

High Speed Two

Will Bentley, Programme Controls Director,
HS2 Ltd

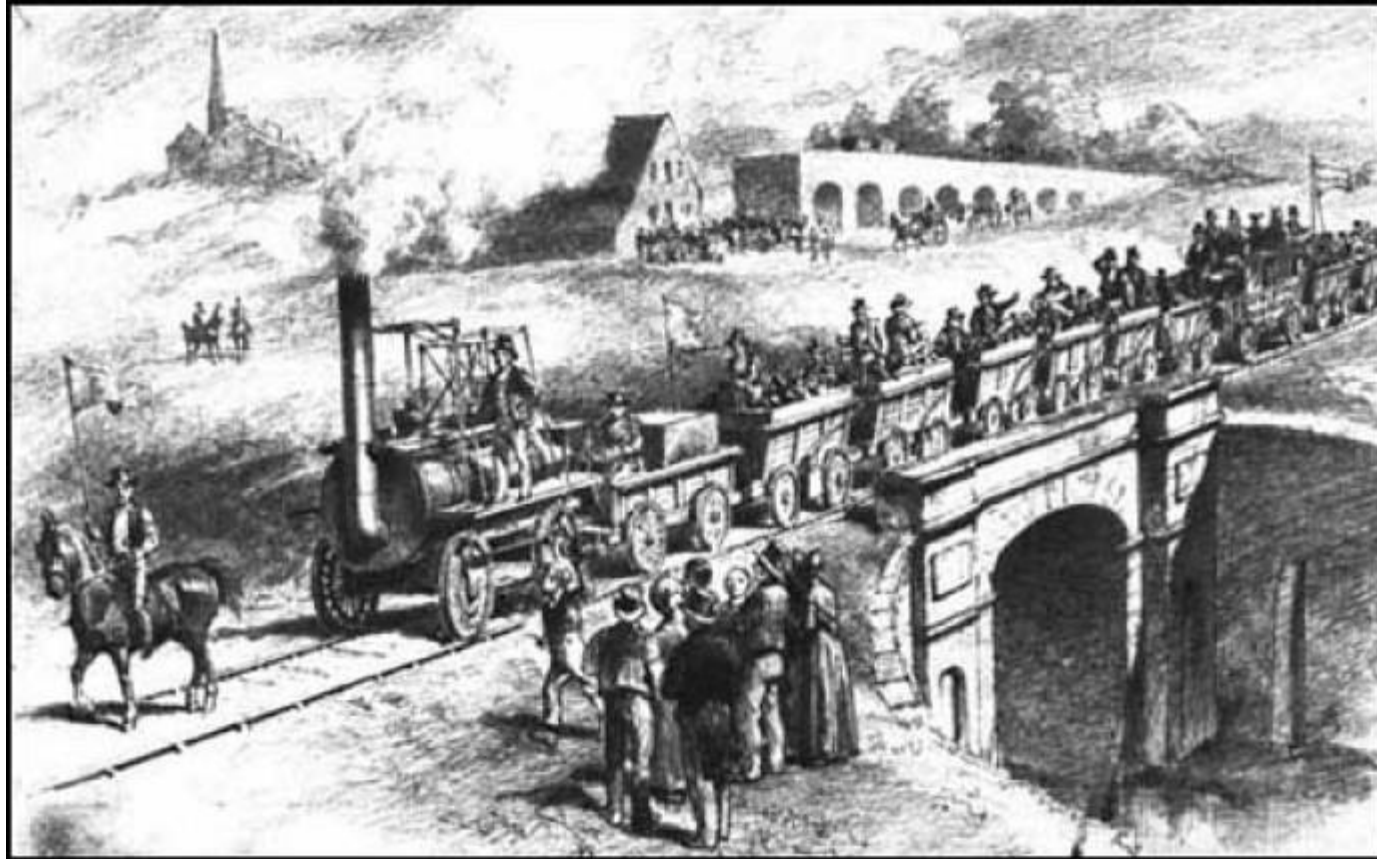
Simon Taylor, Head of Planning, HS2 Ltd

September 2015

Back to the Future

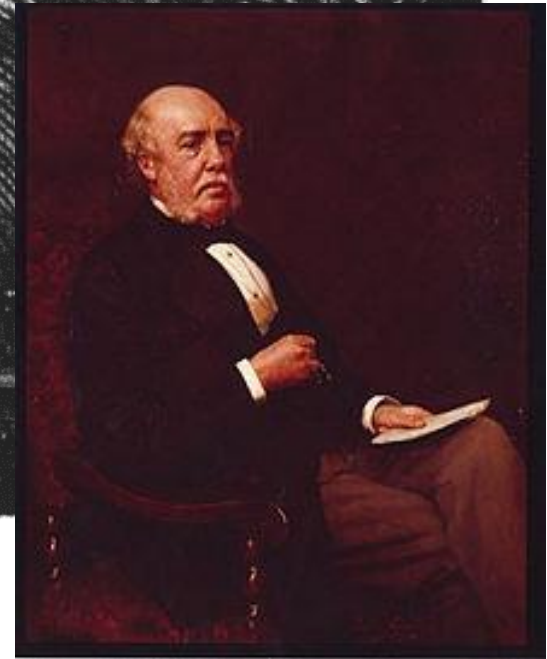
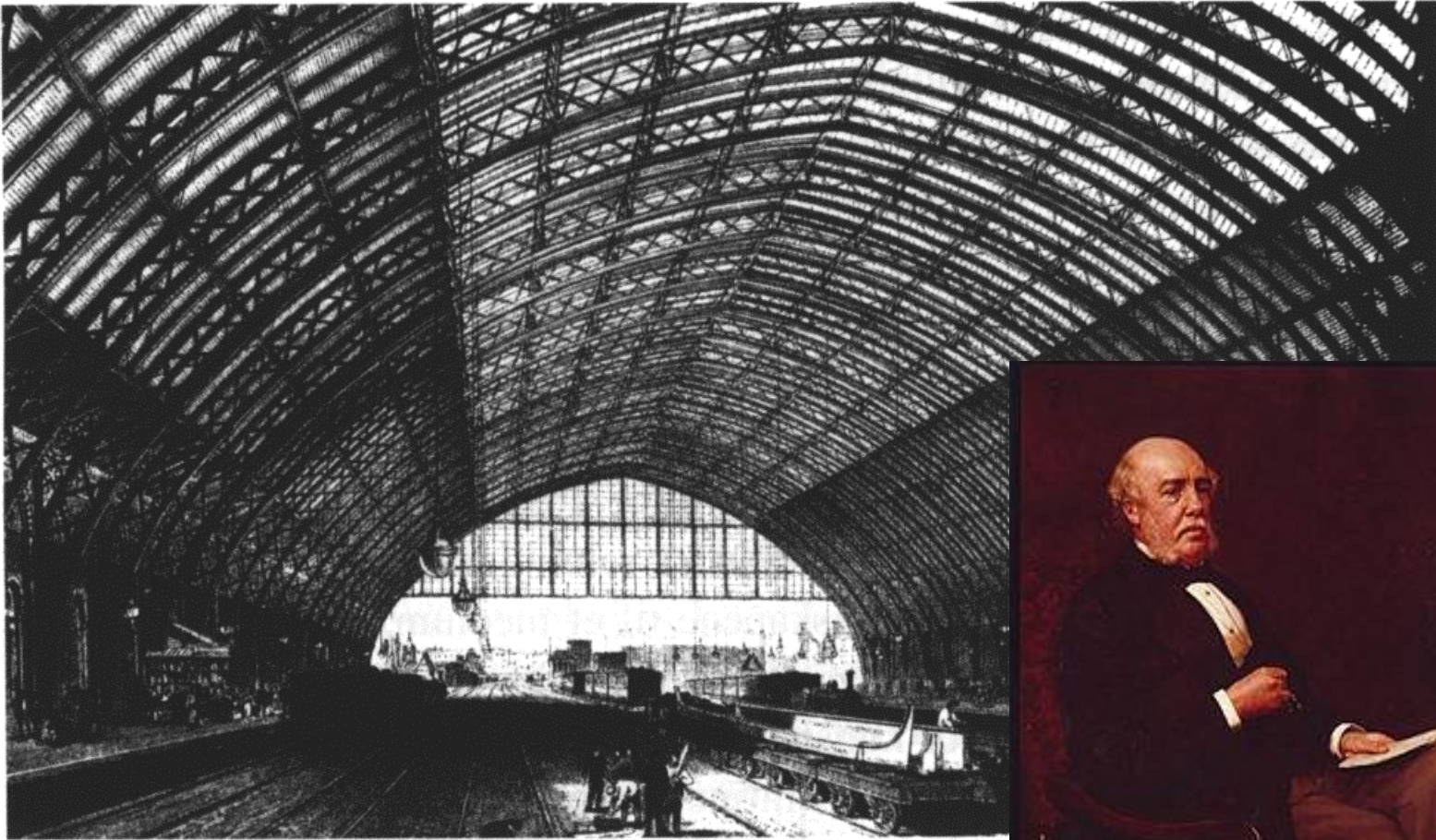
- What is HS2 and why do we need it
 - Wheels of Steel
- How is our company growing
 - Proving our Capability
- Programme Controls at HS2
- Planning at HS2

Stockton to Darlington Railway September 27th 1825



The first public fare passenger railway service in the world opens

St Pancras 1865



William Henry Barlow

Lets travel high speed to the present day

September 18th 2015

Financial Times

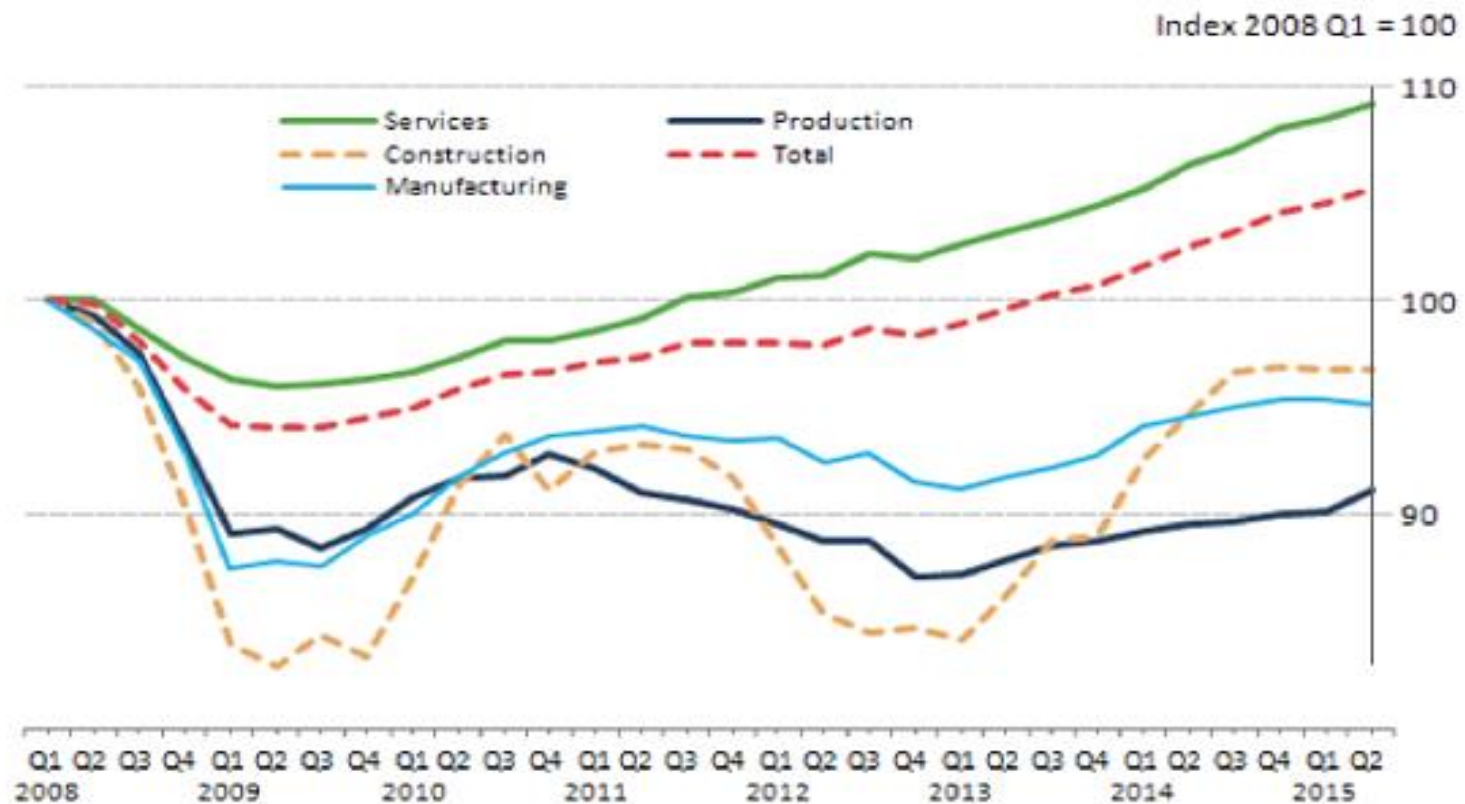
“.....The owner of one of the biggest steel plants in the UK is to suspend production at its base on the north-east of England, as fears grow for the survival of Teeside’s iron and steelmaking industry”

“.....The decision threatens the future of thousands of jobs at the Teeside site and thousands more in the supply chain. Anxiety at the plant is mounting that it could signal the end of a 170 year-old bedrock industry in Teeside”

July 28th 2015

UK GDP Growth:

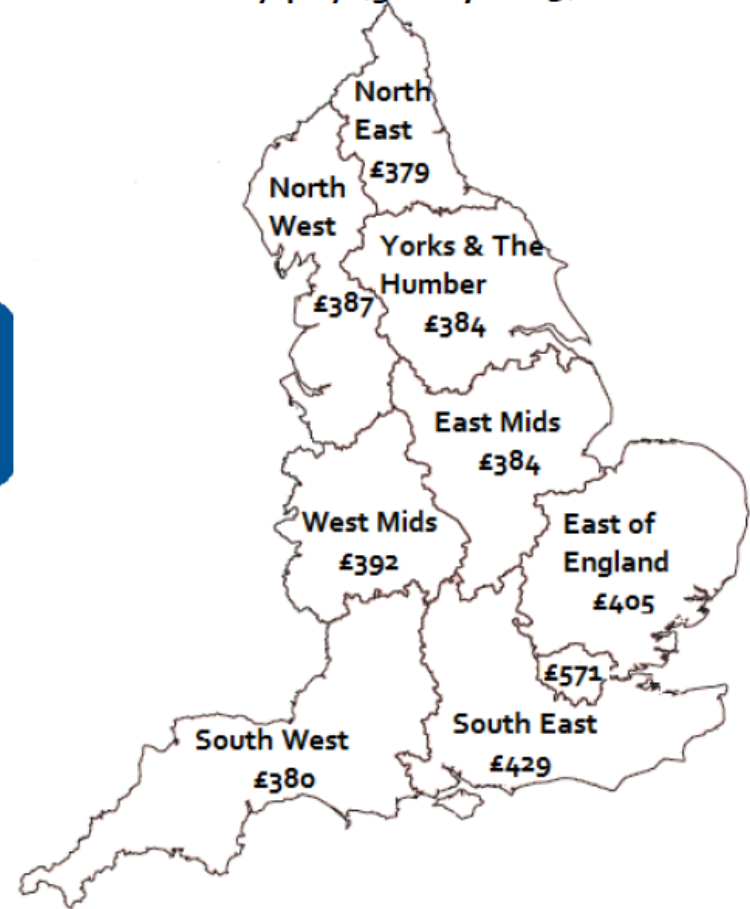
UK, 2008 to 2015



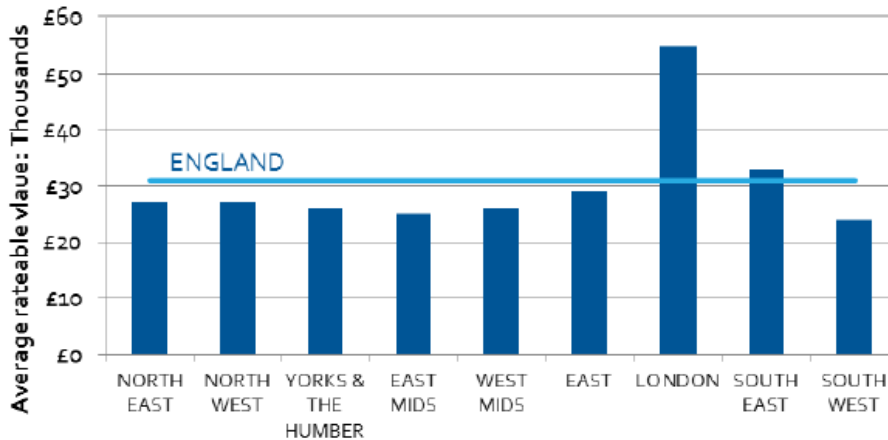
HS2 could help to rebalance the economy by improving connectivity to Northern cities with lower house prices and the potential to create a Northern Powerhouse



Median weekly pay (gross, 2013)¹⁵



Average rateable values (30 Sep 2014)¹⁴

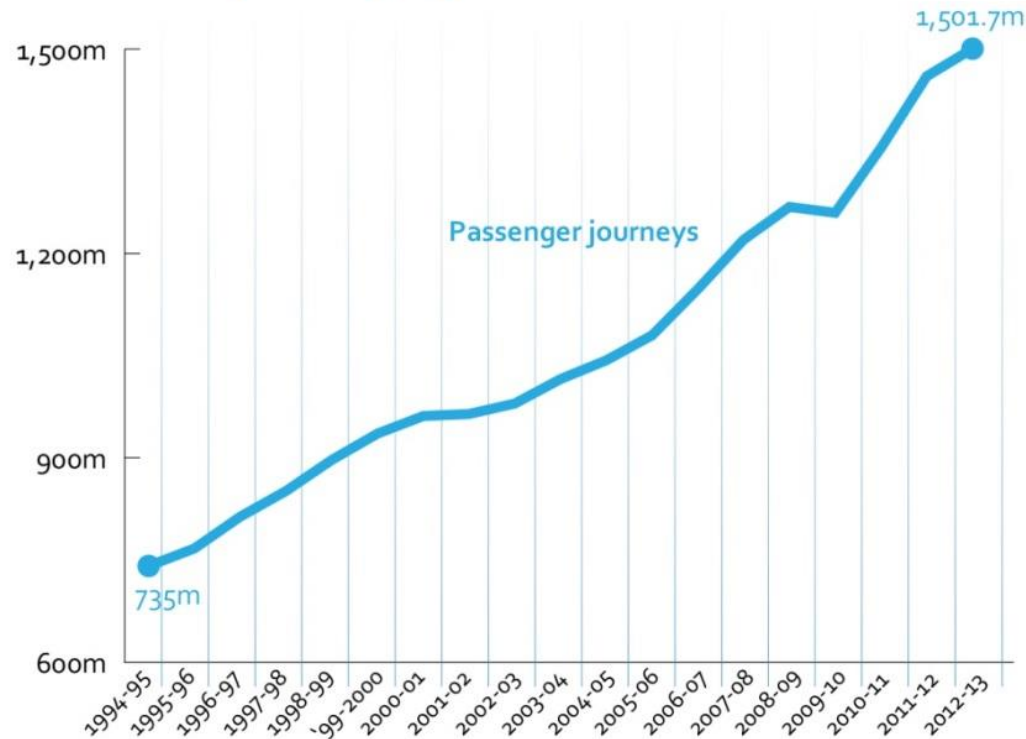


HS2 vision:

To be a catalyst for growth
across Britain

Unprecedented levels of demand for rail

Overall rail passenger growth



Source: Office of Rail Regulation



Rail demand continues to rise



Over-crowding
in the South



Poor connectivity
in the North

Regenerating our cities

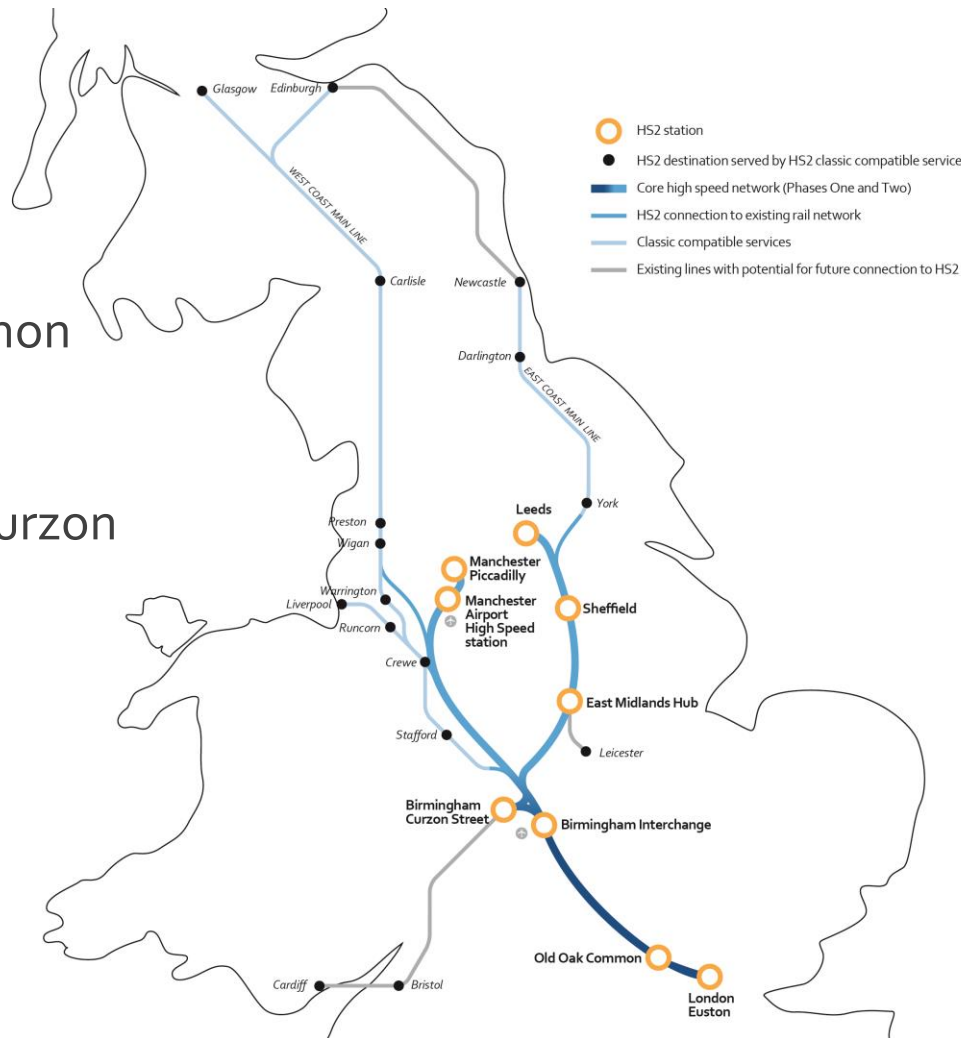


HS2: a strategic transformation

Phase One

Stations:

Euston
Old Oak Common
Birmingham
Interchange
Birmingham Curzon
Street



Phase Two

Stations:

East Midlands Hub
Sheffield
Leeds
Manchester
Piccadilly
Manchester Airport

Journeys will be fast, frequent and reliable





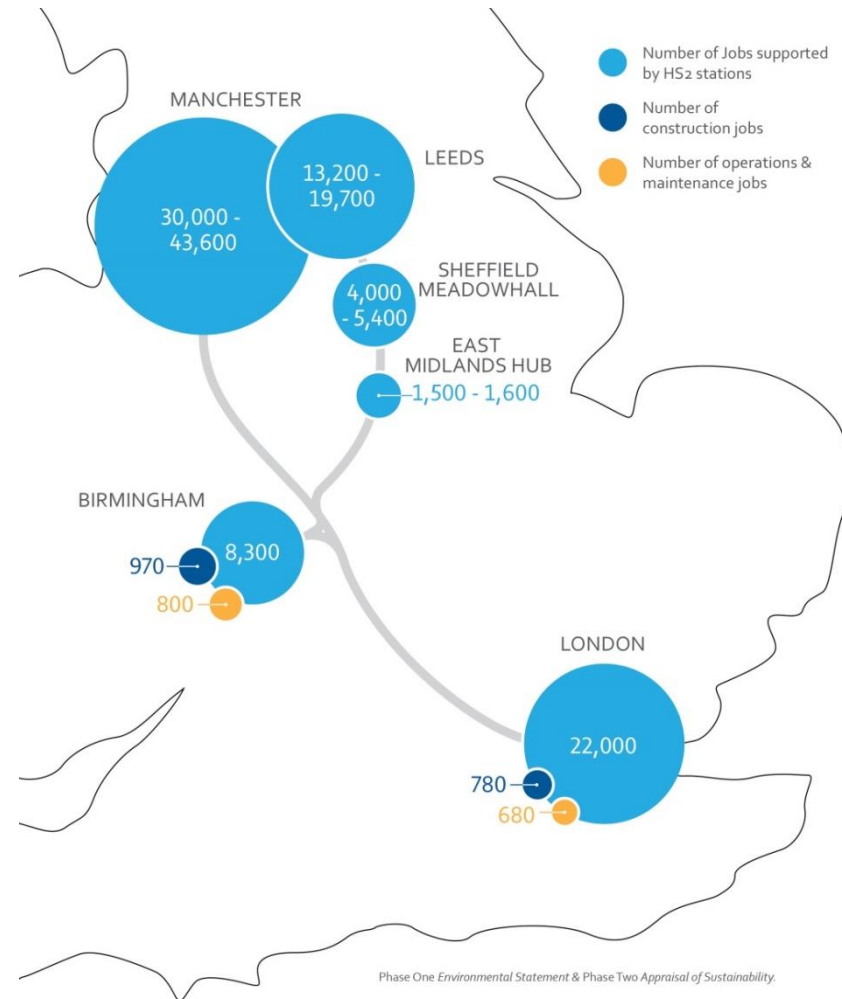
A high-tech programme for a high-tech economy





Develop the people within our industry

HS2 will create 24,600 construction jobs and 3,100 operations and maintenance jobs



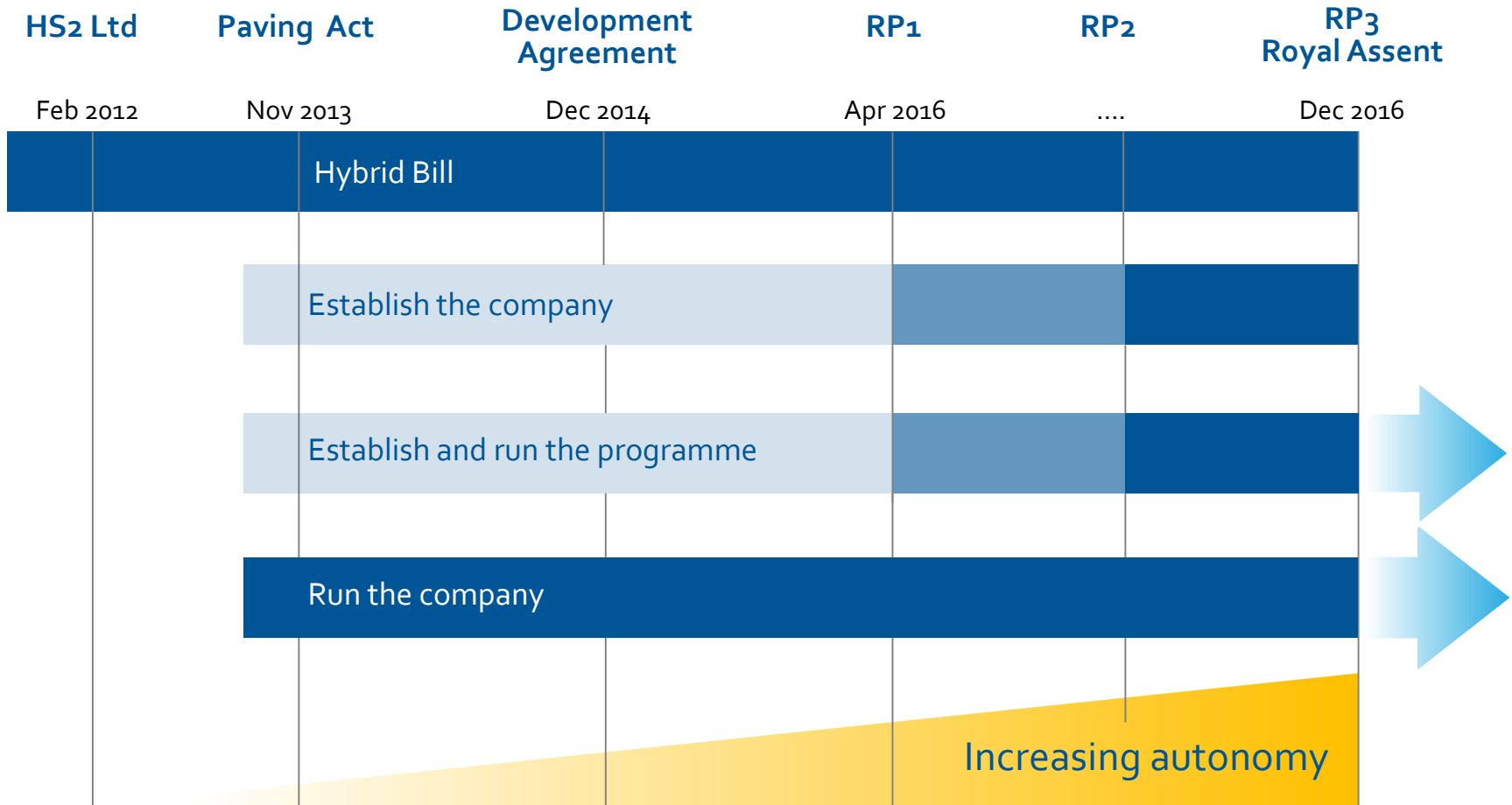
The Challenge:
Sowing the seeds for
delivery

“HS2 needs to be built **better, faster** and **cheaper** than any other railway. We’re going to have to innovate. It’s the only way”

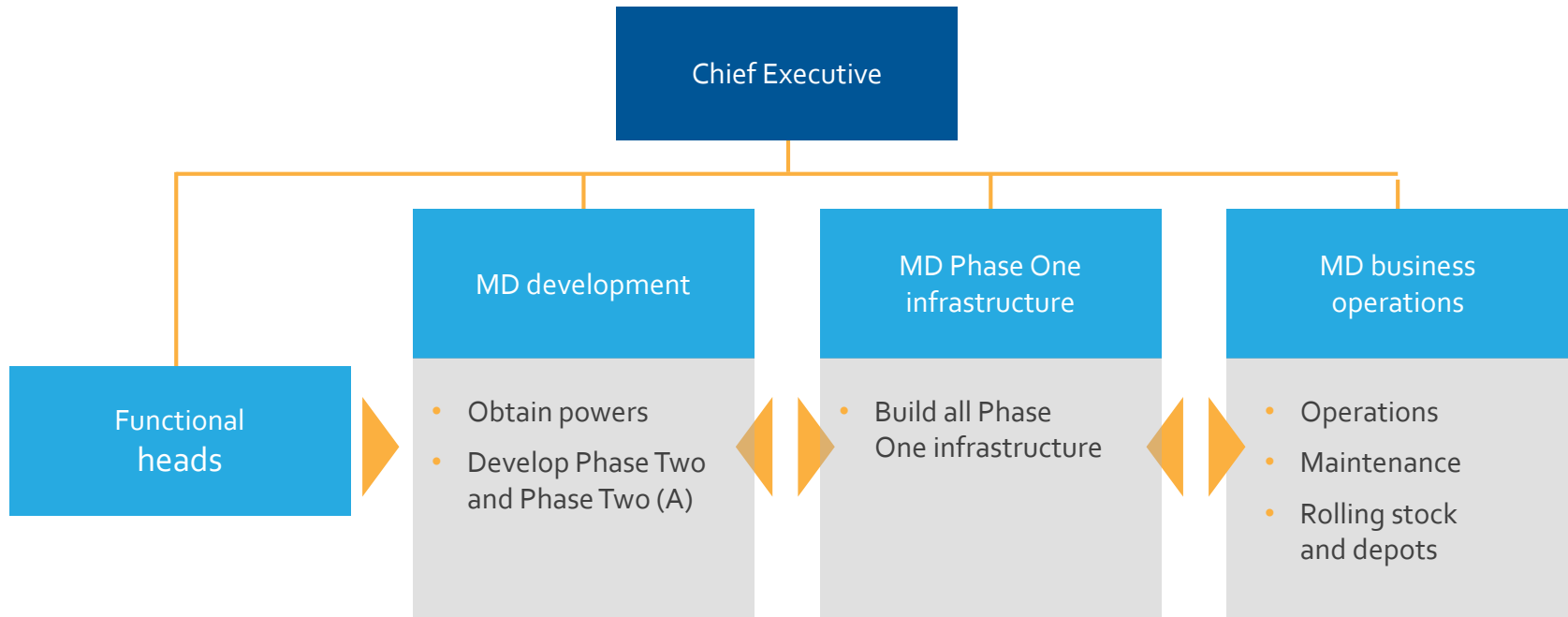
Simon Kirby, CEO, HS2 Ltd

How is our Company
growing?

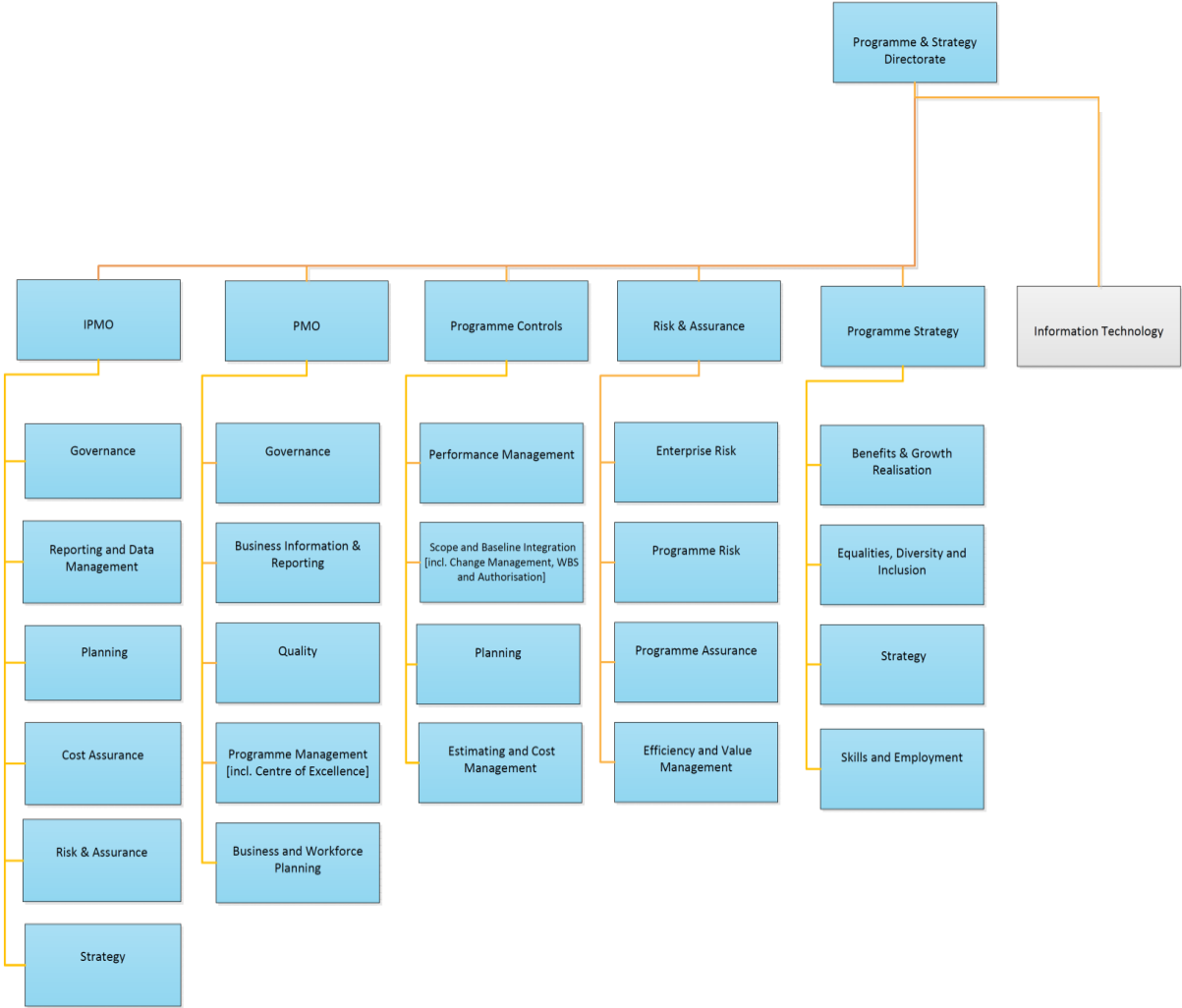
The challenge of an emerging organisation



HS2 organisation: a classic matrix



Controls organisational design



Proving our capability

Proving our capability

Functional owners

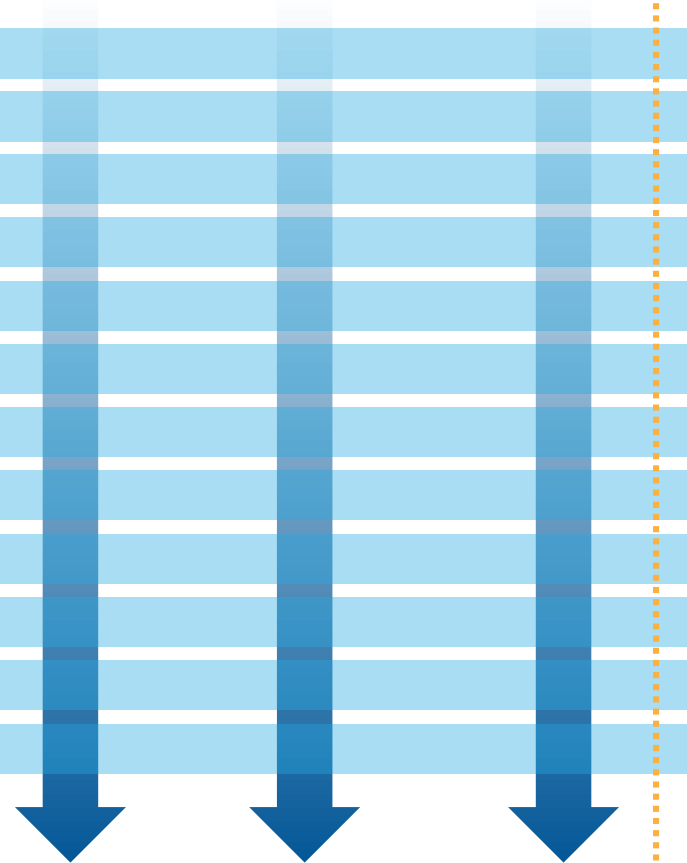
Design			
Programme management			
Risk			
Management information			
Finances			
Budgeting			
Procurement			
Contract management			
Engagement			
Land			
Internal assurance			
Health & safety			

Managing the functional matrix

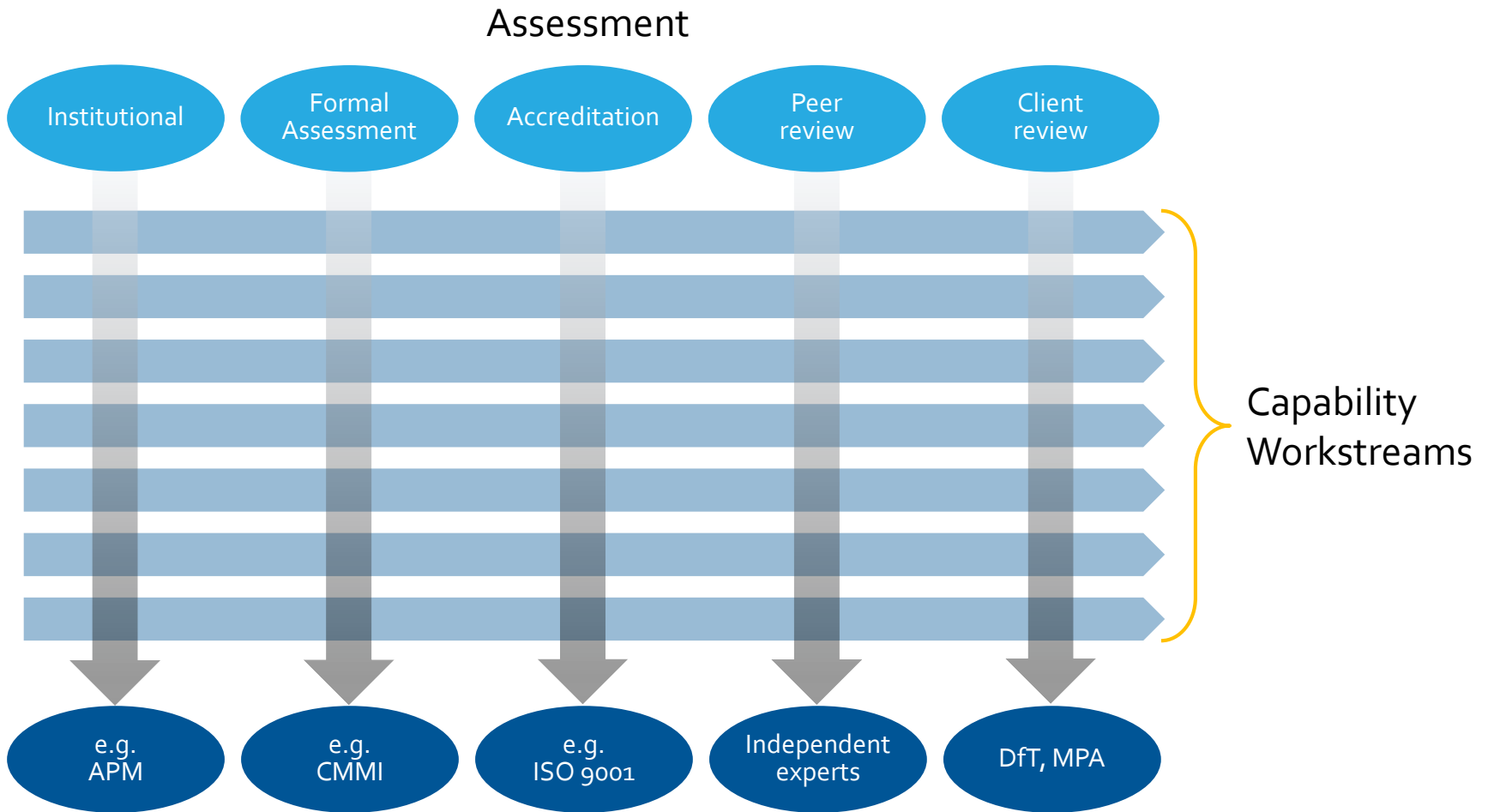
People

Process

Systems



Proving our capability: methods of assurance at each RP Stage



What's our
Programme Controls
Strategy?

Provides the foundation to:

**Establish
appropriate
controls**

**Develop
programme
management
capability**

**Establish robust
links between
technical scope,
the cost of
delivery and the
schedule**

**Manage and
integrate the
flow of scope**

Provides the foundation to:

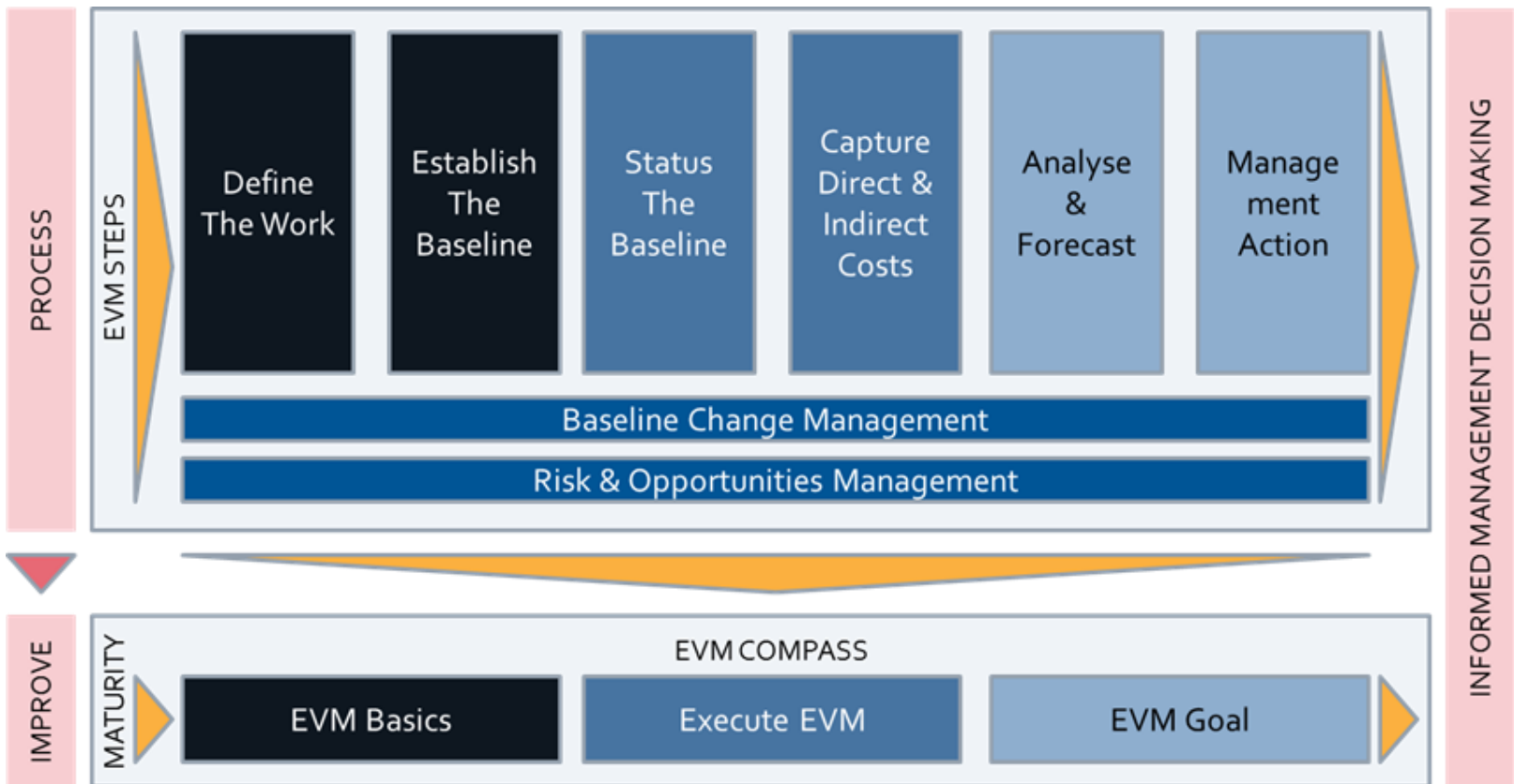
**Implement
change
management**

**Implement a
robust cost
estimating and
cost
management
framework**

**Implement a
robust schedule
planning and
schedule
management
framework**

**Provide the
metrics and
reporting
standards**

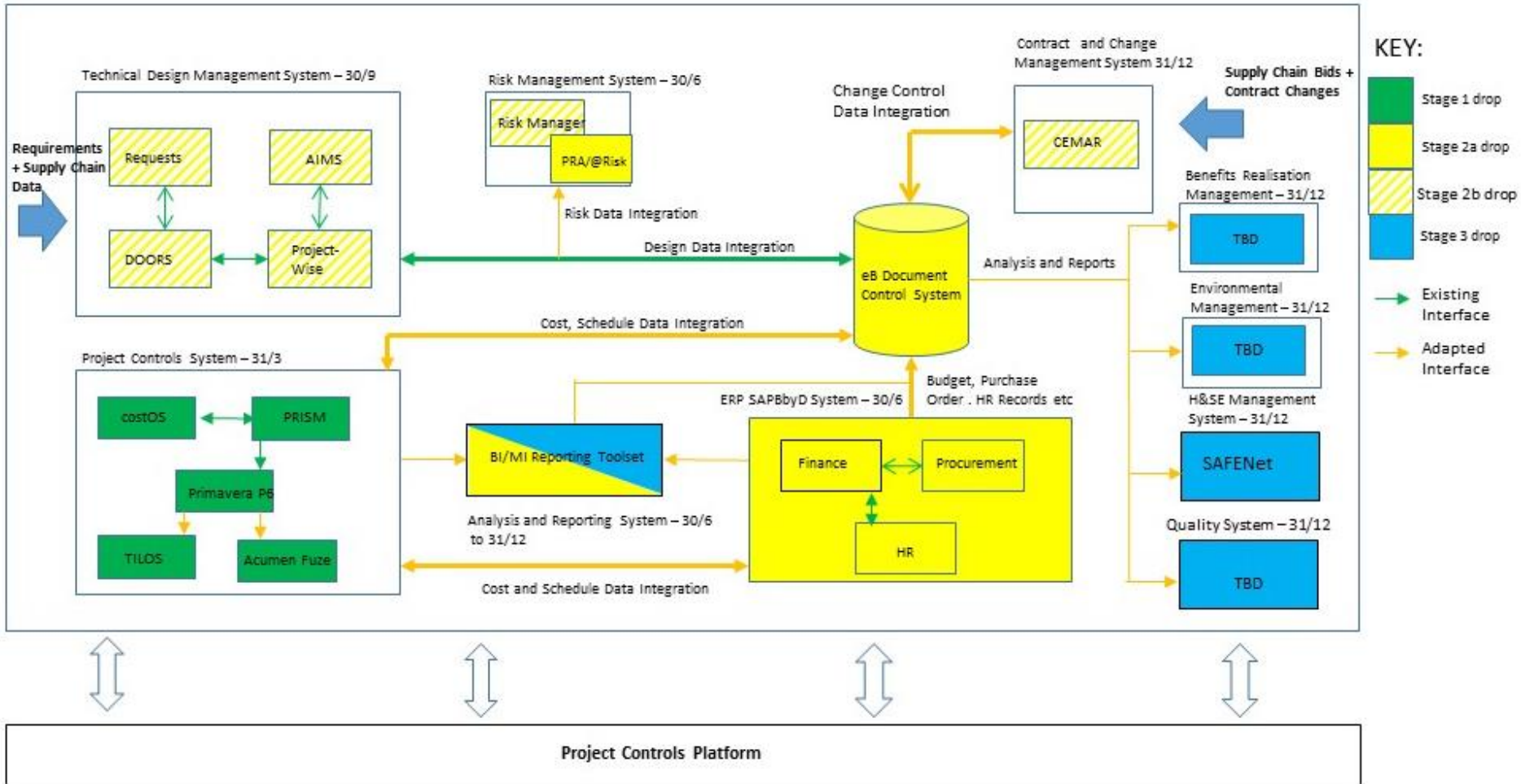
Define metrics



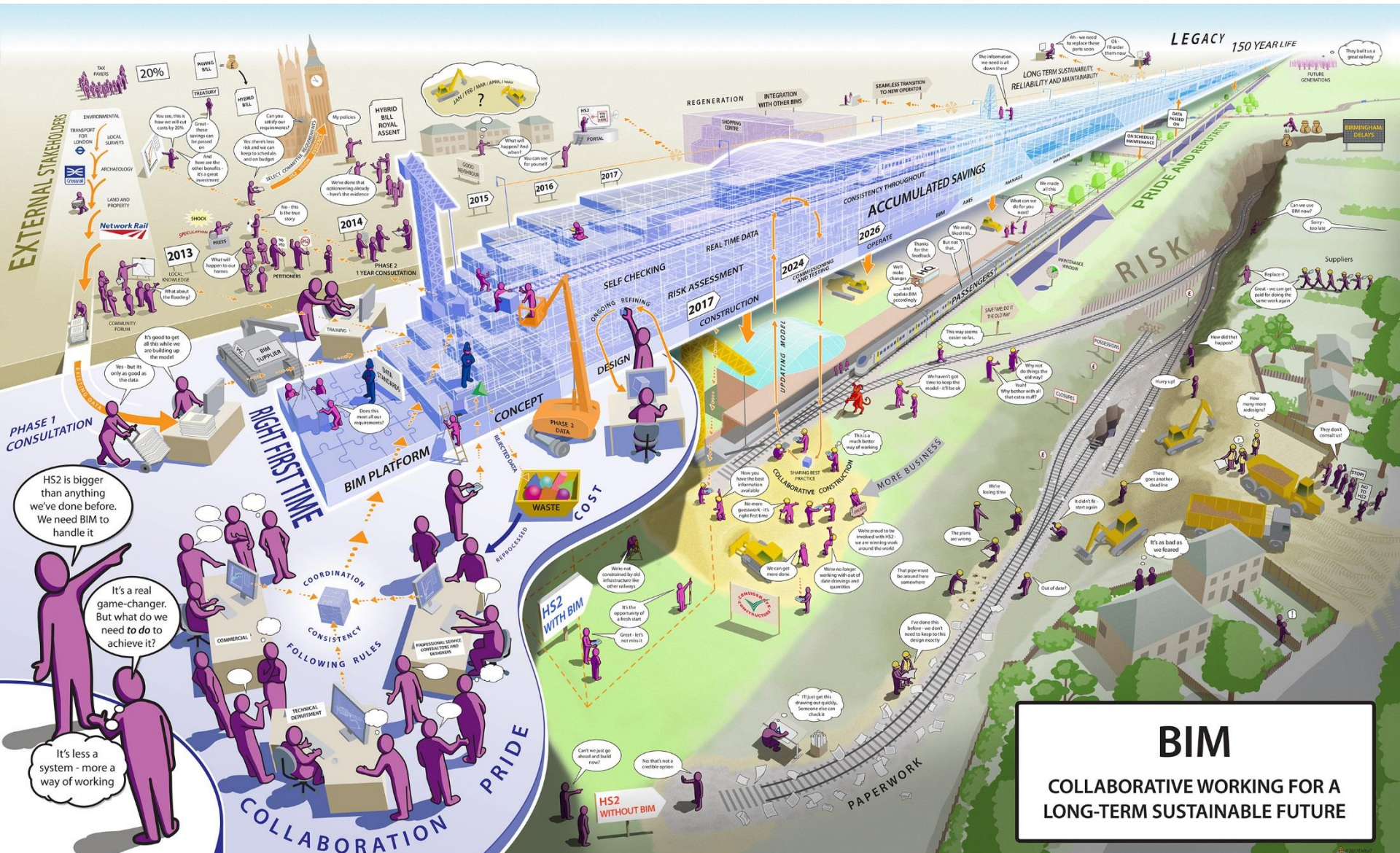
Controls Software

- Primavera P6 – Planning
- Deltek Acumen Fuse – Quality & Analysis
- Prism G2 – Cost & Performance
- CostOs – Estimating
- CEMAR – Contract Management
- EB – Document Control
- Xactium – Risk
- Tableau - MI

HERMES



BIM



This job is big!

Planning at HS2

“Good planning drives everything we do
at HS2, except the trains....”

Simon Taylor, Head of Planning, HS2 Ltd

Planning set up

- Functional fixed line management
- Single instance for all planners across all companies
- Strict system administration by dedicated team
- Full collaboration and communication by planners and other controls functions
- **Full support by HS2 exec & organisation**

Data quality & Integration

- Fully aligned WBS & CBS
- Asset based approach to planning, cost and performance
- EV driven from supply chain schedules
- Full integration with other controls functions
- **Schedule quality written into HS2 contracts and HS2 business processes**

The HS2 EPS

EPS/WBS Summary

0 - Client

1 - Programme

2 - Directorate

3 - Phase

4 - Delivery Area

5 - Sector (Package)

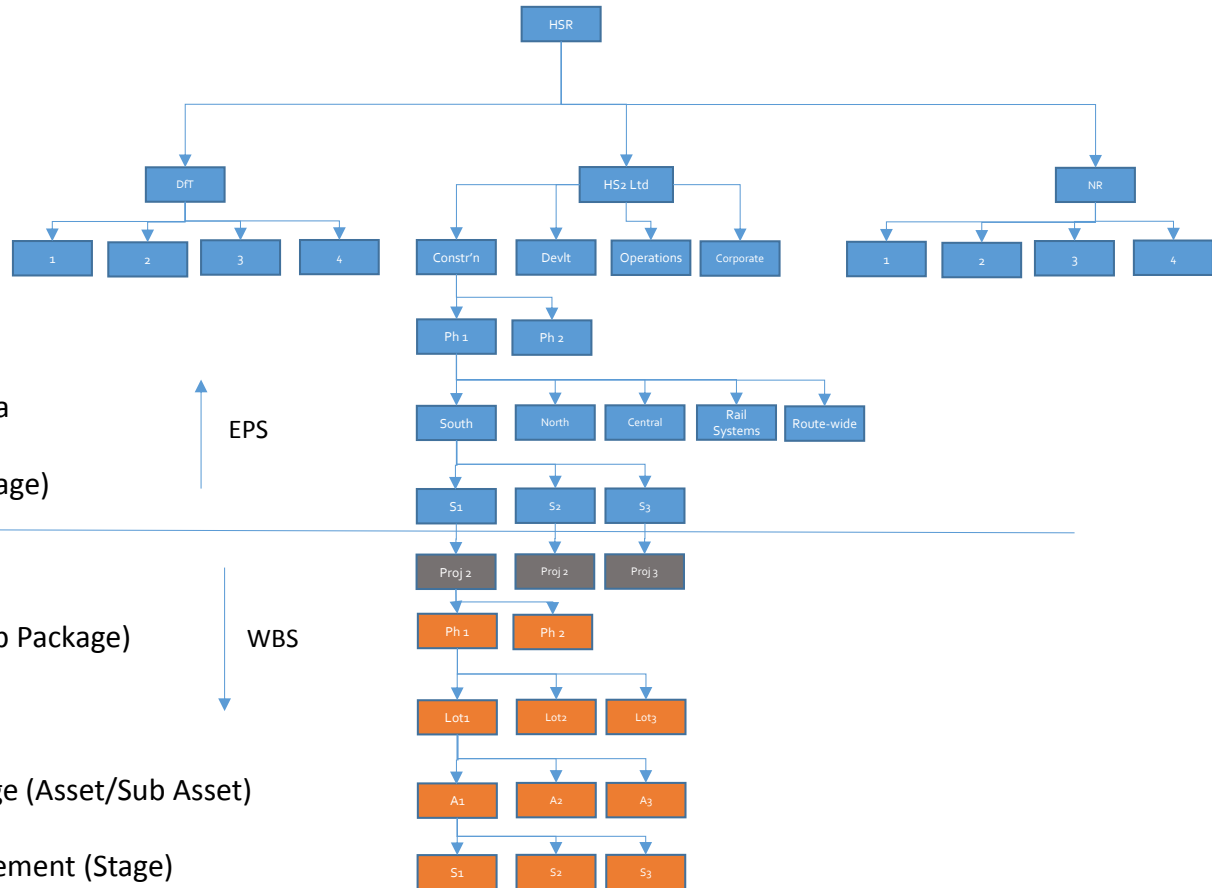
Project

6 - Sections (Sub Package)

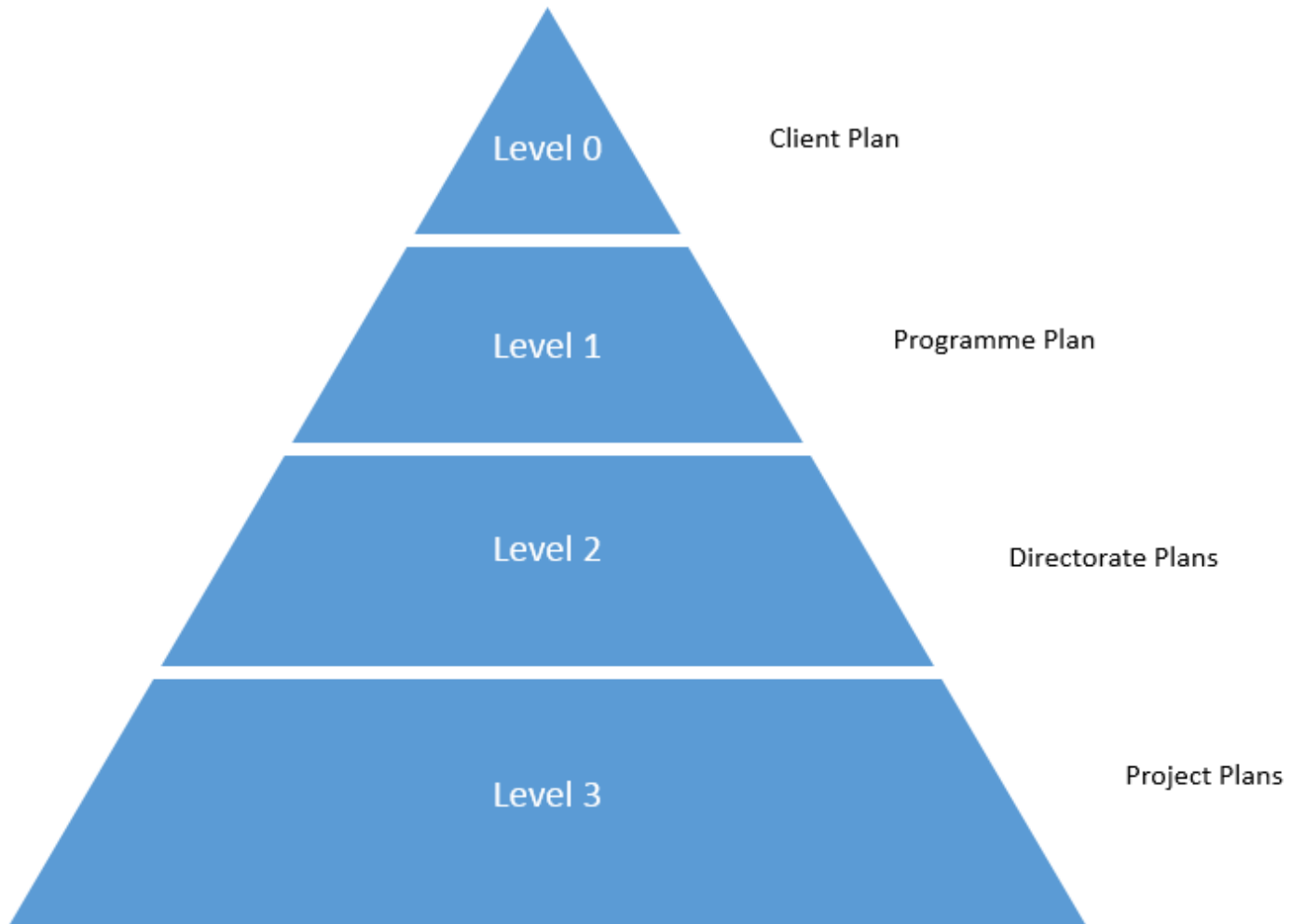
7 - Lots

8 - Work Package (Asset/Sub Asset)

9 - Sub Asset Element (Stage)

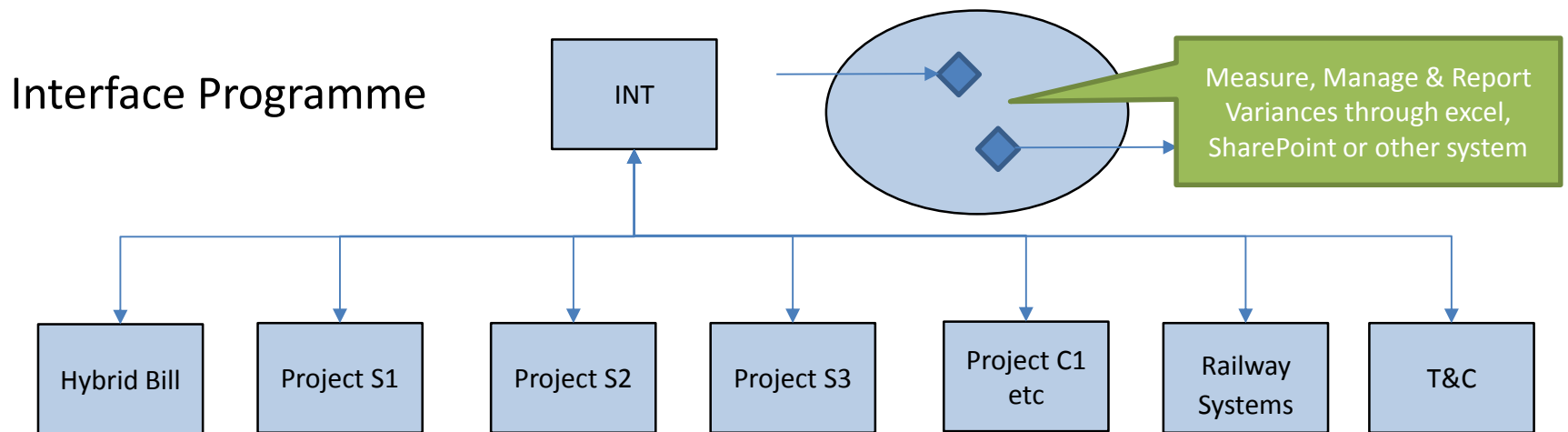


Planning Levels

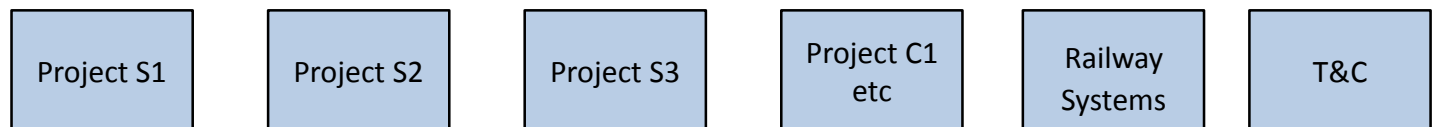


Managing Interfaces

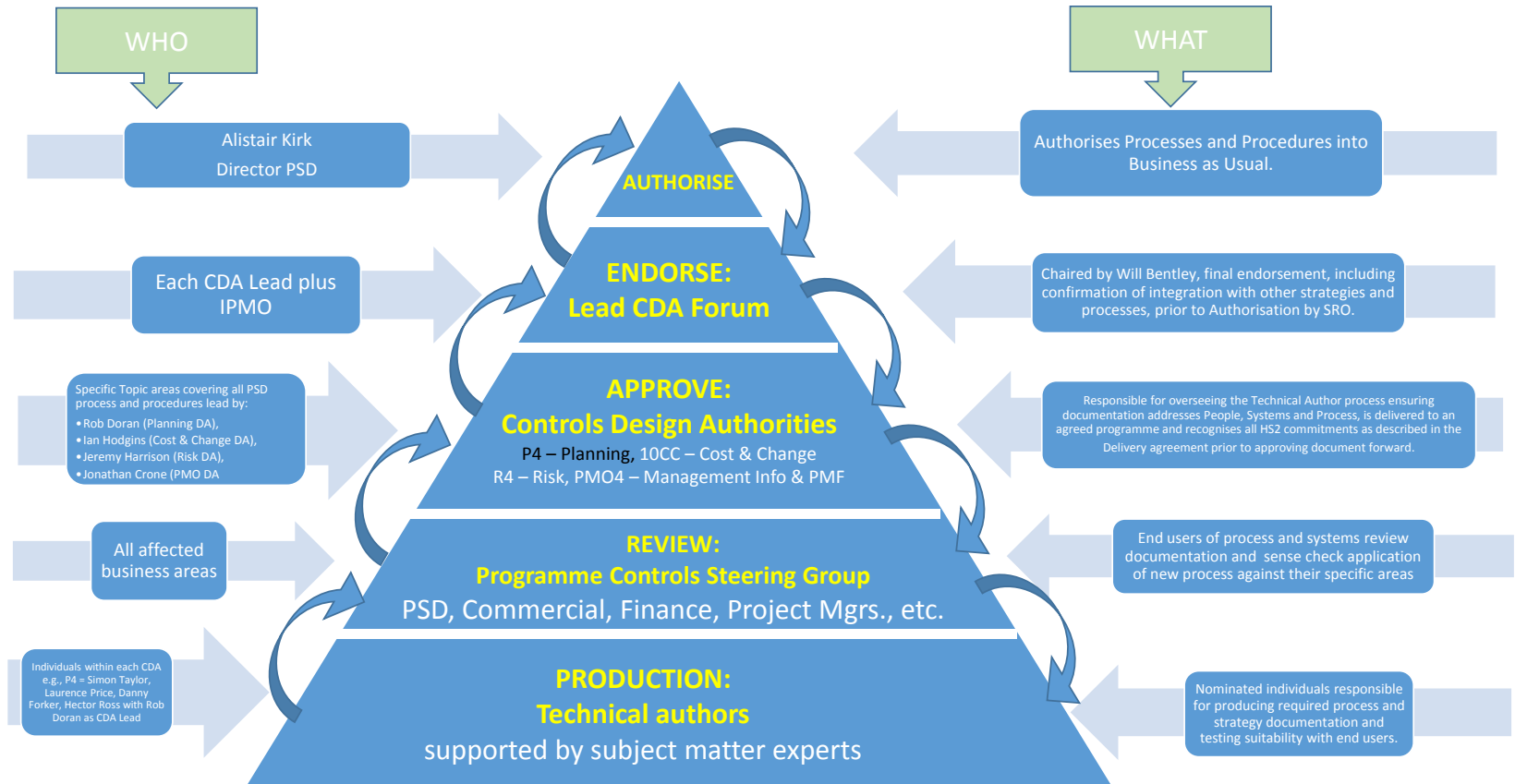
Level 3 Delivery Programmes



Level 4 Supply Chain Programmes (TBC)



The Controls Design Authority Process



Aligning people, process and systems.

HS2 Schedule Confidence Indicator

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Planned Starts	25	23	50	45	88	65	61	53	42	21	21	25
Total Starts	25	15	45	24	34	56	76	40	43	16	18	20
Total Planned Finishes	10	23	45	64	43	67	54	34	56	54	23	38
Total Finishes	5	20	35	50	40	55	45	30	45	45	20	35
Baseline Budget	£4,000,000.00	£4,000,000.00	£4,000,000.00	£4,000,000.00	£4,000,000.00	£4,000,000.00	£5,000,000.00	£5,000,000.00	£5,000,000.00	£5,000,000.00	£5,000,000.00	£5,000,000.00
Variations	£ 20,000.00	£ 50,000.00	£ 30,000.00	£ 1,000,000.00	£ 20,000.00	£ 600,000.00	£ 50,000.00	£ 2,500.00	£ 5,000.00	£ 8,000.00	£ 250,000.00	£ 40,000.00
Plan Stability Score	86	76	84	68	56	84	105	80	90	81	86	87
Acumen Fuse Index	78	77	72	70	73	75	55	65	70	70	80	50
Scope Variance	99	98	99	50	99	70	98	100	100	100	90	98
SCI	0.88	0.84	0.85	0.63	0.76	0.76	0.86	0.82	0.87	0.84	0.85	0.79

Combines schedule stability (planned starts & finishes vs actual), technical quality (Fuse index) & scope stability (agreed CE's) to give a confidence indicator around schedule driven forecasts.

Combined this check is less subjective than any individual indicator.



Build the project strategically – leading process and technology within a progressive PMO framework

What will all of this
give us?

An exceptional passenger experience



Questions?