DYNACOUNT

Intelligent Rail Vehicle Counting

TLC ENGINEERING SOLUTIONS (Pty) Ltd

Your Engineering Solutions Partner

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SOLUTIONS SOFTWARE TECHNOLOGY

What Are Vehicle Counter Used For ?

- Safety Interlocking Systems (Signals)
- Checking Integrity of AVI systems
  - Correlates the vehicle count with the RFID tags on the vehicles.
  - Correlation will pinpoint faulty or missing tags

WHY VEHICLE (and not axle) COUNTING ?

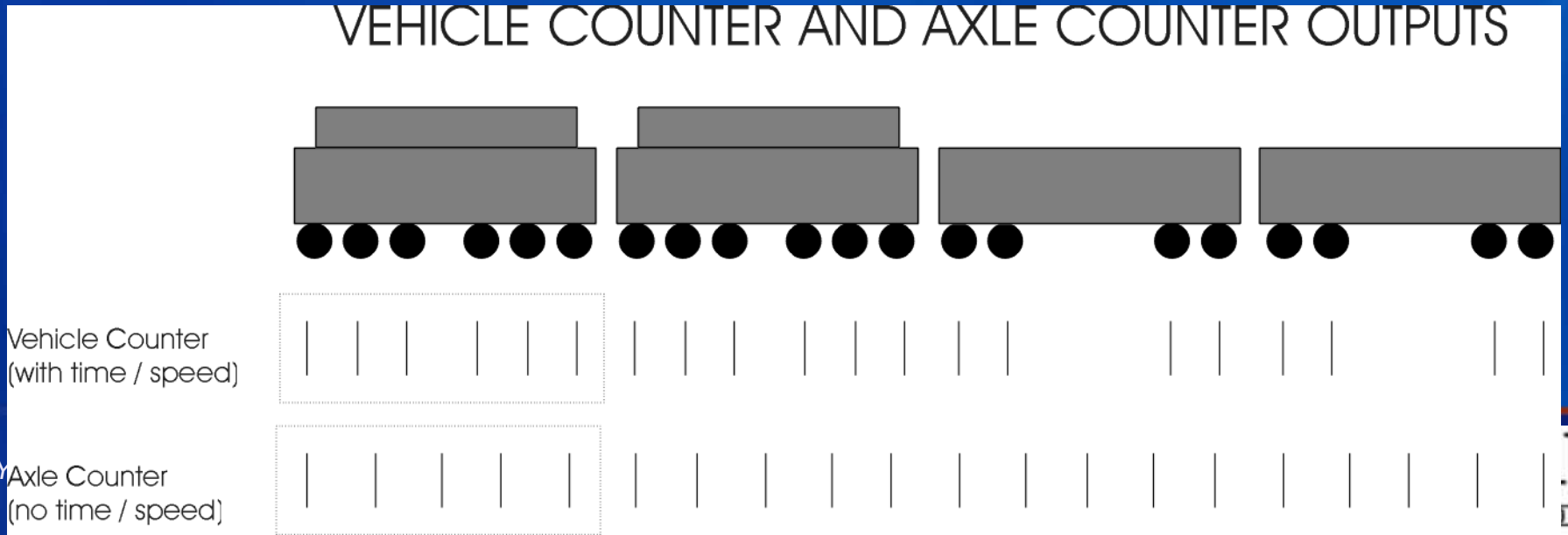
- Not all vehicles have the same number of axles, Therefore :
  - If axles counters are used, we could not distinguish, for example, between 2 six axle vehicles, and 3 four axle vehicles
  - Simple axle counters therefore can’t determine the number of vehicles that pass a specific point.
  - To match vehicles to RFID tags, we need to count VEHICLES and not merely axles

Vehicle Counting Method

- To count vehicles, at least 2 rail sensors spaced a known distance apart are needed
- This allows measurement of axle number AND the time at which it occurred.
- Which, in turn, allows pattern recognition of the vehicles due to the axle configuration.

Counting Method

- As can be seen, the Vehicle Counter produces a WHEEL PATTERN output, the Axle counter merely gives the Axle Count



Merging the AVI with DYNACOUNT

- Very accurate time synchronisation between AVI system and DYNACOUNT
  - Network Time Protocol (NTP)
- Times of vehicles past a point is available from BOTH the AVI and DYNACOUNT
- By Overlaying the Times of the AVI and DYNACOUNT, the Results Merge to highlight Discrepancies between the measurements obtained from Different Technologies

Implementation of the Merging

- Both AVI and DYNACOUNT record the data at the measurement point
- Data is then Compressed and Sent to the Integration Computer (Site Manager)
- Custom Merging Logic is then applied to the data sets, and the results made available to the Data Centre

Dynacount Implementation

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Dynacount Technology

- Strain Based System which Detects the Wheel due to Bending Stress on the Rail
- WHY Strain ?
  - Proximity Detectors susceptible to interference from HT overheads
  - Proximity detectors protrude and are vulnerable
  - Extremely Reliable and Robust
  - Has many other benefits
    - Low precision weighing / empty or full determination / overloading

Track Mounted Equipment

- Rail Web Prepared meticulously using special surface preparation techniques
  - Approx. 10 minutes

Rail Mounted Equipment (2)

- Pre-encapsulated cells bonded to the rail web

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Rail Mounted Equipment (3)

- Cells Carefully Sealed

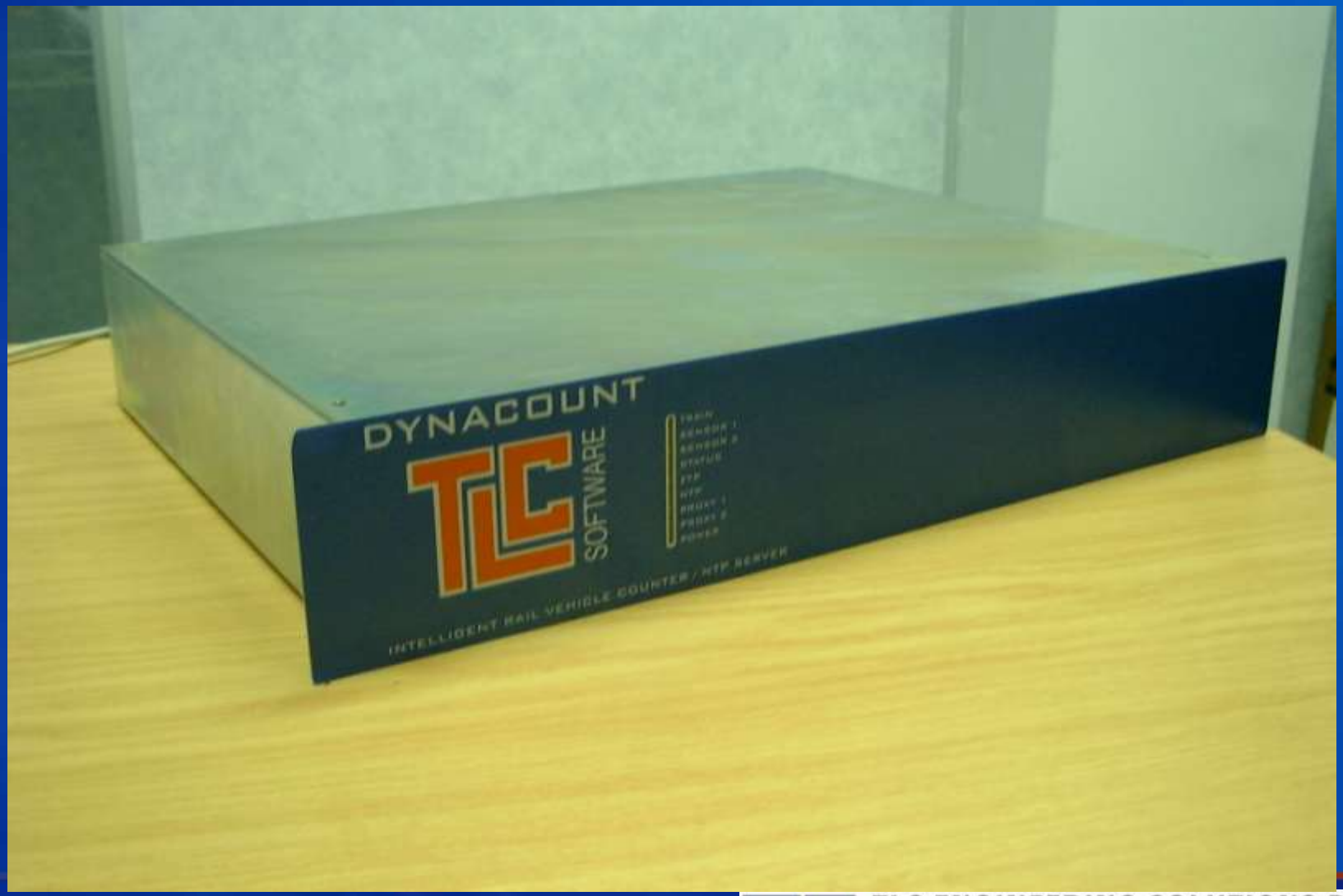
Rail Mounted Equipment (4)

- Cover Plates Installed, and Armoured Cables led to Processor
  - Entire Installation Typically 3 hours

DYNACOUNT Processor

- Completely Solid-State
- TCP/IP based
- Configurable across the Network
- Low Power / Battery backup
- Local Data Buffering when Network is Down
- NTP synchronisation to other hardware (eg Tag Reader)
- Remote Diagnostics
- Up to 100m from Track-Mounted Sensors
- 19 inch rack format

Dynacount Processor



System Features

- Ultra High Reliability
- Uses Pattern Recognition for ALL Vehicles
- Distributed Intelligence via FTP Data Transfer to Central Hub
- Low-Precision Weighing Ability
  - Empty/Full Discrimination
  - Total Train Mass for Brake Setting
- Extremely Rugged, No Protruding Parts

Contact Details

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