

ANNEX B to
3rd Asia Construction IT Round-Table Meeting Minutes
Comparison Table
Tokyo, JAPAN

Present status: efforts of each country to establish interoperability of data and information systems

	China	Japan	Korea	Singapore	International/global trend
CAD/product model	<p>No standards on CAD has been developed. The current effort is towards the IFC standard which is product data based. The effort is based on a sub-project in the fifth-five-year research project sponsored by the Ministry of Science and Technology.</p> <p>Autocad dominant for drawing, de facto standard, standard software by CAS (BS) (state-own company). More than 90%.</p> <p>Harmonization with international standard. Efforts are supported by Chinese gov. Exchange are made with DWG.</p>	<p>SXF is developed as Japanese standards for CAD data exchange for e-delivery. SXF stands for SCADEC data eXchang Format, where SCADEC is for "Standard CAD data Exchange format in Japanese Construction field". Present version is 2.0 and conformant to ISO10303 STEP/AP202. Ver. 3.0 is still in the experimental stage.</p> <p>Several projects for establishing standard product models are being pursued by private/public organizations. Examples include JHDM, product model development (such as Bridge, Road) under IAI/IFC.</p> <p>Model consistency? Efforts of harmonization are being made by JSCE. Hierarchical structure of the product models will help the future model harmonization.</p>	<p>KOSDIC was developed for CAD data exchange, e-delivery and long-term preservation. KOSDIC means "Korea Standard of Drawing Information in Construction".</p> <p>KOSDIC was developed considering ISO 10303 AP202 and IAI IFC model.</p> <p>KOSDIC has been developed as national electronic delivery standard for CAD data. The format is compliant to ISO10303 AP202. Korea Infrastructure and Safety Technology Corp, and various public organizations are adopting KOSDIC as delivery format. Extended to include additional administrative information and attribute information. Projects: IFC 2D extensions, prototype system of 3D, 4D models. ISO 10303 AP 241 Project is lead by Korea. AP241 WD (Working Draft) has been submitted.</p>	<p>The Construction Industry IT Standards Technical Committee tracks, adopts and promotes construction industry specific IT standards for sharing of digital information throughout the whole life cycle of a building project. CITC develops national standards that are aligned with international standards as well as other industry de facto standards. National Standards for Information Exchange in the Construction Industry are developed.</p>	<p>IAI/IFC efforts of developing standard product models.</p> <p>-bridge, road</p> <p>-</p>
GIS	<p>A draft standard has been developed for the specification of Urban GIS. It is intended to be used in the systems for digital city. Committee in Geomatic Center cover the all the ministries. Next 5 yr plan of standard development (Wuhan Univ.)</p> <p>Transfer data format. V1: SDTS V3 based on ISO, OGC, 3 formats. digital linear graph (DLG), DOM digital ortho image, DEM</p> <p>they are used by surveying companies.</p> <p>WMS, WFS, WCS, Service interfaces based on OGC specification.</p>	<p>Japan is developing JIS (Japan Industrial Standards) for GIS based on ISO 191series. GSI (Geographical Survey Institute of Japan) is developing JPGIS or Japanese Profile of Geographic Information Specifications), a profile of JIS and ISO for practical uses. Cabinet secretariat organize WG for interoperability of GIS data among the ministries. Japanese central gov. determines its own exchange standards, but it fails to cover the entire fields, and not all software can handle them. The profile is developed to facilitate the implementation.</p>	<p>In GPS survey, RINEX (Receiver INdependent EXchange Format) is widely accepted. HTML format is generally used in other surveying field.</p>	<p>The Land Data Hub, Ministry of Law, store the GIS data in Oracle Spatial format</p>	<p>ISO 191series, OGC, W3C etc.</p>
Surveying	<p>No standards on surveying has been developed.</p>	<p>(EXAMPLE)</p> <p>SIMA format proposed by Japanese Surveying Equipment Companies is widely accepted as defacto standard.</p>	<p>NGII (National Geographic Information Institute) (recently established) developed NGI format for digital map exchange and NIX (National Image eXchange) format for imagery map exchange.</p> <p>Need more input on the association with ISO or OGC, international efforts of standardization.</p>	<p>Submission of Cadastral Survey work is in SVY format (ASCII text format, refer to the Chief Surveyor Directive available in Singapore Land Authority website). Submission of Certified Plan (CP) for cadastral survey is in dwf format.</p>	
e-Procurement, e-Bidding	<p>No standards on e-procurement and e-bidding have been developed. As far as e-procurement is concerned, the environment is not ripe yet. As far as e-bidding is concerned, dedicated systems have been developed in some municipalities and provinces and are being used for bidding, but it is confined to posting of bidding information and application of bidding. There is still long way to go towards e-bidding.</p>	<p>JACI (and SCOPE) jointly develops a core system for e-bidding for public organizations. They proposed the underlying standards for e-bidding to UN/CEFACT and the proposed standards were accepted as a international standards in 2005.</p> <p>Pls. refer TBG6 website for UN/CEFACT documentation.</p>	<p>The electronic procurement is running by Public Procurement Service under the Ministry of Commerce, Industry and Energy.</p> <p>In order to run the electronic procurement, Public Procurement Service developed the KONEPS system, Government e-Procurement system. The electronic procurement in the construction field is also managed in the KONEPS system.</p> <p>The ISP project was carried out by KICT as a part of Construction CALS/EC projects.</p> <p>In Korea, all of the government ordered Procurement and Bidding are through single unified system controlled by the Office of Supply. The Office of Supply developed e-Procurement and bidding system based on UN/CEFACT.</p>	<p>GeBIZ is an integrated, end-to-end web-based system that allows government suppliers to access procurement opportunities in the public sector and allows suppliers to trade with the Singapore government electronically. GeBIZ also allows public sector officers to perform a range of procurement activities. GeBIZ is one of the largest Singapore government e-commerce initiatives.</p> <p>Ge-BIZ may not be conformant to the UN/CEFACT. need more info.</p>	

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e-Delivery	No standards on e-delivery has been developed. Few effort has been denoted on this aspect because its merits have not been recognized.	(EXAMPLE) Standard format for e-delivery are established by Ministry of Land, Infrastructure and Transport for their own uses. The Ministry is promoting the standard format to local governments.	Construction Electronic document standard was developed. Ministry of Construction and Transport published Standard format for e-delivery for MOCT's regional office on 2005. The Ministry is promoting MOCT's standard format for e-delivery to Construction company. Many public corporations use their own standard format for e-delivery. *KOSD1C is the e-Delivery standard for construction drawings *XML based electronic document standard has been developed for delivery/exchange of electronic documents * electronic Permission and contract system is currently used *E-AIS (Architectural Information system) has been developing for architectural administrative advancement. In the future, usual requirements for civil appeal related architectual construction, such as building construction, remodeling and rebuild will be handled via this sytem	CORENET (COConstruction and Real Estate NETwork) e-Submission system (eSS) is a G2B (Government to Business) internet-based system that enables industry professionals to submit project related electronic plans and documents to regulatory authorities for approval within a secured environment. The system handles project-related documents for whole project life cycle covering processing of plans and documents related to issuance of planning approvals, building plan approvals, structural plans approvals, temporary occupation permit, fire safety certificate and certificate of statutory completion.	
others	A draft standard has been developed for the supervision of construction, which is used for the construction firms to apply to the Ministry of Construction or for the local construction agencies to transfer the administration information to the Ministry of Construction.	LCDM forum (Life Cycle Data Management) is establishing registry/repository to collect and disseminate standards including metadata, data schema etc. (http://www.lcdm-forum.jp/en/index_en.html) Cost estimation system or services for governments. Opensource web-based services. Based on Agreed prices. Save labor and time of gov. officers. practice of cost estimation is changing from the detailed calculation method to unit price method. <i>TRABIS?: Boring data registry or DB.</i> <i>TEGRIS, CORINS: construction/consultancy work record for gov. officers to evaluate the capability of construction companies. Metadata on construction projects managed by CWS: construction W? system.</i> <i>Similar systems are in Korea not in China. Financially supported by Ministry of Information/Communication.</i> <i>System in China handle a kind of certification of individual company. The certification is revised every 4-5 years based on the annual report and data submission to the Ministry of Construction. 5000 good companies are managed by the Ministry.</i>	Construction Standard Registry/Repository base system was developed. underground GIS for geological/geotechnical data from 1996. Old data are missing, Ambiguous location, no space. Standard unified DB development with better quality ranging from shallow to deep. it will move to commercial system. *Korean Construction Information Classification System: To systematically classify and breakdown various construction resources to efficiently manage and to build construct manage system for process, cost, performance and documents *XML based Electronic Document Standard: Providing basis for various business actors by specifying basic requirements of structure, representation and exchange of electronic document *Development of Registry/Repository Base System for Construction CALS standards	The Integrated Plan Checking Systems aim to automate the checking process for the various plan types. These are leading-edge systems that require the integration of expert knowledge in plan checking as well as artificial intelligence (AI) and computer-aided design and drafting (CADD) technologies. With these systems, regulatory requirements can be captured more consistently and comprehensively. Any areas of non-compliance with regulations can be detected and amended during the design phase rather than during the approval phase. As a result, less re-submission needs to be done without compromising on the safety aspects of building.	
	cost estimation methods can be selected, Though the gov. specifies detailed methods.	data model for e-defense grid collaboration with NEES Network Earthquake Simulators earthquake data base	construction cost is estimated statistically. Previously, all unit of cost should be collected. Study for construction cost management based on WBS for MOCT's CALS system.		