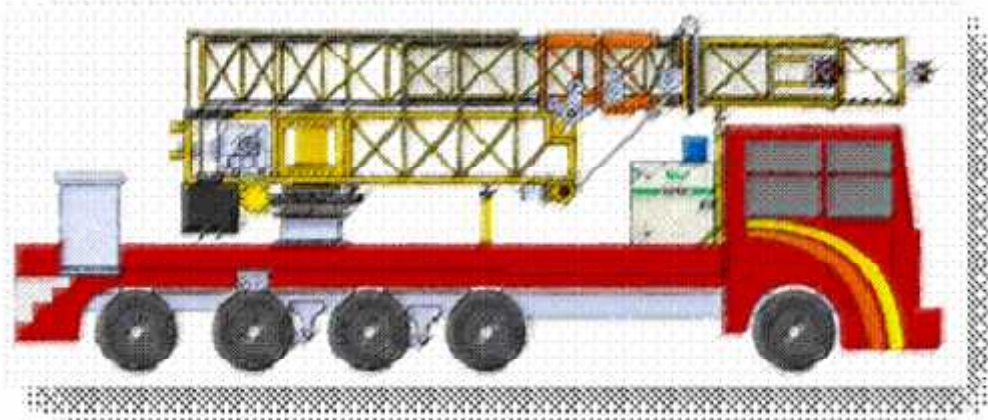


The technology of **Mobile Bridge Inspection Unit (MBIU)** has successfully been developed, patent & copyright are filed and the technology has been transferred to Indian industry for realizing social benefits. It is an import substitute and towards fulfilling a goal of “*Make in India*” of Indian citizens.

The objective of the project was to develop the technology for designing the vehicle mounted mobile bridge inspection unit (MBIU) and preparing its one prototype. The *MBIU* is a mechanical device mounted on a truck which has been developed jointly by CSIR-CRRI and (CSIR-CMERI) CoEFM, Ludhiana with grants from DST. The *MBIU* is ‘developed to cater the need of carrying out close inspection and repair work of the three lane bridge components’ below the bridge deck. A copyright vide No. 011CR2012, dated 30.8.2012 and a patent NO. 2984/DEL/2012, dated 25th Sept 2012 have been filed. The working prototype is being used by CSIR-CRRI, New Delhi for its R&D activities and will also be made available to other Infrastructure owners for use during inspection of bridges. It has potential for export to other countries too. The process of technology transfer to industry for realizing full benefits to the society has been completed.



A Schematic of the MBIU

The Unit is considered as a lattice frame mounted over the truck. The mounted support at the truck consists of a lowering/ lifting mechanism for the lattice frame to put in position around the bridge deck. Unfolding and folding of the unit is automatic with proper controls. High strength square or rectangular hollow sections (SHS or RHS) are used. The length of the working platform is 10 m (may be higher when a demand is there). This is the horizontal platform on which the inspection team stands to carry out the inspection. A payload comprising weight of 3 persons and equipment weight of 100 kg has been taken in the design of the Unit. The allowable stress in the material and the functional design conforms to IS and ANSI-SIA codes.

The Unit has the following mechanisms to facilitate the movement of the working platform in a particular direction or plane:

- The launching mechanism along with the support system which is fixed on the truck,
- Vertical and translatory motion of the vertical frame (mast),

- A mechanism facilitating the lower arm (working platform) to rotate in a horizontal plane for wider coverage of inspection area underneath the bridge,
- The folding and providing variable length of the working platform.



The MBIU under operation on a bridge enroute NH24