

# Knowledge Based Product Development @ LPPDE Europe 2017

You are given a homework assignment to write a paper on the Wright Brothers. The requirements are a one page report with an introduction, three supporting paragraphs, and a conclusion. Would you just start writing without any knowledge on the subject? Of course not! You would instead do some research, go to the library, search the web, gather information, and organize your thoughts.

Knowledge Based Product Development is no different. You start out with a new set of requirements; we call it the Customer Interest. You investigate that idea to see if it makes sense from a sales and marketing perspective. If it does, you write down what you don't know about that subject and start collecting knowledge. As with the Wright Brothers paper, you wouldn't start writing it until you have completed your research. Same here! We need to first perform our research and gain knowledge on the subject. In many cases the knowledge will come from testing to learn what we don't know and eliminate gaps. Once we have sufficient knowledge to be successful, we start the design. Success is assured.



Engineering managers are constrained by knowledge gaps created by complex customer interests, multiple ways to solve problems, and emerging technologies that impact 21st century markets. Bob Melvin presents from start to finish how you can practice a relatively recent convergence of techniques known as lean, agile, and flexible development. The workshop highlights how a test before design philosophy can reap huge rewards in shorter development time and immediate market acceptance.

## Test before Design

Turn the traditional product development process on its head, and

- Consistently deliver new products that engineering can design and sales can sell.
- Learn what you don't know early on in a project
- Reuse knowledge to keep from repeating mistakes of the past and educate your workforce
- Move limit curves to gain market share
- Eliminate the dreaded design 'loop-back'
- Meet schedules using Set-Based Design principles

Attend this workshop and learn through an interactive exercise how to

- Create a knowledge library to establish a reliable 'corporate memory'
- Create an open environment of knowledge sharing not hoarding
- Change engineering's propensity to start designing immediately thus eliminating the dreaded project loopbacks
- Develop a new product development rhythm embraced by both engineering and sales
- Improve your process:
  - o Knowledge Based Product Development – If you need a complete guide
  - o Templates for Knowledge Briefs – Start capturing today
  - o Capturing the Customer Interest – Do we understand our product requirements and differentiators?
  - o Knowledge Gap Analysis – How do you know what you don't know?
  - o Sprints, Scrums, and Kanban Boards – Development out in the open
  - o Being a Chief Engineer – Everyone has the opportunity
  - o Set-based Design – You can meet release dates
  - o Check Sheets – knowledge reuse, it can really happen!

This workshop is NOT phase-gate thinking, methods and practices.

Who should attend?

- Engineering Vice Presidents and Directors
- Engineering Group and Function Managers
- Product Design Engineers
- Project Leaders
- Continuous Improvement Leaders

Bob Melvin is the Vice President of Engineering at Teledyne Marine Systems. He received a M.S. in Electrical Engineering from the Rochester Institute of Technology and a B.S. in Electrical Engineering from the University of Maine. He holds five patents. He is responsible for overseeing engineering at four companies on two continents and maintaining their Knowledge Based Product Development process and knowledge library. Bob considers himself a practical engineer; always looking for ways to improve himself and the company and looks forward to teaching and learning with you.

