Tests were run together with the end user (a batch chemical plant) with historical batch data emulating an online approach (meaning data for the current batch was only available until the current step). A multiway principal component

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ABB Ability™ BatchInsight helps operators to run complex and nonlinear processes in a smooth and trouble-free way.

analysis (MPCA) model was used to detect a foaming problem that occurred in a fraction of the batches. The model was trained only with batches without foaming. In 83 percent of the cases, the system was able to predict a foaming event at least 5 mins before it occurred. Often it predicted the foaming hours before. Although foaming was wrongly predicted in 20 percent of the cases, the predictions are very helpful as the operator can then focus on suspect batches. ●