

CEN

CWA 16138

WORKSHOP

June 2010

AGREEMENT

ICS 03.100.10; 01.140.20

English version

Classification and catalogue systems used in electronic public and private procurement

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN Management Centre can be held accountable for the technical content of this CEN Workshop Agreement or possible conflicts with standards or legislation.

This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its Members.

This CEN Workshop Agreement is publicly available as a reference document from the CEN Members National Standard Bodies.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Foreword	6
1 Scope	8
2 Normative References	8
3 Definitions	9
4 Description of the classification systems	10
4.1 CPV	10
4.1.1 General	10
4.1.2 History	10
4.1.3 Intended purpose	10
4.1.4 Structure	10
4.1.5 Coding structure	10
4.1.6 Release policy	11
4.1.7 Release roadmap	12
4.1.8 Version compatibility	12
4.1.9 Development process	12
4.1.10 Conditions of use	12
4.1.11 Access to the vocabularies	12
4.2 eCI@ss – classification and product description	13
4.2.1 General	13
4.2.2 History	13
4.2.3 Structure	14
4.2.4 Release policy	18
4.2.5 Release roadmap	19
4.2.6 Version compatibility	20
4.2.7 Maintenance process	20
4.2.8 Conditions of use	23
4.2.9 Intended purpose	24
4.3 GS1 GPC – Global Product Classification and nomenclature	27
4.3.1 History	27
4.3.2 Statistics about usage	28
4.3.3 Structure	29
4.3.4 Release policy	32
4.3.5 Release roadmap	32
4.3.6 Version compatibility	32
4.3.7 Developing process	32
4.3.8 Conditions of use	33
4.4 UNSPSC	34
4.4.1 History	34
4.4.2 Intended purpose	34
4.4.3 Structure	34
4.4.4 Release policy	36
4.4.5 Release roadmap	36
4.4.6 Version compatibility	36
4.4.7 Development process	36
4.4.8 Conditions of use	36
4.4.9 Statistics	37
4.5 Concise summary of the four classifications	38
4.6 The NATO classification and eOTD dictionary, an insight	39
4.6.1 Background - eOTD - ECCMA Open Technical Dictionary	39
4.6.2 Recommendation	39
5 Comparative analysis of the classifications	41
5.1 Analysis at segment level	41
5.1.1 General	41
5.1.2 Major differences of the standards	41
5.1.3 Analysis method	43
5.1.4 Results of the analysis	44
5.1.5 Summary	85

5.1.6	Recommendations.....	89
5.2	Analysis at class level – similarities and differences	94
5.2.1	General	94
5.2.2	Methodology of analysis	94
5.2.3	Phase 1: Numeric analysis	95
5.2.4	Phase 2: Syntactical Analysis.....	103
5.2.5	Phase 3: Semantic analysis – Detailed Analysis on class level	104
5.2.6	Phase 4: Summary and recommendations	108
5.3.1	General	113
5.3.2	Main findings.....	113
5.3.3	Potential implementation alternatives.....	117
6	Classification and ebusiness	120
6.1	Why using classifications.....	120
6.1.1	The value chain and the value system	120
6.1.2	Benefits of use of classifications for companies	121
6.1.3	How to choose the right code in a classification.....	124
6.1.4	Recommendations on the mapping in ecatalogues	125
6.2	Mapping tools	126
6.2.1	Current situation	126
6.2.2	Conclusion	127
6.2.3	Market situation	128
6.3	The product chain	133
6.3.1	Definitions	133
6.3.2	Associated business processes	133
6.3.3	The standardisation environment of the product chain	136
7	Summary	137
7.1	General	137
7.2	Classification authority.....	138
7.3	Maintenance process	139
7.4	Data model and content	139
8	Annex A: Bibliography	141

Annex B (separate excel tables) – Harmonised maps between UNSPSC, CPV, eCI@ss and GPC

- Clothes,
- FBT,
- Furniture,
- Electronics,
- Laboratory,
- Energy.

Figures

Figure 1	Structure of main vocabulary codes.....	11
Figure 2	eCl@ss 3.0: Number of structural elements.....	13
Figure 3	eCl@ss 6.0.1: Number of structural elements.....	13
Figure 4	Available eCl@ss language versions	14
Figure 5	The eCl@ss structure	15
Figure 6	The eCl@ss structure: Example 1 (View in the eCl@ss ServicePortal).....	18
Figure 7	eCl@ss Release Roadmap.....	19
Figure 8	eCl@ss Change Process Diagram	21
Figure 9	The eCl@ss ServicePortal.....	22
Figure 10	eCl@ss price list version 4.0.....	23
Figure 11	eCl@ss for the whole product supply chain.....	24
Figure 12	eCl@ss downloads (excluding Germany, 25% of total)	25
Figure 13	eCl@ss association: origin of members (n=80)	26
Figure 14	eCl@ss association: sectors of members (n=80)	26
Figure 15	The GPC code as an interface tool.....	28
Figure 16	GPC structure	29
Figure 17	GPC brick example.....	31
Figure 18	GPC Release roadmap.....	32
Figure 19	Example toner UNSPSC code	35
Figure 20	UNSPSC segments	35
Figure 21	UNSPSC Downloads in 2009	37
Figure 22	eOTD standard item name.....	39
Figure 23	Differences of the standards.....	41
Figure 24	Evaluation of UNSPSC class numbers.....	46
Figure 25	Evaluation of eCl@ss class numbers	46
Figure 26	Evaluation of GPC class numbers.....	48
Figure 27	Evaluation of CPV class numbers.....	50
Figure 28	Coverage of UNSPSC segments (summary: absolute number)	50
Figure 29	Coverage of CPV segments (summary: absolute number)	50
Figure 30	Coverage of GPC segments (summary: absolute number).....	51
Figure 31	Coverage of eCl@ss segments (summary: absolute number).....	51
Figure 32	Coverage of UNSPSC segments.....	60
Figure 33	Coverage of CPV segments	70
Figure 34	Coverage of GPC segments.....	76
Figure 35	Coverage of eCl@ss segments	81
Figure 36	Comparison - strengths and weaknesses.....	88
Figure 37	Methodology of analysis	95
Figure 38	Classification systems overview	95
Figure 39	CPV overview – part 1	97
Figure 40	CPV overview – part 2	97
Figure 41	eCl@ss – part 1	98
Figure 42	eCl@ss – part 2	99
Figure 43	GPC – part 1	100
Figure 44	GPC – part 2	100
Figure 45	UNSPSC – part 1	102
Figure 46	UNSPSC – part 2	102
Figure 47	Differences in numbering schemas of CPV, eCl@ss, GPC and UNSPSC	103
Figure 48	Comparison of naming schemas for CPV, eCl@ss, GPC and UNSPSC	104
Figure 49	Comparison of CPV with different classification systems	105
Figure 50	Comparison of eCl@ss with GPC and UNSPSC.....	106
Figure 51	Comparison of GPC with UNSPSC	107
Figure 52	Overall harmonization strategy	109
Figure 53	Gen-ePDC data model for product classification systems	110
Figure 54	Harmonization on class level	111
Figure 55	Across the Value Chain Framework (adapted from M.Porter).....	121
Figure 56	Conversion between internal code and classification code.	125
Figure 57	International Family of Economic and Social Classification	127
Figure 58	IFCC Mapping Tool.....	129

Figure 59	Classification Selection	129
Figure 60	Search screen of GS1 mapping tool	131
Figure 61	Search result of GS1 mapping tool	131
Figure 62	Mapping result of GS1 mapping tool.....	132
Figure 63	The product chain processes	133
Figure 64	The “define properties” process	134
Figure 65	The “define description data” process	134
Figure 66	The “define dictionary” process.....	135
Figure 67	The “define classification” process.....	135
Figure 68	The “define catalogue” process	136
Figure 69	Summary of the four product classification systems CPV, eCl@ss, GPC and UNSPSC ...	138

Tables

Table 1:	Definition of eCl@ss classification hierarchy	15
Table 2:	GPC levels	27
Table 3:	Statistics about GPC usage	28
Table 4:	Concise summary of the four classification systems	38
Table 5:	Segments of the UNSPSC	44
Table 6:	Segments of eCl@ss	46
Table 7:	Segments of the GPC	47
Table 8:	Segments of the CPV	49
Table 9:	Type of mapping relationships	114
Table 10:	Mapping relationships for the clothing domain from CPV to the other three systems	115
Table 11:	Mapping relationships for the clothing domain from eCl@ss to the other three systems	115
Table 12:	Mapping relationships for the clothing domain from GPC to the other three systems	115
Table 13:	Mapping relationships for the clothing domain from UNSPSC to the other three systems .	116

Foreword

This CEN Workshop Agreement (CWA) contains an analysis of the main classification systems and catalogues used in Europe for electronic procurement in the private and public sectors. The production of the CWA was formally accepted at the Workshop eCAT 11th plenary meeting held on 3 April 2009, when the CC3P project was launched.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

The CWA contains:

- a study on similarities and differences between the four main existing product classifications in Europe and proposed harmonization and mapping methodologies;
- a list of identified missing domains in the CPV (Common Procurement Vocabulary), eCl@ss and GS1/GPC in relation with existing sectors in UNSPC and its application to some chosen sectors (subject to experts time);
- recommendations on the use of classification and mapping in electronic catalogues;
- description on how to use the mapping tools that will be developed by software providers so as to increase the interoperability between all four classifications;
- recommendations on a coherent product chain and its associated business processes (properties, product description, dictionaries, classifications and catalogues) for the private and public sectors;
- Identification of areas of improvement in the CPV.

The CWA was endorsed as CEN Workshop Agreement at the meeting held in Brussels on 19 April 2010 and following an electronic round of comments ended on 28 April 2010. The list of companies which supported the CWA is provided hereunder:

- AFIM, Association française des Ingénieurs et responsables de maintenance, France
- Raymond Betz, Consultant, Belgium
- eCl@ss e.V., Germany
- FernUniversity of Hagen, Germany
- IFCC, Germany
- Infoterm (International Information Centre for Terminology), Austria
- Pragmeta Knowledge Clout, Belgium
- Paradine, Austria
- Zoltan Patkai, Consultant, Belgium
- PEPPOL project
- Semaino Technologies, Germany
- Steinbeis Beratungszentrum EB, Germany
- TANGER computersystems, Czech Republic
- TermNet (International Network for Terminology), Austria
- UNSPSC, USA
- Stichting USPI-NL
- Aurélie Virgili, Consultant, Belgium

This CEN Workshop Agreement is publicly available as a reference document from the National Members of CEN: AENOR, AFNOR, BSI, CSNI, CYS, DIN, DS, ELOT, EVS, IBN, IPQ, IST, HZN, LVS, LST, MSA, MSZT, NEN, NSAI, ON, PKN, SEE, SIS, SIST, SFS, SN, SNV, SUTN and UNI.

Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN-CENELEC Management Centre.

This document is a preview generated by EVS

1 Scope

The present document studies four product classifications used in eBusiness in Europe. Section 5 indicates the differences between the four classifications at all levels. Section 6 provides recommendations on interoperability of product classifications.

The versions of the standards used in the work are the following:

- UNSPSC v11 English
- eCI@ss 6.0.1 English
- GPC 30062008 English
- CPV 2008 English

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DIN 4002-100, *Properties and their scopes for product data exchange – Part 100: Properties on www.DINsml.net*

IEC 61360 *Standard data element types with associated classification scheme for electric components*

ISO 13584 *Industrial automation systems and integration – Parts library*