TECHNICAL HIGHLIGHT:

JANUARY 2026

DIGITAL ENGINEERING TOOL EVALUATION CRITERIA TEMPLATE (DETECT)

DETECT

As the Department of War (DoW) advances its engineering practices into the digital age, organizations and projects require a means to understand and customize their digital engineering (DE) ecosystem. The SE&A Digital Engineering, Modeling & Simulation (DEM&S) team developed the Digital Engineering Tool Evaluation Criteria Template (DETECT) to assist projects in establishing DE ecosystem requirements and tool evaluation criteria. Using DETECT, projects can tailor two templates to develop their DE ecosystem, complete tool trade studies, and align with the DoW strategic mission to revive the warrior ethos and restore trust in our military.

❖ PURPOSE

DETECT is a tool that helps organizations understand their DE ecosystem, identify needs and gaps, and lower the barrier of entry to implementing effective DE in their workplace. Drawing on authoritative sources from DoW and industry, DETECT provides guidance for programs to use to develop and improve their DE ecosystem. DETECT provides project managers, engineers, and analysts with two standardized templates: one for DE ecosystem requirements and one for tool evaluation criteria. These two templates can be tailored using DETECT, ultimately assisting with DE ecosystem development and tool trade studies. The DEM&S team developed DETECT in SysMLv1.6 modeling software.

❖ HOW DETECT WORKS

DETECT aggregates information from DE guidance such as the DoD Digital Engineering Strategy, DoD Instruction (DoDI) 5000.97 "Digital Engineering," and the International Council on Systems Engineering (INCOSE) Systems Engineering Tool Database. These trusted sources provide a standardized framework for understanding DE ecosystems. As users enter data into DETECT, the tool draws on information from these authoritative sources and generates a tailored set of DE ecosystem requirements and tool evaluation criteria that align with the user's unique environment. Users then can continue to customize and refine the lists for their project or tool trade study. The resulting requirements and criteria templates provide practitioners with an adaptable framework that reflects the collective expertise of the DE community as well as their specific project. DETECT reduces the time it takes for practitioners to make informed decisions and enables quicker development of robust DE ecosystems.
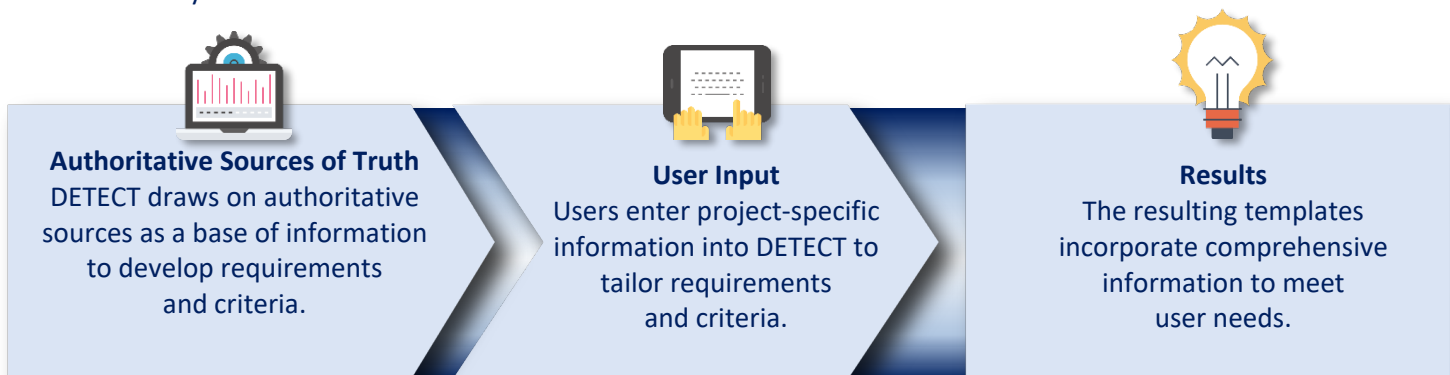
Authoritative Sources of Truth
DETECT draws on authoritative sources as a base of information to develop requirements and criteria.

User Input
Users enter project-specific information into DETECT to tailor requirements and criteria.

Results
The resulting templates incorporate comprehensive information to meet user needs.

Figure 1. DETECT Features

DETECT leverages community-driven standards and best practices to empower the creation of optimal digital engineering ecosystems.

❖ **THE DETECT USER EXPERIENCE**

When using DETECT, users interact with a table within Cameo System Architect, where they input key metrics about their DE ecosystem. To ensure data consistency, users select values from predefined drop-down menus, choosing parameters such as tenants used, number of engineering domains involved, and number of users. Once the user has populated the table with specific metrics, DETECT generates two tailored templates: one for criteria and one for requirements. These templates are customized to the user's unique DE environment, using an equal weighting system to prioritize the most relevant factors; however, users also have the flexibility to modify this weighting system if needed, allowing them to tailor the templates to their specific priorities and needs. While DETECT does not provide explicit feedback mechanisms, users have full access to the comprehensive lists of criteria and requirements, enabling them to review, adjust, and refine the output to suit their specific requirements.

Figure 2. DETECT User Experience – Data Entry

The first iteration of DETECT can be found on the Digital Engineering Body of Knowledge (DEBoK): https://de-bok.org/

❖ **RESOURCES**

Email: mailto:osd-sea@mail.mil | **Attn: DEM&S**

SE&A Library: https://www.cto.mil/sea/pg

- DoDI 5000.97
- DE Fundamentals
- DE Strategy

Digital Engineering Body of Knowledge: https://de-bok.org/

INCOSE Tool Database: https://www.incose.org/communities/working-groups-initiatives/se-tools-database

Visit the DEM&S web page to get information on other DEM&S initiatives including SysMLv2 Transition Guidance, DEM&S Community of Practice, and more!