

GANTRIES

Strategic Procurement Strategy (SPS)

Sally Goding - Category Manager Group Lead

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- Market Insight & Landscape
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- Supplier Analysis

Strategic Approach

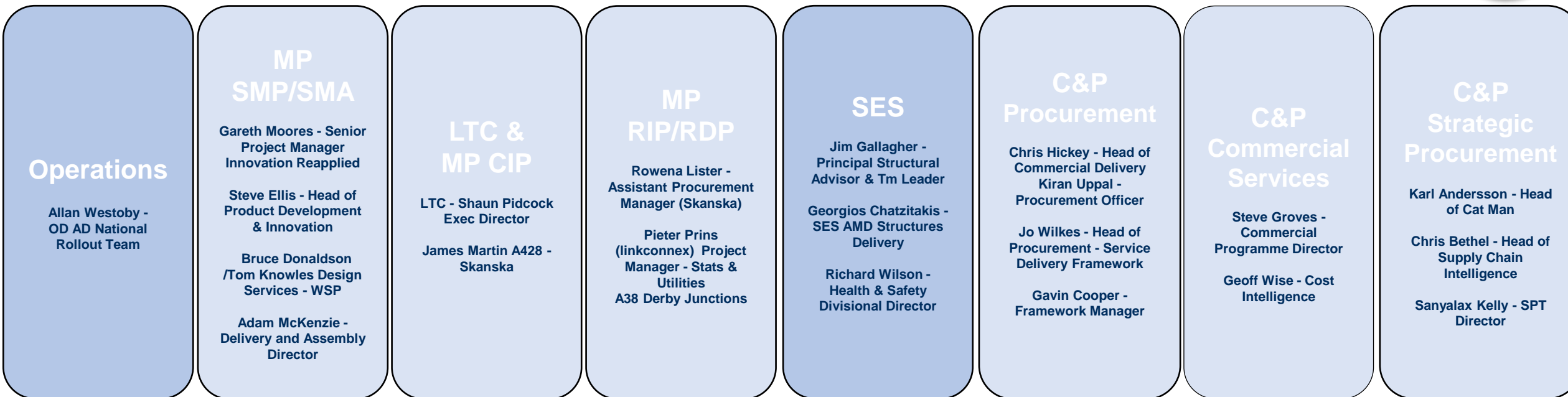
- Category Risk
- Opportunity
- Strategy (short, medium & long term)
- Strategy Summary of Savings
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- Next Steps - Milestone Plan

Sign-off Matrix for Strategy & Approach

£15.7m
Cost
Reduction

Stakeholder Engagement

A record of communication and stakeholder engagement can be found here - SHARE link to Stakeholder Engagement Plan:
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Business Area/Investment Programme:	Individual & Role:	Comment if required:	Signature:	Date:
Executive Team – Panel Chair	Malcolm Dare – Executive Director C&P	Exec Team sign-off meeting and approval given.	Malcolm Dare	28/04/21
Executive Team	Duncan Smith – Interim Executive Director Operations	Exec Team sign-off meeting and approval given.	Duncan Smith	28/04/21
Executive Team	Peter Mumford – Executive Director Major Projects	Peter unable to attend on the day so David Bray (SMP/SMA Director) attended and gave approval on his behalf at Exec Team sign-off meeting.	pp. David Bray	28/04/21
Executive Team	Mike Wilson – Executive Director SES	Mike unable to attend proposed date so approved at special sign-off meeting arranged for 22 nd April 2021 with Tony Slater (SRO) also in attendance.	Mike Wilson	22/04/21
SRO	Tony Slater – SMP Programme Director	Attended 22 nd April 2021 and approval given.	Tony Slater	22/04/21
C&P Leadership Team	Sanyalax Kelly – Strategic Procurement Director	C&PLT approval 19/04/21, and attended Exec Team sign-off meetings 22 nd & 28 th April 2021.	Sanyalax Kelly	28/04/21

Key aims of our strategy



Build Change through Holistic Approach, Cross Functional Involvement and Early Supplier Engagement



Improve Innovation by optimising Fabricators experience and expertise to facilitate design and efficiency opportunities. ECI and collaboration with cross functional working groups



Create Value via end to end supply chain consideration to improve safety and customer experience/satisfaction. Drive efficiencies through productivity, cost savings and reduced timescales



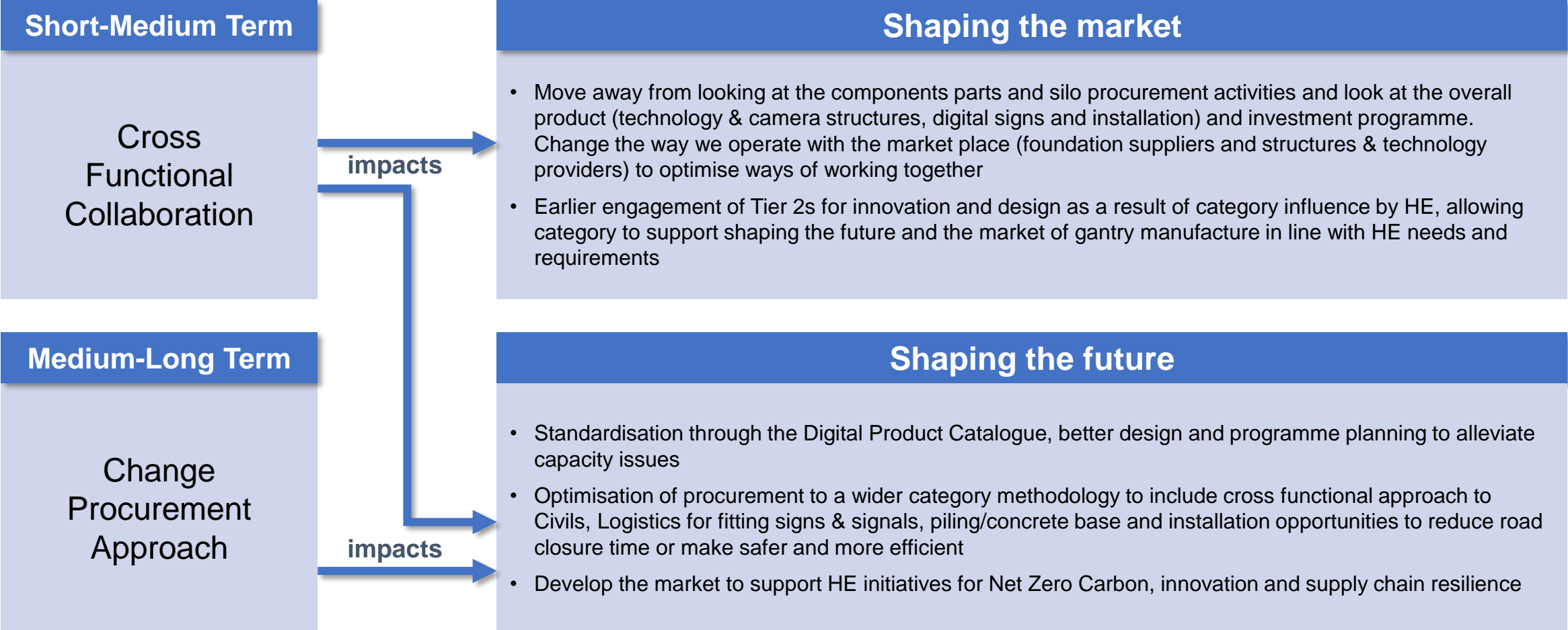
Standardisation through the Digital Products Catalogue and Innovation Reapplied. Utilising digital components and 'kit of parts' fit for purpose across all HE



Shape the Market by developing a supply chain that is aligned with HE needs and changing technologies. Direct Tier 2/3 engagement focused on continuous improvement and performance KPIs

- Our proposal is to pursue these themes through the **6 solutions** identified in our high-level **Implementation Plan** to deliver increased safety, productivity and cost reduction from the £157.7m RIS2 spend forecast.
- Potential savings of **£15.7m** across all investment programmes.
- We are already setting up the Gantries Implementation Group (GIG).

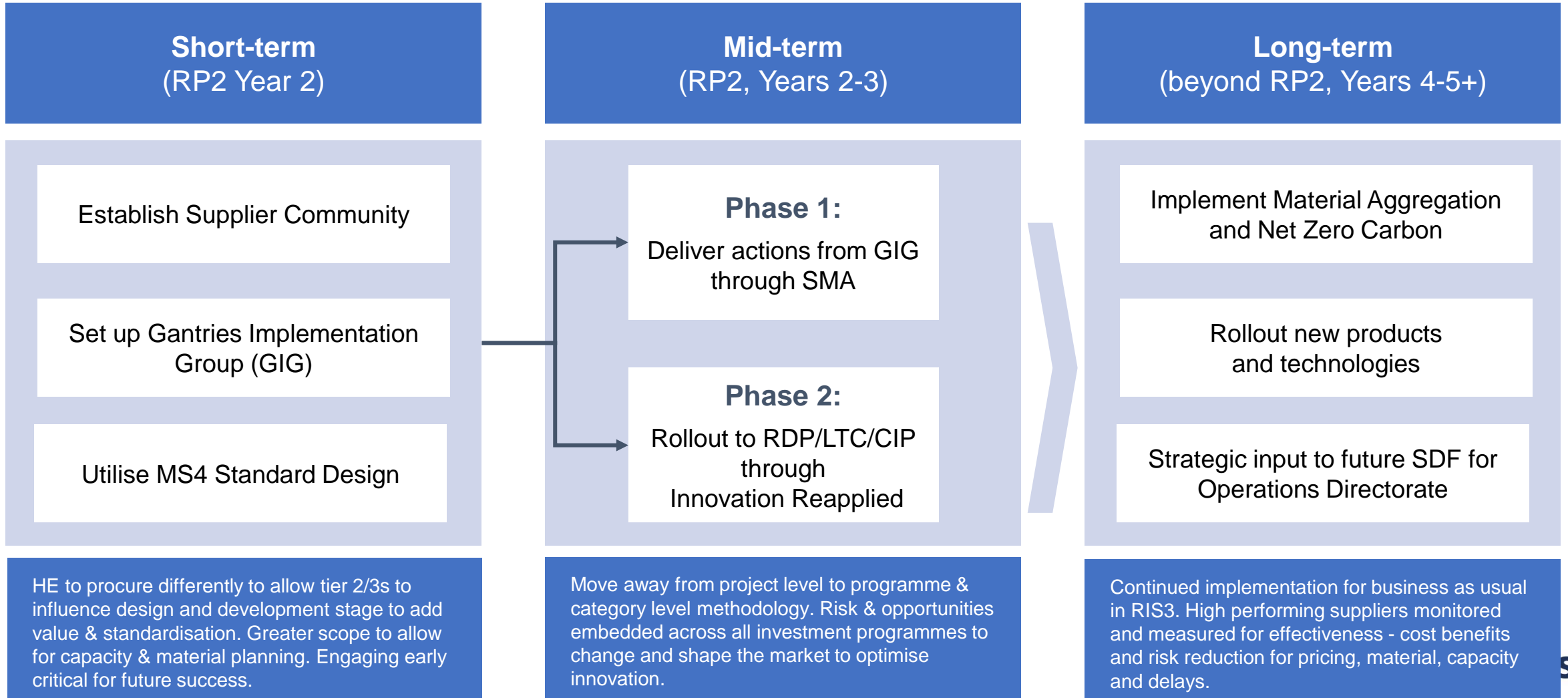
Snapshot on our future vision



This is a high level picture. We will develop different aspects further with stakeholders across all solutions as our implementation plan progresses

Phased high-level Implementation Plan to deliver our key aims

£15.7m
Cost
Reduction



Rollout of short-medium term solutions

GS01: Support SMA Gantry Procurement

Cost Avoidance



- Not putting in place HE enabled fwk at this time.
- Support development of SMA procurement strategy.

- **Monetary Benefit: £392,500***
- **Other benefits:** simplified and safer approach, basis for future innovation, leverage of suppliers' expertise and quality, increased productivity

GS03: Standard Cantilever (MS4) Gantry - Design & Steel

Standardisation & Safety



- Implement MS4 standard design and Kit of Parts through Digital Product Catalogue (DPC).
- Linking suppliers & designers to rollout cost reduction through Innovation Reapplied.

- **Monetary Benefit: £1,177,500***
- **Other benefits:** more alignment of HE and suppliers' objectives, drive improvements and innovation

GS06: Logistics & Installation

Increased Productivity



- Establish Gantries Implementation Group (GIG).
- Implement Design & Fabrication, Piling & Concrete Bases and Installation efficiencies.

- **Monetary Benefit: £9,420,000***
- **Other benefits:** more alignment of HE and suppliers' objectives, Plan ahead, Increase capability and capacity in supply chain

• *Monetary benefits shown here are based on £157.7m overall RIS2 forecast for gantries with rollout of these solutions across all major investment programmes*

Rollout of medium-long term solutions

GS07: Scheme Delivery Framework - SDF Performance



Efficiency & Standardisation

- SDF performance & efficiency data used to develop future strategy.
- Embed Structures Efficiency Group (SEG) outputs on innovation and efficiency.

- **Monetary Benefit: £785,000***
- **Other benefits:** improved strategic approach, basis for future innovation, leverage of suppliers' expertise and quality, increased productivity

GS08: Standard Portal (Span) Gantry - Design & Steel



Standardisation & Safety

- Work with SMA designers and supplier community to develop standardised design.
- Rollout via Innovation Reapplied - utilisation to 80% to deliver cost reduction savings.

- **Monetary Benefit: £1,570,000***
- **Other benefits:** more alignment of HE and suppliers' objectives, drive improvements and innovation. Plan ahead, Increase capability and capacity in supply chain

GS10: Materials & Aggregation



Efficiency

- Investigate material arrangement to flatten pricing and obtain efficiencies of scale .
- Option for fabricators to buy, store, call-off on HE behalf.

- **Monetary Benefit: £ 2,355,000***
- **Other benefits:** more alignment of HE and suppliers' objectives, drive improvements and innovation (eg. reduce carbon footprint)

• *Monetary benefits shown here are based on £157.7m overall RIS2 forecast for gantries with rollout of these solutions across all major investment programmes*

Opportunity analysis: high-level Implementation Plan

£15.7m
Cost
Reduction

Opportunities	2021	2022	2023	2024	2025	2026
GS01: Support SMA Gantry Procurement	SMA Tender Award			Delivery		
GS02: Gantries Supplier Community						
GS03: Standard Cantilever (MS4) Gantry Design & Steel	MS4 Standardisation	20% MS4 Utilisation	40% MS4 Utilisation	60% MS4 Utilisation		80% MS4 Utilisation
GS04: Align Strategies for MP Investment Programmes		Establish RDP supply chain strategy with DIPs		Rollout for RDP Tranche 2 work packages		
GS05: Implement Cost Reduction Process	Baseline Targets	Identify & register cost reduction			Demonstrate efficiencies and realise cost reduction targets	
GS06: Gantries Implementation Group	Establish GIG	Design / Digital/ Piling task groups	Installations & Logistics			Delivery of GIG project
GS07: Scheme Delivery Framework (SDF) Performance		Establish SDF Baseline		Monitor supplier performance & efficiency – build into next strategic approach		
GS08: Standard Portal (Span) Gantry Design & Steel		GIG to develop standard design & kit of parts for portal / superspans		Finalise Standardisation	10% Utilisation	20% Utilisation
GS09: Carbon Reduction		Start Carbon Reduction Project	Establish Carbon Reduction Position			40-60% Utilisation
GS10: Materials & Aggregation	Establish Material opportunity at GIG for SMA			Aggregate SMA requirements and procure 80%		
					Monitor and use of materials - further rollout opportunities	

Next steps

£15.7m
Cost
Reduction

Actions	Timeline
Final sign-off of Gantries Strategic Procurement Strategy (SPS) and CCF Stage Gate 3	28th April 2021
Progress the Gantries SPS Implementation Plan and continue engagement sessions with SMA & Gantries Supplier Community	April 2021
Set up the Gantry Implementation Group (GIG) to start the Value Stream Mapping to scope & identify opportunities for increasing productivity, efficiencies and identifying waste: Workstream one: Design & Fabrication Workstream two: Preparation & Civils Workstream three: Logistics & Installation	April 2021
Refine demand and spend profiles data for use in cost reduction verification	May 2021
Early engagement sessions with LTC, CIP and RDP DIPS to rollout outputs from GIG	June 2021
Start to deliver and demonstrate cost reduction savings – initially from Standard MS4s, then from other solutions as they are implemented in SMA and embedded via Innovation Reapplied into all investment programmes	July 2021

Category Profile

Vision: To identify a strategic category approach for Gantries that will meet the demands of all our HE investment programmes whilst delivering the safest and most efficient solutions. Drive efficiencies in design, procurement and production of assets to increase productivity and improve scheme delivery which will enable HE to target opportunities with a 5% efficiency saving with a stretch goal of 10% of HE total spend.

Goals: To provide a effective strategy, derived from a detailed analysis and holistic approach to risk and opportunity identification, that can be embedded across the HE business Offer solutions on how to achieve the greatest innovations and efficiencies for the future that shape the future of the sector. Implementation of Standardisation, innovation, innovation reapplied and digital product catalogue suite of components fit for purpose across all HE investment programmes, Tier 2 direct engagement to have a voice for continued efficiency and continuous improvement by monitoring and enhancing KPIs

Scope: Gantries are required to provide safety and customer information via digital signs, signals and other traffic management apparatus such as cameras. Currently an important part of Smart Motorway displays for speed limits, lane closures and other customer information. Need to understand the opportunities for innovation of future design requirements and longer term technological solutions.

Opportunities: SMA as demonstrator and wider rollout through Digital by Default & Innovation Reapplied. Develop performance indicators relevant to the type of work to demonstrate efficiencies that will drive improved safety, less road closures and more effective delivery.

Business Need

£15.7m
Cost Reduction

Safety

Customer Service

Delivery

Gantry Strategy Executive Summary

Landscape:

Tier 2 Suppliers Gantry Fabricators are not contracted directly by HE, instead all their work is sub-contracted through Tier 1 Main Contractors.

The supply base is fairly concentrated, comprising of six main gantry suppliers. Many smaller SME type suppliers will not be geared up to meet the requirements of HE high-speed network and will require help to grow.

Tier 1 suppliers manage designers and Tier 2 where both have little to no collaboration with each other. No collaboration with HE on material requirements for programmes with schemes currently procuring individually with little if any standardisation or wider vision for HE.

Market Analysis

Objectives	Year 1	Year 2-3	Year 4+
Strategic Sourcing	Set vision & goals: implement strategy	Embed & deliver: strategic savings	Identify & develop: future technologies
HE rollout	Collaboration with Smart Motorways Alliance (SMA)	All HE investment programmes (RIP, CIP & LTC)	New Asset Delivery SDF and Roadside Technologies
Efficiencies	Standard design and Digital Kit of Parts	Innovation: logistics & installation for all gantry types	In-car technology and carbon reduction

Strategic Approach

Conclusion: Gantries only account for between 0.7% to a max of 3% of total scheme spend. The material steelwork makes up approx. 30-35% of the total spend on gantry activity, with piling costing around 20-25% and concrete base about 10-15%. Installation is another area of opportunity, and close work with other categories (eg. General Civils, Logistics and IT signs & signals) is integral to success. Time taken to implement new opportunities (innovative structures, techniques or materials) will depend on sufficient evidence from designers to demonstrate their designs are safe & appropriate to allow SES sign-off. This gain traction through Innovation Reapplied and rollout to other investment programmes.

Stakeholder Engagement

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SUMMARY	Strategic Procurement	SRO	Sponsor	C&P Director	Comms Plan		
Process & Sign-off	Sally Goding (Cat Lead) Karl Anderson (Head-of)	Tony Slater (SRO)	Sanyalax Kelly (SPD Dir)	Malcolm Dare (C&P Dir)	Update progress at Business Review. Progress SPS to sign-off.		
BUSINESS NEED	Investment Programmes	HE Delivery	Delivery Partners	C&P	Summary		
MP - Peter Mumford C&P - Mark Ollerton	SMP (SMA) Chris Hickey	David Bray Tony Slater (Programme Dir) Lorraine Butler (see Digital by Default)	Bruce Donaldson (WSP) Tom Knowles (WSP) Andy King (MorganSindall) Peter Winnicotte (Balfour Beatty) Eammon Slevin (Costain) Adam McKenzie (Jacobs)	Steve Groves (Commercial) Chris Hickey (Supply Chain) Kiran Uppal (Procurement)	Agree Senior Responsible Officer (SRO). Engage on business need. Sign-off Statement of Need and CCF Stage Gate 1. Support development of CPS and facilitate supplier engagement with Gantries Community.		
	RIP (RDP & A66)	David Haines (North) Dean Sporn (South) Stewart Jones (PMO N) Stephen Terry-Short (PMO S)	SSCG DIPs: Rowena Lister (Skanska) Pieter Prins (Linkconnex)	Martin Perks (North) Chris Richardson (South) Gavin Cooper (SSCG) Neena Abdulla (PD)	Engage on business need. Engage RDP DIPs (demand & resource) to make the market for regional/national supply chain. Facilitate supplier engagement with RRS community.		
	CIP (A303 & A428)	Chris Taylor Lee Galloway (A303)	A428 - James Martin (Skanska)	Dave Hull	Engage on business need & design opportunity.		
LTC	LTC	Shaun Pidcock LTC	Jim Guild (Arcadis) Steve Roberts (Arcadis)	Neal Argent	Engage on business need & design opportunity.		
OD - Duncan Smith (interim for Nick Harris) C&P - Richard Cerutti	SDF	Allan Westoby Martin Hobbs/Paul Williams	SDF Band A - General Civils Lot	Jo Wilkes Stuart Crawley	Engage on SDF process/operation - Dec 2020. Understand efficiency monitoring process.		
MARKET INTELLIGENCE	Input Data	Supplier Intelligence	Design	Fabricators	Install	Refurbish	Summary
	Jim Gallagher (SES) Richard Wilson (Safety) Adam Lloyd (Demand & Portfolio) Geoff Wise (Spend & Forecast)	Chris Bethel (SPD Intel) Simon Smith (SCD SRM) Simon Diggie (SCD Risk) Smart Cube (Chris Heighton)	Simon Benfield (Ramboll) Tom Fasham (Atkins)	Britton Nusteel Donyal Severfield Total Steel Adey Steel Fli Structures	Britton Nusteel Donyal Severfield	Britton Nusteel Total Steel	Build technical understanding of products. Gather and utilise demand and spend data - identify areas for cost reduction. Collect and analyse supplier intelligence. Create collaborative RRS Community with sector designers and suppliers.
STRATEGIC APPROACH	Digital by Default	Budget Lead Design	Jim Guild (Arcadis)	SEG	Summary		
MP Transformation Delivery Programme	Chris Taylor Lorraine Butler (REM) Steve Ellis/Tom Fasham/Reza Miresham (DPC) Ian Price (SPD)	David Haines Sandie Forte-Gill	David Bray Gareth Moores Richard Simpson (Cruzon) David Hull (C&P)		Current position on standard design & components. Engage on cost reduction initiatives and potential rollout through Innovation Reapplied.		
Delivery Partners	SMA, RDP DIPs, CIP & LTC Delivery Partners	SMA, RDP DIPs, CIP & LTC Delivery Partners	SMA, RDP DIPs, CIP & LTC Delivery Partners		Engage on SEG objectives.		
Operations/SES/C&P				Marie O'Reilly (Ops) Martin Bolt (Ops) Said El-Belbol (Area 7&9) Graham Seaton (SES) Stephen Greenhalgh (Lean) Richard Bates (C&P)	Analyse Knowledge Transfer Packs identi+A9:J15fyng best practice and cost reduction. Understand efficiency monitoring process.		

Inform

Consult

Accountable

Responsible

Engagement Key:

Engaged with SMA Chris Hickey and Kiran Uppal for PQQ and ITT documentation.

SRO agreed, Tony Slater from SMA onboard. Statement of Need signed-off and CCF Stage Gate 1 approval confirmed – 20/11/2020.

SMA Supplier Network Leads have identified their priority categories and aligned with SPD Category Tree – we are developing gantry strategy & supporting their procurement exercise.

RDP have now identified supply chain lead for gantries – now engaging on behalf of DIPs.

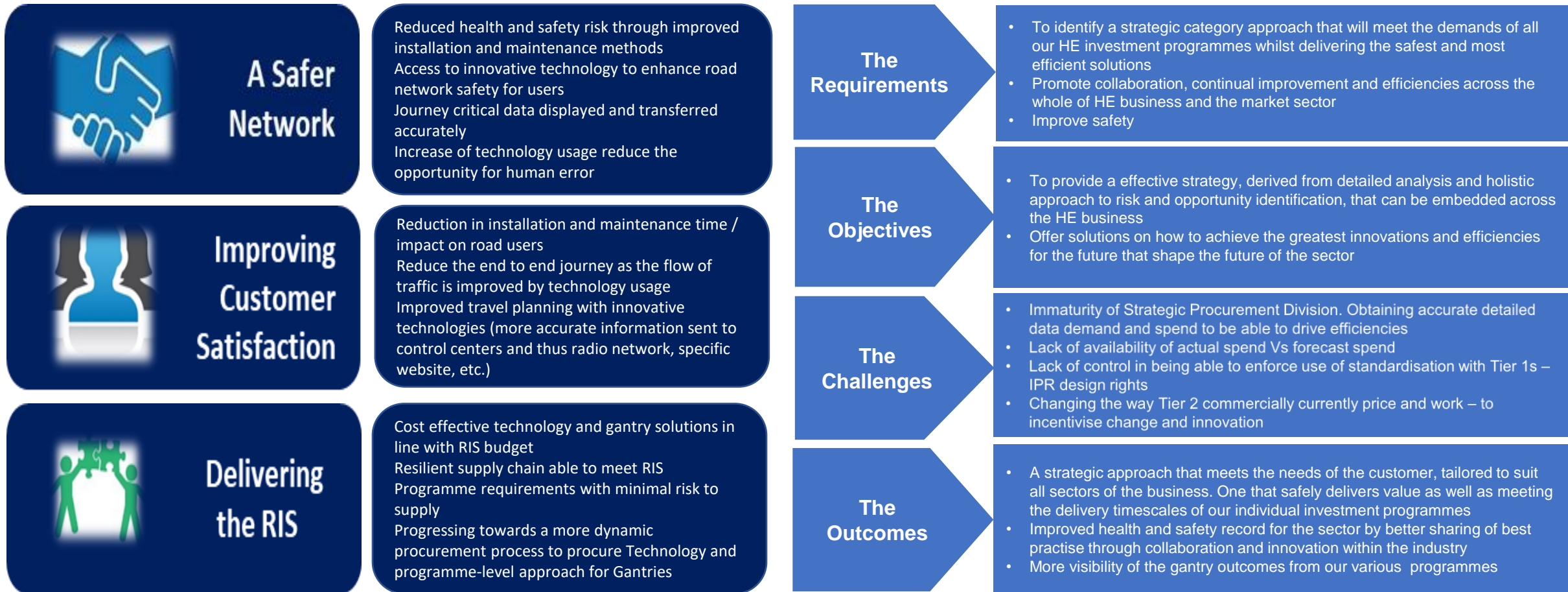
Good engagement with SES. Demand & Forecast spend info starting to come through – but will need to be more detailed to agreed cost reduction % targets and demonstrate efficiencies

Gantries Supplier Community wksp took place 09/11/20 & 04/02/21 (with specific supplier engagement to support the SMA PQQ procurement held on 23/11/20).

Excellent progress with MP Transformation: Digital by Default and Innovation Reapplied. We will continue to work with SMA designers (WSP & Jacobs) to increase use of standard MS4 gantries – but work still needed to set potential cost saving baseline/target and timescales.



Statement of Need <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88461255>



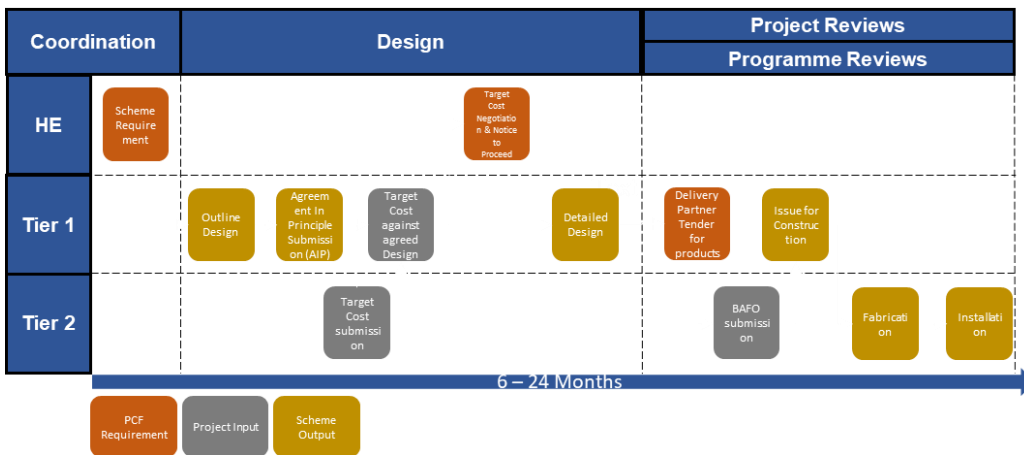
Conclusion: through the strategies identified in this document there is a realistic chance to support individual investment programmes in their objective to meet HE efficiency targets, and contribute to their scheme /area efficiency registers evidenced to the Office of Rail & Road (ORR). We will work in collaboration with Innovation Reapplied to identify and increase our productivity by 30% in RIS2, and deliver between 5-10% cost reduction. In conjunction with these MP transformation projects, and the Structures Efficiency Group (SEG), we will baseline and report demonstrable savings in design (circa £3k per structure) and fabrication (circa 15% = £12k per structure). We are already looking to analyse and agree milestones & targets for the various other solutions set out in this strategy, they too with our supplier community's contribution to the overall 10% Direct (capital) efficiency target for SPD, will be captured on the new cost reduction process now being rollout.

Business Requirements and Objectives



HE Business	Current Sourcing	Specific Objectives
SMP (SMA)	<ul style="list-style-type: none"> No formal HE framework in place. Alliance to procure in line with their Supply Chain Strategy. 	<ul style="list-style-type: none"> Drive efficiencies in design, procurement and production assets to increased productivity and improved scheme delivery.
RIP (RDP)	<ul style="list-style-type: none"> No formal HE framework in place. DIPs to procure in line with their Supply Chain Strategy - individually, regionally or nationally. Data from RDP - SSCG Demand & Resource Model (Power BI) and strategy from Purchasing T&F group. 	<ul style="list-style-type: none"> Work with RDP DIPs to 'Make the Market' by shaping the sector and supply chain to safely deliver opportunities and increased efficiencies. Expressways are being developed to be similar in technology capability to smart motorways.
CIP (A303 & A428)	<ul style="list-style-type: none"> No formal HE framework in place. Each scheme tenders separately for their gantry requirement through the Tier 1 Main Contractor using their T&Cs. 	<ul style="list-style-type: none"> A303 requires specialised structural assets (ie. tunnel systems & large bridgeworks). Use of MP Transformation Delivery Programme themes similar to SMP.
LTC	<ul style="list-style-type: none"> No formal HE framework in place. Successful Tier 1 Main Contractor to procure using their T&Cs. LTC have shared their requirements: http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88509568 	<ul style="list-style-type: none"> LTC requires specialised structural assets (ie. tunnel systems & large bridgeworks). Use of MP Transformation Delivery Programme themes similar to SMP.
OD (AD)	<ul style="list-style-type: none"> Asset Delivery (AD) - Scheme Delivery Framework (SDF) to be awarded mid-2021. Gantries part of Band A General Civils Lot. 	<ul style="list-style-type: none"> Safe and reliable maintenance service. More about access and maintenance of the kit on the gantries (eg. signs & signals, cameras, etc).

- The lead time and work involved to design, develop and procure gantries for use on the highway is extensive and requires involvement from various supply chain partners.
- An appointed design firm determines what structures need to be placed at each location to meet the requirements of Highways England. Once a delivery partner is awarded the contract to deliver the scheme, they undergo procurement exercises to select appropriate products and suppliers within the supply chain. Outlined below is the dependant timeline between delivery partner procurement and scheme delivery.
- This information is intended to portray a typical scheme, rather than be an exact representation of all occurrences.



- HE specifies Scheme Requirements with a third party designer and the appointed Tier 1 Delivery Partner produces an Outline Design with a Design Partner, to create an agreement in principle (AIP).
- Tier 1 Contractors provide HE with a target cost against the agreement in principle, based on Tier 2 submissions against those target costs.
- Tier 1 Contractors, produce a detailed scheme design and raise tender opportunities to the supply chain; following submission of the pricing from the supply chain a Tier 2 fabricator is awarded.
- The fabricator produce the gantries and install them on behalf of HE.

Conclusion: critical to the delivery of majority of our infrastructure projects, it is a highly skilled service that cannot be ignored in the safe and successful delivery of any project. Currently no internal HE framework for gantries - sourced directly by the Tier 1 main contractors with each scheme tendering separately (though that is now changing with SMA and RDP now in place). This will allow us to build relationships with numerous designers and suppliers through a community approach.



MP Transformation Delivery Programme & SEG



Innovation Reapplied	Safety	Sourcing Model	Economy of Scale	Specification Simplification	Standardisation	Offsite & MMC	Customer Benefits	Installation Productivity	Logistics	Quality	Environmental	Maintenance
Value Levers: (priority areas)	Removal/reduction in safety risks through alternative methods of design and assembly	Integral part of the overall Alliance supplier network strategy - needs to work with supply chain to drive increased productivity & reduce cost.			Simpler fabrication and installation with quality modular product - reflects whole life value from design and build through to maintenance.		Reduce length of required closers and overall construction duration - shorter period of disruption to customers.	Alternative methods with off-site integration - pre-installed technology assets on standardised gantries.				

Requirement	Low Importance	1	2	3	4	5	High Importance
Assurance of supply	Disruption to supply has a minor impact on operations and / or reputation				X		Security of supply is critical, disruption will affect safety and damage reputation
Quality	Quality issues have minimal impact on operations and/or reputation				X		Quality performance has a major impact on our operations and/or reputation
Regulatory, Ethical, Environmental	Compliance to ethical, environmental or regulations have a minimal impact on our operations or our reputation				X		Compliance to regulatory, ethical and environmental issues has high impact on our operations and/or our reputation
Service	Flexibility in delivery dates and service levels can be accommodated with minimal impact			X			Late delivery / low quality has a major impact on operations / reputation
Cost	Cost competitiveness is not a major requirement				X		Cost competitiveness is highly important as is the ability to understand costs drivers of product / service
Innovation	R&D capability or investments in innovation has minimal impact on operations and/ or wider government aims				X		Excellent R&D / product engineers and investments to innovate are critical to our operations and/or reputation

Business Owner	Structures Efficiency Group (SEG) Themes
SMP	<ul style="list-style-type: none"> Improved productivity Better knowledge of assets, geology and ground profiles Maximise use of existing infrastructure Challenging standards (Digitally Ready)
RIP & CIP	<ul style="list-style-type: none"> Improved productivity Certainty in delivery Designing out waste
Operations	<ul style="list-style-type: none"> Faster interventions (less disruption) Better knowledge of asset condition so correct and timely interventions done

Conclusion: opportunities for improved gantry products exist and are being piloted to test different design and installation solutions. Dave Hull engagement with Ramboll: they're looking at standardised products, developing software tools to support Gantry digital design and are open to looking at solutions - they will define the maturity and bring these to IR forum - preparing to share two-pager on value based pricing from their work on gantries for the category team.



Historical Spend

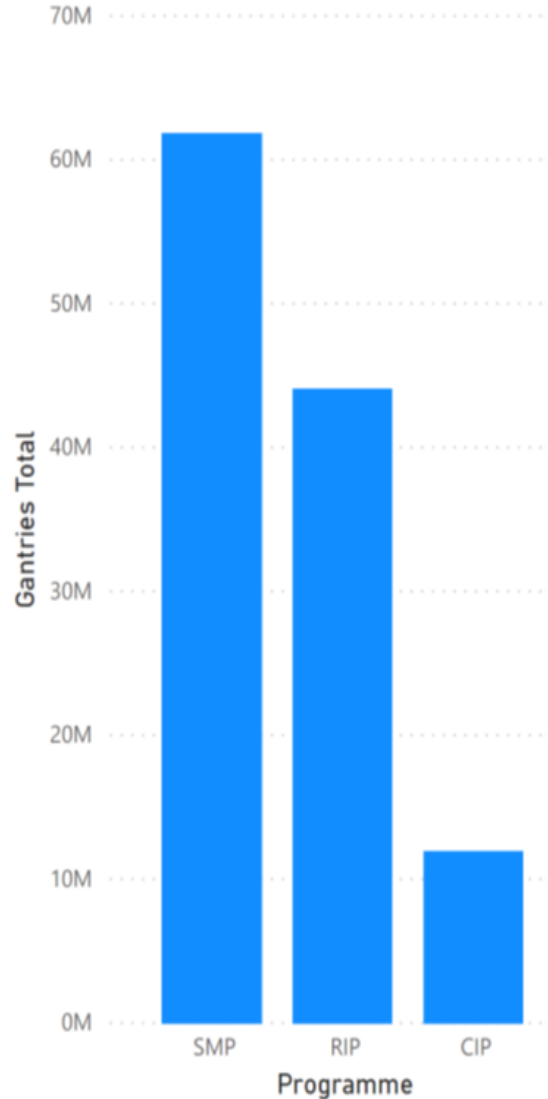
Caveat: based on HE payment directly to Gantry suppliers but much harder to capture in-direct spend paid to the sector via Tier 1 Delivery Partners - will improve through category coding in Project Bank Accounts (PBAs) and new HE Commercial platforms (PRISM and WEBCAST).



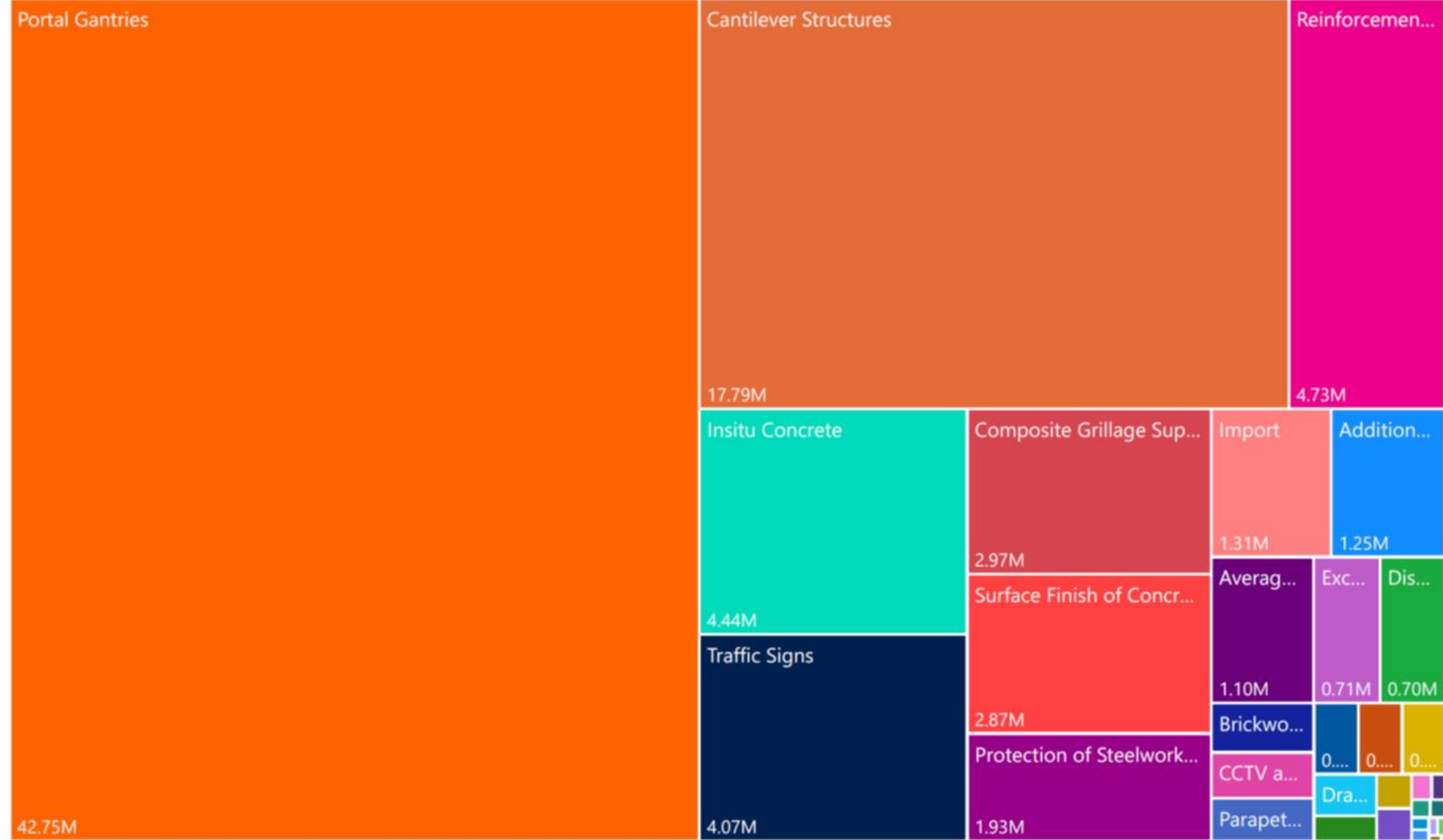
SMP 2.73% Average of Gantries%	RIP 2.78% Average of Gantries%	CIP 0.83% Average of Gantries%
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Historical Spend RIS1 (based on Target Prices with inflation adjustment)

Gantries Total by Programme

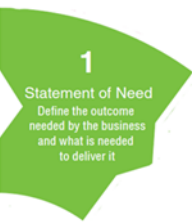


Gantry Spend split by Components

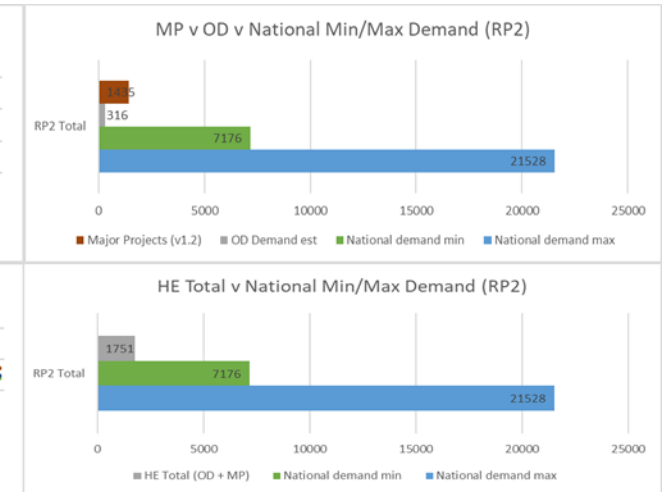
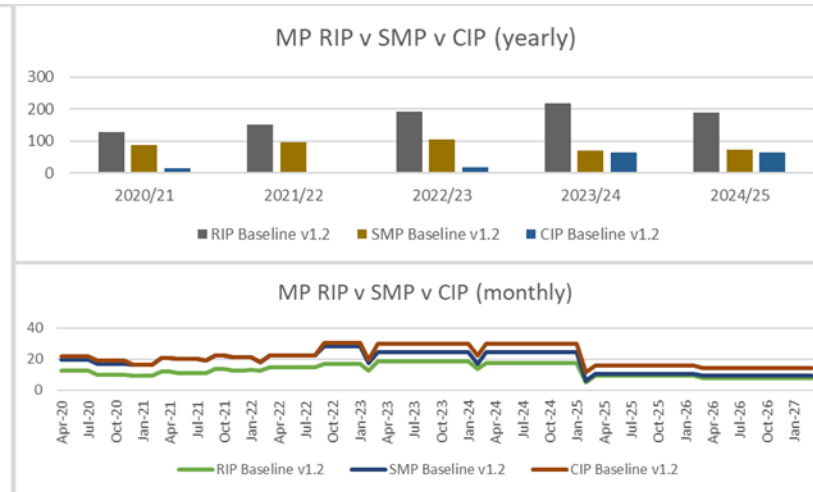
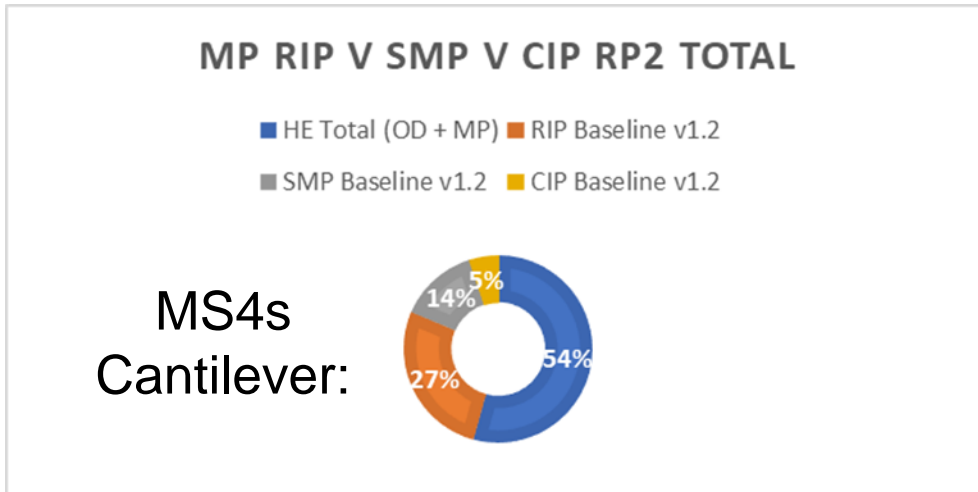
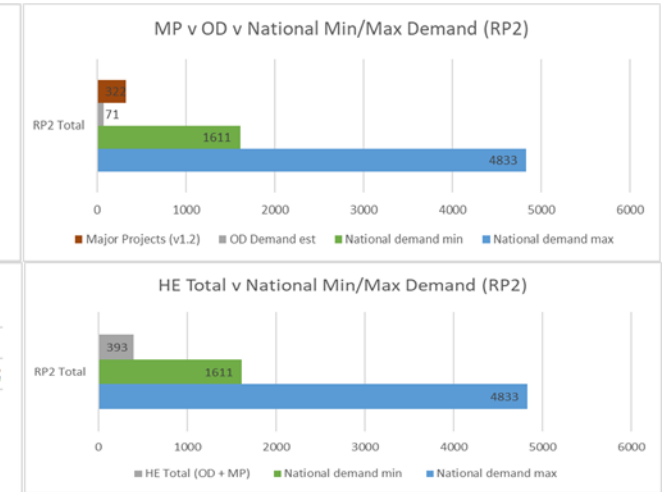
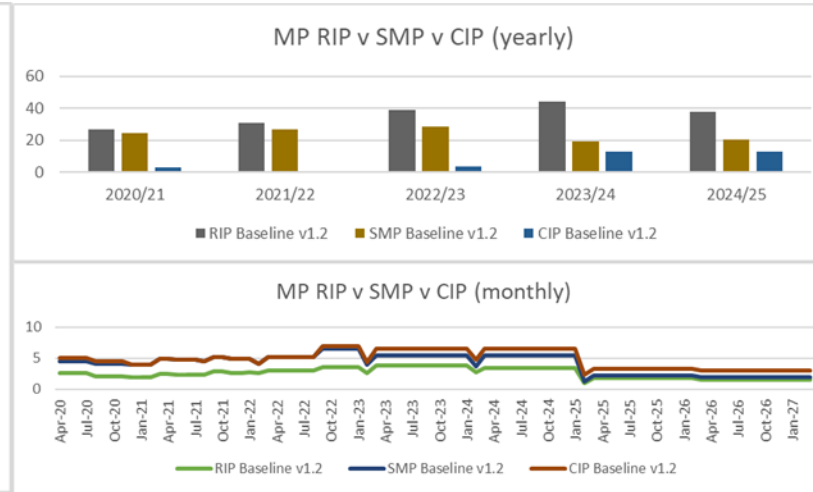
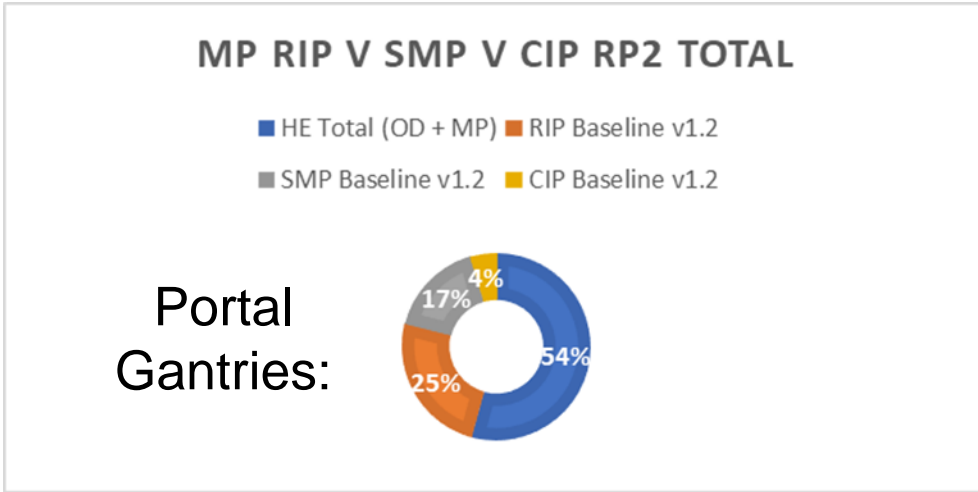


Demand Profiles

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Caveat: when demand model was shared the Gantries Supplier Community did query the gantry totals as being too high, so as we continue to build & firm-up the data, focus should be on the percentages and the peaks and troughs – identifying potential pinch-points across HE investment programmes, and against other large UK PLC infrastructure projects.



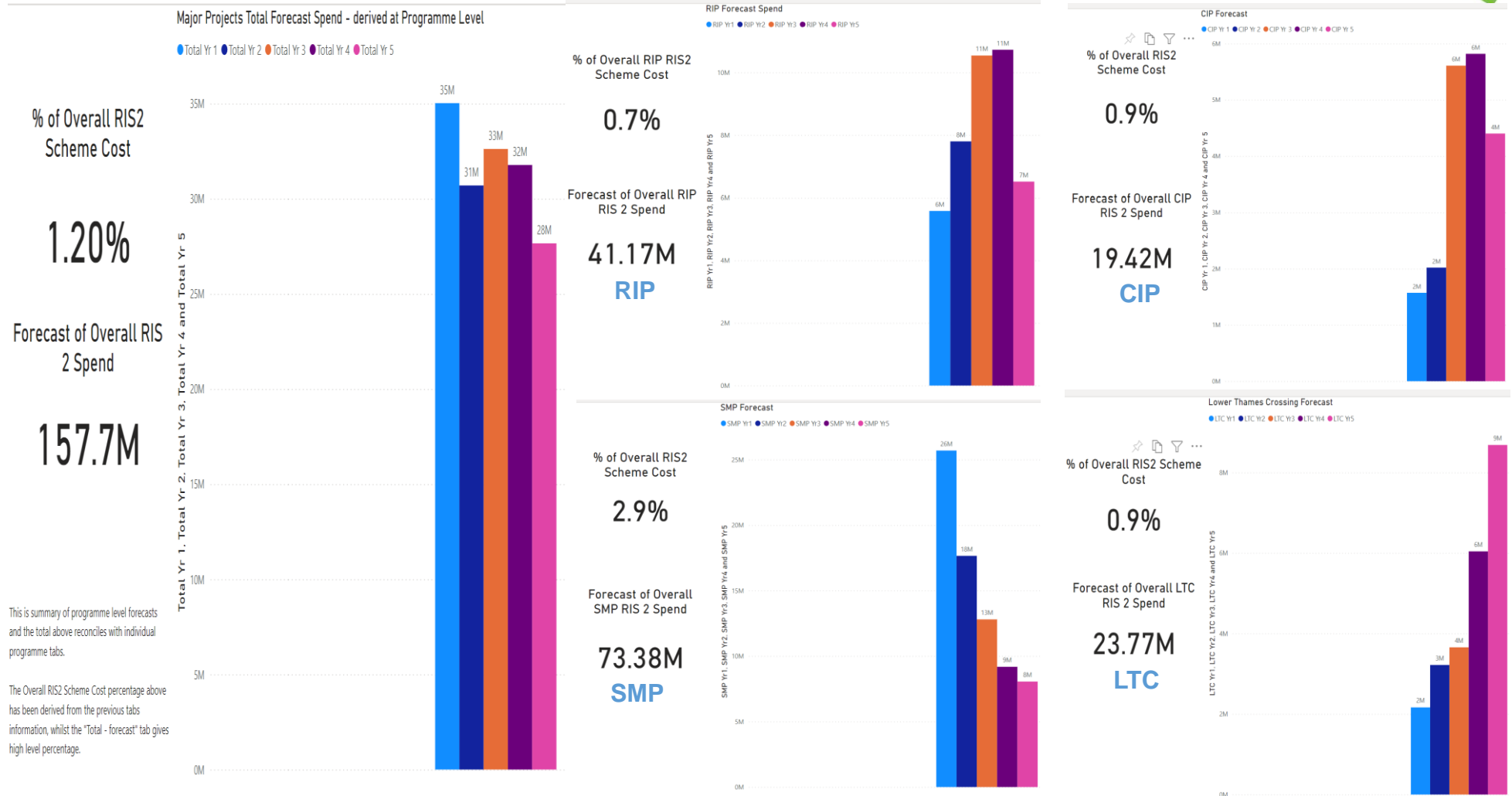
Conclusion: significant increase in requirements between 2023-25. There are currently several suppliers across the UK supplying gantries - a move to fewer suppliers would reduce Highways England's breadth of supply and potentially increase capacity issues. However, the supplier base is large enough and good demand/programme profiling will mitigate any risk – so early engagement, sight of pipeline & lead-in time orders are essential.



Forecast Spend

Caveat: the figures given here are based on previous percentage spend against WBS elements from RIS1 and the mid-point of RIS2 assumptions. These percentages are then modelled against the current HE capital budgets for our investment programmes to reach a high-level spend forecast.

Challenge: work closely with business owners to establish breakdown of gantry type & quantity within their individual budget and programme. This will allow us to determine the potential efficiency and cost reduction for each strategic solution. When we identify how many MS4s SMA plan to use, and when, we can profile the £15k saving for design & fabrication per structure. However, current standard design usage is only at 10% so we can also plot a targeted increase in uptake and build into our profile. To achieve £15m gantries efficiency through supply chain we cannot rely solely on standard MS4 design, we must do the same for other solutions focusing on different gantry elements where the most value can be achieved. Our strategy sets out what we will work on next with our stakeholders to deliver our aspirations.



Conclusion: charts show MP forecast spend in RIS2 to be c.£157m across the investment programmes (roughly 1.2% of the capital budget). Broken down by investment programme SMP is the highest c.£73m. RIP (c.£41m), CIP (c.£19.42m) and LTC spend alone on gantries in RIS2 forecast c.£23.7m.

SMA Demand & Forecast

The objective is to optimise standardisation of MS4s across the RIS2 period and further develop standard design and components for other Single Span and Super Span Gantries.

MS cantilevers

(27 no. excl. retaining walls)



Single span gantries

(14 no. excl. retaining walls)



Dual span gantries

(10 no. excl. retaining walls)



Conclusion: the demand profile for SMA provides immediate opportunity for increased application of the Rapid Engineering Model (REM) and the Digital Products Catalogue (DPC). It will utilise standardisation and reduce cost of design, allowing the supply chain to plan future capacity and material to optimise lead time and drive efficiencies.



Project	No. Gantries	Design	Installation*																								
M6 J21a-J26	10 No super span 8 No super cantilever 13 No ADS cantilever 33 No MS4 cantilever	Complete	Dec-21																								
M40/M42	26 in total Phase 1 - Mid section (M42 J3-3a + J3a- M40 J16) Phase 2 - Loop 1(M42 J3a-J4 NB) Phase 3 - Loop 2 (M42 J4-J3a SB) • 16No. MS4 cantilever gantries • 1No. MS3 cantilever gantry • 8No. Superspan portal gantries • 1No. ADS cantilever gantry (number may increase if some existing gantries cannot be retained)	Feb-21	July 2022 - October 22 November 22- Jan 23 March 23 - May 23																								
M25	18 No. Portal Gantries to be retained with modifications 6 No. Portal Gantries to be retained without modifications 5 No. MS3 Cantilevers to be retained without modifications 25 No. Propoposed new portal gantries 1 No. New MS3 Cantilever 26 No. Existing gantries to be taken down and stored off site.	Jan-21	2022/23																								
M62 J20-M25	11 Superspan 10 Cantilever 19 Super Cantilever 48 MS4 2 Portal	Oct-20	24/26																								
M3 9-J14	<table border="1"> <thead> <tr> <th>Type</th> <th>Gantry Code</th> <th>No. of</th> </tr> </thead> <tbody> <tr> <td>MS4 Cantilever (A)</td> <td>F18</td> <td>16</td> </tr> <tr> <td>MS4 Cantilever (A) (Existing Base)</td> <td>TBC</td> <td>4</td> </tr> <tr> <td>Long span Sign/Signal Cantilever (A)</td> <td>F14</td> <td>9</td> </tr> <tr> <td>Short span ADS Cantilever (N)</td> <td>F11</td> <td>5</td> </tr> <tr> <td>Long span ADS Cantilever (N)</td> <td>F9</td> <td>1</td> </tr> <tr> <td>Sign/Signal Portal (A)</td> <td>F15</td> <td>10</td> </tr> <tr> <td>ADS Portal</td> <td>F10</td> <td>2</td> </tr> </tbody> </table>	Type	Gantry Code	No. of	MS4 Cantilever (A)	F18	16	MS4 Cantilever (A) (Existing Base)	TBC	4	Long span Sign/Signal Cantilever (A)	F14	9	Short span ADS Cantilever (N)	F11	5	Long span ADS Cantilever (N)	F9	1	Sign/Signal Portal (A)	F15	10	ADS Portal	F10	2	Complete	2022 onwards
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* = programme @ 30/09/2020 -subject to change

** = prior to investigation on how many can be retained - subject to change

Product Description

Gantries

- Many existing older gantries are non-access but recent Highways England strategy is currently working towards the use of access gantries for new installations.
- Differences in costs between the two variants are predominantly due to the larger cranes required for the heavier full access structures.
- Gantries are lighter in other European countries (Spain, France, etc.) as they use much less equipment with smaller signs, less information displayed and few electronic signs.
- Gantries are located every 1500 meters on Smart Motorway and that enables 100% CCTV coverage.

Non-Access & Full Access

- Full Access MS4s enable maintenance of Version 3 signs and signals without removing the sign from the gantry or having to schedule TTM for all maintenance.
- Full access gantries enable maintainers to access the gantry to maintain or repair technology assets without the need for temporary traffic management and plant (MEWP).
- The capital costs of a full access gantries is greater than non-access as displayed in the table. However, cost is mitigated in reduced design and Category 3 check costs
- Traffic Management is one of HE's largest costs, due to the full access nature of the structure and it's attached assets, whole life cost of the structure is reduced.

Span	Type	Access	Description
Super Span	Portal	Full Access & Non-access	Gantries structure can be fully enclosed, thus removing the danger of falling items, signage and other equipment can be accessed from the inside of the gantry hence 'full access'.
Single Span	Portal	Full Access & Non-access	Variable Message Signs (VMS) These can either be 'full access Fixed' with an enclosed walkway or 'non-access' signage.
	Cantilever >15m (Football Rattle)	Full Access & Non-access	Variable Message Signs (VMS) These can either be 'full access Fixed' with an enclosed walkway or 'non-access' signage.
	Cantilever <15m (Hockey Stick)	Non- Access	Variable Message Signs (VMS) maintained externally (hence non-access), reduces the cost of the structure while allowing more signage to be utilised.



Non-Access			
Type	Construction	Installation	Removal
S/Span	£72,500.00 (38 m)	£9,600.00	£6,700.00
Cant>15m	£53,500.00	£7,200.00	£5,000.00
ADS Cant <15m	£26,500.00	£3,100.00 (2 per visit)	£2,100.00 (2 per visit)
MS4/MS3	£12,100	£3,100.00 (2 per visit)	£2,100.00 (2 per visit)
Full Access			
Type	Construction	Installation	Removal
S/Span	£130,000.00 (34.5 m)	£13,100.00	£10,900.00
Cant>15m	£97,800.00	£9,800.00	£7,000.00
ADS Cant <15m	Not Applicable	Not Applicable	Not Applicable
MS4/MS3	£40,200.00	£8,500.00	£6,400.00

Value Chain Analysis



Value Chain	Value Factors	Current Situation	Changes Needed
<pre> graph TD Design --> Procurement Procurement --> Manufacturing Manufacturing --> Installation Installation --> Technology_Fitting[Technology Fitting] Technology_Fitting --> Operation Operation --> Maintenance Maintenance --> Decommissioning </pre>	<ul style="list-style-type: none"> • Efficiency - Value engineered, standardised design, used many times, avoiding repeat design • Efficiency - savings from bulk procurement and mass production opportunities • Quality - improved consistency through mass production • Safety - reduced time on site & lower accident frequency rates • Efficiency - reduced installation time through efficient methods • Efficiency - improved interfaces with other assets • User satisfaction - familiar and consistent appearance • Network condition - easier maintenance using standard components • Environment - potential to re-use standard components 	<ul style="list-style-type: none"> • Repeated design resulting in over-complicated, non-standardised, bespoke designs which can vary from scheme to scheme • Procured by individual delivery partners via a gantries community on a scheme by scheme basis • No formal structure or framework • No bulk procurement or manufacturing • No consistent installation methodology • Incompatibilities with technology and other assets • Technology not pre-fitted (although this is done in other countries) • Inconsistent appearance of gantries across the SRN • Components and technology connections not standardised 	<ul style="list-style-type: none"> • Use expertise of the fabricators in value-engineering a standardised gantry design • Examine use of lighter materials in line with expected lifespan (already used in the EU) • Develop a strategy to enable programmatic, bulk procurement and manufacturing (e.g. collaborative procurement or via a gantries framework) • Implement a slick, consistent and repeatable methodology for installing gantries using standardised gantry and component designs • Investigate potential savings and safety benefits from off-site fitting of technology • Standardisation of gantries, gantry bases, components and technology connections to cabinets and signals

Conclusion: a Gantries Strategic Procurement Strategy (SPS) will ensure earlier engagement with Tier 2 & 3 sector suppliers, and adopt a joined-up approach to sourcing, this in turn will influence the design at a much earlier stage in the process and drive efficiencies. This will lead to an improved alignment between all supply chain partners (Tier 1-3), and to HE goals and outcomes, rather than the historical method that has seen HE, Tier 1, & Tier 2 & 3 not being aligned with less desirable results for all parties. We have the opportunity to create a win/win environment where we can deliver to common outcomes whilst aligning to HE's needs.

Value Stream Mapping

Caveat: the figures given here are based on HE Commercial Work Breakdown Structure (WBS) cost elements for gantries in RIS1, and the cost driver data from MS4 Case Study and Gantries Supplier Community. Using the available data we have made high-level assumptions on build-up of cost elements and the breakdown of the activities – we see this as a start and these numbers will be refined by the Gantries Implementation Group (GIG) as they progress each strategic solution.



Commissioning & Design £50k (3.2%)	Material & Fabrication £198k (13%)	Preparation & Civils £485k (31.3%)	Logistics & Installation £802k (52.5%)
<p>Commissioning: £25k (1.6%)</p> <p>Design: £25k (1.6%)</p>	<p>Gantry Structure: £110k (7%)</p> <p>Fee: £88k (6%)</p>	<p>Ground Preparation: £267k (19%)</p> <p>Temporary Works: £106k (7%)</p> <p>Gantry Foundation: £112k (7%)</p>	<p>Installation & Fitting : £220k (13%) Gantry Ancillary Costs: £85k (5.5%)</p> <p>Gantry Power Supply: £127k (8.3%) Gantry Technology: £370k (24%)</p>
<p>Breakdown by activity: Steel & Materials (55%) Other Components (7%) Manufacturing (33%) Fit out & Paint (5%)</p>	<p>Breakdown by activity: Earthworks & Drainage (9%) Piling (48%) Structure Concrete (22%) Other elements (21%)</p>	<p>Breakdown by activity: Delivery & Travel Labour (22.5%) Crane & Install Labour (57.5%) MEWP Access (12%) Accommodation (8%)</p>	
<p>Total cost of a super-span (not incl. signs or power) = approx. £1m</p> <p>Total saving of £60k = 6% of £1m</p>	<p>3% saving of £248k = £7k</p>	<p>6% saving of £485k = £29k</p>	<p>8% saving of £305k = £24k</p>

Conclusion: the example above is for a super-span portal gantry, with the signs & signals this normally equates to about a £1.5m, the top figures include these Technology costs in the breakdown of percentages. However, to give an approximation on the savings for the gantry activity we need to remove the signs and power supply figures shown ringed in blue – giving us a total of approx. £1m for the gantry elements (also able to show breakdown for the activities under each). In addition to standard design saving there is also potential savings from early involvement between Gantries Supplier Community and Designers & Tier1s – implementing methodology and right first time across whole gantry activity. A large percentage of the overall gantry spend is on ground preparation and logistics of getting gantries to site, fitting signs & erecting gantries. Figures in red show savings targets for each area that will be achieved through a concentrated implementation group collaborating with all parties, delivering a total cost reduction of at least 6%. Breakdown for a MS4 cantilever (approx. £750k) is similar but perhaps sees slightly smaller % for steel & materials and slight increase for manufacture, piling & concrete base.



Cost Drivers

Super & Single Span Cost Drivers: <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88515400>



Outside of the steel gantries themselves there is a very high percentage of cost in other areas – we are working with HE Commercial and MP Transformation Programme to understand these better to identify opportunities for increasing productivity and reducing cost..

Cost Drivers Breakdown	Gantry Type	Ramboll Design	Atkins Design																																			
<ul style="list-style-type: none"> Steel and fabrication accounts for about half of the overall gantry spend (46% for Single & 56% for Super), with concrete bases costing about another 10%. With between 24-33% spent on piling (higher proportion on Single Spans) that still leaves a large percentage of cost being spent on commissioning, preliminaries allocation and temporary works. Of the entire operation to manufacture and install a gantry; commissioning, preliminaries allocation and temporary works can cost approximately £500k – this is definitely an area that should be targeted for cost reduction. 	Full Access Portal	<p>S45 Design: many versions available with multiple equipment support systems - this example includes an MS4 support pod but no AMI or ADS supports. The supply and install cost is in the region of £196,000 to £210,000 as of October 2020 depending on level of support equipment required. This varies from structure to structure:</p> <ul style="list-style-type: none"> Steel – 25% Fencing Panels – 6% Floor Grating – 4% Cable Tray – 0.5% Other Materials (Paint system, holding down bolts, connection bolts, Earth straps, Inspection) – 11% Manufacturing (Machining, Fabrication, Blasting, Painting) – 40% Fit out – 4% Delivery and Installation – 7.5% Remedial painting (bolts and transport damage etc) – 2% 																																				
	Full Access Super Cantilever	<p>Many versions available with multiple equipment support systems - this example includes an MS4 support pod but no AMI or ADS supports. The supply and install cost is in the region of £120,000 to £127,500 as of October 2020. These structures have varying amounts of MS4 Pod, ADS Post and AMI support frame requirements and it is rare that two are the same on any scheme:</p> <ul style="list-style-type: none"> Steel – 30% Fencing Panels – 5% Floor Grating – 3% Cable Tray – 0.5% Other Materials (Paint system, holding down bolts, connection bolts, Earth straps, Inspection) – 11% Manufacturing (Machining, Fabrication, Blasting, Painting) – 40% Fit out – 3.5% Delivery and Installation – 5% Remedial painting (bolts and transport damage etc) – 2% 	<p>These 'standard' structures can have varying column and body lengths - this example includes for a standard length MS4 Body length. The supply and install price is in the region of £52,500 to £55,500 as of October 2020:</p> <ul style="list-style-type: none"> Steel – 29% Fencing Panels – 6.5% Floor Grating – 2% Cable Tray – 2% Other Materials (Paint system, holding down bolts, connection bolts, Earth straps, Inspection) – 10% Manufacturing (Machining, Fabrication, Blasting, Painting) – 35% Fit out – 2.5% Delivery and Installation – 9% Remedial painting (bolts and transport damage etc) – 4% 																																			
<p>Example of costing Breakdown</p> <p>Average populated gantry = £1.5m (£1m est), £750k (£600est) of this represents direct costs of gantry and equipment. Our aim is cost savings and efficiencies throughout the demand and supply process</p> <p>Average Cost Per Gantry Calculation</p> <table border="1"> <thead> <tr> <th>Summary</th> <th>Total</th> <th>% Of Total</th> </tr> </thead> <tbody> <tr> <td>Gantry Foundation</td> <td>£112,037.19</td> <td>7.297%</td> </tr> <tr> <td>Gantry Structure</td> <td>£108,682.46</td> <td>7.079%</td> </tr> <tr> <td>Gantry Ancillary Civils Costs</td> <td>£84,676.76</td> <td>5.515%</td> </tr> <tr> <td>Gantry Power Supply</td> <td>£127,629.16</td> <td>8.313%</td> </tr> <tr> <td>Gantry Technology</td> <td>£370,829.38</td> <td>24.153%</td> </tr> <tr> <td>Commissioning</td> <td>£24,802.76</td> <td>1.615%</td> </tr> <tr> <td>Temporary Works Costs Allocation</td> <td>£106,159.97</td> <td>6.914%</td> </tr> <tr> <td>Preliminaries Allocation</td> <td>£487,620.00</td> <td>31.760%</td> </tr> <tr> <td>Fee</td> <td>£87,906.65</td> <td>5.726%</td> </tr> <tr> <td>Design Costs</td> <td>£25,000.00</td> <td>1.655%</td> </tr> <tr> <td></td> <td>£1,535,344.32</td> <td>100.000%</td> </tr> </tbody> </table>	Summary	Total	% Of Total	Gantry Foundation	£112,037.19	7.297%	Gantry Structure	£108,682.46	7.079%	Gantry Ancillary Civils Costs	£84,676.76	5.515%	Gantry Power Supply	£127,629.16	8.313%	Gantry Technology	£370,829.38	24.153%	Commissioning	£24,802.76	1.615%	Temporary Works Costs Allocation	£106,159.97	6.914%	Preliminaries Allocation	£487,620.00	31.760%	Fee	£87,906.65	5.726%	Design Costs	£25,000.00	1.655%		£1,535,344.32	100.000%	<p>Delivery & Install costs for Standard Atkins MS4 structure can be broken down further:</p> <ul style="list-style-type: none"> Delivery – 14% Travel Labour – 8.5% Install labour – 28.5% Crane (100t) – 29% MEWP access – 12% Accommodation – 8% 	
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	<p>Remedial Painting costs for Standard Atkins MS4 structure can be broken down further:</p> <ul style="list-style-type: none"> Labour – 64% MEWP access – 19% Accommodation – 17% 																																					

Conclusion: looking at the gantry element percentages and the cost drivers there are definitely standardisation and installation opportunities around Design For Manufacturing (DfM). Increased manufacturing efficiencies will lead to reduced time on site, a reduction in safety risks & programme costs, with improved quality with reduced defects. By increasing manufacturing predictability & control it will be possible to achieve economies of scale, simplified & repetitive construction processes that drive familiarity, improve safety and a greater degree of predictability of project cost.



Accessible MS4 Cantilever Gantry - Lean Case Study

Standardised Superstructure Design

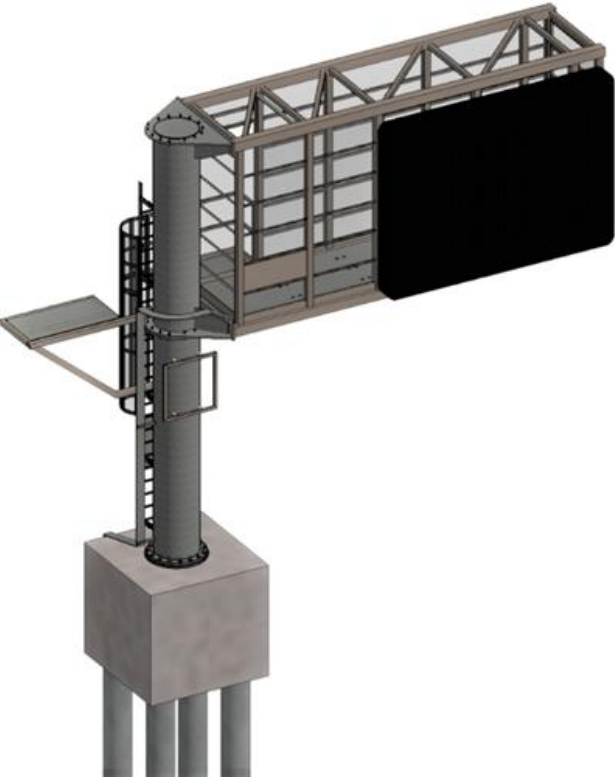


Figure 1: CAD Images of the standard accessible MS4 gantry superstructure on typical scheme designed concrete plinth and piled foundations [1]

Benefits to Highways England and the supply chain:

- Design once, use many times.
- Safety in construction – consistent installation methodology
- One solution – standardised maintenance (quality and safety benefits)
- Reduced design costs
- Reduced fabrication costs
- Programme savings (reduced risk for workforce and customer)

The development of the standardised accessible MS4 design was initially funded by the Smart Motorways Programme (SMP) and latterly transferred to HE Innovation Designated Funds

Fully CAT3 checked and Approved by HE Safety, Engineering and Standards – HE owned Design

Partners involved in the design development – Atkins as design lead with input from SES Structures, and the Gantries Supplier Community Briton, Nusteel, Donyal, New Steel, Skanksa, Costain, Balfour Beatty, Jacobs and HE Area teams.

Successes

- Development within time and cost
- Demonstrable savings in design (circa £3k per structure).
- Fabrication circa 15% = £12k per structure.
- Enhanced quality
- IPR held by HE
- Improved quality through consistency of design
- Success born out of a close collaborative team approach with full engagement throughout development phase

Barriers

- Achieving buy-in from supply chain to the new approach in a consistent way – not how we do things attitude
- Commercial drivers at odds with driving Highways England defined products
- Liability ownership unclear

Lessons Learned

- Greater levels of communication and approach with supply chain – need resources to do this
- Genuine openness needed by all involved parties to address ‘elephant in the room’ issues and concerns
- MS4 design has set the precedent for all future standardised innovation adoptions
- MS4 has set out the approach HE wishes to take in the future, to take greater ownership of the solutions needed on the network to drive greater efficiencies – HE is CDM Designer at programme level
- Clarity of HE position in relation to IPR would have improved the process of development and helped leverage the outcome quicker

POTENTIAL EFFICIENCY SAVINGS
Approximately £13k was saved per gantry on the M23 J8-10 SMP. This includes £3k for the design process, £5k for fabrication costs a further £5k for a 'production line' approach. Assuming approximately 200 suitable sites across RIS 2 schemes and £100k development costs, this provides a net cost benefit to SMP of £2.5m.

TECHNOLOGY READINESS LEVEL
9 Standard MS4 gantries are now fully certified with approved AIPs and design and check certification

SPECIFICATION AND STANDARDS
Gantries designed to BD 51/14. Although the Gantries are not designed to the new standards issued during the update of the DMRB in 2019/2020 there are still to be used on all new schemes, subject to a GG104 risk assessment. AIP signed in 2019 and valid for 3 years.

Supplier Engagement

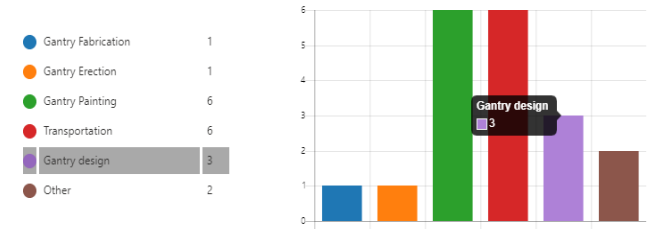
<http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88339225>



Supplier Community Outputs:	Required Actions:
<p>Sourcing Strategies</p> <ul style="list-style-type: none"> HE and Supplier relationship/collaboration <ul style="list-style-type: none"> Identification of Tier 1s and schemes Demand profile and forecast pipeline <ul style="list-style-type: none"> Material market intelligence Procure 80% of programme material ahead of requirements <ul style="list-style-type: none"> Material storage/call-off <ul style="list-style-type: none"> HS2 impact 	<ul style="list-style-type: none"> Bring Gantries Supplier Community together with MP investment programmes to discuss delivery objectives & develop strategy ahead of procurement, implementation and delivery. Investigate option for fabricators to buy up to 80% RIS2 steel requirement and call-off when needed - opportunity to work with BEIS for Government wider agenda. Supplier Intelligence to provide material profiling for utilisation of steel demand requirements.
<p>Design</p> <ul style="list-style-type: none"> Design input from fabricators - standardisation of gantries <ul style="list-style-type: none"> DFM engagement with HE business & fabricators <ul style="list-style-type: none"> Digital agenda and kits of parts <ul style="list-style-type: none"> Innovation & Assembly Full access/non-access 	<ul style="list-style-type: none"> Establish Gantries Implementation Group (GIG) - set up cross functional project for standardisation and Kit of Parts <ul style="list-style-type: none"> IT signs and signals collaboration Consider Full access / Non-access
<p>Installation/Delivery</p> <ul style="list-style-type: none"> Programme / Capacity planning Signs and signals installation integration <ul style="list-style-type: none"> Working window / road closures Size of cranes /equipment reduction 	<ul style="list-style-type: none"> Establish Gantries Implementation Group (GIG) - set up cross functional project for off-site installation of signs and signals Links to other category activities such as Piling, Logistics and IT Signs & Signals.
<p>Continuous Improvement</p> <ul style="list-style-type: none"> Carbon neutral opportunities – incl. piling & concrete bases <ul style="list-style-type: none"> Longer term material requirements <ul style="list-style-type: none"> Future technologies 	<ul style="list-style-type: none"> Link to Support Industry Strategies (PID 59) Initiative 3: Sustainable Sourcing - Zero Carbon & Waste. <ul style="list-style-type: none"> Engagement with Dean Kerwick-Crisp. Implementation group to consider developments with in-car technologies, connected & autonomous vehicles, etc.

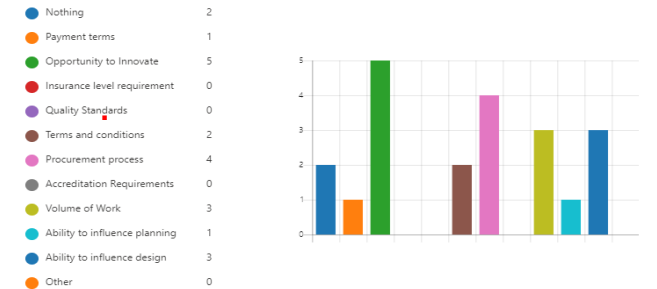
11. In delivering your service which of the following do you out source

[More Details](#)



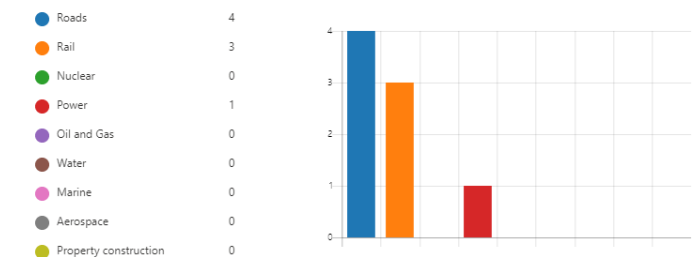
21. Would improvements in any of the following areas make Highways England a more desirable customer and easier to do business with?

[More Details](#)



16. Which of the following industries will the bulk of your work be carried out over the next 3 years?

[More Details](#)

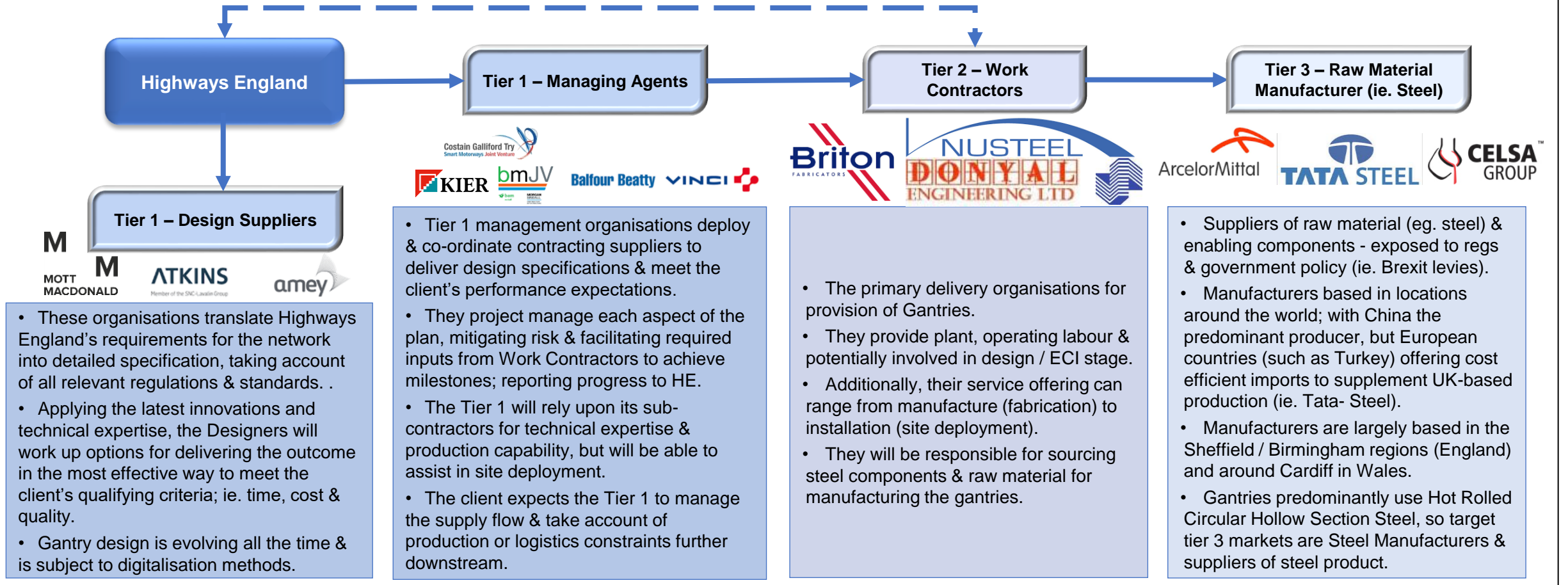


Conclusion: the Gantries Supplier Community welcomed the new approach and methodology and are eager to collaborate with all stakeholders. Embracing ideals of earlier engagement to incorporate DFM & MMC. standardisation of design & components, sight of pipeline to aggregate long-term demand, and collaboration on cross functional areas such as installation of signs and signals off-site.



Supply Chain Mapping – value and objectives

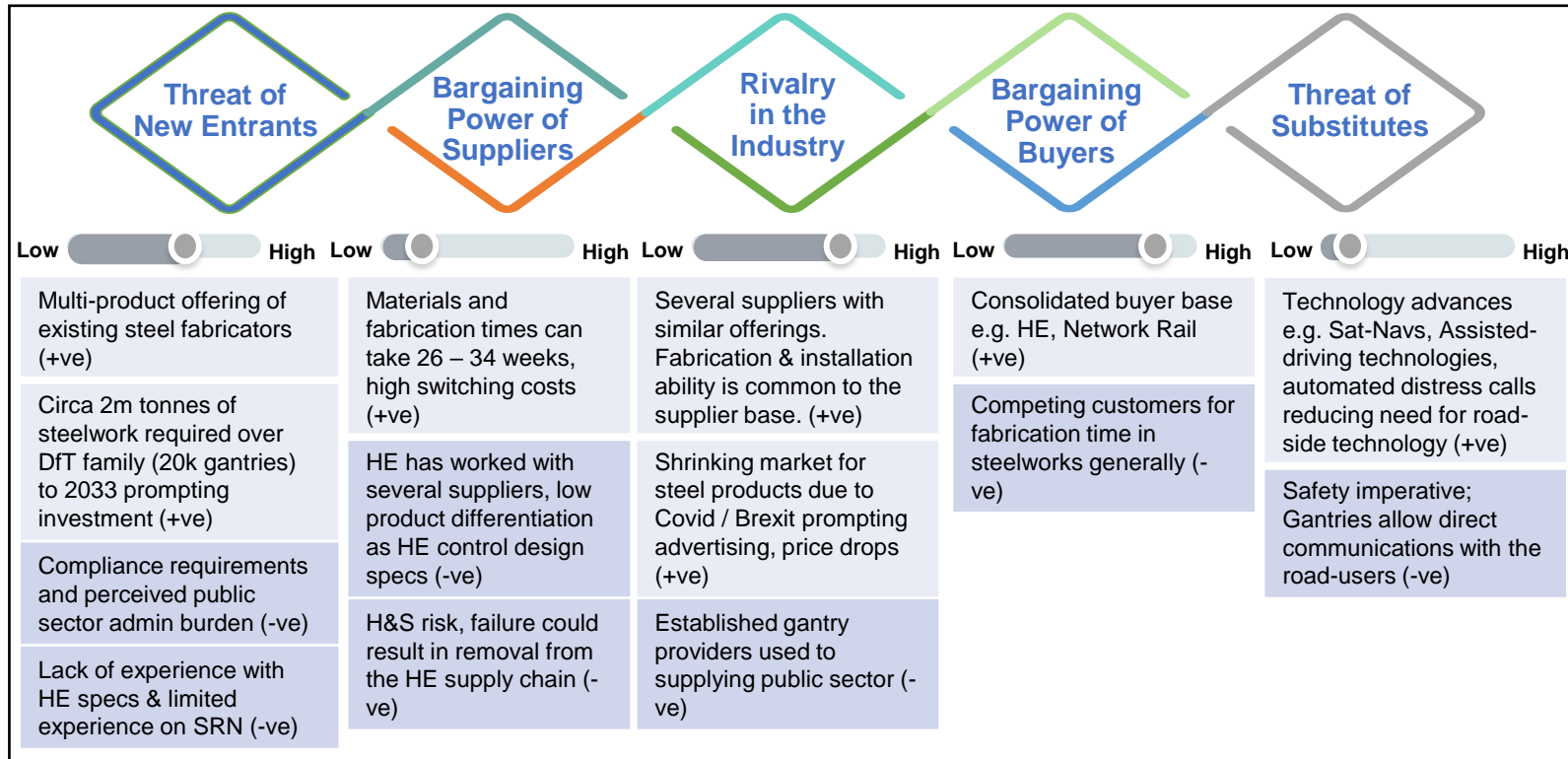
Gantries are often aligned with other structural steelwork activities, which primarily use this core material to meet network design requirements. While each tier in this supply chain has clear dependencies; the most notable reliance is upon the provision of the raw material from source manufacturers (in tier 3) which can be influenced by Government policy & production shortages.



Conclusion: the client market for Gantries is dominated by public sector bodies; such as Highways England & Network Rail due to infrastructure investment; with Briton Fabricators and Nusteel acting as the most prominent Work Contractors in our supply chain.

Market Insight and Landscape

- Highways England relies on a range of suppliers for Gantry and Structural steel requirements with Briton Fabricators and Nusteel standing out as the primary Gantry providers.
- The supply base is fairly concentrated, comprising of six suppliers. The manufacture occurs off-site and the gantry is installed with the aid of traffic management.
- Gantries are not produced in isolation but rather as an offering alongside other steelwork fabrication (eg. bridges, footways, construction steelworks).
- The current material for gantry production is steel. The UK steel market, whilst suffering several high profile administrations, maintains they have ample capacity post Covid19 & Brexit.



Conclusion: the marketplace is open to entry by established steelworks shifting to gantry provision. Steelwork Demand becomes concentrated in the public sector following Covid19 & Brexit, potentially causing gantry suppliers to prize the Revenue.

Market Analysis of Global and UK steelworks:

- Steel products used in the UK Strategic Road Network include but are not limited to sign gantries, Columns, Masts & Brackets, Road Restraints, Parapet & Guardrails, Steelwork Structures
- The procurement of Steel structures supports UK Steel Manufacturing as noted in procurement policy note 11/16: procuring steel in major projects
- Unlike other products, the supply chain are the fabricators/manufacturers of the structures.
- Steel - Porters 5 Forces: <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88486477>

Key client	Steel requirements (products)	Steel requirements (metric tonnes)
Highways England	Gantries	20,154
Highways England	Other	47,357
HS2	Construction materials, tunnels and train components, stock and railway track (rail, sleepers and slab track)	1,300,000
HS2	Not specified	650,000
Network Rail	Rails	106,000

Gantry Structure Supplier Profile

	Region	Suppliers	Supplier
Supplier Distribution	North West	1	Total Steelwork
	Yorkshire	2	Donyal Engineering
	Northeast		Severfield PLC
	The Midlands	2	Briton Ltd
	East	0	FLI Structures
	South West	0	TBC
	South East	1	Nusteel Ltd
	International	0	TBC

Supplier Capability and Capacity - including industry accreditations



Supplier Name	Website	Key Service Offerings	Key Clients	Projects (recent past & present, HE in <i>Bold Italics</i>)	Regional Presence	Accreditations
Briton Fabricators Limited	https://britonsltd.co.uk/	<ul style="list-style-type: none"> • Sign and Signal Gantries • Road and Rail Bridges • Station Steelwork • ECI to Installation & Commissioning 	<ul style="list-style-type: none"> • A-one+ • Balfour Beatty • Highways England • Local Authorities • Network Rail 	<ul style="list-style-type: none"> • A14 Cambridge to Huntingdon • SMP M20 J3-5 • SMP M23 J8-10 • SMP M62 J10-12 	Midlands Office & Fabrication plant in Hucknall, Nottingham.	<ul style="list-style-type: none"> • BCSA members • NHSS 19A • NHSS 20 • ISO 9001 • ISO 14001
DONYAL ENGINEERING LIMITED	http://www.donyal.co.uk/	<ul style="list-style-type: none"> • Gantries • footbridges • steel products & structures • offshore wind, subsea equipment 	<ul style="list-style-type: none"> • Highways • Power Distribution • Marine engineering 	<ul style="list-style-type: none"> • RIP A19 TaDL (formerly Testos) • SMP M6 J13-15 	Durham	<ul style="list-style-type: none"> • NHSS 19A • NHSS 20 • ISO 9001:2008 • RQSC
FLI Structures	https://www.fli.co.uk/	<ul style="list-style-type: none"> • Bridges • Foundations • Gantries • Geotechnical Investigation • Structural Analysis • Towers 	<ul style="list-style-type: none"> • Highways • Nuclear • Rail • Telecoms 	<ul style="list-style-type: none"> • No currently known projects 	Gloucestershire	<ul style="list-style-type: none"> • ISO 9001 • ISO 18001 • NHSS 20 • ROSPA Gold Award
Nusteel Structures Limited	http://www.nusteelstructures.com/	<ul style="list-style-type: none"> • Design, build and installation of varying types of steel footbridges, beams and gantries. 	<ul style="list-style-type: none"> • Highways England 	<ul style="list-style-type: none"> • A14 Cambridge to Huntingdon • SMP M1 J13-16 • SMP M27 J4-11 • SMP M4 J3-12 • SMP M6 J2-4 	Fabrication site near Folkestone in Kent	<ul style="list-style-type: none"> • ISO 9001:2008 • ISO 14001:2015 • NHSS 19A • NHSS 20 • OHSAS 45001:2007
Severfield Plc	https://www.severfield.com/	<ul style="list-style-type: none"> • Design, build and installation of varying types of steel footbridges, beams, gantries and other structures. 	<ul style="list-style-type: none"> • Aldgate Developments • Hammerson Plc • Local Authorities • Network Rail 	<ul style="list-style-type: none"> • 2012 Olympic Stadium • First Direct Arena, Leeds • M20 J10a • The Shard at London Bridge 	<ul style="list-style-type: none"> • Manufacturing at Thirsk, Bolton and Malton. • Ballinamallard, Enniskillen, County Fermanagh – NI • Bellary, Karnataka – INDIA 	<ul style="list-style-type: none"> • ISO 14001 • ISO 27001 • OHSAS 18001 • RoSPA Gold Award 2013
Total Steelwork & Fabrication Ltd	https://www.totalsteelfabs.com/	<ul style="list-style-type: none"> • Fabrication of varying types of steel footbridges, beams, gantries and other structures. 	<ul style="list-style-type: none"> • Highways England 	<ul style="list-style-type: none"> • M5 Oldbury Viaduct 	Cheshire	<ul style="list-style-type: none"> • NHSS 20 • RQSC

Other Gantries suppliers: <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88511768>

Other Steelwork suppliers: <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88509680>



Supplier Financials



Supplier Name	Revenue (£ million, 2019)	Revenue Growth (% , 2018–2019)	Operating Margin (% , 2019)	Net Margin (% , 2019)	Net Worth (£ million, 2019)	Financial Strength
BRITON FABRICATORS LIMITED	£18	19.88%	1%	2%	£4.4	
CELSA MANUFACTURING (UK) LIMITED	£432	-3.41%	1%	-1%	£1.1	
CLEVELAND BRIDGE UK LIMITED ¹	£36	-27.05%	3%	3%	£2.2	
DAM STRUCTURES LIMITED	£22	55.36%	9%	8%	£8	
FLI Structures	£6	-25.29%	3%	2%	£3.3	
NUSTEEL STRUCTURES LIMITED	£11	45.81%	3%	5%	£5.7	
Ramboll Uk Limited	£122	24.33%	1%	1%	£16.3	
S.H. STRUCTURES LIMITED	£13	19.19%	1%	1%	£0.8	
SEVERFIELD PLC ²	£274	0.26%	9%	7%	£105.5	
SPARTAN UK LIMITED	£185	-11.77%	1%	0%	£31.8	
TATA STEEL UK LIMITED	£2,407	0.17%	-7%	-16%	-£479	Negative
Victor Buyck	£62	24.98%	2%	7%	£21.9	
William Hare	£142	-15.06%	3%	2%	£36.8	

1. 2018 results for Cleveland bridge

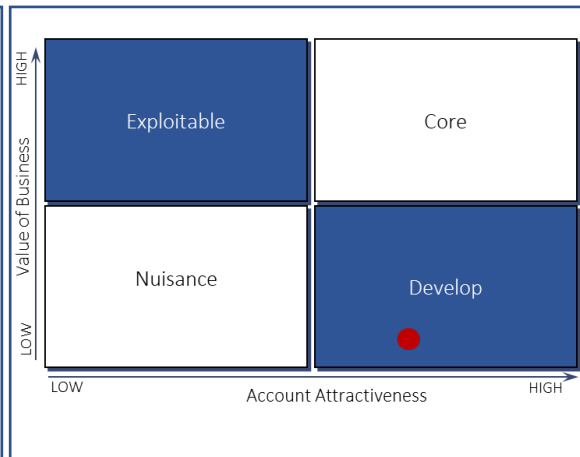
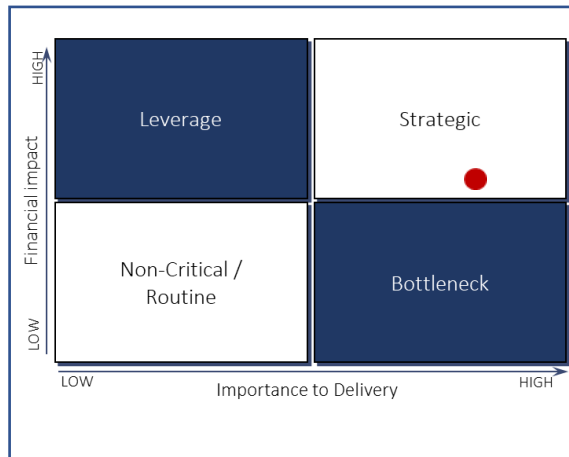
2. Severfield claim buoyant market conditions in Ireland and Europe and economies of scale (largest structural steel business in the UK) for their positive results. Severfield also have 2020 results available.

Supplier Analysis



STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> Highways England is an established company and a government body so it benefits from a strong credibility and trust from investors. Highways England has a strong competitive advantage with its knowledge, economies of scale and past contracts with main players in the industry. Trained personnel and specialised workforce in the UK. Gantries are a mobile product so it is not so much dependent on geographical location or complexity of transport. Gantries community is working well and almost independently. 	<ul style="list-style-type: none"> Slowness of internal development and approvals makes innovation implementation a very long process. Overlaps between some area of the business which makes it difficult to have a single point of view and makes the decision process more complicated. Gantries are representing only c.YY% of the overall spend so it is challenging to have other workstreams and products' attention on some topics that should be prioritised as Technology is key. Highways England requirements are mandatory and binding so can be a barrier to entry for potential suppliers; especially small companies. However, we cannot tolerate any failure on competence and skill required to fabricate so reducing would require careful consideration. Small quantities bought here and there: does not incentivise suppliers 	<ul style="list-style-type: none"> Incentivise innovations to drive industry H&S improvement. Collaborative way of working and portion the work. Emphasize long term value considering whole life cost and total cost of ownership. Political willingness to improve safety on the roads; that implies using more innovations and technology. Gantries might be designed and built with technology already installed on them. Gantries is a sector with many on-going projects and innovative processes, products and ideas Smartphones are more and more used by customers and there are many opportunities to develop smartphones app to update on roadwork services, etc. and use floating data from mobile phones Road users are more information hungry so there are really some expectations of innovations and improvements on the customer end. 	<ul style="list-style-type: none"> Influence /impact of DfT or central government decisions on programme or funding Procurement/Competition law Brexit impact: loss of funding and potentially loss of workforce Supply chain maturity/appetite for change in culture Industry restrained capacity Competition from other sectors – LA and nuclear Reduced transparency of cost and loss of value without a commercial framework for Gantries Customers might not be ready yet for some innovations

Political	Economic	Social-Cultural
<ul style="list-style-type: none"> Growing influence of lobbies and rise in political involvement in major infrastructure Roads Investment Strategy (RIS): defined objectives and efficiencies to be reached Strong role and influence of Government Departments & Agencies (Office of Rail and Road (ORR), Department for Transport (DfT), Crown Commercial Services (CCS)) Effect of pandemic on supply chain and future investment in the roads infrastructure 	<ul style="list-style-type: none"> Impact of GDP / Economic Growth Roads Investment strategy Stability of the Currency (£) Resource use efficiency (planning to maximise cost efficiency) Cost pressures (supply and demand led) Industry cost factors (pensions, oil, equipment materials) The highways industry is moving fast both in terms of regulation and innovation thus there is a need to adapt to stay a relevant player on the market 	<ul style="list-style-type: none"> Mistrust of change High customers expectations Innovation driven environment Work of Universities and Academics on infrastructure – Increasing interest for this industry Better Road Safety awareness – Highways England ad campaign Specific trainings on technology usage
Technological	Legal	Environmental
<ul style="list-style-type: none"> Obsolescence of Technology Fast pace market Connectivity and wireless network are key elements for the development of future Smart Motorways New innovative technologies (Stopped Vehicle Detection) 	<ul style="list-style-type: none"> Health and Safety requirements Post Brexit Procurement rules and Competition law Highways England policy, IAN's on fatigue and working regulations Environmental protection standards and law Highways industry is moving fast in terms of regulation 	<ul style="list-style-type: none"> Growing consideration of “new” pollution (noise pollution for instance) Sustainable solutions considered in every sector of the business Influence of the public on environmental key topics



Conclusion:
 There is an appetite and opportunity to develop and make the market in collaboration with the supply chain. Currently there are a couple of strategic suppliers reliant on HE work percentage that creates a risk for both HE and them. There are greater opportunities for HE to work with the Supply Chain to change the shape of the market place and increase efficiencies, including the introduction of new entrants to produce a wider strategic supply chain.



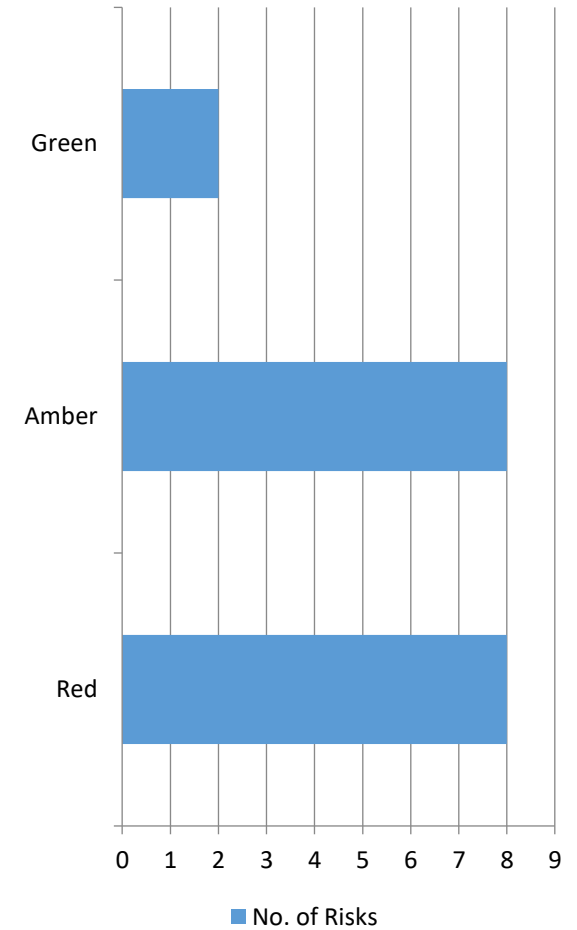
Category Risk

The affects of Brexit on steel quotas is a potential key supplier risk so a separate report is available:
<http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88463402>



5	•	•	• Covid	•	• Demand Data
4	•	• Incomplete Costs	• Project teams engagement	• Brexit	• HE Risk Profile • Capacity - HS2 • Capacity – Experience & geographical coverage
3	•	• Tier 1 Engagement in some areas • Management of multiple stake holders	• Lack of understanding of Cat management • Innovation - Lack of Resource • Analysis paralysis • Brexit tax threshold • Price Increases	•	• Innovation – litigation & Reputation • Innovation - Cost • Innovation - Standards
2	•	•	•	•	• Uptake of cost savings by tier 1
1	•	•	•	•	•
	1	2	3	4	5

No. of Risks



Conclusion: Clear & early signaling of demand for HE projects would enable gantry suppliers to co-ordinate pipeline more effectively & contractual frameworks should offer sufficient incentives to overcome market & production barriers to innovate. See Key Supplier Risk register: <http://share/share/llisapi.dll?func=ll&objaction=overview&objid=90105523>

Opportunity

Strategic Themes	Opportunities	Benefits	Obstacles
Supplier Relationship Management	<ul style="list-style-type: none"> Bring the Gantry supply chain closer to Highways England (HE). HE to have a better understanding of their issues. 	<ul style="list-style-type: none"> HE will have a more proactive relationship with this very important and critical service in the delivery of many of our large infrastructure schemes. 	<ul style="list-style-type: none"> The suppliers have not worked with HE for some time and may take time to understand our processes and procedures, and the time they take.
Sourcing Strategy	<ul style="list-style-type: none"> Incentivisation of offsite manufacturing. Bulk/mass procurement of standardised products. 	<ul style="list-style-type: none"> Giving HE ensured access to the successful suppliers when this type of service will become highly sort after with the advent of the other large infrastructure projects being rolled out. 	<ul style="list-style-type: none"> Many smaller SME type suppliers will not be geared up to meet the requirements of HE and will require help for us to grow.
Continuous Improvement	<ul style="list-style-type: none"> Through sharing of best practice at the supplier community. Working with MP (Digital by Default and Innovation Reapplied) and OD (SEG). 	<ul style="list-style-type: none"> Generated at both a strategic and operational level, through better collaboration for the former and better incentivisation for the latter. 	<ul style="list-style-type: none"> The suppliers may take time to understand the benefits of working together which they feel may affect their competitive edge in other contracts.
Innovation	<ul style="list-style-type: none"> Reward innovation and actively encourage suppliers to work together to come up with better ways of working - through supplier community and stronger relationships with our business owners and Delivery Partners. 	<ul style="list-style-type: none"> The innovation outputs will help deliver a service that is both safer and quicker with the same high quality outputs. Will give supply chain closer access to sight of pipeline and innovation funding. 	<ul style="list-style-type: none"> Suppliers may not want to share innovations because of the perceived effect on there competitive edge.
Performance Indicators	<ul style="list-style-type: none"> Develop performance indicator relevant to the type of work that is being done. 	<ul style="list-style-type: none"> The suppliers align better to these metrics. Increased safety and performance. 	<ul style="list-style-type: none"> HE will need to have a deeper understanding of the supply chain.

Conclusion: through the strategies identified in this section there is a realistic chance to support individual investment programmes in their objective to meet HE efficiency targets, and contribute to their scheme efficiency registers evidenced to the Office of Rail & Road (ORR). We will work in collaboration with Innovation Reapplied to identify and increase our productivity by 30% in RIS2, and deliver between 5-10% cost reduction. In conjunction with these MP transformation projects, and the Structures Efficiency Group (SEG), we will baseline and report demonstrable savings in design (circa £3k per structure) and fabrication (circa 15% = £12k per structure). We are already looking to analyse and agree milestones & targets for the various other solutions set out in this strategy, they too with our supplier community's contribution to the overall 10% Direct (capital) efficiency target for SPD, will be captured on the new cost reduction process now being rollout.

Strategy - Short Term

Gantries Strategy	Description	Benefit	Action
<p>GS01: Support SMA Gantry Procurement</p> <p>0.25 % saving</p>	<ul style="list-style-type: none"> Existing Cat Man strategy uses HE Enabled Fwk. Procure & engage differently to allow designers and Tier 2/3 suppliers to influence development phase, rather than reverse engineer in delivery. SMA Supplier Network Leads (Chris Hickey & Kiran Uppal) have identified their priority categories and aligned with SPD Category Tree. 	<ul style="list-style-type: none"> Integral part of the overall Alliance supplier network strategy - creates aligned gantry strategy that supports SMA objectives and drives increased productivity & reduces cost. Will support evidence for efficiency registers and submissions for ORR/Transport Focus. Savings on overall procurement resource & costs – alignment with Header contracts. 	<ul style="list-style-type: none"> Recommend not putting in place HE enabled fwk at this time (0.25% saving). Support development of SMA procurement strategy and contract docs: Lot 1: design (1-2 suppliers). Lot 2: fabrication, delivery and installation (2-4 suppliers). SMA to provide Category Lead with live (or quarterly) data: work package awards (supplier & price), actual cost, efficiencies & supplier performance.
<p>GS02: Gantries Supplier Community</p> <p>See GS06 for saving</p>	<ul style="list-style-type: none"> Establish a supplier community from designers, fabricators and installers. Improved engagement in the early phase to allow us and supply chain to realise additional value. Provide visibility of HE pipeline and programme so suppliers can investment in people, facilities and innovation. Improve alignment between our supply chain (tier 1-3) and HE goals and outcomes. Grow capability of the market place to have required installation experience - upskill the supplier base (especially in respect to HS&W). 	<ul style="list-style-type: none"> Create a win/win environment where we deliver to common outcomes (which should align to HE's needs). Ensure capability & capacity to deliver RIS2. Removal/reduction in safety risks through alternative methods of design and assembly. Real opportunity & value delivered through early engagement approach. Turn lessons learned into best practice through strong SRM. Greater supply chain collaboration to share innovation and drive efficiencies. 	<ul style="list-style-type: none"> Establish and manage Gantries Supplier Community with designers and fabricators. Earlier engagement is the way to unlock value and drive efficiency (see GS06 for saving). Better planning of our order book with the supplier base to optimise manufacturing efficiencies and reduce overall time of site and associated roadworks.
<p>GS03: Standard Cantilever (MS4) Gantry Design & Steel</p> <p>0.75% saving</p>	<ul style="list-style-type: none"> Avoid 'cheap' solutions in construction that result in 'high' costs to maintain. Finalise standard (Atkins) design MS4 gantry solution - rollout in collaboration with business and our supplier community. Scoping and design - standard fixing points to enable any technology variant. Digital by Default/Lean team study: http://share/share/llisapi.dll?func=ll&objaction=overview&objid=88464275 	<ul style="list-style-type: none"> Reflects whole life value from design and build through to maintenance. Removal/reduction in safety risks through alternative methods of design and assembly. Reduced design requirement - saving on payment of Ramboll IPR for each gantry. Simpler fabrication and construction, improving safety with repeatable work for the supply chain. Quality modular product by enabling a standard process. 	<ul style="list-style-type: none"> Implement MS4 standard design sign-off position with SES and Digital Product Catalogue (DPC). Work with Digital by Default, linking our suppliers with scheme designers – develop a Kit of Parts. Agree and baseline cost reduction targets with SMA and other business areas. Rollout wider cost reduction through Innovation Reapplied to increase utilisation from 10% to potentially 80% (0.75% saving)

Strategy - Short to Medium Term

Gantries Strategy	Description	Benefit	Action
<p>GS04: Align Strategies for MP Investment Programmes</p> <p>See GS06 for saving</p>	<ul style="list-style-type: none"> • Ensure RIP, CIP & LTC also align to MP Transformation Delivery Programme. • Sourcing gantries and auxiliary materials as per the current Tier 1 Header contracts. • Supports efficiency registers and submissions for ORR/Transport Focus. • SMA to provide live or quarterly data: work package awards (supplier & price), actual cost, efficiencies & supplier performance to Category Lead (Sally Goding). 	<ul style="list-style-type: none"> • Collaborative approach delivering increased efficiency to meet HE targets with ORR. • Tier 1 sub-contracts and community approach requires no in-house HE procurement resource – allows alignment to incentivisation model & mechanisms in their Header contracts (ie. SMA, RDP & B SDF). 	<ul style="list-style-type: none"> • Continue to engage with SSCG DIP representatives (Skanska & Linkconnex) and finalise mid-term strategy for tranche 2 schemes individual/regional/national arrangements. • Identify and agree baseline cost reduction targets; increase standard MS4s use and future Logistics & Installation and standard design for Portals (see GS03, GS06 & GS08 for savings). • All MP programmes to provide Category Lead with live (or quarterly) data: work package awards (supplier & price), actual cost, efficiencies & supplier performance.
<p>GS05: Implement Cost Reduction Process</p>	<ul style="list-style-type: none"> • Baseline, monitor and demonstrate cost reduction - work with all stakeholders to increase productivity and efficiencies. 	<ul style="list-style-type: none"> • Demonstrates cost reduction. • Helps motivate increased productivity and efficiency. 	<ul style="list-style-type: none"> • Engaged Tom Halsted on 'cost reduction' process and model – started using this as our reporting process.
<p>GS06: Gantries Implementation Group</p> <p>6% saving</p>	<ul style="list-style-type: none"> • Change outlook both within the business & supply chain during RIS2 - consider overall product such as technology & camera structures - the market place (eg. foundation suppliers, structures & technology providers) need to work together to drive holistic efficiency. • Alternative methods (eg. off-site gantry and technology integration). • Implementation of pre-installed technology assets on standardised gantries - signs & signals fitted prior to delivery/installation. • Gantry fabricators keen to develop to opportunity further including logistics. • Take into consideration access and non-access – why & when? • Change mind-set of supply chain to create a combined technology and gantries working group to realise solutions. 	<ul style="list-style-type: none"> • Reduce both the length of closers required and overall construction duration (ie. overall less time in construction – shorter period of disruption to customers). • Standard processes in manufacture and installation, and better managed logistics. • Standard installation brackets will enable use of any applicable technology, reducing the requirement and waste. • Reduced Traffic Management requirement and lane closures impacting our customers. • Better health and safety due to reduced occurrence of working at height and large crane lifts. 	<ul style="list-style-type: none"> • Establish Gantries Implementation Group (GIG): MP Sponsor (Tony Slater), Cat Lead (Sally Goding), SES Expert (Jim Gallagher) & Designer (Tom Knowles). • Invite contributions from stakeholders, as required, including Innovation Reapplied, Supplier Community and other Cat Leads (eg. Civils, Logistics & IT signs & signals). • Drive increased productivity & cost reduction contributing to ORR efficiency submissions through following themes: Design & Fabrication: incl. methodology & RFT (3% saving). Preparation & Civils: incl. Piling & Concrete Base (6% saving). Logistics & Installation: incl. sign-fixing, delivery & working window (8% saving).

Strategy - Medium to Long Term

Gantries Strategy	Description	Benefit	Action
<p>GS07: Scheme Delivery Framework (SDF) Performance</p> <p>0.5% saving</p>	<ul style="list-style-type: none"> Operation Directorate will use the Asset Delivery Scheme Delivery Framework (SDF) to be awarded mid-2021. Gantries part of Band A General Civils Lot. Focus is more on access and maintenance of the kit on the gantries (eg. signs & signals, cameras, etc). 	<ul style="list-style-type: none"> Operations have their own arrangement that they support. Chance to incorporate SDF supply chain into our supplier community and monitor & report efficiencies and cost reduction. Capture best practice for future strategy. 	<ul style="list-style-type: none"> Allan Westoby & Jo Wilkes to agree SDF process. and provide Category Lead with live (or quarterly) data: work package awards (supplier & price), actual cost, efficiencies & supplier performance. Use efficiency & performance data to assist develop next strategy for Asset Delivery. Utilise design & installation for new and SEG refurbishment best practice (0.5% saving).
<p>GS08: Standard Portal (Span) Gantry Design & Steel</p> <p>1% saving</p>	<ul style="list-style-type: none"> Following standard MS4 design potential to do the same for other types of gantry (super-span & single-span). Work with Digital by Default & SMA, and in collaboration with our supplier community to scope and assess forecast efficiency savings and viability. 	<ul style="list-style-type: none"> Reflects whole life value from design and build through to maintenance. Removal/reduction in safety risks through alternative methods of design & assembly. Reduced design requirement - saving on payment of Ramboll IPR for each gantry. Simpler fabrication and construction, improving safety with repeatable work for the supply chain. 	<ul style="list-style-type: none"> Work with SMA designers & Digital by Default, and in collaboration with our supplier community to develop standardised design for super-spans & single-spans. Rollout through Innovation Reapplied to increase utilisation to 80% to deliver greater cost reduction (1% saving).
<p>GS09: Carbon Reduction</p> <p>See GS06 & GS10 for saving</p>	<ul style="list-style-type: none"> Support SMA and other business areas in addressing our carbon reduction targets. Work with Digital by Default & our supplier community to develop solutions, including Modern Methods of Construction (MMC) and Sustainable Sourcing. 	<ul style="list-style-type: none"> Improved environment and contribution to HE carbon-neutral commitment. 	<ul style="list-style-type: none"> Work with all investment programmes and MP Transformation Delivery Programme in collaboration with our supplier community to improve sustainable sourcing solutions to help meet HE targets (see GS06 & GS10 for saving). Support Industry Strategies (PID 59) Initiative 3: Sustainable Sourcing - Zero Carbon & Waste and via engagement with Dean Kerwick-Crisp.
<p>GS10: Materials & Aggregation</p> <p>1.5% saving</p>	<ul style="list-style-type: none"> Consider utilising alternative materials for our structures. Central procurement of steel - buying process with associate stock holder company to get surety of supply and maximise value. 	<ul style="list-style-type: none"> Requires further investigation. Aggregation to obtain a standard cost, secured source and space in mill production. Possibility of working with other large infrastructure projects. 	<ul style="list-style-type: none"> Ongoing agenda item, with safety & Innovation Reapplied at Gantries Supplier Community. Investigate material arrangement to flatten pricing and obtain efficiencies of scale - consolidated demand of 80% - option for fabricators to buy, store, call-off on HE behalf (1.5% saving).

Strategy - Summary of Savings

Total: £15.7m



How we plan to produce efficiencies during RIS2	Savings opportunity against RIS2 forecasted spend	Benefits
<ul style="list-style-type: none"> GS06: Logistics & Installation Establish Gentries Implementation Group (GIG): MP Sponsor (Tony Slater), Cat Lead (Sally Goding), SES Expert (Jim Gallagher) & Designer (Tom Knowles). Design & Fabrication: incl. methodology & right first time (3% saving), Civils: incl. Piling & Concrete Base (6% saving) and Installation: incl. sign-fixing, delivery & working window (8% saving). 	£9,420,000	Increased Productivity
<ul style="list-style-type: none"> GS10: Materials & Aggregation Investigate material arrangement to flatten pricing and obtain efficiencies of scale - consolidated demand of 80% - option for fabricators to buy, store, call-off on HE behalf (1.5% saving). 	£2,355,000	Efficiency
<ul style="list-style-type: none"> GS08: Standard Portal (Span) Gantry - Design & Steel Work with SMA designers & Digital by Default, and in collaboration with our supplier community to develop standardised design for super-spans & single-spans. Rollout through Innovation Reapplied to increase utilisation to 80% to deliver greater cost reduction (1% saving). 	£1,570,000	Standardisation & Safety
<ul style="list-style-type: none"> GS03: Standard Cantilever (MS4) Gantry - Design & Steel Implement MS4 standard design sign-off position with SES and Digital Product Catalogue (DPC). Work with Digital by Default, linking our suppliers with scheme designers – develop a Kit of Parts. Agree and baseline cost reduction targets with SMA and other business areas. Rollout wider cost reduction through Innovation Reapplied to increase utilisation from 10% to potentially 80% (0.75% saving) 	£1,177,500	Standardisation & Safety
<ul style="list-style-type: none"> GS07: Scheme Delivery Framework - SDF Performance Use efficiency & performance data to assist develop next strategy for Asset Delivery. Utilise design & installation for new and SEG refurbishment best practice (0.5% saving). 	£785,000	Efficiency & Standardisation
<ul style="list-style-type: none"> GS01: Support SMA Gantry Procurement Not putting in place HE enabled fwk at this time (0.25% saving). Support development of SMA procurement strategy and contract docs: Lot 1: design (1-2 suppliers). Lot 2: fabrication, delivery and installation (2-4 suppliers). 	£392,500	Cost Avoidance

Recommendations

Benefits Strategy	Description	Recommendation See next 3 slides for Gantries Strategy (GS):
<p>Comprehensive Total Value Ownership (TVO) Approach (Option D)</p> <p>BS1: Holistic management of supply chain</p>	<p>HE develops and adopts a holistic supplier evaluation and management scheme</p> <ul style="list-style-type: none"> • All factors and their importance that impact the achievement of HE objectives to be reflected in a (monetary) Total Value Ownership (TVO) scheme spanning across Tier 1/2/3 and maintenance suppliers • Approach allows to transparently measure performance of suppliers, and to communicate them to the market 	<ul style="list-style-type: none"> • GS01: Support SMA Gantry Procurement • GS04: Align Strategies for MP Investment Programmes • GS05: Implement Cost Reduction Process
<p>Library for solutions & materials (Option A)</p> <p>BS2: Driving synergies/preventing complexity</p>	<p>Standardisation of technical designs and Tier 3 materials to be used</p> <ul style="list-style-type: none"> • Standardisation allows to drive synergies and commercial benefits + prevents complexity • Library can be created using an initial solution competition. Maintenance of library & further development done by one Tier 1 supplier • Tier-1 Design Suppliers are measured based on usage of standard solutions (e.g. >90%) 	<ul style="list-style-type: none"> • GS03: Standard MS4 Design & Steel • GS06: Gantries Implementation Group (GIG) • GS08: Standard Portal Design & Steel • GS10: Materials & Aggregation
<p>High-performance panels for Tier 2&3 (Option B)</p> <p>BS3: High-performing panel of suppliers</p>	<p>HE directly nominates panels of Tier 2 & 3 with performance-based awarding of work</p> <ul style="list-style-type: none"> • Approach identifies high performing suppliers that better contribute to HE objectives • HE assumes direct control over quality of service and incentives of Tier-2/3 suppliers • Very limited possibilities for Tier 1 (Tier 2) to set suboptimal incentives for Tier 2 (Tier 3) suppliers 	<ul style="list-style-type: none"> • GS04: Align Strategies for MP Investment Programmes • GS07: Scheme Delivery Framework (SDF) Performance
<p>High-performance panels for maintenance supplier (Option C)</p> <p>BS4: High-performing panel of suppliers</p>	<p>HE directly nominates panels of maintenance suppliers</p> <ul style="list-style-type: none"> • Approach identifies high performing suppliers that better contribute to HE's objectives • HE assumes direct control over quality of service & incentives of maintenance suppliers 	<ul style="list-style-type: none"> • GS02: Gantries Supplier Community • GS05: Implement Cost Reduction Process
<p>Innovation/CO2 incentive schemes (Option E)</p> <p>BS5: Aligned incentives of HE and suppliers</p>	<p>HE incentivises suppliers to contribute with innovative and CO2 efficient solutions</p> <ul style="list-style-type: none"> • HE rewards Tier X/maintenance suppliers in the Total Value Ownership (TVO) scheme when they propose innovation and/or CO2 improvement initiatives • Contribution of suppliers (also vis a vis other suppliers) becomes transparently measurable, and aligns incentives of involved players 	<ul style="list-style-type: none"> • GS09: Carbon Reduction • GS10: Materials & Aggregation

Next Steps

INITIAL - Gantries Milestone Plan

KEY: ◆ Milestone Complete ◆ Milestone On Track ◆ Milestone At Risk ◆ Milestone Delay/Sig.Risk ◇ Orig. Miles



Final sign-off final Gantries Strategic Procurement Strategy (SPS) 28th April 2021.

We have worked with business owners (especially SMA currently) to increase the use of standard MS4 design & components. We will drive this through Digital by Default (DD), linking our suppliers with scheme designers to identify and deliver cost savings, and rollout wider through Innovation Reapplied (IR).
 Please note - targets for savings per MS4 gantry, quantity & increased use of standard design to be finalised with the business and reported using cost reduction process 2021/22

Through continued engagement with business investment programmes, DD, IR and gantry designers & fabricators we will deliver increased productivity and cost reduction via collaborative projects (eg. standard portal & super cantilever, logistics & installation, carbon reduction, etc.).
 Again, please note the milestones included to the right are currently only indicative of what we would like to see and we continue to work with our stakeholders to firm these up. Projects will identify potential cost saving and timescales using cost reduction process.

We are starting to make good progress with other investment programmes and will join-up on innovative projects and set targets.

We are bringing our Gantries Supplier Community together with our business owners and their Delivery Partners to discuss objectives & develop strategy ahead of the procurement exercise (SMA - integral part of the overall Alliance supplier network strategy).

