PROPOSAL FOR A NEW WORK ITEM

Date of presentation of proposal: 2003-08-04	Proposer: ISO/IEC JTC 1/SC 31
Secretariat: US National Body	ISO/IEC JTC 1 N **XXXX**

A **proposal for a new work item** shall be submitted to the secretariat of the ISO/IEC joint technical committee concerned with a copy to the ISO Central Secretariat.

Presentation of the proposal - to be completed by the proposer. Guidelines for proposing and justifying a new work item are given in ISO Guide 26.

Title (subject to be covered and type of standard, e.g. terminology, method of test, performance requirements, etc.) Information technology – Automatic identification and data capture techniques – Bar code symbology specification – Micro QR Code
Scope (and field of application) The standard will define the requirements for the symbology known as Micro QR Code. It will specify the Micro QR Code symbology characteristics, data character encodation, symbol formats, dimensional characteristics, error correction rules, reference decoding algorithm, production quality requirements, and user-selectable application parameters.
Purpose and justification – see attached page
Programme of work If the proposed new work item is approved , which of the following document(s) is (are) expected to be developed? _X__ a single International Standard ____ a multi-part International Standard consisting of ..... parts ____ an amendment or amendments to the following International Standard(s) ..... ____ a technical report , type .....
Relevant documents to be considered ISO/IEC 18004 (QR Code specification), draft AIM specification for Micro QR Code
Cooperation and liaison
Preparatory work offered with target date(s) Working draft to SC31 with NP proposal August 2003, CD end 2003
Signature:
Will the service of a maintenance agency or registration authority be required? .....No..... - If yes, have you identified a potential candidate? ..... - If yes, indicate name ..... Are there any known requirements for coding? .....No..... -If yes, please specify on a separate page Are there any known requirements for cultural and linguistic adaptability? ...No.... - If yes, please specify on a separate page Does the proposed standard concern known patented items? .....No..... - If yes, please provide full information in an annex

Comments and recommendations of the JTC 1 Secretariat - attach a separate page as an annex, if necessary

Comments with respect to the proposal in general, and recommendations thereon: It is proposed to assign this new item to JTC 1/SC 31

Voting on the proposal - Each P-member of the ISO/IEC joint technical committee has an obligation to vote within the time limits laid down (normally three months after the date of circulation).

Date of circulation: YYYY-MM-DD	**Closing date for voting:** YYY-MM-DD	**Signature of JTC 1 Secretary:** Lisa A. Rajchel

NEW WORK ITEM PROPOSAL - PROJECT ACCEPTANCE CRITERIA		
Criterion	**Validity**	**Explanation**
A Business Requirement	Yes	
A.1 Market Requirement	Essential _X_ Desirable ___ Supportive ___	To provide standard basis for existing and future applications for marking small components

A.2 Regulatory Context	Essential ___ Desirable ___ Supportive _X_ Not Relevant ___	Potential to assist in traceability of manufactured components
B. Related Work		
B.1 Completion/Maintenance of current standards	Yes _X_ No___	Complementary to ISO/IEC 18004
B.2 Commitment to other organization	Yes ___ No_X_	
B.3 Other Source of standards	Yes ___ No_X_	
C. Technical Status		
C.1 Mature Technology	Yes _X_ No___	Based on established QR Code. Supporting technology (printers, readers) is mature.
C.2 Prospective Technology	Yes ___ No___	
C.3 Models/Tools	Yes ___ No___	
D. Conformity Assessment and Interoperability		
D.1 Conformity Assessment	Yes ___ No_X_	Conformity assessment covered by ISO/IEC 15415
D.2 Interoperability	Yes ___ No_X_	
E. Other Justification		

Notes to Proforma

A. Business Relevance. That which identifies market place relevance in terms of what problem is being solved and or need being addressed.

A.1. Market Requirement. When submitting a NP, the proposer shall identify the nature of the Market Requirement, assessing the extent to which it is essential, desirable or merely supportive of some other project.

A.2 Technical Regulation. If a Regulatory requirement is deemed to exist - e.g. for an area of public concern e.g. Information Security, Data protection, potentially leading to regulatory/public interest action based on the use of this voluntary international standard - the proposer shall identify this here.

B. Related Work. Aspects of the relationship of this NP to other areas of standardization work shall be identified in this section.

B.1 Competition/Maintenance. If this NP is concerned with completing or maintaining existing standards, those concerned shall be identified here.

B.2 External Commitment. Groups, bodies, or fora external to JTC1 to which a commitment has been made by JTC for cooperation and or collaboration on this NP shall be identified here.

B.3 External Std/Specification. If other activities creating standards or specifications in this topic area are known to exist or be planned, and which might be available to JTC1 as PAS, they shall be identified here.

C. Technical Status. The proposer shall indicate here an assessment of the extent to which the proposed standard is supported by current technology.

C.1 Mature Technology. Indicate here the extent to which the technology is reasonably stable and ripe for standardization.

C.2 Prospective Technology. If the NP is anticipatory in nature based on expected or forecasted need, this shall be indicated here.

C.3 Models/Tools. If the NP relates to the creation of supportive reference models or tools, this shall be indicated here.

D. Any other aspects of background information justifying this NP shall be indicated here.

D. Conformity Assessment and Interoperability

D.1 Indicate here if Conformity Assessment is relevant to your project. If so, indicate how it is addressed in your project plan.

D.2 Indicate here if Interoperability is relevant to your project. If so, indicate how it is addressed in your project plan.

ANNEX TO NP PROPOSAL FOR MICRO QR CODE

Micro QR Code is a two-dimensional matrix code symbology based on the established symbology QR Code, which was standardised by SC31 in 2000 (ISO/IEC 18004) and is specified by a significant number of major industry application standards for parts and components marking, e.g. those of the Japanese Automotive Manufacturers' Association (Japan), Automotive Industry Action Group (USA), the Japanese Electronics and Information Technology Association (JEITA) (Japan). It has also been adopted as a national standard in Japan (JIS X 0510), People's Republic of China (GB/T 18284), Republic of Korea (KSX ISOIEC 18004) and the Socialist Republic of Viet Nam (in process of adoption).

Although Micro QR Code shares many of the elements of its parent symbology (e.g. high density data storage, high-speed reading, omni-directional reading, error correction and the same encodation methods including the ability to encode data in Kanji (and other 16-bit character sets) directly), it has sufficient distinctive features to make it desirable to publish a separate standard. In particular, it is designed to enable a limited amount of information to be encoded in a reliably machine-readable form, in a considerably smaller space than required for QR Code, by reducing the amount of non-data overhead in the symbol. This feature makes it especially suitable for the direct marking of machine-readable traceability and identification data on manufactured items such as electronic components, automotive and aircraft parts etc. and for encoding data on ultra-small labels, forms etc., for which there is an increasing market requirement. For example, 26 digits of data can be encoded in a symbol as small as 1 mm square on an integrated circuit.

Micro QR Code is already in use in Japan and a number of other Asian countries, also in Canada and the United States, for the following applications:

- Electronic component identification
- Price tagging of small articles (e.g. jewellery)
- Laboratory test data collection sheets
- Printed circuit board automated process control
- Inventory control in libraries and book stores
- Identification of books
- Production line tracking of automotive parts

Because of the international activities of many of the companies concerned, and its kinship with QR Code, the use of Micro QR Code is expected to migrate to other countries in which they are active. It is anticipated that following international standardisation the range of countries using it in these and similar applications will increase.

From a technical viewpoint, modification of equipment that currently prints or marks QR Code symbols, and reading equipment, requires only minor software changes and there is therefore a substantial base of equipment that can be made capable of producing or reading the symbols. Four printer manufacturers, five reader manufacturers, three manufacturers of direct parts marking equipment and three generator suppliers have already made the necessary modifications to support Micro QR Code in their equipment or systems.

SC31 established the following criteria for the acceptance of projects for its work programme, and the extent to which Micro QR Code meets these criteria is noted below:

- Activities undertaken by this subcommittee shall give priority to addressing global, multi-industry standardization requirements. (Micro QR Code is already used by the international electronics and automotive industries, in the book trade and library sector and in specialised retail applications, in the USA, Canada, Japan and other Asian countries; this usage is expected to increase.)
- Technologies will be candidate work items only where they are available under terms and conditions consistent with ISO/IEC patent policy. (The developers of Micro QR Code are prepared to give the necessary assurances that the technology is fully in the public domain.)
- Technologies will be candidate work items only where there has been a substantiated international business need. (There is an increasing need for compact machine-readable marks on small components to aid traceability and assist production tracking, which Micro QR Code helps to meet.)
- Technologies will be candidate work items only where there exist suitable implementation artefacts, e.g., hardware. (Printing, direct marking and reading equipment are already available from a number of suppliers, and other equipment can be modified at a low cost.)
- Technologies will be candidate work items only when they exhibit features or technical soundness and robustness not available with previously standardized technologies. (Micro QR Code offers advantages of space efficiency compared with other symbologies together with the ability to encode data efficiently from 16-bit character sets e.g. Kanji.)