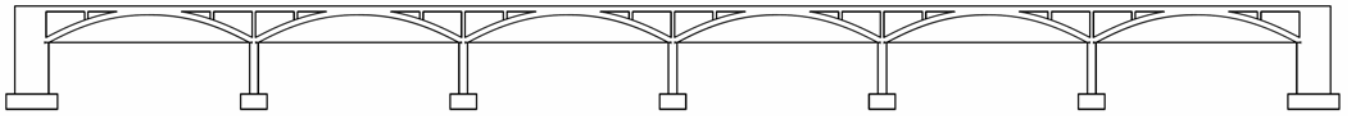


INTEGRAL ARCH BRIDGE OF UNLIMITED LENGTH



▲ Possible application of the new technology shown for a long integral bridge with six spans

When it comes to the construction and maintenance of bridges, integral constructions have many economic advantages. The abutment areas of conventional integral bridges with lengths over 70m often cause problems due to the length variations caused by temperature changes of the concrete in particular. With this new technology, developed at TU Wien, the construction of integral bridges of arbitrary length becomes possible. By using arches for the construction, which are situated between two fixed abutments, temperature changes lead to a raise and a lowering of the tops of the arches instead of longitudinal strains. In combination with tendons, which are connected to the base points of the arches, a fast building process and a safe structure can be achieved.

ADVANTAGES

- Construction of integral bridges of arbitrary length becomes possible
- Construction in stages without temporary bracings is possible, despite of slender piers
- Reduction of the bending moments of the arches and the piers for traffic loads positioned in a single span
- Redundancy of the entire structure

POTENTIAL APPLICATIONS

The new technology is suitable for the construction of integral road, railway and pedestrian bridges. It is especially beneficial when it comes to bridges built in wide, flat valleys.

▼ Construction of a prototype to test the new technology



PATENT STATUS

- Patent in Austria: 520386
- PCT: PCT/AT2018/060163



COOPERATION POSSIBILITIES

- Project based cooperation
- Licence agreements

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