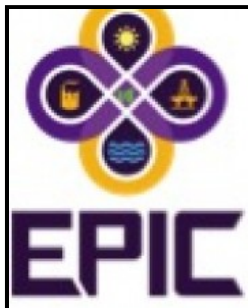




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Enterprise Manufacturing Intelligence in Dow – what is it and why do we need it?

Dr. Lloyd F. Colegrove

Dow Chemical Company

 Patrick F. Taylor Hall 1100
 March 31, 2017 - 03:00 pm

Abstract:

The Dow Chemical Company has been on a developmental path for three years now to fundamentally change how we handle and analyze large sets of real-time data to improve plant reliability and lower manufacturing costs. Introducing a concept at ARC - Orlando, 2013, we presented a talk on the design of an Enterprise Manufacturing Intelligence system within the Dow Chemical Company¹. This talk focused the burning platform behind the initiative, visioning process that led to the initial steps of the implementation of an Enterprise Manufacturing Intelligence (EMI) platform within Dow, and described some initial challenges, and some preliminary results of this vision. Since this time, Dow has continued the journey in the implementation of an EMI platform and is achieving success at implementing an enterprise platform that is bringing recognized value to our businesses and their manufacturing assets.

In this paper, we will review the culture that needed to change to bring about the transformation we have achieved in mastering our plant data, provide use cases for the implementation of our enterprise design, as well as provide examples of potential future analytics cases as we attempt to continue the push for smarter, greater value analytics approaches to our plant data. We will also provide some insight on what the future may hold as we drive towards a broad process to convert data to information to knowledge to wisdom².

1 Dow Chemical Uses Analytics and EMI to Transform Big Data into Knowledge, J. Abel, ARC Insights, June 2013

2. Big Data: Getting Started on the Journey | AIChE- CEP, American Institute of Chemical Engineers, Lloyd F. Colegrove, Mary Beth Seasholtz, Chaitanya Khare. March. 2016.

Speaker's Bio:

Lloyd F. Colegrove is the Director of Data Services and the Director of Fundamental Problem Solving for The Dow Chemical Company. His desire for novel approaches to data interpretation (contextualization), and integration of these capabilities into assessing the health and capability of manufacturing assets has coalesced into the piloting, then implementation, of an enterprise data analysis and collaboration space that would tie multiple plants together with the Technology Center and R&D resources to trouble shoot in real time, or preemptively detect and alert plant trouble well before crisis. The enterprise manufacturing intelligence platform has been recognized with a 2014 Kinetics process award, a 2015 Golden Mousetrap Award, and the 2015 and 2016 Frost and Sullivan Manufacturing Leadership awards in Big Data and Analytics and the "High Achiever Award" in Analytics for 2016 also from Frost and Sullivan. Lloyd's background is in Chemical Physics where he obtained a B.S. and Ph.D. from Texas A&M University. He spent 7 years in Polymer Research in Dow before moving into Manufacturing in an Analytical Improvement role and then a Quality Leader for five Dow businesses before moving to establish a new capability called Fundamental Problem Solving, where top chemists and engineers work on complex, often multi-effect, plant problems. With this established, he refocused his efforts working to establish the data initiatives that support this work. Lloyd is married with two daughters and is an avid cyclist, hiker and landscaper.