SilverNet Limited United kingdom T +44 (0) 871 2233 067 www.silvernet.com
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Rotherham Steel Recycling Safety System

Overcoming the limitation of the existing network infrastructure to achieve a cost-effective mobile safety surveillance system

End-User:
Rotherham Steel Scrap Recycler

Engineering Steels 1.2million tonnes per annum
Other steels 1.8million tonnes per annum

Over 20 different scrap types include:
- Plates and girders from demolished buildings
- Shredded scrap from car bodies
- Scrap rails and cast iron
- Pressings, cuttings and turnings from new manufacturing
- 100% UK sourced
- 100% inspection including radiation detection on arrival and after melting

Activities & Equipment

1 loading ramp for non-magnetic scraps

3 twin magnet 35 tonne overhead cranes

4 scrap basket loading cars

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End-User's Demand:

Safety system to be able to view video on all 3 twin magnet 35 tonne overhead cranes from 4 scrap baskets to avoid the possibility is serious injury or death from the basket moving when personnel are in the basket path.

The Challenge:

The crane driver needed to monitor all four of the baskets. Traditional deployment of video cables or network cables were ruled out due to the environment reliability and future maintenance is very difficult. The transmission equipment had to overcome the massive amounts of interference from the Melting arc process.

The customer required a reliable, highly-effective and low-cost wireless IP surveillance solution which was expandable at a later date.

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The Solution:

Wireless Point to Point Connectivity Solution SILVERNET 5GHz Wireless Bridge:

A5 23DBI INT (Integrated with 23 dBi panel antenna)

Four video streams were collected from each basket and cabled to the transmission point.

At the Transmission point the four video streams were connected into a **Fast** 8 channel encoder (for expandability) capable of multicasting to each of the cranes.
This was connected into the **Zyxel** managed Network switch (for later system expandability) where all three **SilverNet** radios were connected into.

At the video receiver end a radio was fitted to each of the three cranes and a cable run into the drivers cab.

A **Trident Displays** touch screen industrial PC was installed in the cab which decodes the real time video streams. By simply tapping on the screen the display will switch to the basket area the crane driver is operating.

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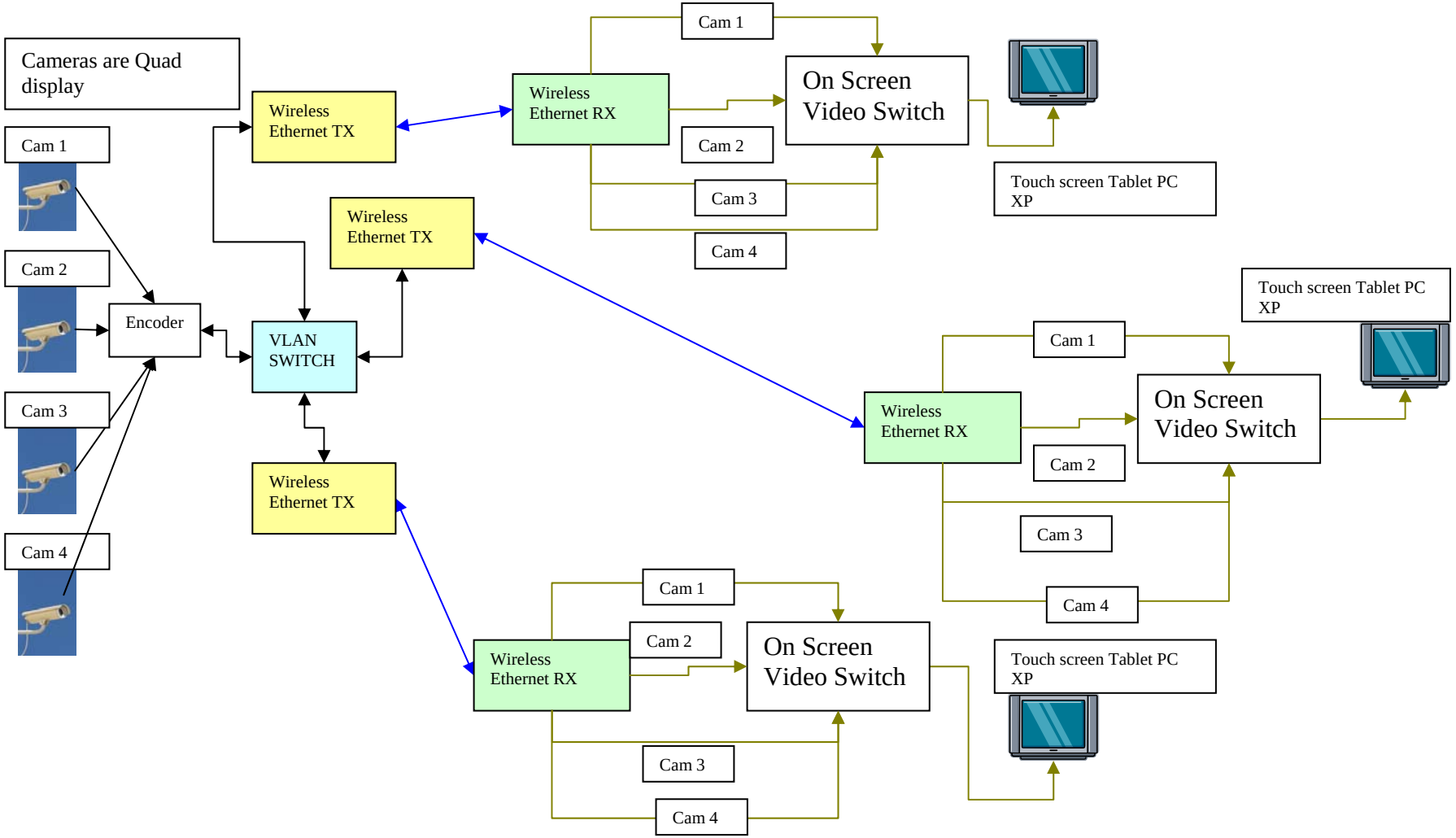
Configuration:



A Broadband Wireless Networking Company

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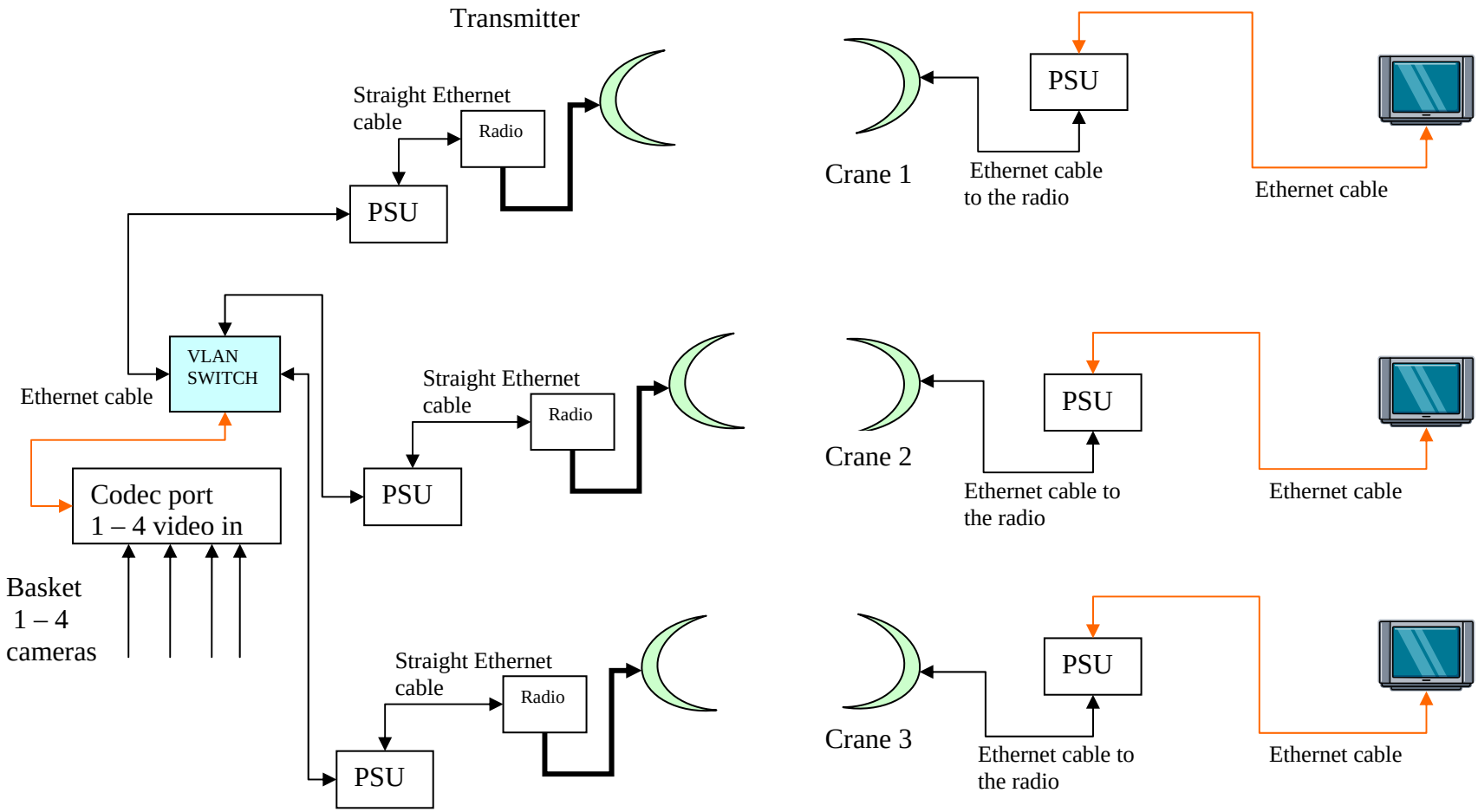
Ethernet Connections:



A Broadband Wireless Networking Company

The result:

All equipment has been in and working since March 2006. The customer is delighted with the up to date low cost solution.

Multicasting of the video across 3 Point to Point links caused no problem even when the cranes are moving and there is massive interference from the Arc melting process.

This makes a much safer working area for the employees.