

# Model-Based Systems Engineering with SysML Seminar

— Reaping Advantages while Avoiding Pitfalls —

**Learn from an industry expert how your systems engineering group can transform its human-intensive, document-based process into an automated, model-based process.**

Although system modeling has been an important part of systems engineering since its inception, during the last decade systems engineers have significantly increased their use of model-based technologies to **evolve a new discipline of Model-Based Systems Engineering (MBSE)**. MBSE differs from traditional systems engineering, which is sometimes characterized as *document-based*, in that **MBSE emphasizes a central system model that captures system requirements as well as the architecture and design decisions** that fulfill them. In addition to serving as a knowledge repository for systems engineering work artifacts, the system model can also be simulated or executed to validate cost/performance trade studies and design choices.

One of the key technology enablers behind MBSE is the Systems Modeling Language (SysML). **SysML is a dialect of the Unified Modeling Language (UML) tailored for systems engineering applications** that has been standardized by the Object Management Group as OMG SysML™. The SysML dialect of UML has two significant advantages over its parent language. First, it is a smaller language than UML since it has fewer diagrams and constructs, so it is easier for modelers to learn and apply. Second, SysML adds two new diagrams for defining Requirements and Parametric Constraints as first-class constructs, so it allows modelers to automate requirement verification and simulate cost/performance trade studies.

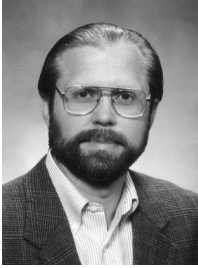
This seminar provides a **solid introduction to the basic concepts, principles, and best practices associated with Model-Based Systems Engineering using the SysML**. The presentation style is pragmatic and interactive, with practical systems engineering examples punctuated by frequent Q&A sessions.

## WHAT WILL YOU LEARN?

- The cost/benefit tradeoffs for transitioning from traditional document-based systems engineering to Model-Based Systems Engineering (MBSE)
- **An architecture-centric MBSE approach with the Systems Modeling Language (SysML) that**
  - synergistically combines language, tool, process, and framework technologies
  - applies rigorous visual modeling techniques and best practices to improve the quality, reliability, and efficiency of business and technology processes
- How SysML can specify large, complex processes and enterprise architectures throughout the System Development Life Cycle
- How enterprise architecture frameworks can manage the complexity of large, complex models
- How modeling tools can automate Verification & Validation (V&V), run simulations, and generate code
- How MBSE processes can reduce errors and increase productivity
- Best, Common, and Worst MBSE Practices
- How to plan your transition to a MBSE approach
- How to learn more about MBSE and SysML modeling

Seminar prerequisites and logistical information are described on the following page.

## SEMINAR AUTHOR & INSTRUCTOR



**Cris Kobryn** is the CEO and Founder of PivotPoint Technology Corporation, a company that specializes in Model-Based Engineering Solutions™ for tough business and engineering problems. He is an internationally recognized expert in visual modeling and Model-Based Engineering, and has successfully applied these technologies to diverse industries ranging from aerospace-defense and communications to financial services and manufacturing. Cris chaired large international teams of vendors and users to specify the Unified Modeling Language (UML) 1.x and 2.0 standards for software engineering, and the Systems Modeling Language (SysML) 1.0 standard or systems engineering. In recognition of Cris's contributions to the UML the Object Management Group (OMG) presented him with its Distinguished Service Award, and in acknowledgement of his contributions to the SysML the International Council on Systems Engineering (INCOSE) presented him with its Outstanding Service Award.

**WHO SHOULD PARTICIPATE:** System engineers, system architects, software architects/engineers/developers, project managers, executive leaders, and others who want to learn about the cost/benefit tradeoffs of adopting Model-Based Systems Engineering technologies.

**PREREQUISITES:** None.

**FLEXIBLE DURATION:** All of our seminars are available in half-day (3 hours with break) and full-day (3 hours AM + lunch break + 3 hours PM) lengths.

**FLEXIBLE VENUES:** All of our seminars are available onsite (at a Client training facility), offsite (at a PivotPoint training facility), and via webconference.

**FOLLOW-UP TRAINING/CONSULTING SERVICES:** All of our seminars can be followed up with workshop training and consulting services that will keep your Model-Based Engineering project on track. Please check out the Training and Consulting services page on our web ([www.PTCorp.com](http://www.PTCorp.com)), or contact us to discuss details.

**SCHEDULING AND COST:** Seminars must be reserved in advance by Purchase Order or prepayment. We generally require at least 4 weeks lead time for scheduling seminars, but longer lead time is desirable to reserve your preferred training dates. Seminar cost depends upon seminar duration (half-day or full-day), venue choice (onsite, offsite, webconference), and number of students.

**FURTHER INFORMATION & PRICE QUOTES:** Please visit our web site at [www.PTCorp.com](http://www.PTCorp.com), email us at [seminars@PTCorp.com](mailto:seminars@PTCorp.com), or call us at +1-760-728-9747 to discuss seminar details and receive a price quote.