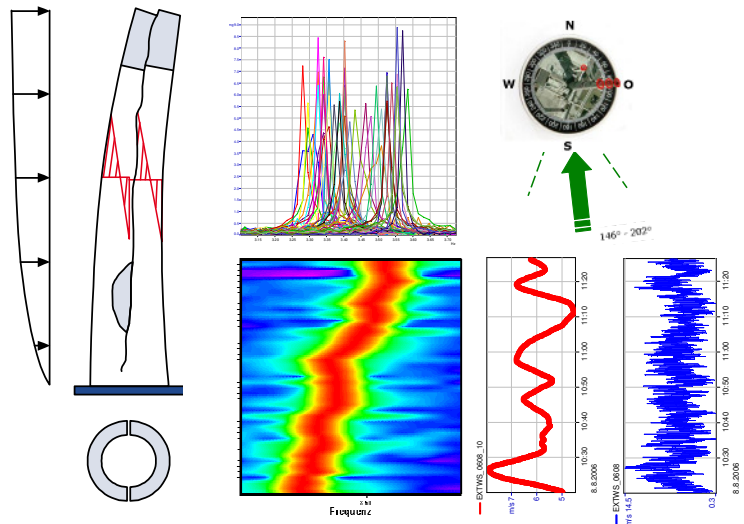


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## Permanent Monitoring – Object ŠKO-ENERGO

The present 200 m high industrial stack made of reinforced concrete at the premises of ŠKO-ENERGO (the energy supply company of the enterprise Škoda-Auto) is a key structure in the course of energy and heat supply of the client as well as of the nearby town Mladá Boleslav and was built in 1974. The global maintenance state of the structure was analysed in the scope of a detailed, dynamic structural measurement with BRIMOS® (in October 2005). The comparison of the measurement-based results with the analytic, computer-supported calculation of the stack (undamaged Finite Elements reference model) suggested a decrease of system stiffness in the upper quarter of the stack. As exclusively ambient conditions existed during the basic measurement, the structurally and mechanically effective damage extent of the stack was to be analysed by means of a permanent monitoring system under influence of strong winds and the dynamic properties of cracks and damaged spots were to be quantified. The records of the permanent measurement contained information on effective structural accelerations at two spots for the determination of the load bearing capacity as well as on the movement of two selected vertical cracks. The analysis was performed subject to meteorological effects observed at the same time (wind force, wind direction, air temperature). The permanent annual condition monitoring with BRIMOS® was carried out with regard to appropriate maintenance measures and rehabilitation concepts. The result is based on a complete annual cycle – independent of the climatic environmental conditions – and considers a sufficient number of strong wind events.

- Client: ŠKO-ENERGO
- Location: Mladá Boleslav, Czech Republic
- Checking Period: 2006-2007



### BRIMOS® Services conducted:

- |                              |  |  |  |   |
|------------------------------|--|--|--|---|
| <b>Lifecycle Management:</b> | <input checked="" type="checkbox"/> Condition Assessment | <input checked="" type="checkbox"/> Condition Monitoring | <input checked="" type="checkbox"/> Rehabilitation Planning  | <input type="checkbox"/> Quality Control            |
|                              | <input checked="" type="checkbox"/> Lifetime Assessment  | <input type="checkbox"/> Traffic Analysis                | <input checked="" type="checkbox"/> Environmental Influences | <input checked="" type="checkbox"/> Risk Assessment |
| <b>Special Measurements:</b> | <input type="checkbox"/> Attendant Monitoring            | <input type="checkbox"/> Noise and Vibrancy              | <input type="checkbox"/> Deflection Measurements             | <input type="checkbox"/> Seismics                   |