

New Chinese bridge lets motorists drive down middle of river

and possible problems

The project manager of the road is **Chen Xingda**



Key words

- span of bridge
- reinforced concrete
- cracks
- repairing
- safety requirement
- it collapsed
- external aggressive environment
- dismantling
- to pour sth
- to accumulate=to build up=to pile up
- equipment
- anchor rods



Purpose of building a bridge



- solution to the problem of running a road through mountainous terrain.
- to link the town of Gufuzhen in Xingshan county to the main highway running between Shanghai and Chengdu in south-western China.
- to cut the journey to 20 minutes (the extension of bridge is 10,5 km)
- to avoid the need to build tunnels along the route, to minimise the environmental impact of the road.



The supposed problems

- Experts believe that the bridge can repeat the experience of the Bridge between San Francisco and Auckland, as it is in the water environment.
- In 2007, during the reconstruction of the Bay Bridge connecting San Francisco and Auckland, cracks were found in the protective metal frame of the eastern span of the reinforced concrete sarcophagus.
- Caltrans approved the contractor's plan to pour the crevices with industrial glue. But in 2014 it was discovered that the water continued to flow into the interior, causing corrosion and provoking the appearance of microcracks in the anchor rods. US FTA recommended installing equipment that will detect corrosion processes.



Features of this problem and solution

- Typical damages can accumulate for several years, but fatal destruction can happen instantly, which will lead to catastrophic consequences
- The reinforced concrete sarcophagus with a wall thickness of 50 cm should ensure the stability of the structure in the event of an earthquake
- This design solution was to protect the metallic elements from the action of salty sea water, which causes corrosion



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