ASME IAM-1–2025

Investment Analysis Guidelines for Manufacturing

AN AMERICAN NATIONAL STANDARD



The American Society of Mechanical Engineers

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FOREWORD

Organizations regularly make investment decisions such as what machinery to purchase, whether to upgrade machinery, and whether to adopt new technology. These decisions may be complicated due to uncertainty in prices or other cash flow factors.

The American Society of Mechanical Engineers (ASME) began the Investment Analysis Guidelines effort in 2022 to document methods for economic decision making, including net present value, internal rate of return, and payback period. ASME IAM-1 is part of a planned series of Standards that facilitates accurate investment decision making, thereby increasing the return on investment for manufacturers. ASME IAM-1 aids manufacturers in evaluating potential investments in technologies and processes.

Following approval by the MAM Standards Committee on June 6, 2025, ASME IAM-1–2025 was approved by the American National Standards Institute as an American National Standard on September 29, 2025.

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Manufacturing and Advanced Manufacturing

(The following is the roster of the committee at the time of approval of this Standard.)

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This Standard is always open for comment, and the committee welcomes proposals for revisions. Such proposals should be as specific as possible, citing the paragraph number, the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent background information and supporting documentation.

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(a) The most common applications for cases are

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(3) to allow users to gain experience with alternative or potential additional requirements prior to incorporation directly into the Standard

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(4) the editions of the Standard to which the proposed case applies

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INVESTMENT ANALYSIS GUIDELINES FOR MANUFACTURING

1 INVESTMENT ANALYSIS GUIDE OVERVIEW

1.1 Object

This Guide is intended to aid decisions in capital investments, which include but are not limited to investments in processes, equipment, and practices. This Guide describes the most common methods of investment analysis and helps answer questions such as the following:

(a) Which two of five possible projects should I invest in?
(b) Is an investment in a particular piece of equipment economical?
(c) Which one of five equipment options should I purchase?

1.2 Scope

This Guide provides methods to assist manufacturers of any size in making investment decisions for capital and processes. It also provides a reference for economic decision making (e.g., selecting projects with the best economics). This Guide is not a comprehensive review of investment decision making but rather focuses on methods that manufacturers and their staff can readily apply to economically advance manufacturing operations. The methods discussed address four decision types and include net present value, internal rate of return, and payback period. Approximately 75% of Fortune 500 companies indicated that they use net present value for most project decisions (Graham and Harvey, 2001). For the internal rate of return, 76% indicated that they use it most of the time and payback period is used by 57% most of the time (Graham and Harvey, 2001). This Guide also discusses rate of return for short-term projects as well as depreciation.

1.3 Organization

The Guide is organized into the following four sections and two appendices:

(a) section 1, Object and Scope
(b) section 2, Definitions
(c) section 3, Methods for Investment Analysis, which includes paragraphs on present value, net present value, internal rate of return, and payback period
(d) section 4, Depreciation
(e) Nonmandatory Appendix A, which provides mathematical formulas for each of the analytical methods
(f) Nonmandatory Appendix B, which presents a hypothetical case study

1.4 References

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