

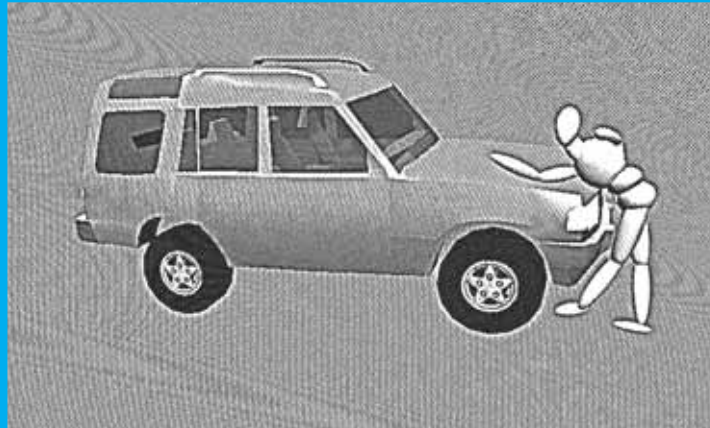


# **HARNESSING TECHNOLOGY**

**Traffic accidents are always traumatic. Worse when you encounter problems trying to claim insurance because of differing accounts of what happened.**



**Using physical laws like Newton's Laws of Motion and Conservation of Momentum and Energy, our reconstructionists are able to place models of vehicles in a simulated environment and determine their movements and speeds.**



**E**nter VICOM Assessment Centre's accident reconstruction service. Launched in October 2006, it relies on state-of-the-art technology to ascertain how a collision occurred. Using physical laws like Newton's Laws of Motion and Conservation of Momentum and Energy, our reconstructionists are able to place models of vehicles in a simulated environment and determine their movements and speeds. Complex mathematical algorithms are used to calculate key results like vehicle crush, while human factor analysis is used to study the response of a driver or pedestrian during the incident.

Using computing technology from the United States, VAC sets up models to represent humans, vehicles and the environment in a reconstruction process. Calculations are then done in discrete time steps, where the output from the previous time step is used as input for the next time step. In this way, circumstances leading up to the accident can be examined in greater detail. Results can be presented in both visual and numerical formats. A virtual camera can also be positioned in various locations to provide a different view of the accident. The video clip can be viewed along a timeline and stopped at any point to zoom in on key

variables. Variables calculated during the simulation can be displayed in output tables.

VAC's accident reconstruction team of four examines each job collectively and deliberate on the results. This is to help establish the best approach and achieve optimal results. The team also undergoes regular training and receives close technical support from its US counterparts. Software is also continually updated to ensure that we remain at the forefront of technology.

Since its launch, VAC has conducted five accident reconstructions in Singapore. A reconstruction was carried out to examine conflicting scenarios reported by the drivers in an accident along Napier-Cluny Road. Another reconstruction was carried out to examine the braking distances and driver's response in an accident along Clementi Road.

In addition to VAC, national authorities and agencies all over the world are also using this computer software. Notable users include research centres and universities. Such computer-based simulations have also been admitted in the various courts, throughout the United States – notably the Arizona State Superior Court and the Sacramento County Superior Court.