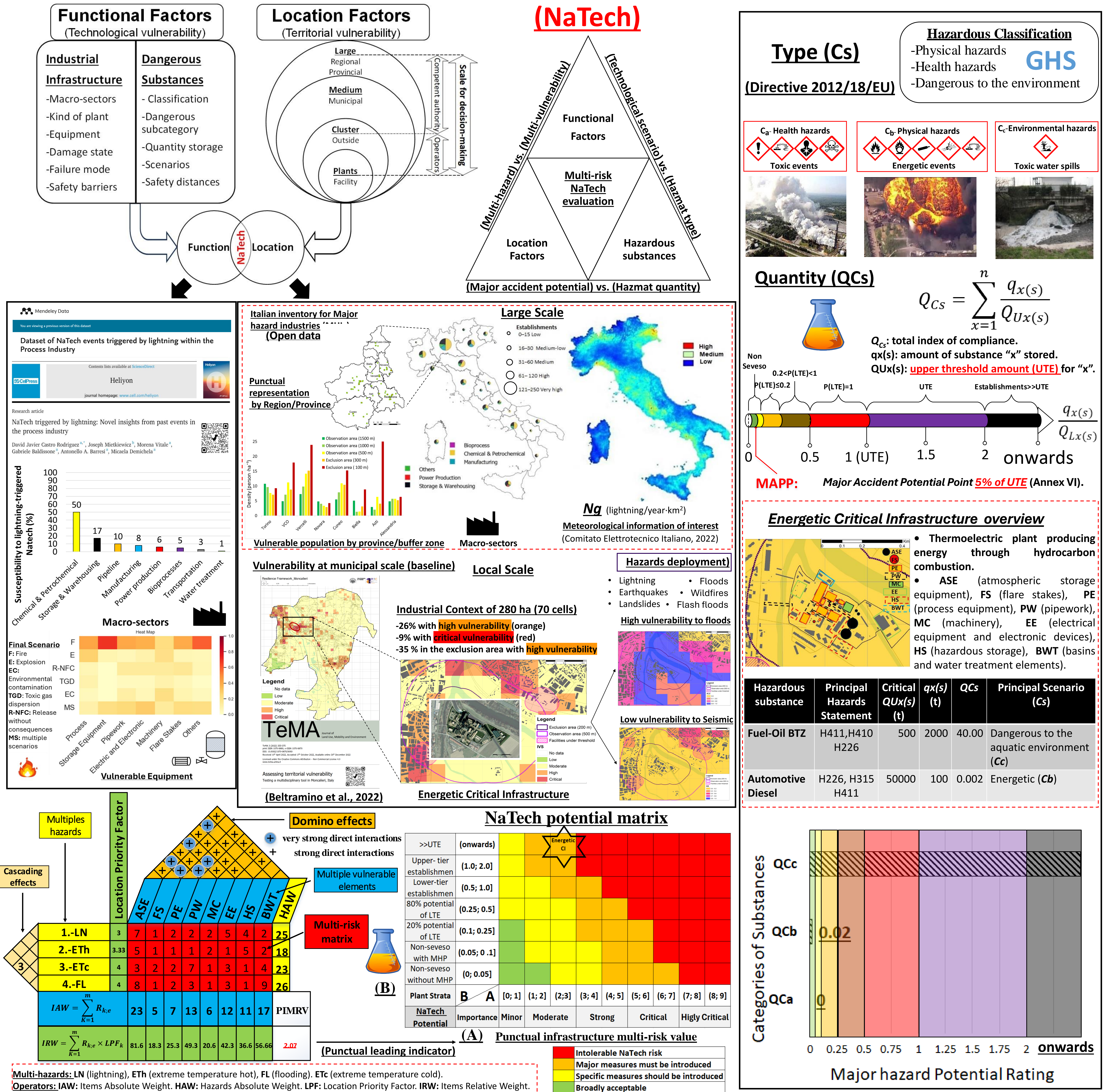


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**Abstract:** The process industry has historically faced catastrophic events involving hazardous materials, influenced by complex technical and external factors. With climate change, technological incidents triggered by natural events (NaTech) are increasing. Addressing both technological and natural factors together is essential to mitigate the unique risks NaTech pose. This study created a methodological framework for assessing the vulnerabilities of industrial critical infrastructures to multiple hazards in their territories, aiming to strengthen resilience. The research estimated the vulnerabilities of industrial components through quantitative analysis of past NaTech event data and contextualized territorial vulnerabilities across large and local scales. A multi-risk method was used to assess the NaTech potential at plant level, incorporating not only the infrastructure vulnerabilities by function and location, but also the one induced by the hazardous substances stored, thereby improving the awareness.

**Technological accidents** caused by **Natural hazards**, involving the release of **Hazardous materials** (Krausmann, 2017).



**Conclusion:** This research provides theoretical and methodological generalizations for modelling industrial vulnerabilities against multiple hazards, addressing also limitations and necessities of current legal policies. The vulnerability awareness enhancement constitutes the cornerstone to strengthening the resilience of critical infrastructures, supporting the decision-making process, and guiding the sustainable transformation of socio-ecological and technological systems.