WAYSIDE MONITORING ALLIANCE

Providing an integrated and open system to supply train information to manage risk and cost

- Real-time exceptions
- Condition monitoring and trending
- Targeted selection
- Maintenance planning
- Aggregate stress and loading

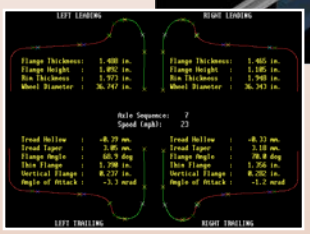
- Operations
- Train Control
- Real time exceptions and alarms
- Track and Structures
- Operators and Rollingstock owners

Structure dynamics and loading

Teknis

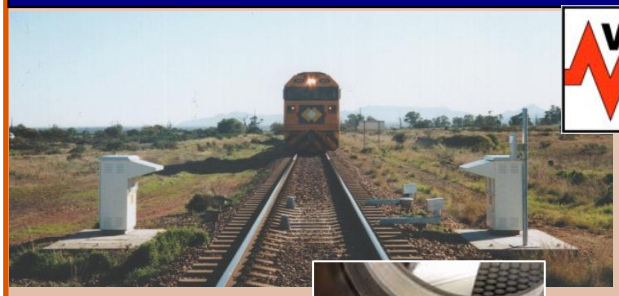
Wheel inspection and profiling

IMAGEMAP



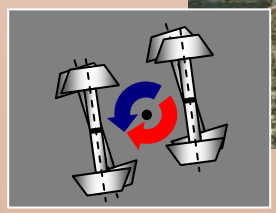
Acoustic condition monitoring

ViPAC



Vehicle geometry and tracking

WID

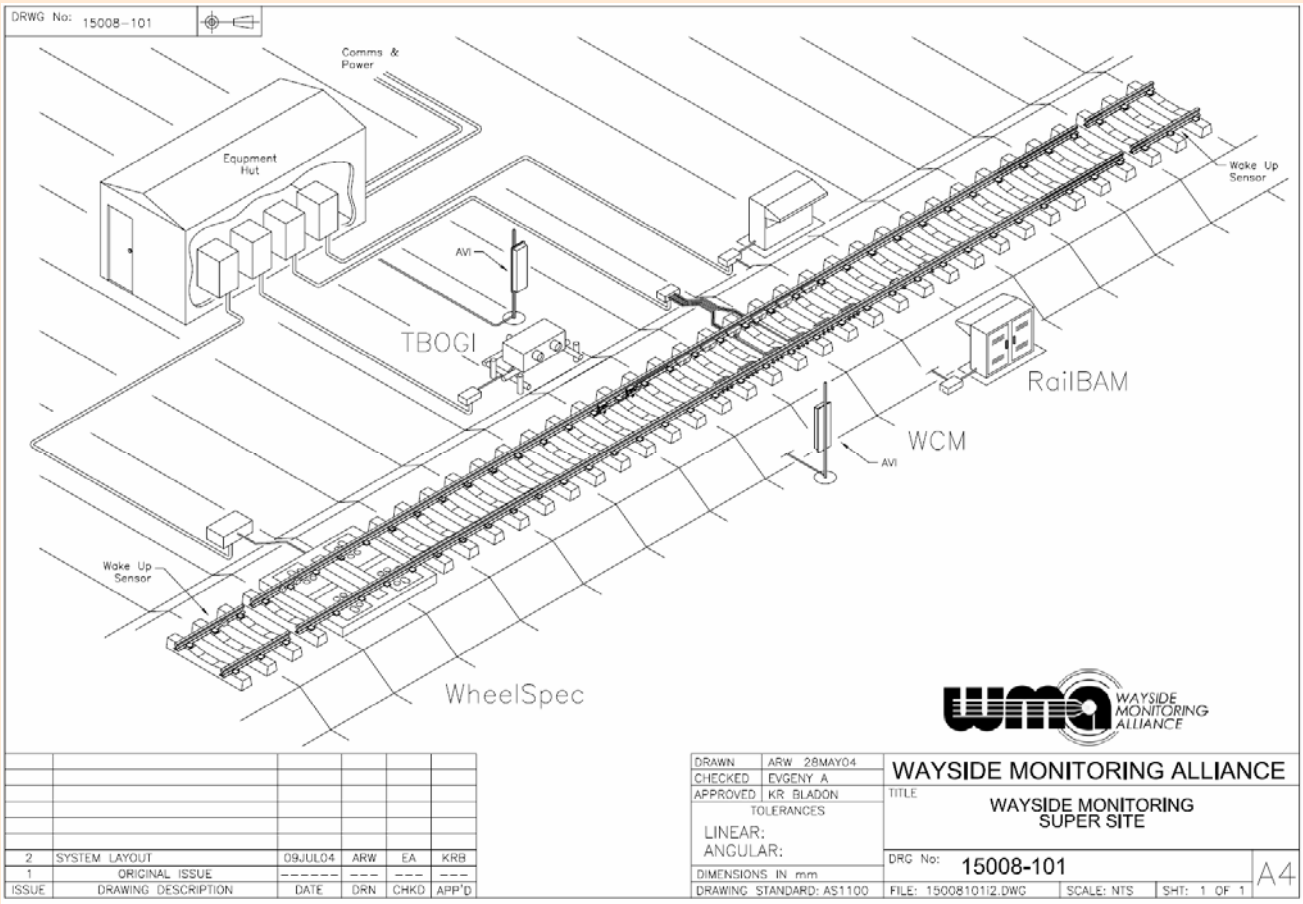


Machine Condition Monitoring for planned maintenance instead of exception reporting

Integration of wayside data and use of statistical methods.

Analysis of root cause within complex interactions

The Supersite is comprised of six sub-systems, WheelSpec, TBOGI, RailBAM, WCM, WMS, and AVI. Each subsystem is designed to operate autonomously to optimize system availability. The illustration below shows the general layout of this type off site with standard AVI units. Track-mounted wheel sensors are shared across the subsystems. The SuperSite is ideally located on a tangent section of normal track. The WMA philosophy is to monitor trains running on standard customer track and the Supersite requires no special track structure other than the installation of the WheelSpec system's tie-box.



The data from the wayside location is typically forwarded to a dedicated Alliance ftp site in real-time Data is also forwarded to a central Customer location where it is processed to local requirements and stored in an SQL Server database.

The WMS application provides distribution of reports and email, analytical tools and data browsing from standard Microsoft equipped workstations. The WMS also provides a secure WEB browser access to the customer's SQL Server database if appropriate. Alternatively, the Alliance can provide full turn-key solutions including Internet WEB based data services directly to registered/authorised users.