Synchro

Overview

Synchro is the communication language shared by all AB Dynamics track testing products. The software platform captures real-time vehicle to object data between a test vehicle (Subject Vehicle) and other vehicles/objects (Trackers). This enables any combination of multiple AB Dynamics systems (vehicles, ADAS targets, driverless systems or static points) to be coordinated and synchronised together. Synchro guarantees that every run can be conducted in a repeatable and accurate way.

Capabilities and features

- A common interface for all AB Dynamics' track test systems
- Synchronisation for up to 16 objects*
- Integration with all major IMU suppliers (OxTS, Genysys etc.)
- Up to 20 vehicle-to-object Synchro data channels logged
- Interface with RT-Range and ADMA Delta
- Controls longitudinal range with optional drift correction steering
- Triggers events using any combination of Synchro data channels
- Multi-directional synchronised control for complex traffic scenarios*

* Features currently exclusive to AB Dynamics products

Hardware and software requirements

To utilise Synchro, all moving objects should contain:

- Motion Pack with GPS antenna
- Windows based PC**
- AB Dynamics controller**
- Wireless telemetry system
- Speed control & path following capability (Tracker systems only)
- Synchro software licence (on Tracker systems only)

**It is possible to use Synchro in a more limited capacity without this item in the Subject Vehicle

Longitudinal control

- Tracker system requires ability to perform speed control only
- For drift correction, Tracker System also requires basic path following capability
- Used for Euro NCAP braking target car-to-car scenarios using GST as the Tracker
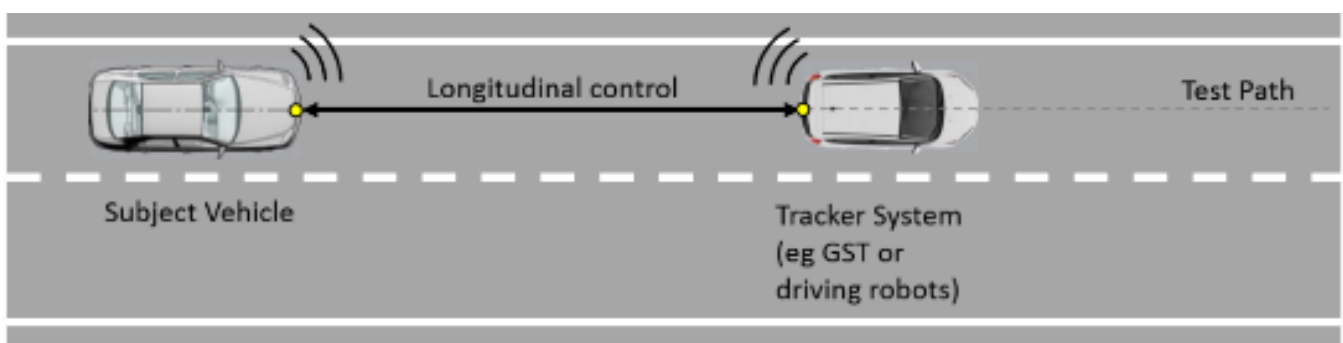
Triggered control

- Uses Synchro data channels such as 'time to collision' or 'longitudinal distance' to trigger any event
- Can be used to trigger vehicle-to-vehicle manoeuvres such as cut-in or start movement of Tracker
- Used for Euro NCAP emergency lane keeping and vulnerable road user scenarios
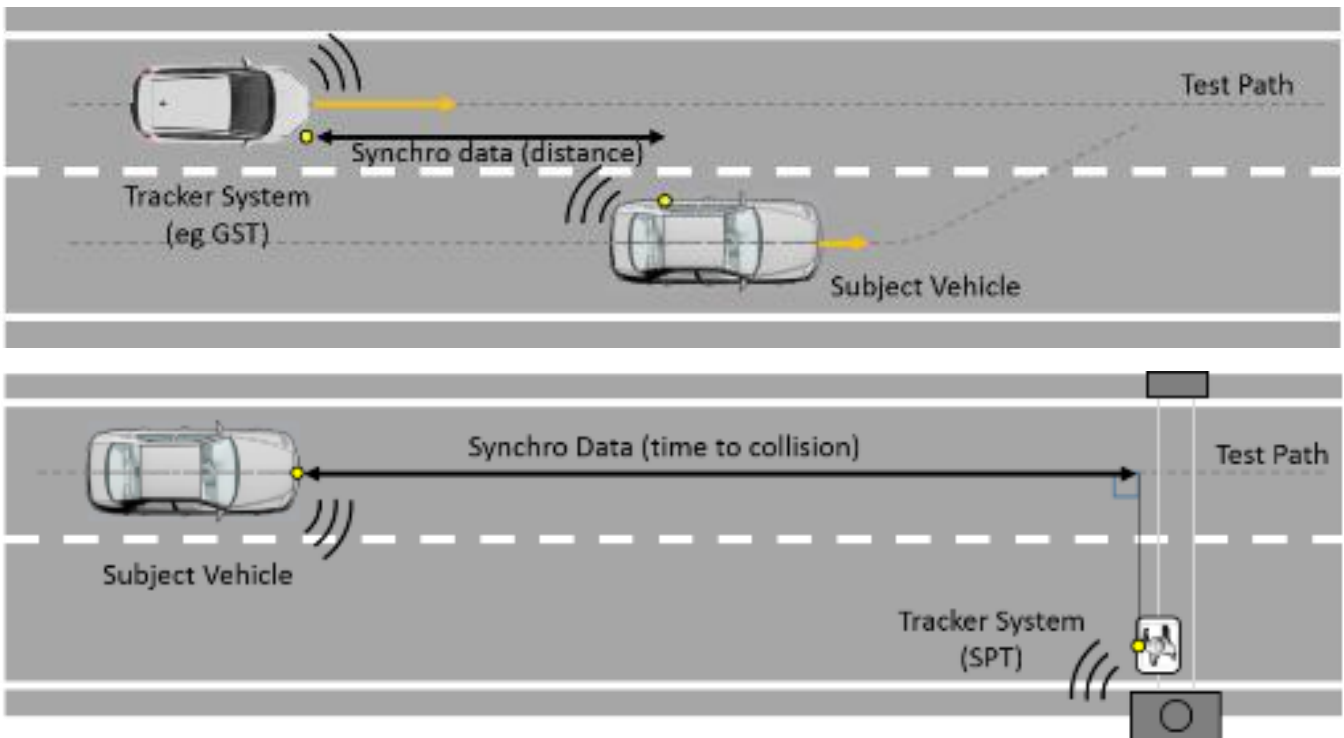
Multi-directional control

- Allows accurate synchronisation of paths with complex geometries
- Tracker can steer and change speed to compensate for Subject Vehicle positioning/speed error
- User-defined velocity ratios, distance correction and stop points supported
- Repeatable relative impact point as viewed in the reference frame of the Subject Vehicle
- Suitable for intersection tests and complex geometry paths
- Up to 15 Trackers can be coordinated by a single Subject Vehicle