

# Procuring and delivering services innovatively

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# Transforming Industry Productivity

The UK 2017 Industrial Strategy identified increasing construction sector productivity as critical for UK Plc Growth

Construction productivity has remained flat since early 1990s while manufacturing has transformed its output through new technology and methods

Highway England has been working with ICE, CIHT & industry partners to transform productivity through three key strategic innovations:

- Project 13**
- Embracing Digital Economy**
- Talent Diversity**



# Creating New Contract models

The three initiatives has resulted in two new innovative contract models to deliver our ambitious RIS2 Construction Programme:

## 1. **Delivery Integration Partnership** *(awarded 2018)*

- Creating an Enterprise Environment
- Re-defining the Role of “Tier 1” as an Integrator to drive productivity

## 2. **New Smart Motorway Alliance** *(currently in tender)*

- Creating a Manufacturing production line in Civil Engineering
- Creating a Digital Design Environment

# 1. Regional Delivery Partnership

£9BN framework to deliver of 40 to 50 construction projects with primary strategy to transition from *transactional* contracting model to an *Enterprise Environment* via:

- Longer term 6 Year framework & guaranteed pipeline
- Regional economic Partnerships
- Focus on value not cost
- Sustainable fee
- Aligned Performance Targets

# 1. Regional Delivery Partnership

Re-defining the traditional role of Tier 1 Contractor to be a **Business Integrator** rather than **Risk Manager**

- ❑ **Vertical Integration** – regional and national Centre of Excellence to deliver annual productivity & innovations plan
- ❑ **Horizontal Integration** – integration of consultants and wider supply chain to focus on value outcomes not cost
- ❑ **Skills Integration** – focus on workforce planning to drive apprentices, diverse recruitment & effective training plans

*Change driven by Performance & Commercial Incentive Model*

## 2. Smart Motorway Alliance

New 10 Year Alliance to appoint 6 Partners to deliver technology upgrade to strategic asset improving traffic management & capacity

**Production  
Partner**

**2 Digital  
Designers**

**3 – Onsite  
Assemblers**

Vision to transform traditional labour intensive construction model by using automations and manufacturing methodology:

- Off-site Modular Construction**
- Computer Led Digital Designs**
- On-site Assembly Partners**

# 2. Smart Motorway Alliance

## Creating a Productivity Manufacturing Environment

- ❑ Standardised Product List of modular concrete and steel assets
- ❑ Product List items pre-fabricated off-site
- ❑ Onsite Assembly & site management
- ❑ **Production Partner** drives logistical interface between off-site **modular construction** and **On-Site Assemblers**
  - ✓ Reduced Time on Site (Safety, Customer, Delivery)
  - ✓ Reduced unit costs for standardised products & project risk
    - ✓ Requires new Construction Marketplace

# 2. Smart Motorway Alliance

## Creating a Digital Environment

- Next development of BIM & CAD
- Implementing AI computer modelling to design 80% of scheme components
- Enable Design Consultants to move from a labour based business model to a digital based solutions
- HE developed pilot “Rapid Engineering Model”
- Creates standardised, repeatable automated designs