Vision4SRP: Digital monitoring system for sucker-rod pumps – an example for collaborative project development through co-creation

M. Allmaras
Siemens Energy AG, Erlangen, Germany

Monitoring of remote well sites is a crucial task for operators of sucker-rod pumps (SRPs) that is often carried out manually through regular site visits for ensuring correct operation of pumps. Vision4SRP provides a cost-effective system for remote monitoring of pumps by means of a surveillance camera and computer-vision algorithms for detection of potential issues. By analyzing video footage recorded at pump sites, several indicators are derived that help identify issues early on and optimise the site visits. Vision4SRP utilizes advanced image analytics algorithms for detecting developing oil spills on the pump rod, measuring of stroke frequency and reading of analog gauges in view of the camera. It leverages digital technology for improving productivity, reducing environmental impact and minimizing health hazard by reducing manual inspection of the well pumps.
Vision4SRP is being developed as part of Siemens Energy's initiative to drive digital transformation in the Oil & Gas industry. Together with the partners ExxonMobil and Wintershall Dea, the system has been piloted at well sites Rühlermoor and Emlichheim and incrementally improved and adapted to provide optimal benefit to the pump operators.
In this talk, it will be presented the Vision4SRP solution, results from the joint work on the pilot systems and experience gathered during the co-creation process.