



Movable Scaffolding System

The Movable Scaffolding System was first designed by the Norwegian company STRUKTURAS since 1973. Since then has been developed and used in various bridge projects.

The Movable Scaffolding System is available in the following versions:

- **overhead** (on the concrete deck) consists of a self-supporting structure.
- **underslung** (under the concrete deck) consists of a self-supporting structure.

The STRUKTURAS company developed yet the possibility to use the Movable Scaffolding system (MSS) in the construction of cast-in-situ concrete bridges with a span length till 70 m. The MSS is available in both underslung and overhead versions allowing two continuous spans execution.



Cast-in-situ
Box deck
Site: Campanário
Client: Construtora do Tâmega SA
Place: Madeira

Main Advantages:

- Reduce manpower
- High resistance to torsion
- Deflections limited to 1/400 of span
- Adaptability to different bridge cross section
- High rentability
- Spans till 70 m
- Low weight
- Easy to assemble
- Great efficiency in use!

Main system components:

- Main Girder
- Transverse beams
- Brackets
- Formwork
- Noses
- Wagons
- Gallow
- Platforms
- Ladders



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A normal cycle includes the following operations:

- After concreting, curing and tensioning of cables, the Main Girders are lowered by the main jacks at the Suspension Gallow on the brackets.
- The joints in the middle of the Transverse Beam system are released and the Main Girders are moved transversely into a position where the Transverse Beams can pass the piers.
- The MSS is ready for launching. The launching operation to the next concreting position is to be carried out. The two Main Girders are moved independently to the next span.
- During the launching operation, the suspension Gallow is moved to its next position.
- The two girders are moved transversely and joined in the middle of the Transverse Beam system.
- The Main Girders are raised to the concreting position by the Main Jacks.
- Adjusting the formwork by means of the screw jacks and the adjustable supports.
- For box deck bridges:
After placing the reinforcement and tendons of the bottom slab and webs, the Internal Formwork is moved to its next position.
- When placing of reinforcement and tendons is finished, the MSS is ready for concreting of the next span of the superstructure.
- During the concreting period, the rear pair of Pier Brackets are dismantled, moved to the next front pier and re-installed.