

Bogie Geometry Monitor



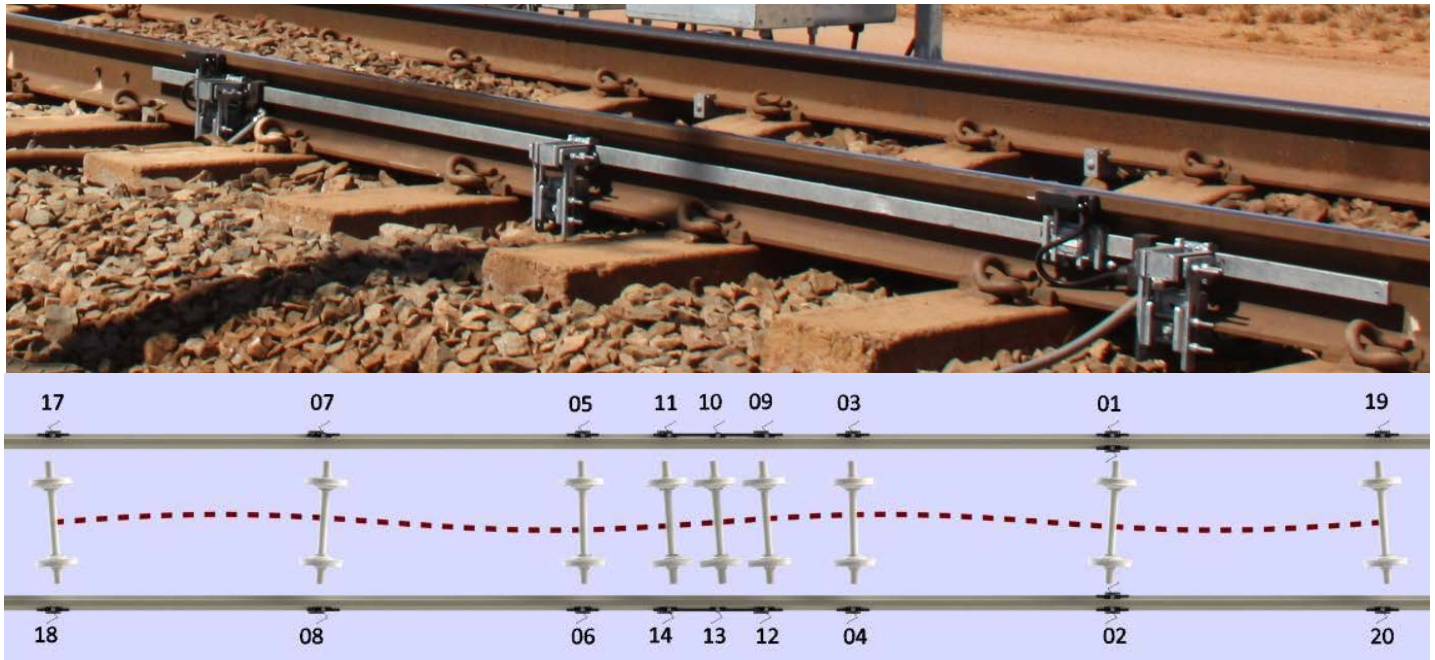
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The Track IQ Bogie Geometry Monitor (BGM) is an advanced bogie assessment and monitoring system used for evaluating the dynamic behaviour of bogies and the entire wagons in an operational rail environment.

From the analysis of the recorded behaviour of the wagon across the BGM system the performance of the wagon and associated bogies can be characterised.

This proactive approach enables railroads to take immediate and preventive action to avoid expensive damage to rail and rolling stock and thereby reduce operational costs.

The BGM considers a range of parameters when investigating bogie geometry. This includes axle spacing, angle of attack at several locations, and the lateral position of the axle on the railroad track over the distance that is greater or equal to the wagon length at the operational train speed.

Rolling stock is usually inspected at set intervals, sometimes many months apart. At this time the rolling stock is stationary and therefore it is not possible to identify problems that can otherwise be observed during travel.

Significant damage can remain undetected, resulting in a costly repair bill down the road. For optimum maintenance bogie and wheel issues need to be continuously monitored to ensure that problem bogies are identified as soon as possible before damage occurs.

BGM Parameter Measurements Include:

Hunting

Angle of Attack

Tracking of Wheelsets

Distances Between Axles, Bogies and Cars

Track IQ

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The Bogie Geometry Monitor (BGM) system measures bogie geometry through the use of wheel sensors mounted on the rail. The BGM system is capable of bidirectional monitoring of the following bogie characteristics:

- propensity to hunt
- tendency to track
- angle of attack
- geometrical instability

Wheel sensors are positioned strategically to confidently record each wheel and measure the geometry of the bogies, cars, and the entire train from the first to the last axle. The sampling rate is with very high frequency and each wheel is tracked with high precision when travelling over the system.

Critical alarms provided by the BGM can be integrated into Railroads Train Control Systems once data requirements are provided. The BGM will automatically deliver actionable information to the railroad maintenance team related to poorly performing wagon bogies.

Poor Bogie Geometry can cause

Flange damage

Hollowing

Uneven wheel wear

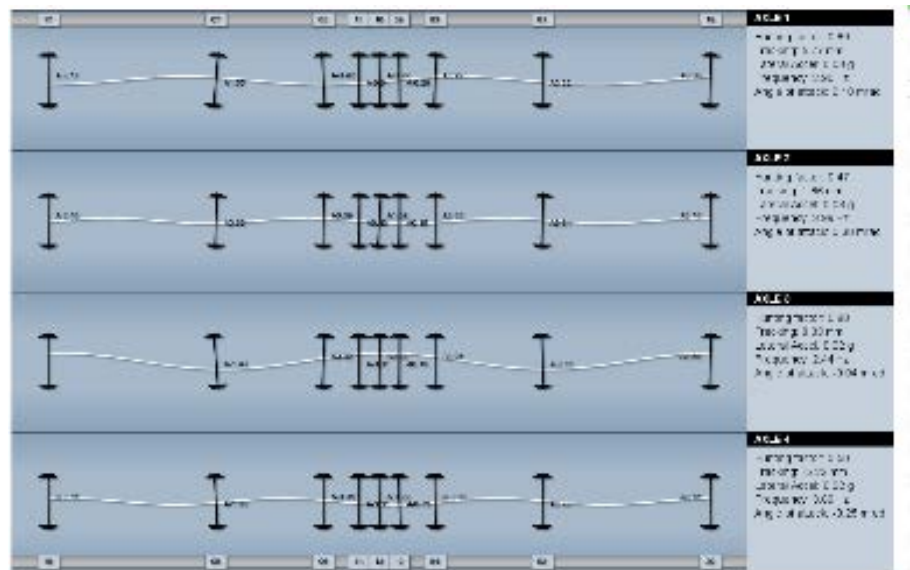
Excessive rail wear

Damage to rail components

Derailment

Associated wagon and bogie damage

Increased fuel consumption and running costs



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