

CVL OLE Material Procurement Strategy

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Covid-19 and world conflicts



Materials

Industry studies show that nearly 30% of all materials delivered to construction sites end up as waste. On Railway Electrification projects it's estimated around 10% to 15%.

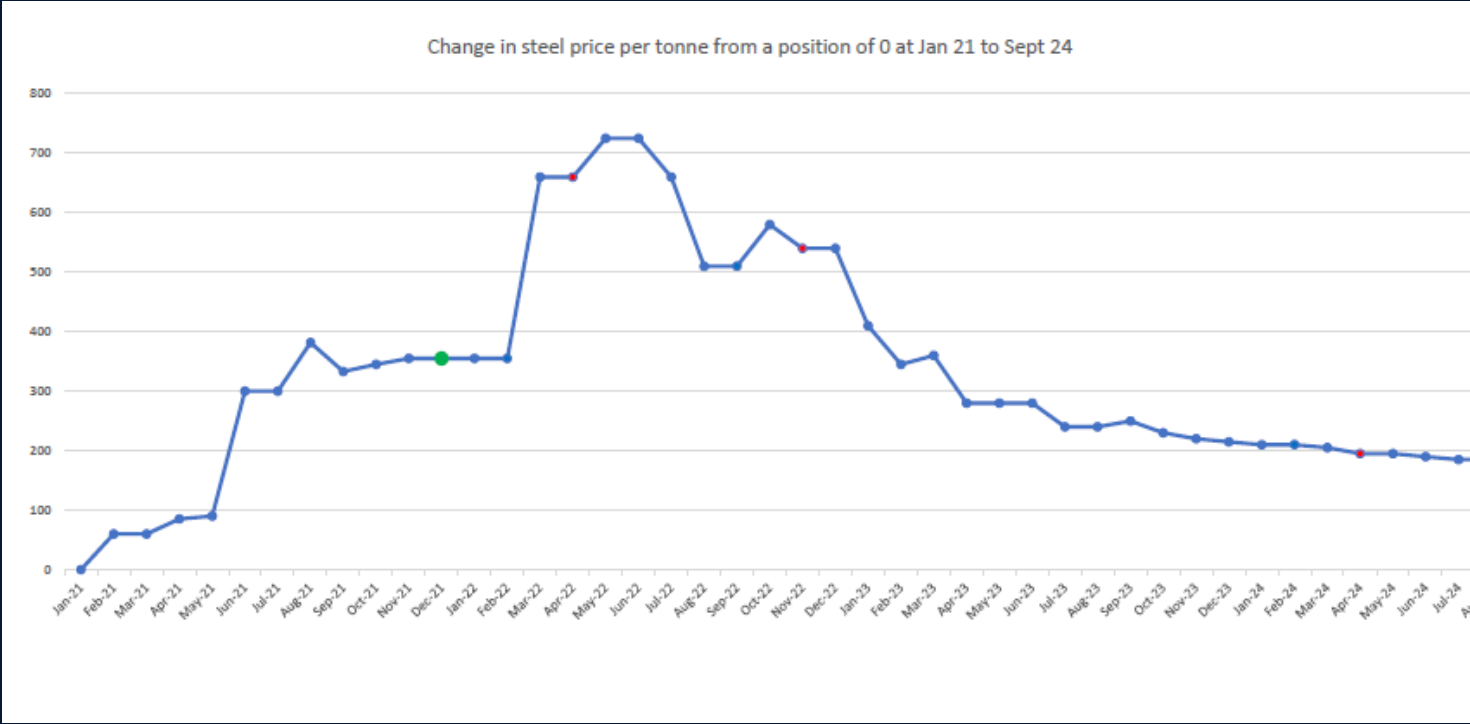
CVL Project managed 2565 different OLE part items.

Supplied and installed:

- **3126** foundations
- **4388** structures = **5156** individual pieces of steel
- **8241** small part steel units, including **4788** cantilevers
- **58** complete switch units
- **153,011m** Contact & Catenary wire (copper)
- **89,837m** Earth wire (Ali)



Strategic Procurement – main part steel price

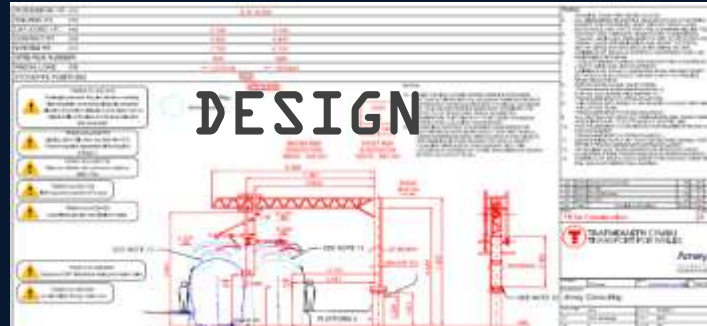


Origin	Percentage	Material type
Korea - Posco	2%	Plate
Spain - Arcelor Mittal	30%	380x100 PFC
Spain - Celsa	1%	HEB section
Spain - Megasa	35%	RSA section (50x50x8, 70x70x8, 90x90x8 etc)
UK - British Steel	13%	UC & PFC (203, 254, 305, 356, 300x90)
UK - Celsa	0%	RSA section (50x50x8, 70x70x8, 90x90x8 etc)
UK - Liberty Steel	7%	Plate
UK - Spartan	8%	Plate
UK - Tata Steel	3%	Box section (350x350 SHS, 500x300 RHS)



A systemic approach to efficiency

Construction of the OLE system has historically presented a challenge to multiple major programmes – learning points applied to design, logistics, materials, construction and energisation to improve efficiency and certainty of delivery.



- Reduced quantity of variants within design
- Complete wire run design – greater availability for construction (balance volume vs complexity)
- Allocation design for foundations – simplified approach



- Bulk material purchase tracking market value
- Standardised components allow bulk purchase
- Utilise supply chain to minimise logistics
- Kit assembly 'in house'
- Material Distribution Centre (MDC) controls all logistics

Procurement Strategy



Components vs Assemblies – cost efficiencies, simplifies the purchasing process, reduces the risk of compatibility issues, and allows for a more efficient build with a lower risk of returns or defective parts. 80% of OLE materials used on CVL project was purchased in component level.

Strategic Procurement – long lead materials & global impact on market. Programme delivery efficiencies, reduces the risk of material availability, and allows for a more efficient construction planning.

Advance 20%

RAW material
procurement

Form B 30%

Long lead material
procurement

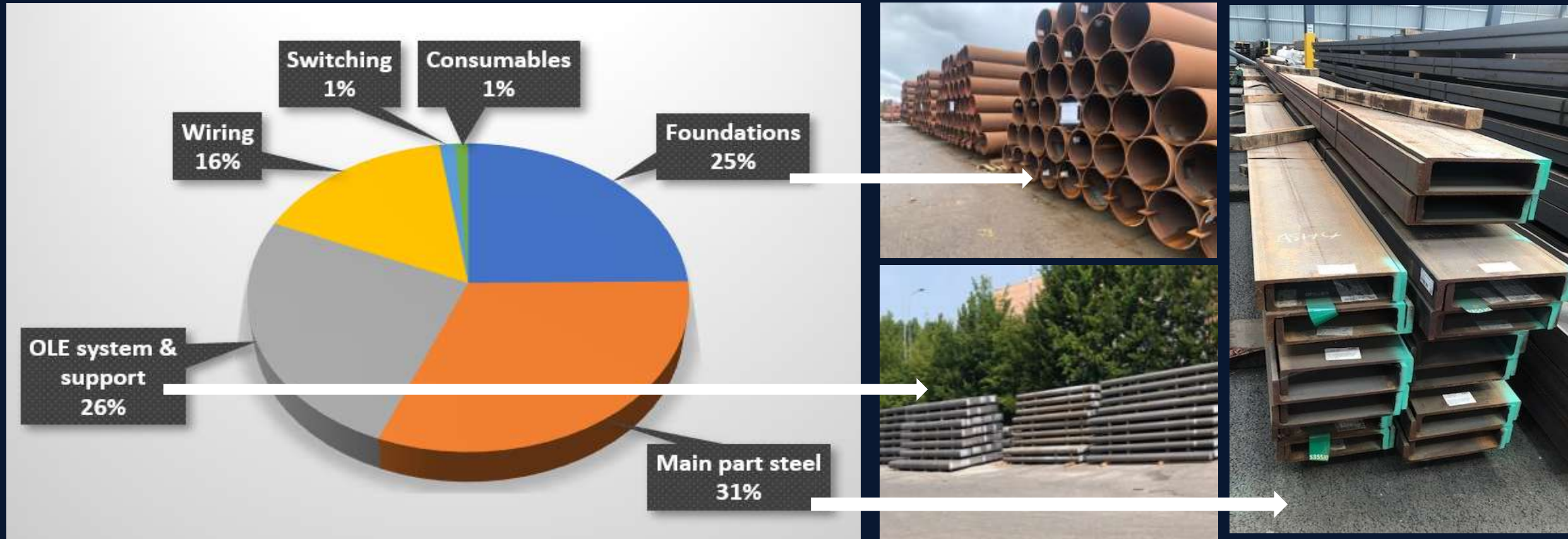
AFC 30%

Fabrication & low risk
procurement

As built 20%

Pre-assembly stock
management

Procurement Strategy - Vesting



Strategic Procurement – CHS Foundations



- Mills rolling cost benefit
- Reduced lead-time
- Reduced wastage



- Fabrication efficiencies

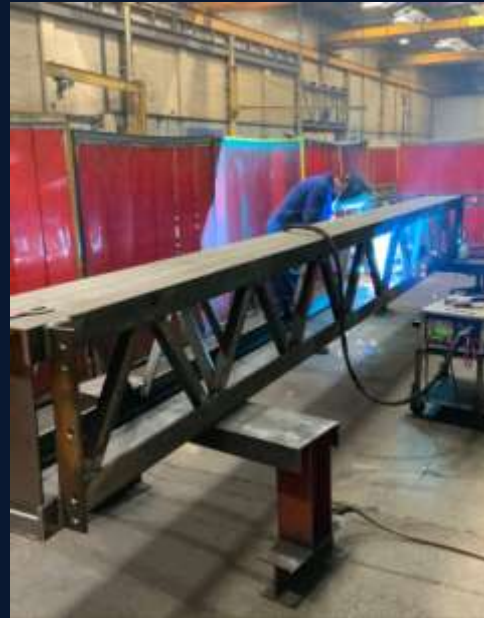


- Fabrication efficiencies

Strategic Procurement – MPS fabrication



MPS pricing - Quarterly



Labour Base Price



Galvanising Base Price



Fabrication Base Price

Strategic Procurement – Aluminium

- Fixed costs
- **Reduced lead-time for components**
- Lookahead plan with extruders



Strategic Procurement – OLE Systems



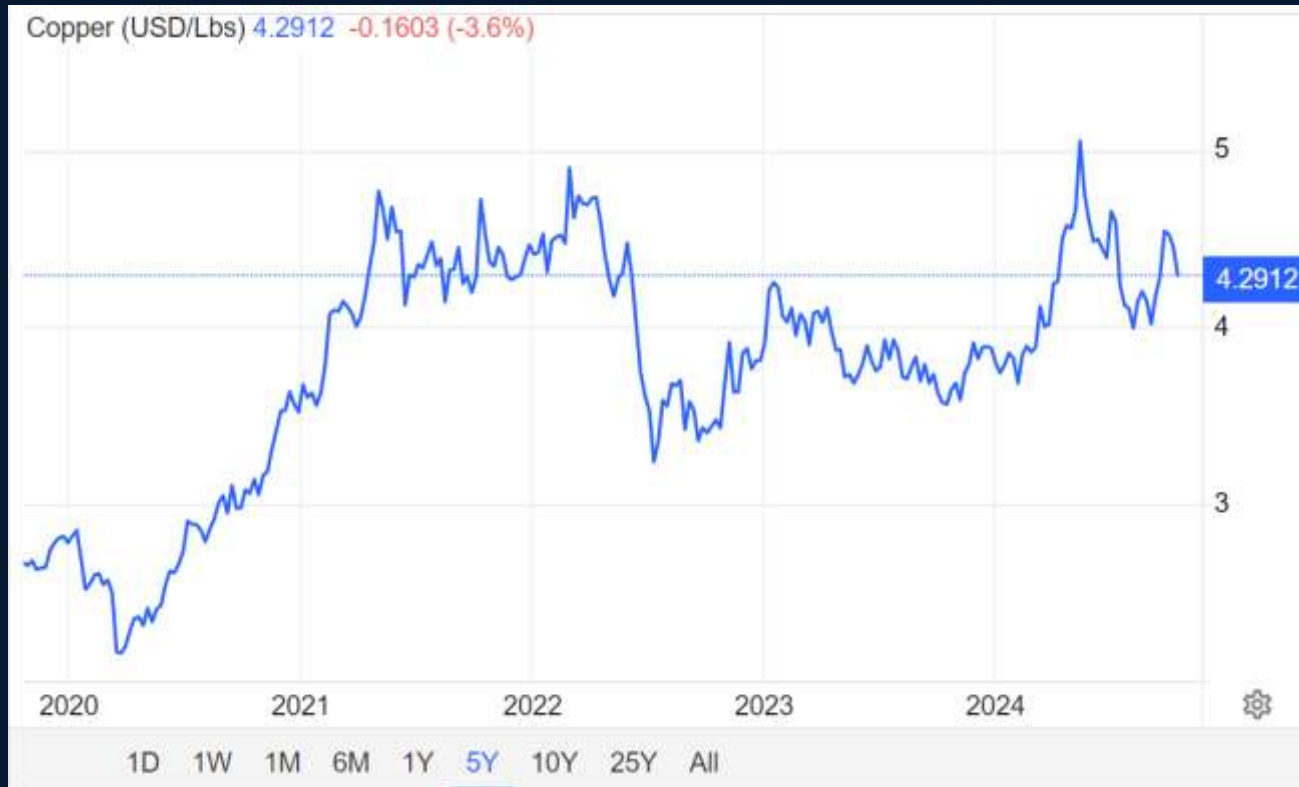
ALSTOM

Cutting and drilling of CLever Cantilever horizontal beam and adjustable tie rod

Factory Acceptance Test (FAT)

Quality Assurance (QA) testing

Strategic Procurement – contract & catenary wire



Raw material, copper cathodes, procurement (prior AFC design)

Drum coiling as per WR (at AFC design)

OLE Systems – Pre-assembly



**Right First Time
(RFT)**

Quality control

Full traceability

Reduced lead-time

**Change control –
design and onsite**

On-time delivery

24/7 site support

**Efficient
construction
planning**

**Reduced surplus
and wastage**

Quality assurance

OLE Systems Procurement Strategy



- Strategic procurement
- Design standardisation
- Clear cost forecast and cost spend monitoring
- Raw material price monitoring because of unstable markets
- Materials storage at suppliers
- Regular supplier visits to find innovations and cost cutting opportunities.
- Change control – design and on-site
- Integration between design, engineering, construction and procurement
- Material control system & stock management

‘The more inventory a company has, the less likely they will have what they need’
Taiichi Ohno

One partner,
total rail
delivery

Advise  Design 

Maintain  Operate  Construct  Finance 

From high-speed rail to urban transport, we support every stage of the project lifecycle

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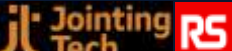
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TRANSPORT FOR WALES

ADEY  **ALSTOM** 

AUS     

 **PACE** **SIEMENS** 

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  **TTS** **FORTRESS**

An aerial night photograph of a city, likely London, showing a complex highway interchange with multiple overpasses and ramps. The city lights are visible in the background, and the sky is dark with some clouds. The text is overlaid on the left side of the image.

Thank you

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