

# Trending: Monitoring and Measurement Expectations in Your Safety Management System

A focus on continuous improvement is vital in making all safety management systems (SMS) successful. A monitoring and measurement process, or trend analysis, aids in the ongoing evaluation of your SMS operation. Recognition of both positive and negative trends helps you gauge **past and future** safety and health (S&H) performance against organizational expectations and requirements. Monitoring and measurement also assists you in finding improvement opportunities, in regards to S&H, within the processes and systems making up your SMS. This one pager helps you identify what to monitor and measure so you can ensure your SMS is effective and continues improving over time.



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## USE LEADING AND LAGGING INDICATORS TO MEASURE PERFORMANCE

**Leading indicators** are usually associated with the activities making a system work or function. For example, conducting the required number of safety inspections on time ensures compliance, reduces risks, and signals your inspection process is working as intended. They provide insight on the future performance of your SMS efforts. Leading indicators are proactive in nature.

**Lagging indicators** are generally the result from an activity. For example, compliance issues identified after an inspection shows you did not effectively control a hazard, and may be the result of shortcoming in your inspection process. They show the past or current performance of your SMS efforts. Lagging indicators are reactive in nature.

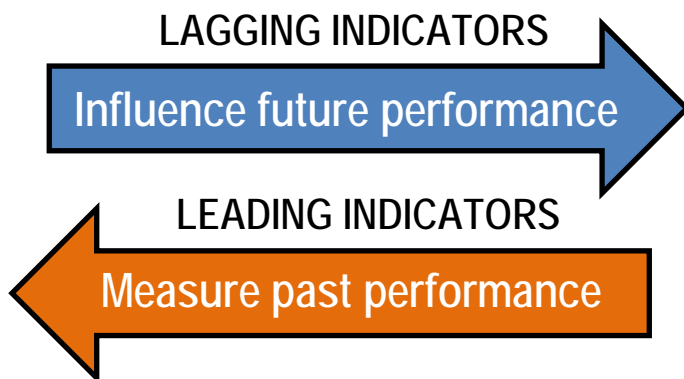


Image created by the DoD SMCX

When choosing indicators to include in your SMS, first look at each key S&H process and ask yourself: “*What makes this process effective?*” Work with management and employees to identify actions (**leading indicators**) you believe help the process to work as intended. Also determine any outcomes or results (**lagging indicators**) you believe show whether the process did work as you intended.

## IDENTIFY WHAT TO MONITOR AND MEASURE

Each SMS model provides varying information for what to monitor and measure. Review your SMS criteria to determine specific measures to include in your monitoring and measurement process (e.g., injury and illness incidence rates). Think about any other indicators you feel are important to monitor and add them to your list. Key items to trend across all SMS models include, but are not limited to:

S&H goals and objectives	S&H education and training
Incident investigation	Management of change
Employee participation or involvement	Procurement
Leadership engagement or commitment	Hazard reporting
Periodic S&H inspections	Contractor S&H
Risk assessments	Occupational health services
Preventive maintenance	Compliance programs
S&H resources	Emergency preparedness
Corrective actions and hazard controls	SMS audits or evaluation

## DETERMINE HOW TO GATHER MONITORING AND MEASUREMENT DATA

Designate responsible individuals for monitoring and measuring the performance indicators you choose. For each performance indicator, determine what information is necessary to monitor progress and measure results. Identify the data, documents, measurements, or other information needed to effectively monitor progress.

### Monitoring and Measurement Example – S&H Training Process

- Did we provide the classes or trainings employees need? – Identify **number of** required trainings and whether **all** required trainings were provided to employees (leading indicator)
- Did employees comprehend training? – Verify with tests or other exercises to **score** employees understanding of the training content; did **all employees pass** (leading indicator)
- Did incident investigations determine lack of employee understanding? – Review the **number of incidents with causal factors related to training** (lagging indicator)

## HOW OFTEN SHOULD I MONITOR AND MEASURE EACH INDICATOR?

The monitoring and measurement of S&H indicators is an ongoing process. Conduct monitoring and measurement as often as necessary to ensure processes remain effective. It is recommended to monitor trend-related information throughout the year and, at a minimum, conduct measurement annually to assess SMS performance and identify S&H trends.

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