Spectacular Views of the City

A Comparison of Smart City Models

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Jon W. Mooney
Acoustics by JW Mooney, LLC
INCOSE Smart Cities Initiative

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Abstract. As the INCOSE Smart Cities Initiative prepares its first work products, it is finding seemingly diverse points of view in several practicing definitions of the Smart City. There is no right or wrong model. Each model has a spectacular view of the city, and each model can offer valuable information (from its limited viewpoint) on how the city operates and how it could improve. When modeling, analyzing and optimizing the operations of a complex system, its important to model the system from various viewpoints. This, of course, is a lesson from the ancient fable of 'the blind men and the elephant'; that we cannot claim an absolute truth based on one true but limited viewpoint while ignoring other equally true but limited viewpoints. Models are used in MBSE to map and keep track of the myriad butterfly effects caused by design and operational changes in complex real systems. But a single model is only a limited viewpoint, for the very reason that the real system it attempts to model is so complex. Comparing the complex system from various MBSE modeling viewpoints can help bring clarity. In this presentation, we compare the viewpoints of two prominent Smart City definitions; Deloitte's viewpoint based on the idea that Smart cities emerge as the result of many Smart Solutions across all sectors of society, and TUSS's viewpoint based on the idea that a Smart city is a city that has the ability to identify its problems and its root causes promptly and remove the root causes by generating, and processing engineered quality data in a continuous and inclusive manner. A comparison graphic illustrates how these are just two of the many views of the same elephant.

Jon W. Mooney, PE is a consultant specializing in acoustics, vibration and systems engineering. He holds an MBA from St. Ambrose University, and a B.S. in Aerospace Engineering from the University of Cincinnati. Jon is a contributing editor to *Walls & Ceilings* magazine, an associate editor to *Noise Control Engineering Journal*, and author of *Inventor's Guide to Identifying Profitable Ideas*, *JW Mooney's Practical Architectural Acoustics Notebook*, and *How to Be a Good Inventor*. Recent Acoustics by JW Mooney, LLC projects include Willis Tower, Old Armory Concert Hall, Nationwide Children's Hospital Data Center, Northrop Grumman Conference Center, Genesis Hospital MRI suite, Ohio Health Neuroscience Wellness Center, and ISU Sports Performance Center. As Lead Acoustics Engineer with KJWW Engineering Consultants, 2007-2017, Mr. Mooney's 400+ projects included Bettendorf Event Center, Cedar River Fine Arts, Iowa Central Bio-Science, Renaissance Chicago, University of Chicago, Argonne National Laboratory, and Chicago Athletic Association. Between 1993-2007 Jon was Acoustics Consultant for 100+ projects including Oak Ridge National Laboratory, Cincinnati Art Museum, Carnegie Theater, Curtis Studios, Ray & Joan Kroc Corps Community Center. Jon's early career with L3 KDI Precision Products and Martin Marietta, as Aerospace R&D and Co-op Engineer, included work on the Patriot Missile, Skylab, Space Shuttle and SPS Satellites.

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