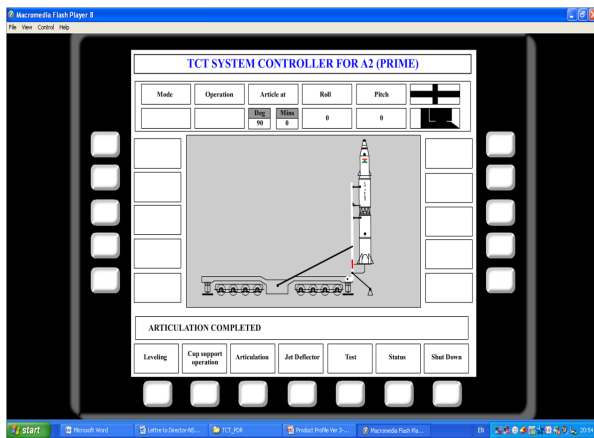
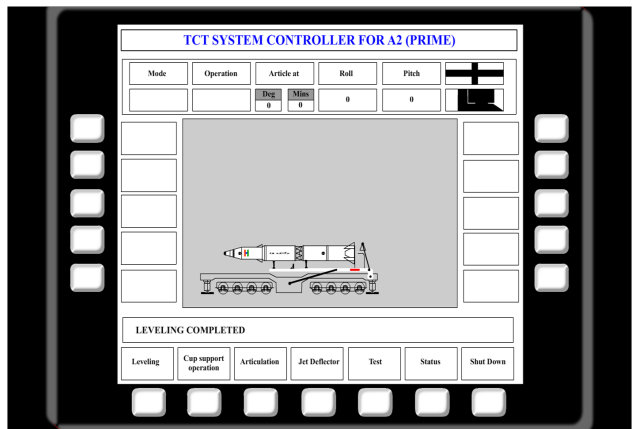


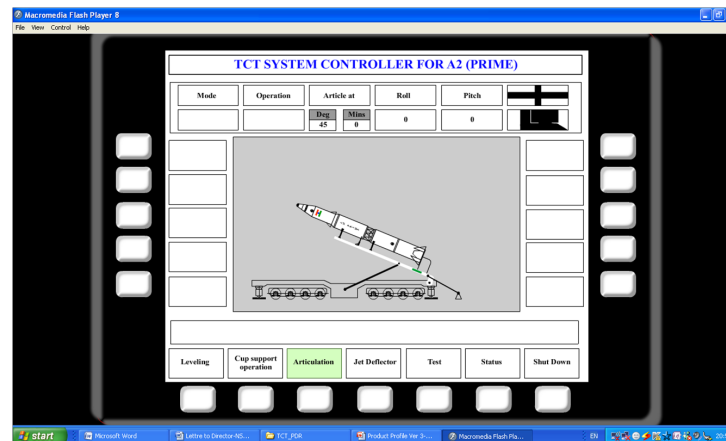
Platform Levelling & Launcher Controller



Article is in a Vertical position



Article is in a horizontal position



Article is articulated and the control algorithms are developed based on data collected from multiple sensors which are positioned across the trailer and I-Beam.

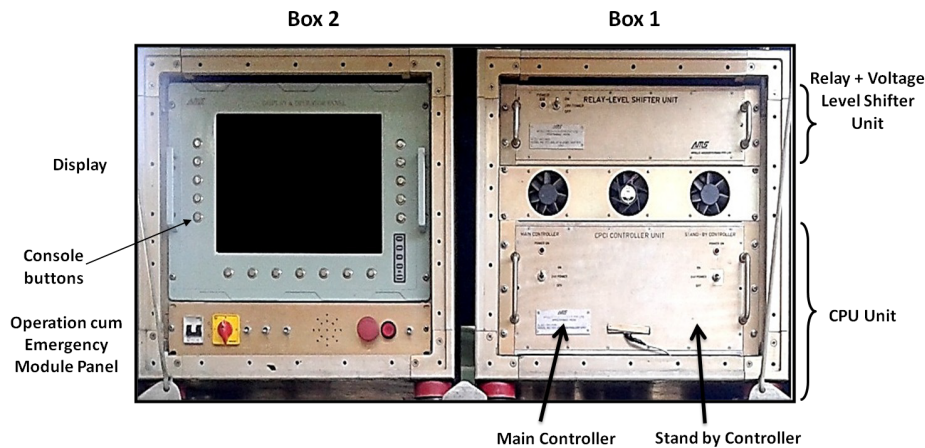
AMS is happy to announce that we have successfully Platform Levelling & Launcher Control system on a turnkey basis. We delivered a Fully Automated Platform Levelling & Launcher controller for TCT Mark-II(A4 Missile Launcher).

The system involves complex sensor Data Fusion algorithms for Levelling the Launcher Platform, and Articulation of the Missile.

The system is built with modular and scaleable architecture based Compact PCI cards developed Indigenously.. The Article along with tilt beam mounted on the trailer is elevated from 0° to 90° using electro-hydraulic system.

The Controller unit is developed ensuring smooth, jerk free and safe operation during articulation and ensuring safety of the tilting mechanism by means of appropriate interlocks.

Platform Levelling & Launcher Controller



The system software is developed in RT Linux environment. All **algorithms** are developed with feedback obtained from cluster of sensors positioned across the length and breadth of the trailer including the article holding beam. The various sensors used include Pressure Transducers to monitor the hydraulic pressure, Rotary encoders, position sensors, accelerometers and limit switches.

The system takes feedback, processes the data and gives commands for actuator control across the platform. The PVG valves used for leveling the platform are controlled with the help of user friendly HMI (Human Machine Interface) software.

The various Tasks performed can be summarized as below which are shown in the pictorial representations.

Levelling Tasks

- Touching Outriggers to Ground
- Auto Levelling
- Auto Retraction
- Jet Deflector operations
- Operating Four Outriggers in the Trailer
- Raising and Retraction of Cup Support
- Safety Interlock Controls lock, unlock operations
- Auto Tilt Up and Auto Tilt Down

cPCI based Controller unit is developed on a ruggedized rack mounted PC platform. It controls a set of actuators by taking inputs from various sensors i.e. tilt angles, pressures, stroke etc with reference to the ground. It will perform the tasks by using interlocks at various stages for smooth and safe operation of the article. The tilting operation will be done by using load independent proportional valves with the control over the flow to get smooth operation within specified time and jerk free motion. Provision is given for Manual over-ride for the complete system during auto leveling and elevation of the platform.

The Controller unit consists of dual redundant compact PCI chassis, CPU Modules with dual 10/100MB speed Ethernet link, two RS232 ports, one VGA port along with mouse and key board interface and also consists of digital I/O cards for digital inputs and outputs, digital to analog (D/A) and analog to digital (A/D) for signal conversions.