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**Manufacturing physics: using large(r) data sets and physical insight to develop great products**

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Early stage research does a fantastic job providing knowledge and proof-of-feasibility for new product concepts. However, the handful of data points required to validate a concept is typically insufficient to provide insight on the whole range of effects relevant to manufacturing the product. Moving to manufacturing brings larger data sets and variability; opportunistic analysis of these larger sets can yield better product design rules. In the early 2000s Corning developed an optical transmission fiber optimized to suppress stimulated Brillouin scattering (SBS). Analyzing the larger data set provided by the manufacturing environment using the same theoretical framework developed by the original researchers refined our understanding of how to improve SBS in optical fibers beyond what was known from our early efforts. This greater understanding allowed us to design better performing products.