This use case is a contribution from the D20-LTIC (Long Term Investors Club) together with the LTIIA (Long Term Infrastructure Investors Association), with some adaptations from the Global Infrastructure Hub.
of extraordinary events, and therefore to schedule the bridge maintenance beforehand and contribute to the reduction of maintenance costs.

Enhancing economic, social and environmental value:

- Photovoltaic panels make the bridge energy self-sufficient and reduce its energy consumption.
- Reusing the 100% of the excavation waste of a previous old infrastructure contributes to minimize environmental impact.
- Robots carrying out the structural inspection of the bridge and maintenance of the solar and acoustic panels, minimise the risk and the need for human workers.
- Control and monitoring of the infrastructure seven days a week, 24 hours a day, make it safe and extremely efficient.
- Innovative design of the bridge allows the light to slide off the surface and soften the visual impact and presence that the bridge has in its urban setting. Use of light colors for painting the steel elements makes the bridge bright, harmonizing its presence within the landscape. Use of high fall and wind barrier designed to mitigate the visual impact of the infrastructure within the urban context.
- Innovative solutions adopted also with regards to structural and seismic point of view, limit the size of the structures and especially foundations in a highly urbanized context.

POLICY TOOLS AND LEVERS

Legislation and regulation; Funding and financing:

The development of a sustainable infrastructure require a combination of support and participation at central and territorial governmental level, the commitment of public and private investment and a favourable regulatory framework.

In order to develop quality, reliable, innovative, sustainable and resilient infrastructures, in line with the targets of the UN Agenda 2030 (SDGs) and the Paris Agreement on climate change, the adoption of relevant incentive policies are crucial, including new procedures in order to simplify and speed up the delivery of public works.

Public funding is important, but private sector investment clearly needs to be scaled up. Elements to be strengthened to attract private investments in sustainable infrastructure projects include, among others, the adoption of long-term infrastructure plans, a clear pipeline of bankable and quality projects, fiscal incentives, shared sustainability standards, promotion of new technologies (smart roads programs, digital infrastructures, etc.), better data analysis, capacity building mechanisms and innovative financing mechanisms.

The adoption of technological advanced solutions in the construction phase is a key driver, coupled with an efficient administrative process involving different levels of Public Authorities (i.e. Central Government and line Ministry, Regional Authority, Municipality, Commissioner, etc.) committed to speed-up the administrative procedure and helping to avoid any possible bottle necks.

IMPLEMENTATION

| Cost                                    | The adoption of smart technologies in transport infrastructures brings great benefits for the maintenance costs during the long-life of the infrastructure. |

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EXAMPLE

The new Genoa bridge over Polcevera river represents a key example of smart and sustainable infrastructure as well as a showcase of Italy’s latent engineering and construction talents. Design by architect Renzo Piano and built by a consortium company established by Fincantieri (71,3% of shares owned by CDP) and Salini Impregilo (18,7% of shares owned by CDP), the bridge is a critical traffic artery for northern Italy. The new bridge arises 45 meters above the ground and has a continuous steel deck measuring 1067 meters (3500 feet) totally, with 19 spans, supported by 18 reinforced concrete piers. Work on the new bridge was undertaken at an accelerated pace. A project that would normally take three and a half years was squeezed into just over 12 months. The shape of the deck recalls the hull of a ship, and the gradual reduction of the section towards the ends of the bridge minimises the visual impact. Thanks to innovative, efficient and technological advanced solutions never used before in Italy and notably an innovative model, gathering private sector highest’s expertise and public commitment and administrative support, allowed to reach a great result in a very short time. Over 1,000 persons involved in the direct and indirect activities concerning design and building. 202 million euros the total cost for the design and realization of the viaduct.

CDP (the National Promotional Institution of Italy), through its subsidiary CDP Equity (CDPE), acquired 18,68 % share of Salini Impregilo (current renamed Webuild) through equity investments, with the purpose of revitalizing the Italian construction sector and supporting the implementation of strategic infrastructure projects crucial for the economic and social development of the Country.

PERGENOVA S.C.p.A. is the joint venture set up by Salini Impregilo (WeBuild) together with Fincantieri for the design and construction of the Polcevera viaduct on the A10 motorway, the new bridge of Genoa. [https://www.pergenova.com/it/index.html](https://www.pergenova.com/it/index.html)