



## Safety recommendation no. 183

<b>Date of the publication</b>	22.09.2023
<b>Number of the final report</b>	2023081002
<b>Safety deficit</b>	<p>On 10 August 2023, several goods wagons in a northbound goods train derailed in the Gotthard Base Tunnel near the Faido multifunction station. Very extensive damage was caused to the infrastructure and rolling stock. Several fragments of a wheel disc belonging to one of the derailed freight wagons were found some way ahead of the derailment site.</p> <p>Wheel discs are safety-critical components, the failure of which can directly give rise to a serious accident. Regardless of the original cause of a crack in the wheel disc, once it appears, it slowly expands in the wheel. With an increasing number of load cycles, it expands continuously until the wheel breaks in the wheel centre.</p> <p>The state of the art in train control equipment currently available in Switzerland's rail infrastructure is unable to detect a crack in a wheel disc. During technical inspections of trains in operation, a fracture can only be detected if it is already sufficiently large, and only in the visible wheel area.</p> <p>Initial results of the investigation and the first results of the metallurgical investigation reveal a similarity with the wheel fractures that were the object of the first Broken Wheels JNS procedure.</p>
<b>Safety recommendation</b>	The STSB recommends that the Federal Office of Transport (FOT) initiate an extension of the measures defined in the first JNS Urgent Procedure in order to limit the risk to the wheelset of the BA 390 series during operation and maintenance.
<b>Addressees</b>	Bundesamt für Verkehr
<b>Stage of the implementation</b>	Partially implemented: The Federal Office of Transport (FOT) responds as follows: In October 2023 the FOT informed freight carriers and RUs in Switzerland and asked them to provide information on any measures they had taken. The FOT believes that further measures should first and foremost be taken at international level. These should be defined in the ongoing JNS procedure, in which the FOT is actively involved.
<b>Investigation report concerning the safety recommendation</b>	<p><a href="#">Vorbericht</a></p> <p><a href="#">Rapporto preliminare</a></p> <p><a href="#">Zwischenbericht</a></p> <p><a href="#">Rapporto intermedio</a></p>