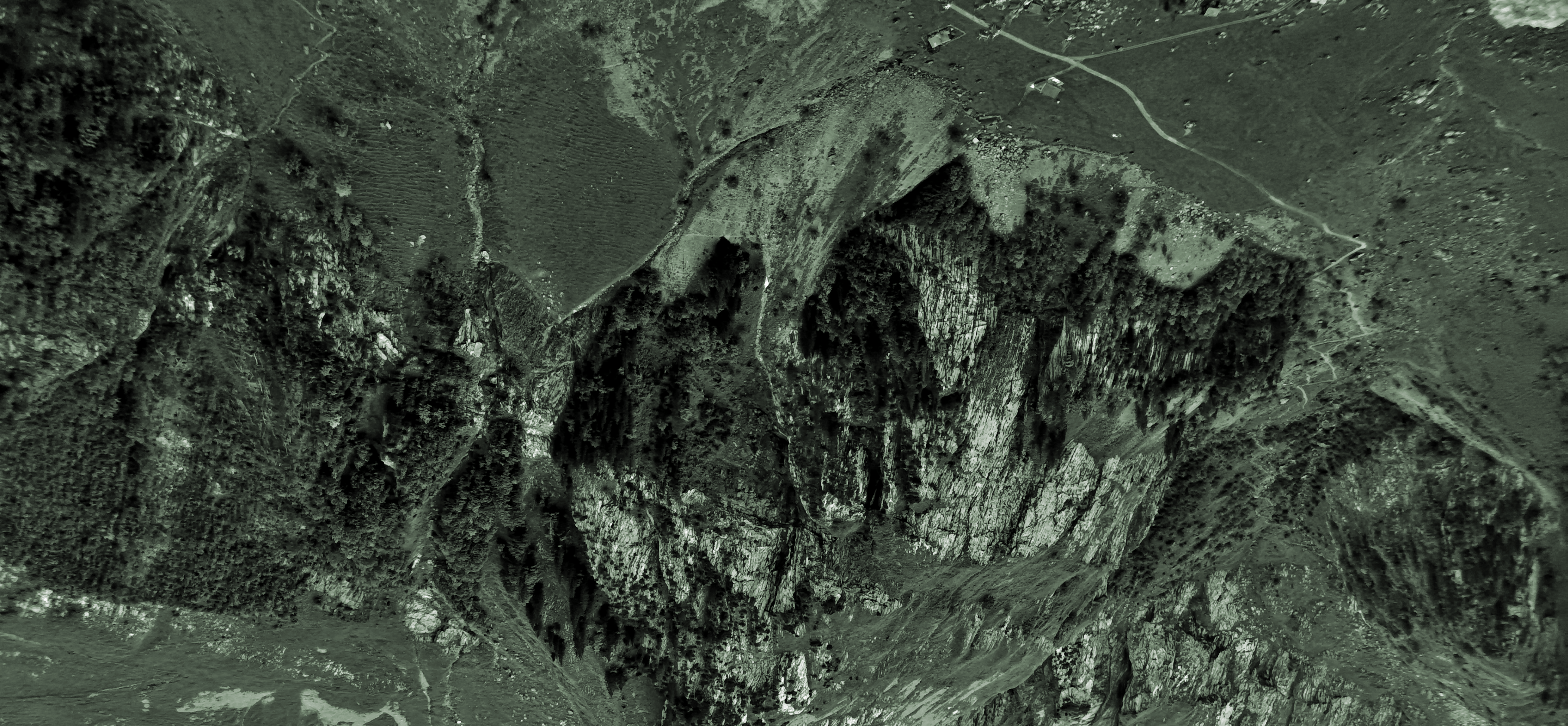








The human is not an *explanans*, but an *explanandum*, not an explanation but that which needs to be explained. To put it another way, the most philosophically complex and pragmatically robust accounts of what constitutes the specificity of this thing we call 'human' are accounts in which the idea of the 'human' as we've inherited it from the Western philosophical tradition actually does no heavy lifting (Cary Wolfe, Posthumanism, in: Braidotti & Hlavajova, Posthuman Glossary, 357).

*Cloud Cosmogram* responds to post-humanism as an agent *and* index of complexity; it understands post-humanism as an investigative attitude that refrains from searching for an essence of what we call 'the human' and instead involves multiplying it in pursuit of a fuller understanding of what being human actually means. Instead of indulging in philosophical deliberations, *Cloud cosmogram* responds to contemporary framings of human labor and life in sociotechnical imaginaries (Jasanoff and Kim), power-geographies (Massey), and power-chronographies (Sharma), and thus unfolds a planetary system that is often obscured by sleek interfaces. It is an attempt at representing "the human in motion" (Rees 2018) by depicting and describing the (imagined) role of humans in global data center operations.

In a similar move and taking up the case of the Amazon Echo, Kate Crawford and Vladan Joler aim to reveal "an artificial intelligence system made of human labour". Nevertheless, or precisely because of the

prominence of the black box metaphor within their diagram, human labor remains abstract-an element of all-encompassing, planetary logistics that involves data centers and natural resources amongst other things. Their *Anatomy of an AI* succeeds to depict logistics as pure abstraction – operations that reimagine human labor as a resource, or better: a form of energy that can be allocated and consumed at will.

This abstraction of human labor as energy also applies to the installed base of cloud computing. The data center is a place where the cosmos of the cloud materializes as an array of technologies of any kind. It is designed to provide optimal conditions for servers and profits from the absence of humans: a human exclusion zone, as it were, that nevertheless would cease operation when humans would be entirely absent.

Against the background that, as Tung-Hui Hu observes, data centers "are better understood as a form of infrastructure designed to sustain itself at all costs", the human element in data center operations is figured as supporting an infrastructural imaginary: the creation and maintenance of automated, logistically optimized, and ideally resilient machine landscapes. Here, human energies turn into a global variable and form part of the cloud's system requirements, which, after all, determine whether a machine runs as expected or turns into a useless amalgamation of natural resources and wasted capital. This transformation of human labor into an operational resource may (still) generate resistance, yet it is in the process of changing our understanding of what being human really means.

Job profiles and personal experiences of data center engineers can be read as traces of how human labor is rendered as logistical code. *Cloud Cosmogram* does not reveal hidden (infra)structures or logistical relations, but considers these relations as speculative media of the social and its transformations. It weaves various technologies, architectural designs, and operating manuals together into a panorama, "a cosmology that narrates a monstrous and mythological" world of the cloud (Ghosh & Jazairy 2016). 'The human' unfolds through technological layers that are based on the composition of undersea fibreoptic cables and data center architectures, to channel "the feelings of wonder at the complexity and immensity of the cosmos ... into a tool for politics" (ibid.). We hope that although *Cloud Cosmogram* focuses on just one kind of human - the data center engineer - it can help in understanding pending transformations of human (social) life. Nevertheless, it can only ever be partial – after all, each cosmogram is just another cosmic thing!