



9th COST TU 1402 Workshop

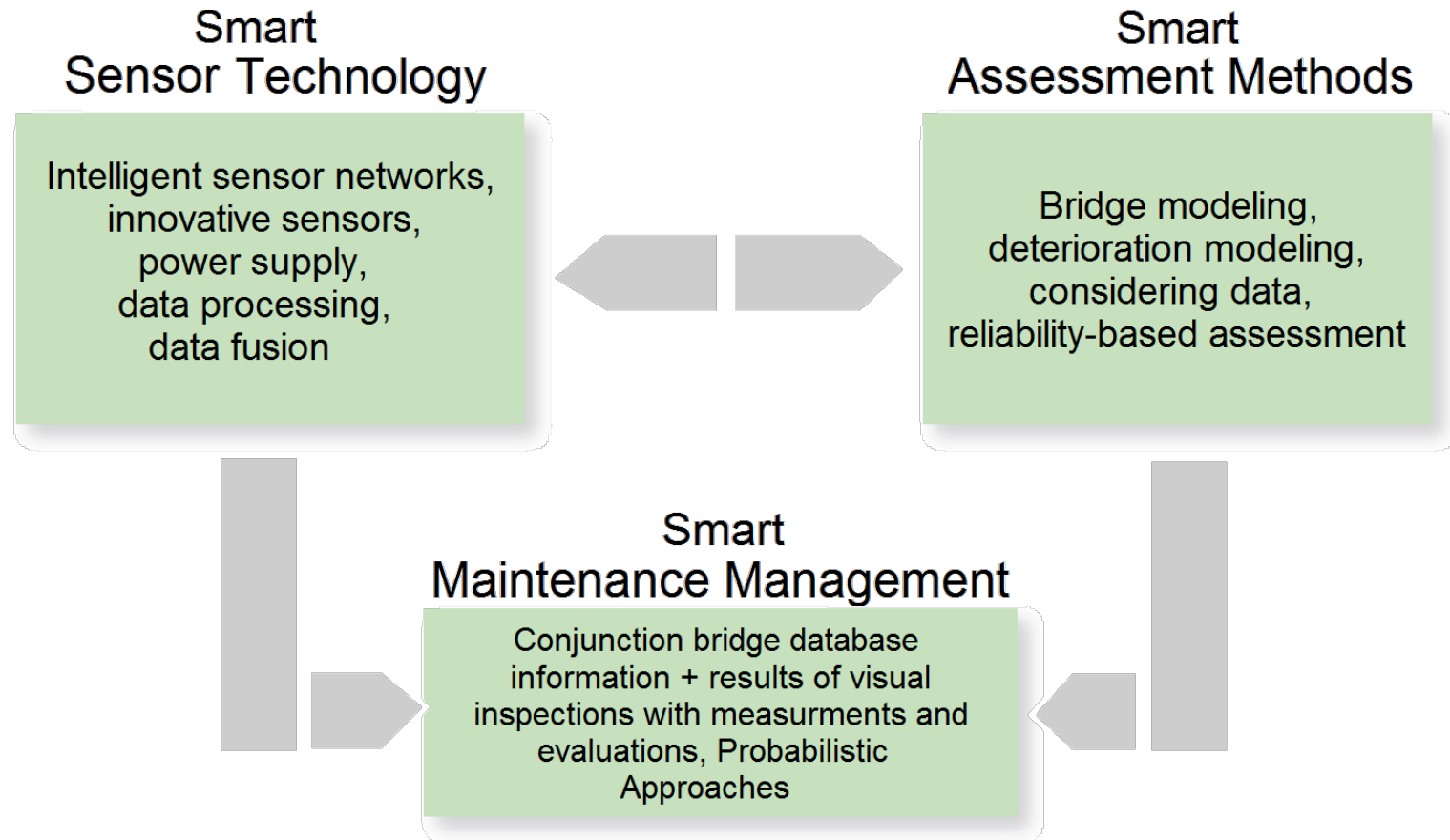
**Case studies „Digitales Testfeld Autobahn“
and „duraBAST“**

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„Smart Bridge“

- The case studies „Digital Testfeld Autobahn“ and „duraBAST“ are part of the project cluster „Smart Bridge“.
- In the project cluster “Smart Bridge” an adaptive system for information and holistic evaluation in real time is developed.
- The main benefit of the Smart Bridge are economic and safety improvements.

„Smart Bridge“



„Digitales Testfeld Autobahn“

- New built concrete bridge in the highway interchange Nuremberg A3/A8.
- The bridge is equipped with different sensors for the detection of:
 - impacts of traffic loads
 - climatic influences
 - reactions of the components with regard to the functionality of individual bridge components.
- Aim: By using analytical bridge models and evaluation methods the condition and reliability of the bridge construction and its components can be determined.

„Digitales Testfeld Autobahn“



Source: BAST 2016

„duraBASt“

- A completely overhauled bridge located at the interchange “Köln-Ost” (A4).
- The bridge is equipped with different sensors for the detection of:
 - durability
 - structural safety parameters
- Aim of this study is the integration and partial implementation of the aspects: data collection with sensors, data processing and model development for condition assessment of the bridge.

„duraBAST“



Source: BAST 2016

Approach for implementing formal Vol analysis

- “Digitales Testfeld Autobahn”
 - Optimized maintenance planning – in relation to the reliability index
- “duraBAST”
 - ?

Current state

- „Digitales Testfeld Autobahn“
 - Sensors are installed at the bridge
 - First data are collected
 - Next step: automatically merger and evaluation of the data
- “duraBAST”
 - Sensors are installed at the bridge
 - Data are collected and analyzed
 - Next step: determination of the weaknesses of the bridge and experimental determination of the load-bearing capacity of the bridge



Thank you for your kind attention!