

e-Manufacturing & Design Collaboration Symposium 2018

Invited Speech: **Avoiding drowning in your Data Lake ...**



Dr. John Kibarian

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About the Speaker

Dr. John K. Kibarian is a Co-Founder of PDF Solutions Inc. and has been its President since November 1991 and Chief Executive Officer since July 2000. He has been a Director of PDF Solutions Inc. since December 1992.

Dr. Kibarian served as Co-Chair of Electronic Design Automation Consortium since May 29, 2014 until February 2017. He serves

as a Director of Electronic Design Automation Consortium. He received a B.S. in Electrical Engineering, an M.S. E.C.E. and a Ph.D., E.C.E. from Carnegie Mellon University.

Abstract

Engineers have typically always asked for more data to understand and improve a system's performance. But as the cost of storage and processing continues to set new lows, we are seeing even engineers at risk of drowning in the volumes of data that can be both realistically and cost effectively collected and analyzed. An architecture du jour, the data lake, could have been named with this in mind for those unprepared.

Dr. Kibarian will discuss how the necessary levels of device and system defectivity and reliability leads to the need for the collection of vast amounts of information in data lake implementations. Key elements that need to be in place to analyze this data and to extract useful knowledge include:

- A semiconductor manufacturing specific semantic layer – rendering the data navigable and meaningful.
- Electrical data directly related to the manufacturing process – ensuring a direct linkage between the design and manufacturing domains.
- Leveraging machine learning (ML) technology, whilst maintaining a human engineer to arbitrate outputs; ensuring that expert human knowledge is continuously taken into consideration to avoid being overwhelmed by the inconsequential.