Case Study – TMD.Pipe® solves Vibration Problem

Summary
In a natural gas plant pipe vibrations caused serious problems during commissioning. The installation of tuned mass dampers not only reduced vibrations to a minimum but also allows the plant operation run most effectively.

“Vibrations are almost not perceivable anymore”

Challenge
In a natural gas plant excessive pipe vibrations during commissioning have been noticed. Welding on the site was not an option due to the explosive risk.
The customer required that the vibrations should be reduced and the installation of the solution has to be done easily without any life time maintenance efforts afterwards.

Root Cause Analysis
Vibration measurements showed dominant frequencies and together with an impact test a resonance problem was confirmed.

Design the parameters of the tuned mass dampers (TMD)
The TMD.Pipe product was tuned for the special requirements which ensured broad band effectiveness. At all relevant frequencies vibrations could be reduced significantly.

Result
The installation of the TMD.Pipe could be executed within a very short time, welding was not necessary at all. Measurements after installation ensured the effectiveness in reducing vibrations significantly. We guaranteed no maintenance efforts/costs for 40 years plant life time.