

2020 Digital Engineering Information Exchange (DEIX) Challenge

As the industry migrates into Digital Engineering, the amount of data that must be managed, correlated, and exchanged easily overwhelms. In order for the transformation to Digital Engineering to be worth the cost, actionable knowledge has to be synthesized from various kinds of models and other sources of digital information.

The INCOSE/NDIA Digital Engineering Information Exchange Working Group (DEIXWG) is soliciting participants for its Digital Engineering Information Exchange Challenge kicking off in July 2020 and culminating in the unveiling of challenge submissions at the 2020 NDIA Systems and Mission Engineering Conference. The DEIX Challenge is an opportunity for anyone from across Government, Industry, and Academia to help shape the future of Digital Engineering. DEIX Challenge Submissions are to be built upon a DEIXWG-provided Digital Viewpoint Model and should include proposed notional Digital Views that could be used for providing and consuming Digital Information pulled from multiple Digital Artifacts. Successful DEIX Challenge Submissions will involve developing novel ways to synthesize and fuse Digital Information from a collection of Digital Artifacts (e.g. SysML Models, Matlab Models, MCAD, ECAD, FEA, etc.) into one or more Digital Views that address a participant-created scenario of specific perspectives and needs.

While the DEIXWG and its stakeholders are excited to see what Challenge Participants propose in their specific submissions, the real objective of the DEIX Challenge is to drive the elicitation and analysis of requirements for the exchange of Digital Information and the creation of Digital Views. It is the hope of the DEIXWG that this challenge will lead to a set of guiding desires, driving requirements, and needed standards that will help inform organizations seeking to develop the necessary elements of a complete, holistic Digital Engineering ecosystem.

Participant Submissions

At a minimum, Challenge Participants are asked to propose one or more notional **Digital Views** that provide a self-consistent, authoritative view of **Digital Information** culled from a heterogeneous set of **Digital Artifacts**. Additionally, we will accept Challenge proposals that include prototype Digital Views implemented using the tool(s) of their choice, but this is not a requirement. Submissions will include two scenarios involving the exchange of one or more Digital Views by identified **Stakeholders** with specified needs (or **Perspectives**). The first scenario will involve exchange of Digital Views during an early phase system development, while the second scenario should involve exchange of Digital Views during a later, mature system design phase. Challenge Participants are also asked produce a proposed **Platform Specific Digital Viewpoint Model (PS-DVM)** that extends the concepts in the DEIXWG-provided **Platform Independent Digital Viewpoint Model (PI-DVM)** and conceptually models the specific types of Digital Artifacts, Digital Information, Stakeholders, Perspectives, and Digital Views represented in their proposed scenarios.

Additional information regarding the DEIX Challenge and materials that Participants should use as a starting point for crafting their Submissions can be found on the DEIXWG website on the OMG MBSE Wiki page: <https://www.omgwiki.org/MBSE/doku.php?id=mbse:deix:challenge>.

Submissions may be emailed to Sean McGervey (Sean.McGervey@jhuapl.edu).

To assist Participants in crafting their submissions, the DEIXWG Leadership Team will be holding virtual “office hours” over Zoom™ every other Friday from 2:00 PM to 3:00 PM ET, starting August 14th, 2020 to answer any questions about the DEIX Challenge.

DEIX Challenge Q&A “Office Hours” Zoom link: <https://wse.zoom.us/j/92961300408>