

ANNEX: Factsheet of the new shipyard



GUL YARD

A Smart Yard Powered By AI



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Overview	A smart shipyard, with cutting-edge AI-powered solutions to meet the evolving demands of the maritime industry but also supports the transition to a greener and more efficient shipbuilding sector.
Address	55 Gul Road, Singapore 629353
Site Area	Approximately 141,000 sqm
Gross Floor Area	74,593.20 sqm
Key Features	<ol style="list-style-type: none"> 1. AI-Driven Automation: <ul style="list-style-type: none"> - ST Engineering's AI-powered proprietary integrated yard management system oversees the entire ship repair process. - It offers real-time insights for planning, tracking project status, predicting potential delays, and forecasting future capacity needs. 2. Predictive Maintenance & Condition-Based Monitoring: <ul style="list-style-type: none"> - Predictive maintenance algorithms to prevent unplanned downtime by detecting early signs of equipment failure. - Condition-based monitoring is also installed throughout the shipyard to monitor equipment and ships in real-time. 3. Digital Twin, Data Analytics and Sensemaking Technologies: <ul style="list-style-type: none"> - Virtual replicas of ships for simulation, testing, and monitoring during the design and operational phases. - Real-time performance tracking and diagnostics through digital twin integration. - Real-time data analytics to enhance decision-making across production, maintenance, and operations. - Process visibility across the yard, on board the ship, and within process plants. 4. 5G Infrastructure <ul style="list-style-type: none"> - Pervasive wired and wireless connectivity delivers fast, reliable, and low-latency connections that support advanced automation, real-time data analytics, and enhanced operational efficiency. 5. Enhanced Worker Safety and Workload: <ul style="list-style-type: none"> - ST Engineering's AGIL Vision and security robot detects potential hazards and implement automated risk mitigation. - Drones will be used to monitor hazardous and hard-to-reach areas to ensure worker safety. - Automated guided vehicles (AGV) will also be used to transport materials, reducing worker workload and increasing efficiency - Smart track and trace devices, including smart watches and smart helmets (with live-streaming cameras), will track personnel while monitoring progress and track materials,

	<p>assets, further optimising workflows and operational oversight.</p> <p>6. Sustainability Initiatives:</p> <ul style="list-style-type: none"> - Clean transportation – utilising electric vehicles such as AGVs and buggies to reduce emissions. - Clean energy transition – implementing clean energy source such as ammonia, hydrogen, and biofuels by 2034 while expanding solar energy use. - Optimised resources – efficiently sorting and recycling scrap to minimise waste.
Water Frontage Length	730 metres
Floating Dock I	<p>Inner Breadth (m): 185.00 x 33.20</p> <p>Lifting Capacity (t): 17,000</p> <p>Dock Vessels Up to (dwt): 40,000</p>
Floating Dock II	<p>Inner Breadth (m): 240.00 x 43.96</p> <p>Lifting Capacity (t): 28,000</p> <p>Dock Vessels Up to (dwt): 70,000</p>
Floating Dock III	<p>Inner Breadth (m): 170.00 x 27.00</p> <p>Lifting Capacity (t): 12,000</p> <p>Dock Vessels Up to (dwt): 12,000</p>
Construction Halls	13 open fabrication areas with gantry cranes and mobile shelters
Workshops	<p>7 workshops, each specialising in:</p> <ul style="list-style-type: none"> - Shipwright: Focuses on construction, repair, modification of ship structures. - Plant & Maintenance: Handles the upkeep and repair of industrial plant equipment and machinery. - Electrical: Deals with installation, maintenance, and repair of electrical systems on ships - Pipe Shop: Specialises in the fabrication, installation and repair of piping systems. - Hull: Focuses on construction, repair and maintenance of the ship's hull, such as hull plating, welding, and surface treatment. - Machinery: Deals with installation, maintenance and repair of machinery used on ships. - Plumbing, Sanitary, Kitchens: Manages installation and maintenance of plumbing systems, sanitary facilities, and kitchen equipment on ships.