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## **Data Driven Risk Based Process Safety – Why Care, How to Get It and How to Keep It**

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The establishment of metric based management was clearly established in Process Safety Leading and Lagging Metrics. To demonstrate this, two metrics from ISA-TR84.00.04 Appendix R are used to illustrate the necessity of an information repository and associated data visualization. These metrics are below:

- Percentage of Safety Instrument Functions (SIF) with incomplete Safety Requirement Specification (SRS) information
- Percentage of SRS completed before project /MOC approval

Functional Location and Equipment Data provide context to the function and equipment. It is a key element to establishment of an effective Risk-Based Process Safety (RBPS) program. This process is applicable to both brown- and green- field plants, where this paper will reveal key aspects of an effective strategy that consists of the following:

- Define your strategy for critical Information before your engineering contract
- Implement your strategy with associated critical Information requirements in your engineering contract and execution
- Manage and measure your critical Information deliverable against the 4 C's
- Control your Critical Information in a Repository with a change control mechanism
- Use of Metrics for timely monitoring and performance trending

Essential to the storing of different data types and content is the ability to effectively handle the transfer of the applicable engineering information to the owner. Classically this turnover of information has taken place at agreed milestones throughout the project. This data must be prepared so that it can be easily ingested, validated, stored and control within the data repository recognizing these milestones that will form the design basis whilst maintaining the audit trail of approvals.

This Critical Information Repository is important for the effective implementation of AIChE's CCPS Vision 20/20. This will be described in the context of one industry tenant and one societal theme as listed below:

- Disciplined Adherence to Standards
- Meticulous Verification

At the completion of the presentation, attendees should better understand the need for Critical Information, the management and visualization of this Information in the context of the Risk based Process Safety.