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**Smart city - Building and residence community - Part 2: Smart
community assessment**

智慧城市 建筑及居住区 第2部分:智慧社区评价

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3 Terms and definitions

3.1 Integrated community service platform: an integrated management platform based on the internet, the internet of things, big data and artificial intelligence that brings together, optimizes and shares the various resources of a community, raises management efficiency and service level, improves safety and convenience, and lifts the quality and value of the community.

3.2 Digital home: a digital household living service system carried by the dwelling that uses the internet of things, cloud computing, big data, mobile communication and artificial intelligence to interconnect the platform and the household products and to meet the occupants' needs for obtaining and using information.

Clause 4 lists three abbreviations: API (application programming interface), CIM (city information model) and ETC (electronic toll collection).

5 Basic provisions

5.1 The applicant shall identify the community operating body and shall have a mechanism

for the long-term effective running and continuing upgrade of the integrated community service platform. At the time of application the platform shall already be running effectively and shall hold at least 3 months of operating data. The applicant shall carry out a self-assessment against the indicators of the document and shall submit the self-assessment report and the supporting material.

5.2 The indicator system is made up of four indicator classes, infrastructure, integrated community service platform, community management and community services, each containing control items and score items, and a further set of bonus items applies across the system. Control items are judged as compliant or not compliant; score items and bonus items are judged by a score. Each class of score items carries a total value of 100 points, and the score of each class is multiplied by its weight; the bonus items also carry a total value of 100 points, awarded under Clause 10. Table 1, which has one column per indicator with a total-value row and a weight row, gives 100 points and a weight of 0.30 to infrastructure, 100 points and 0.20 to the integrated community service platform, 100 points and 0.25 to community management, 100 points and 0.25 to community services, and 100 points and 0.20 to the special features and innovation bonus. The total score of Formula (1) is the sum of each indicator score multiplied by its weight.

5.2 (continued) Table 2 sets the grades against the total score: above 90 points, five stars; above 70 and up to 90 points, four stars; above 50 and up to 70 points, three stars; above 30 and up to 50 points, two stars; 30 points or less, one star. All control items have to be compliant in every case: with all control items compliant and a total score of 30 points or less the community is rated one star, and with all control items compliant and a total score above 30 points it is rated between two and five stars according to the score obtained.

5.3 The assessment body reviews the self-assessment report and the supporting material, carries out a site visit and watches a demonstration of the system, fills in the assessment tables of Annexes A, B and C and the score summary table of Annex D, and issues a smart community grading report.

6 Infrastructure

6.1 The control items require fibre to the home in the residential area and in the residential buildings, with design and construction meeting GB 50846, GB 51433, GB 51456 and GB 55024; an integrated service centre with staff on duty, a hotline telephone and the software and hardware needed to run the integrated community service platform; a security monitoring centre configured according to GB 55024 and GB 55029; and fire protection facilities such as the automatic fire alarm system and the fire control room set up according to GB 50016, GB 50116, GB 55036 and GB 55037.

6.2 The score items are worth 100 points in three groups. Building and municipal supporting infrastructure carries 20 points, covering intelligent measurement and control with remote monitoring of heating, water supply and lifts, lighting control in outdoor and underground car

park public areas, smart multi-function poles combining video surveillance, public address and one-touch alarm, carbon monoxide monitoring interlocked with the underground car park ventilation, and barrier-free information facilities meeting GB 55019.

6.2 (continued) Public safety facilities carry 60 points over six items: entrance and exit control facilities, 16 points; video surveillance facilities, 14 points; car park management facilities, 10 points; perimeter protection facilities, 6 points; emergency alarm and help facilities, 6 points; and fire detection and alarm facilities, 8 points. Among the sub-items, a backup supply shall keep power-to-open access devices working for at least 48 h, access control records shall be kept for at least 180 d, surveillance images shall be kept for at least 30 d with no points awarded where the storage period is not met, and vehicle passage records shall be kept for at least 180 d.

6.2 (continued) Information infrastructure carries 20 points over five items: wired network, 6 points, for full coverage of wired access and an all-optical design; mobile communication facilities, 6 points, for base stations, indoor coverage and communication rooms meeting GB 51456 and for mobile signal coverage indoors, in stairwells, in lifts and in underground car parks; wireless network coverage of community public spaces as needed, 3 points; a digital television network able to support full access, 3 points; and gateways, servers and edge nodes sized for the collection, transmission, storage and computing needs of the community, 2 points.

7 Integrated community service platform

7.1 The control items require the platform to have a single portal that delivers community management and community service functions through data services and application support, and to have a security management mechanism with measures protecting data security and personal privacy.

7.2 The score items are worth 100 points in three groups. Data processing carries 45 points over five items: data aggregation, 15 points; data storage, 8 points; data retrieval, 5 points; data analysis, 12 points; and data exchange, 5 points, of which 2 points require the exchange to meet the personal information protection requirements of GB/T 35273. Data storage sub-items cover storage of structured and unstructured data with dynamic capacity expansion, packaging by purpose and openness level, backup and rapid recovery, and encrypted storage of information touching user privacy.

7.2 (continued) The database group carries 25 points over five databases, each worth 5 points: population, buildings, equipment, business information and cases. Each database scores 2 points for being established, further points for the coverage of its information items, and 1 point for marking the entry time and source of the data and keeping the database up to date. Application support carries 30 points over six items: single portal, 5 points; user management, 5 points; resource management, 4 points; role management, 4 points; API management, 5 points; and permission management, 7 points.

8 Community management

8.1 The control item requires a community fire management system and an electronic register of fire equipment, with records of periodic maintenance and condition inspection, so that fire hazards are found and dealt with quickly.

8.2 The score items are worth 100 points over eight groups: population management, 15 points; vehicle management, 15 points; housing management, 15 points; public order management, 15 points; fire safety management, 10 points; equipment and energy-saving management, 15 points; community party building, 10 points; and unit management, 5 points.

8.2 (continued) Population management scores 5 points for a real-time file per person, 3 points for graded management of permanent, temporary, transient and key population, 2 points for links between people and dwellings, organizations and vehicles, 2 points for the collection and checking of identity, address and face information, 2 points for intelligent early warning of abnormal behaviour, and 1 point for retrieval and statistical analysis of entry and exit records. Public order management requires visitor records to be kept for at least 180 d and covers video analysis of fighting, street occupation, blocking of fire lanes, throwing objects from height and taking electric bicycles into lifts. Equipment and energy-saving management awards 8 points for a building equipment monitoring system meeting GB 50314, GB 55024 and JGJ/T 334, 3 points for energy saving and renewable energy use meeting GB 55015, 2 points for an energy efficiency supervision system and 2 points for fault diagnosis and abnormal energy use detection.

9 Community services

9.1 The control item requires the integrated community service platform to be able to provide online transaction services to owners and to management staff.

9.2 The score items are worth 100 points over eleven groups: intelligent convenience facilities, 12 points; online domestic services, 8 points; property services, 16 points; environmental sanitation, 6 points; digital home, 10 points; community culture, 6 points; community elderly care, 10 points; community medical services, 8 points; commercial services, 8 points; government services, 10 points; and social assistance, 6 points.

9.2 (continued) Property services award 5 points for online payment and enquiry of property and utility charges, 5 points for online reporting of faults, repair status enquiry and satisfaction rating, 3 points for the publication of community notices, facility repair notices, emergency and care reminders and service enquiries, and 3 points for a convenience hotline with online consultation, complaint, voting and complaint-progress enquiry. The digital home group awards 4 points for indoor gas leak, fire and help alarm systems whose alarms are pushed automatically to an emergency contact or to the platform, 2 points for a