East African region is endowed with commercial quantities of oil and gas resources in tectonically active environment. In the recent past, the region has been hit by moderate to big earthquakes, and volcanic activity leading to socioeconomic losses.

The oil and gas discoveries have accelerated acquisition of exploration licenses and plans to develop a regional refinery to produce various products to meet the high oil and gas demand in the market. The developments in the oil and gas sector in East Africa require that economic activities and the population are safe from potential explosions that may result from failures of oil and gas infrastructure during earthquake loading.

The remaining option for oil and gas industry is to integrate automated intelligent systems to monitor the wells, pipeline and refinery infrastructure and measure the potential seismic risk parameters and infrastructure failure during an earthquake loading and or volcanic activity and substantially manage the infrastructure so as to avoid potential losses.

On the other hand, oil and gas fields coexist with geothermal resources that seem to be structurally controlled in the western rift and magmatic in the eastern arm of the East African Rift. The existence of two energy resources is known but not scientifically resolved. More focused research to explain occurrence of geothermal, oil and gas in the same tectonic environment needed. The discovery of Oil and Gas in East Africa makes a new beginning.