



# Product Line Engineering with Cameo Systems Modeler and pure::variants

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# About Presenter



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- ❑ Focus areas: Software Engineering (UML), Enterprise Architecture (UPDM, UAF), Business Process Modeling (BPMN), Systems Modeling (SysML)
- ❑ Responsibilities: consultations, online and onsite training, customer support, guest speaker at Kaunas University of Technology
- ❑ Before: Engineer and Project Manager in ultrasonic hardware and firmware development, R&D in Ultrasonics at the same university

# Q&A: Type your questions here



The screenshot shows a software window titled "File View Help" with standard window controls. It features two main sections: "Audio" and "Questions".

- Audio Section:** Includes radio buttons for "Telephone" and "Mic & Speakers (test)". Below this is a "MUTED" indicator with a microphone icon and a volume slider set to zero.
- Questions Section:** Contains a large empty text area for input. At the bottom of this section is a "Send" button.

A red arrow points to the text "[Enter a question for staff]" located at the bottom of the text input area. Below the "Questions" section, the text "Webinar Now" and "Webinar ID: [blacked out]" is visible, along with the "GoToWebinar" logo at the bottom.

# Agenda



1. What is PLE and why should you care?
2. CSM & pure::variants Integration Overview
3. Integration Demo
4. Q&A



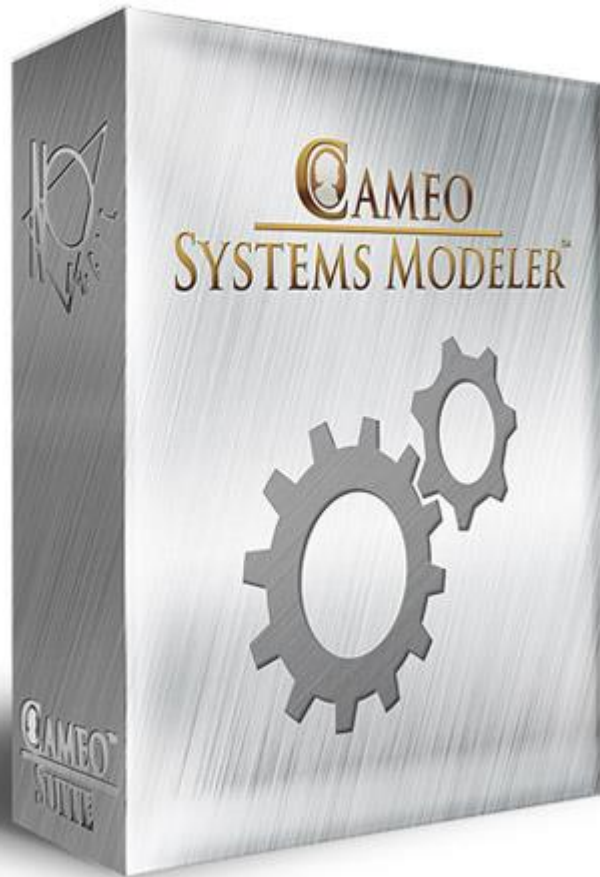
# What's this Webinar about?

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- **To demonstrate a Top-Down PLE case:**
  - Creating feature and product models in pure::variants
  - Linking the product models to the system model in CSM
  - Defining variation points in the system model
  - Realizing a specific variant (product) of the system model
- **To provide a good starting point for using PLE**

# Tool for Systems Modeling



- MBSE environment for system architects, system analysts, developers, quality engineers, etc.
- One of the most popular UML / SysML tools in the market
- Widely regarded as the most standard-compliant tool
- Designed for customization to meet customer needs

<http://www.nomagic.com/products/cameo-systems-modeler.html>



# Tool for Variant Management



- Variant Management for Complex Systems and Software Engineering
- Tool to create and maintain reusable SysML models together with [Cameo Systems Modeler](#)
- It allows product variants to be automatically created from a '150% System Model' by feature selection in pure::variants
- Integrates with other Tools in the PLE context

<https://www.pure-systems.com/products/pure-variants-for-magicdraw-358.html>

# What is PLE?



- Product Line Engineering (PLE) is the engineering of a family of related products using a shared set of (digital) engineering assets
- In case of physical systems, before the actual production of a product line begins, a whole set of digital artifacts must be maintained to describe the entire family (variants) of products.
- Manages the commonalities and variabilities in the product line
- Various product variants can be derived from the common product family

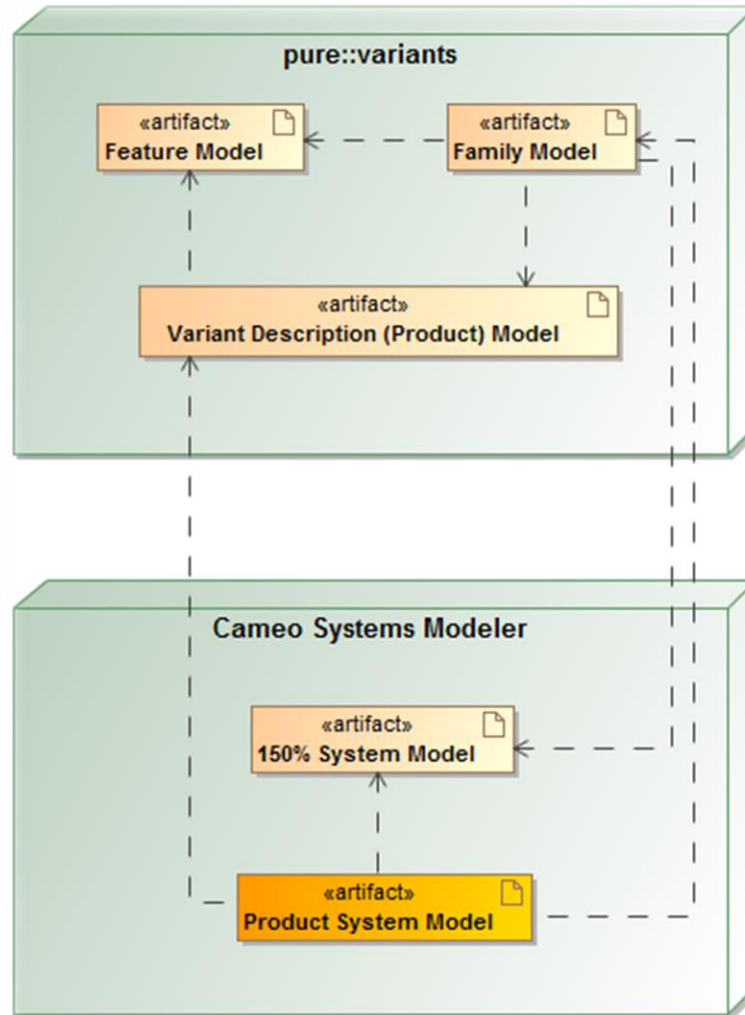


# Why PLE and Variant Management?



- Managing individual assets separately for each product variation is difficult if not impossible
- Update and maintenance problem?
- Automated generation of Product models
- Can cover:
  - Requirements management systems
  - Object-oriented modeling tools
  - Configuration management systems
  - Bug tracking systems, code generators, compilers, source code
  - documentation
  - etc...

# CSM and pure::variants Integration



# Problem Domain for the Demo



The domain for this demo is a **Coffee Machine Product Family** with the following Variations:

Coffee Machine for:  
**European, US, Indian and Australian** markets

Edition types:  
**Standard and Deluxe**  
with different coffee  
brewing options



Coffee Grinder:  
**Low or High humidity**

Power adapter:  
**120 V, 220 V, Universal**

# Let's Begin!





# Thank You!

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