# PATTERN DISCOVERY
## TECHNOLOGIES INC

# Justifying CompressionInsight™ 3.0

## Setting compression in the OSIsoft PI System is a challenge

- Requires intimate knowledge of the process, instrumentation and controls.
- Requires intimate knowledge of the PI System and configuration settings – understanding of relationships between deviations, span, scan, point class, etc.
- Requires understanding of how the compression algorithms in OSIsoft work and how compression and exception deviations impact quality and volume of data stored in the archive.
- Time consuming, especially with 10's of 1,000's of tags to consider.
- Little knowledge of how systems were set up in the first place – systems inherited or set up by third parties.
- PI administration is often only a secondary responsibility of either IT or Process Engineering – not enough time to dedicate to the task.
- Configurations set by "cut and paste" from similar tags – no consideration for characteristics of the individual tag
- Rarely, if ever, revisited – set and forget mentality
- Tag characteristics change over time and compression settings may mask new characteristics or become inundated with noise.
- No feedback loop – how do you know if you got it right?
- No measurement on accuracy of data unless you turn compression off.
- No information measure or data fidelity measure provided.
- No comparative measures for data quality. Comparison would require running tags with compression turned off, and then comparing the trend to tag with compression turned on to configured settings.
- No way to quickly get feedback on how different settings would impact quality of data being archived
- Discover data quality problems too late in the process – when data is being used for downstream analysis and evaluation
- Process engineers request compression be turned off
  - Data retrieval times lengthy for detailed analysis
  - Archives filling quickly and require frequent new archives to be set
  - Bandwidth issues due to data volumes being transmitted

**CompressionInsight will help with all these challenges:**

- Data driven approach eliminates guesswork.
- Works equally well in evaluating over-compressed or under-compressed tags.
- Considers signal characteristics of every individual tag.
- Recommendations based on observed span therefore deviations tuned to real world conditions, not theoretical range limits.
- Can work on 1,000's of tags simultaneously.
- Feedback loop with detailed summaries for comparing original settings to new recommendations.
- Detailed views with graphs and tables to visualize data fidelity results, comparing original settings and recommended setting configurations.
- Fine tune settings with immediate feedback – establish data fidelity targets.
- Export to CSV for reporting and collaboration on final setting decisions.
- Completely integrated with OSIsoft PI system so all tuning can be accomplished inside CompressionInsight.