

# Shocks detection on the 3<sup>rd</sup> rail collector shoe



**Mobile equipment** interact with **other hardware systems** or are faced to a **harsh environment** that may cause damages or wear&. Repeated impacts may be seen belatedly and may cause **serious failures** that generate **high repair costs** or **cripple an entire activity**. Reliable information at the right time about “abnormal” events that may impact these mobile assets enables to react and take action as fast as possible to provide the best continuity in operations.

The use of the third rail as a power supply method of a rolling stock is picked when this one moves in a constraint environment, like subways that are inside door . The electric link between them is possible thanks to a sliding collector shoe directly placed on the mobile asset. The contact between the rail and the shoe being not perfect and because of its location, close to the ground, the shoe may faces many phenomenons that can damage it and lead to the breakdown of the mobile asset.



## What is an «abnormal» event?

An “*abnormal*” event is a **too hard vibration**, an **impact** or a **shock** that is higher than a normal threshold. Repeated events located at the same point is an indicator of the abnormal nature. This event may happen because of a **bad interface** between the asset and another system or because of a **disturbing factor** on its travel, etc.

## SEQUANTA Smart Data solutions

A well-maintained and reliable infrastructure and rolling stock are two key levers for the **rail and public transport sectors** to ensure the safety, level and continuity of service expected by the community while anticipating the **new needs of travelers**. However, the right data or information is still needed to trigger corrective actions at **the right time** and in **the right place** to increase operational agility and act effectively on operations.

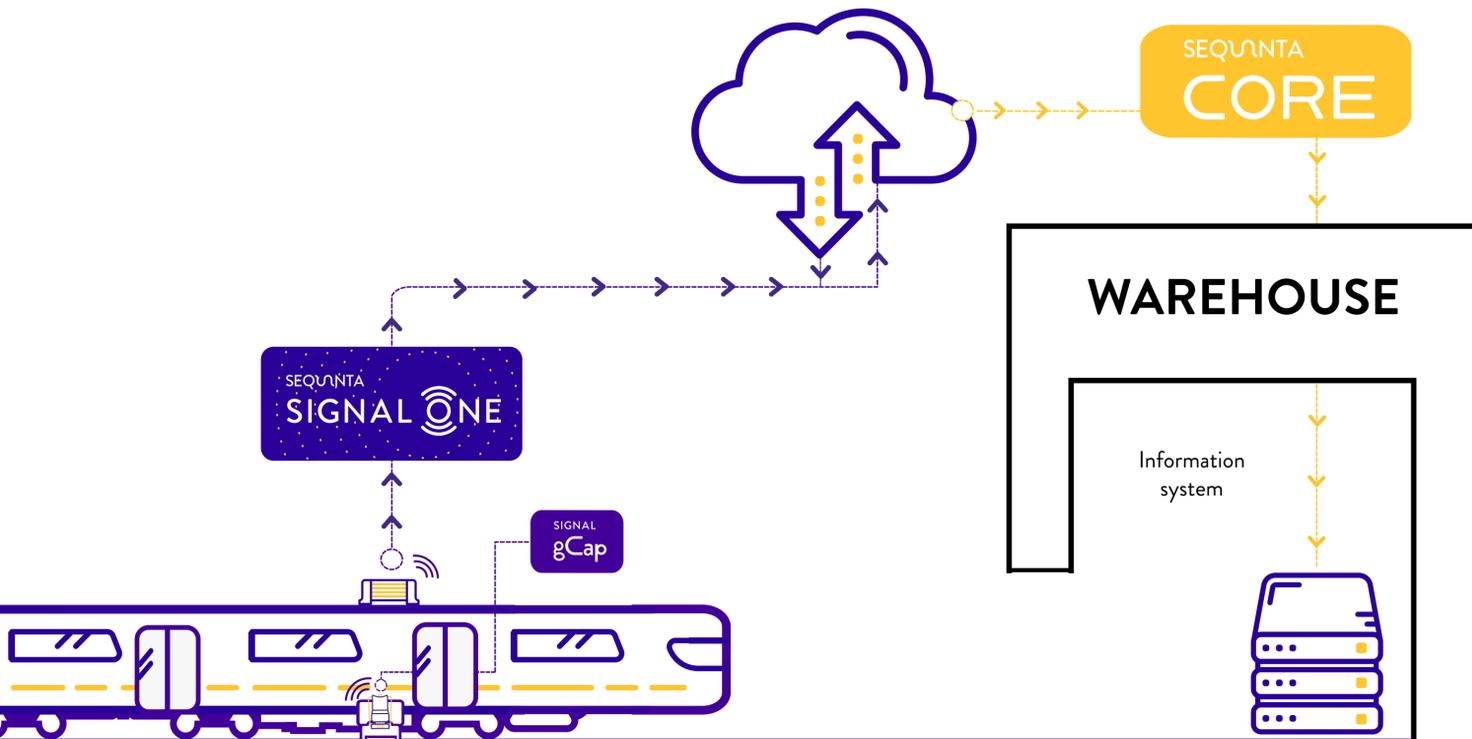
This is where the **SEQUANTA Smart Data solutions** change the game!



**Signal gCap** is a wireless accelerometer sensor designed to be integrated in harsh environments at the Edge of the mobile asset. **Signal gCap** captures data continuously.

**SEQUANTA Signal One** has been designed for the **IIoT** to take all its meaning in complex and demanding environments. In the field, closer to objects, **SEQUANTA Signal One** transforms data (captured by its own internal sensors and GPS **Signal gCap**) into **smart data**, to extract the value in **real time**.

**SEQUANTA Signal One** data are continuously stored and consolidated at the **SEQUANTA Core** software platform level in the cloud. Powerful tools for data filtering, visualization and exploration to take **informed decisions**.



## Shocks detection by SEQUANTA

Capture and collect **unprecedented data**, closer to the **rolling stock critical and hard-to-reach organs**, such as pantographs, hitches, bogies, rotating / vibrating equipment... in order to:  
Identify, geolocate and characterize **extraordinary events** (degradations, incidents and abnormalities),  
Conditionally trigger the automatic actions of local control / command equipment (camera ...),

Manage the periodic transmission of smart data via a **telecom /IoT network** to the cloud, supplying smart data to the information system and the **operating and maintenance** processes.

## Benefits

- Trigger **corrective actions** at the right time and in the right place
- Increase **operational agility** and **act on operating efficiency**
- Boost **continuity of service**.