

5.3.	Interactions between users and ADS		
5.3.1.	General requirements		
5.3.1.1.	At each initiation of the powertrain, the ADS shall signal the presence of a failure that prevents or limits the operation of a feature.		Text agreed. Possibly move to 5.3.2 and new 5.3.3 with appropriate wording. Not appropriate as a general requirement in current wording.
5.3.1.2.	The ADS shall signal its intention to place the vehicle in an MRC to the ADS user(s).		
5.3.1.3.	An ADS that controls the operation of doors shall provide an emergency override to the user.		
5.3.1.4.	The ADS HMI shall provide safety relevant information and signals clearly noticeable to the target user(s) under all operating conditions, multimodal (e.g., optical, acoustic, haptic) if needed, simply and unambiguously.		
5.3.2.	ADS features that allow a user to take over manual control of the DDT		
5.3.2.1.	General requirements		
5.3.2.1.1.	The ADS shall be designed to prevent misuse and errors in operation by the user.		

<p>5.3.2.1.2. When an ADS feature is active, the vehicle driving controls, direct vision, devices for indirect vision, indicators, tell-tales, and DDT-related warnings may be disabled, suppressed, de-activated, inhibited or by other means made unavailable.</p>	<p>(UK)</p> <p><i>Option 1 (with new definitions)</i></p> <p>When an ADS feature of type 1 is active, the vehicle driving controls, direct vision, devices for indirect vision, indicators, tell-tales, and DDT-related warnings may be disabled, suppressed, de-activated, inhibited or by other means made unavailable.</p> <p>When an ADS feature of type 2 is active, the vehicle driving controls, direct vision, devices for indirect vision, indicators, tell-tales, and DDT-related warnings may be disabled, suppressed, de-activated, inhibited or by other means made unavailable.</p> <p><i>Option 2 (If the type 1/type 2 definitions are not accepted)</i></p> <p>When an ADS feature <i>which includes an ADS fallback response requiring a fallback user</i> is active, the vehicle driving controls, direct vision, devices for indirect vision, indicators, tell-tales, and DDT-related warnings may be disabled, suppressed, de-activated, inhibited or by other means made unavailable.</p> <p>When an ADS feature <i>which does not includes an ADS fallback response requiring a fallback user</i> is active, the vehicle driving controls, direct vision, devices for indirect vision, indicators, tell-tales, and DDT-related warnings may be disabled, suppressed, de-activated, inhibited or by other means made unavailable.</p>	
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<p>5.3.2.1.3. The vehicle controls dedicated to the ADS shall be clearly identified and distinguishable to accommodate only the appropriate interactions.¹</p>		
<p>5.3.2.1.4. While an ADS feature is active, it shall inform the user of:</p> <ul style="list-style-type: none"> (a) ADS status information. (b) The role of the fallback user, if applicable. (c) Adapted performance of the DDT consequent to some failure of the ADS. 	<p>(OPI) Open issue with regards to ADS feature status (active, standby, on/off, engaged/disengaged).</p>	
<p>5.3.2.1.5. The ADS shall indicate the availability of a feature for activation.</p>		
<p>5.3.2.1.6. While active, features that have a system-initiated deactivation of the ADS to a fallback user shall:</p> <ul style="list-style-type: none"> (a) Continuously assess whether the fallback user is available to assume the role of driver at the end of the deactivation procedure. (b) Provide effective procedures for re-engaging the fallback user who has been detected not to be available. (c) Trigger a fallback to an MRC where it has not been possible, feasible and/or safe to re-engage the fallback user. 		

¹ Through size, form, location, colour, type, action, spacing and/or control shape. The provision aims to promote correct use and is not intended to prohibit multifunction controls.

5.3.2.2.	Requirements on ADS feature activation		
5.3.2.2.1.	The ADS shall ensure a safe ADS feature activation.		
5.3.2.2.2.	The ADS shall provide immediate feedback to indicate success or failure when the user attempts to enable an ADS feature.		
5.3.2.2.3.	The feature activation process (e.g., sequence of actions and states) shall take into account relevant recommendations or standards.		
5.3.2.2.4.	An ADS feature activation resulting in a user becoming a fallback user shall immediately and explicitly inform the fallback user of the consequent expectations on them to be ready to respond to a request to resume the DDT.		
5.3.2.3.	Requirements on ADS feature deactivation to manual driving		
5.3.2.3.1.	In a nominal scenario, the beginning of a system-initiated deactivation process shall be indicated in a timely manner to support the fallback user re-engaging to the driving task.	A diagram is ok. Process to be defined.	
5.3.2.3.2.	Following the user requesting deactivation of the ADS feature, the ADS shall follow a deactivation process to safely transfer control of the DDT to the user.	Define “user”	

<p>5.3.2.3.3. The ADS feature shall only respond to the user request to initiate a system deactivation process, if the ADS verifies that the user is in a position to assume the role of the driver.</p>	<p>Define “user”</p>	
<p>5.3.2.3.4. ADS feature deactivation may be delayed if it is assessed by the ADS that the situation is unsuitable or unsafe for the subsequent mode of vehicle operation. In this case, the user shall be informed of this circumstance.</p>		
<p>5.3.2.3.5. The ADS feature shall remain active until the system deactivation process has been completed or the ADS vehicle reaches a minimal risk condition.</p>		
<p>5.3.2.3.6. The deactivation process (e.g., sequence of actions and states) shall take into account relevant recommendations or standards.</p>		
<p>5.3.2.3.7. The ADS shall assess if the user is suitably engaged to resume the DDT before completion of the deactivation process.</p>	<p>Discuss “engaged” in an interpretation document.</p>	
<p>5.3.2.3.8. The ADS shall provide a specific indication of the completion of the deactivation of the ADS.</p>		
<p>5.3.2.3.9. At the completion of the deactivation process, control shall be returned to the driver without any continuous lateral or longitudinal control assistance active.</p>		

<p>5.3.2.3.10. If applicable, during the deactivation procedure, the vehicle controls, direct vision, devices for indirect vision, indicators, warnings, and tell-tales shall be set to an appropriate state for manual driving.</p>		
<p>5.3.2.3.11. If applicable, ADS features operating control of closures shall no longer influence closures or the controls associated with closures.</p>		
<p>5.3.3. ADS features that do not allow a user to take manual control of the DDT</p>		
<p>5.3.3.1. The ADS shall provide the passenger(s) with means to request to stop the vehicle.</p>		
<p>5.3.3.2. The ADS vehicle shall provide safety-related information to the passengers.</p>		
<p>5.3.3.3. The ADS shall not initiate motion unless the safety risks to the passenger(s) have been mitigated.</p>		
<p>5.3.3.4. Controls provided for manual driving (e.g., steering, service brake, parking brake, accelerator, lighting) shall be designed to prevent any effect on the DDT whilst the ADS is performing the DDT, or reasonable safeguards shall be put in place to prevent access to controls.</p>		