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# Supply Chain Integration in Construction

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Warwick Discovery Day 23<sup>rd</sup> May 2017



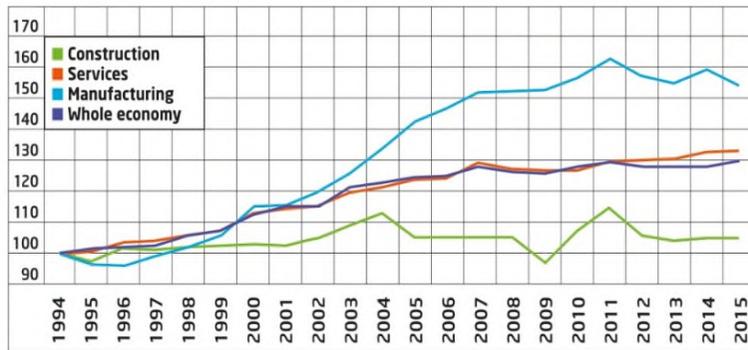
Meeting national needs through people and innovation

We need to apply some fresh thinking

COSTAIN



# We know that productivity is *the* issue



Source: ONS. Index adjusted to 1994 = 100

Lagging construction productivity costs the global economy \$1.6 trillion a year.

Productivity gap = \$1.63 trillion



Average value added by employees per hour worked<sup>1</sup>

Economic value lost as a result of the gap,<sup>2</sup> by region, \$ trillion



<sup>1</sup>2015 data in real 2005 dollars.

<sup>2</sup>Assumes construction productivity catches up with total economy productivity and current workers are reemployed at the total economy productivity rate.

McKinsey&Company

“This is not simply a UK plc issue but an indication of a global need for a new way of working”



## Heathrow has begun its search for four off-site hubs across the UK that will help it deliver its £16bn expansion plans

Four UK construction hubs are being sought by Heathrow to allow components of its £16bn expansion project to be built away from the airport.

The logistics hubs will pre-assemble components linked to projects related to the proposed third runway before transporting them to the airport. Heathrow's chief executive John Holland-Kaye said this method would make the project more affordable and mean jobs linked to the investment would be spread more broadly across the country.

The airport claimed this method of construction had gained traction in the housebuilding sector but had only had a "limited" role in major British infrastructure projects.

### **Heathrow turns to off-site to cut site workforce by a third**

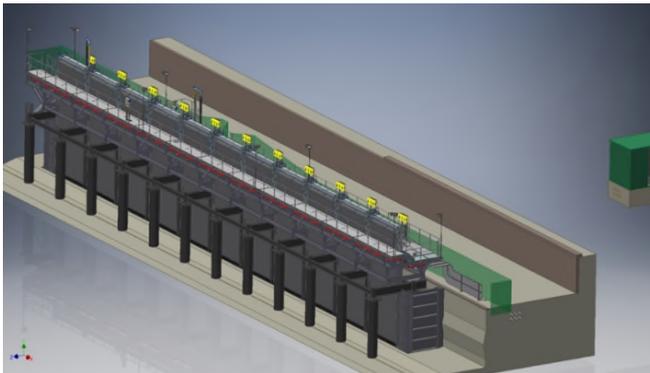
Heathrow Airport wants to make extensive use of off-site construction on its £16bn expansion programme to reduce the workforce it needs by almost a third to under 10,000.

## Costain uses offsite manufacture to deliver real value for our customers

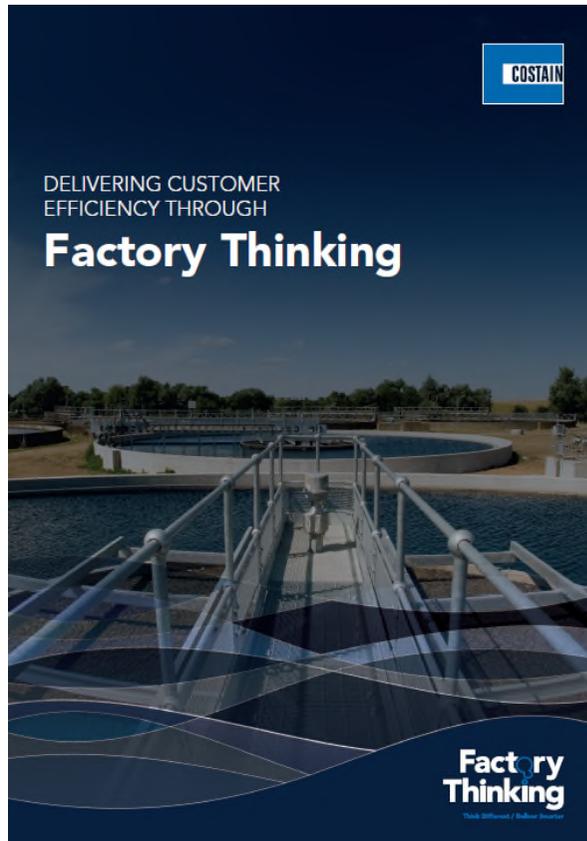
COSTAIN

### Walton Eel Screen Project

1. Screw Piles were used instead of conventional foundations
2. Eel screen structures built off site and fully tested using a dummy screen
3. Designed with pre-fitted above ground duct system for cables
4. Pre-fitted cable tray, junction boxes, lighting and stands all factory tested
5. Modular design allows future schemes to utilise screw piles
6. Form 2 MCC designed to reduce kiosk size and scalable for future projects



# Production Control techniques are being applied



Highways Sector  
Lean & Production Thinking Strategy 2016

**Vision**

*Lean and production thinking to be business as usual on all our contracts*

**Mission**

*To develop our lean and production thinking capability across the sector removing waste and standardising our processes, creating smarter solutions with offsite technologies, supporting better customer outcomes with predictable high performance*

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Leadership	Awareness	Competence	Tools	Deployment	Benefits	Best Practice
All our leaders and managers fully embracing and embedding lean and production thinking into our culture	All staff to have minimum awareness of the key principles of lean and production thinking	All contracts to have competent staff with clear roles and responsibilities making lean and production thinking business as usual	Make the tools and techniques contained within the Costain Way appropriate and easy to use	Ensure all contracts are using lean and production thinking tools and techniques so it is business as usual	All contracts shall be tracking and recording benefits from lean initiatives	Improve the way knowledge and best practice is shared between contracts so it becomes business as usual

## If we are the change that we seek



We need to embrace change and learn lessons from the manufacturing sector

We have to invest in automation, robotics, digital technology and the cloud

We have to move quicker, adapt to changing circumstances and keep on challenging ourselves

We must carry on working together to transform our sector and our environment

We need our customers to be bold and appoint us on the basis of our culture and behaviour