

### Development of New Test Facility for Assessment of Performance and Safety of Automated Vehicles in Japan

#### [Objective]

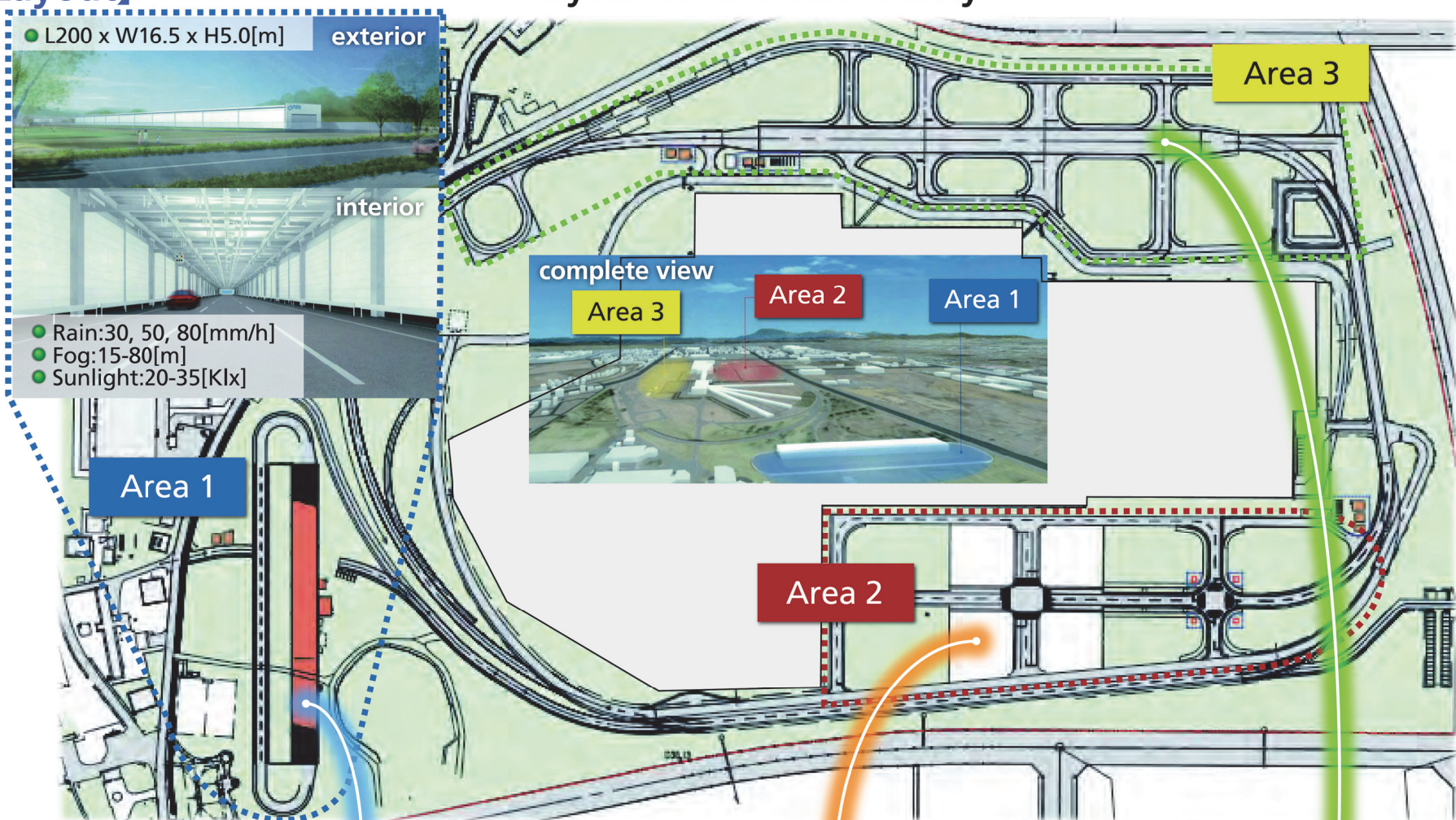
■ Contribution by testing (safety) functions of ADAS/AV(Automated Vehicle) technologies in a realistic off-roadway environment before deployment of field operational tests on public roads.

For example, automated system functions and Human Machine Interface (HMI) will be evaluated.

- System functions for monitoring a driver's take-over readiness during automated driving mode
- Human Machine Interface for assistance to maintain appropriate driver status and smooth transition

#### [Layout]

#### Layout of New Test Facility



#### [Test scene]

Area 1	Area 2	Area 3
<p><b>Testing sensors in adverse environment/sight conditions</b></p> <ul style="list-style-type: none"> <li>Heavy rain &amp; Splash                             <ul style="list-style-type: none"> <li>obstacle recognition</li> </ul> </li> <li>Rain&amp;Reflection                             <ul style="list-style-type: none"> <li>lane marker detection</li> </ul> </li> <li>Backlight                             <ul style="list-style-type: none"> <li>lane marker detection</li> </ul> </li> <li>Dense fog                             <ul style="list-style-type: none"> <li>traffic light recognition</li> </ul> </li> <li>Fog &amp; Sunlight                             <ul style="list-style-type: none"> <li>traffic light recognition</li> </ul> </li> <li>Backlight                             <ul style="list-style-type: none"> <li>traffic light and obstacle recognition</li> </ul> </li> </ul>	<p><b>Variable configuration area for intersection negotiation testing</b></p> <ul style="list-style-type: none"> <li>Intersection                             <ul style="list-style-type: none"> <li>Various setting                                     <ul style="list-style-type: none"> <li>- crossing angle</li> <li>- blind area</li> </ul> </li> </ul> </li> <li>Difference between map and road                             <ul style="list-style-type: none"> <li>Temporary difference                                     <ul style="list-style-type: none"> <li>- road work/maintenance</li> <li>- traffic restriction</li> </ul> </li> </ul> </li> <li>Round about                             <ul style="list-style-type: none"> <li>Negotiation to other vehicles                                     <ul style="list-style-type: none"> <li>- manual driving vehicle</li> <li>- autonomous vehicle</li> </ul> </li> </ul> </li> </ul>	<p><b>Communication devices and connected vehicles testing</b></p> <ul style="list-style-type: none"> <li>Right turn collision avoidance information provision system                             <ul style="list-style-type: none"> <li>source: SIP(Cross-ministerial Strategic Innovation Promotion Program)</li> </ul> </li> <li>Green-wave traffic light system                             <ul style="list-style-type: none"> <li>Indicate image to drivers to advise the moderate speed for passing through traffic lights</li> <li>source: ITS-Japan</li> </ul> </li> </ul>