FLEXLINER transforms old manholes in new hemispheres



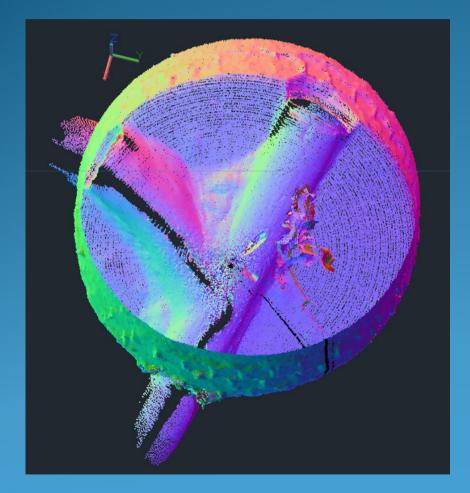


# Yes we scan - 3D Laser scanner





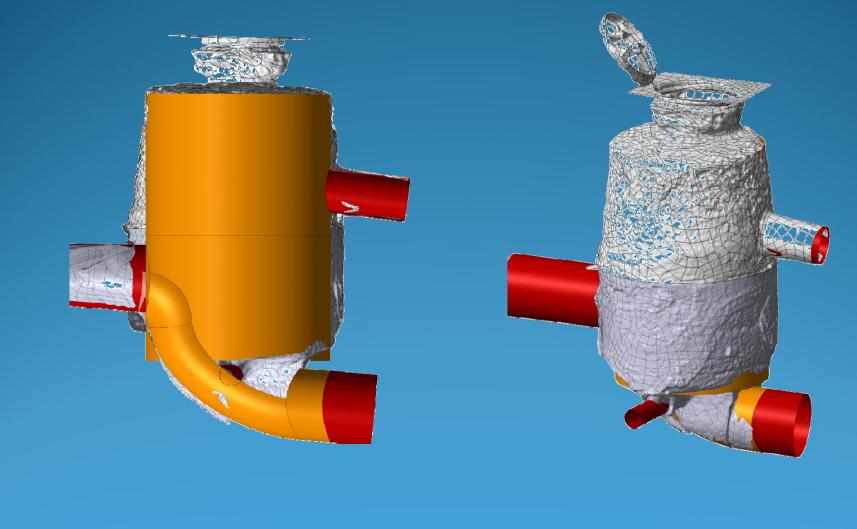
# scanned data model







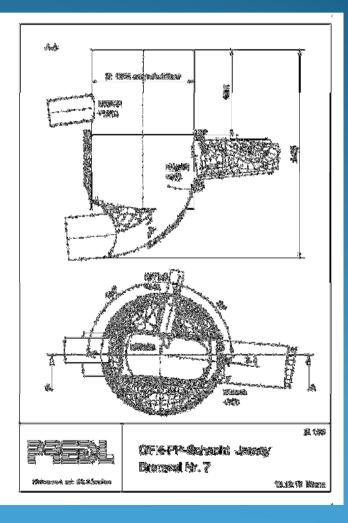
# modelling scene/ pointsence





# CAD/CAM modelling survey







### **CNC-robot-milling station**





# Styrofoam negative – an exact copy of the old manhole





# Liner connection to concrete





# FLEXLINER - a copy of the old manhole





# FLEXLINER-extremely flexible







# FLEXLINER and Styrofoam-negative





# negative support for installation



# FLEXLINER cuffs and Quick-Locks for a watertight connection to the old pipes





### Building site - keep it clean!





# Tension belt keeps the FLEXLINER folded for installation





# FLEXLINER dive





# Steel telescope (or seat strut) is a precious installation help





# Styrofoam-negative and steel telescope keep the FLEXLINER in position



# SC-concrete hand mixed and fill funnel allow a fast mix and pour





### Remove support 30 min after pouring



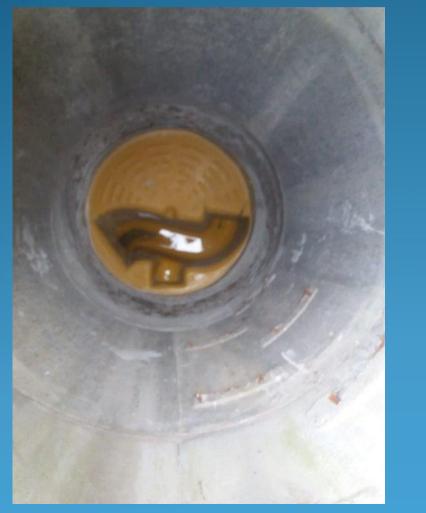


#### FLEXLINER can be a two hour installation job





#### FLEXLINER catches all complicated geometries





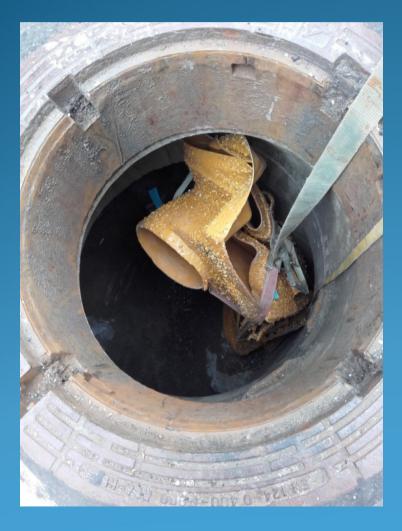


### FLEXLINER transforms old into new





# A rectangular FLEXLINER is no problem







# FLEXLINER, how is this possible?!



