CLAIMS

1. A robotic fleet resource provisioning system, comprising:

a computer-readable storage system that stores:

a fleet resources data store that maintains a fleet resource inventory that indicates a plurality of fleet resources that can be provisioned as a set of fleet resources, and for each respective fleet resource, a set of features of the resource, configuration requirements of the resource, and a respective status of the resource; and

a set of resource provisioning rules that are accessible to an intelligence layer to ensure that provisioned resources comply with the provisioning rules; and

a set of one or more processors that execute a set of computer-readable instructions, wherein the set of one or more processors collectively:

receive a request for a robotic fleet to perform a job;

determine a job definition data structure based on the request, the job definition data structure defining a set of tasks that are to be performed in performance of the job;

determine a robotic fleet configuration data structure corresponding to the job based on the set of tasks and the fleet resource inventory, wherein the robotic fleet configuration data structure assigns at least one robot of the robotic fleet selected from the fleet resource inventory to each task of the set of tasks defined in the job definition data structure;

determine, for each robot of the robotic fleet selected for the set of tasks, a respective provisioning configuration that assigns fleet resources to the robot based on the respective task to which the robot is assigned, the set of features of the robot, the configuration requirements of the robot, and the respective status of the robot;

provision the determined fleet resources to each robot of the robotic fleet selected for the set of tasks based on the respective provisioning configuration and the provisioning rules; and

deploy the robotic fleet to perform the job.

2. The robotic fleet resource provisioning system of claim 1, wherein the respective status of the robot includes a general availability of the robot.

3. The robotic fleet resource provisioning system of claim 1, wherein determining the robotic fleet configuration data structure is further based on at least one of an environment of the job, a budget for the job, or a timeline for completing the job.

4. The robotic fleet resource provisioning system of claim 1, wherein the fleet resource inventory includes one or more types of robots and to determine the robotic fleet configuration data structure is further based on an available inventory of the one or more types of robots.

5. The robotic fleet resource provisioning system of claim 1, wherein determining a provisioning configuration is further based on at least one of an environment of the job, on a budget for the job, or a timeline for completing the job.

6. The robotic fleet resource provisioning system of claim 1, wherein the fleet resource inventory includes computing resources including at least one of on-robot computing resources, robot operating unit-local fleet-controlled computing resources, cloud-based computing resources, computing modules, or computing chips.

7. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources includes provisioning one or more of a software robot module or a hardware robot module.

8. The robotic fleet resource provisioning system of claim 1, wherein the fleet resource inventory includes a plurality of digital resources.

9. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources includes provisioning a consumable resource sourced from at least one of a specialized supply chain, a job requestor resource supply, a fleet-specific stockpile, a job-specific stockpile, or a fleet team-specific stockpile.

10. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources is based on one or more characteristics of a target operating environment.

11. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources includes 3D printing the respective resources for provisioning.

12. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources is based on terms of a smart contract that constrains provisioning of fleet resources.

13. The robotic fleet resource provisioning system of claim 1, wherein determining a robotic fleet configuration data structure is further based on at least one of a negotiated charge for provisioning a platform resource.

14. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources includes provisioning one or more of appendages, sensor sets, chipsets, and motive adaptors to a robot based on at least one task in a set of target tasks for the robot that are identified in a job execution plan.

15. The robotic fleet resource provisioning system of claim 1, wherein provisioning the determined fleet resources includes analyzing a job execution plan that defines resources for a fleet of robots for performing at least one task.

16. The robotic fleet resource provisioning system of claim 1, wherein the set of one or more processors execute the set of computer-readable instructions cooperatively with at least one of a fleet configuration system, a fleet resource scheduling system, a fleet security system, and a fleet utilization system.