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

GB/T 12643-2025

Replacing GB/T 12643-2013

Robotics - Vocabulary

机器人词汇

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to ISO 8373:2021 "Robotics Vocabulary".

This document replaces GB/T 12643-2013 "Vocabulary of Robots and Robot Equipment".

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the definition of the term "robot" (see 3.1, 2.6 of the 2012 edition);
- Deleted the term "physical change" (see 2.3 of the 2012 edition);
- Deleted the term "reprogrammable" (see 2.4 of the 2012 edition);
- Deleted the term "multi-purpose" (see 2.5 of the 2012 edition);
- Added the term "robotics" (see 3.3);
- Added the term "robot controller" (see 3.4);
- Changed some of the definitions of the term "control system" (see 3.4, 2.7 of the 2012

edition);

--- Changed the definition of the term "robotic device" (see 3.5, 2.8 of the 2012 edition);

--- Changed some of the definitions of the term "industrial robot" (see 3.6, 2.9 of the 2012 edition);

--- Changed some of the definitions of the term "service robot" (see 3.7, 2.10 of the 2012 edition);

--- Deleted the term "personal service robot" (see 2.11 of the 2012 edition);

--- Deleted the term "dedicated service robot" (see 2.12 of the 2012 edition);

--- Added the term "medical robot" (see 3.8);

--- Changed the definition of the term "robot system" (see 3.9, 2.14 of the 2012 edition);

--- Changed the definition of the term "industrial robot system" (see 3.9, 2.15 of the 2012 edition);

--- Changed some of the definitions of the term "robotics" (see 3.10, 2.16 of the 2012 edition);

--- Changed some of the definitions of the term "operator" (see 3.11, 2.17 of the 2012 edition);

--- Change the term "programmer" to "task programmer" (see 3.12, 2.18 of the 2012 edition);

--- Deleted the terms "recipient" and "beneficiary" (see 2.19 of the 2012 edition);

--- Deleted the term "installation" (see 2.20 of the 2012 edition);

--- Deleted the term "trial operation" (see 2.21 of the 2012 edition);

--- Deleted the term "integrated" (see 2.22 of the 2012 edition);

--- Deleted the term "industrial robot unit" (see 2.23 of the 2012 edition);

--- Deleted the term "industrial robot production line" (see 2.24 of the 2012 edition);

--- Deleted the term "collaborative operation" (see 2.25 of the 2012 edition);

--- Deleted the term "collaborative robot" (see 2.26 of the 2012 edition);

--- The term "intelligent robot" was deleted (see 2.28 of the 2012 edition);

--- Added the term "collaboration" (see 3.13);

--- Changed some of the definition of the term "robot collaboration" (see 3.14, 2.27 of the 2012 edition);

--- Changed the definitions of the terms "actuator" and "robotic actuator" (see 4.1, 3.1 of the

2012 edition);

--- Changed some definitions of the terms "robot arm", "arm" and "main joint axis" (see 4.2, 3.2 of the 2012 edition);

--- Changed some definitions of the terms "robot leg" and "leg" (see 4.4, 3.4 of the 2012 edition);

--- Changed some of the definitions of the term "configuration" (see 4.5, 3.5 of the 2012 edition);

--- Added the term "configuration" (see 4.6);

--- Changed the definition of the term "bar" (see 4.7, 3.6 of the 2012 edition);

--- Deleted the term "cylindrical joint" (see 3.7.3 of the 2012 edition);

--- Deleted the term "ball joint" (see 3.7.4 of the 2012 edition);

--- Added the term "joint" (see 4.8);

--- Changed the definition of the term "base" (see 4.9, 3.8 of the 2012 edition);

--- Changed the definition of the term "base mounting surface" (see 4.10, 3.9 of the 2012 edition);

--- Deleted the term "end effector connection device" (see 3.12 of the 2012 edition);

--- Deleted the term "end effector automatic replacement system" (see 3.13 of the 2012 edition);

--- Changed the definition of the term "operating machine" (see 4.14, 2.1 of the 2012 edition);

--- Changed the definition of the term "Cartesian coordinate robot" and "Cartesian coordinate robot" (see 4.14.1, 3.15.1 of the 2012 edition);

--- Changed the definition of the term "cylindrical coordinate robot" (see 4.14.2, 3.15.2 of the 2012 edition);

--- Changed the definition of the terms "polar coordinate robot" and "spherical coordinate robot" (see 4.14.3, 3.15.3 of the 2012 edition);

--- Changed the definition of the term "swinging robot" (see 4.14.4, 3.15.4 of the 2012 edition);

--- Changed the definition of the term "articulated robot" (see 4.14.5, 3.15.5 of the 2012 edition);

--- Changed the definition of the term "SCARA robot" (see 4.14.6, 3.15.6 of the 2012 edition);

- Deleted the term "spinal robot" (see 3.15.7 of the 2012 edition);
- Changed the definition of the term "mobile platform" (see 4.16, 3.18 of the 2012 edition);
- Deleted the term "omnidirectional mobile mechanism" (see 3.19 of the 2012 edition);
- Deleted the term "automatic guided vehicle" (see 3.20 of the 2012 edition);
- Added the term "wearable robot" (see 4.17);
- Changed the definition of the term "path" (see 5.5.4, 4.5.4 of the 2012 edition);
- Deleted the term "coordinate system" (see 4.7 of the 2012 edition);
- Changed some of the definitions of the term "maximum space" (see 5.13, 4.8.1 of the 2012 edition);
- Changed some of the definitions of the term "operating space" (see 5.15, 4.8.3 of the 2012 edition);
- Changed some of the definitions of the term "workspace" (see 5.16, 4.8.4 of the 2012 edition);
- Changed the definition of the term "safety protection space" (see 5.17, 4.8.5 of the 2012 edition);
- Deleted the term "collaborative workspace" (see 4.7 of the 2012 edition);
- Deleted the term "coordinate transformation" (see 4.12 of the 2012 edition);
- Deleted the term "manual data input programming" (see 5.2.2 of the 2012 edition);
- Changed the definition of the term "teach-in programming" (see 6.4, 5.2.3 of the 2012 edition);
- Changed some of the definitions of the term "offline programming" (see 6.5, 5.2.4 of the 2012 edition);
- Deleted the term "target programming" (see 5.2.5 of the 2012 edition);
- Changed some definitions of the terms "point control" and "PTP control" (see 6.6, 5.3.1 of the 2012 edition);
- Changed some of the definitions of the term "continuous path control" (see 6.7, 5.3.2 of the 2012 edition);
- Deleted the term "adaptive control" (see 5.3.6 of the 2012 edition);
- Deleted the term "learning control" (see 5.3.7 of the 2012 edition);
- Added the term "trajectory planning" (see 6.11);
- Deleted the term "motion planning" (see 5.3.8 of the 2012 edition);