

system_requirements

Source: database_dump.json, 2025-12-05, 21:48

parent_id	sys_req_id	requirement	priority	effect	rationale	author	verification_status	verifier	validation_status	vv_method	comment
	PM-01	The protocol module shall define the procedures will be taken so that all agents are aware of the prevailing mission state.	Mandatory	Synchronisation		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-02	The protocol module shall define the procedures that all agents shall follow to share the mission plan.	Mandatory	Synchronisation		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-03	The protocol module shall define procedures on how tasks are assigned to agents depending on the mission plan.	Mandatory	Task assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-04	The protocol module shall define the procedures that all agents shall follow to communicate their (all agents) capabilities.	Mandatory	Capability assessment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-05	The protocol module shall define the message formats that all agents shall use to communicate their (all agents) capabilities.	Mandatory	Capability assessment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-06	The protocol module shall define the procedures that all agents follow to assign tasks to agents based on the agents' capabilities.	Mandatory	Capability assessment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-07	The protocol module shall define the rules that all agents will adhere to when re-assigning tasks.	Mandatory	Task re-assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-08	The protocol module shall define the procedures that agents follow to exchange task re-assignment proposals.	Mandatory	Task re-assignment	the module must define both rules and procedures for task re-assignment.	C.N	Accepted	E.Z	Verified	VVP-03	
	PM-09	The protocol module shall define the message format that all agents will use to exchange task re-assignment proposals.	Key	Task re-assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-10	The protocol module shall define the procedure that agents experiencing degrade functionality shall follow so as to communicate their degraded status to other agents.	Mandatory	Synchronisation		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-11	The protocol module shall define the rules that agents follow to identify the criticality of tasks.	Mandatory	Task re-assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-12	The protocol module shall define procedures that agents follow to assign high-criticality tasks to fully functional agents when any agent's functionality becomes degraded.	Mandatory	Task re-assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-13	The protocol module shall define procedures that agents follow to assign lower-criticality tasks to agents experiencing degraded functionality based on their (the degraded agent(s)) prevailing capabilities.	Mandatory	Task re-assignment		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-14	The protocol module shall define the rules that agents follow to reach agreement on correct data, even if at least one agent provides incorrect data.	Mandatory	Fault tolerance		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-15	The protocol module shall define the rules that agents will follow to reach a collective decision for tasks that require coordination.	Mandatory	Consensus mechanism		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-16	The protocol module shall define the procedures that agents will follow to reach a collective decision for tasks that require coordination.	Mandatory	Consensus	PM-16 and PM-15 are important to highlight the need for both rules and procedures.	C.N	Accepted	E.Z	Verified	VVP-03	
	PM-17	The protocol module shall define the rules that agents follow to share information about the boundaries of their assigned search areas.	Mandatory	Search mechanism	this requirement intends to ensure that the final design avoid overlap of search areas among agents.	C.N	Accepted	E.Z	Verified	VVP-03	
	PM-18	The protocol module shall define the message-exchange rules that enable agents and agree on which agent searches what portion of the area.	Mandatory	Search mechanism		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-19	The protocol module shall define the conditions under which an agent is permitted to make independent decisions without prior consensus.	Mandatory	Synchronisation		C.N	Accepted	E.Z	Verified	VVP-03	
	PM-20	The protocol module shall define the procedures that agents follow to notify other agents after taking an independent action.	Mandatory	Independent behaviour		C.N	Accepted	E.Z	Verified	VVP-03	

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	PM-21	The protocol module shall define the rules that agents follow to reintegrate independent decisions into the swarm's shared state once the communication with other agents is resumed.	Mandatory	Synchronisation		C.N	Accepted	E.Z	Verified	VVP-03	
	SSR-01	The protocol module shall define the procedures that will be taken so that all agents start in a safe way.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-02	The protocol module shall define the procedures that agents shall take when approaching landing area.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-03	The protocol module shall define the distance from the landing area when staff are present.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-04	The protocol module shall define the procedures that agents shall take when subject is found.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-05	The protocol module shall define the distance from the subject when subject is found.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-06	The protocol module shall define the rules for agents broadcasting their position.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-07	The protocol module shall define the buffer zone for all agents.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-08	The protocol module shall define the procedures that will be taken when agent buffer zones overlap.	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-09	The protocol module shall define the procedures that will be taken when agent position data is delayed	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-10	The protocol module shall define the procedures that will be taken when agent position data is uncertain	Mandatory			E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-11	The protocol module shall define the procedures that will be taken when agent flight capacity is decreased	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-12	The protocol module shall define the procedures that will be taken when agent communication is delayed	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-13	The protocol module shall define the minimum height above ground for all agents	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-14	The protocol module shall define the procedures that agents shall take when avoiding stationary obstacles	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-15	The protocol module shall define the procedures that agents shall take when avoiding air obstacles	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-16	The protocol module shall define the operational volume based on input	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-17	The protocol module shall define the procedures that agents shall take when agent communication is lost	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-18	The protocol module shall define the procedures that agents shall take when agent power unit is degraded	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-19	The protocol module shall define the procedures that agents shall take when agent battery is below 50%	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-20	The protocol module shall define the procedures that agents shall take when agent flight is unstable	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-21	The protocol module shall define the maximum and minimum altitudes for searching state	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-22	The protocol module shall define the maximum and minimum altitudes for transition state	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-23	The protocol module shall define the buffer zone of the operational volume	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	

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	SSR-24	The protocol module shall define the procedures that agents shall take when entering the operational volume buffer zone	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-25	The protocol module shall define the procedures that agents shall take when leaving the operational volumes buffer zone outer border	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
	SSR-26	The protocol module shall define the maximum hight above ground for all agents	Mandatory	Safety		E.M	Accepted	E.Z	Verified	VVP-03	
PM-14	PM-14B	The protocol module shall define procedures that allow agents to mitigate incorrect data received from at least one agent during consensus.	Mandatory	Fault tolerance		C.N	Accepted	E.Z	Verified	VVP-03	
PM-14	PM-14C	The protocol module shall define the rules that ensure agents base their consensus decisions only on verified data.	Mandatory	Fault tolerance		C.N	Accepted	E.Z	Verified	VVP-03	