

IKT - Institute for Underground Infrastructure

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**IKT - Symposium on
Pipe Jacking Simulation 2007**
in cooperation with
Emschergenossenschaft

**1:1 Scale Simulation
Research Results
International Experience**

**14th February 2007
Gelsenkirchen, Germany**

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„Pipe-Jacking Simulator“ IKT

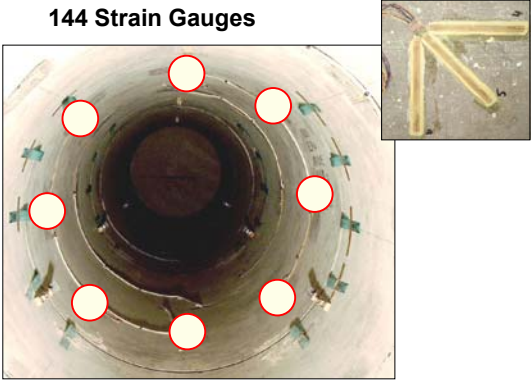
Measurement and Results



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„Pipe-Jacking Simulator“ – Measurement Instrumentation IKT

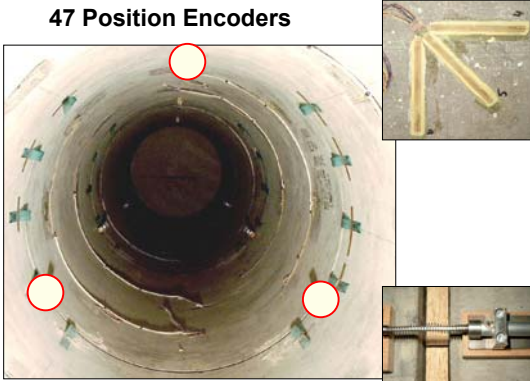
144 Strain Gauges



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„Pipe-Jacking Simulator“ – Measurement Instrumentation IKT

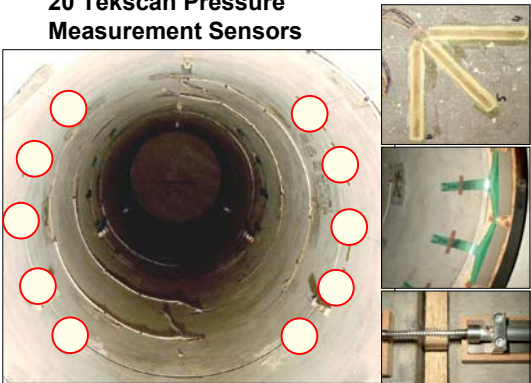
47 Position Encoders



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„Pipe-Jacking Simulator“ – Measurement Instrumentation IKT

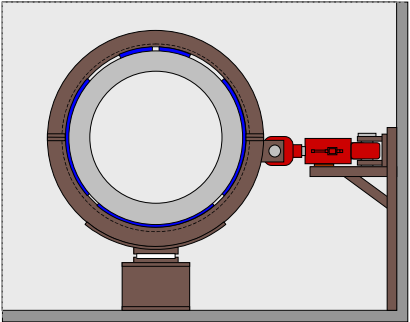
**20 Tekscan Pressure
Measurement Sensors**

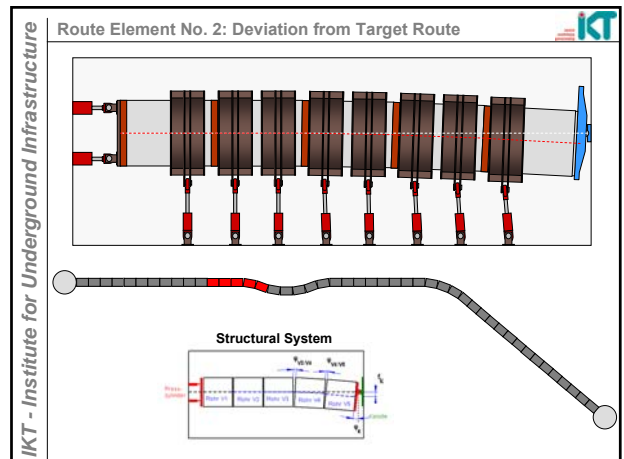
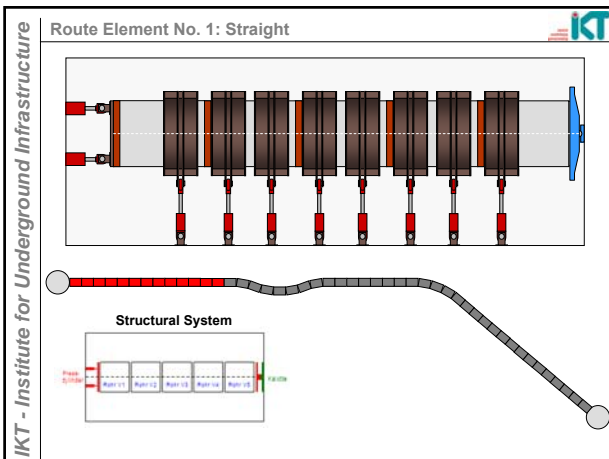
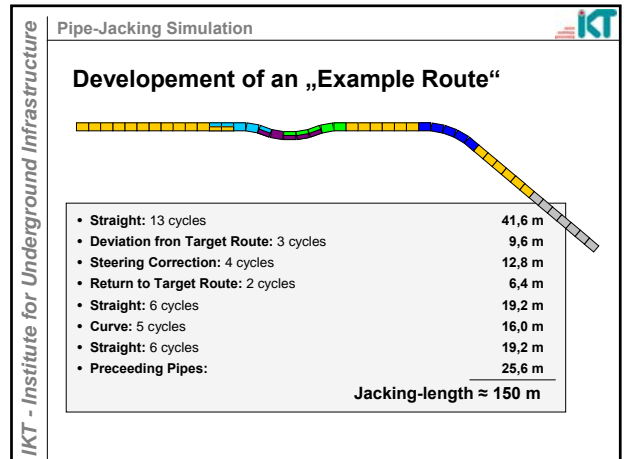
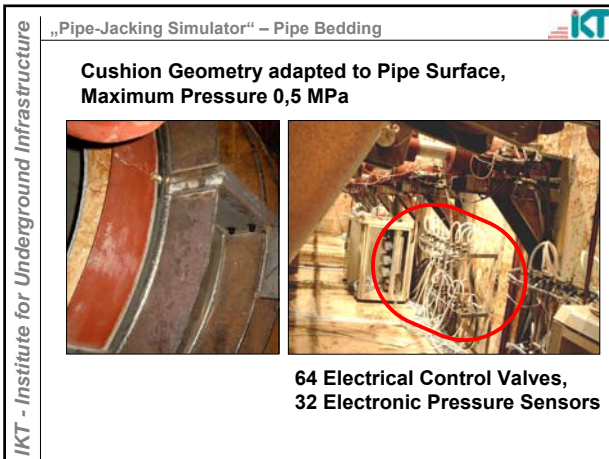
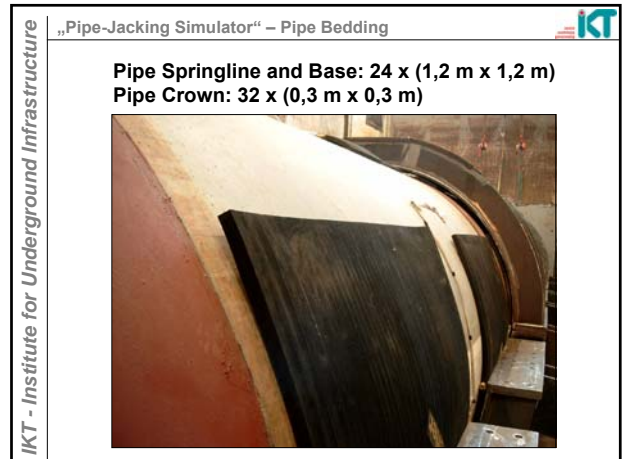
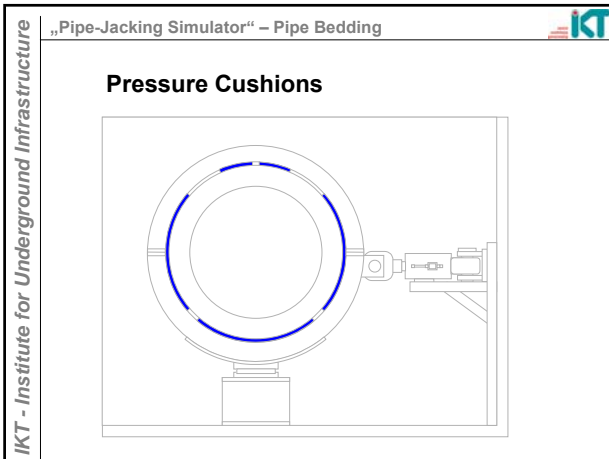


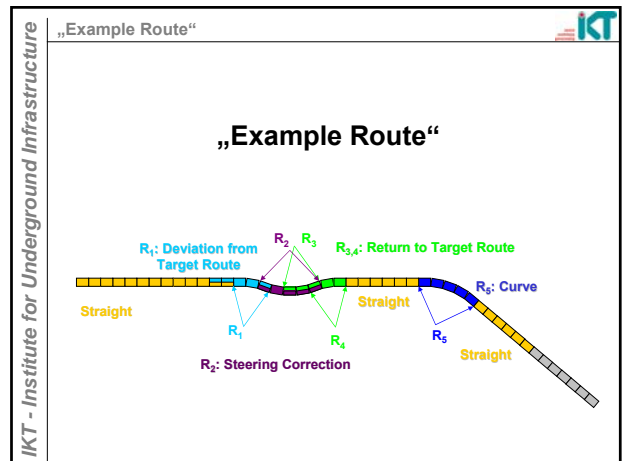
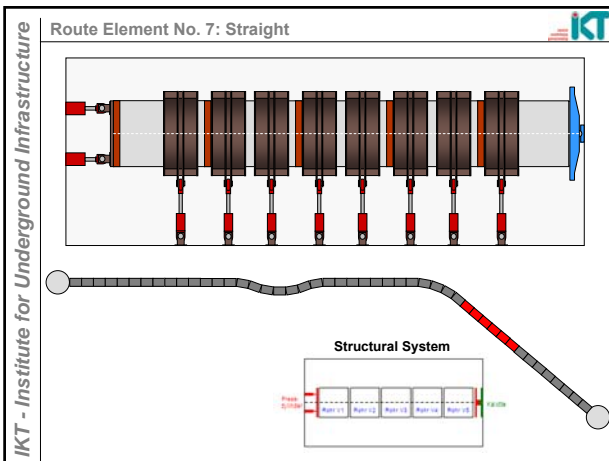
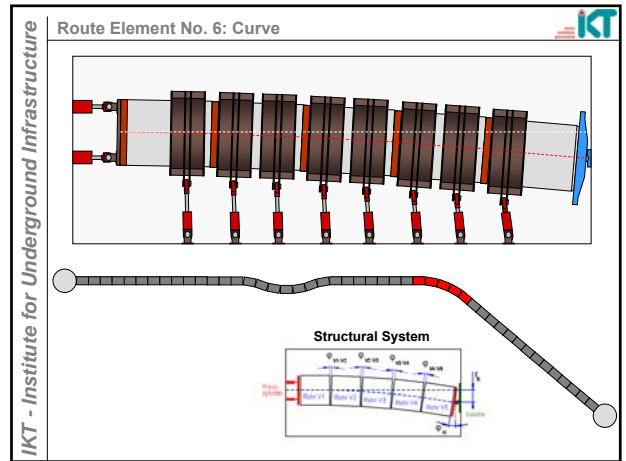
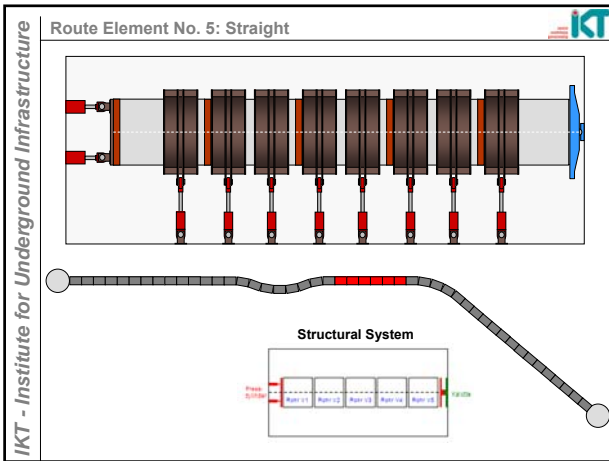
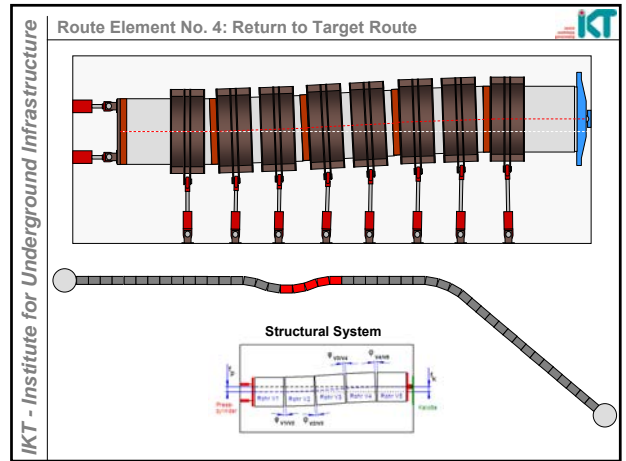
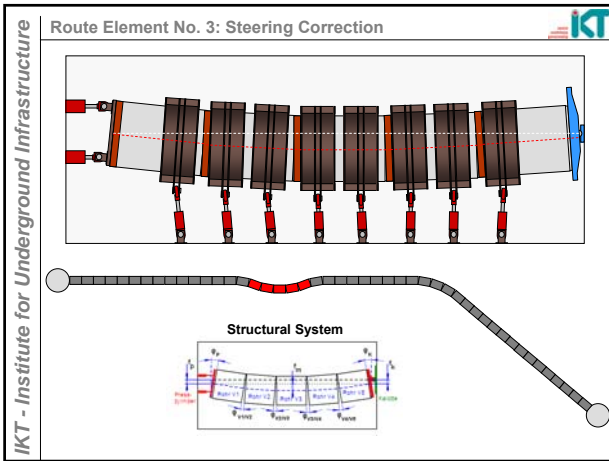
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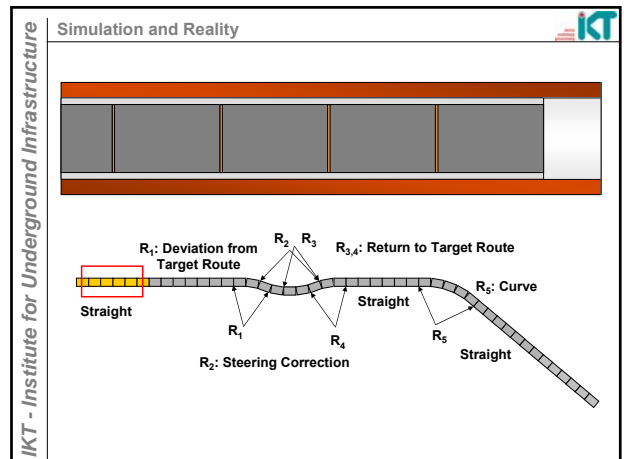
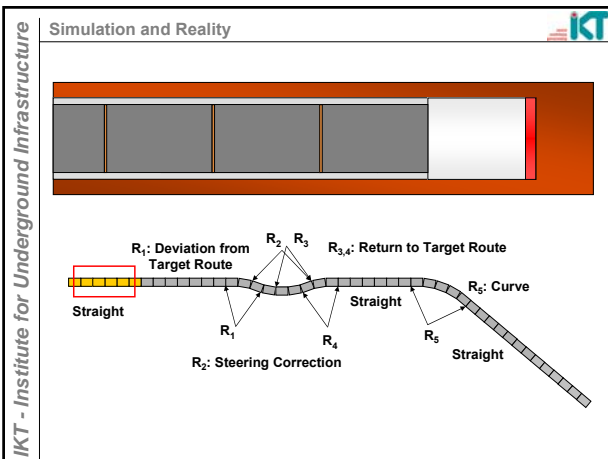
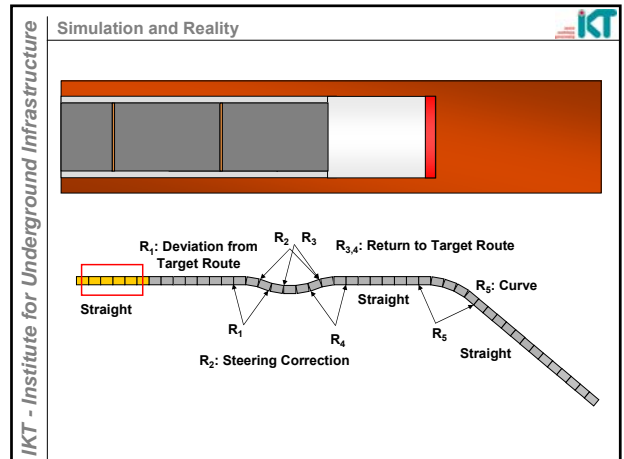
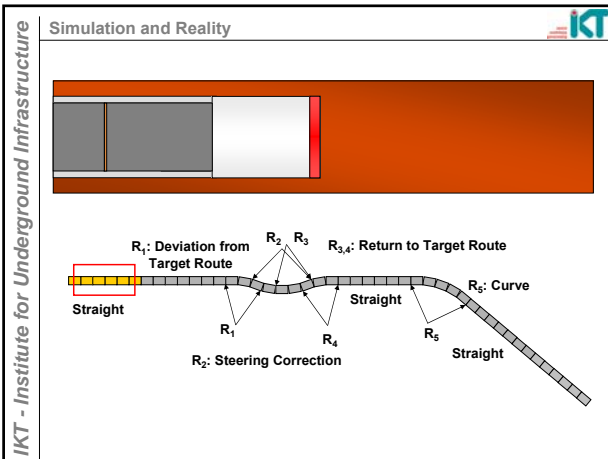
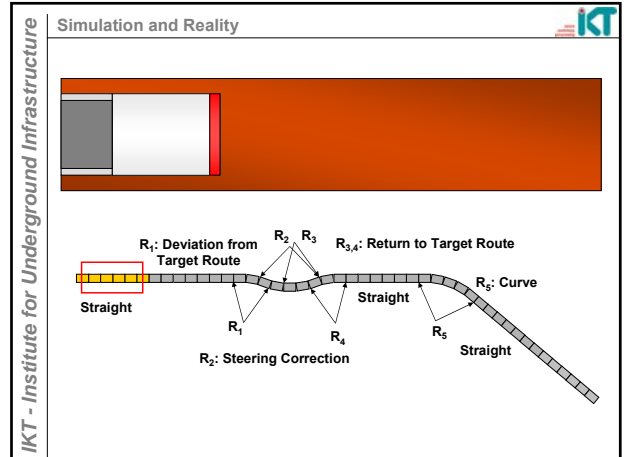
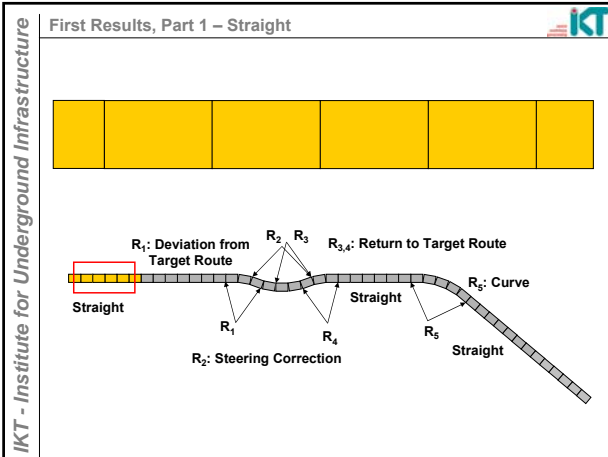
„Pipe-Jacking Simulator“ – Pipe Bedding IKT

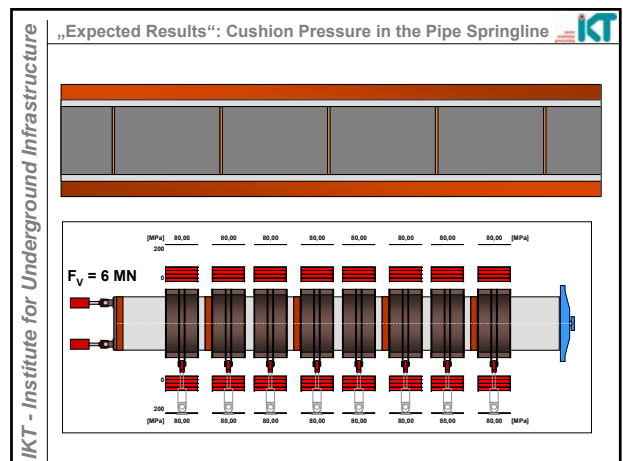
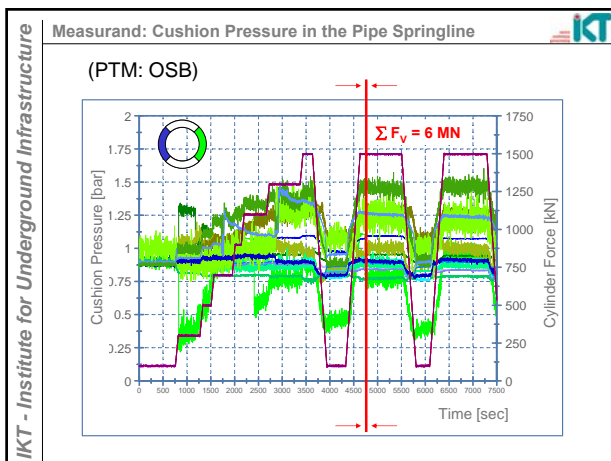
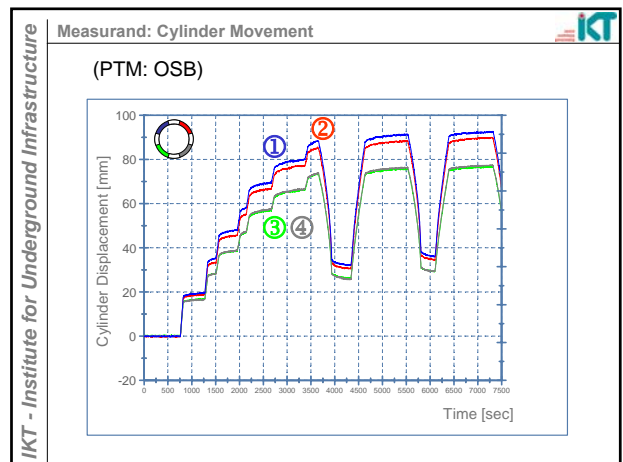
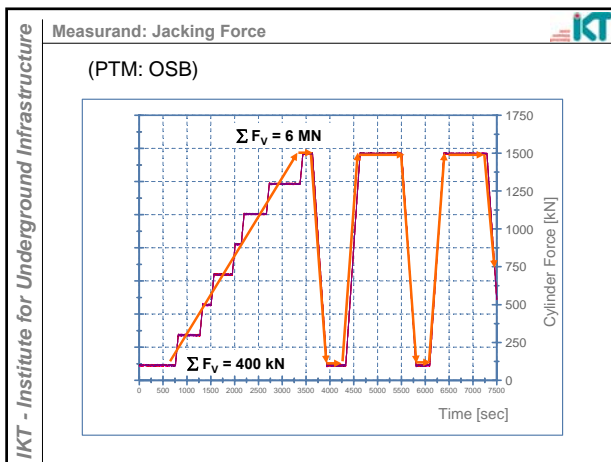
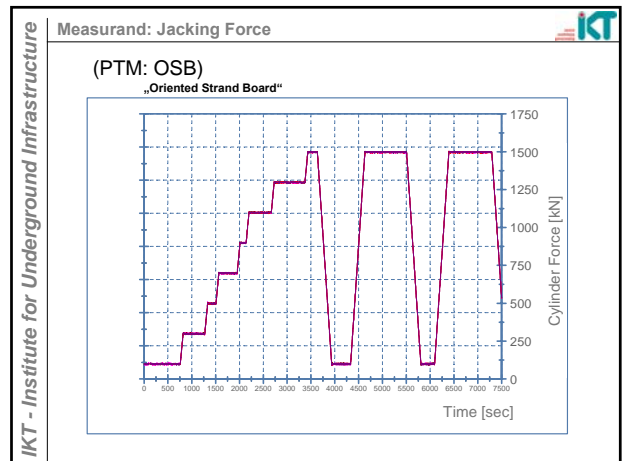
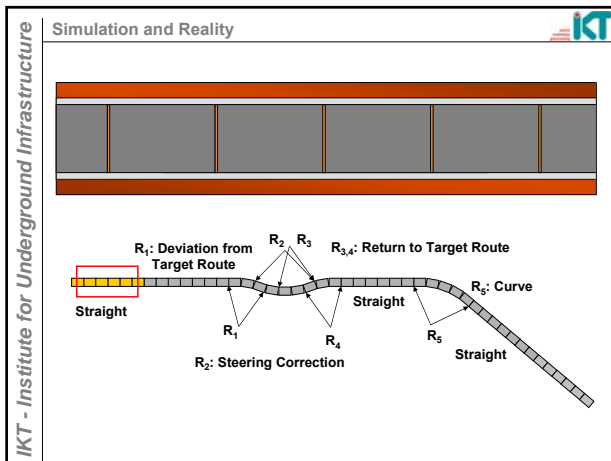
Pressure Cushions

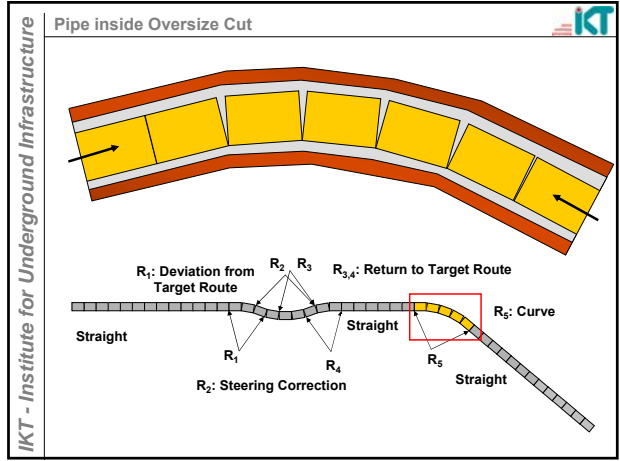
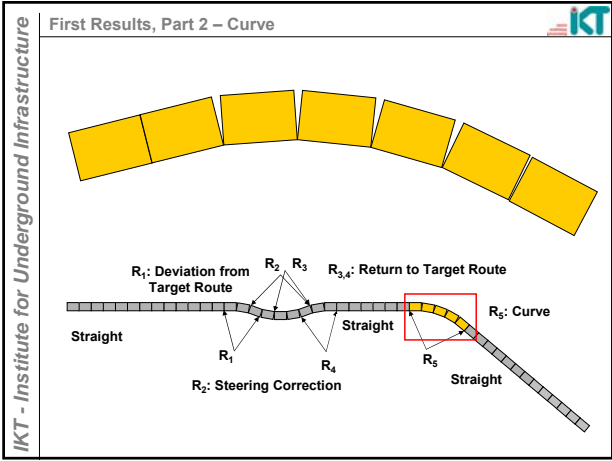
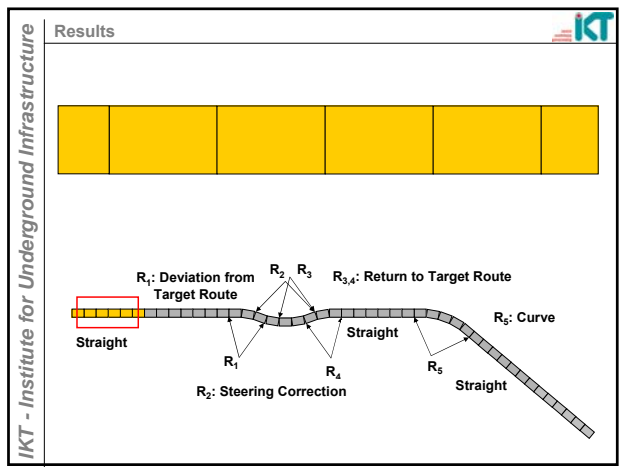
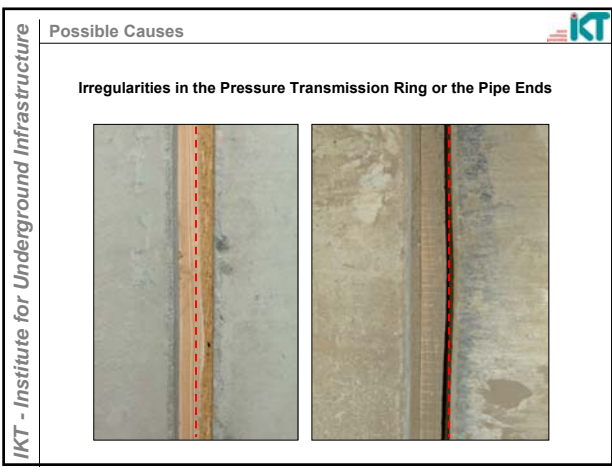
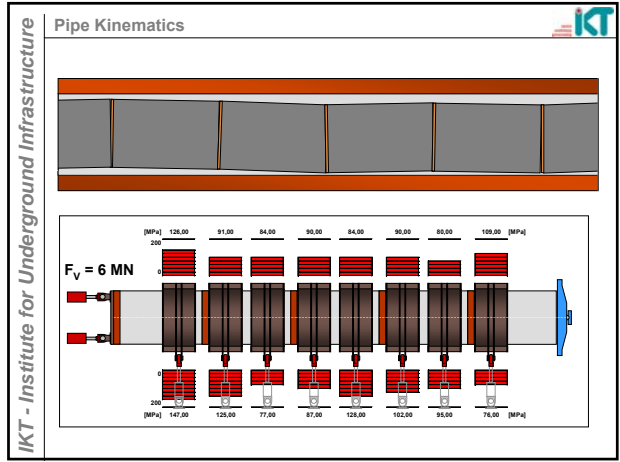
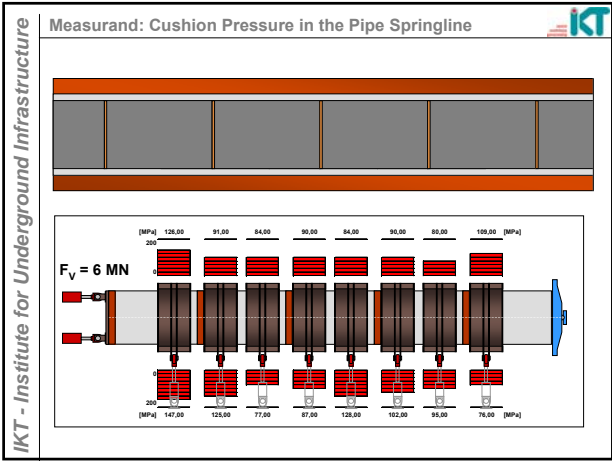


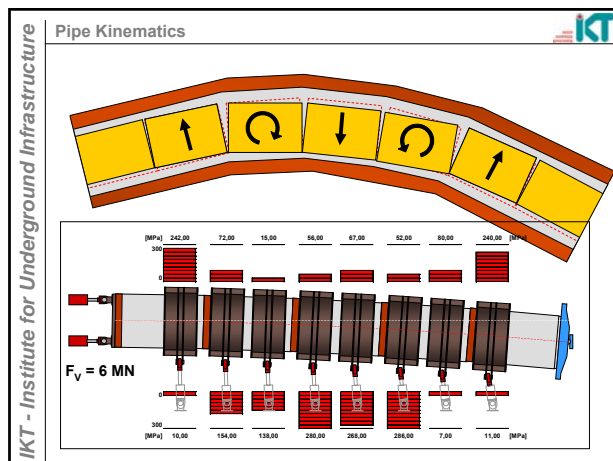
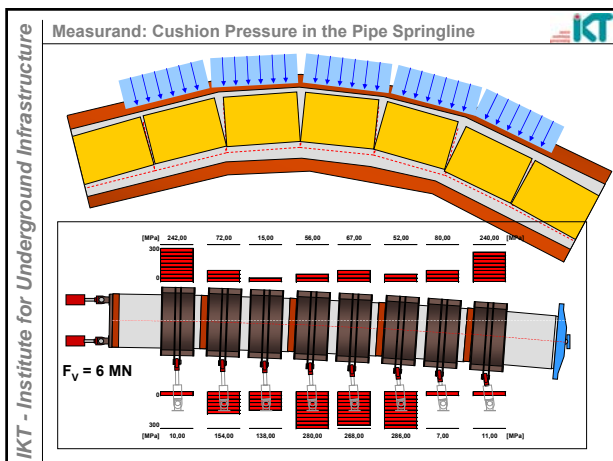
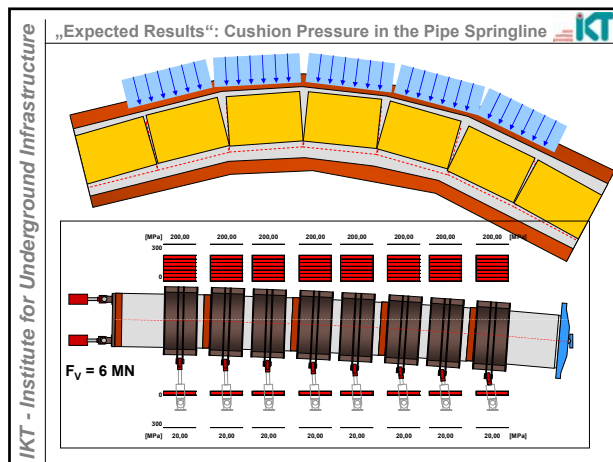
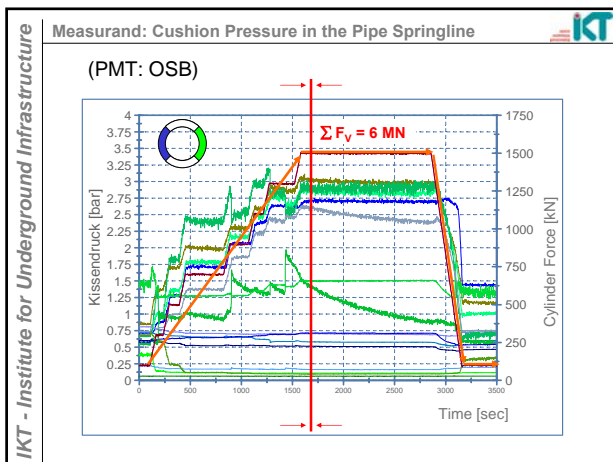
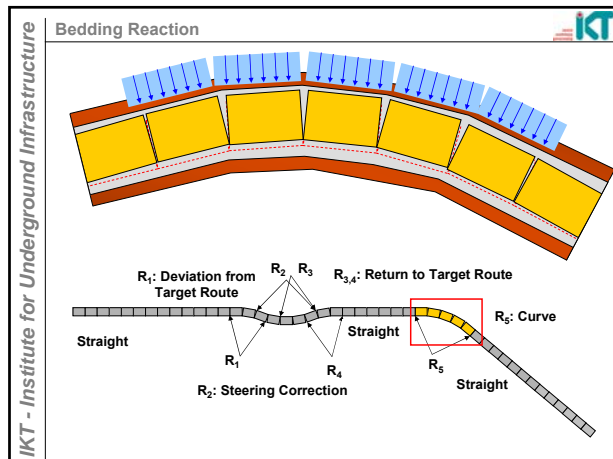
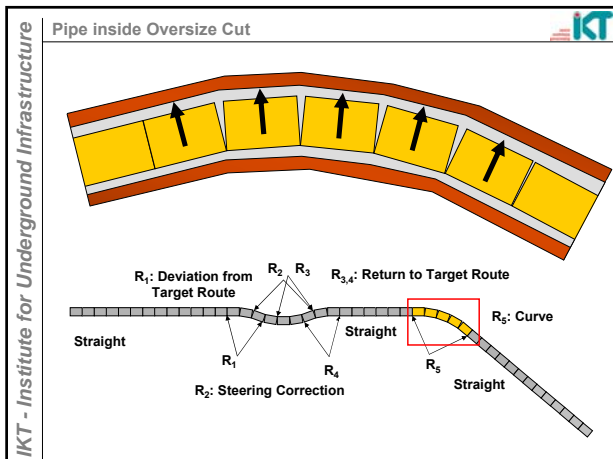


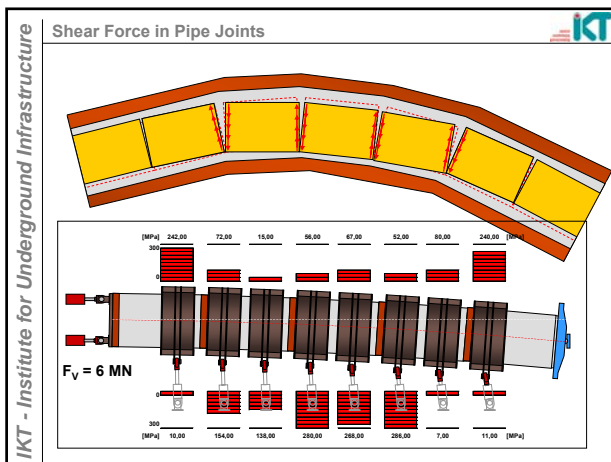
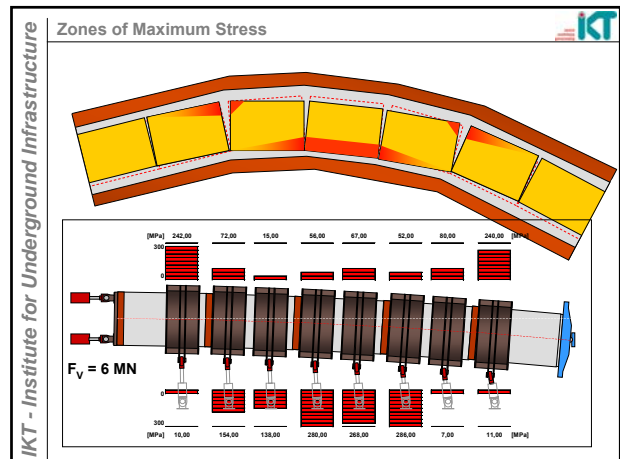
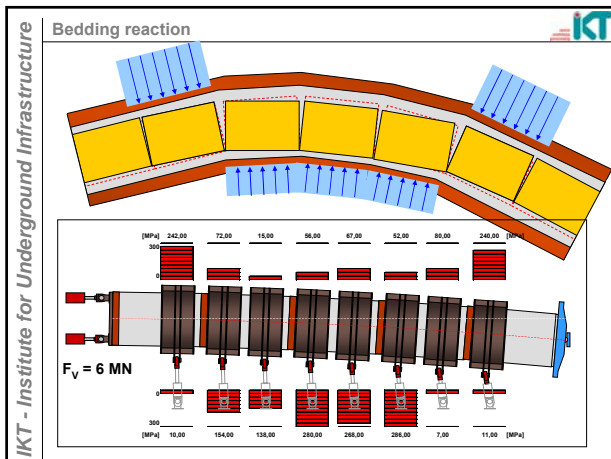












- Conclusions**
- **Straight Lines**
 - Imperfections are significant
 - Overcut necessary
 - **Curves**
 - Straightening Effect (Pipe Groups)
 - Increased Bending Effects (Maximum Stresses)
 - Shear Forces (Design)
 - **Pressure Transmission Rings!**
 - Design Parameters
 - Quality Assurance
- IKT - Institute for Underground Infrastructure

At IKT-Institute for Underground Infrastructure, Germany, a unique pipe jacking simulator has been build, with support of the Ministry of the Environment and Conservation, Agriculture and Consumer Protection of the State of North Rhine-Westphalia (MUNLV).

This facility allows 1:1 scale tests of DN 1600 pipes, on a total pipeline length of 15 meters with simulated length of up to 90 meters.

Statements on your own work are appreciated in the afternoon session!

Deadline for Abstracts: 31st January 2007

Symposium language: English

Register and abstracts: pipejacking@ikt.de

Symposium Fee: 75,- Euro (incl. lunch and beverages)

Programme

9:30	Reception and Registration
10:00	Welcome Dipl.-Ing. Roland W. Waniak, IKT Dipl.-Ing. Norbert Stratemeier, Emsergenossenschaft
Session I IKT-Pipe Jacking Simulator ND 1600	
10:15	Technical Approach for Practical Simulations on 1:1 Scale Dr.-Ing. Bert Bosseler, IKT
10:45	Presentation of IKT-Simulator - Testing Hall - Dipl.-Ing. Martin Liebscher, Dipl.-Ing. Andreas Redmann, IKT
12:00	Lunch Break and Discussion
Session II Workshop: International Experiences	
13:30	Contributions from Participants Presentations 5-10 min. each Full papers are not required! All abstracts will be included in a workshop summary.
15:30	Discussion and Outlook Research Initiatives, Perspectives for Cooperation and Research on a European Level
16:00	Closure