

OBMS



a new approach to fiber optic sensing



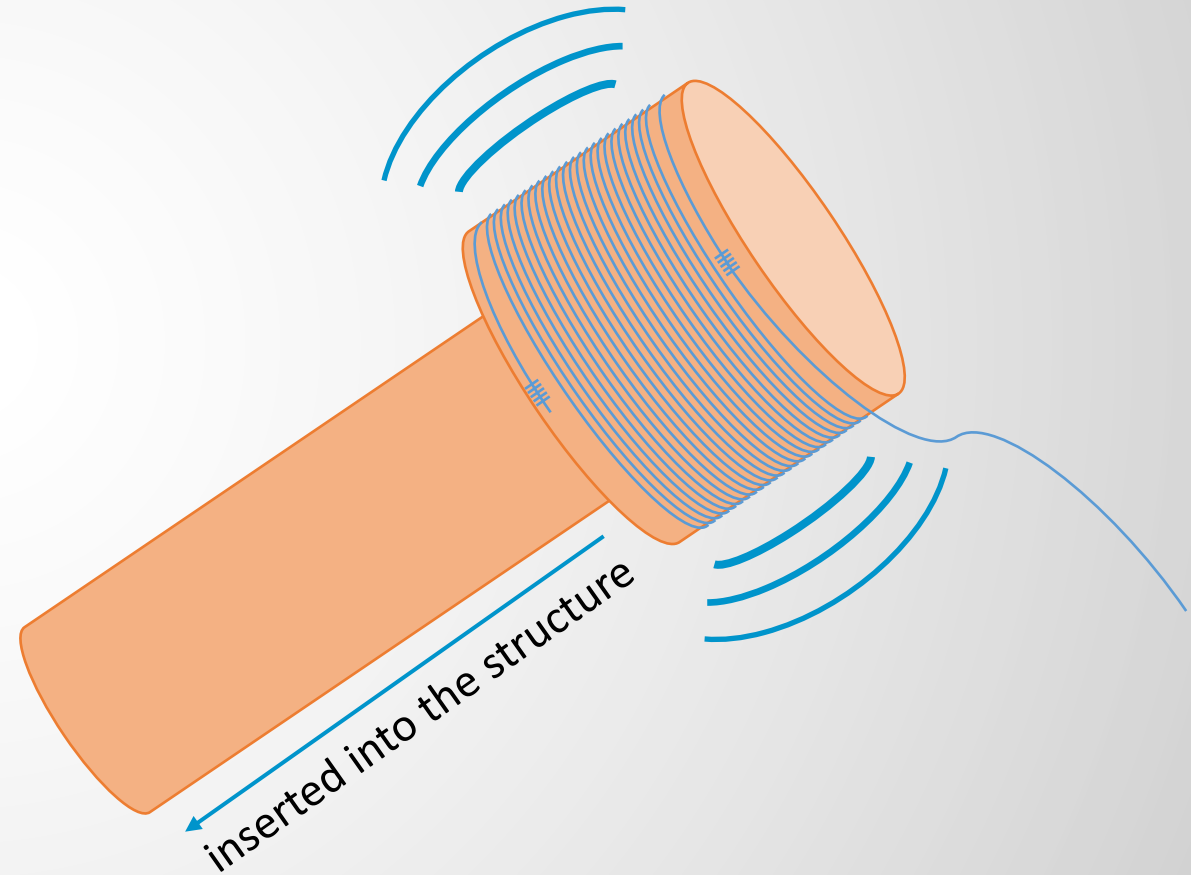
Optical Bogie Monitoring System

Key benefits OBMS

- Vibration sensors
 - Simultaneous measurement
 - Other parameters possible like temperature measurement
- All-optical sensors
 - By principle immune to strong electrical and/or magnetic fields and liquids
 - No active parts in sensor
 - Multiple sensors connected to 1 readout
- High sampling speed
 - Sampling speed up to 1 Mhz, ultrasound frequencies
 - Sampling speed independent to amount of sensors in the network

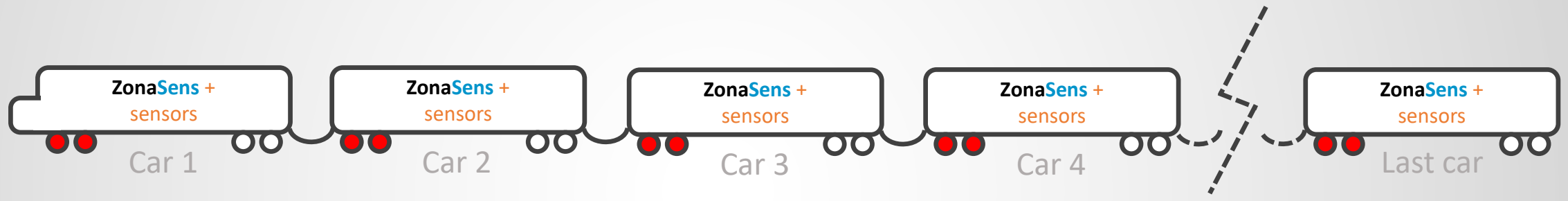
Sensor principle

- The technology (ZonaSens) uses reflective surfaces in the fiber, so called FBGs (Fibre Bragg Gratings) that reflect the light back to the readout
- The sensor consists of a metal part wrapped with optical fiber. The sensitive part of the sensor is the fiber between the two FBGs.
- Metal part will be screwed into the structure to capture the vibrations
- Minute changes in the fiber as result of the vibrations will generate the signal

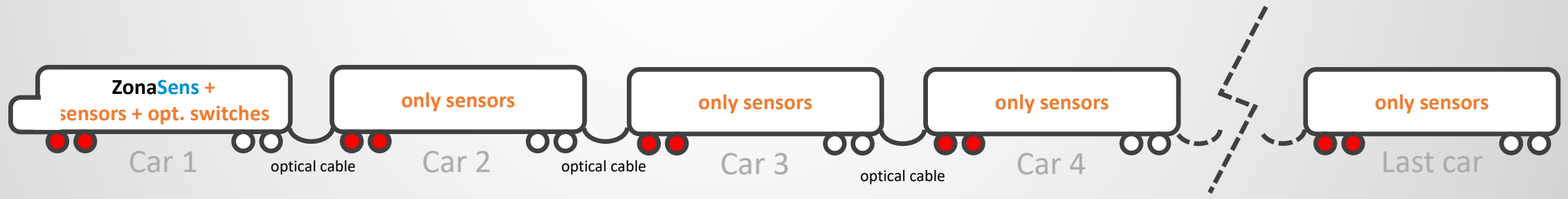


Possible system configuration

1 readout per car



1 readout per train, subsequently scanning of cars

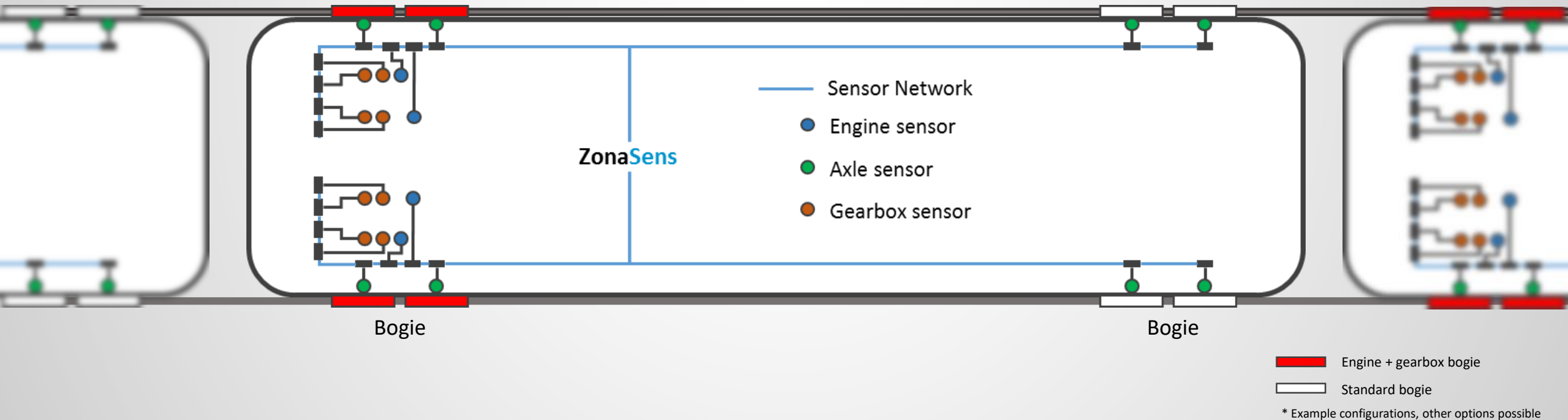


- Engine + gearbox bogie
- Standard bogie

* Example configurations, other options possible

Possible train car configuration

Sensor layout (top view)



Contact

