Claims

1. An AI-based platform for enabling intelligent orchestration and management of power and energy, comprising: an artificial intelligence system configured to, operate on a data set of energy generation, storage, delivery and/or consumption data for a set of energy infrastructure assets, the data set being produced at least in part by a set of sensors contained in or governed by a set of edge devices that are linked to or integrated with the energy infrastructure assets, and produce an output operating parameter for at least one of the energy infrastructure assets.

2. The AI-based platform of claim 1, wherein the AI-based platform also operates a second data set of energy generation, storage, delivery and/or consumption data for a set of distributed energy resources that are operationally independent from the energy grid and wherein the output operating parameter is based at least in part on the second data set.

3. The AI-based platform of claim 1, wherein the artificial intelligence system is further configured to adapt a transport of data over a network and/or communication system, wherein the adapting is based on one or more of, a congestion condition, a delay and/or latency condition, a packet loss condition, an error rate condition, a cost of transport condition, a quality-of-service (QoS) condition, a usage condition, a market factor condition, or a user configuration condition.

4. The AI-based platform of claim 1, further comprising an adaptive energy digital twin that represents one or more of, an energy stakeholder entity, an energy distribution resource, a stakeholder information technology, a networking infrastructure entity, an energy-dependent stakeholder production facility, a stakeholder transportation system, a market condition, or an energy usage priority condition.

5. The AI-based platform of claim 1, further comprising an adaptive energy digital twin that is configured to perform one or more of, providing a visual and/or analytic indicator of energy consumption by one or more energy consumers, filtering energy data, highlighting energy data, or adjusting energy data.

6. The AI-based platform of claim 1, further comprising an adaptive energy digital twin that is configured to generate a visual and/or analytic indicator of energy consumption by one or more of, one or more machines, one or more factories, or one or more vehicles in a vehicle fleet.

7. The AI-based platform of claim 1, wherein the artificial intelligence system is further configured to perform one or more of, extracting energy-related data, detecting and/or correcting errors in energy-related data, transforming, converting, normalizing, and/or cleansing energy-related data, parsing energy-related data, detecting patterns, content, and/or objects in energy-related data, compressing energy-related data, streaming energy-related data, filtering energy-related data, loading and/or storing energy-related data, routing and/or transporting energy-related data, or maintaining security of energy-related data.

8. The AI-based platform of claim 1, wherein the data set is based on one or more public data resources, the public data resources including one or more of, a weather data resource, a satellite data resource, a census, population, demographic, and/or psychographic data resource, a market data resource, or an ecommerce data resource.

9. The AI-based platform of claim 1, wherein the data set is based on one or more enterprise data resources, the enterprise data resources including one or more of, resource planning data, sales and/or marketing data, financial planning data, demand planning data, supply chain data, procurement data, pricing data, customer data, product data, or operating data.

10. The AI-based platform of claim 1, wherein the artificial intelligence system is trained based on a training data set, and the training data set is based on one or more of, one or more human tags and/or labels, one or more human interactions with a hardware and/or software system, one or more outcomes, one or more AI-generated training data samples, a supervised learning training process, a semi-supervised learning training process, or a deep learning training process.

11. The AI-based platform of claim 1, wherein the artificial intelligence system is further configured to orchestrate delivery of energy to one or more points of consumption, and the delivery of the energy includes one or more of, one or more fixed transmission lines, one or more instances of wireless energy transmission, one or more deliveries of fuel, or one or more deliveries of stored energy.

12. The AI-based platform of claim 1, wherein the artificial intelligence system is further configured to record, in a distributed ledger and/or blockchain, one or more energy-related events, the one or more energy-related events including one or more of ,an energy purchase and/or sale event, a service charge associated with an energy purchase and/or sale event, an energy consumption event, an energy generation event, an energy distribution event, an energy storage event, a carbon emission production event, a carbon emission abatement event, a renewable energy credit event, a pollution production event, or a pollution abatement event.

13. The AI-based platform of claim 1, wherein the artificial intelligence system is deployed in an off-grid environment, and the off-grid environment includes one or more of, an off-grid energy generation system, an off-grid energy storage system, or an off-grid energy mobilization system.