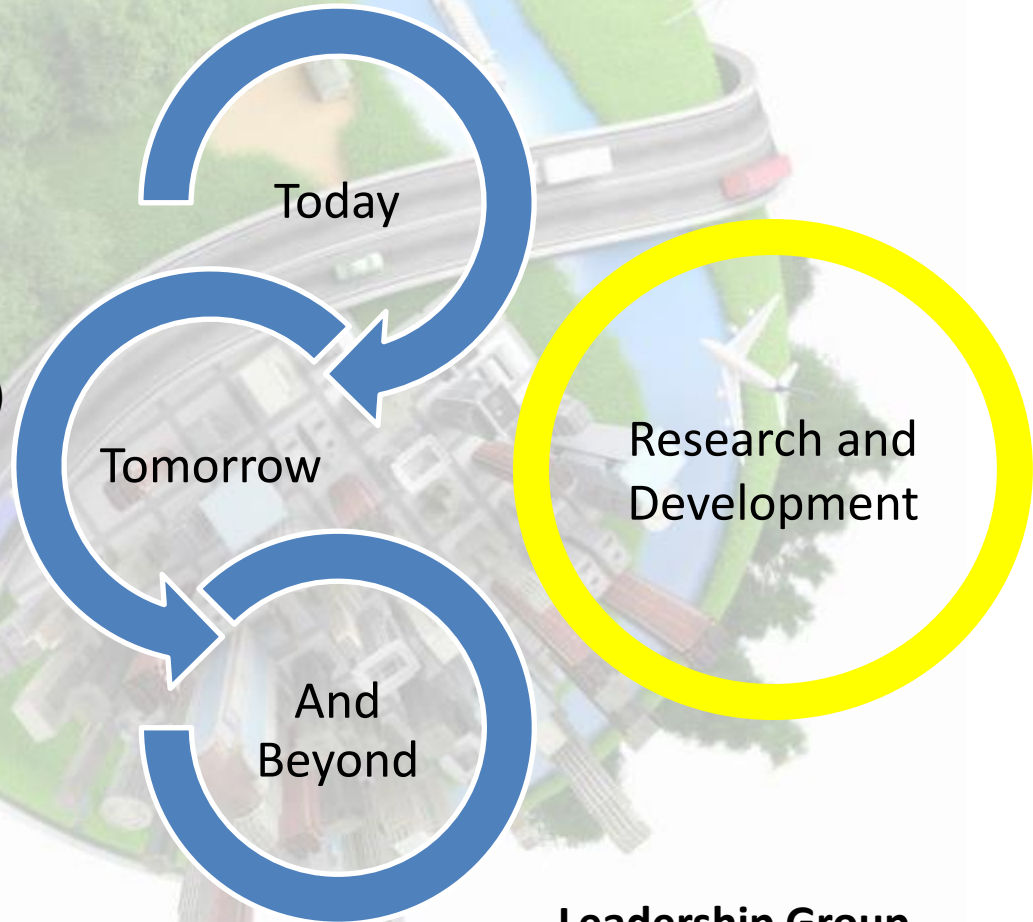


BIM...

“Delivering efficiency through digital intelligence”

Adam Bennett – *BIM*
Programme Manager (Costain)



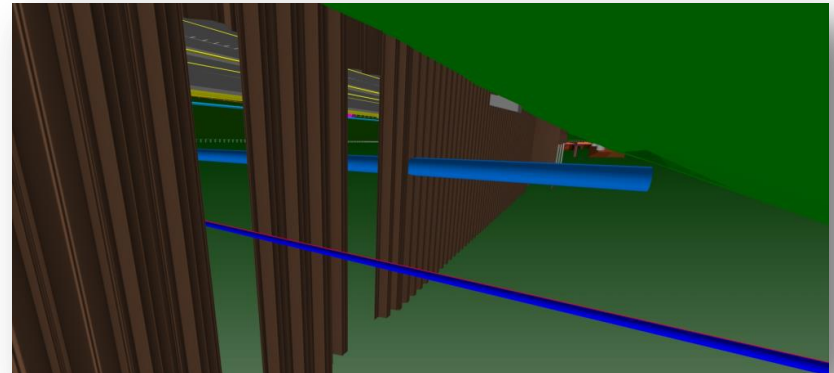
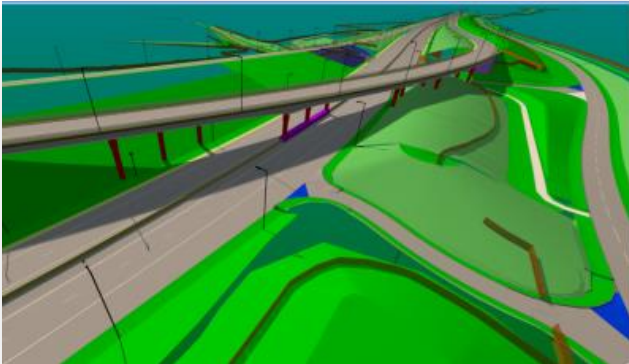
Leadership Group
07th August 2014

What is BIM?

A client can derive significant improvements in cost, value and carbon performance through the use of open sharable asset information.

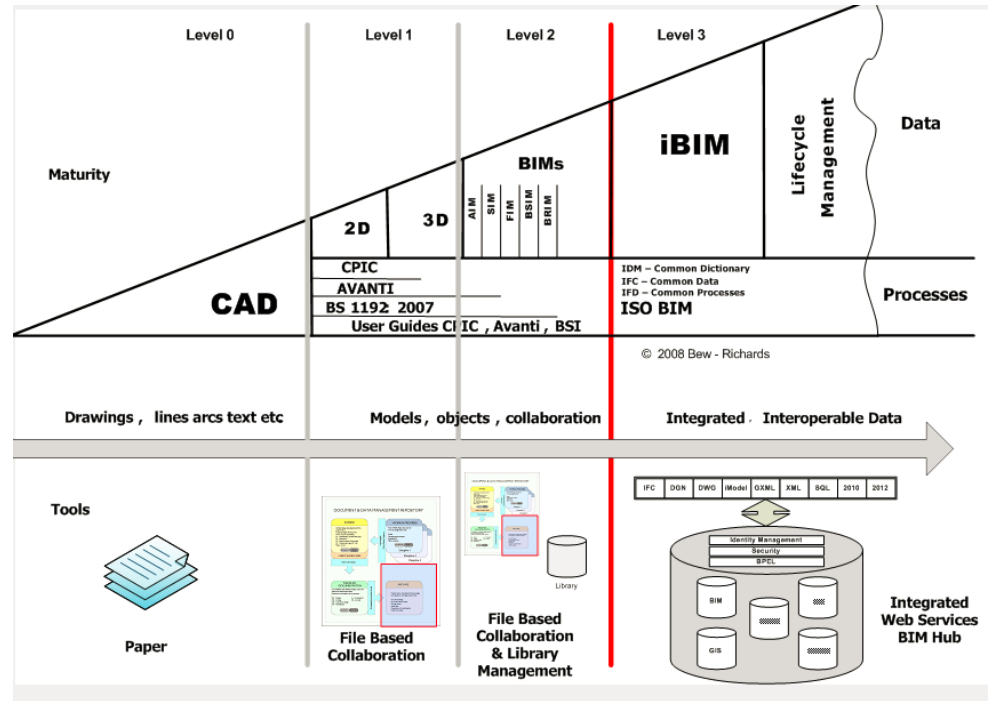
'BIM is a digital representation of physical and functional characteristics of a facility. A Building Information Model is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition.'

It is not just 3D Modelling



Level 2?

- Project Delivery based on a collaborative 3D environment
- Creation of common data environments for all projects
- A common methodology for managing the production, distribution and quality of information
- The client organisation being very clear about the information it buys



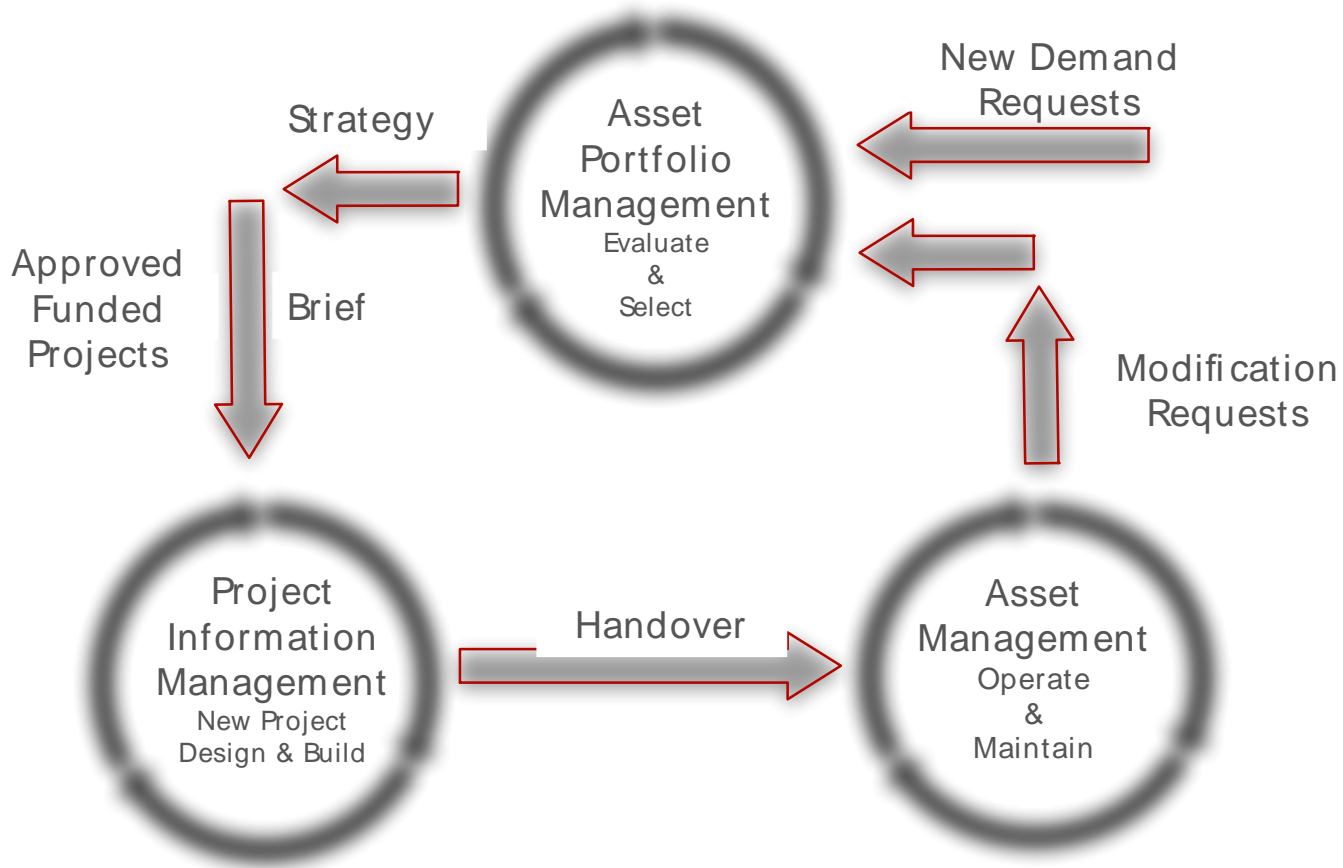
Why?

- Deliver and Optimise the right information to the right person, in the right format at the right time;
- To Make Informed Decisions;
- Achieve a consistent approach to delivery across the asset lifecycle;
- To create a collaborative environment across teams and client organisations to remove waste;
- Enhance efficiency and deliver 20% savings;
- Increase safety, optimise public perceptions and challenge our approach to delivery;
- Push the boundaries of Innovation;

The Benefits

- Right information handed over in the right format, instantly for use;
- Data collected at point of installation
- Collaboration of teams;
- Visualisation and simulation of future maintenance
- Innovative data solutions to unlock the future
- Be able to use the data collected
- Inform future intelligence led strategies

Practical Application



Asset Data Life Cycle Flow Detail

Focus on Decisions not actions



‘Process is about action....’

‘The problem is, in this explicit focus on process-as-action, organizations overlook a much more powerful process performance lever — day-to-day operational ***decisions.***’



**Harvard
Business
Review**

*Drive Performance by Focusing
on Routine Decisions – Brad
Power January 2014*

Decisions by PLQ's

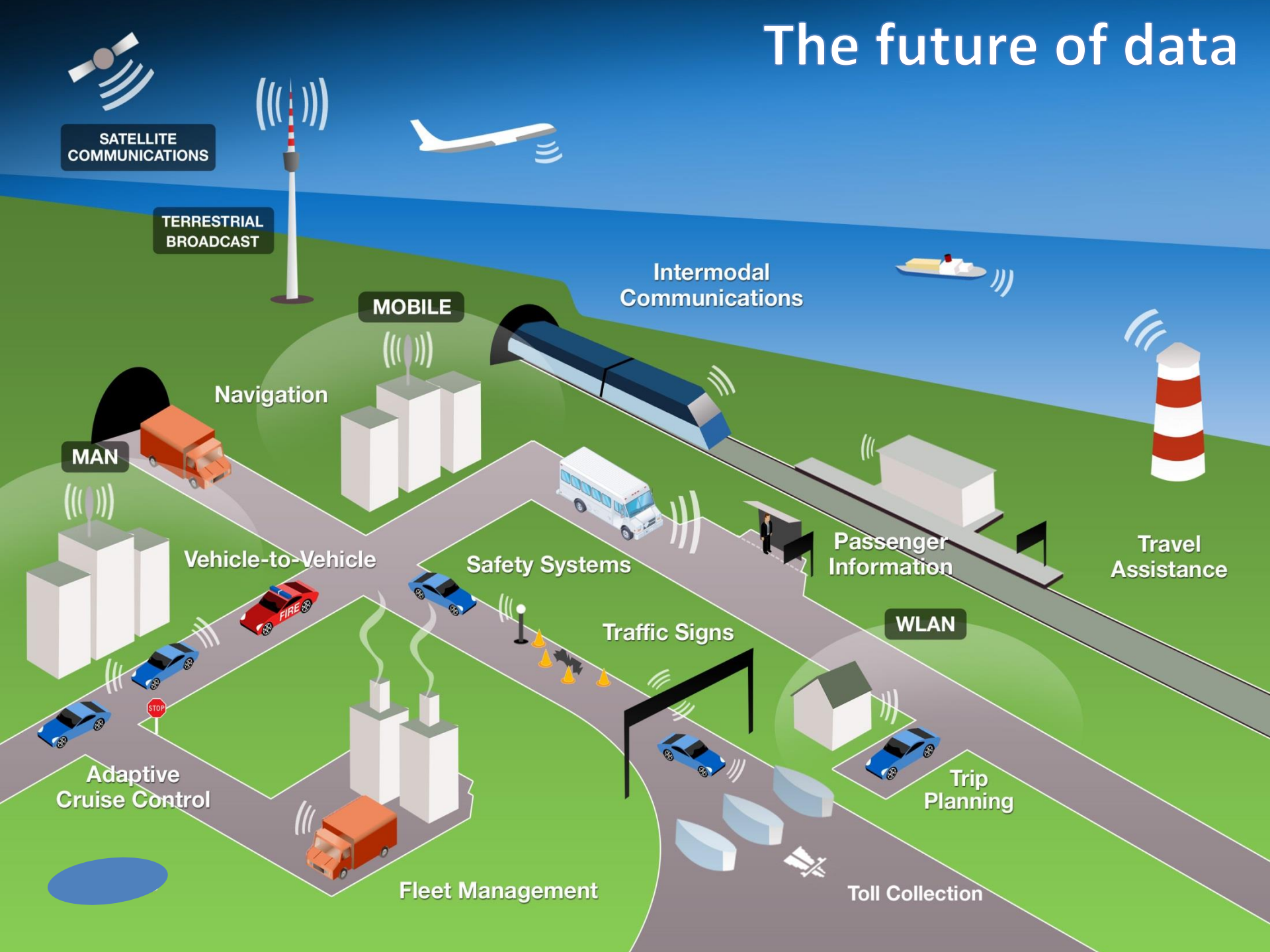
(Plain Language Questions)



Question's to Data



The future of data



Data Intelligence

Statistics / Dashboard

Signals



99.786 %

Message Signs



88.722 %

MIDAS



97.126 %

Transponders



100 %

Ambient Light Monitors



90 %

Communications Controllers

LCC 2 LCC 3
LCC 6 LCC 7

Instation / Subsystems

COBS SIG MSS MID TCC

Faults Reported during the last 28 days



Calculation Options

Availability Figure Type

Show % Available
 Show % Fault Free

Real Time
 Date/Time Range

Date Range

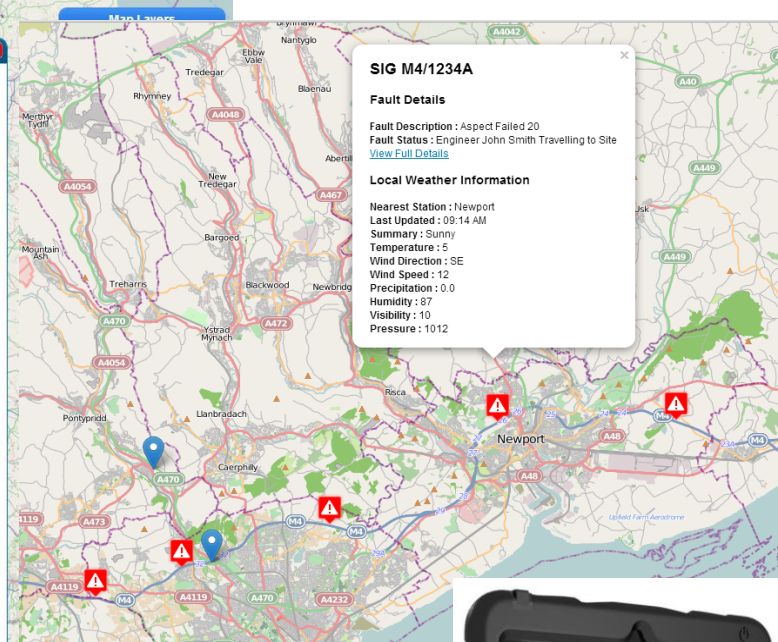
From: 01 / 01 / 2014 00 : 00
To: 01 / 01 / 2014 00 : 00

All Devices
 Manually Selected Area
 Selected Routes

Route Selection

- VSL Area Eastbound
- VSL Area Westbound
- Second Severn Crossing
- M4 Eastbound J23A to J22
- M4 Eastbound J24 to J23A
- M4 Eastbound J25 to J24
- M4 Eastbound J26 to J24
- M4 Eastbound J27 to J26
- M4 Eastbound J28 to J27
- M4 Eastbound J29 to J28
- M4 Eastbound J30 to J28
- M4 Eastbound J32 to J30
- M4 Eastbound J33 to J32
- M4 Eastbound J34 to J33
- M4 Eastbound J35 to J34
- M4 Eastbound J36 to J35

Apply



SIG M4/1234A

Fault Details

Fault Description : Aspect Failed 20
 Fault Status : Engineer John Smith Travelling to Site
[View Full Details](#)

Local Weather Information

Nearset Station : Newport
 Last Updated : 09:14 AM
 Summary : Sunny
 Temperature : 5
 Wind Direction : SE
 Wind Speed : 12
 Precipitation : 10.0
 Humidity : 87
 Visibility : 10
 Pressure : 1012

Controls

Language:  

Show Engineer Locations
 Show Faulty Devices

WeCare

USER: John Doe

ROLE: Fault

Coordinato

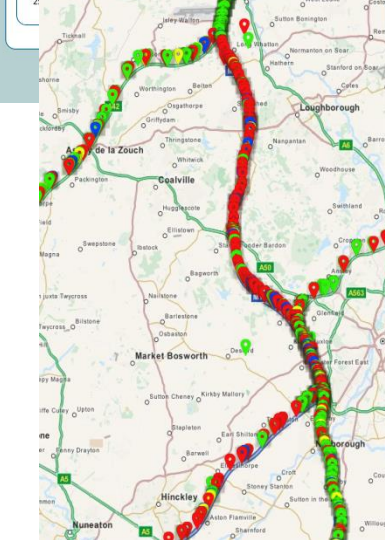
Functions

User Account

Log Out

Search

Enter a fault number, job number or site address to search the WeCare database.





Main Detail Page

Summary of Maintenance Activities

Activity Type	Total Scheduled	Current	Due	Overdue	Deferred
Annual_Elec_Test	2009	602	245	1109	53
Annual_Elec_Test_RCD	21	2	0	19	0
Annual_Elec_Test_RCD_Multi	1	0	0	0	1
Annual_Elec_Test_RCD_Single	1463	409	68	403	583
BS7671	1312	1248	0	1	63
BS7671_Test_CCT1	78	6	0	19	51
BS7671_Test_CCT2	662	6	1	53	602
BS7671_Test_CCT3	655	2	0	27	626
BS7671_Test_CCT4	655	1	0	11	643
BS7671_Test_CCT5	3	0	0	0	3
BS7671_Test_CCT6	3	0	0	0	3
BS7671_Test_General	655	6	1	188	462
BS7671_Test_Remote	465	0	0	221	244
Cab 600_TV_INS	79	38	6	34	1
Cab 600W17620_INS	606	252	39	313	2
Cab 600_SEL_INS	1	0	0	1	0
Cab 600_P_INS	787	83	165	514	5
Cab LUCY_INS	6	0	0	6	0
CCTV Cam FIX_INS	57	0	0	57	0
CCTV Cam PTZ_INS	106	99	0	7	0
CCTV Mast Test	102	102	0	0	0
CCTV_Cameras_Cat1_Test	7	0	1	0	0
CCTV_Cameras_Cat2_Test	109	0	0	109	0
CCTV_Cameras_PTZ_Test	106	99	0	7	0
CCTV_Windh_Test	102	98	0	3	1
Earth Bonding/Enc Fir_INS	3358	1036	297	1992	33
EMS_MSD/34_Tests	286	132	22	85	27
Flashing_NL_Screws	16	0	0	13	3
Fog Detector Tests	3	0	0	3	0

Controls

Language:  

Show All
 Show 'Current' Maintenance
 Show 'Due' Maintenance
 Show 'Overdue' Maintenance
 Show 'Deferred' Maintenance

Data Analysis Toolkit

The Area 7 data presented on this demonstration site has been imported into CCamp from TPMS

Imported TPMS Data

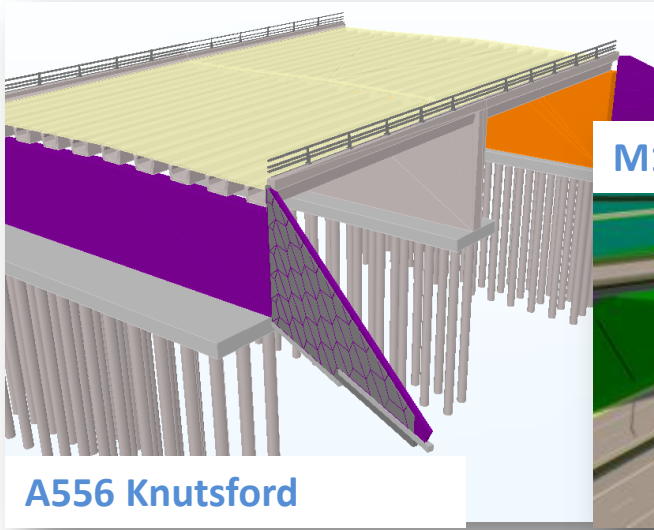
Maintenance Activities

Log Out

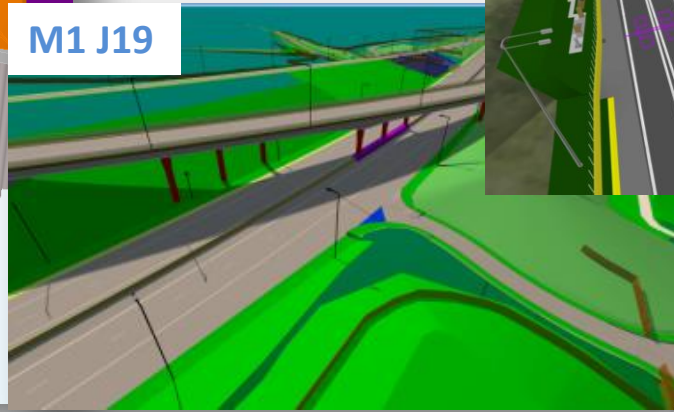
Search

Enter a fault number, job number or site address to search the WeCare database.





A556 Knutsford



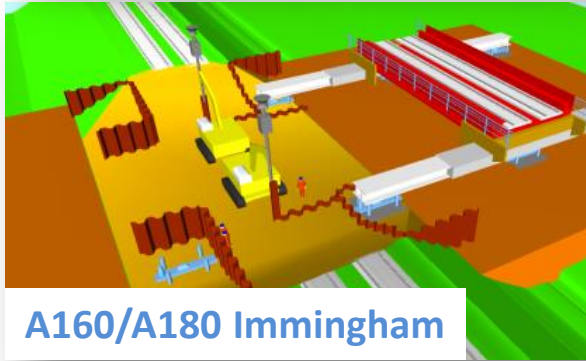
M1 J19



M25 IUS



M25LUS



A160/A180 Immingham



M4 – M5



Area 12

Roads in Area 12
Motorway
Trunk Road
DfFO

The Benefits

Focusing on Maintenance Engagement

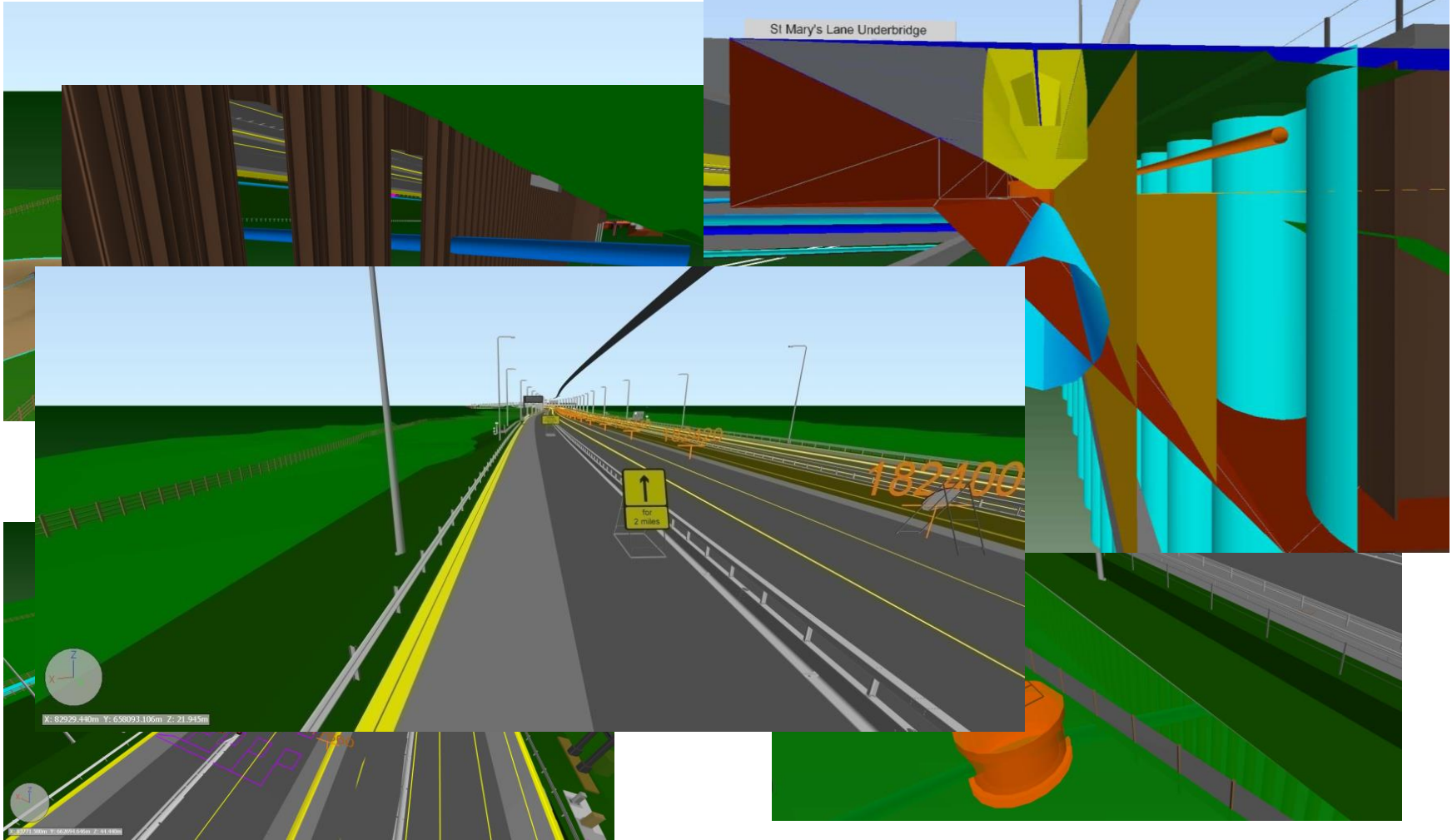


Use of model for fixing
location of HADECs camera

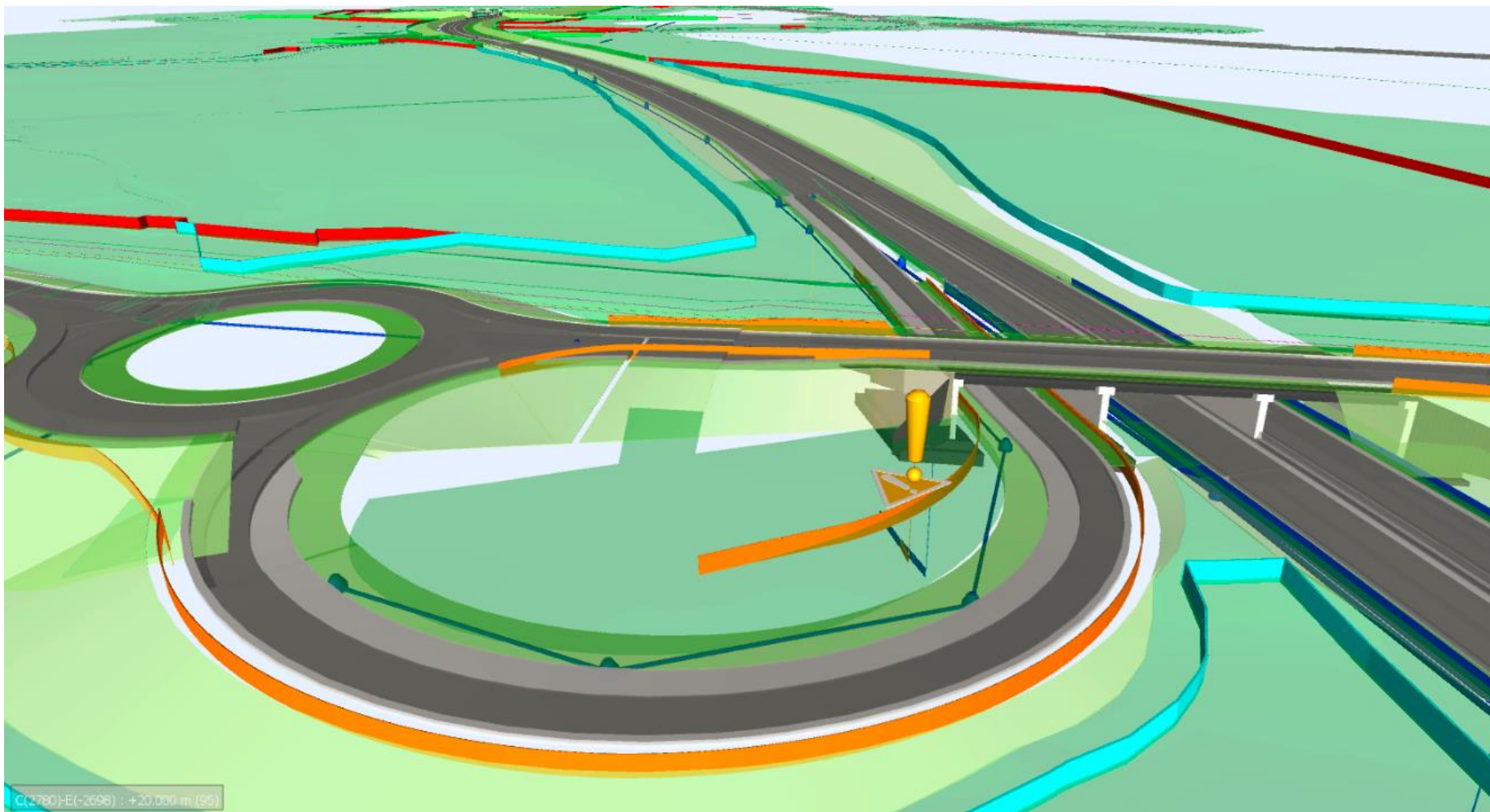
Lighting column clash identified



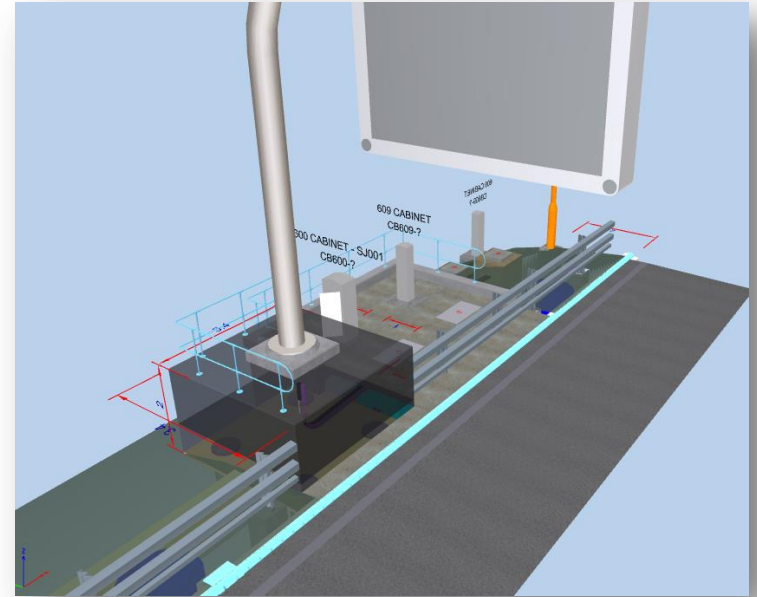
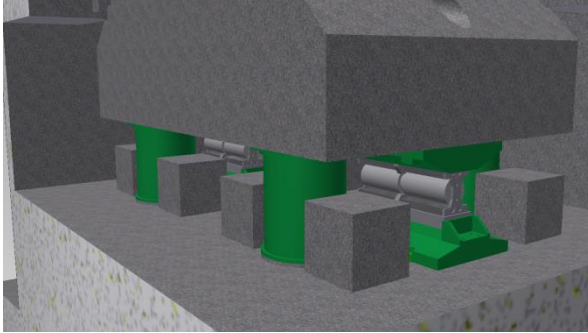
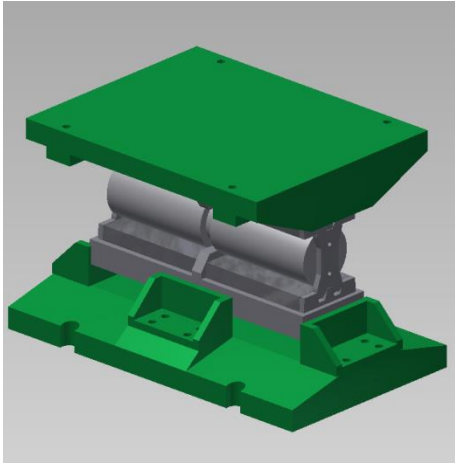
Modified design



Safety, Health and Environment



Innovation



Production Thinking

Digital Prototyping

Standardisation

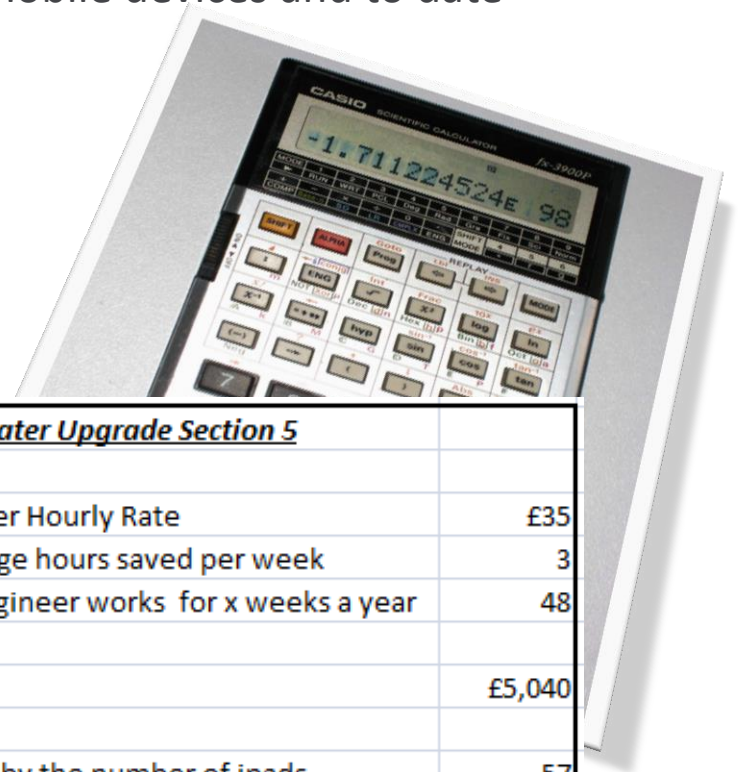
The Benefits - Financially

M25 Later Upgrade Sections have a total of 97 devices, 40 devices on the M25 Section 2 project and 57 devices on the M25 Section 5 project. The engineers have filled out questionnaires and diaries of as they use the mobile devices and to date achieved efficiency savings of

M25 Section 2 = £ 201,600

M25 Section 5 = £ 287,280

Total = £ 488,880



<u>M25 Later Upgrade Section 2</u>		<u>M25 Later Upgrade Section 5</u>	
Enginer Hourly Rate	£35	Enginer Hourly Rate	£35
Average hours saved per week	3	Average hours saved per week	3
An Enginer works for x weeks a year	48	An Enginer works for x weeks a year	48
Total	£5,040	Total	£5,040
times by the number of ipads	40	times by the number of ipads	57
<u>Current M25 LUS 2 Savings</u>	<u>£201,600</u>	<u>Current M25 LUS 5 Savings</u>	<u>£287,280</u>
		<u>Current M25 LUS Savings</u>	<u>£488,880</u>