

ICS 35.240  
CCS L 70



**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/Z 227-2026**

---

**Artificial intelligence - Classification guidelines for application  
scenarios of petroleum and petrochemical industry  
(English Translation)**

**Issued on: August 27, 2026**

**Implemented on: January 1, 1800**

---

**Issued by: State Administration for Market Regulation;  
Standardization Administration of China**

## Table of Contents

Foreword ...

### Foreword

This document is a standard or guiding technical document.

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents".

Drafting.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Information Technology Standardization Technical Committee (SAC/TC 28).

### Introduction

As a crucial pillar industry of the national economy, the oil and petrochemical sector is accelerating its digital transformation and intelligent upgrading. Artificial intelligence technology...

The former oil and petrochemical industry still faces challenges in applying artificial intelligence technology, including fragmented application scenarios, insufficient data integration, lack of standards, and implementation difficulties.

Challenges such as unclear pathways mean that some enterprises lack a systematic understanding of the boundaries and implementation paths of technology applications, which can easily lead to redundant construction and inefficient collaboration.

Problems such as low cost and difficulty in implementing technology.

This document, using the oil and gas industry chain as its main thread, constructs a three-tiered classification system of "major category - intermediate category - minor category," and systematically outlines the development of artificial intelligence.

Typical application scenarios. By clarifying business scenario needs, technology empowerment directions, and practical implementation paths, this provides solutions for relevant units and enterprises in the oil and petrochemical industry.

It provides reference for the industry in planning, technology research and development, and project implementation, and helps to develop new quality productivity in the industry.

Application scenarios of artificial intelligence in the oil and petrochemical industry

Classification Guide

## 1 Scope

This document provides a classification guide for the application scenarios of artificial intelligence technology in the oil and petrochemical industry, and gives examples of industrial collaboration and sharing, oil and gas exploration, etc.

Related to development and production, oil and gas storage and transportation, oil refining and chemical industry, new materials, new energy, refined oil sales, natural gas sales, engineering construction, and QHSE (Quality, Health, and Safety) aspects.

Categories and descriptions of intelligent technology application scenarios.

This document is intended to guide the development and application of artificial intelligence technologies in the oil and petrochemical industry.

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 41867 Terminology for Information Technology and Artificial Intelligence

## 3 Terms and Definitions

### 3.1

large-scale model

Deep learning, trained on massive amounts of data, possesses a complex computational architecture, can handle complex tasks, and exhibits a certain degree of generalization.

Model.

[Source. GB/T 45288.1-2025, 3.1]

## 4 Abbreviations

The following abbreviations apply to this document.

AI. Artificial Intelligence

OCR. Optical Character Recognition

QHSE. Quality, Health, Safety, and Environment

## 5 Overview

This document describes the application scenarios of artificial intelligence technology in a hierarchical manner according to different categories, as shown in Table 1. The application scenarios are divided into three categories.

a) Major application scenarios can be categorized from the perspective of upstream and downstream businesses in the oil and petrochemical industry chain, including industry collaboration and sharing, and oil and gas exploration and development.

Production, oil and gas storage and transportation, oil refining and chemical industry, new materials, new energy, refined oil sales, natural gas sales, engineering construction, QHSE;

b) Application scenarios are broken down into major application categories from a business domain perspective. For example, oil and gas exploration and development production is divided into oil...

Gas exploration, oil and gas development and production, engineering technology, etc.

END: Draft Version (GBZ227-2026)