

EUR21_31 – AUTONOMOUS SOLUTIONS REDUCES ENVIRONMENTAL IMPACT

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Abstract - Remote locations, hazardous environments and cost of lost time incidents are some of the drivers for autonomous facilities.

We will describe levels of autonomy and key criteria and technologies to achieve safe, controlled and maintainable operation at each level. Even though manning has a significant cost, the real cost reduction comes from increased availability and reduced maintenance. In a typical process plant, 80% of lost production is preventable, and half of this is caused by human error. As much as 30-40% of net operating cost is maintenance related and this could be reduced by 30% or more through prescriptive maintenance. But the same artificial intelligence machine learning technologies that support autonomy will also be able to model equipment behavior to increase energy efficiency, prevent hidden losses and overall reduce both normal and accidental emissions. This paper will discuss these technologies and the results for a typical oil and gas facility.