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中國機器人CR驗證

China Robot (CR) certification



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為什麼中國政府會發布中國機器人CR驗證? Why has the Chinese government published its “China Robot (CR)” certification?

2015年，中國政府發布了中國版「工業4.0」規劃——《中國製造2025》，其中機器人是智慧製造領域重點發展的產品。目前，中國已成為全球最大的機器人市場。2010年至2015年，中國工業機器人市場銷量以年均35.5%的速度增長，服務機器人市場也開始快速普及。市場人士預計，到2020年我國自主品牌工業機器人年產量將達到10萬台，服務機器人年銷售金額有望超過300億元。

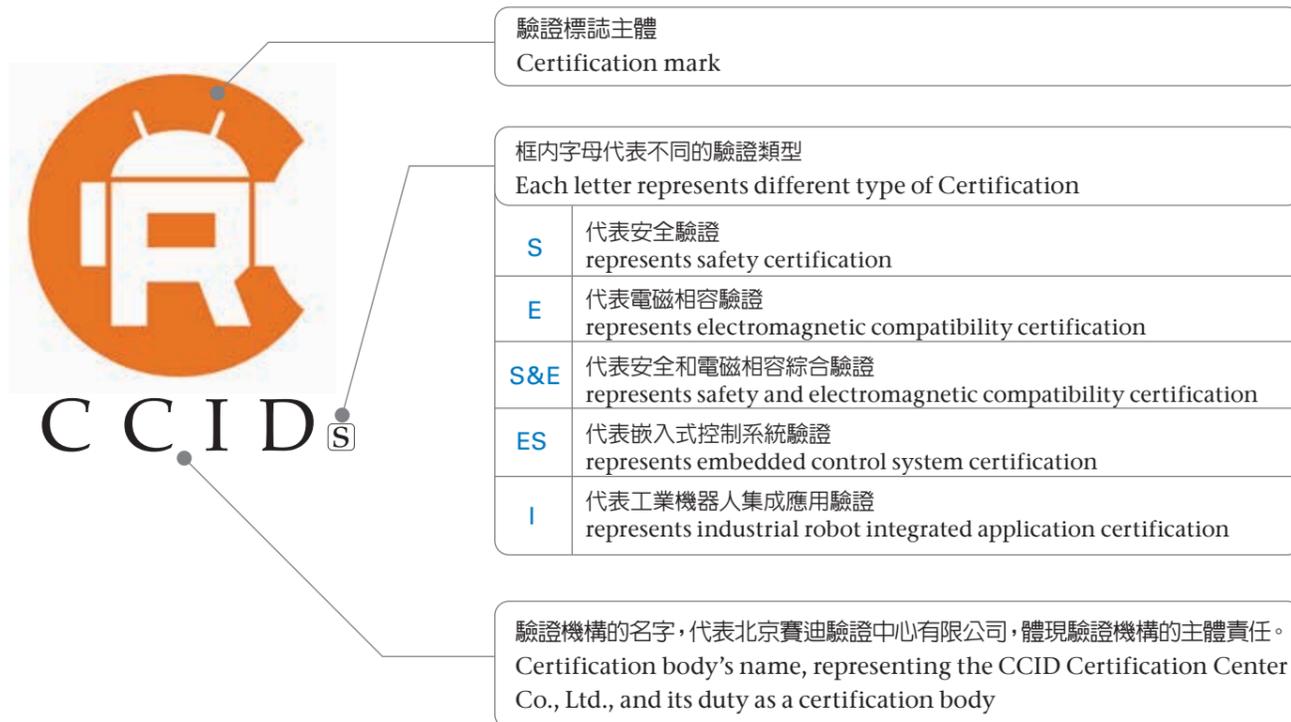
為規範高速發展的機器人市場，2016年11月中國國家發改委、中國質檢總局、中國工信部和中國國家認監委正式發布「中國機器人驗證(CR)」標誌，進入了機器人標準檢測驗證的實質性階段。

The Chinese government released the Chinese version of its “Industry 4.0” plan, entitled “Made in China 2025”, in 2015. In terms of smart manufacturing, the plan states that robots are key products to be developed.

China is currently the world’s largest market for robots. Sales of industrial robots in China grew at an average rate of 35.5% between 2010 and 2015, and the market for service robots has begun to increase rapidly. Market players predict that by 2020 the annual production volume of independent-brand robots in China will reach 100,000 units, and the annual sales volume of service robots will exceed RMB30 billion.

To regulate the thriving robotics market, the National Development and Reform Commission (NDRC), AQSIQ, the Ministry of Industry and Information Technology (MIIT) and the Certification and Accreditation Administration jointly published the “China Robot” (CR) mark in November 2016. This move signified a new and substantive phase in the testing and certification of robots in China.

中國機器人CR驗證標誌是什麼樣的? What does the CR mark look like?



該驗證標誌是在中國國家發改委、中國認監委、中國工信部、中國國家標準委等國評中心指導委員會主要成員共同指導下進行策劃、創意、設計並最終確定的。

「中國機器人驗證(CR)」標誌將作為中國機器人驗證的統一標誌，經批准的機器人產品驗證機構統一使用該標誌於機器人驗證，這將有助於樹立中國機器人驗證的統一形象，便於識別、宣傳、採信和推動。

在標誌使用的過程中，驗證機構名稱與基本圖案相組合，體現驗證機構的主體驗證責任。附屬的字母代表驗證類型：S代表安全驗證，E代表電磁相容驗證，E與S同時出現代表安全和電磁相容綜合驗證，這樣便於市場和客戶的判斷。

The certification mark has been planned, designed and approved by key members of the Advisory Committee for the National Robot Testing and Assessment Center, which consist of the NDRC, the Certification and Accreditation Administration, MIIT and the Standardization Administration (SAC).

The CR mark will be the sole, uniform mark for the certification of robots in China. All approved robotic product certification bodies will undertake the certification of robots using this mark. The mark will thus help to establish a uniform image for certified Chinese robots, and will facilitate identification, propagation, admission and promotion.

The certification bodies responsibility is reflected in a combination of its name and basic design pattern, with a letter representing the type of certification received. Thus, S represents safety certification, E represents electromagnetic compatibility certification, and E&S represents safety and electromagnetic compatibility certification. This will help the market and customers make better judgments.

哪些產品納入到機器人CR驗證範圍? What products will be included in the scope of CR certification?

機器人驗證 Robot Certification				
機器人整機驗證 Certification of Assembled Robots	機器人零件驗證 Certification of Robot Parts	機器人嵌入式控制系統驗證 Certification of Robotic Embedded Control Systems	工業機器人集成應用測試評估 Testing and Assessment of Integrated Application Systems for Industrial Robots	服務機器人安全性與環境適應性測試評估 Testing and Assessment of Safety and Environmental Adaptability of Service Robots
對工業機器人、服務機器人與特種機器人的整機性能與安全性等進行驗證 Certification of performance and safety of assembled industrial robots, service robots and specialized robots	對減速器、伺服電機、智慧感測器等關鍵零件進行驗證 Certification of key parts such as gear reducer, servo motors and smart sensors	對機器人控制器、示教器等嵌入式控制系統進行驗證 Certification of embedded control systems for robots, such as controllers and demonstrators	對基於工業機器人的加工、製造等集成應用系統進行測試評估 Testing and assessment of integrated application systems for industrial robots deployed during processing and manufacturing	對家用/商用服務機器人的機械安全和電氣安全、交互安全、路徑導航與定位元能力、避障能力、環境適應性等進行測試評估 Testing and assessment of mechanical and electrical safety, switching safety, path navigation and positioning capability, malfunction-avoidance capability and environmental adaptability of household/commercial service robots

機器人獲得CR證書能帶來哪些價值？ What value can CR certification add to robots?

近日工業和資訊化部、國家發展改革委、國家認監委發工信廳聯裝〔2016〕169號文，明確要從建立驗證採信制度等10個方面引導我國機器人產業協調健康發展。2016年第65號文《工業機器人行業規範條件》提出了更具體的品質要求，包括「工業機器人本體生產企業和應用集成企業研發生產使用的機器人本體、關鍵零組件產品須獲得『國家機器人CR驗證標誌』，機器人應用集成系統須經國家認可的第三方檢測驗證機構的安全評估合格」等內容。

The Gong-Xin-Ting-Lian-Zhuang [2016] Order No. 169, jointly issued by MIIT, NDRC and the Certification and Accreditation Administration, states that the requirements for the coordinated and healthy development of China's robotic industry will be undertaken in ten areas, including the establishment of a certification and admission regime. The "Standard Conditions for the Industrial Robot Industry" ([2016] Order No. 65) gives more specific quality requirements. These include requirements for a "CR certification mark for robotic units and key parts developed and produced by industrial robot manufacturers and application integration enterprises, and robot application integrated systems passing safety assessments conducted by State-recognised third-party testing and certification bodies, etc."

機器人驗證推進國家採信和國際互認，驗證的目的包括但不限於，
With respect to the state admission and international recognition of the certification of robots, the objectives of such certification include, without limitation:

- 驗證採信有效提高政策扶持精準度和產品市場公信力；
Certification and admission that are effective in improving product precision and the product's market credibility;
- 獲取國家及地方對機器人產業的資金補貼和政策支援；
State and local financial subsidy and policy support for robotic enterprises;
- 為機器人領域的企業融資和技術並購提供價值評估；
Provision of valuation for financing and technical merger of enterprises in the robot sector;
- 國際互認的專業檢測報告向用戶證明機器人產品品質；
Internationally recognised professional testing reports that provide proof of quality of robotic products to users;
- 對接國際標準為機器人關鍵技術成熟度提供技術鑒定；
Compatibility with international standards will constitute a basis for the technical verification of levels of sophistication for key robotic technology;
- 促進中國製造業的轉型升級，增強企業的核心競爭力。
Promotion of the transformation and upgrading of China's manufacturing industry, and encouragement of enterprises' core competitiveness.

TÜV萊茵能提供機器人CR驗證服務嗎？ Can TÜV Rheinland provide CR certification services?

在中國國家發改委、中國工信部、中國國標委、中國認監委、中國機器人產業聯盟等部門的指導下，2015年初國家機器人檢測與評定中心(以下簡稱「國評中心」)成立。國評中心機器人檢驗檢測公共服務平台落戶北京，由工業和資訊化部電腦與微電子發展研究中心(中國軟體評測中心)(以下簡稱「中國評測」)和北京賽迪驗證中心有限公司(以下簡稱「賽迪驗證」)建設和運行。中國評測是首批國家授牌的協力廠商機器人檢驗檢測服務機構，同時也是國家認監委批准的「國家機器人品質監督檢驗中心(北京)」。賽迪驗證是中國國家認監委、中國發改委、中國機器人產業聯盟授權、指定開展機器人驗證並可頒發CR證書的權威機構。

2016年6月8日，德國萊茵TÜV中國評測在北京就機器人標準制定、檢測驗證、人員培訓和市場推廣達成全面合作並簽署了協議，雙方將共同為工廠提供CR和CE驗證，在標準一致的前提下可以實行一次檢驗測試，德國萊茵TÜV頒發CE證書，賽迪驗證頒發CR證書，廠商可根據自己的需求選擇哪種證書，無論是國內市場還是國際市場，都可以兼顧到。因此德國萊茵TÜV可以為工廠提供CR驗證服務。

The National Robot Testing and Assessment Center (NRTAC) was established in early 2015 under the guidance of the NDRC, MIIT, SAC, Certification and Accreditation Administration and China Robot Industry Alliance (CRIA). Its robot testing public service platform is based in Beijing and is jointly constructed and operated by the MIIT's Computer and Micro-Electronics Development Research Center (i.e., the China Software Test Center, hereinafter CSTC) and the CCID Certification Center Co Ltd (CCID). The CSTC is one of the first third-party robot testing service institutions to be authorised by the State. It is also the State Robot Quality Supervision and Testing Center (Beijing) approved by the SAC. The CCID is an authoritative institution appointed by the SAC, NDRC and CRIA for the certification of robots and the issuance of CR certificates.

On June 8, 2016 TÜV Rheinland and the CSTC entered into an agreement on comprehensive collaboration with respect to the formulation of robot standards, testing and certification, personnel training and market promotion. Pursuant to the agreement, the parties will jointly provide CR and CE certification for the manufactures and, subject to the consistency of standards, they will jointly conduct single inspections and tests, with TÜV Rheinland issuing CE certificate and the CCID issuing CR certificate. Manufacturers will be able to choose the appropriate certificate to their requirements, whether in the domestic or international markets. TÜV Rheinland is thus able to provide CR certification services to manufacturers.

在德國萊茵TÜV申請CR證書的優勢是什麼？ What are the advantages of applying to TÜV Rheinland for CR certificate?

德國萊茵TÜV是全球著名的驗證檢測機構，有著140多年的驗證歷史，在產品驗證領域具有大量的經驗和人才，並且有著全球化的驗證服務網路，其證書在全球市場有很高的權威性，能說明您的產品快速走向全球市場。

TÜV Rheinland is a world-renowned certification and testing institution, having gained its experience in certification over more than 140 years. It possesses immaculate experience and considerable talents in the field of product certification, and is equipped with a global certification services network. Its certificates are highly authoritative in the global market and therefore can help products enter the global market in a short time.

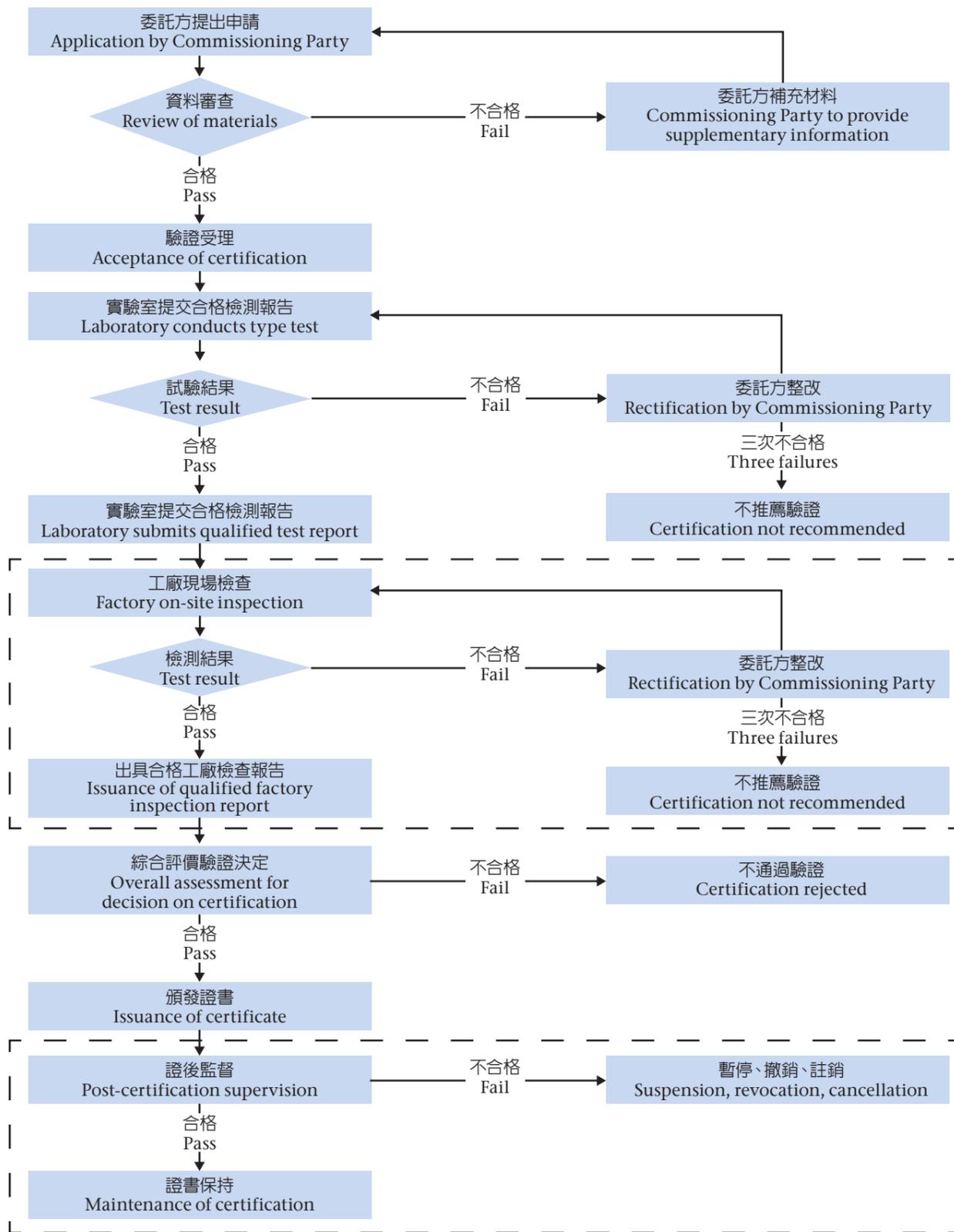
德國萊茵TÜV可提供當地語系化服務，有大量熟悉國際標準和國家標準的技術專家。通過德國萊茵TÜV申請CR證書，既可以瞭解國外市場對機器人產品的驗證要求以及國際市場情況，又可以獲得中國市場對機器人產品的驗證和政策法规要求，這會給工廠機器人的技術升級和產品開發帶來很多的益處。同時除了安全驗證，德國萊茵TÜV能提供所有與機器人相關的專業驗證和驗證服務，包括EMC驗證、零組件安全驗證、功能安全、軟體評估、防爆和機器人系統驗證等，可為您提供一站式全方位的驗證服務。

TÜV Rheinland has a large number of technical experts who are familiar with international and state standards, so it can also provide localised services. Thus, an application for CR certification through TÜV Rheinland allows the manufacturer to understand the certification requirements, policies and markets for robot products both internationally and in China, which can be highly beneficial for technical upgrades and product development. TÜV Rheinland can also provide professional verification and certification services relating to robots, including EMC certification, safety certification of parts, functional safety, software assessment, explosion-proof and robotic system certification. TÜV Rheinland can thus provide customers with one-stop-shop certification services.

此外，由於德國萊茵TÜV同賽迪的共同合作，因此獲得德國萊茵TÜV CE驗證的工廠可直接通過合作關係而申請CR證書，無需再重新申請驗證。同樣，由賽迪驗證出具的CR驗證報告，如果工廠有需求，可以直接通過德國萊茵TÜV頒發CE證書，國內國外市場都可以方便獲得准入。

The cooperation from TÜV Rheinland and CCID enables factories that have obtained TÜV Rheinland's CE certificate to also apply for CR certificate. Similarly, a factory can obtain CE certificate from TÜV Rheinland if it has already obtained CR certificate from CCID, so it can conveniently enter both domestic and international markets.

驗證流程 Certification process



CR證書樣本 CR certificate sample



關於德國萊因TÜV集團

About TÜV Rheinland Group



總部位於德國科隆的德國萊因TÜV集團擁有140多年的經驗。德國萊因TÜV集團是國際上領先的技術服務供應商，在全球60多個國家設有500多家分支機構，擁有超過19,000名員工，服務範圍涵蓋工業服務、交通服務、產品服務、萊因學院與生命關懷、資訊與通訊科技解決方案以及管理系統服務。

TÜV Rheinland Group has more than 140 years of experience and is headquartered in Cologne. TÜV Rheinland Group is a leading group for provision of technical services worldwide. It has more than 500 locations in over 60 countries with a work force of over 19,000. The business scope covers Industrial Services, Mobility, Products, Academy and Life Care, ICT & Business Solutions, Systems.