Association for Project Management

Infrastructure Development Agencies: European lessons and a proposal for a UK centre of excellence

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Because when projects succeed, society benefits

Contents

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"Public projects tend to have what … we would call weak owners. A weak owner is one in which the owner does not maintain a sufficient number of experienced project staff and lacks the work processes that are characteristic of successful project systems."[1]

1 Merrow, E.W. (2023) *Contract Strategies for Major Projects: Mastering the Most Difficult Element of Project Management*. Wiley, p 12.

Introduction

There is growing concern in the UK regarding the ability of the infrastructure sector to shape and deliver the economic infrastructure required to support a growing economy and the sustainability transition. While it is important to remember that there is no evidence that the relative performance of the UK infrastructure sector is systematically poorer than in peer countries,[2] the current levels of performance are clearly unsatisfactory and a deterrent to further much-needed investment. There have been significant improvements over recent years in UK infrastructure development, yet when it comes to major projects we do appear to face some intractable problems. Ed Merrow's quotation in the epigraph suggests why this may be the case: when it comes to major projects the UK state is, arguably, a chronically weak project owner.

The most comprehensive database of major project performance available[3] suggests that the problems are organisational, not psychological. In particular, it is the organisation of the project owner (typically also the investor and operator) that is crucial for major project success, and for public sector projects the project owner is some arm of government. There are clearly weaknesses in how UK central government organises its ownership of larger infrastructure projects,[4] which begs the question of how governments in peer countries manage their megaprojects. The aim of this discussion paper is to investigate answers to this question with a view to informing debate about how UK central government might be able to improve its ability to shape and deliver major infrastructure projects.

We have deliberately chosen countries with very different answers to this question: France, the Netherlands and Denmark. There is no suggestion here that those countries are systematically more effective at developing infrastructure; there are no sufficiently robust datasets available to argue that confidently. However, they do address how to acquire and deploy owner project capabilities in different ways from the UK and, indeed, from each other. They therefore provide real exemplars of how things might be done differently in the UK.

Based on our findings from these three countries, we draw some implications for the UK, bearing in mind the very different geographic and institutional contexts of these three countries. We propose the establishment of a UK Infrastructure Development Agency (UKIDA) as an institutional reform that could systematically address the current weaknesses. This, we suggest, would be complementary to the National Infrastructure and Service Transformation Authority (NISTA) and could be organised on a public private partnership (PPP) basis. UKIDA would be a significant institutional innovation in the UK context, which has largely lacked internal project ownership capabilities, relying more on external consultants than other countries. This may be because up until the latter part of the 19th century, UK infrastructure development was privately led, while roads were maintained by local trusts.

2 Winch, G.M. (2026) *Why Does UK Infrastructure Cost So Much?* The Productivity Institute.
3 Merrow, E.W. (2024) *Industrial Megaprojects: Concepts, Strategies, and Practices for Success* (2nd ed.). Wiley.
4 Simcock, J. (2025) *Why Government Projects Really Fail and What Can Be Done About It*. Emerald; Stewart, J. (2025) *Major Projects Governance and Assurance Review*. Department for Transport; Winch, G.M. (2025) *So, What Went Wrong with HS2*? The Productivity Institute.

France: Corps des Ingénieurs des Ponts, des Eaux et des Forêts (IPEF)

IPEF brings together 3,000 personnel whose mission is to steer and nurture public action with their expertise in a wide variety of fields: land use planning and sustainable development, cities and housing, transport, ecological transition, agriculture, forestry, food, natural resources on land and at sea, climate and energy, and risk management, among others. It is co-managed by three ministries: Ecological Transition; Spatial Planning, Transport, Urban Affairs and Housing; and Agriculture, Agri-Food and Food Sovereignty.[5] In effect, it covers all the principal infrastructure sectors with the exception of telecommunications.[6] It forms one of the four Grands Corps Techniques of the French state.

IPEF was founded in 2009 as a merger of existing Corps, some of which date back centuries. The largest component of IPEF is the Corps des Ponts et Chaussées, founded in 1716, responsible for much economic infrastructure. Recruitment to IPEF is highly formalised, with around 50 recruits each year, the majority from the École Polytechnique (founded 1794), but also schools of application such as the École des Ponts ParisTech (founded 1747). IPEF is, therefore, deeply embedded in the French state as one of its technical and administrative Corps, drawing directly on an elitist educational system for engineers and administrators. With the decentralisation of the French state from the 1980s onwards, the Corps' offices at the level of the Département were transferred to local administrations, leaving a much-reduced Corps des Ponts at national level, prompting a merger in 2009. Throughout their history, the Corps des Ponts has worked with the private sector through the *concession* approach to private finance,[7] and this high level of private finance continues today with many local authorities outsourcing the provision of public services.

IPEF, in effect, now functions as a centre of excellence for French infrastructure development. These competences include both engineering and administrative expertise with respect to both major projects and infrastructure regulation. Its members gain considerable experience by moving around different infrastructure sectors and being seconded to regional bodies. They are paid as civil servants rather than receiving market salaries and embody a significant ésprit de corps as public servants, yet they are some of the most highly educated working within the French infrastructure sector.

France has a considerable infrastructure asset base, and the era of major new programmes is passing. There is currently a significant shift of emphasis in France towards renewing economic infrastructure, which favours bringing more decision-making within owner bodies due to the complexities of interfacing with the rest of the infrastructure system. For instance, the upgrade of existing lines on the Paris Métro to automated signalling was highly complex and would have been very difficult if there had been a technical reliance on the private sector.

5 Transition écologique; l'Aménagement du territoire, des Transports, de la Ville et du Logement; and l'Agriculture, de l'Agro-alimentaire et de la Souveraineté alimentaire.
6 This is the responsibility of the Corps des Ingénieurs des Mines.
7 Effectively, Design, Build, Finance and Operate (DBFO). See Martinand, C. (1993) *Le Financement Privé des Equipements Publics*. Economica.

The Netherlands: Rijkswaterstaat

Rijkswaterstaat, founded in 1798, is a Directorate-General of the Ministry of Infrastructure and Water Management of the Netherlands. Its role is the implementation of Ministry policies with respect to three major Dutch infrastructure networks: the 'dry' main road network, the 'wet' main waterway network and the main flood protection system. These include the development and operation of those networks, and ensuring the supply of drinking water, but not its distribution.

Following a period of considerable downsizing, it now employs around 10,000 people. It is divided into seven operational water and road districts, which together employ around 3,000 people, complemented by several centralised specialist services. It retains considerable technical expertise, particularly with respect to hydraulic engineering. The central organisation holds the project management organisations for major projects (Grote Projecten Organisatie) and smaller projects and programmes (Projecten en Programs).

The overall major project life cycle is a three-phase model. The Ministry of Infrastructure and Water Management in the exploration phase develops the initiative, negotiates with the key stakeholders and takes the project to the Starting Decision with an allocated budget. At this point, the project is passed to Rijkswaterstaat to enter the planning phase. During planning, the engineering design is developed, and this is where disputes with local stakeholders typically arise as they start to understand the precise impact of the project on their interests. Negotiations with such parties are hampered by the constraints of the allocated budget. The commercial strategy for the project is set by the Ministry in the exploration phase, and Rijkswaterstaat has only two options: Design, Build, Finance and Maintain, or Design and Construct on an alliancing basis, with the latter now predominant. The realisation phase is the responsibility of the contractors, with project oversight from Rijkswaterstaat. A typical major project might spend one third of elapsed time in each phase.

Traditionally, Rijkswaterstaat retained all project capabilities in-house, right down to detailed engineering design. Construction contractors were then simply expected to implement Rijkswaterstaat's design. This in-house model came under pressure from the late 1980s onwards due to significant budget overruns on the Eastern Scheldt storm surge barrier (Oosterscheldekering) coupled with political pressures to reduce the numbers of civil servants and to collaborate more widely with the private sector in delivering public services. Over time, these initiatives led to around 80% of former activity being outsourced in a "philosophy of market unless. Let market do anything that the market can do, unless we can do it better". Rijkswaterstaat now saw itself as a lead commissioning authority rather than an infrastructure delivery body. It also standardised its project processes and roles.

Rijkswaterstaat's position within the Ministry has both strengths and weaknesses: "It's the advantage that you are very close to where the decisions are made; the disadvantage is that you are very close to where the decisions are made". Its strength is that, while Rijkswaterstaat is not responsible for the exploration phase, its technical advice can be readily sought internally to the Ministry; the disadvantage (from Rijkswaterstaat's point of view) is that it is very easy for politicians to meddle should things start to go wrong.

There is now a trend for Rijkswaterstaat to bring more planning activities in-house; "to use the market as much as needed, but also do part yourself to learn, innovate and guarantee a minimum degree of essential knowledge". This is for two reasons. One is the shift to renewal rather than new build infrastructure, which is inherently more complex and the market sector less skilled at. The second is the growing reluctance of contractors to take on large packages of work, and so Rijkswaterstaat is increasingly obliged to create smaller works packages, which then requires it to manage more package interfaces.

An important cross-sectoral body in the Dutch infrastructure sector is Neerlands Diep, a project management academy for construction and infrastructure with members from four municipalities, TenneT (energy transmission), the Dutch government real estate agency, ProRail and Rijkswaterstaat. It provides both individual programmes to project professionals from their members at mid-career to senior levels, and team development programmes for its members' projects, collaborating extensively with Dutch universities focusing on the 'soft' skills of managing projects and their stakeholders. Technical staff also move readily between the main infrastructure owners, sharing expertise, and Rijkswaterstaat collaborates with ProRail on complex projects such as Zuidasdok (south Amsterdam regeneration).

Denmark: Sund & Bælt Holding A/S

Sund & Bælt A/S is a state-owned company reporting to the Ministry of Transport, and is responsible for Denmark's largest transport construction investments, improving Danish connectivity nationally and internationally. Founded in 1991 to own the Danish interests in the Øresund Bridge, it took over the Storebælt link operating company in 1995. It provides feasibility analyses of possible future transport links; establishes the financing of politically determined solutions; and is responsible for the design, construction, operation and maintenance of assets throughout their operational life. Sund & Bælt's business model generates profits to support socio-economic growth. This business model, in essence, raises finance from the private sector against a state guarantee, and then repays that finance from the tolling income stream from the completed asset. These tolls include payments from Danish Railways for the use of the links, as well as road users.

Sund & Bælt A/S Holding, as the corporate centre, has 100% ownership of a number of subsidiaries for each of its infrastructure assets: A/S Storebælt, A/S Øresund, A/S Femern, Sund & Bælt Partner A/S and Brobizz A/S. A/S Øresund owns 50% of Øresundsbro Konsortiet, which owns and operates the Øresund/Öresund Bridge together with SVEDAB AB of Sweden. A/S Femern is presently constructing the immersed road and rail link to Germany across Femernbælt/Fehmarnbelt, which is entirely owned and financed by Sund & Bælt A/S, while Denmark and Germany are each responsible for financing their own access facilities. Brobizz A/S provides automated tolling systems for Sund & Bælt asset operations and support for per kilometre tolling of trucks on Danish roads, low emission zones, and automated payment systems such as automatic number plate recognition (ANPR) more generally in Denmark for commercial operators. Sund & Bælt Partner A/S provides consultancy services nationally and internationally.

The segment factory at Rødbyhavn is built and operated by the Femern contractors but will now, by Act of Parliament in 2023, not be dismantled and will be taken over by the Danish government. This to ensure that its facilities are available for possible future infrastructure projects such as the Østlig Ringvej. This is an eastern ring road around Copenhagen in a submerged tunnel, which is presently under evaluation. Another megaproject has also been mooted – the HH Link (Helsingør to Helsingborg across the Kattegat).

Sund & Bælt A/S has become the principal vehicle for the implementation of the distinctive Danish State Guarantee Model[8] (SGM) of infrastructure finance. In this model, a wholly state-owned enterprise raises loans, guaranteed by the Danish state, which has excellent creditworthiness, from the private sector for investment in an infrastructure asset. These loans are principally in the form of bonds sold to pension companies and the like. The loans are then repaid over 30 to 40 years by the tolls and other incomes generated by the asset in use. SGM was developed in 1987 for financing the Storebælt link and, by founding Sund & Bælt, a mechanism was provided for using existing tolls to finance future infrastructure investments and for sharing expertise between infrastructure assets such as tolling technology. There is a continued political debate within Denmark as to whether the toll income above what is required to service the loans should be used to reduce tolls, to reduce taxes more generally, or to support the development of future infrastructure projects.

During project shaping, Sund & Bælt holds significant technical expertise, while working closely with the two principal Danish engineering consultants, COWI and Rambol. Sund & Bælt was able to transfer the expertise developed on the challenged Storebælt link directly to Øresund through the transfer of personnel. This was more difficult between Øresund and Femern because of delays in the project generated largely in the German legal system. So, COWI and Rambol became repositories of this expertise between megaprojects, and Rambol is the engineering partner on Femern. In the shaping of the Femern Link, parallel working was implemented across the various portfolios – engineering, economics, environmental, legal and financial. So:

> "The Femern project was structured so that we worked on the tender process and technical design, the environmental approvals, the financial model, and other issues simultaneously. This 'simultaneous model' required the client organization to be strong across all these areas. You couldn't outsource everything, because coordination was essential – and you needed the right people in-house to make it work, even though, of course, there was also substantial use of external consultancy. It was regarded as the most effective approach overall."

8 For details of this, see Holm, K.V. & Nielsen, T.H. (2018) *The Danish State Guarantee Model for Infrastructure Investment*. International Transport Forum.

Potential learning for the UK

There are two important caveats before we identify potential learning for the UK. The first is that Sund & Bælt and Rijkswaterstaat are both, in a very important sense, functions of their national geographies. As its name implies,[9] Rijkswaterstaat's foundational focus is the Dutch battle with water and, in particular, the North Sea. This motivated investment in massive flood protection systems, and other public interest infrastructure areas followed such as roads and transportation waterways. Denmark's geography and the need for fixed links across water is similarly captured in the name Sund & Bælt.[10] The UK does not have the same national challenges with water.

The second is that Rijkswaterstaat and IPEF come from very different administrative traditions compared to the UK, with different ways of organising engineering expertise. Indeed, for a short time, Rijkswaterstaat was part of the Corps des Ponts. This tradition organises engineering expertise into state-managed quasi-military *corps*, rather than state-chartered largely autonomous *professions*.[11] This is the same administrative tradition that motivated the foundation of the US Army Corps of Engineers in 1802, under French influence, which is also focused on water for its civil works. While the military connections have long since waned in the Netherlands and France, there is still a strong sense of being public servants in these organisations that is absent from the organisation of engineering in the UK.

Clearly, much of what these three organisations do is not transferable to the UK. So, what can be learned? The first lesson is a general one – the importance of having technical expertise within the project owner organisation, particularly in the earlier stages of project shaping. It is widely accepted that major infrastructure projects are getting more complex, and that complexity puts much greater pressure on the owner organisation. One source of complexity is the switch to renewal projects rather than new build, with all the inherent uncertainties that entails and the associated need for quick decision-making to keep the project on schedule. Another example is the complexity of meeting tougher environmental criteria while also keeping projects investable for private finance. It is notable that the Femern Link team believed that they could not have moved as quickly during project shaping if they had not had significant expertise within Femern A/S that enabled them to work in parallel rather than sequentially with a series of consultants. The extensive research performed by Independent Project Analysis[12] also stresses the importance of a capable project owner team for effective megaproject delivery.

There are, however, more specific lessons that we can learn. From IPEF, we can learn the value of having a relatively small group of highly trained engineers within government to advise on the technical feasibility of a proposed major project. Indeed, the complementary lesson from Sund & Bælt is that such a team needs to include environmental, legal and project execution expertise and to also enable fully rounded project shaping and effective engagement with consultants offering particular expertise. The point is complemented by observations from Rijkswaterstaat and IPEF regarding the shift to renewal projects and the growing reluctance of contractors to take on large packages of work at risk.

9 'Waterstaat' denotes the condition of an area in relation to surface and groundwater; 'rijks' translates as 'national'.
10 Sound and Belt.
11 For more, see Campagnac, E., & Winch, G.M. (1997) The social regulation of technical expertise: The corps and profession in France and Great Britain, in R. Whitley & P.H. Kristensen (eds.) *Governance at Work: The Social Regulation of Economic Relations*. Oxford University Press, 86–104.
12 Merrow (2024).

From Sund & Bælt there is much to learn as a vehicle for the SGM. Sund & Bælt allows the finance from national and international markets to be secured on the infrastructure assets and the funding streams generated by those assets to reimburse the loans. This is a form of Design, Build, Finance and Operate (DBFO), but Sund & Bælt moves beyond individual megaprojects as a vehicle for Danish infrastructure development strategy, implementing the triangle vision of fixed links across Denmark. It is now promoting further major infrastructure investments as well as drawing on its tolling expertise to develop road pricing technologies. In developing what is, in effect, a rolling programme of megaprojects, it also becomes a repository of expertise at the complex interfaces between finance, engineering, environmental and legal portfolios. Its organisational strengths and high levels of in-house expertise give it momentum to overcome challenges on individual megaprojects. Storebælt was delivered some years late due to major challenges in project delivery, but learning was captured and the lessons transferred directly to the Øresund link, which was successfully delivered.

It is a useful counterfactual thought experiment to envisage how HS2 might have turned out had it had an organisation like Sund & Bælt as its owner. A first advantage is that a private finance perspective would surely have challenged the decision to specify a 360 kph service speed, which turned HS2 from an implementation project into an innovation project, rendering reference class forecasting difficult. A second would have been the ability to recruit the numbers of staff at market salary levels required for this immensely challenging project and helped to prevent HS2 Ltd (and indeed the Department for Transport) from being continually off the pace as the project mobilised towards Notice to Proceed. A third would have been a much stronger advocacy of extending the deadline to, say, 2028 once it was known that Royal Assent was going to be granted two years later than planned, which would have not forced HS2 Ltd to move too early to awarding contracts and the Department for Transport to allow HS2 Ltd to crash through governance gates. Fourth, a less pressed owner organisation would have been able to take a more mature approach to risk allocation with contractors[13] rather than effectively taking on all the main civils risks itself. Finally, and perhaps most importantly, private finance involvement would likely have made the sequence of decisions over the cancellation of HS2 Phase 2 more difficult.

13 Vincentsen, L., & Smedegaard Andersen, K. (2018) *Risk Allocation in Mega-Projects in Denmark*. International Transport Forum.

A proposal for a UK Infrastructure Development Agency

We now turn to fleshing out an idea that has been suggested in both a recent government report on HS2[14] and the Boston Consulting Group report on infrastructure project performance.[15] Both reports recommend the establishment of a centre of excellence for UK infrastructure development, but are skeletal on what that might involve. We here flesh out what that might look like, drawing on our research on the three peer countries. We first look at institutional context before suggesting what UKIDA might do.

In our view, a first requirement for UKIDA is semi-independence from government. The formation of NISTA was an important step forwards at the strategic level, but its mission includes very important project governance roles inherited from the Infrastructure and Projects Authority. UKIDA therefore needs to be separate from NISTA to avoid compromising the effective governance of its projects and the confused accountabilities and weak governance that plagued HS2.[16]

Second, UKIDA would need the autonomy to recruit the required numbers of people paid at the appropriate market rates. In the UK context, this might mean UKIDA would be better constituted as a PPP, thereby enabling a fluidity of personnel movement between the public and private sectors rather than the establishment of a technical corps.

Third, its scope would need to be clear. Generally, the UK owner/operator utilities, such as National Highways,[17] have been improving their performance in recent years, and the Infrastructure Client Group's Project 13 is reaping dividends here. So UKIDA would not be involved in the investment project portfolios agreed within five-year regulatory cycles. Its focus would be on the larger projects that did not sit comfortably within those cycles. In terms of the relationship to NISTA, it can be suggested that the Strategic Case remains the responsibility of the sponsoring department supported by NISTA. UKIDA would then be responsible for developing the other four business cases (economic, financial, commercial, management) to shape the infrastructure project. Once the project is ready to move from shaping to delivery, UKIDA could recommend to the sponsoring department the options of appointing a delivery partner or setting up a special-purpose vehicle.

The competencies required within UKIDA would need to cover the full range so as to enable the integrated shaping of the megaproject. These include financial, environmental, engineering and legal skills to facilitate the challenging task of developing investable business cases that meet society's expectations for protecting the environment and heritage. From this process should emerge a stable and convincing project narrative articulating the long-term benefits that encourages the public to support the infrastructure project despite the inevitable disruptions that it entails.

14 Stewart (2025)
15 BCG (2024) *Reshaping British Infrastructure: Global Lessons to Improve Project Delivery*. Boston Consulting Group.
16 Stewart (2025).
17 Chapman, P. (2024) Project delivery performance: Insights from English roads major schemes, *Project Leadership and Society*, 5, 100128.

Owner project capabilities

Before the next step of the argument, it is worth clarifying what we mean by 'owner project capabilities'. 'Owner project capabilities' are defined as the capabilities possessed by the project owner organisation that enables it to shape and deliver effectively its investment projects. There is now considerable evidence derived from benchmarking data of major projects[18] regarding what those owner project capabilities are. The same evidence shows that these capabilities cannot be effectively outsourced to suppliers, although appropriate suppliers such as delivery partners can provide complementary resource. In summary, the required capabilities during project shaping are to:

- develop and own the business case
- design and implement appropriate project governance arrangements, including rigorous stage gates and the appointment of a competent sponsor
- select which technical options are most appropriate to meet their purpose
- develop a commercial strategy to obtain the required human and material resources for delivery
- develop a project delivery plan with indicative schedule and budget.

Additionally, during project delivery, they are to:

- implement effective project controls
- procure and manage suppliers
- challenge suppliers' project execution plans
- manage the interfaces between suppliers' work packages
- fulfil legal client requirements with respect to issues such as safety.

Finally, following asset output handover, they are to:

- turn outputs into outcomes by realising the benefits specified in the original business case.

On our analysis drawn from the three case studies, we suggest that the focus of UKIDA should be on project shaping, while also ensuring that whichever organisation is charged with the client role during project delivery has the mature capabilities to act as an effective client, and supporting the sponsoring department to realise benefits if required.

18 Merrow (2023; 2024); Merrow, E.W., Sonnhalter, K.A., Somanchi, R., & Griffith, A.F. (2009) *Productivity in the UK Engineering Construction Industry*. Department for Business, Innovation and Skills.

What might UKIDA do?

While sponsoring departments would still own the business case through an accountable SRO, UKIDA would be responsible for shaping the project while governed by NISTA. In doing this, it will likely need to engage with a variety of external specialist advisors. Once the five business cases were agreed with the sponsoring department, UKIDA would then move forwards with technology selection, refining the commercial strategy and planning for project delivery. Depending on the commercial strategy, UKIDA would support procurement of a delivery partner (the London 2012 model), pass the project to a publicly owned delivery body (the HS2 Ltd model) or procure a private special-purpose vehicle (SPV; the Thames Tideway model). During delivery, UKIDA's responsibilities might be quite limited, unless it were directly project-managing delivery. If a delivery partner is the chosen option, UKIDA will need to pay particular attention on behalf of the sponsoring department to benefits realisation. One of the lessons of the Private Finance Initiative (PFI) is that suppliers cannot be responsible for turning outputs into outcomes; only owner/operators can do that.

At a portfolio level there are several contributions that UKIDA could make to infrastructure development that would add significant value:

- Support sponsoring departments in early-phase shaping of major projects to ensure that project delivery considerations are taken into account from the very start, prior to the deposition of a hybrid bill or application for development consent.
- Support the mayoralties in the development of their own economic infrastructure development strategies.
- Support the start-up of stand-alone arms-lengths project owner bodies such as HS2 Ltd to enable more rapid mobilisation and maturation of owner project capabilities.
- Provide a consistent, experienced commercial counterpart for delivery partners.[19]
- Carry out the Project Representative (P-Rep) role on behalf of sponsoring departments, which is presently outsourced to consultancies[19].
- Act as a 'knowledge base' of best and advanced practice for the required technical, project and commercial capabilities for major projects, ensuring knowledge is not lost either over time, or between projects. This should include championing the digital transformation of infrastructure development and operation.
- Promote standardisation within and between infrastructure sectors.
- Collect, hold and analyse project outturn data to ensure early-phase estimations for major projects are based on rigorous benchmarking and are therefore more accurate.
- Hold a centralised database on supplier delivery performance, rewarding high performers.
- Capture the learning from productivity improvement demonstrators for diffusion rapidly through the individual sector, and across different infrastructure sectors as appropriate.

An academy for infrastructure development?

The Dutch experience with Neerlands Diep (neerlandsdiep.nl) warrants further consideration, independently of any initiative along the lines of UKIDA. While project leadership development within UK central government has matured significantly thanks to the Major Projects Leadership Academy (Oxford) and the Project Leadership Programme (Cranfield), there is no UK comparator to Neerlands Diep. Consideration should be given to developing such an academy, and I believe that there have already been discussions within the Infrastructure Client Group along these lines.

19 One of the governance issues on Crossrail was that the sponsor function within Transport for London was relatively weak in relation to the 'A-team' in Crossrail Ltd, and the external P-Rep function lacked authority. See Simcock (2025).

Conclusions

There is now overwhelming evidence that infrastructure development through shaping and delivery is more effective when the project owner is strong and capable. This is increasingly the case as major projects become more complex due to complex stakeholder trade-offs, the switch to renewals rather than new build, and suppliers lacking the capacity to have risks transferred to them. We have argued in this report for the establishment of a UK Infrastructure Development Agency, inspired by recent calls for a centre of excellence for UK infrastructure delivery. In order to flesh out this idea, we have drawn on the very different experiences of three European countries with infrastructure development and shown how UKIDA could reinforce existing owner project capabilities in the UK infrastructure sector, particularly within UK central government.

This is an ambitious institutional reform that will take time to mature, but it is worth considering seriously, and the journey towards that reform will undoubtedly stimulate a debate on how to move forwards with the improvement of the development of larger cross-cutting infrastructure projects that the country needs if it is to achieve our collective aspirations for the future around green growth and energy security.

Appendix

This discussion paper is based on authoritative sources, but cannot be considered definitive research on the organisations discussed. Its aim is to stimulate discussion within the UK infrastructure sector on how to improve the performance of infrastructure development across both shaping and delivery. The focus on the importance of strong, capable owners is informed by the extensive benchmarking research of Independent Project Analysis (ipaglobal.com) on how to achieve superior major engineering project performance.

I am very grateful to my academic colleagues who enabled the introductions to the interviewees and provided background documentation. Without them, it would not have been possible to prepare this discussion paper. They are, in alphabetical order:

Prof. Pierre Daniel, SKEMA, Lille

Dr Christian Theusen, Danish Technical University

Prof. Leentje Volker, University of Twente

Interviewees

Claus Baunkjaer, former CEO, Femern A/S

Prof. Wim Leendertse, Project Director, Rijkswaterstaat and University of Groningen

Pierre-Alain Roche, Inspection Générale de l'Environnement et du Développement Durable; Conseil d'Orientation des Infrastructures

Dr Hans Ruijter, Project Director, Rijkswaterstaat

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