

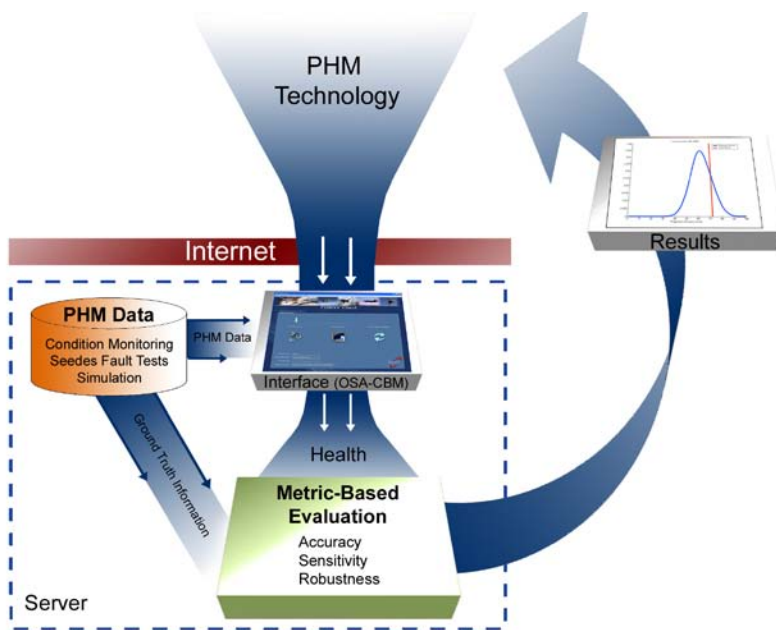
# Advanced Techniques for Verification and Validation of PHM Technologies



*PHM V&V provides you with the capability to improve & assess the effectiveness of their software during the development process*

Verification and validation is an important step in building and quantifying confidence in PHM systems. Impact Technologies has developed a PHM Verification and Validation (PHM V&V) software application that combines a universally applicable set of performance-based metrics for assessing system effectiveness with access to protected/proprietary test and operational data sets.

This web based software approach is needed today as supported by specific Prognostics and Health Management (PHM) technology mandates for large DoD acquisition programs such as the F-35 Lightning II (Joint Strike Fighter - JSF) program, the next generation destroyer DDG-1000 program, and the Future Combat Systems (FCS).



This solution provides PHM system developers the web-based capability to improve and assess the effectiveness of their software during the development process, while also providing an acquisition decision support tool for PHM acquisition evaluators.

Industrial customers are moving toward automated condition monitoring through the adoption of PHM and CBM technologies. Examples of customers that could benefit from the use of PHM V&V are:

- Commercial airlines
- Electric power producers
- Oil and gas transmission companies
- Large chemical or manufacturing plants

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## PHM Technology Acquisition:

- Provide user with information regarding the performance of the PHM algorithm.
- Evaluating differences in performance and effectiveness of competing PHM technologies during source selection.
- Qualification and validation of delivered PHM tools.

## PHM Developers:

- Tracking developmental improvements using a standard method of assessment.
- Developing a business case associated with using PHM technologies for Condition-Based Maintenance (CBM) versus competing processes such as Preventive Maintenance.

<b>Features</b>	<b>Advantages</b>	<b>Benefits</b>
Web-based access	Allows for centralized common data repositories	Multiple users can access data and evaluate PHM algorithms simultaneously
Common set of objective metrics	Removes ambiguity of how algorithms are assessed	Each PHM algorithm is scored in the same way for a given set of data
PHM algorithm effectiveness is characterized	Identifies strengths and weaknesses in PHM algorithms	Assists in acquisition decision support