

EUR24_21 - Smart Lighting For Explosive Atmosphere (Ex): The Lighting Systems Of The Future

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Abstract:

Any industrial facility or manufacturing process must operate in a safe, effective, and productive manner for which lighting luminaires are essential. They are the only source of illumination for activities that are confined in darkness and that run continuously. On the other hand, facilities like oil & gas, refineries and petrochemical must confront and overcome the inherent difficulties of hazardous situations in addition to delivering light. The energy savings coming from intelligent management of lighting systems, paired with the high degree of control that these solutions offer to the end-user, and to the possibility of scheduling maintenance make smart lighting technology the best candidate for illuminating Ex systems of the future. Therefore, smart lighting deserves the right amount of attention and degree of exploration, which is the reason behind the choice of this research.

The Paper begins with a brief overview of lighting systems, followed by the theoretical foundations relevant to smart lighting systems. The research also includes a market analysis of the leading companies involved in smart lighting solutions, highlighting the need for reliable and safe lighting solutions complying with industry standards. This paper contributes to the existing body of knowledge by providing a practical solution for smart lighting in different environments and especially for Ex ambient.