AFFORDABLE MODULAR MOBILE CRANE FOR MULTISTORY CONSTRUCTION

Technology in Brief

A technology for an affordable modular mobile crane has been developed to enhance mechanization in the construction sector, particularly for lifting, positioning, and aligning pre-fabricated building components in mass housing projects. This crane features hybrid locomotion, effectively overcoming mobility challenges faced by existing cranes on construction sites. Its modular design allows scalability for greater heights and longer boom lengths necessary for high-rise construction, while also being compact enough for confined spaces. The lightweight crane includes an innovative base design with telescoping capabilities, enabling adjustments in base width and height. This adaptability facilitates easy transitions between different locomotion modes and allows the crane to transfer its total load to a building's beam or column at floor level, making it ideal for multi-storied constructions. The crane operates efficiently from both ground level and floor level. Working trials have demonstrated the crane's lifting capacity of 2000 kg-m, with design solutions available for a 4000 kg-m capacity. It can reach heights of up to 15 meters and extend 10 meters when positioned at ground level. Overall, this affordable modular mobile crane is particularly well-suited for (G+3 or equivalent) housing sector construction projects, providing a versatile solution to modern building challenges.

Salient Features/Advantages

- Ease to transport and install
- Quick to assemble and disassemble on site
- Flexible to improve workspace
- Speeds up the material handling process

End Product(s)	Developed prototype of the mobile crane and conducted successful working trials
License/Commercialization	NA
TRL	7
Environmental Impact	Environment friendly and User safety.
Setup - Equipment required	General fabrication workshop facility.