Session 4A:
Deploying Explosion Protection Systems Without Them Blowing up in Your Face

Industries involved in handling, conveying, dividing, crushing, drying, compacting, grinding, pulverizing, sanding and/or sawing of materials are at highest risk; whether they are producing particles for use in products or they are simply a by-product of the manufacturing process. A study by FM Global in 2008 determined that more than half of all explosions occurred in plants with dust collectors, followed by impact equipment and then silos and bins. In this session we will cover several case studies to demonstrate how to evaluate and subsequently mitigate, prevent, or suppress a dust explosion including:

- A major manufacturer of road paints generates dust with a very high KST (measure of dust's explosive power). Explosion isolation (chemical isolation) and venting are used to mitigate the effects and risks.
- A heavy industries automotive engine parts manufacturing facility generates combustible dust during the production process. CO_2 suppression systems are used to control/suppress fires in dust collectors
- A major airline generates low KST dust in collectors used in their aircraft maintenance operations hangar. Fire and explosion suppression are deployed to manage the risks associated with the processes.
- A woodworking Cabinetry manufacturer generates large volumes of combustible dust and collects the dust. Spark detection and suppression on dust collectors are used to disrupt ignition sources and prevent them from reaching dust collectors and storage bins.

Combustible dust explosion and fire protection systems design, installation, and operation can go very wrong, very quickly. We will provide some pointers to minimize the wrong turns and prevent the process from *blowing up in your face*!

Joe Konenkamp
Regional – Alarm and Special Hazards Division
Century Fire Protection, LLC

Joe Konenkamp is the Regional Manager of the Alarm & Special Hazards Division of Century Fire Protection. He joined the fire protection industry in 1989, specializing in Special Hazards Fire Protection Systems. Mr. Konenkamp holds a Georgia Master Electrician's License and is NICET Level IV Certified in both Fire Alarm and Special Hazards Suppression Systems. He has worked with companies large and small to help protect their plants and processes from dust explosions since the mid-1990s.