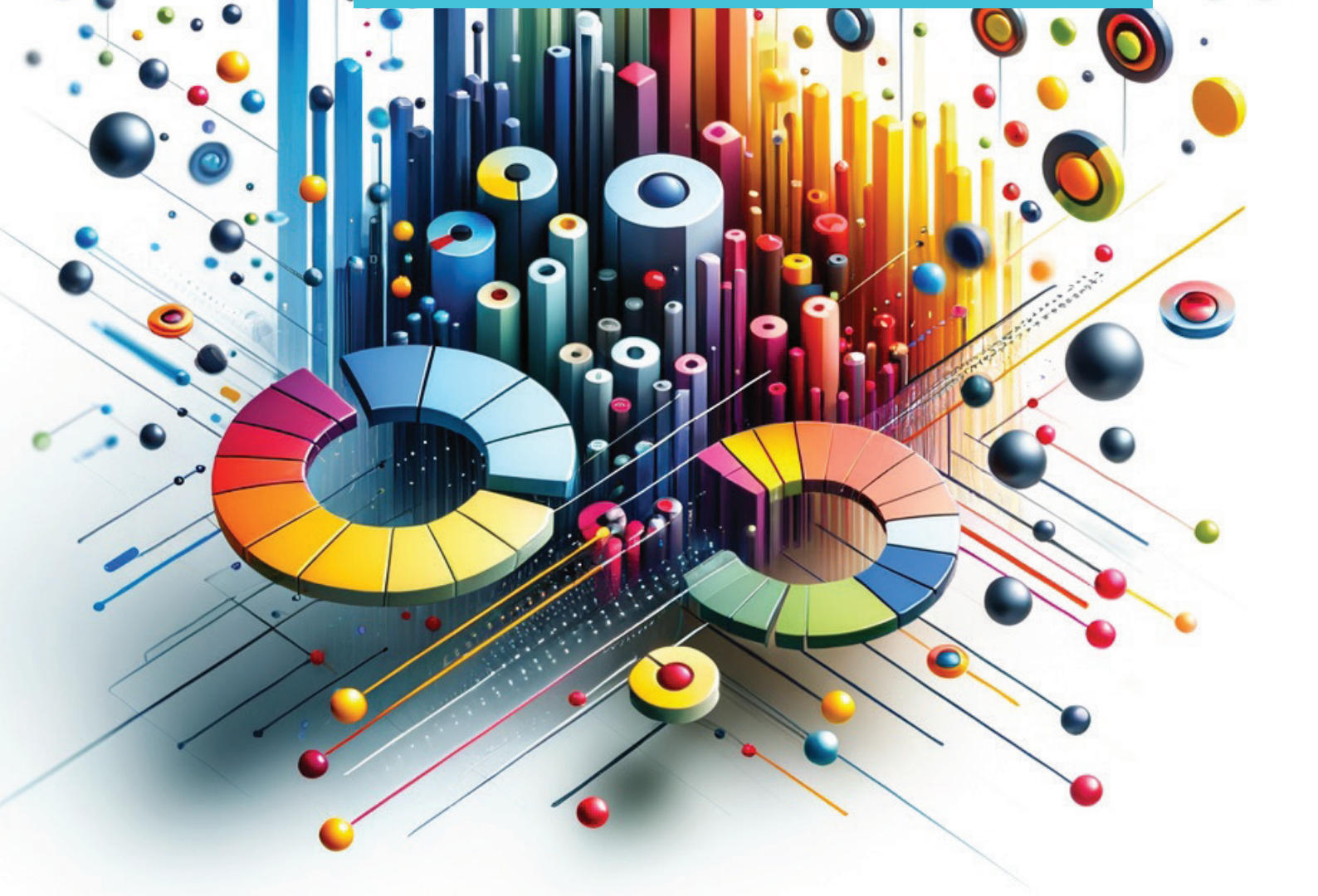
DRŽAVNI ZAVOD ZA STATISTIKU
CROATIAN BUREAU OF STATISTICS

MANUAL for the DEVELOPMENT of STATISTICAL CLASSIFICATIONS



Zagreb, January 2024

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FOREWORD

This handbook is created with the intention to introduce its users to the classification system established at international and national levels, and above all to the classification families, without whose foundation, members of classification families – classifications and correspondence tables – we would not be able to talk in statistical language today.

Their broad application took roots not only among statisticians, but among lawyers and IT technicians as well. Accessibility and multiple usefulness for every area of society has proven to be sustainable for decades, so they are continuously improved and adapted according to the needs and phenomena in society.

Through this manual, we tried to present all the subjects involved in the creation and maintenance of classifications, and to explain each category that makes the classification family. With practical examples, we wanted to illustrate how methodological descriptions work in practice and thus make the coding logic behind the numbers and letters clear to users.

We hope that we have succeeded in this and that, through theory and practice, users will enter the world of classifications and code lists that are the subject of constant research and analysis, because no statistics could be available without them.

Lidija Brković

DIRECTOR GENERAL

INTRODUCTION

Classifications are often equated with code lists because a single classification level is usually always used to code data. In fact, they are a model, a tool and a language all in one. Defining them as a model means that they are methodologically elaborated so well that every phenomenon in society can be classified with this tool. And when they are internationally recognised as a standard, they represent a unique language that is understandable everywhere in the world thanks to numerical and letter codes. It is sufficient for a foreign or domestic user to read the code depending on the type of classification and they will know what a particular classification category means and covers.

Classifications are applied in administrative and statistical registers and statistical surveys as well as in other activities according to national and international standards. Given their structure and coverage, classifications, classification versions as well as their levels are an important area of metadata and an integral part of databases.

The Statistical System of the Republic of Croatia uses the Neuchâtel Terminology Model, today better known as the Statistical Classifications Model – GSIM. In terms of the creation of classifications, it is the main standard for the presentation of statistical classifications, which was developed by the United Nations Economic Commission for Europe (UNECE). It is regarded as a model that enables the continuous modernisation of the statistical system.

The hierarchical system of classifications consists of different classification families, classifications belonging to families, classification versions, classification levels and their elements, and correspondence tables and code lists.

Classifications and code lists should be viewed as complementary rather than contradictory concepts. Classifications provide a general framework for all phases of business operations, from collection of data to their dissemination and exchange, as opposed to code lists, which make practical application possible.

It should also be noted that code lists can function without classifications, especially when used as structured metadata to disseminate statistical data.

ABBREVIATIONS AND ACRONYMS

ANZSCC	Australian and New Zealand Standard Commodity Classification
CN	Combined Nomenclature
COICOP	Classification of Individual Consumption by Purpose
COICOP-HICP	Classification of Individual Consumption by Purpose Adapted to the Needs of Harmonized Indices of Consumer Prices
CPA	Statistical Classification of Products By Activity in the European Economic Community
CPC	Central Product Classification
EEC	European Economic Community
ESA	European System of Accounts
ESSC	European Statistical System Committee
EU	European Union
GDP	gross domestic product
Eurostat	Statistical Office of the European Communities
GSIM	Generic Statistical Information Model
HS	Harmonised Commodity Description and Coding System
ILO	International Labour Organisation
ISCAP	The Integrated System of Classifications of Activities and Products
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification of All Economic Activities
ISO	International Organization for Standardization
KAU	kind-of-activity unit
KLASUS	application and classification database
L	Legislation
NACE	Statistical Classification of Economic Activities in the European Community
NAICS	North American Industry Classification System
n. e. c.	not elsewhere classified
n. e. s.	not elsewhere specified
NIP	Nomenclature of Industrial Products
NIPUM	Nomenclature of Industrial Products for Monthly Survey on Industrial Production
NSI	national statistical institute
OG	official gazette of the Republic of Croatia
OJ	Official Journal
PRODCOM	Production in the Community
Rev.	revision
SITC	Standard International Trade Classification

SNA	System of National Accounts
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSD	UN Statistics Division

1. Definition of classification

Why are international statistical classifications needed?

In general, statistical classification is a set of discrete, exhaustive and mutually exclusive categories that can be assigned to one or more variables used for the collection, processing and dissemination of data, and describe the characteristics of the observed population.

The basic need of every statistical system is to establish standardised concepts, definitions and classifications. In order to achieve consistency and comparability, accessibility and clarity of statistics, international institutions develop and adopt international statistical classifications aimed at defining the basis for:

- statistics that are comparable across countries;
- development of national classifications.

Statistical classifications serve as an aid in grouping and organising information in a meaningful and systematic manner in detailed and structured sets of categories defined by common characteristics. In general, statistical classifications are developed to support policy making as well as to simplify data collection and organise statistics. The primary task of statistical classification is to simplify the real world and provide a useful framework for collecting, organising and analysing data from statistical and administrative data sources, as well as to provide a framework for international comparability and statistical reporting.

Statistical classifications may be used for:

- collecting and harmonising statistical information in a standardised manner
- aggregation and breakdown of datasets in a comprehensible manner
- complex analyses
- policymaking
- decision-making.

For all activities in the field of classifications, the Statistical Commission of the United Nations has designated the Committee of Experts on International Statistical Classifications as the central coordinating body. Among other tasks, it is in charge of coordinating and reviewing other classifications that are under the competence of other international organisations, which have been proposed for adoption by the Statistical Commission.

Irrespective whether it contains one or more levels, classification can be defined, commonly speaking, as a regulated set of related categories used to structure information in a particular area according to their similarities. The main purpose of the classification is to simplify the real world and bring it closer to the user as well as to enable its correct interpretation. For example, it is essential that the economic classifications ISIC or NACE describe the structure of economic activities as it is, i.e. to show reality as realistically as possible. It is therefore essential that classifications are regularly updated, revised and adapted to current social phenomena.

Unlike classifications, a code list is a predefined set of terms from which individual statistically coded concepts take over their values. It is a controlled vocabulary that contains codes and meanings and permissible values for a particular data item.

2. Principles for the development of international statistical classifications

2.1 Competent authorities

International statistical classifications are the responsibility of the United Nations' statistical organisational units. A number of other international classifications are owned and held by key international organisations, such as WHO, ILO, UNESCO or ISO.

In agreement with international and multinational organisations, competent authorities for international classifications are responsible for their development and maintenance. They are also responsible for supporting the application of international classifications by countries, as well as in national statistical and administrative offices.

The duty of competent authorities is to present international classifications to the Committee of Experts on International Statistical Classifications.

The role of the Committee of Experts is to provide advisory services on the classification principles of current and new international classifications, best practices and concepts and to simplify the harmonisation of related classifications, to verify the classifications against the criteria for inclusion in the international family and to adapt the application of classifications to the subject of observation. The Committee of Experts also directs the United Nations statistical organisational units and other competent authorities of international standard classifications on technical auditing issues or on the development of a particular classification, as well as on strategic planning for working on it.

2.2 Conceptual aspects

Any statistical classification should be based on predefined concepts and principles. The conceptual basis includes methodological guidelines, including additional explanations, which prescribe what should each classification category include/exclude and explain the approaches to be taken in any particular moment.

In order for users to understand what the classification is about, the conceptual basis should be well defined and documented, and applied for categorisation, interpretation and structuring of the classification. The development of a conceptual basis is mandatory for both horizontal and hierarchical classifications.

Classifications are made on the basis of strict and consistent methodological principles such as industrial origin, physical characteristics and the basic nature of the product as well as their market orientation. Market orientation of commodities can be based on production, supply or needs of certain economic activities, and each approach meets different purposes. It may be based on principles or concepts developed for the creation of an international standard through international cooperation, whether stakeholder consultations have been carried out or agreement has been reached between national statistical institutes.

Code lists are not constructed following strict methodological rules, however, when derived from existing standards, they inherit them to a certain extent. As they are often recognised as matching tools, code lists are increasingly subject to different rules, such as strict and harmonised coding systems.

2.3 Formal aspects

The most important standard classifications are officially approved by the United Nations Statistics Division (UNSD), the European Statistical System Committee (ESSC) concerning European Union standards and the corresponding national statistical institutes (NSI) bodies concerning national classifications. The most important standard classifications also follow other official procedures, such as those developed by NACE ad hoc working group, the ESSC, the European Commission, the European Parliament and the Council of the European Union. Other classifications are defined in legal acts, methodological manuals and similar guidelines.

Code lists are generally adopted at a more operational level, but they still have to be adopted on the basis of the official procedures in force within a particular organisation. This can happen at institution level or at the thematic level. Code lists may also be define in legal acts, methodological manuals and similar instructions.

2.4 Types of classification

(a) International classifications (reference classifications)

An international or reference classification is the one that is developed by an international institution such as the United Nations Statistics Division (UNSD), the International Organisation for Standardisation (ISO), the International Labour Organisation (ILO) or the World Health Organisation (WHO).

The aim of international classifications is to provide a common framework for collecting and organising information on a particular statistical system, concept or variable. Their use, either directly or through national adaptations, facilitates the exchange and comparability of statistics and other information between countries. These classifications are generally developed through extensive international consultations.

An international or reference classification may require adaptation to meet country-specific conditions. Namely, a particular international classification cannot always be used as originally conceived, i.e. there may be categories defined for international use that do not apply in country-specific environments.

The definition of correspondence tables (which map or link classifications together) is mandatory between international classifications as they facilitate international reporting and allow time series management.

(B) Derived or related classifications

Derived or related classifications are usually based on an international reference classification. They can be developped by:

- applying the concepts of the reference classification in a more stringent or alternative way in order to produce a different classification hierarchical structure;
- adopting the reference classification structure and categories at higher levels, and then adding further details of the lower level for regional or national needs;
- rearranging or aggregating parts of one or more reference classifications in order to create a new version of the reference classification.

2.5 Inter-category exclusivity

The categories in the statistical classification must contain mutually exclusive and exhaustive items at the same classification level, i.e. it should be possible to classify each member of the population of primary units under only one classification category and to group all units by classification categories.

Classification with non-exclusion categories confuses users and prevents the correct and consistent use of statistical classification. Inter-category exclusivity is mandatory for both horizontal and hierarchical classifications.

The classification should be exhaustive for all possible values that a variable may receive among primary units presented by the classification. For coding purposes, it should be pointed out that superfluous or unnecessary categories often hinder the effectiveness and usefulness of the classification.

2.6 Statistical balance

In general, the statistical classification should not have categories at the same level in its hierarchy that are too different in the size of the population (coverage of observation units). The statistical balance allows the classification to be used effectively for the correspondence table of aggregated data. In order to classify similar elements uniformly and to maintain homogeneity, it is necessary to establish a statistical balance, especially in the case of surveys carried out using the sampling method.

2.7 Statistical application

The application of the statistical classification means that it is possible to distinguish efficiently, accurately and consistently the categories in the classification on the basis of the information available, for example, to code answers to questions asked in statistical surveys or administrative forms.

Statistical implementation is a fundamental aspect of the application of classification when collecting statistical data. With well-designed coding tools and procedures, it should be possible to effectively classify statistical units under the correct categories.

2.8 Classification units and statistical units

Classification units are basic units that are classified using classification methodological guidelines (e.g. job according to the classification of occupations and activities of an enterprise/institution according to the classification of activities).

Statistical units are units of observation or measurement for which data are collected. They can be people, products, enterprises, geographical areas, events, jobs, etc.

2.9 Comparability of time series

In the development and use of statistical classifications, consideration must be given to establishing comparability over time between the current and the previous classification version. Major breaks in the time series should be avoided in cases when classifications are significantly affected by changes in society. Time series can be managed using correspondence tables since they methodologically link different classification versions.

3. Classification components

Most classifications have a hierarchical organisation of categories which allows the interpretation of produced datasets at different classification levels. A homogeneous and detailed hierarchical classification organisation enables the collection, processing and dissemination of data by particular levels of aggregation. Therefore, classifications can also be considered multifunctional according to their design.

Unlike classifications, code lists are displayed in a horizontal form and have a simple structure. Although visually code lists may give the impression of simplicity, in practice they are extremely complex because they can also contain long lists of aggregates that are used for data analysis.

The aim of standard classifications is to provide an adopted framework that allows datasets to be adapted to different data sources and statistical surveys and prepare them to be comparable. Classification is defined for the purpose of collecting, processing and disseminating statistical survey data or for the purposes of registers. Unlike a standard classification, a classification prepared for the purpose of a single survey may contain multiple attributes or metadata (e.g. units of measurement or type of production).

The standard statistical classification should contain the following elements:

- structure (key of sorting, coding system and hierarchical structure);
- labels;
- explanations;
- alphabetical and numerical indexes.

3.1 Name of classification

The name of the classification is the formal name associated with the classification. These are some examples of names:

- International Standard Industrial Classification of All Economic Activities (ISIC)
- International Standard Classification of Education (ISCED)
- Central Product Classification (CPC)
- Standard International Trade Classification (SITC)

3.2 Classification identifiers

These are common abbreviations that are associated with classification. Examples are as follows:

ISIC – International Standard Industrial Classification of All Economic Activities

ISCO – International Standard Classification of Occupations

CPC – Central Product Classification

3.3 Classification versions

The classification version is a list of mutually exclusive categories that provides a classification variable for a given period of time. If the version is regulated hierarchically, each level in the hierarchy is a set of mutually exclusive categories. A normative status of the classification version is definite and is valid for a certain period of time. The new version differs significantly from the previous one. Significant differences are those that change the boundaries between categories, that is, a statistical unit may belong to different categories in the new and old versions. Changes in the boundaries may result from the creation or deletion of categories, or by moving part of one category to another.

The new classification develops when the scope, concepts or structure are changed, and not when only new categories are added or old ones are deleted and/or when the descriptions of the definitions are modified.

a) Classification levels

According to structure, classifications can be horizontal classifications (having one level) or hierarchical classifications (having several levels). The lowest level of hierarchical classification is always the most detailed level, i.e. it has the most accurate information (detailed values) for the variable according to which the statistical unit is classified. Categories at this level are grouped into comprehensive classification categories.

There should be a sufficiently broad coverage in the classification to meet the widest possible range of statistical needs.

Standard statistical classifications provide a reference framework for the collection, aggregation and comparison of statistics. Although the terms underlying the statistical classification are generally well defined (e.g. economic activities, industrial products), it is not possible to predict all user needs. In addition, it is not uncommon for classifications originally designed and developed for statistical purposes to be used for administrative purposes, scientific studies, etc.

‘Exhaustive coverage of the observed population’ means that a corresponding classification category can be determined for each observation unit; for example, the classification of construction works broken down into ‘non-residential buildings’ and ‘residential buildings’ would not be sufficiently exhaustive, as it would not cover civil engineering works such as the construction of roads, bridges, etc.

As opposed to classifications, code lists are developed on the basis of identified needs such as data collection and dissemination for one or more statistical domains. In addition, they are used as a tool for the exchange of data. Code lists can also be used when linking data, and can be tailor-made and specifically designed.

IMAGE 1: EXAMPLE OF APPLICATION OF THE STATISTICAL CLASSIFICATION FOR ADMINISTRATIVE PURPOSES – THE REGISTER OF BUSINESS ENTITIES OF THE CROATIAN BUREAU OF STATISTICS

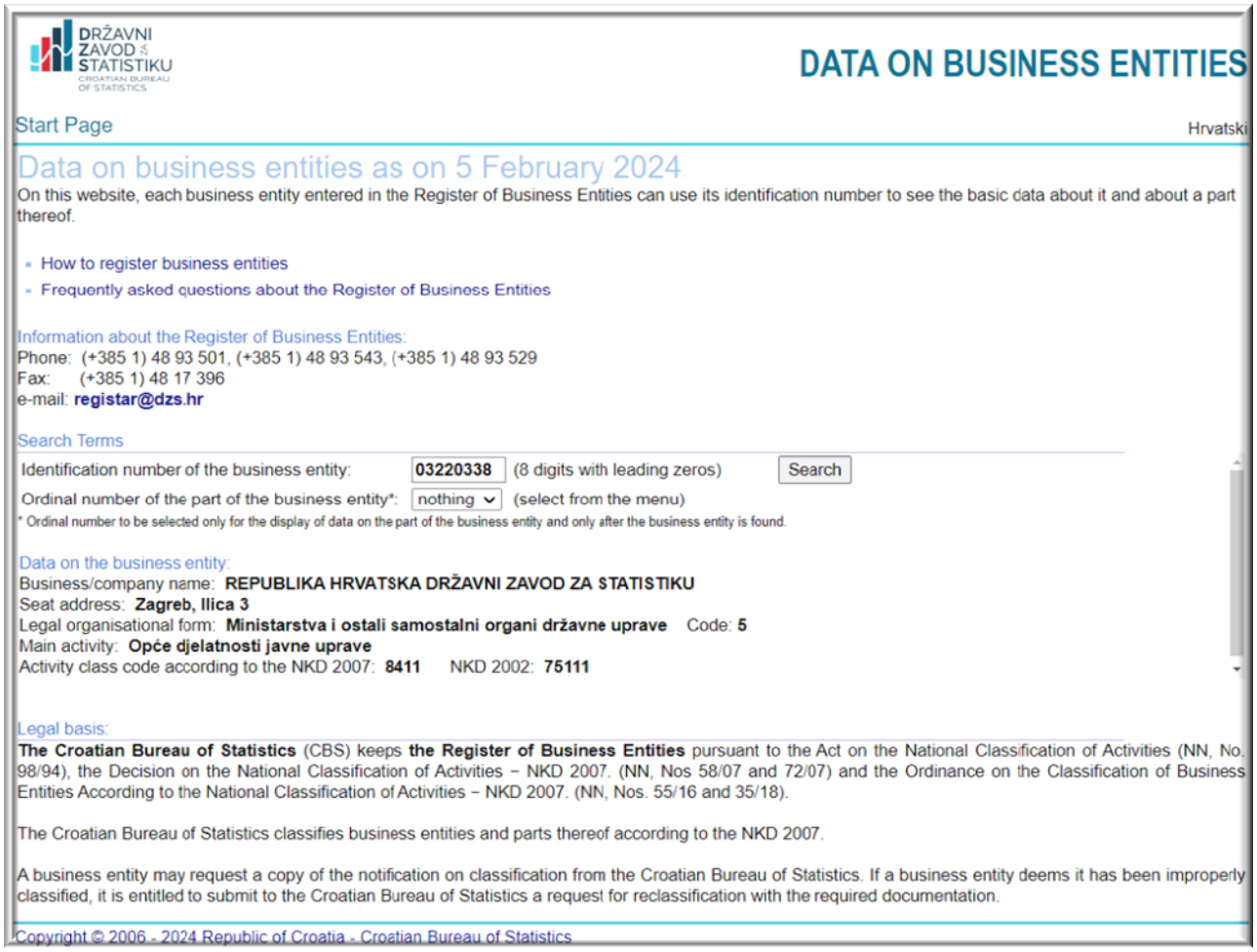
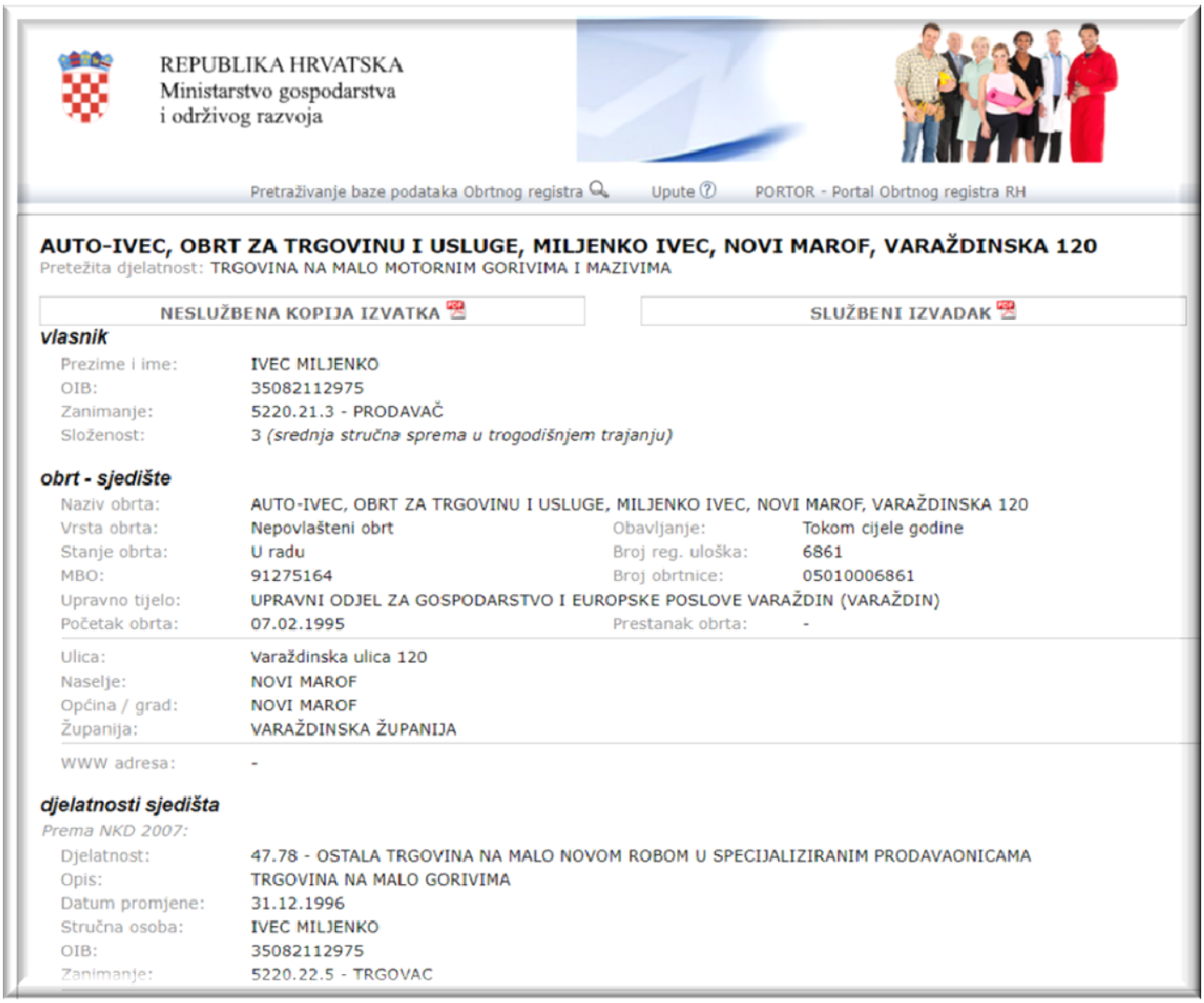


IMAGE 2: EXAMPLE OF APPLICATION OF THE STATISTICAL CLASSIFICATION FOR ADMINISTRATIVE PURPOSES – THE CRAFTS REGISTER



REPUBLIKA HRVATSKA
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Pretraživanje baze podataka Obrtnog registra | Upute | PORTOR - Portal Obrtnog registra RH

AUTO-IVEC, OBRT ZA TRGOVINU I USLUGE, MILJENKO IVEC, NOVI MAROF, VARAŽDINSKA 120

Pretežita djelatnost: TRGOVINA NA MALO MOTORNIM GORIVIMA I MAZIVIMA

NESLUŽBENA KOPIJA IZVATKA | SLUŽBENI IZVADAK

vlasnik

Prezime i ime:	IVEC MILJENKO
OIB:	35082112975
Zanimanje:	5220.21.3 - PRODAVAČ
Složenost:	3 *(srednja stručna sprema u trogodišnjem trajanju)*

obrt - sjedište

Naziv obrta:	AUTO-IVEC, OBRT ZA TRGOVINU I USLUGE, MILJENKO IVEC, NOVI MAROF, VARAŽDINSKA 120		
Vrsta obrta:	Nepovlašteni obrt	Obavljanje:	Tokom cijele godine
Stanje obrta:	U radu	Broj reg. uloška:	6861
MBO:	91275164	Broj obrtnice:	05010006861
Upravno tijelo:	UPRAVNI ODJEL ZA GOSPODARSTVO I EUROPSKE POSLOVE VARAŽDIN (VARAŽDIN)		
Početak obrta:	07.02.1995	Prestanak obrta:	-
Ulica:	Varaždinska ulica 120		
Naselje:	NOVI MAROF		
Općina / grad:	NOVI MAROF		
Županija:	VARAŽDINSKA ŽUPANIJA		
WWW adresa:	-		

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Prema NKD 2007:

Djelatnost:	47.78 - OSTALA TRGOVINA NA MALO NOVOM ROBOM U SPECIJALIZIRANIM PRODAVAONICAMA
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Stručna osoba:	IVEC MILJENKO
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Zanimanje:	5220.22.5 - TRGOVAC

3.4 Structure

There are no solid and simple rules to determine when to use which type of classification structure. However, the structure should contain the most detailed categories at the lowest level of hierarchical classification.

An important feature of statistical classifications is their strict hierarchical organisation. Depending on the availability of the software tool, the classification structure contains the following:

- name;
- hierarchical structure;
- sorting key;
- official code;
- forms of presentation;
- related code.

Classifications are structured either as horizontal classifications (simple list of categories) or as hierarchical classifications (with a logical hierarchy of categories ranging from detailed to extensive levels).

(i) Horizontal classifications

Horizontal classifications contain only one level, i.e. a list of categories. Horizontal classifications are developed when there is no need to group categories into aggregated groups. However, the categories should be mutually exclusive, while the classifications should be exhaustive.

An example of a horizontal classification is classification by sex.

The horizontal classification is identical to the linear classification.

The structure of the horizontal classification should be used when a simple list of categories is required or when there is no need to aggregate or group categories into items that could be useful for descriptions or analyses in combination with other variables.

(ii) Hierarchical classifications

Hierarchical classifications contain more than one level of aggregation. They are usually structured with the most general or extensive categories at the top of the classification hierarchy and the most detailed categories at the bottom. Depending on the descriptive and analytical needs, each level can be used to record the value of a variable, e.g. in a questionnaire response or in an administrative record.

Examples of hierarchical classifications are the International Standard Industrial Classification of All Economic Activities (ISIC) or Central Product Classification (CPC).

The hierarchical classification structure should be used when there is a requirement to aggregate or group categories into items that are satisfactory for descriptive or analytical purposes and to combine with other variables.

Sorting key

When classification codes consist only of numbers, their structure is predetermined, meaning that the number of digits at each hierarchical level is clearly defined. The order of the categories in the classification may be based on numerical code sorting. For example:

- 01
- 01.11
- 01.12
- 01.19
- 02
- 02.11
- 02.12
- 02.19
- 20.21

However, when coding is based on a combination of alphabetical and numerical characters, as is the case for the ISIC classification (International Standard Industrial Classification of All Economic Activities):

- A
- 01
- 011
- 0111
- 0112
- B
- 05
- 051
- 0511,

classification of records in alphabetical order can disrupt the above structure. In order to follow the sequence of records, an additional field should be introduced into the database. This field is called ‘sorting key’ (also known as UID or unique identification number, ID, etc.).

The sorting key can be simple (1, 2, 3, 4, etc.) or more complex, such as the ones in the Combined Nomenclature (CN). The sorting key consists of 12-digit fixed-length codes (e.g. 010011000090), which transmit information not only on the order of the records but also on their nature, hierarchical level, etc. – all this information is relevant for dissemination purposes.

Official code

The official code is available in official documents (e.g. UN official publications, Official Journal of the European Union, etc.). When displaying the official code, the display format can be defined, which includes a point or spacing, etc., as follows:

- Harmonised System (HS): 0101.90
- Combined Nomenclature (CN): 0101 90 00
- ISIC: 0111
- NACE: 01.11.

Sometimes the code is presented in one set, i.e. without specific characters such as points and spacings, for the purpose of data exchange and database management.

The practical application of the Harmonised System codes, the Combined Nomenclature and the Statistical Classification of Economic Activities – NACE is presented here:

- Harmonised System: 010190
- Combined nomenclature: 01019000
- NACE: 0111.

Classification official, abbreviated and other names

It is possible to identify several types of names, as follows:

- official names
- abbreviated names.

Coding system

The coding system of statistical classifications is strictly organised, which means that in most cases the coding system gives an indication of the hierarchical level of the categories concerned. Here is the example of a Combined Nomenclature coding system:

- categories of the first level ("sections") are identified by Roman numerals;
- categories of the second level ("chapters") are identified by two-digit numerical codes;
- categories of the third level ("headings") categories are identified by four-digit numerical codes;
- categories of the fourth level ("HS sub-headings") are identified by six-digit numerical codes;
- categories of the fifth level ("CN categories") are identified by eight-digit numerical codes.

The established coding system is rarely present in code lists, as hierarchical levels can only exist if the categories are mutually exclusive, and this is common only for classifications and not for code lists. Code list developers can create user-friendly codes by assigning meaning to them, thus facilitating their interpretation, as shown below in an example describing modes of transport.

IMAGE 3: EXAMPLE OF A HIERARCHICAL CLASSIFICATION – COMBINED NOMENCLATURE

CN code	Description	Conventional rate of duty (%)	Supplementary unit
1	2	3	4
8901	**Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the transport of persons or goods:**		
8901 10	– **Cruise ships, excursion boats and similar vessels principally designed for the transport of persons; ferry-boats of all kinds:**		
8901 10 10	–– Seagoing	Free	p/st
8901 10 90	–– Other	1,7	p/st
8901 20	– **Tankers:**		
8901 20 10	–– Seagoing	Free	p/st
8901 20 90	–– Other	1,7	ct/l
8901 30	– **Refrigerated vessels, other than those of subheading 8901 20:**		
8901 30 10	–– Seagoing	Free	p/st
8901 30 90	–– Other	1,7	ct/l
8901 90	– **Other vessels for the transport of goods and other vessels for the transport of both persons and goods:**		
8901 90 10	–– Seagoing	Free	p/st
8901 90 90	–– Other	1,7	ct/l
8902 00	**Fishing vessels; factory ships and other vessels for processing or preserving fishery products:**		
8902 00 10	– Seagoing	Free	p/st

Source: Ministry of Finance – Customs Administration

3.5 Other names

As the name indicates, official names are names used in the dissemination of data and are published in the Official Journal of the European Union or in the Official Gazette of the Republic of Croatia, etc.

For dissemination purposes, long names are sometimes not suitable for presentation in tables as space is an important parameter, and the same applies to statistical and administrative registers. In these cases, abbreviated names are used, which usually contain less than 50 characters.

As regards other names, classifications such as the Combined Nomenclature, which contains hundreds of categories designated as 'Other', this has not proved practical for users, since by applying the analysis procedure of the second category of the group concerned they are forced to conclude about the content of these categories on their own. In order to assist users in correctly interpreting the content of individual classification categories, institutions in charge of creating, applying and maintaining classifications prepare explanations in an effort to bring the content of each category closer to the end user.

One of the most main characteristics of statistical classifications is to classify each phenomenon or object in one and only one classification category, without overlapping with another classification category. It is therefore important to use clear and unambiguous definitions of individual categories.

According to this classification feature, classifications can be clearly and unambiguously delineated from code lists. Unfortunately, when creating a code lists, the principle of mutual exclusivity is often not respected, so it happens that they contain overlapping aggregates.

When it comes to the number of defined levels, it would be better for users that it is minimal, as this gives users an insight into the details they need for different types of descriptions and analyses. Hierarchical classifications can cover nine levels, although they usually do not require more than five levels.

It should be noted that creating effective and transparent code lists is more difficult when they contain higher classification levels.

3.6 Structure of code lists

Code lists consist of one or more alphabetical or numerical characters assigned to each classification category. The code may consist of a combination of alphabetical and/or numerical characters.

There are no standard criteria in deciding when to use alphabetical or numerical characters. Numerical codes are more useful, especially when creating logical and hierarchical classifications. In order to ensure that the standard code pattern can be stored within computer classification management systems, in some cases leading zeros will need to be added.

The code structure must be consistent and logical for each classification level for which it is used. For the first hierarchical classification level, the code structure should be the first position to denote the most aggregated level, e.g. 1 for the first most numerous group; for level 2 it should be 12, while for level 3 it should be 123 – i.e. logical hierarchical structure. This does not exclude the use of other examples, but they may make it difficult to link one level to another, e.g. the use of Roman numerals that would be followed by letter characters followed by numerical characters is not recommended. In order for new codes to be added in the future for new classification versions, the structure of the codes should be sustainable.

In the horizontal classification, the codes may include sequential numbers or preferably combinations of letters that can serve as initial easy-to-understand labels for a category. For example, alphabetical codes consisting of two characters to represent the name of a country. Each category in the classification must have a code, while the structure of the code should be consistent and logical for each level used.

IMAGE 4: EXAMPLE OF ALPHABETICAL LIST OF MEMBER STATES

Short name, in source language(s) (geographical name) (1)	Official name, in source language(s) (protocol name)	Short name in English (geographical name)	Official name in English (protocol name)	Country code (2)	Former abbreviation (2)
Belgique/België	Royaume de Belgique/ Koninkrijk België	Belgium	Kingdom of Belgium	BE	B
България (*)	Република България	Bulgaria	Republic of Bulgaria	BG	—
Česko	Česká republika	Czechia	Czech Republic	CZ	—
Danmark	Kongeriget Danmark	Denmark	Kingdom of Denmark	DK	DK
Deutschland	Bundesrepublik Deutschland	Germany	Federal Republic of Germany	DE	D
Eesti	Eesti Vabariik	Estonia	Republic of Estonia	EE	—
Éire/Ireland	Éire/Ireland	Ireland	Ireland	IE	IRL
Ελλάδα (*)	Ελληνική Δημοκρατία	Greece	Hellenic Republic	EL	EL
España	Reino de España	Spain	Kingdom of Spain	ES	E
France	République française	France	French Republic	FR	F
Hrvatska	Republika Hrvatska	Croatia	Republic of Croatia	HR	—
Italia	Repubblica italiana	Italy	Italian Republic	IT	I
Κύπρος (*)	Κυπριακή Δημοκρατία	Cyprus	Republic of Cyprus	CY	—
Latvija	Latvijas Republika	Latvia	Republic of Latvia	LV	—
Lietuva	Lietuvos Respublika	Lithuania	Republic of Lithuania	LT	—

Source: Interinstitutional Style Guide

3.7 Descriptor

Descriptors are texts that describe the classification category in one line. In order to unambiguously illustrate the exact content of the category, the descriptor should be unique and meaningful within the classification. Each descriptor should be understandable for itself, i.e. no additional information should be used, i.e. it should be clear that one category has different content from all others.

IMAGE 5: EXAMPLE OF A DESCRIPTOR FROM THE NATIONAL CLASSIFICATION OF OCCUPATIONS 2010 – NKZ 2010

1330 Information and Communications Technology Services Managers

3.8 Descriptions, definitions and explanations

Numerical or alphabetical codes are not sufficient for an unambiguous interpretation of the category, therefore they are accompanied by explanations providing detailed information on what falls within a particular category and what is not. Accompanying interpretations such as "opinions on classification", "decisions on classification", "case law", etc. are also an integral part of the explanation.

The most common method of creating explanations includes:

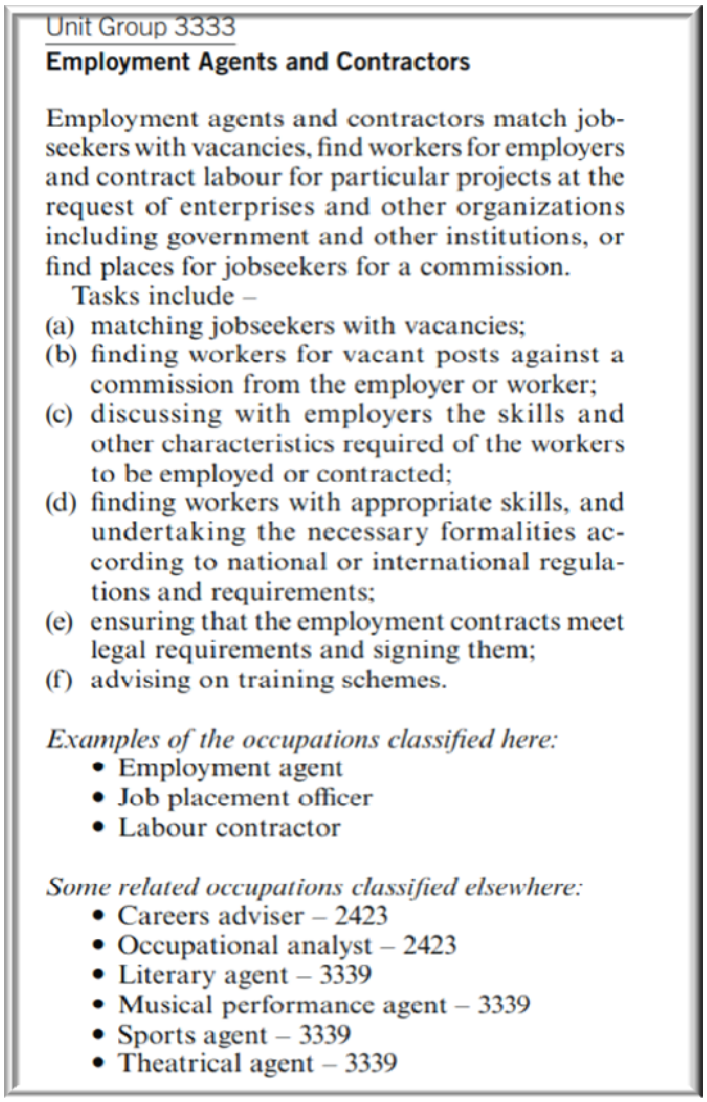
- central content
- limited content
- excluded content

The central content is a description of actions that are known to be included in the concept. This information can be indicated by statements such as: "This class includes", "This category includes", "This position includes", "Includes", etc.

Limited content describes actions that are included in a convention or consensus classification category, as a particular category can also be classified under another category. A typical example refers to wooden shoes that were considered exclusively shoes a century ago, while nowadays they are considered handicrafts in most countries. For the purpose of correct application in practice, this information is usually introduced with labels such as "This class also includes", "This category also includes"; "This position also includes", "Includes also", etc.

Excluded content expresses what is not covered by a given classification category. This information is expressed in the following statements: "This class excludes", "This category excludes", "This position excludes", "Excludes", etc. An explicit reference to the classification level under which the content of the descriptor "Excludes" belongs is recommended for exemptions.

IMAGE 6: EXAMPLE FROM THE NATIONAL CLASSIFICATION OF OCCUPATIONS 2010 – NKZ 2010 – MAJOR GROUP



Unit Group 3333

Employment Agents and Contractors

Employment agents and contractors match jobseekers with vacancies, find workers for employers and contract labour for particular projects at the request of enterprises and other organizations including government and other institutions, or find places for jobseekers for a commission.

Tasks include –

(a) matching jobseekers with vacancies;
(b) finding workers for vacant posts against a commission from the employer or worker;
(c) discussing with employers the skills and other characteristics required of the workers to be employed or contracted;
(d) finding workers with appropriate skills, and undertaking the necessary formalities according to national or international regulations and requirements;
(e) ensuring that the employment contracts meet legal requirements and signing them;
(f) advising on training schemes.

Examples of the occupations classified here:

- Employment agent
- Job placement officer
- Labour contractor

Some related occupations classified elsewhere:

- Careers adviser – 2423
- Occupational analyst – 2423
- Literary agent – 3339
- Musical performance agent – 3339
- Sports agent – 3339
- Theatrical agent – 3339

In some classifications there is no clear distinction between what is included in the category and what is excluded. In this case, the information will be mapped using the so-called central content.

In other cases, a fourth chapter entitled "Introductory notes" is added. This area is located in front of the explanations and provide an overview of the category concerned or of the set of elements within that category.

Below is an example of the introductory explanatory note for position 01 of the 1999 version of COICOP.

01. Food and non-alcoholic beverages

Division 01 covers food (01.1) and non-alcoholic beverages (01.2) purchased by the household mainly for consumption or preparation at home. It excludes food and non-alcoholic beverages that are provided as part of a food serving service (Division 11).

Services for processing primary goods to produce food and non-alcoholic beverages for own consumption are also included in this Division (01.3).

Food is composed of all edible goods that are purchased and consumed by the household with the purpose of nourishing. It includes: cereals and cereal products; etc.

IMAGE 7: EXAMPLE OF THE CLASSIFICATION COICOP-HICP 2000

Family: Other classifications
Classification: COICOP-HICP
Classification version: COICOP/HICP 2000
Classification level: Classes

Official code	Starting date	Official title EN	Level number	Full code
0111	01.04.1998	Bread and cereals	3	0111
0112	01.04.1998	Meat	3	0112
0113	01.04.1998	Fish	3	0113
0114	01.04.1998	Milk, cheese and eggs	3	0114
0115	01.04.1998	Oils and fats	3	0115
0116	01.04.1998	Fruit	3	0116
0117	01.04.1998	Vegetables	3	0117
0118	01.04.1998	Sugar, jam, honey, chocolate and confectionery	3	0118
0119	01.04.1998	Food products n.e.c.	3	0119
0121	01.04.1998	Coffee, tea and cocoa	3	0121
0122	01.04.1998	Mineral waters, soft drinks, fruit and vegetable juices	3	0122
0211	01.04.1998	Spirits	3	0211
0212	01.04.1998	Wine	3	0212
0213	01.04.1998	Beer	3	0213
0221	01.04.1998	Tobacco	3	0221
0311	01.04.1998	Clothing material	3	0311
0312	01.04.1998	Garments	3	0312
0313	01.04.1998	Other articles of clothing and accessories	3	0313
0314	01.04.1998	Cleaning, repair and hire of clothing	3	0314
0321	01.04.1998	Shoes and other footwear including repair and hire of footwear	3	0321
0322	01.04.1998	Repair, cleaning and hire of footwear	3	0322
0411	01.04.1998	Actual rentals paid by tenants including other	3	0411

Source: KLASUS – Croatian Bureau of Statistics

Some classifications do not have supporting methodological explanations, but point to the classification levels that form an integral part of them. An example of such a case is the categories of the United Nations Standard International Trade Classification (SITC), which are defined by the Harmonised System (HS) classification categories, which are under the responsibility of the World Customs Organisation (WCO).

IMAGE 8: EXAMPLE OF SITC CLASSIFICATION

Family: Products
Classification: SITC
Classification version: SITC Rev. 4
Classification level: Basic headings

Official code	Official title
001.11	Pure-bred breeding animals
001.19	Other than pure-bred breeding animals
001.21	Sheep, live
001.22	Goats, live
001.31	Pure-bred breeding animals
001.39	Other than pure-bred breeding animals
001.41	Poultry, live (i.e., fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea-fowls, weighing not more than 185 g
001.49	Poultry, live (i.e., fowls of the species Gallus domesticus, ducks, geese, turkeys and guinea-fowls, weighing more than 185 g
001.50	Horses, asses, mules and hinnies, live
001.90	Live animals, n.e.s.
011.11	Meat of bovine animals, fresh or chilled, with bone in
011.12	Meat of bovine animals, fresh or chilled, boneless
011.21	Meat of bovine animals, frozen, with bone in
011.22	Meat of bovine animals, frozen, boneless
012.11	Meat of sheep, fresh or chilled
012.12	Meat of sheep, frozen
012.13	Meat of goats, fresh, chilled or frozen
012.21	Meat of swine, fresh or chilled
012.22	Meat of swine, frozen
012.31	Poultry not cut in pieces, fresh or chilled
012.32	Poultry not cut in pieces, frozen

Source: KLASUS – Croatian Bureau of Statistics

Unfortunately, even the most detailed interpretations cannot answer all possible questions that may arise in society. Therefore, from time to time inquiries are submitted to experts in charge of classifications, e.g. to data providers and users and to national statistical institutes. Inquiries may concern, for example, the classification of new activities or activities that are less frequently present in economy, which are not specifically mentioned in the structure or explanations of the classification. Depending on the type of the inquiry, a board such as, for example, the Working Group on EU Standards and NACE/CPA review Task Force are set up to analyse and deal with the inquiries received and provide guidance for all similar cases in cooperation with members. The agreed classification guidelines are published on the website.

Users have access to supporting information on the classification category. It often includes instructions that clearly define a category or can help users to determine the coverage of a category. In addition to providing examples, explanatory notes can explain the content of what a particular category includes and excludes, and offer rules or guidelines for the application of a particular classification category. Definitions are not mandatory, but they are used as an integral part of the classification for cases in which a more detailed explanation of the content of individual categories is required.

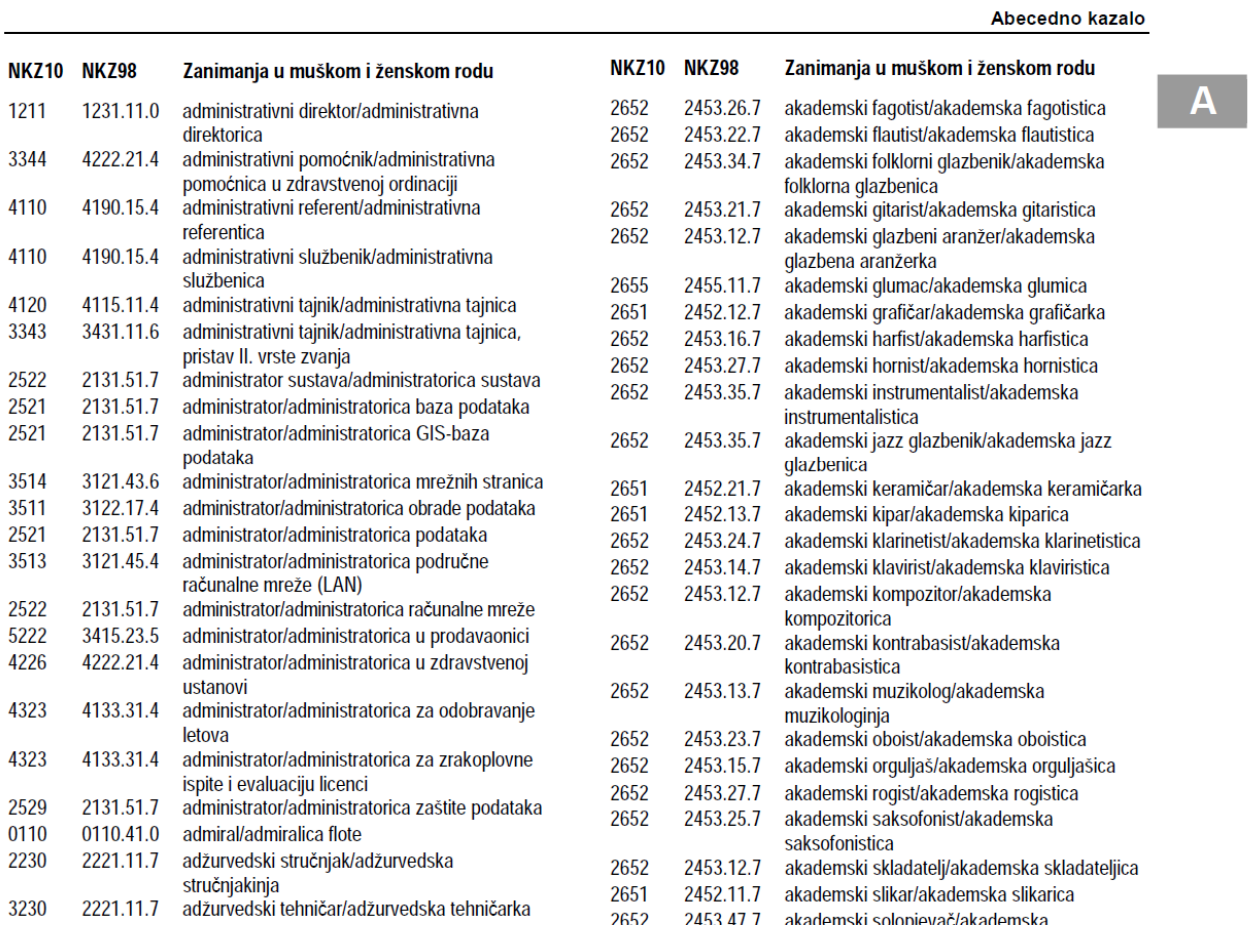
3.9 Coding indexes

Coding indexes consist of alphabetical and numerical indexes so that the terms are sorted in alphabetical order with the corresponding code or are arranged using a numerical code at the lowest classification level, ranging from the lowest to the highest value.

Depending on the type of classification, alphabetical indexes simplify the classification of activities, products, occupations and other statistical phenomena for which statistical classifications have been created. The alphabetical index always refers to only one classification, so the list of terms is always linked only to one code, which means that thee ratio is exclusively 1:1.

In addition to the alphabetical index, a numerical index for coding survey questionnaires is also made for users' needs. The index contains descriptions taken from different data sources and responses to the survey questions. Otherwise, it is used in coding of administrative data sources, and in some cases it may also contain a list of spelling errors. The numerical index should be created for both computer-assisted coding and for manual coding.

IMAGE 9: ILLUSTRATION OF THE ALPHABETICAL INDEX OF THE NATIONAL CLASSIFICATION OF OCCUPATIONS 2010 – NKZ 2010



Abecedno kazalo

A

NKZ10	NKZ98	Zanimanja u muškom i ženskom rodu
1211	1231.11.0	administrativni direktor/administrativna direktorica
3344	4222.21.4	administrativni pomoćnik/administrativna pomoćnica u zdravstvenoj ordinaciji
4110	4190.15.4	administrativni referent/administrativna referentica
4110	4190.15.4	administrativni službenik/administrativna službenica
4120	4115.11.4	administrativni tajnik/administrativna tajnica
3343	3431.11.6	administrativni tajnik/administrativna tajnica, pristav II. vrste zvanja
2522	2131.51.7	administrator sustava/administratorica sustava
2521	2131.51.7	administrator/administratorica baza podataka
2521	2131.51.7	administrator/administratorica GIS-baza podataka
3514	3121.43.6	administrator/administratorica mrežnih stranica
3511	3122.17.4	administrator/administratorica obrade podataka
2521	2131.51.7	administrator/administratorica podataka
3513	3121.45.4	administrator/administratorica područne računalne mreže (LAN)
2522	2131.51.7	administrator/administratorica računalne mreže
5222	3415.23.5	administrator/administratorica u prodavaonici
4226	4222.21.4	administrator/administratorica u zdravstvenoj ustanovi
4323	4133.31.4	administrator/administratorica za odobravanje letova
4323	4133.31.4	administrator/administratorica za zrakoplovne ispite i evaluaciju licenci
2529	2131.51.7	administrator/administratorica zaštite podataka
0110	0110.41.0	admiral/admiralica flote
2230	2221.11.7	adžurvedski stručnjak/adžurvedska stručnjakinja
3230	2221.11.7	adžurvedski tehničar/adžurvedska tehničarka
2652	2453.26.7	akademski fagotist/akademska fagotistica
2652	2453.22.7	akademski flautist/akademska flautistica
2652	2453.34.7	akademski folklorni glazbenik/akademska folklorna glazbenica
2652	2453.21.7	akademski gitarist/akademska gitaristica
2652	2453.12.7	akademski glazbeni aranžer/akademska glazbena aranžerka
2655	2455.11.7	akademski glumac/akademska glumica
2651	2452.12.7	akademski grafičar/akademska grafičarka
2652	2453.16.7	akademski harfist/akademska harfistica
2652	2453.27.7	akademski hornist/akademska hornistica
2652	2453.35.7	akademski instrumentalist/akademska instrumentalistica
2652	2453.35.7	akademski jazz glazbenik/akademska jazz glazbenica
2651	2452.21.7	akademski keramičar/akademska keramičarka
2651	2452.13.7	akademski kipar/akademska kiparica
2652	2453.24.7	akademski klarinetist/akademska klarinetistica
2652	2453.14.7	akademski klavirist/akademska klaviristica
2652	2453.12.7	akademski kompozitor/akademska kompozitorica
2652	2453.20.7	akademski kontrabasist/akademska kontrabasistica
2652	2453.13.7	akademski muzikolog/akademska muzikologinja
2652	2453.23.7	akademski oboist/akademska oboistica
2652	2453.15.7	akademski orguljaš/akademska orguljašica
2652	2453.27.7	akademski rogist/akademska rogistica
2652	2453.25.7	akademski saksofonist/akademska saksofonistica
2652	2453.12.7	akademski skladatelj/akademska skladateljica
2651	2452.11.7	akademski slikar/akademska slikarica
2652	2453.47.7	akademski solopjevač/akademska

Source: National Classification of Occupations 2010 – NKZ 2010 – BOOK III Alphabetical and Numerical Index, in-house material

IMAGE 10: ILLUSTRATION OF THE NUMERICAL INDEX OF THE NATIONAL CLASSIFICATION OF OCCUPATIONS 2010 – NKZ 2010

Brojčano kazalo

2. ZNANSTVENICI/ZNANSTVENICE, INŽENJERI/INŽENJERKE I STRUČNJACI/STRUČNJAKINJE

NKZ10	NKZ98	Naslovi u muškom i ženskom rodu
2111		Fizičari/fizičarke i astronomi/astronomke
	2111.21.7	astronom/astronomka
	2111.21.7	diplomirani astronom/diplomirana astronomka
	2111.11.7	diplomirani balističar/diplomirana balističarka
	2111.11.7	diplomirani inženjer/diplomirana inženjerka fizike
	2111.11.7	diplomirani inženjer/diplomirana inženjerka fizike za optoelektroniku
	2111.11.7	diplomirani medicinski fizičar/diplomirana medicinska fizičarka
	2111.11.7	diplomirani nuklearni fizičar/diplomirana nuklearna fizičarka
	2111.11.7	fizičar/fizičarka
	2472.31.7	inspektor/inspektorica za nadzor mjernih jedinica
	2111.31.8	istraživač fizičar/istraživačica fizičarka
	2111.11.7	medicinski fizičar/medicinska fizičarka
	2111.32.9	nuklearni fizičar/nuklearna fizičarka
	2111.32.9	samostalni istraživač fizičar/samostalna istraživačica fizičarka
2112		Meteorolozi/meteorologinje
	2112.12.7	diplomirani hidrolog/diplomirana hidrologinja
	2112.11.7	diplomirani meteorolog/diplomirana meteorologinja

NKZ10	NKZ98	Naslovi u muškom i ženskom rodu
	2113.12.7	diplomirani kemičar/diplomirana kemičarka anorganskih sustava
	2113.13.7	diplomirani kemičar/diplomirana kemičarka elektrokemijskih sustava
	2113.18.7	diplomirani kemičar/diplomirana kemičarka farmaceutskih sustava
	2113.11.7	diplomirani kemičar/diplomirana kemičarka kontrole kvalitete
	2113.14.7	diplomirani kemičar/diplomirana kemičarka nemetala
	2113.15.7	diplomirani kemičar/diplomirana kemičarka organskih sustava
	2113.16.7	diplomirani kemičar/diplomirana kemičarka polimera
	2113.17.7	diplomirani kemičar/diplomirana kemičarka radioloških sustava
	2113.11.7	diplomirani kemijski analitičar/diplomirana kemijska analitičarka
	2113.15.7	diplomirani petrokemijski analitičar/diplomirana petrokemijska analitičarka
	2472.30.7	inspektor/inspektorica za nadzor predmeta od plemenitih kovina
	2113.21.8	istraživač kemičar/istraživačica kemičarka
	2113.31.7	kemičar savjetnik/kemičarka savjetnica
	2113.11.7	kemičar/kemičarka
	2113.11.7	načelnik/načelnica središnjega carinskog

Source: National Classification of Occupations 2010 – NKZ 2010 – BOOK III Alphabetical and Numerical Index, in-house material

3.10 Residual categories

Residual categories are the remaining categories created to classify responses that do not fit into any other classification category. They can also be called supplementary codes. These categories are often not formally part of the classification structure; however, they are created for operational reasons, as the aim is to code all the responses in the survey. The use of these categories falls within the responsibility of the creators of the classification. If there is no such category, end users of the classification can create a residual category themselves.

IMAGE 11: EXAMPLE OF A RESIDUAL CATEGORY

Obitelj:	Stanovništvo
Klasifikacija:	Materinski jezici
Verzija klasifikacije:	Materinski jezici
Razina klasifikacije:	Materinski jezici

Službena šifra	Datum početka	Datum završetka	Službeni naziv HR
77	01.10.2011		OSTALI JEZICI
99	01.10.2011		NEPOZNATO

Source: KLASUS – Croatian Bureau of Statistics

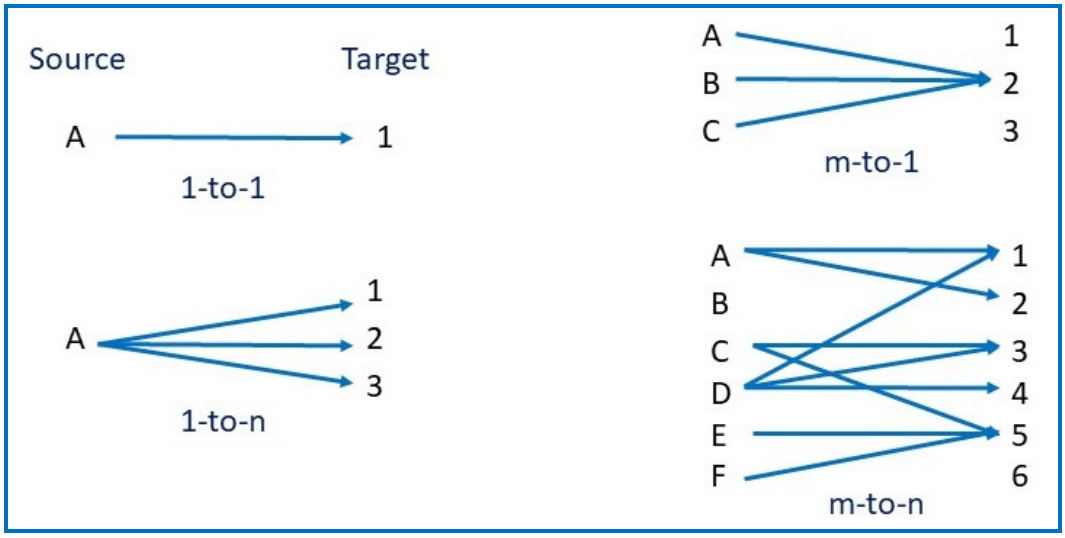
3.11 Correspondence tables

The correspondence tables link different classification versions or different classifications. They provide detailed descriptions of how a category in one classification relates to or links to another classification. There are cases in which a category does not change in any classification, or that a category is divided into several categories in another classification. It may also happen that there is no corresponding category. For the latter situation, it is necessary to decide on how to deal with such cases, bringing in options for completely excluding or including as well as for pairing with the indication "no equivalent category".

In fact, correspondence tables (also known as ‘concordance tables’, ‘correlation tables’ or ‘mapping tables’) consist of established links between codes in the original classification with the corresponding codes in the target classification. The following relations can exist between these links:

- a 1:1 (one-on-one) correspondence table, in which the whole content of the lowest level in the original classification corresponds exactly to the entire content of the lowest level in the target classification (even if the wording of the classification category name is different);
- a 1:n (one in more) correspondence table, in which the content of the lowest level in the original classification is positioned to more than a single lowest level in the target classification;
- a m:1 (more to one) correspondence table, in which the content of several lowest classification levels in the original classification is grouped into one code in the target classification;
- a m:n (more to more) correspondence table, in which the m number of the lowest classification levels in the original classification corresponds to the n number of classification levels in the target classification.

IMAGE 12: GRAPHIC PRESENTATION OF CORRESPONDENCE TABLES



Correspondence tables can be established between two different classifications (e.g. between ISIC and CPC) as well as between two classification versions of the same classification (e.g. between ISIC Rev. 4 and ISIC Rev. 3.1).

Such link lists may have attributes (i.e. additional explanatory information), such as:

- partial coverage specification;
  - the attribute is used for marking when only a part of a specific category is included in a specific link, while the rest of the category content is contained in one or more other links
  - it can be represented either with an “ex” (in this case the number of partial links is unknown) or with a positive natural number equal to or greater than 1 (in this case, the number of partial links is known)
  - it may be used for both the original and the target classifications
- *comment*
  - short text describing the nature of the change or the coverage of classification categories
  - may take the form of a code list with predefined values;
- information on the status of links;
  - correspondence tables between international standard classifications states all possible links between the original and the target classification, but do not specify whether some links are more important than others, simply because such tables are multifunctional and it is not known how they will be used by analysts and researchers
  - some correspondence tables may assign a different status to the links present in the correspondence table, thus some links are primary while others are secondary
  - information can be very useful for users who are not experts in the field of classifications.

IMAGE 13: TABLE PRESENTATION OF CORRESPONDENCE TABLE WITH COMMENTS

Correspondence table NACE Rev. 1.1 - NACE Rev. 2

	NACE Rev. 1.1.		NACE Rev. 2	which class part of NACE Rev. 1.1 is included in class NACE Rev. 2
01.11	Growing of cereals and other crops n.e.c.	01.11	Growing of cereals (except rice), leguminous crops and oil seeds	Growing of cereal grains (except rice) Growing of dried leguminous vegetables such as field peas and beans Growing of oilseeds
01.11	Growing of cereals and other crops n.e.c.	01.12	Growing of rice	Growing of rice: part of inclusion: - growing of cereal grains
01.11	Growing of cereals and other crops n.e.c.	01.13	Growing of vegetables and melons, roots and tubers	Growing of potatoes Growing of roots and tubers with a high starch or inulin content Growing of sugar beet
01.11	Growing of cereals and other crops n.e.c.	01.14	Growing of sugar cane	Sugar cane: part of inclusion - growing of crops n.e.c.
01.11	Growing of cereals and other crops n.e.c.	01.15	Growing of tobacco	Growing of tobacco (except preparation of tobacco leaves)
01.11	Growing of cereals and other crops n.e.c.	01.16	Growing of fibre crops	Growing of cotton; growing of diverse textile plants; retting of plants bearing vegetable fibres
01.11	Growing of cereals and other crops n.e.c.	01.19	Growing of other non-perennial crops	Production of sugar beet seeds and forage plants seeds (including grasses) Growing of swedes, mangolds, fodder roots, clover, alfafa, sainfoin, maize and other grasses, forage kale and similar forage products: part of inclusion: - growing of crops n.e.c
01.11	Growing of cereals and other crops n.e.c.	01.26	Growing of oleaginous fruits	Palm nuts and kernels Other oleagenious fruits n.e.c.
01.11	Growing of cereals and other crops n.e.c.	01.28	Growing of spices, aromatic, drug and pharmaceutical crops	Growing plants used chiefly in pharmacy or for insecticidal, fungicidal or similar purposes Growing of hop
01.11	Growing of cereals and other crops n.e.c.	01.29	Growing of other perennial crops	Rubber trees, trees for extraction of sap: part of inclusion - growing of crops n.e.c.

IMAGE 14: TABLE PRESENTATION OF THE CORRESPONDENCE TABLE BETWEEN NACE Rev. 1.1 AND NACE Rev. 2

Source classification family:	Activities
Source classification:	NACE
Source classification version:	NACE Rev. 1.1
Source classification level:	Classes
Target family:	Activities
Target classification:	NACE
Target classification version:	NACE Rev. 2
Target classification level:	Classes

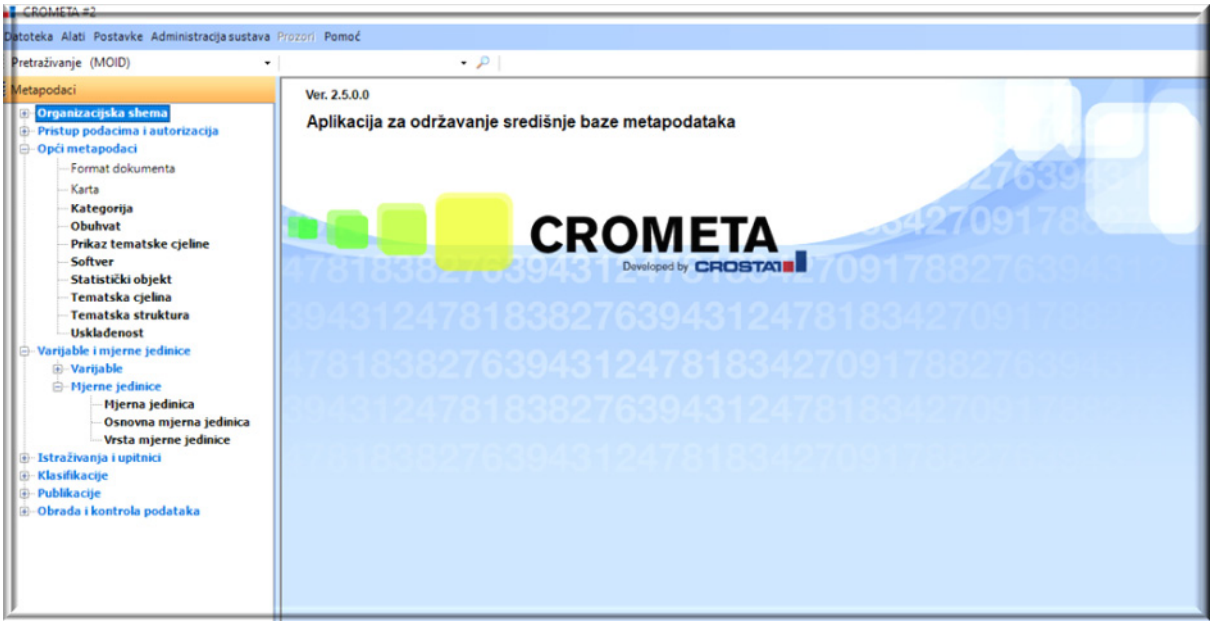
Source code	Official title EN	Target code	Official title EN
01.11	Growing of cereals and other crops n.e.c.	01.11	Growing of cereals (except rice), leguminous crops and oil seeds
01.11	Growing of cereals and other crops n.e.c.	01.12	Growing of rice
01.11	Growing of cereals and other crops n.e.c.	01.13	Growing of vegetables and melons, roots and tubers
01.11	Growing of cereals and other crops n.e.c.	01.14	Growing of sugar cane
01.11	Growing of cereals and other crops n.e.c.	01.15	Growing of tobacco
01.11	Growing of cereals and other crops n.e.c.	01.16	Growing of fibre crops
01.11	Growing of cereals and other crops n.e.c.	01.19	Growing of other non-perennial crops
01.11	Growing of cereals and other crops n.e.c.	01.26	Growing of oleaginous fruits
01.11	Growing of cereals and other crops n.e.c.	01.28	Growing of spices, aromatic, drug and pharmaceutical crops
01.11	Growing of cereals and other crops n.e.c.	01.29	Growing of other perennial crops
01.11	Growing of cereals and other crops n.e.c.	01.63	Post-harvest crop activities
01.11	Growing of cereals and other crops n.e.c.	01.64	Seed processing for propagation
01.12	Growing of vegetables, horticultural specialities and nursery products	01.11	Growing of cereals (except rice), leguminous crops and oil seeds
01.12	Growing of vegetables, horticultural specialities and nursery products	01.13	Growing of vegetables and melons, roots and tubers
01.12	Growing of vegetables, horticultural specialities and nursery products	01.19	Growing of other non-perennial crops
01.12	Growing of vegetables, horticultural specialities and nursery products	01.25	Growing of other tree and bush fruits and nuts
01.12	Growing of vegetables, horticultural specialities and nursery products	01.28	Growing of spices, aromatic, drug and pharmaceutical crops
01.12	Growing of vegetables, horticultural specialities and nursery products	01.30	Plant propagation
01.12	Growing of vegetables, horticultural specialities and nursery products	01.64	Seed processing for propagation
01.12	Growing of vegetables, horticultural specialities and nursery products	02.10	Silviculture and other forestry activities

Source: KLASUS – Croatian Bureau of Statistics

3.12 Units of measure

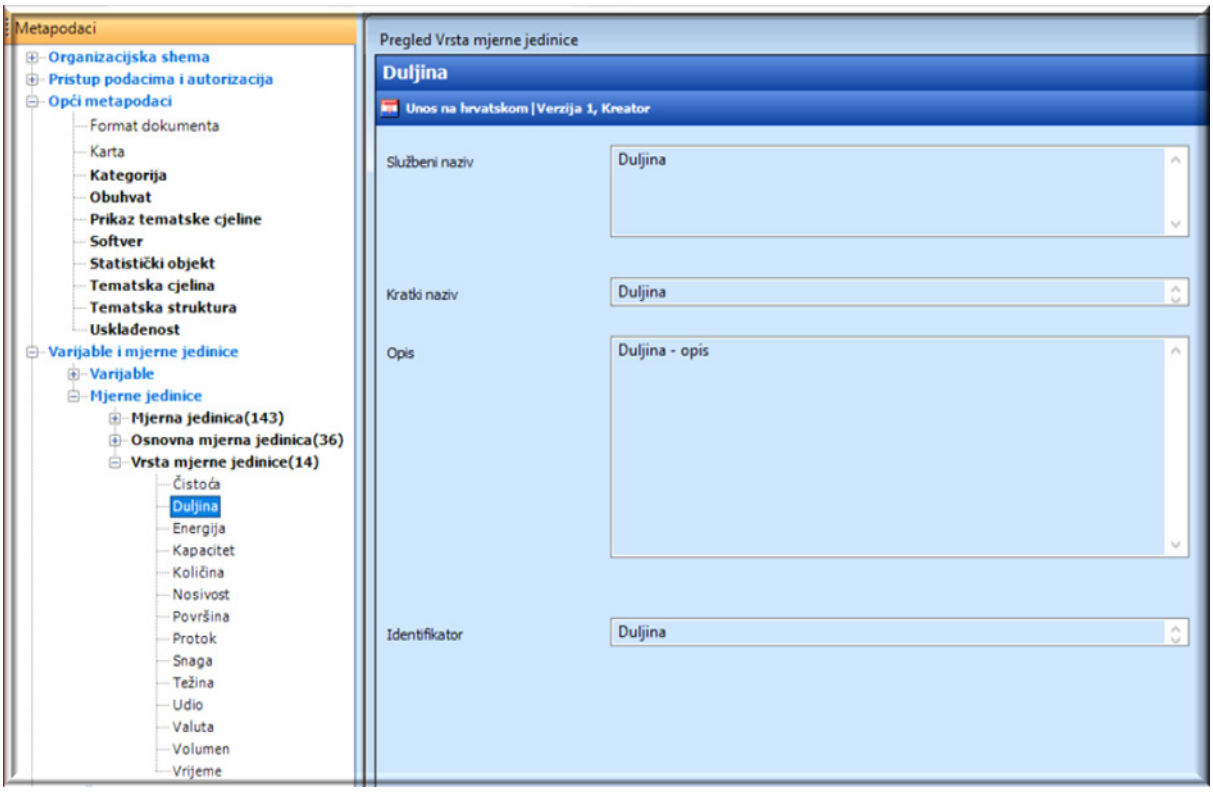
Units of measure are often associated with statistical classifications used to produce trade and/or goods data. Units of measure are a method of quantifying the units to be classified and are part of the definition of the basic category. Units usually correspond to international standard codes and definitions for weights and measures based on ISO 1000 or the International System of Units (SI). Units may be associated with classification units or information produced in the usage of the classification.

IMAGE 15: SCREENSHOT – CROMETA – UNITS OF MEASURE



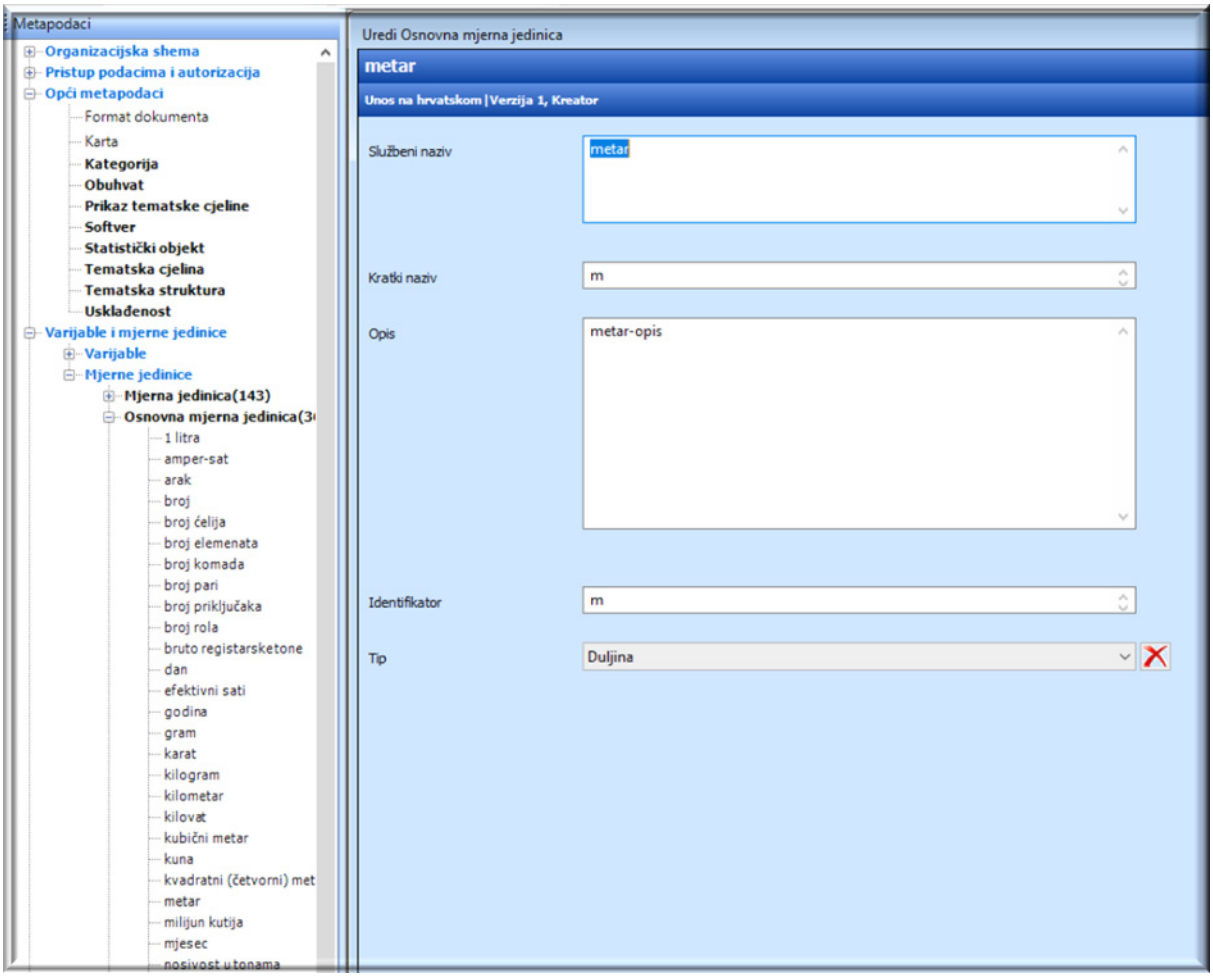
Source: CROMETA #2 – Croatian Bureau of Statistics

IMAGE 16: SCREENSHOT – CROMETA – UNITS OF MEASURE – LENGTH



Source: CROMETA #2 – Croatian Bureau of Statistics

IMAGE 17: SCREENSHOT – CROMETA – UNITS OF MEASURE – LENGTH – METER



Source: CROMETA #2 – Croatian Bureau of Statistics

3.13 Decision on procedures, case law and restrictions

It is essential to record and make available all prepared documents on the quality of coding, case law or decisions on procedures that can be of help to classification users. Decisions on procedures should be included in the rules for the application of the coding indexes and contain an agreed interpretation on the following issues:

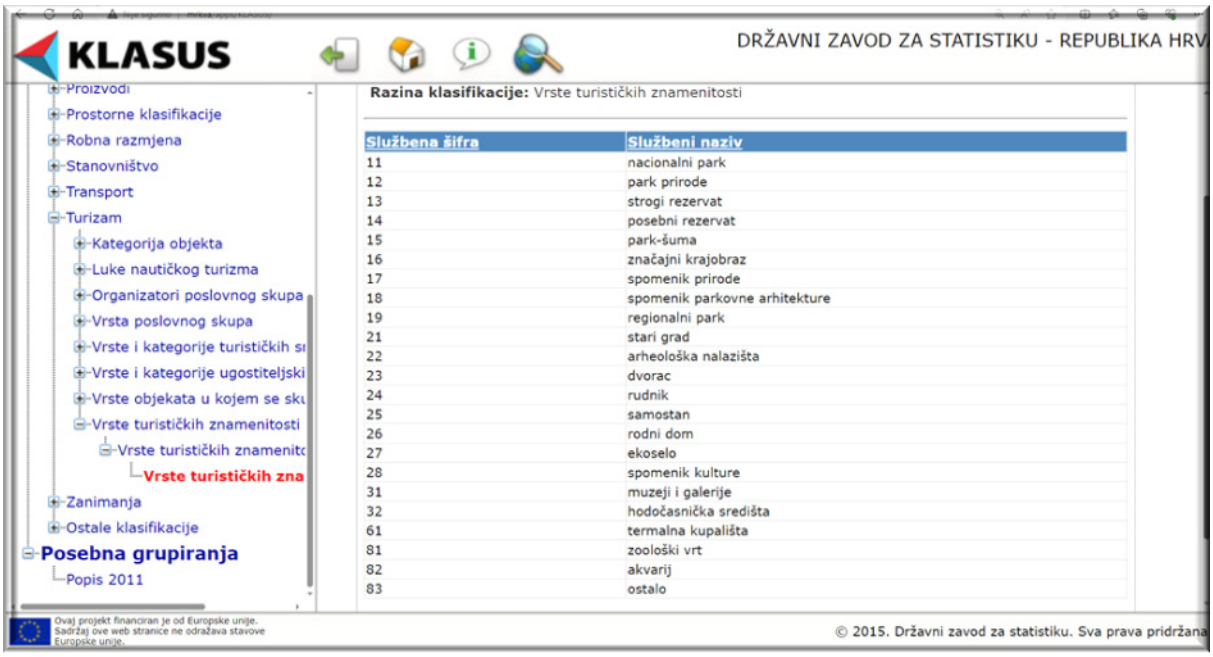
- how to classify new situations or responses (e.g. jobs with new combinations of tasks and duties, new types of economic activities or new products or services) that have emerged since the classification was published and how to record these changes for inclusion in the next revision;
- how to classify complex or unusual situations or responses to questions for which written definitions do not offer simple solutions;
- how to uniformly classify categories that are differently interpreted by users;
- how to present relevant administrative or legal interpretations of case law or legislation in a particular country.

3.14 Other differences between classifications and code lists

Several other differences could be added between statistical classifications and code lists, such as:

- statistical classifications are understandable to users, e.g. are accompanied by detailed explanations, decisions on classification and case law, as opposed to code lists which are machine-readable for purposes of data collection and exchange;
- development and maintenance costs are higher for classifications compared to code lists, as they are based on existing standards and usually are not accompanied by any supporting notes, nor do they contain explanations;
- statistical classifications are supported by instructions, manuals, coding indexes as well as organised trainings to make work easier for users, while this is not the case for code lists;
- the comparison between classification versions and time series is an important criterion for a classification, while the same does not apply to code lists;
- code lists can work without framework classifications, as opposed to classifications
- statistical classifications should reflect the statistical balance to enable the coding of each questionnaire response. Estimates based on population layer grid entitled "Global Human Settlement Layer (GHSL) indicate that classifications create classes in which populations are not very different in size. This means that such classes can enable effective cross-tabulation of data.

IMAGE 18: EXAMPLE OF CODE LIST – TYPES OF TOURIST ATTRACTIONS



Source: KLASUS – Croatian Bureau of Statistics

4. Revisions of classifications and code lists

In order for classification systems to reflect current developments in society, they are periodically revised, irrespective of whether they are related to economic activities, products, etc., and they are a response to technological changes, market organisation and other events. Based on a pre-defined timetable of activities, revisions of the main classifications are carried out from the stakeholder consultation phase to the formal legal adoption.

Code lists based on standard classifications follow the same revision procedures of the baseline classifications from which they are derived. However, one of the advantages of code lists is their greater flexibility, i.e. the ability to respond quickly to new requests, thus enabling different statistical and administrative needs to aggregate classification categories and create aggregates. Code lists may also have their own revision schemes.

Revisions of international statistical classifications include a complete overview of user needs, as well as conceptual bases and user tools related to the development, creation and application of classifications.

The reasons for revisions of international statistical classifications are largely multifaceted. From time to time, classification systems require modernisation of classification structures.

Changes in the structure of the economy over time lead to the creation of new activities, products and services or to an increase in the importance of certain economic areas of activity that require a more detailed approach.

One of the main tasks of international and national statistical bodies is to monitor changes that occur in the economy and society, and for which statistical data are collected and systematised for the purposes of conducting various policies. Depending on the results of analyses carried out, revisions of statistical classifications are initiated whenever deemed necessary. Mostly, only additional methodological issues are discussed that determine whether new solutions are better or not. The intervals between revisions should not be too long, as the importance of classification decreases over time, but also not too short, due to negative effects they could impose on consistency of time series.

The general objectives of revisions as follows:

- removing weaknesses in existing versions of classifications in the ISCAP system,
- reflecting changes in the technology or organisation of the economy,
- meeting new and continued requirements for various data,
- achieving greater comparability with or consistency between different classifications (primarily ISIC – NACE – NAICS, but also ANZICS, JSIC and NatSIC).

Revision of NACE classification

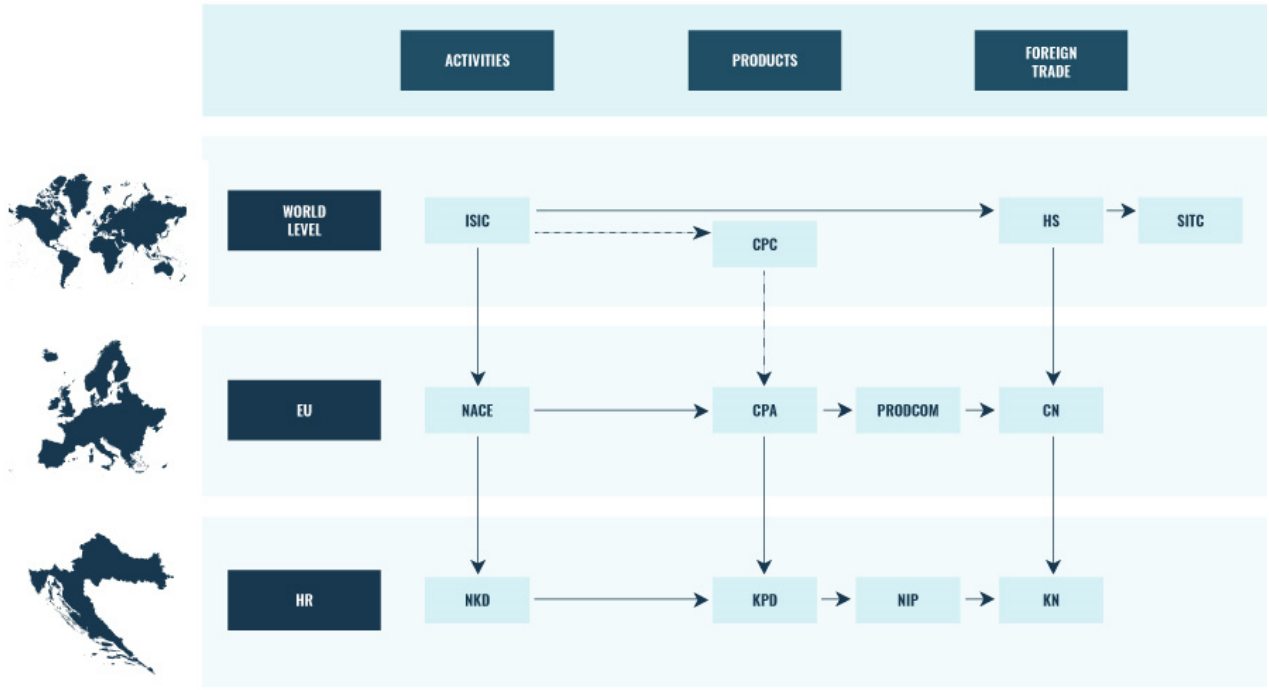
Changes in the economy, as well as continuous technological development, result in the creation of new activities and products that can replace existing activities and products. Such changes that occur in society present a constant challenge for the creation of statistical classifications. Any revision of the classification, especially if it involves structural changes, leads to breaks in time series.

Revisions apply to all classifications of the Integrated System of Economic Classifications.

The main criteria for initiating a revision are the following:

- relevance to the current world economy,
- better comparability with other national and international classifications
- continuity with its previous versions.

IMAGE 19 SCHEMATIC DISPLAY OF INTERNATIONAL BREAKDOWN OF THE INTEGRATED SYSTEM OF CLASSIFICATIONS OF ACTIVITIES AND PRODUCTS – ISCAP



ISIC

ISIC is the International Standard Industrial Classification of All Economic Activities that allows units to be classified by their activities. The ISIC categories are described at the most detailed level (classes) according to what, in most countries, is a common combination of activities performed by statistical units.

ISIC is applied in collecting, processing and presenting statistics on economic activities worldwide and provides a framework for the international comparison of national statistics. Related classifications are: SITC, CPC, COFOG, NACE, CPA, HS, NKD and KPD.

NACE

NACE is the statistical Classification of Economic Activities in the European Community, which provides a framework for the collection and presentation of a large number of statistical data by economic activities, primarily in the area of economic statistics, but also in other statistical domains.

It is derived from the International Standard Industrial Classification of All Economic Activities (ISIC) and although it is more disaggregated than ISIC, it is fully compatible with it and can be considered as its European version. Related classifications are: ISIC, CPA, PRODCOM, SITC, CN, NKD, CPA, NIP and NIPUM.

CPC

The Central Product Classification is a product classification recommended for global application and has five hierarchical levels. It also covers goods and services, with goods being defined on the basis of elements of the Harmonised System. There is no modular relationship with the basic classification for the service sector, as the CPC is the first classification to be created as part of the revision in the 90s and includes all services.

CPA

The CPA is the European version of the UN Central Product Classification (CPC). While the CPC is only a recommended classification, the CPA is, however, a legally binding classification in the EU. The CPA is different from the CPC because it is more detailed and has a different structure. The structure of the CPA is based on the economic origin of the product, with a framework based on NACE classification. Related classifications are: ISIC, CPC, HS, NACE, PRODCOM, CN, NKD, CPA, NIP and NIPUM.

CN

CN is the classification of goods applied within the EU for the purpose of trade in goods statistics. It is also used by the European Commission's Directorate-General for Taxation and Customs Union for customs purposes. The classification is maintained by Eurostat for statistical purposes and by the Directorate-General for Taxation and Customs Union for tariff purposes. As a Council Regulation, it is binding on EU Member States.

The classification is based on the Harmonised System (HS). CN was introduced in 1998 together with the HS. Related classifications are: HS, CPC, CPA, ISIC, NACE, SMTK, PRODCOM, CPA, NIP and NKD.

PRODCOM

PRODCOM is the name for EU production statistics for the domains mining and quarrying, manufacturing and distribution of electricity, gas and water of the statistical Classification of Economic Activities in the European Community (NACE). The PRODCOM List headings are derived from the Harmonised System (HS) or the Combined Nomenclature (CN), which allows comparisons between production statistics and foreign trade in goods statistics. PRODCOM titles are marked with an eight-digit code, the first six digits of which are, as a rule, identical to the CPA code. The PRODCOM List is therefore linked and consistent with the Central Product Classification.

5. Checklist for verification of statistical classifications

Classification status

Should the classification be standard or should it be adapted for specific data collection in a particular domain? What should be the name?

To collect what data will this classification be used?

Is it specialised for collection of a particular type of data?

Will it be used in administrative data sources, as well as for sampling and census purposes? What are the possible uses for non-statistical purposes?

What basic concepts are used in this classification? How are the concepts defined?

Which statistical units are classified?

What will be the reporting units?

Are there other concepts that are closely related to the classification?

Classification coverage

What is the coverage of the classification?

Primary uses of the classification

Is classification primarily used as a data collection and processing tool?

Is classification primarily used as a tool for conducting statistical analysis?

Will the assigned classification category affect the determination of administrative obligations and the classification of the statistical unit?

Consultation with users

Should a reference group of key users and/or subject-matter experts be established?

(This group should be consulted on the content, scope and structure).

Should a statistical advisory group of stakeholders be set up? (This group should be consulted on the relevance of the statistics that can be produced using the classification). How will conflicting user requirements or application be resolved?

What are the classification criteria? Are they compatible?

According to what criteria were they selected?

What compromises have been made to meet the specific requirements of individual users?

Classification structure

Does the structure have an appropriate number of levels?

Are compromises necessary for statistical feasibility or statistical balance? Can these problems be better addressed through data collection and processing tools and/or in the preparation of statistics than during structuring of classification?

What is the compatibility with other statistical concepts and classifications, and comparability with international standards?

Are the proposed categories well defined?

Are they mutually exclusive and sufficiently detailed when taking into account the descriptive definitions and explanatory notes as well as the coding instructions?

Are the names chosen for the categories sufficiently precise and appropriate?

Appropriateness of the code structure

Is the code structure appropriate?

Are specific conventions proposed or required for codes?

Do you need additional codes?

Are the remaining categories specified and used appropriately?

Correlation with other classifications

Are there (other) relevant international standards?

What is the correlation between classifications and any other classification?

Statistical balance

Should the creation of a classification include setting the ideal minimum values by category for each level?

Sources

1. ESS classifications and code lists, May 2020
2. Eurostat – Inventory of International Statistical Classifications, 1999 Edition
3. Eurostat's website, section Classifications
4. KLASUS – application and classification database on the website of the Croatian Bureau of Statistics

   KLASUS – Users' Manual
5. Neuchâtel Terminology Model, version 2.1
6. UN Generic Statistical Information Model – GSIM, version 1.2, New York, May 2015