

# Harita Seating Standardizes on Altair Suite of HyperWorks™ for all CAE Applications

## Customer Profile

Harita is the leading manufacturer of seating systems in India, used in the automotive segments of Commercial vehicles, Tractors, Off-road vehicles and Buses.

Harita is part of a 7 billion dollars TVS group. Since its inception in 1988, the manufacturing locations have expanded to six locations in India. Harita has various milestones to its credit in all the segments where it operates. All the manufacturing units are certified for ISO / TS 16949, ISO 14001 and OHSAS 18001. Harita has a NABL - ISO / IEC 17025:2005 certified laboratory.

**Harita also has a well equipped Research & Development centre located in Hosur.**

- Design and development: Concept design and styling, virtual design and engineering CAE/FEA, simulation, trim, textile development, physical testing and validation, tool development with series production.
- Prototyping and testing: Sheet metal press machine, road condition data acquisition equipment, servo hydraulic rig (single post), hysteresis machine, universal test rig, H point 3D manikin, vibration test system, pressure mapping, 3D measuring machine, lateral stability test, slider endurance test, ingress-egress test.

## Current HyperWorks Use Cases

We are using HyperMesh™, HyperGraph™, HyperView™, HyperCrash™ for modeling & visualization and using RADIOSS™ for explicit non linear, HyperForm™ for sheet metal forming simulation, MotionSolve™ for Multi Body Dynamics and Optimization.

Our main usage is on homologation testing, regulations and crash analysis for all commercial vehicle seats, Bus passenger seats and tractor & off-road seats.

## Future HyperWorks Expansion

OptiStruct™ Optimization & solidThinking Inspire™ for Topology, Topography, Size & Shape optimization.



*"In 2014 we were evaluating a variety of CAE tools. After a thorough study of the available tools we decided to procure HyperWorks™. Not only is the software user friendly, the licensing policy is flexible and depth of solutions available within HyperWorks™ is very good. Our concerns on effective usage & establishing correlation between physical test & simulation results were addressed by support from DesignTech and our productivity increased significantly in a very short period of time. All automotive organizations who are looking for weight reduction and performance improvement can definitely try using Altair solutions".*

**Allwin Meledath**  
Assistant Manager  
Research & Development  
Harita Seating Systems Ltd.

## Sample Project Metrics

The Hyperworks™ simulation solution helped Harita seating's in simulating bus, tractor and off-road seats, reducing the total lead time to a greater extent. The design parameters were verified and the analysis is performed before manufacturing with improved quality of the component and tooling. Altair HyperMesh™ enabled a change in process for finite element modelling of a class of bus and tractor seats reducing cycle times by 30%.

RADIOSS™ and OS-FEA is used by incorporating nonlinear dynamic explicit solution up-front with saving in the lead time and cost of the repetitive tests. The quality of the seats and parts are improved as the iterative reworking are eliminated are reduced.

Altair Solvers give an insight on arriving at creative non-intuitive designs rapidly and helped in providing new insights about the product performance and also numerous design options. Altair RADIOSS™ solution has become an essential tool in our analysis process, to study the behaviour of our product. Altair unique licensing facility has helped in reducing solving time by 20% using the additional cores without consuming any additional license.

## Results & Discussions

