



## Safety recommendation no. 100

<b>Date of the publication</b>	22.09.2016
<b>Number of the final report</b>	2015022001
<b>Safety deficit</b>	<p>On 20th February 2015, shortly after 06:40 in Rafz, on the track near the exit towards Schaffhausen, a regional train collided with the side of an S-Bahn train. The collision can be attributed to the fact that the S-Bahn train driver incorrectly believed that he could depart when a 'Stop' signal was displayed.</p> <p>During the investigation, the cause of the accident was identified to include the following factor: the kind of cooperation in the driver's cab, which gave the impression of mutual control and thereby made it impossible to recognise the error in a timely manner. The investigation found that, among others, the following factors contributed to the accident:</p> <ul style="list-style-type: none"><li>– The coincidental synchronisation of the signal positions which the locomotive crew involved mistakenly believed to be applicable to their own train.</li><li>– Self-imposed time pressure</li></ul> <p>During the investigation, the cause of the accident was identified to include the following factor: the existing safety equipment could not prevent the accident because it contained no departure prevention for departing or turning trains. The automatic train control system cannot be activated for departing or turning trains even if a Euroloop is present.</p>
<b>Safety recommendation</b>	The FOT should ensure, that, as part of the changeover to the ETCS L1LS system, departure prevention that affects all trains is realised by appropriate means.
<b>Addressees</b>	Bundesamt für Verkehr
<b>Stage of the implementation</b>	<p>Implemented. All infrastructure managers (IM) have – where necessary – implemented departure impediment by means of balises and/or loops. In doing so they considered whether, under current track usage, trains continue their journey after stopping or turn around/start up.</p> <p>The IMs have implemented departure impediment for the known train traffic using appropriate means. 'Warn-App', introduced by SBB, makes a further contribution to safety. The FOT also believes that, in light of the risks and effort involved, a departure impediment system effective for all trains in all situations would not be proportionate. Changes in traffic are intercepted via the change-in-use process. The implementation date was the end of 2019, with the exception of the facilities mentioned under safety recommendation No 99.</p>
<b>Investigation report concerning the safety recommendation</b>	<u>Schlussbericht</u>