Asset Information Services Strategic Plan

V3.0 –March 2019

1. Purpose, role & vision

1.1 Purpose

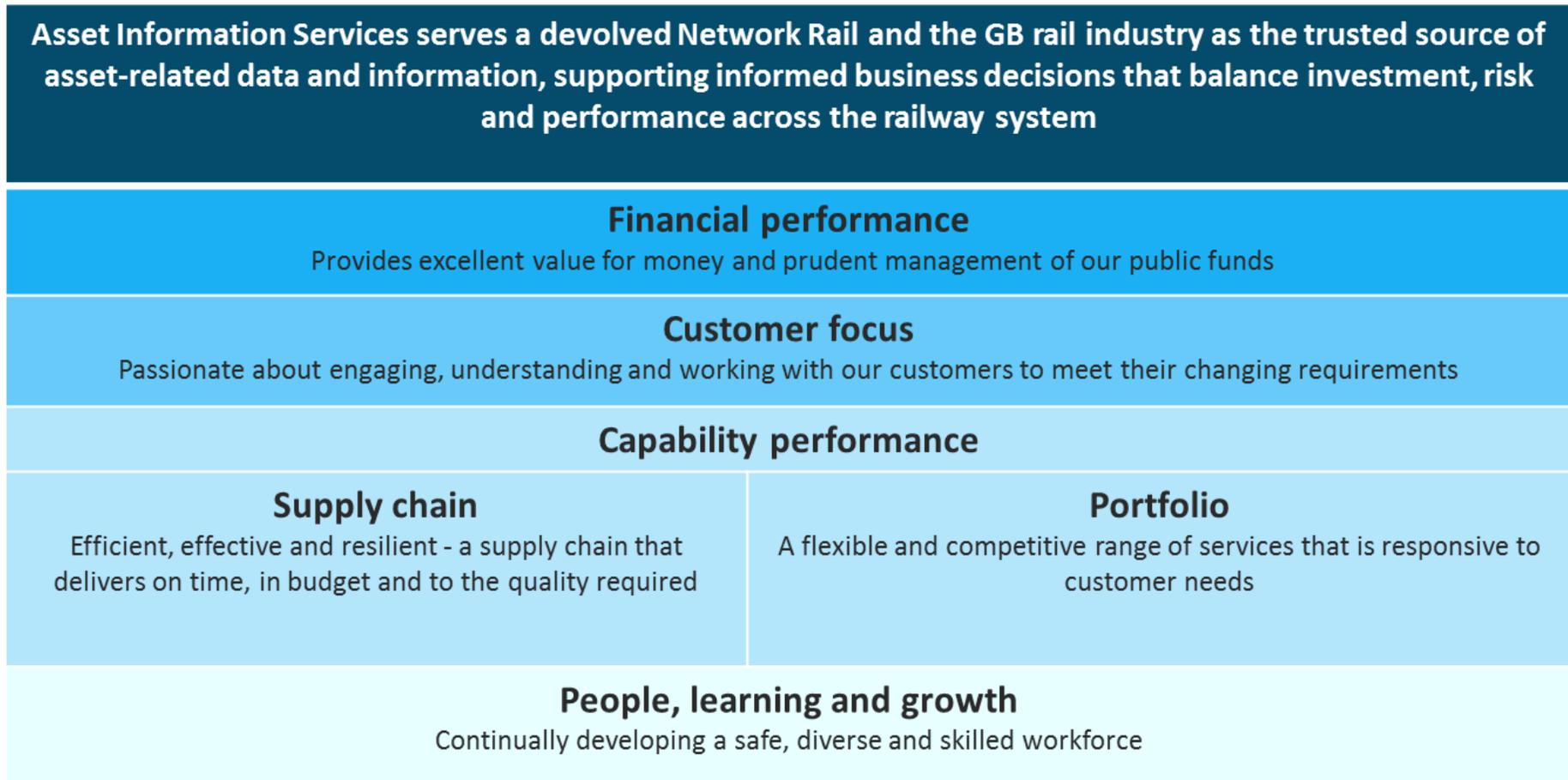Putting data at the heart of decision making.

1.2 Role

We are responsible for enabling and providing asset data, intelligence and insight through the delivery of key services across three centres of excellence – data collection, data management and data services.

Our services include the collection of asset condition data through train-borne systems, plain line pattern recognition (PLPR) and aerial surveys; the management and maintenance of systems and registers including the geospatial Track Centre Line model, the Asset Data Store and the corporate works management system Ellipse; and the provision of over 140 corporate, regulatory and safety-related reports each period.

AIS also manages key tools used by operational and asset management colleagues and professional communities that allow faster, smarter, more efficient and informed decision-making through specialised, detailed views of the railway network and associated assets in easy access formats, including the Linear Asset Decision Support tool (LADS) and the Geo-RINM Viewer.

We are a key part of the Group Digital Railway (GDR) directorate, a central function providing the centre of excellence for data services and telecommunications to the GB railway and delivering a key transformation program – the Digital Railway Programme. Asset Information services and products inform and support the Routes, IP and other customers in making key asset management decisions that enable the safe, efficient and effective delivery of the operational railway.

1.3 Vision

Asset Information Services serves a devolved Network Rail and the GB rail industry as the trusted source of asset-related data and information, supporting informed business decisions that balance investment, risk and performance across the railway system

Financial performance
Provides excellent value for money and prudent management of our public funds

Customer focus
Passionate about engaging, understanding and working with our customers to meet their changing requirements

Capability performance

Supply chain
Efficient, effective and resilient - a supply chain that delivers on time, in budget and to the quality required

Portfolio
A flexible and competitive range of services that is responsive to customer needs

People, learning and growth
Continually developing a safe, diverse and skilled workforce

Our vision is: Asset Information Services serves a devolved Network Rail and the GB rail industry as the trusted source of asset-related data and information, supporting informed business decisions that balances investment, risk and performance across the railway system.

Introducing our strategy:

Our CP6 strategy focuses on providing a managed portfolio of services that are relevant and meet our customer's needs, enabling the optimal and sustainable balancing of investment, safety risk, and performance of the railway. It also supports Network Rail's strategic asset management business plans and is a key foundation for the digital railway.

In CP6 we will be focussing on these priorities:

- To improve our supply chain capability, we will review how to obtain infrastructure information from service trains using digital solutions wherever possible, reducing the need for a dedicated infrastructure condition monitoring fleet and the subsequent impact upon the timetable;

- By extending AIS's management of data to all asset and operational data and information that has a defined value to the customer we will demonstrate greater customer focus and how our portfolio of services is responsive to customer needs;

- This customer focus and responsiveness will be further enhanced by developing the data management and analysis services we offer to the Routes and the wider rail community to enable the more efficient operation of the railway asset base;

- We will demonstrate value for money by increasing the cost efficiency, resiliency and sustainability of our systems and services, thereby reducing risk to the business.

Rationale

As the railway evolves a key expectation in CP6 is that the operational and capital costs of the railway will reduce. Data and information is a key enabler to achieving this and with the introduction of devolution within Network Rail, we must provide what our customers in the Routes require to meet this challenge and support the delivery of current and future railways.

Our strategy has been designed to help our key customers, the route businesses, make informed decisions about the most appropriate interventions for their assets – from safety risk to lifespan – allowing them to offer more reliable services to their customers, the train- and freight-operating companies and ultimately, passengers.

Our strategy also considers the changing nature of data and data processing, and the expected increased demand for more regular and more detailed data and intelligence. To this end, AIS is also delivering automation opportunities which will streamline data processing requirements, releasing resources, reducing costs and improving productivity.
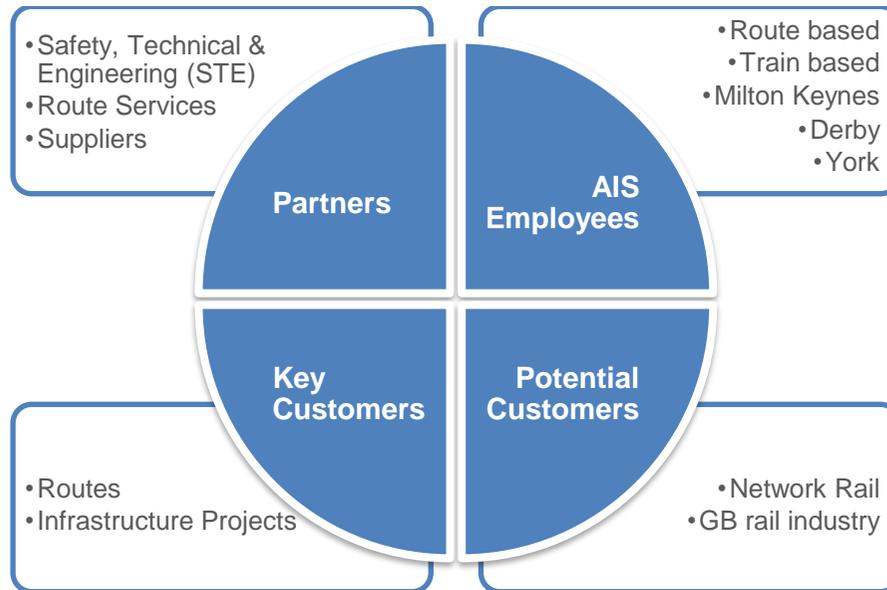
Several of our services rely on assets or systems that are operating beyond their designed life or are out of, or increasingly difficult to, support, with the increased risk of failure that this entails. We need to refresh and upgrade these assets and investigate and invest in automation where appropriate to improve resilience, reduce failure and deliver sustainable services. This will deliver cost-savings and decrease safety risk throughout the national network by reducing the need for recovery activities and associated disruption to passengers, customers and stakeholders.

To deliver our strategy, our submission reflects the need to provide resilient and sustainable products, systems and services that meet the Routes and the GB railways' changing needs.

2. Objectives & Stakeholder priorities

2.1 Stakeholders & priorities

Our key stakeholders are found in four main groups:

Partners	**AIS Employees**
• Safety, Technical & Engineering (STE) • Route Services • Suppliers	• Route based • Train based • Milton Keynes • Derby • York
Key Customers	**Potential Customers**
• Routes • Infrastructure Projects	• Network Rail • GB rail industry

2.2 Customer and stakeholder engagement

AIS' CP6 plans have been developed in conjunction with all four main stakeholder groups and the process, which included analysis of 1100 responses to a survey plus follow up workshops in Delivery Units across the network, has focussed on key customers, partners and employees. There has also been engagement with wider industry and we also worked with the Intelligent Infrastructure Programme when they carried out a comprehensive review of stakeholder

requirements for future asset data demands. The output of this programme, to be delivered by STE, will contribute to the future of AIS's services in CP6. The key findings arising from our engagement are as follows:

- Accuracy – users would like the data to be more accurate and to have quality indictors included;
- Ease of use – need to focus on making data easy to use, available via self-service and joined up;
- Innovation – use innovation to improve services not to necessarily develop new services;
- Clarity on value – they would like us to understand their end to end business processes to ensure that any change implemented does not improve one part of a process but negatively impact on another;
- Productivity – a key focus for the Routes is productivity; AIS should focus on how we improve route productivity through the provision of our services, this should be the measure of value;
- Reducing impact on the operational railway – to reduce the impact of the data collection fleet train plan, freeing up network availability.

Ongoing customer and stakeholder engagement
Through our key business objective to increase customer loyalty and intimacy, we have a dedicated account management team that are locally based within the Routes and carry out a series of on-going formal and informal meetings with our customers. The purpose of these is to provide information on the performance of our services, support the integration of business change capabilities into our customer base, and gather requirements for future enhancements or impact on demand. The Account Managers also act as a key escalation point when our services do not fully meet customer expectations. When this does happen, we investigate what has been delivered compared with what we have delivered and then seek to address that gap. Recognising the need to be responsive to customer needs, wherever this is possible, we have completed a comprehensive engagement programme (see 2.2 above) which will lead to improvements in service delivery throughout CP6.

Addressing stakeholders' priorities
Our plan is based around enabling the Routes and IP to meet their operational requirements, and by extension passenger needs, and in providing the tools and maintaining the asset data and information systems that support asset management decisions. Outlined below are the output requirements from our key stakeholders. To meet these needs, AIS has seven key business objectives and a set of business objectives which are identified in section 2.3 below to deliver these stakeholder needs.

Stakeholder	Prioritised needs
Route Businesses	Meet standards requirement at minimum cost and disruption thereby reducing the adverse impact on our passengers

Resilient train borne asset monitoring services, including PLPR, structure gauging, rail flaw detection (ultrasonics) and track geometry

Availability and enhancement of data, tools & reporting to support key asset related decisions

Understand quality of data in existing asset data systems |
| STE | Provision of a resilient and sustainable structure gauging service

To contribute to the development of the Intelligent Infrastructure Programme and adapt our service portfolio to accept the agreed outputs |
| IP | Ability to access data on demand and by their supply chain

Easy mechanism to exchange asset data throughout the lifecycle of a project |
| Suppliers | Enable innovation to deliver better services

Provide timely payments |

2.3 Specific objectives and KPI's

2.3.1 Strategic objectives

1. **Embed the AIS vision within our organisation**

Owner: Head of Service Performance
Value: embedding the vision and associated culture supports the delivery of all our other objectives by underpinning AIS' operating model that enables the effective and cost-efficient delivery of a range of agreed services to our customers and stakeholders.

2. **Enable our people to drive continuous improvement**

Owner: Head of Business Management
Value: providing our people with the tools, processes and frameworks to deliver structured continuous improvement, enables them to drive efficiency and value into AIS services and customer delivery, contributing to making things Better Every Day and increasing overall employee engagement.

3. **Work together to deliver right first time services**

Owner: Head of AIS Service Portfolio
Value: collaboratively working with customers to understand requirements and develop sustainable, reliable and consistent services that deliver right first time performance, drives down AIS service delivery costs and removes the need to undertake recovery activities, reducing costs to the wider business.

4. **Manage effective change through portfolio and service management processes**

Owner: Head of AIS Service Portfolio
Value: through effective business and service change management new and enhanced capabilities and services are delivered to customers on time and with the minimum disruption, enabling earlier or on time realisation of identified benefits for AIS and its customers.

5. **Increase the value customers place on our services**

Owner: Head of Service Performance
Value: understanding the customers and their evolving needs in a devolved environment enables AIS to develop and deliver consistent services, forecast future service demand and drive down cost through more effective and informed forward planning.

6. **Fully align our services with our strategy**

Owner: Head of AIS Service Portfolio

Value: minimising variation in the services AIS provides and focussing on ensuring that our delivery reflects customer needs allows us to maintain our operational efficiency and deliver to budget.

7. Manage our supply chain effectively

Owner: Head of Supply Chain
Value: understanding and balancing demand against our ability to satisfy that demand enables us meet the quality of outputs required through the effective and efficient use of our people and resources, whilst understanding, managing and driving down unit costs.

Objective	What it will deliver								
	Improved employee engagement	More resilient services	Improved product quality	Decreased operating cost	Improved operational efficiency	Better service planning	Improved customer relations	Improved transition of capabilities	More collaborative working
1. Embed the AIS vision within our organisation	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Enable our people to drive continuous improvement	✓				✓				✓
3. Work together to deliver right first time services		✓	✓	✓	✓		✓		✓
4. Manage effective change through portfolio and service management processes	✓						✓	✓	✓
5. Increase the value customers place on our services						✓	✓		
6. Fully align our services with our strategy				✓	✓		✓		
7. Manage our supply chain effectively		✓	✓	✓	✓				

2.3.2 Business objectives

Business objectives are those distinct pieces of development work, alongside our BAU functions, that will be undertaken by our employees to contribute to the delivery of our strategic objectives. The following are under development for CP6:

- Implement a system to measure the value and impact of our services to our customers;
- Understand contract value and get best value out of these contracts to deliver the service required;
- Implement a quality management system that delivers value to the customer;
- Deliver individual specific Capex projects;
- Provide a process that enables AIS customers to feedback and enable appropriate change;
- Develop and implement a sustainable and measurable engagement (internal and external) model;
- Understand our customers end to end processes and where our services impact;
- Create a procedure to ensure that we can understand and implement, as required, emerging best practice;
- Increase the cost efficiency, resiliency and sustainability of services;
- Introduce an agile data cleansing and associated reporting service;
- Build and expand upon existing self-service tools in line with customer requirements;
- Review our current portfolio of services to ensure continuing alignment to customers' needs and processes;
- Develop our engineering, innovation and customer service capabilities;
- Implement a robust competency framework and assessment process;
- Put in place arrangements to operate different ways of working to support alternative delivery methods.

2.3.3 AIS Key performance indicators

Strategic Objective	KPI	Target	Desc.
Embed the AIS vision within our organisation	Engagement of employee in AIS' strategic direction.	3.90	1 is worse 5 is best
	Employee engagement index.	74%	% promoters less % detractors
Enable our people to drive continuous improvement	Progress against CI maturity model.	Level 3 (by March 2019)	Network Rail model
	Tier 2 CI Benefits Realised following Completion of CI Initiatives. (reported Quarterly)	£107,200	Annual benefits realised
Work together to deliver right first-time services	Customer satisfaction.	4	Customer satisfaction score
	Offerings Delivered within SLA. • Track geometry • Rail flaw detection • PLPR • Rail profile • S and C dynamic • Power distribution • Telecoms data • Decision support • Infrastructure modelling • AI reporting • Controlled documents • Wheel impacts • National Vehicle Register • NHDMT • Asset data management • Executing work • Geo analytical intelligence • Worksite survey	95%	% outputs delivered within SLA

	Offerings Delivered within SLA. • Structures	100%	% outputs delivered within SLA
Manage effective change through portfolio and service management processes	Delivery against roadmap milestones.	100%	Forecasted delivery of milestones achieved.
	Alignment with Delivery Partners. (DP)	100%	% of projects passing DP gates which passed OLM gates.
	Compliance of Offerings against portfolio criteria.	100%	% offerings taken through portfolio criteria in the past one year.
Increase the value customers place on our services	Account plans on target.	95%	% Customers on plan.
	Customer awareness.	4.0	Awareness score from customer engagements.
	Customer NPS.	0%	% promoters less % detractors.
Fully align our services with our strategy	OPEX on non - aligned products.	1.5%	% OPEX spent on non - aligned offerings.
	Alignment to CP5 funding.	£187.6m	OPEX at current run rate to target agreed for CP5.
Manage our supply chain effectively	Forecasting accuracy.	90%	% volume delivered to Forecasted.
	Effective resource utilisation.	74%	% effort spent on delivering offering outputs.
	Unit cost reduction.	-3%	% change in unit costs.

2.3.4 Group Digital Railway (GDR) key performance indicators

Safety			19/20	20/21	21/22	22/23	23/24	24/25	25/26
LTIFR	WORSE THAN TARGET		0.332	0.284	0.243	0.209	0.179	0.161	0.145
	TARGET		0.316	0.271	0.232	0.199	0.170	0.153	0.138
	BETTER THAN TARGET		0.300	0.257	0.220	0.189	0.162	0.145	0.131
% Close calls closed in 90 days	WORSE THAN TARGET		76.64	76.77	76.90	77.03	77.16	77.29	77.42
	TARGET		85.15	85.30	85.45	85.59	85.74	85.88	86.02
	BETTER THAN TARGET		93.67	93.83	93.99	94.15	94.31	94.47	94.62
Train Performance			19/20	20/21	21/22	22/23	23/24	24/25	25/26
Delay Minutes	WORSE THAN TARGET		114,126	110,932	108,375	107,122	105,953	104,798	103,656
	TARGET		103,751	100,847	98,523	97,384	96,321	95,271	94,233
	BETTER THAN TARGET		93,376	90,762	88,671	87,646	86,689	85,744	84,809
Locally Driven Measures			19/20	20/21	21/22	22/23	23/24	24/25	25/26
Service Availability	WORSE THAN TARGET		90%	90%	90%	90%	90%	90%	90%
	TARGET		94%	94%	94%	94%	94%	94%	94%
	BETTER THAN TARGET		96%	96%	96%	96%	96%	96%	96%
Your Voice Total score	WORSE THAN TARGET		45%	46%	47%	48%	49%	50%	51%
	TARGET		50%	51%	52%	53%	54%	55%	56%
	BETTER THAN TARGET		60%	61%	62%	63%	64%	65%	66%
Local Your Voice Action Plans Completed	WORSE THAN TARGET		80%	80%	80%	80%	80%	80%	80%
	TARGET		90%	90%	90%	90%	90%	90%	90%
	BETTER THAN TARGET		100%	100%	100%	100%	100%	100%	100%

Investment		19/20	20/21	21/22	22/23	23/24	24/25	25/26
Strategic Transformation Milestones	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%
	TARGET	90%	90%	90%	90%	90%	90%	90%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%
Level 1 Milestones	WORSE THAN TARGET	80%	80%	80%	80%	80%	80%	80%
	TARGET	90%	90%	90%	90%	90%	90%	90%
	BETTER THAN TARGET	100%	100%	100%	100%	100%	100%	100%
Asset Management		**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**
Telecoms service affecting failures	WORSE THAN TARGET	2,605	2,521	2,450	2,395	2,361	2,335	2,309
	TARGET	2,368	2,292	2,227	2,177	2,146	2,123	2,099
	BETTER THAN TARGET	2,131	2,063	2,004	1,959	1,931	1,910	1,890
Renewal Volumes	WORSE THAN TARGET	3,338	6,377	13,467	10,451	6,116	16,886	6,703
	TARGET	3,709	7,086	14,963	11,612	6,795	18,762	7,448
	BETTER THAN TARGET	4,080	7,795	16,459	12,773	7,475	20,638	8,193
Financial Performance		**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**
Financial Performance Measure – gross excl. enhancements (£m)	WORSE THAN TARGET	-£15m	-£18m	-£20m	-£19m	-£17m	TBC	TBC
	TARGET	£0m	£0m	£0m	£0m	£0m	TBC	TBC
	BETTER THAN TARGET	£15m	£18m	£20m	£19m	£17m	TBC	TBC
Cash compliance (Lost Funding) income & expenditure	WORSE THAN TARGET	6%-10%	6%-10%	6%-10%	6%-10%	6%-10%	6%-10%	6%-10%
	TARGET	1%- 5%	1%- 5%	1%- 5%	1%- 5%	1%- 5%	1%- 5%	1%- 5%
	BETTER THAN TARGET	=<1%	=<1%	=<1%	=<1%	=<1%	=<1%	=<1%

3. What Asset Information Services is

3.1 Structure

The primary focus of AIS is to provide insight, intelligence and reporting on railway network assets to the Routes, Network Rail and the GB rail industry. We are a service provider to Network Rail for asset related data and specify, collect, evaluate, collate, analyse and communicate information about Network Rail's infrastructure assets to enable accurate, informed asset management decisions to be made that balance cost, risk and performance.

Asset Information Services was brought together in 2010 to create a centre of excellence for asset data. The teams were restructured in April 2015 to align with the new operating model, detailed in section 3.2. Today we have around 300 people working out of three locations and on a fleet of infrastructure measurement trains, with a small account management team working across Routes. We are part of the Group Digital Railway (GDR) directorate that includes Network Rail Telecoms and the Digital Railway programme. Our primary customers are the route businesses, together with Infrastructure Projects.

The teams that make up Asset Information Services are;

1. Supply Chain, formed of
   a. Data Collection
   b. Data Management
   c. Data Services
2. Service Performance
3. Service Portfolio
4. Development
5. Business Management

All the above are supported by designated GDR Finance and HR teams.

There are three centres of excellence within the AIS Supply Chain which together deliver our asset information services, which are needed for the operational railway to succeed.
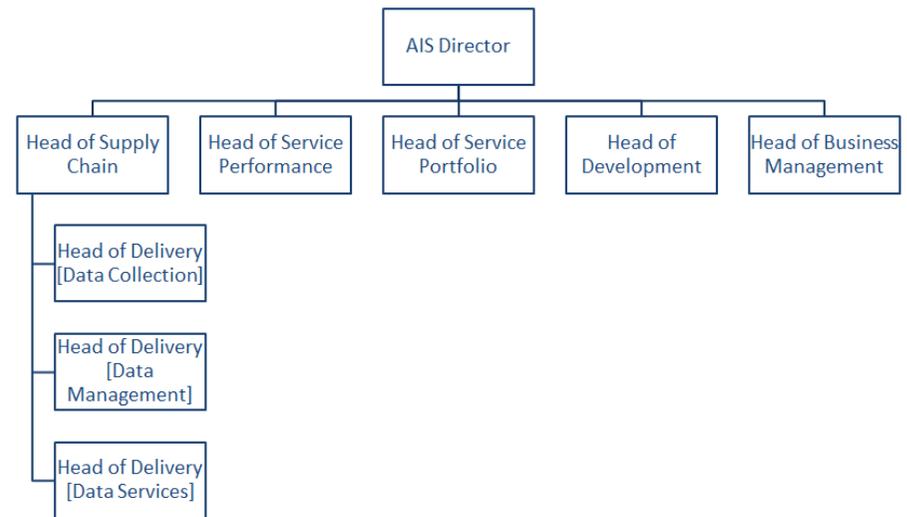
Asset Information Services organisational structure

Supply Chain

At the heart of our business the Supply Chain covers the following:

Supply Chain: Data Collection

Data Collection comprises the collection of asset condition data related to infrastructure from specialist trains, collecting 18 different data streams from rail profiles to structure gauging. This is captured using a variety of technologies fitted to the infrastructure monitoring fleet.

Supply Chain: Data Management

Data Management delivers ongoing collation, processing, and evaluation of the data received from Data Collection and other data sources, including Infrastructure Projects and trackside colleagues. This team additionally maintains the asset information specifications, which define the data required about assets and their associated attributes to meet business needs.

Supply Chain: Data Services

Data Services delivers information and insight to our customers through an integrated business reporting service including the provision of managed services, geospatial maps, and other reporting formats for corporate and regulatory purposes.

Service Performance

This team covers three areas: customer account managers who develop and maintain relationships with the Routes and IP providing a single point of contact; systems and service management team providing second line technical support for corporate asset management systems and applications; and communications.

Service Portfolio

This team develop a coherent and balanced portfolio of services and manage them through their lifecycle, taking into account the requirements of customers, the impact of competitors, the state of the market, our strategic objectives and financial considerations.   The service portfolio managers each manage a set of services and are responsible for making sure these meet their service delivery levels managing the relationships between AIS and facilitating the transition of new products and capabilities into AIS. They work closely with development programmes across Network Rail to define the processes to transition their outcomes into services for our customers.

Development

A new team established at the start of CP6 that will oversee the delivery of our capital projects and embed a robust change programme throughout the control period.

Business Management

This team provides support to all other areas of AIS with key expertise in the areas of corporate and legislative governance, risk and assurance, strategic and financial planning; the team also leads internal training, development and continuous improvement activities and provides a project management resource to support the delivery of internally led projects.

3.2 Operating model – present and future

We constantly strive to be operationally excellent, meaning that as a business we seek to:

- minimise the variation in services and products in order to drive safety, quality and efficiency;
- ensure the integrity of our supply chain by driving operational efficiency; and
- embed structured continuous improvement.
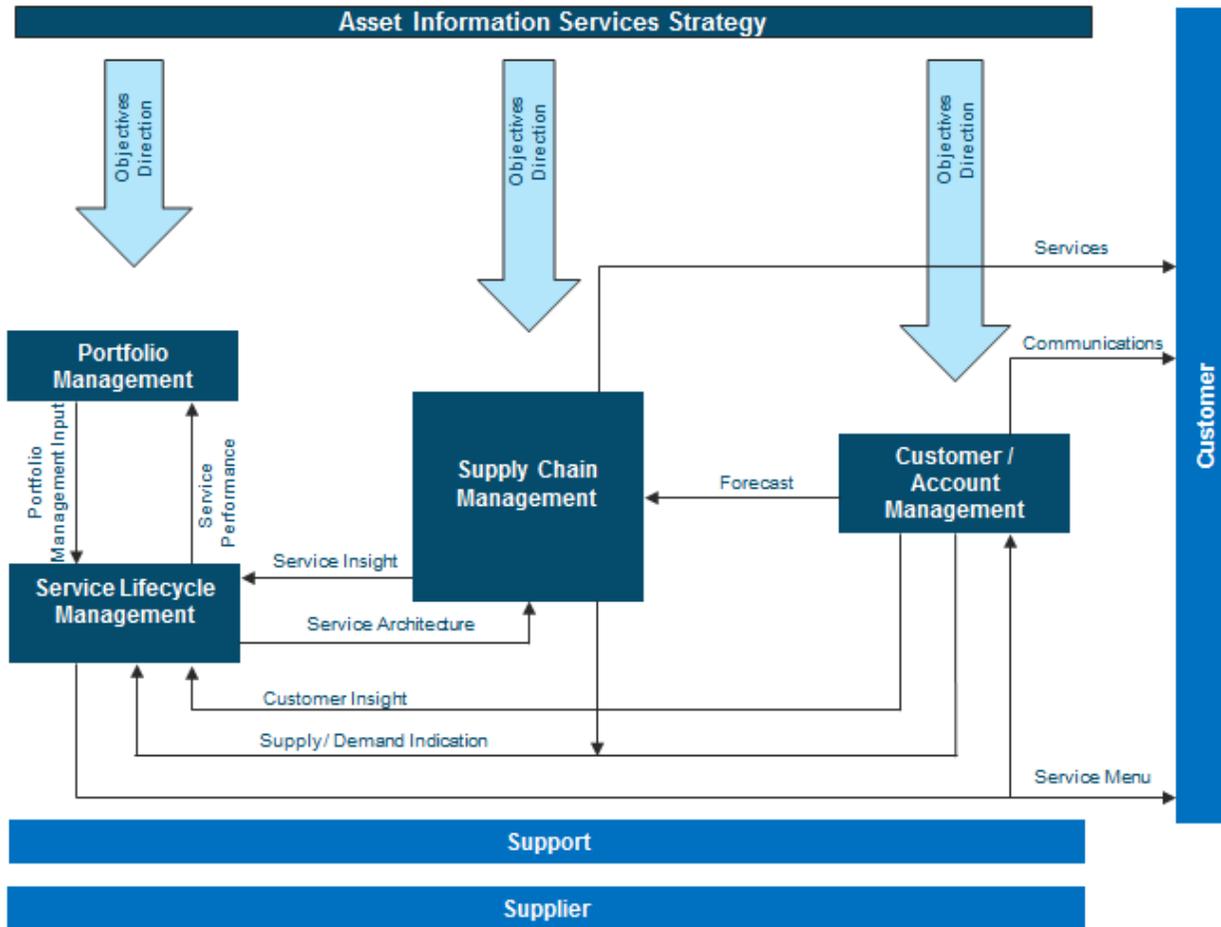
We manage our services as portfolios through their lifecycle using the service lifecycle management (SLM) process, understanding how they will change over time and with a clear plan to introduce, enhance and retire services as appropriate. Our immediate focus is on the quality and cost of our services; this means that in the short term we will not actively seek to expand our customer base beyond our current, established customers. Through CP6 and in support of devolution we will review our operating model and determine if it can be leveraged to provide services to a larger and more diverse customer base.

We deliver our services through four key portfolios:

Portfolio	Purpose	Service examples
Know My Assets	This group of services enables customers to understand their assets; to collect the required data, store it, and use it effectively based on information on data integrity.	• Data collection including structure gauging, rail flaw detection (ultrasonics) and track geometry; infrastructure modelling, • Asset data management which includes the asset information specifications.
Enabling Decisions	These services enable the decision-making process for customers. It includes a variety reporting and data visualisation solutions and decision support capabilities	• Asset information reporting • Decision support tools such as LADS • Geo-analytics – the provision of data and mapping outputs to present and visualise analysis and mapping of assets and surrounding influencing environment
Worksite Survey	These services provide customers with worksite information that support planning and operational activities and enable safer, more effective execution of work through mobile solutions.	• Worksite survey which provides detailed packs collating Network Rail, geological and third party assets on underground or buried assets and services; • Works management tools including My Work, field data manager, and the fault code look-up and Where am I? mobile apps
Corporate Capability	Services where the customer leverages the capability within Asset Information Services to provide Network Rail the required services; however, these may not align directly to our scope or strategy or be restricted to asset information data.	• Controlled documents distribution • Wheel impacts analysis • National vehicle register

4. Risks, opportunities, constraints & assumptions

No.	Key constraints, risks and opportunities	What we plan to do	Owner	Timescale (start/ finish)
A	**R: Workforce:** Failure to provide the people (capabilities, competencies and capacity) required to fully exploit AIS services due to: - poor business planning - ineffective operating model - increasing competition in the marketplace	**Key controls tracked via the AIS enterprise risk record:** - Workforce competency management and capability development - Workforce capacity planning - Continuity management planning (People) **Current improvement actions:** - Develop and implement an AIS People Plan - Review and update AIS timecards - Review and update AIS business continuity plans	Director, AIS	Controls are tracked quarterly as part of business as usual (BAU). All current actions to be completed during FY19
B	**R: Tools and system capabilities:** 1. Failure to provide the tools and systems required to fully exploit AIS services and products due to: - poor business planning - ineffective operating model 2. Failure to sustainably support technical systems due to: - poor systems management - incompatibility between AIS systems and IM platforms	**Key controls tracked via the AIS enterprise risk record:** - Continuity management planning (Systems / Processes) - System architecture mapping - Systems management **Current improvement actions:** - Review and update AIS business continuity plans - Complete an audit of the IT systems that AIS are the business system owner of, to identify whether AIS is undertaking the correct accountabilities - Carry out full review of this control following the audit to identify further or longer term improvement actions -Implement the Network Rail Integrated Management System (IMS)	Head of Development Head of Service Performance	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY19
C	**R: Functional strategy and Business Plan:** Failure to understand our purpose in the face of a changing business context: - Changing customer requirements - Changing business context	**Key controls tracked via the AIS enterprise risk record:** - CP5 & CP6 strategy planning - Service safety - Account management - Communications strategy - Service Portfolio strategy - Costing - Data sharing / licensing - Regulatory Interfaces / governance **Current improvement actions:** - Develop processes for the application of CSM across AIS and agree formal representation at ISRP for AIS related changes - Gain agreement of customer service level agreements (SLAs) at route and national level - Develop a stakeholder plan - Work with Finance to develop fully loaded costing model	Director, AIS	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY18

D	**R: Operating model** Failure to manage and develop a safety conscious operating model required to deliver our service portfolio, manage the scope, efficiency and effectiveness of the AIS Operation and develop the enhancements required to meet CP5 needs due to: - Failure to transition the AIS business strategy into a successful service delivery operation, aligned to corporate objectives and the strategic business plan (SBP) - Failure to monitor the scope, efficiency and effectiveness of the AIS operation (services) via robust internal reporting and key metrics.	**Key controls tracked via the AIS enterprise risk record:** - Unit / Fully loaded costing - Data sharing / licensing - Regulatory interfaces / governance - Service portfolio management - Supply Chain / Supplier management - AIS functional assurance (Audits, GALP, LMSA) **Current improvement actions:** - Update all service architectures and service improvement plans following service architecture audit - Complete actions identified by the recent contract management audit	Head of Service Portfolio Head of Supply Chain	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY18
E	**R: Ineffective implementation of business change / Non-alignment of programme deliverables to AIS operational requirements** 1. Failure to further develop the AIS operation / services due to lack of effective operational change processes. 2. Inappropriate delivery from wider Network Rail into AIS operations due to lack of appropriate business change process	**Key controls tracked via the AIS enterprise risk record:** - Business planning / management (financial management / re-forecasting) - Development / Service lifecycle management controls: a) Concept b) Develop c) Implement d) Enhance e) Retire **Current improvement actions:** - Complete service lifecycle management and assurance panel and implement agreed actions	Head of Business Management Head of Service Portfolio	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY18
F	**R: Performance Management** Failure to monitor the scope, efficiency and effectiveness of the AIS operation, including the extended supply chain via robust internal reporting and key metrics	**Key controls tracked via the AIS enterprise risk record:** - Workforce competency management and capability development - Regulatory interfaces / governance - Service portfolio management - Supply Chain / Supplier management - AIS functional assurance (Audits, GALP, LMSA) - Business planning / management (financial management / re-forecasting) **Current improvement actions:** - Develop and implement an AIS People Plan - Update all service architectures and reporting following service architecture audit - Complete actions identified by the recent contract management audit	Head of Service Portfolio Head of Supply Chain Head of Business Management	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY19

G	**R: Customer / Stakeholder relationship management** Failure to maintain effective relationships with key customers and stakeholders, impacting our reputation and resulting in a greater level of uncertainty of our business plan realisation - Poor industrial relations resulting in adverse impacts on our ability to deliver our services - Misalignment between AIS and route / customer requirements caused by poor route customer engagement and communication - Failure to establish engagement strategies for new market opportunities within Network Rail (e.g. the supply chain) will impact business opportunities	**Key controls tracked via the AIS enterprise risk record:** - Account management - Communications strategy - Service portfolio strategy - Service portfolio management **Current improvement actions:** - Develop CP6 demand forecast and review forecast to end of CP5 - Define the single point of contact process (Head of Service Performance) - Agreement of customer SLAs at route and national level - Develop a stakeholder plan - Work with Finance to develop fully loaded costing model	Head of Service Performance Head of Service Portfolio	Controls are tracked quarterly as part of BAU. All current actions to be completed during FY18
H	O: Extend NIM model to other datasets within NR to generate revenue during CP6	Leverage existing skills and competencies within AIS to identify potential areas for growth.	Head of Supply Chain Head of Service Portfolio	On-going throughout the CP6
I	O: Combine all NR Data Collection activities within AIS to realise efficiencies	Strategic overview of current Data Collection service points within Network Rail, associated costs and future delivery model.	Head of Supply Chain Head of Service Portfolio	April 2019 – March 2021
J	O: Seek income generating activities in HS2 and Crossrail etc.	Horizon scan Network Rail wide opportunities to generate such income. Strategic and subsequent operational level working to realise benefits.	Head of Business Management	April 2018 – March 2021
K	O: Investment into improvement activities identified through Continuous Improvement will enable better productivity and reduced costs.	Increased levels of continuous improvement maturity achieved across AIS in CP5 that enables further efficiencies to be realised in CP6.	Head of Business Management	April 2017 – End of CP6
L	O: Efficiently manage our vacancies to optimise costs and workloads.	All recruitment into vacancies is managed to optimise efficiency savings.	Head of Business Management	On-going
M	O: Seek opportunities to generate even greater efficiencies in CP6.	Continuously review areas of the business to realise greater efficiencies.	Director, AIS	On-going throughout CP5 and CP6

N	O: Consider outsourcing of services and functions.	Carry out a review of all AIS functions to ascertain those that could be outsourced and carry out feasibility studies as required. Set up projects and implement as required.	Director, AIS	June 2017 – March 2023
O	O: Investigate the potential for increased data collection.	Investigate the potential for more passenger/freight train functionality.	Head of Supply Chain	Throughout CP6
P	C: Organisational decisions that may impact upon AIS funding.	1. Network Rail decision not to reduce band 5 to 8 headcount constrains operating model 2. Availability of investment for operational improvement activities (e.g. improving operational resilience) 3. Network Rail strategic change from centralised funding to route based funding may affect budget and constrain development and delivery of AIS services	N/A	Throughout CP6
Q	C: Network Rail contracts and purchasing policies that impact upon the supply chain.	1. The Network Rail operating model requires AIS to use internal suppliers (e.g. RSIT and C&P) rather than look for potentially more suitable external suppliers; 2. Single source suppliers in the marketplace (due to specialist requirements) leave AIS in a weak bargaining position and affects costs.	N/A	Throughout CP6
R	C: AIS operating model prohibits innovation or variation to services.	An operationally excellent operating model constrains the scope for development of novel or varied services to meet specific or regularly changing customer requirements	N/A	Throughout CP6; but we are reviewing our operating model
S	C: Skills and knowledge gaps due to lack of funds and organisational policy.	Funding (including for resourcing) constraints affect our ability to recruit, develop and retain specific skills that our competitors may have access to. Inconsistencies in role profiles and reward leading to retention issues within AIS.	N/A	Throughout CP6; we will however regularly review our training and development requirements and seek ways to meet this gap in other ways.
T	C: Regulatory compliance implemented without fully understanding the impact upon AIS.	Legislation, policies and standards constrain the development and delivery of AIS services	N/A	Throughout CP6
W	C: Organisational risk tolerance influencing service development opportunities.	Network Rail is averse to safety risk at the expense of performance, reputation and finance. This can constrain the development and delivery of AIS services	N/A	Throughout CP6
U	C: Organisational procurement policies impacting upon AIS operations.	1. AIS procurement is constrained by C&P capacity and capability as unable to source procurement externally. 2. Procurement is constrained by a requirement to comply with UK government body procurement legislation that our competitors may not have to adhere to.	N/A	Throughout CP6

4.1 Notable assumptions

It is assumed that the costs for providing the PLPR, S&C dynamic inspection and Eddy Current services, currently off-charged in CP5, will be wholly borne by AIS in CP6

It is assumed that any capital projects that require new or enhanced services from AIS will have made appropriate OPEX provision in their function's SBP submission

Excluding those agreed service volume increases that are included in this SBP, it is assumed that OPEX costs associated with any increase in required volumes, quality and performance of AIS services above current levels will be borne by customers

Costs for the infrastructure condition monitoring fleet and associated systems assume a successful Route Services bid for CAPEX to deliver new trains; life extension of the current fleet will result in increased costs and risk of service degradation

It is assumed that any increase in costs for maintaining IT systems upon which AIS is dependent are borne by RSIT (i.e. support, mandatory upgrades, licences, etc.)

It is assumed that there are no AIS services that will be devolved to the route businesses in the remainder of CP5 and in CP6

It is assumed that if there is a requirement for AIS to provide bespoke customer-specific services under devolution the customer will bear any CAPEX and additional OPEX costs

5. Expenditure & efficiency

5.1 Cost and volume summary

Unit of measure		CP5	CP6						CP7	
		18/19	19/20	20/21	21/22	22/23	23/24	CP6	24/25	25/26
Renewals	£m	-	1	15	11	3	1	31	-	-
Controllable OPEX	£m	37	45	62	60	61	66	293	55	56
Non-controllable industry costs	£m	-	-	-	-	-	-	-	-	-
Total	**£m**	**37**	**46**	**77**	**71**	**64**	**67**	**324**	**55**	**56**
Permanent headcount		284	304	324	326	326	323	323	323	323
Agency		-	-	-	-	-	-	-	-	-
Total headcount		**284**	**304**	**324**	**326**	**326**	**323**	**323**	**232**	**323**

The OPEX increase between final year CP5 and start of CP6 is purely due to services chargeable to routes in CP5 (PLPR, S&C dynamic inspection, Eddy Current) being borne wholly by AIS in CP6.

Summary of costs by team or activity within the function

| Activity/team	CP6 total (£m)	Comments
Data Collection	210	Includes headcount, 3rd party contracts and costs of running IM Fleet trains
Data Management	45	Mainly headcount costs for data processing & analysis
Data Services	13	Mainly headcount costs for data reporting
Other areas	25	Covers all other departments within AIS
Renewals	31	Various initiatives to enhance the resilience and stability of train borne hardware & equipment and systems.
Total	**324**	

5.2 Route Business Scotland details

	CP5 Year			CP6 Year						CP6 total
	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24		
National Cost (£m)			37	46	77	71	64	67		**324**
Scotland Cost (£m)			3.9	5	9	8	7	7		36
Scotland (%)			10.6%	11.2%	11.2%	11.2%	11.2%	11.2%		11.2%
Basis for allocation to Route Business Scotland	CP5 allocation purely based on Train Miles. CP6 based on service consumption volumes by route, as briefed to Transport for Scotland in July 2018									

5.3 Cost drivers, headwinds and efficiency

Summary of cost changes between CP5 and CP6

CP5 to CP6 Cost Drivers (including scope and cost impacts)
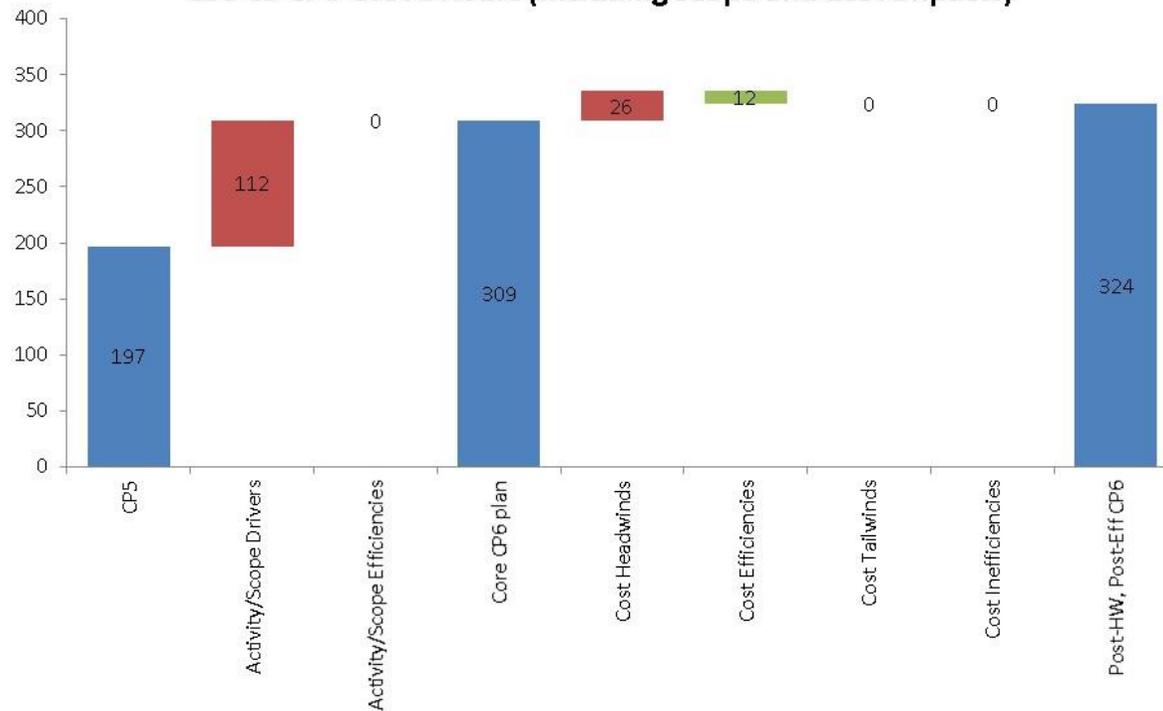
£112m Activity/Scope Drivers breaks down into:
- £25m chargeable services in CP5 wholly borne within AIS plan for CP6
- £55m resilience investment to replace end of life hardware and unsupported critical software
- £13m aerial survey activity
- £8m due to standards compliance (Asset Data Governance & Fatigue Risk Management)
- £8m due to increased route required activity in CP6

£26m headwind is mainly impact of inflation in CP6

Summary of Asset Information Services efficiency

Totex (O,M,R)	CP5	CP6						CP6 total	CP7	
	18/19	19/20	20/21	21/22	22/23	23/24			24/25	25/26
Pre-efficient plan[1] (£m)	41	45	74	67	58	58	302		46	46
Activity/scope efficiencies (%)	-	-	-	-	-	-	-		-	
Core plan (£m)	41	45	74	67	58	58	302		46	46
Head winds (%)	0%	3%	6%	11%	15%	19%	11%		15%	17%
Efficiency (%)	-10%	-1%	-3%	-5%	-5%	-4%	-4%		-5%	-5%
Tailwinds (%)	-	-	-	-	-	-	-		-	
Inefficiency (%)	-	-	-	-	-	-	-		-	-
Post-HW, post-Eff spend (£m)	37	46	76	71	64	67	324		55	56

Reasons for increase between 19/20 and 20/21:

- £19m increase in resilience spend (£14m capex, £5m opex) as investement programme ramps up
- £6m due to Aerial Survey activity which ramps up from year 2 onwards
- £3m due to increased activity resulting from standards changes (e.g. Asset Data Governance, Fatigue Risk Management) and increases to electrification asset volumes in CP5/early CP6.

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[1] Note that pre-efficient plan is equivalent to core CP6 plan + 2a (activity/scope efficiencies) in the waterfall

Headwinds and efficiency by theme

Theme	Area	Description	Net % change
Technology (5)	Efficiency (5a)	Automation of data collection processes to reduce need for train borne staff ; Replacement of data collection train fleet leading to reduced maintenance costs.	-4%
	Tailwind (5b)		
	Inefficiency (5c)		
	Headwind (5d)		
Commercial (8)	Efficiency (8a)		+11%
	Tailwind (8b)		
	Inefficiency (8c)		
	Headwind (8d)	CP6 is quoted in cash prices, which include an annual inflationary increase. The majority of AIS's £81m 3rd party support costs are with monopoly suppliers, whose contracts will be for renewal during CP6, therefore it is foreseen that this will lead to a cost increase.	

5.4 Risk and uncertainty in the CP6 plan

This section provides an explanation of the how we have built up our overall plan and sets out our estimate of the degree of financial uncertainty within this plan.

Pre-efficient costs in our plan are based on current rates but include any additional scope needed to deliver the outputs in the plan. We have used initial estimates to develop our capital expenditure forecasts and CP5 exit rates for operating expenditure forecasts. Drivers of rate increases (headwinds), and cost reductions (efficiencies), where there is a reasonable expectation they will occur, have been identified separately from the core CP6 plan.

The combination of our core CP6 plan, headwinds and efficiencies is our submission and represents the most likely outcome for CP6. The content of our plans reflect the funding that we understand to be available in CP6. We consider this plan to be realistic and, therefore, deliverable in CP6.

Current costs are likely to include some risks that were not originally included in CP5 plans but that have materialised during the current control period. As a result of this approach, it is likely that some risk and uncertainty is already be included in our core CP6 plan, as we have not sought to remove the impact of these unplanned events from our cost estimates.

5.5 Uncertainty ranges for CP6

Area	Potential range (low – spot – high)	Summary of key drivers of the uncertainty range	% of range	
		Driver of range	Lower %	Upper %
Renewals		Costs are made up of various initiatives, each of which are in early stages of planning activity, so costs could vary from current estimates once plans are finalised.	100%	100%
Support and operations		Uncertainly on additional CP6 scope, e.g. Aerial Survey, resilience investment, new standards compliance	64%	43%
		Efficiency plans have major dependency on Route Services delivery of new train fleet, delays to which could impact efficiency delivery.	0%	43%
		Key supplier contracts due for renewal in CP6	18%	13%
		Staff turnover & recruitment delays	18%	0%
Total expenditure				

6. Sign-off

- This document and accompanying templates are owned by the Director, Asset Information Services.
- Submission of this document indicates confirmation that:
- all appropriate level 1 assurance activities have been undertaken (see separate advice on definition of level 1 assurance);
- the Director, Asset Information Services is satisfied with the quality, currency and appropriateness of the content of this document as well as the cost, volume and activity projections to which it refers;
- the signatories are satisfied that the plan has been assessed as deliverable, subject to the assumptions articulated in Appendix B.

Authorised by:

Stuart Calvert
Interim Managing Director, Group
Digital Railway

Jason Saxon
Director, AIS

John Gerrard
Finance Director (GDR)

Appendix A   N/A

Appendix B Key assumptions

Ref no.	Topic (e.g. dependency, deliverability, climate etc.)	Assumption	Areas of spend impacted (e.g. all OPEX, single team, all spend etc.)	Is this a change of assumption for CP6?
1	Chargeable services	It is assumed that the costs for providing the PLPR, S&C dynamic inspection and Eddy Current services, currently off-charged in CP5, will be wholly borne by AIS in CP6	Recoveries to routes	Yes – these services are funded by routes in CP5
2	Capital projects	It is assumed that any capital projects that require new or enhanced services from AIS will have made appropriate OPEX provision in their function's SBP submission	All costs	N/A
3	Additional service volumes	Excluding those agreed service volume increases that are included in this SBP, it is assumed that OPEX costs associated with any increase in required volumes, quality and performance of AIS services above current levels will be borne by customers	All costs	N/A
4	IM Fleet Maintenance	Costs for the infrastructure condition monitoring fleet and associated systems assume a successful Route Services bid for CAPEX to deliver new trains; life extension of the current fleet will result in increased costs and risk of service degradation	NSC IM Fleet costs	N/A
5	Information Technology	It is assumed that any increase in costs for maintaining IT systems upon which AIS is dependent are borne by RSIT (i.e. support, mandatory upgrades, licences, etc.)	All costs	N/A
6	Devolution	It is assumed that there are no AIS services that will be devolved to the route businesses in the remainder of CP5 and in CP6.	All costs	N/A
7	Devolution	It is assumed that if there is a requirement for AIS to provide bespoke customer-specific services under devolution the customer will bear any CAPEX and additional OPEX costs	All costs	N/A

Appendix C N/A

Appendix D Scenario planning

Part 1: decrease in total remaining expenditure for CP6

This section describes the impact of a 10% decrease in expenditure across CP6 based on all risk funding has been exhausted.

Area of spend	Outstanding CP6 expenditure	Maximum potential saving	Risk of curtailing expenditure				Comment on impacts/issues
			Safety	Performance	Sustainability	Reputation	
Aerial Survey feature extraction of 2018/19 data capture	£5m	£5m	R	R	R	R	• Would not allow AIS toassure Track Centre Line model, with corresponding impact on safety and performance • IP have a dependency on AIS performing feature extraction work to enable benefits built into their CP6 plan
Aerial Survey data capture 2023/24	£6m	£6m	G	A	R	G	• If no further data capture work was undertaken in CP6, the data capture performed at end CP5/start CP6 would become obsolete and be unsustainable.
Systems Support	£9m	£9m	A	R	R	A	• Numerous systems used by AIS are not supported by RS-IT, and their failure would significantly impact performance and potentially safety.
Resilience Investment (Renewals)	£31m	£10m	R	R	R	A	• Various systems and equipment used by AIS will need renewing in CP6, and not doing so would significantly impact performance and safety.
Total		**£30m**					

Appendix E   N/A

Appendix F   N/A

Appendix G Glossary of term

Balanced scorecard
A performance management tool which is used by business to align activities to the vision and strategy of an organisation and monitor performance against strategic goals. The balanced scorecard considers four perspectives of our performance: financial performance, customer performance, capability performance and culture.

Capability
A capability is the power or ability to do something. It is used within our organisation in the following ways:

- Capability within a service – a capability is knowledge, skills, and experience which is created in anticipation of a need or in response to a clear customer demand, and creates a valued business outcome. An example of this is a consultancy capability or an advisory capability;
- Capability within our organisation – within our operating model we describe four key capabilities that our business needs. These are the four key "things" that our business must have the ability to do e.g. account management;
- Capability delivered by ORBIS – some ORBIS projects will deliver a capability into Asset Information Services. This means ORBIS builds an ability for Asset Information Services to do something e.g. Asset Data Store provides an ability to store data and report on data more effectively.

Capital Expenditure (CAPEX)
This is money spent by a business or organisation on acquiring or maintaining fixed assets, such as land, buildings, and equipment.

Centre of Excellence
A centre of excellence is a team that provides thought leadership and best practice for a focus area. Our Supply Chain organisation is based on three centres of excellence.

Enhanced Vision
This moves the 'Vision' beyond a simple outcome statement to a more comprehensive picture of the enabling factors with which to achieve the Vision. This includes key processes and intangible assets such as people and technology. The 'Enhanced Vision' bridges vision and strategy.

Services
This is the name for a product, capability or solution that we provide to customers.

Operational Expenditure (OPEX)
This refers to money spent on the ongoing costs of running a business or organisation, such as wages, contracts, consumable equipment and staff costs etc.

Line Managers Self-Assessment (LMSA)
Each year Line Managers within specified parts of the company are required to complete an annual Self-Assurance Questionnaire to confirm compliance with certain responsibilities and requirements outlined in Network Rail's Health & Safety Management System (H&SMS), formal company and industry standards, procedures and safety legislation.

Operating model
An operating model describes how an organisation works across the following areas:

- Performance management;
- Processes;
- People and skills;
- Information and tools; and
- Values and behaviours.

Strategic Objective
A strategic Objective is one that is broadly defined that an organisation must achieve to make its strategy succeed.

Value proposition
A value proposition is a promise of value to be delivered and acknowledged and a belief from the customer that value will be delivered and experienced.

Value Disciplines
There are three generic value disciplines that companies can adhere to. They are Operational Excellence, Product Leadership and Customer Intimacy. In this model a company will strive to reach the market threshold on two value disciplines and vigorously and consistently pursue one discipline as their primary value principle. Asset Information Services has selected Operational Excellence as its value discipline.

Group Assurance Letter Process
GALP (Group Assurance Letter Process) is a self-assessed compliance by Network Rail Management against specific control requirements and policies. It aligns with the Department of Transport (DfT) requirements where each business and functional leader (Level 2) must complete a Control Questionnaire and a Management Assurance Letter for their area of accountability.