

The S&C Supply Chain *an engineer's perspective*

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Principal Engineer (S&C Supply Chain)



Putting passengers first

The S&C Supply Chain *an engineer's perspective*

My New Role

The S&C Supply Chain

Standard, Standard + and Bespoke

S&C contracts

S&C Transformation Programme

Technology and Projects

Sustainability

Challenges

New Role

Principal Engineer (S&C Supply Chain)

An integral part of the Technical Authority (National Technical Head of S&C Team)

Role is dedicated to supporting (and is funded by) the S&C Supply Chain

Working with the SCO Business Managers Team for Rail and S&C (Part of Route Services)

Developing deeper links between the engineering and procurement teams.

Dedicated engineering resources driven by SCO priorities

Technical Leadership of the S&C Supply Chain Transformation Programme

Dedicated support and technical leadership of S&C material procurement strategy and activities (tenders)

28 years of detailed the S&C supply chain and product knowledge with experience in manufacturing, maintenance and engineering.

The S&C supply chain

S&C maintenance

Switches

- Full depth CEN56 Vertical
- Shallow depth CEN56/54 (NR56V)
- Shallow depth CEN 60 (NR60 & RT60)
- Legacy inclined CEN56 and Bull Head

Cast Crossings

Fabricated and part fabricated crossings

- Fabricated crossings (CEN56 Vertical & Inclined, Bull Head)
- Part fabricated crossings (Part welded and Compact 1400)

Ancillary products

- Adjustment switches
- Insulated rail joints (IBJs)
- Transition Rails

S&C layouts/ projects

NR56V, NR60 Mk1, NR60 Mk2
Full depth vertical
Inclined CEN56 and BH layouts
(legacy)

Turnouts & crossovers
Double junctions
Scissors crossovers
Diamond crossings and slips
Plain line panels

Standard products (~20%)

Defined on NR drawing

Standard plus products (~60%)

Variation of standard product

Bespoke products (~20%)

Bespoke site specific requirements or manufacturers design

Standard, standard plus, bespoke



**Standard NR60 MK2 turnout
on straight track**



**Standard plus – Standard NR60
turnout on curved mainline**

Bespoke RT60 fixed diamond



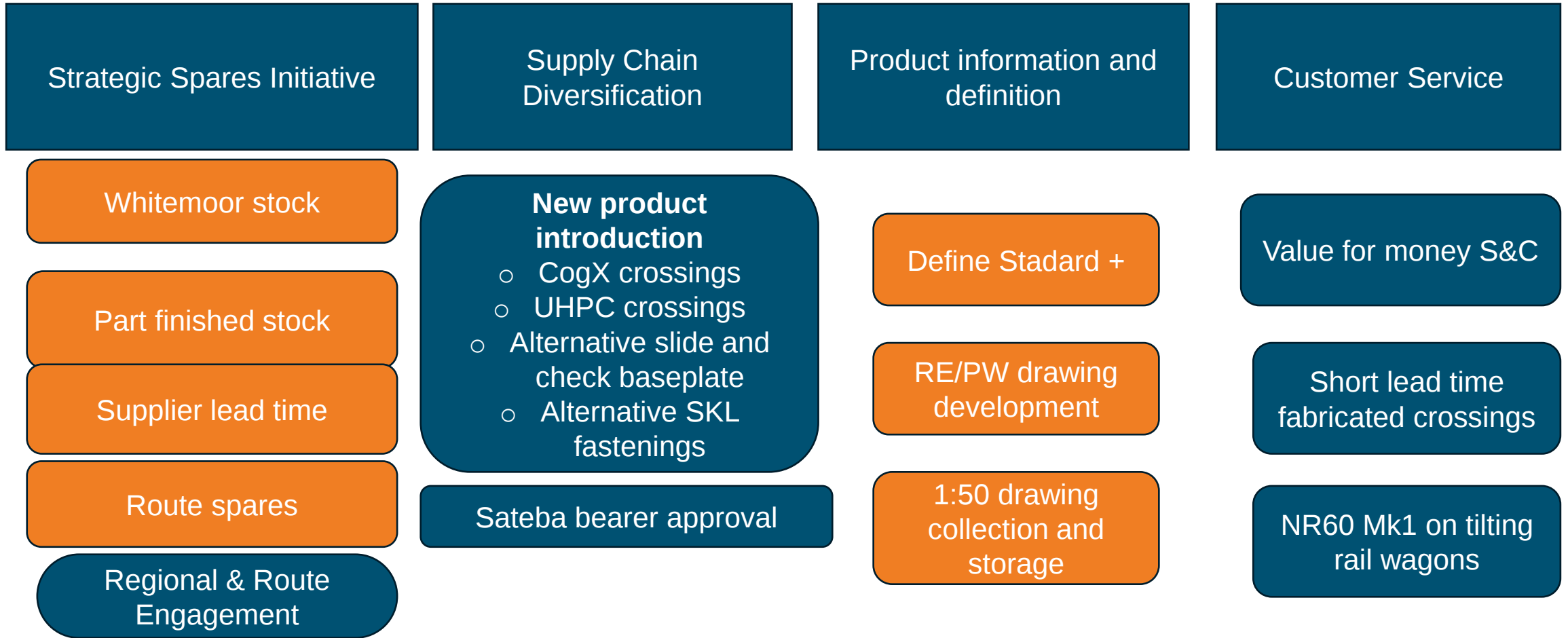
S&C Contracts

- New contracts (contract extensions) in place with 4 S&C manufacturers
- All have a term of 5 years minimum with 3 x 1 extensions
- Value to Network Rail
 - Access to design and technical support from manufacturers
 - Retain and reduce lead times (Commitment)
 - New performance-based allocation process
 - Security of supply
- Improved pricing document:
 - 1362 line items in 6 sections
 - Up to 10 'Standard plus' options
 - Regular extra over cost are listed

Improved IPR (NR has right to share as-build drawings with third parties)

S&C Transformation

Delivering S&C supply chain resilience



Technology and Projects

What's been done in 2024:

Approval of Trackwork shallow depth (CEN54/56) switches

Monitoring of UHPC and CogX crossing trials

R350HT full depth switch approval for PRS

Supporting higher speed turnout development (HS2 connections)

Composite bearer trial planning and safety case

3D scanning of cast crossings

What's planned for 2025:

HPSS Mk2 wider roll out

Resilient bearer joint roll out

Cast crossing supplier development (capability and resilience)

NR60 Mk1 modification to allow transport by tilting rail wagon

Additional crossing trial sites

Targeted 3D scanning to support the strategic spares initiative

Sustainability

What are we doing?

Tender questions about Carbon input (CO₂e) and Carbon reduction

Benchmarking

Looking at alternative products

Personal reflection:

Bench marking is key. We need to join our partners on a journey of understanding.

We need to know where the big Carbon items are.

We need to know what can be done with existing products and materials.

We need to consider the wider category strategy –looking at alternatives

We need to make fact-based decisions. Don't be tempted to 'jump on the band wagon'

More resilient products mean that we buy less often (Lower carbon)

Challenges

There are many!

Unit Rates and Costs

Improved forecast accuracy

- More detailed price list
- Draft rates for S&C to be published

Better understanding of cost breakdown, including extras

Deeper understanding of cost vs performance in the supply chain

Leadtimes

Explore stocking options for fully and part finished products
Pilot for fabricated crossings.

Develop alternative supply routes where possible

Supply chain resilience

Understand supplier knowledge and specialism in more depth

Hold more information within Network Rail.
As built sketches for crossings

SCO team encouraged to understand their customers better

Early Engagement for projects is key particularly for anything out of the ordinary

Thank you



Putting passengers first