C P D

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Enhanced productivity and reduced time to market contribute to healthy corporate balance sheets. In the photonics industry, the right design software can help achieve both. Due diligence during the software selection process is an exercise technology companies can't afford to take lightly. Sometimes, the number of available solutions and marketing messages from different software vendors can obscure technical realities of their offerings, making the selection process confusing, if not overly daunting. This document highlights key expectations we recommend you keep in mind when choosing photonic system design software, and how the offerings from the Synopsys Optical Solutions Group can help you maximize engineering efficiency and produce the best competitive product.

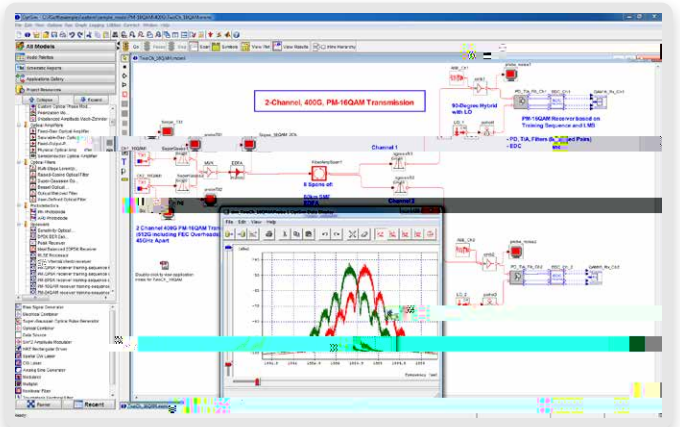
B E P D

There are three basic expectations of any photonic system design software:

- Accuracy
  - Are there any modeling assumptions that can potentially compromise accuracy of the results? Do the simulation setup and model parameters reflect real-life settings?
- Speed and efficiency
  - What are the tradeoffs between speed and efficiency versus accuracy? How demanding is the software on computational resources (hardware and simulation time)?
- Flexibility
  - How does the software scale with the complexity of the problem? Can I use the lab measurements or must I know the physical parameters? How easy is it to import and export results and work with other software tools?

P D O

The three products that comprise the RSoft™ Photonic System Design Suite are OptSim™, OptSim Circuit and ModeSYS™. OptSim models single-mode fiber-based systems at the signal propagation level. OptSim Circuit is a modeling tool for next-generation photonic circuits that operate with coupling and feedback of different optical and electrical signal paths. ModeSYS is a design and simulation tool for multimode fiber based systems where both the temporal and spatial attributes of the optical signal propagation are taken into account. While all three products share the same graphical user interface (Figure 1) and work under a common platform, each can also function as a standalone product, providing a cost-effective, needs-based modular solution.



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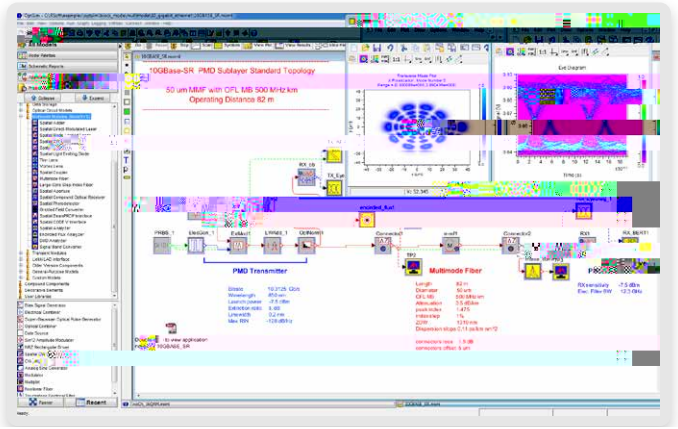

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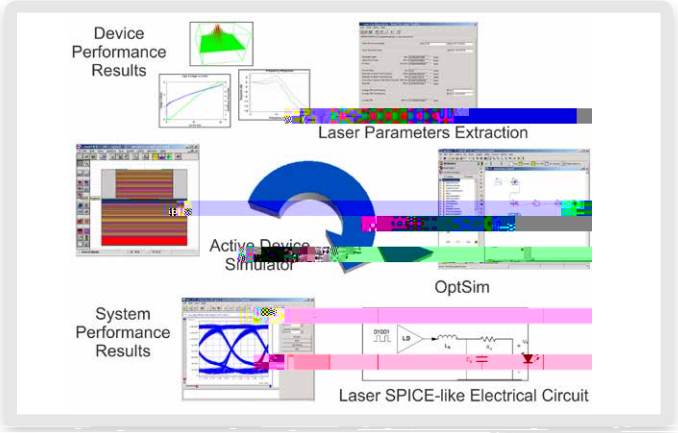
For ModeSYS users, important modeling challenges include inter-component coupling, large core multimode fibers, mode coupling due to microbends, effects of refractive index variations and manufacturing imperfections on the system performance, measurement of effective modal bandwidth (EMB), encircled flux (EF) and differential modal delay (DMD).

L M I B A

An important consideration when selecting the right modeling solution is whether the software you choose now will still be helpful if your team, organization and applications grow and diversify in the future. As previously discussed, OptSim, OptSim Circuit and ModeSYS provide support for a broad range of photonic system simulations. In



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The RSoft Photonic System Design Suite comes with a rich library of models. Users have full access to all the