Field inspection of steel tubes (OCTG) with the new fleet of rovers using UT, ET and laser

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The oil and gas market shows an increasing need for assessing specific requirements of steel pipes or reassessing OCTG after usage, long-term storage or loss of traceability. However the non destructive testing complete inspection has been performed in the mills and is no more accessible. This presentation shows the development of a worldwide fleet of automatic rovers able to inspect pipes from inside, allowing complete NDT inspection service on the field. Up to now, the NDT field service catalogue of Vallourec inludes: - Laser rovers, that measures the internal diameter of tubes - this is specifically useful to select pipes with tighter tolerances for packer setting for example. Also cement volume could be optimised with such service. - UT Rover: this rovers measure the wall thickness of pipe over the full length and circumference, with the same precision and accuracy than that of an automatic fixed station in a mill, fulfilling API 5CT. Last minute: End of 2023, a new UT rover for longitudinal and transversal defects as per API5CT will be also available. - ET rover: this rover uses advanced orthogonal Eddy current probes to inspect the complete internal surface of used pipes to detect both longitudinal and transversal defects in 1 run. This rover focuses on repurposing high added value pipe (CRA pipe) . The presentation will highlight the technical details of the equipments and the results achieved so far in the different field operations since 2021. As an outcome, the presentation will also open the discussion for the future services in development, regarding defect characterization by TFM, visual inspection, material characterization and the general surrounding services like notch cutting and pipe cleaning.