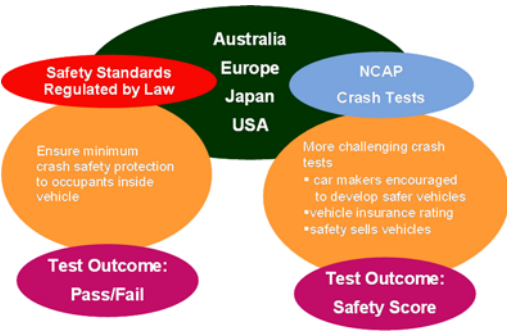


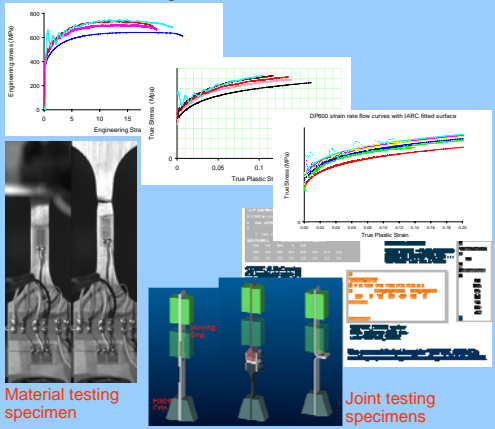
Design Requirements



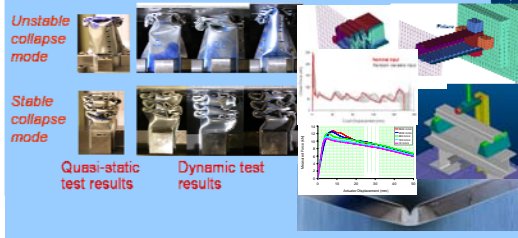
Technical Service

- Controlled strain rate data generation over seven decades of strain rate up to 1000/s, conforming to Ford Premium Automotive Group test procedures, VDEh and IISI recommendations
- Implementation ready material models for use in commercial finite element tools, and customised to end user application
- Material model validation
- Development of customer specific test procedures, instrumentation and specimen designs for high rate data generation
- Unique lab facilities, measurement system and capability to test a wide range of materials, jointed coupons and components
- Fast delivery

Strain Rate Data Generation, Modelling and Formatting



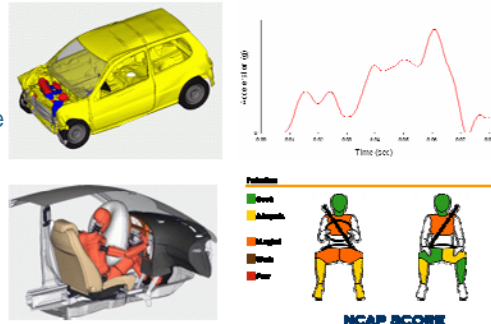
Material Model Validation



Application Area of Technology

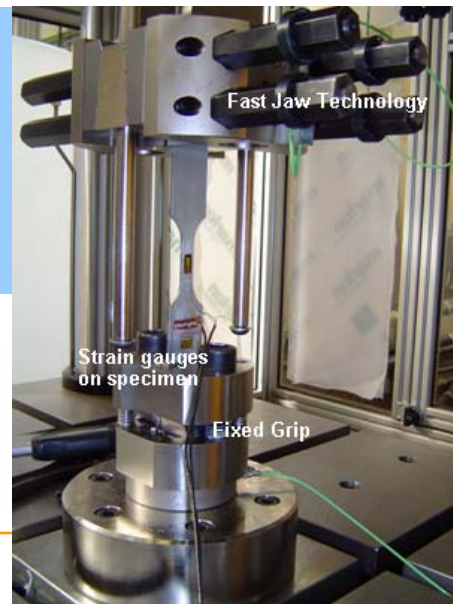
- Improved confidence and efficiency in application of virtual testing technology to product development
- Improved crashworthiness: compliance to world wide crash regulation, NCAP, insurance and pedestrian safety requirements
- Reduce time, cost and risk to introduce new materials to develop new car body designs
- Reduce mass of car body structure
- Eco-friendly technology

End Application of Material Model



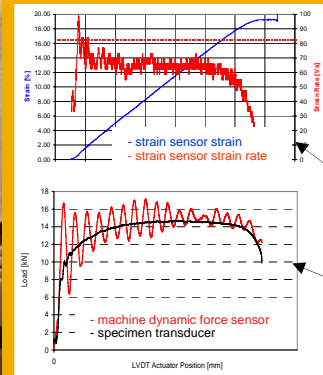
High Speed Test Laboratory, Equipment and Capability

- Precision servo-hydraulic machine with closed and open loop control features
- Actuator velocity from 1 mm/s up to 20 m/s
- Controlled tensile and compression testing up to 100 kN static load (160 kN dynamic load)
- Fast jaw Technology - acceleration of complete moving grip before testing starts
- Stiff 4 column load frame for controlled testing of components and joined assemblies
- Velocity profile correction under open loop control for high speed testing
- High accuracy data acquisition with logging frequency of 5 MHz and 12 bit resolution
- Custom built high frequency force transducers for high accuracy stress measurements
- Local instrumentation fully integrated within signal conditioning unit e.g. custom built transducers and special strain gauges exposed to high speed and large strain
- Modelling experiment - specimen geometry, system of measurement and test boundary conditions



Medium strain rate specimen design

Grip speed of 5 m/s; Gauge length 60 mm



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