Objectives and characteristics of the application of HSCO–93

The economic and social transition in Hungary required the modernisation of multipurpose statistical classifications and nomenclatures. Revision of the Hungarian Standard Classification of Occupations (HSCO) which was used in its earlier form from 1975 belongs to this group, too.

The principles and the structure of the modernised system of classification of occupations (further on: HSCO) is in line with the system of the current international occupational classification, ISCO–88 (Rev. 3.). One of the main aims of ISCO is to serve as a model for the development of national occupational classifications. It does not mean, however, that ISCO–88 could replace national classifications of occupations, since national classifications of individual countries should reflect the structure of the national labour market.


Modifications and completion resulting from the revision and carried out in 1996 did not concern the principles and structure of the new classification system and did not break up major groups and sub-major groups which are important in respect of statistical evaluation and international comparability. The number of classified occupations changed in a small degree. According to the modifications in force the revised system contains 632 occupations.

The main characteristics of the system are as follows:

- HSCO–93 complies with the classification system of ISCO–88. HSCO–93 adopted major groups of the current international classification (ISCO–88) without any remarkable modification. Sub-major groups (second digit) are developed also in a way – in certain cases by reduction – that groups of ISCO–88 could be formed of them. (Correspondence tables between ISCO–88 and HSCO–93 can be elaborated in deeper detail but in these cases we have to reckon with methodological problems.) But at further levels of aggregation it was possible and it was necessary to take into consideration particular characteristics and demands of the Hungarian national economy. Moreover, it seemed to be reasonable to assert the claim to continuity and comparability to the previous nomenclature. Thus, it is not surprising that there are details in the Hungarian classification which deviate from the recommendations of the ISCO–88 to a certain extent – and these deviations mostly mean more detailed breaking down. Greater specification is glaring in particular on the fourth level which contains the itemised list of occupations;
- it is a four-digit, decimal system;
- it takes into consideration that the circle of users in a market economy is much greater and more differentiated than it was in the preceding social system, and for
that reason it forms „the common denominator”, it tries to satisfy all of the
requirements at least on a minimal level;
• the system of HSCO–93 is open, that is to say it provides opportunity for users to
complete the codes with further divisions at the fifth and sixth digit in accordance with
their own requirements.

Within the four-digit decimal system the first digit stands for major group of
occupations, the second one for sub-major group, the third one for minor group and the
fourth one for the occupation itself. (In the table modified data are marked by bold, italics
numbers.) Classifications of HSCO–93 are presented below:

Design and structure of HSCO–93

<table>
<thead>
<tr>
<th>serial number</th>
<th>name</th>
<th>Sub-major groups</th>
<th>Minor groups</th>
<th>Unit groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Legislators, senior government officials, leaders of interest groups and managers of firms</td>
<td>4</td>
<td>11</td>
<td>64</td>
</tr>
<tr>
<td>2.</td>
<td>Professionals</td>
<td>7</td>
<td>24</td>
<td>112</td>
</tr>
<tr>
<td>3.</td>
<td>Technicians and associate professionals</td>
<td>8</td>
<td>24</td>
<td>123</td>
</tr>
<tr>
<td>4.</td>
<td>Office and management (customer service) clerks</td>
<td>2</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>5.</td>
<td>Service workers</td>
<td>3</td>
<td>13</td>
<td>62</td>
</tr>
<tr>
<td>6.</td>
<td>Skilled agricultural and forestry workers</td>
<td>4</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>7.</td>
<td>Craft and related trades workers</td>
<td>6</td>
<td>23</td>
<td>120</td>
</tr>
<tr>
<td>8.</td>
<td>Plant and machine operators and assemblers, vehicle drivers</td>
<td>3</td>
<td>17</td>
<td>76</td>
</tr>
<tr>
<td>9.</td>
<td>Elementary occupations</td>
<td>2</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>0.</td>
<td>Armed forces</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>42</td>
<td>136</td>
<td>632</td>
</tr>
</tbody>
</table>

HSCO–93 is an open occupational nomenclature, it can be completed by users. Due to this principle users have the opportunity to make their own registering system more perfect and more clearly arranged. Besides the four digits, the way of application of possible further digits are determined by the given demands and conditions of users. (In these cases factors like size, scope of activity, type of registering system of the organisation and especially the computerised registering system already working or being under development play important roles obviously.)

Since occupations of HSCO–93 at the fourth digit are basically „collective” occupations (most of them consist of more than one occupation), it is obvious that these occupations can be detailed further on by users according to their own interests and aims. For this purpose they can use the publication entitled „Content description of the
occupations of HSCO–93", too, in which description of more than 4000 jobs can be found. An alphabetical list also helps users to find a certain sphere of activity. Considering that individual occupations can be divided into even more than ten duties (because of their complex character) it is practical to set apart two digits for the specification of duties (e.g. the fifth and sixth digits).

Further digits can be used for marking the level of skill and duty of the person pursuing a given occupation. Though HSCO–93 provides direction regarding that e.g. occupations of major groups 5–8 require skilled or semi-skilled qualification and occupations of major group 9 can be executed without any qualification, it does not prescribe exact qualification level by individual occupations. For that reason users can indicate the skill level belonging to a given occupation (skilled, semi-skilled or unskilled job) at further digits of occupations. Further specifications are also possible regarding the complexity of the set of tasks. Besides, in case of managerial occupations of major group 1 – especially in case of managers of small organisational units and product line managers – the size of the organisational unit and other main characteristics of the occupation can be indicated, too.

Moreover, users have opportunity – using further digits – to give the level, branch, specialisation of education, skill, qualification acquired through courses, knowledge of foreign languages, and so on.

**Principles of classification**

Occupation and content of the activity should be considered **irrespective of ownership and status in employment** (employee, employer, own-account worker, member of co-operative). In respect of classification it is indifferent whether a person pursuing a profitable activity works as an employee, a member of co-operative, a member of partnership or a self-employed one. However, an owner (employer), a co-partner, a member of partnership can be classified into the occupational system only if they participate in the work as well. In the course of classification industrial and organisational classifications were not necessary to be taken into account in general, but in certain cases it seemed to be practical to follow the logical structure of System of Standard Industrial Classification of Activities. Thus, in modernised HSCO there can be found occupations in case of which we should take into consideration the activity and type of organisation of employer.

In accordance with the above mentioned, one of the most important principle of HSCO–93 is that **the content of the activity actually pursued** is considered first of all when defining an occupation. Besides, the level of skill and knowledge required to pursue a given occupation is also an important criterion of classification. Thus, using the required level of qualification – belonging to occupations included in the system – as subsidiary information is unavoidable. It means basically the level of skill (the ability to execute the tasks and duties of a given job) and not the certificate or diploma acquired through formal education.

Nevertheless, **in case of major groups 2–9 HSCO–93 applies the criterion of education**. But it should not be regarded as an exclusive criterion of classification and handled irrespective of content elements. Accordingly, it can be stated only in general and as a guiding principle that according to the current approach major group 2 contains occupations requiring mostly university or college degree. In major group 3 skills which can be acquired in secondary schools providing technical knowledge are characteristic mostly, but activities requiring higher education also can be classed in this group. In major
group 4 qualifications of secondary schools providing no specialised skills and that of technical schools (e.g. shorthand typing) are typical. In major groups 5-8 people using their physical skills can be classified. The level of required knowledge, depending on the type of activity, can be quite different, from complex skilled works to semi-skilled works. Major group 9 contains those occupations which can be carried out without any qualification, with – and partly without – primary school degree. Occupations of major group 1 – in contrast to other major groups – are mostly independent of the level of education.

In the course of classification of occupations qualification is considered as an auxiliary criterion in general. On the other hand we found it necessary to analyse the degree of independence in decision making. This consideration becomes especially important in cases where it is difficult to make a mechanical distinction between occupations on the basis of educational criteria. As to HSCO–93, problems of classification can emerge especially in case of major groups 2, 3, 7 and 8, which can be solved by analysing the degree of possibility of decision making and the degree of responsibility.

It should be noted, that in line with international recommendations, HSCO–93 does not make distinction between intellectual and manual activities. Nevertheless, we can say that major groups 1–4 include mostly intellectual, while major groups 5–9 include mostly manual occupations, and it is possible to distinguish between these two kinds of activities in major group 0, too. (If the user has further needs, it is possible to classify manual and non-manual activities in an other way at further digits.)
Main considerations of classification of occupations in individual major groups

Major group 1
Legislators, senior government officials, leaders of interest groups and managers of firms

In HSCO–93 managerial occupations belong to one major group and the system does not set apart separate digits in other major groups for managerial category. According to the conception of HSCO–93 managerial activity is not a duty but it forms a particular circle of occupations, thus it deserves a separate major group in the standard system of occupations. (The international classification system of occupations follows this solution, too.) A further characteristic of managerial occupations is, as mentioned earlier, that the level of education should not be applied even as a recommendation, considering that managerial tasks in principal can be executed by different qualifications (except those cases, of course, which require specific qualifications by statute).

Major group 2
Professionals

Major group 2 covers occupations whose main tasks require higher level of education. Since it is becoming increasingly common that research and its application do not separate from each other sharply, HSCO–93 does not make distinction in general between occupations of research type and those of application type in case of occupations of technical, health, natural or social science.

An important viewpoint of the classification in HSCO–93 is that it classifies people working in public administration and interest groups according to the professional field of their real activity.

Major group 3
Technicians and associate professionals

In major group 3 occupations not requiring university or college degree are included. Practically the occupations belonging to this major group help and complete activities classed in the second major group and they require lower than university level qualification in general. Thus major group 3 shows a more heterogeneous picture concerning educational level than other major groups. Therefore, it is of special importance that occupations of this major group are determined by type of the duty, degree of independence in work, and possibility or lack of decision making, besides the level of qualification.
Major group 4
Office and management (customer service) clerks

This major group includes those clerical and office management occupations which usually require secondary or technical school qualification. Mainly those classic administrative occupations belong to this group which are related with registering, administration of funds, or routine information.

Major group 5
Service workers

This major group contains basically physical occupations relating to material and non-material services. These occupations require skills (professional qualifications acquired through formal education or practice) and experiences appropriate to the content of the job pursued.

Major group 6
Skilled agricultural and forestry workers

Agricultural and forestry occupations are included in one major group in HSCO–93.

Major group 7
Craft and related trades workers

This major group includes occupations requiring craft and related trades knowledge and experience. The characteristics of these occupations are: knowledge of materials and tools used and instruments applied in the course of working process, knowledge of individual stages of the production process and attributes of the production or service, experience of intended using and the possibility to choose materials, tools and operation.

Major group 8
Plant and machine operators and assemblers, vehicle drivers

This major group contains occupations whose main tasks require knowledge and experience necessary to operate often automated machines or to drive vehicles. Occupations belonging to this major group require different levels of education and experience depending on type of the job carried out. (Thus, both skilled and semi-skilled workers can be classified in this group.)
Major group 9
Elementary occupations

Major group 9 includes occupations whose tasks do not require any qualification and people in this group perform simple and routine tasks in some cases requiring considerable physical effort and generally accompanied with limited personal initiative and decision making.

Major group 0
Armed forces

This major group includes regular and contractual members of armed forces (Hungarian Army, Frontier Guards), civil national security services, police force organs (police, civil defence, customs and finance guards, penal authorities, state fire-service or professional fire-services of local governments) who pursue their activity in order to carry out the tasks of a given armed organ according to their duty and cannot be classed among other major groups.
HUNGARIAN STANDARD CLASSIFICATION OF OCCUPATIONS

Numbers marked with * are not in use anymore according to the modifications in force from 1st January, 1997.

1 LEGISLATORS, SENIOR GOVERNMENT OFFICIALS, LEADERS OF SPECIAL-INTEREST ORGANISATIONS AND MANAGERS OF FIRMS

11 LEGISLATORS, SENIOR GOVERNMENT OFFICIALS, SENIOR OFFICIALS OF NATION-WIDE SPECIAL-INTEREST ORGANISATIONS

111 Legislators, ministers, political under-secretaries
   1110 Legislators, ministers, political under-secretaries

112 Senior officials of nation-wide public administration and jurisdiction
   1121 Upper-level leaders of public administration and jurisdiction
   1122 Medium-level leaders of public administration and jurisdiction

113 Senior officials of nation-wide special-interest and other organisations
   1131 Senior officials of political party organisations
   1132 Senior officials of economic and professional-interest organisations
   1133 Senior officials of humanitarian, welfare and other organisations
   1134 Nation-wide religious leaders

12 SENIOR OFFICIALS OF REGIONAL AND LOCAL SELF-GOVERNMENT, PUBLIC ADMINISTRATION, JURISDICTION AND SPECIAL-INTEREST ORGANISATIONS

121 Senior officials of local self-government
   1211 Elected senior officials of local self-government
   1212 Appointed upper-level leaders of local self-government
   1213 Appointed medium-level leaders of local self-government

122 Senior officials of regional public administration and jurisdiction
   1221 Upper-level leaders of regional public administration and jurisdiction
   1222 Medium-level leaders of regional public administration and jurisdiction

123 Senior officials of regional special interest and other organisations
   1231 Senior officials of regional political-party organisations
   1232 Senior officials of regional economic and professional-interest organisations
   1233 Senior officials of regional humanitarian, welfare and other organisations
   1234 Regional religious leaders

13 MANAGERS OF BUSINESSES AND BUDGETARY INSTITUTIONS

131 General managers of business organisations and budgetary institutions
   1311 General managers of business organisations (directors, executive managers)
   1312 General managers of budgetary institutions
132-133 Department managers of business organisations and budgetary institutions
   1321 Department managers in agriculture and forestry
   1322 Department managers in manufacturing
   1323 Department managers in construction
   1324 Department managers in wholesale and retail trade
   1325 Department managers of restaurants and hotels
   1326 Department managers in transport, forwarding and storage
   1327 Department managers in communications and postal services
   1328 Department managers in water supply and communal services
   1331 Department managers in business services
   1332 Department managers in personal care and cleaning services
   1333 Department managers in health care and welfare services
   1334 Department managers in education
   1335 Department managers in cultural services
   1339 Department managers in production and services n.e.c.

134 Managers of functional units in business organisations and budgetary institutions
   1341 Marketing managers
   1342 Accountancy and finance managers
   1343 Human resources (personnel) managers
   1344 Advertising and other public relations managers
   1345 Supply and distribution managers
   1346 Technical managers
   1347 Computing services managers
   1348 Research and development managers
   1349 Functional unit managers n.e.c.

135 Production supervisors of business organisations and budgetary institutions
   1351 Supervisors in agriculture and forestry
   1352 Supervisors in manufacturing
   1353 Supervisors in construction
   1354 Supervisors in wholesale and retail trade, restaurants and hotels
   1355 Supervisors in transport, forwarding and storage
   1356 Supervisors in communications and postal services
   1357 Supervisors in water supply and communal services
   1358 Supervisors in services
   1359 Production supervisors n.e.c.

14 GENERAL MANAGERS OF SMALL ENTERPRISES AND BUDGETARY INSTITUTIONS

141-142 General managers of small business undertakings (directors, chairpersons, managing directors, managers)
   1411 General managers of small undertakings in agriculture and forestry
   1412 General managers of small undertakings in manufacturing
   1413 General managers of small undertakings in construction
   1414 General managers of small undertakings in wholesale and retail trade
   1415 General managers of small undertakings in restaurants and hotels
   1416 General managers of small undertakings in transport, forwarding and storage
   1417 General managers of small undertakings in communications
   1418 General managers of small undertakings in water supply and communal services
   1421 General managers of small undertakings in business services
1422  General managers of small undertakings in personal care and cleaning services
1423  General managers of small undertakings in health care and welfare services
1424  General managers of small undertakings in educational services
1425  General managers of small undertakings in cultural services
1429  General managers of small undertakings n.e.c.
2 PROFESSIONALS

21 ENGINEERING AND NATURAL SCIENCE PROFESSIONALS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>211-212</td>
<td>Engineers, graduate engineers (engineering technologists)</td>
</tr>
<tr>
<td>2111</td>
<td>Mining engineers</td>
</tr>
<tr>
<td>2112</td>
<td>Surveyors and GIS (Geographical Information System) engineer</td>
</tr>
<tr>
<td>2113</td>
<td>Food and beverage industry engineers</td>
</tr>
<tr>
<td>2114</td>
<td>Wood and light industry engineers</td>
</tr>
<tr>
<td>2115</td>
<td>Chemical engineers</td>
</tr>
<tr>
<td>2116</td>
<td>Metallurgical engineers</td>
</tr>
<tr>
<td>2117</td>
<td>Mechanical engineers</td>
</tr>
<tr>
<td>2118</td>
<td>Electrical engineers</td>
</tr>
<tr>
<td>2119</td>
<td>Light-current (electronic) and telecommunications engineers</td>
</tr>
<tr>
<td>2122</td>
<td>Transport engineers</td>
</tr>
<tr>
<td>2123</td>
<td>Architects</td>
</tr>
<tr>
<td>2124</td>
<td>Civil engineers</td>
</tr>
<tr>
<td>2125</td>
<td>Agricultural (horticultural) engineers</td>
</tr>
<tr>
<td>2126</td>
<td>Forestry and nature reserve engineers</td>
</tr>
<tr>
<td>2127</td>
<td>Environmental protection engineers</td>
</tr>
<tr>
<td>2129</td>
<td>Engineers, graduate engineers n.e.c.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>213</td>
<td>Computing and electronic data processing professionals</td>
</tr>
<tr>
<td>2131</td>
<td>Computer science professionals (e.g. systems-analysts, operations-research analysts)</td>
</tr>
<tr>
<td>2132</td>
<td>Electronic data processing organizers</td>
</tr>
<tr>
<td>2133</td>
<td>Software developers</td>
</tr>
<tr>
<td>2139</td>
<td>Other computing professionals with third-level qualification, n.e.c.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>214</td>
<td>Natural science professionals</td>
</tr>
<tr>
<td>2141</td>
<td>Physicists</td>
</tr>
<tr>
<td>2142</td>
<td>Astronomers</td>
</tr>
<tr>
<td>2143</td>
<td>Meteorologists</td>
</tr>
<tr>
<td>2144</td>
<td>Chemists</td>
</tr>
<tr>
<td>2145</td>
<td>Pharmacologists</td>
</tr>
<tr>
<td>2146</td>
<td>Geologists, geophysicists</td>
</tr>
<tr>
<td>2147</td>
<td>Mathematicians</td>
</tr>
<tr>
<td>2148</td>
<td>Biologists, botanists, zoologists, ecologists</td>
</tr>
<tr>
<td>2149</td>
<td>Natural science professionals n.e.c.</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>219</td>
<td>Engineering science professionals n.e.c.</td>
</tr>
<tr>
<td>2190</td>
<td>Engineering science professionals n.e.c.</td>
</tr>
</tbody>
</table>
22 HEALTH PROFESSIONALS

221 Physicians, pharmacists
   2211 General practitioners
   2212 Specialized medical doctors
   2213 Dentists
   2214 Specialized dentists
   2215 Pharmacists
   2216 Specialized pharmacists

222 Human health related professionals
   2221 Public hygiene supervisors
   2222 Optometrists
   2223 Dieticians
   2224 Physiotherapist
   2225 Institution based nurses
   2226 Ambulance attendance
   2229 Human health related professionals n.e.c.

223 Professional nurses
   2230 Professional nurses

224 Animal health professionals
   2240 Veterinarians

23 WELFARE AND LABOUR MARKET SERVICE PROFESSIONALS

231 Welfare politician
   2310 Welfare politician

232 Welfare workers
   2321 Welfare workers
   2322 Specialized welfare workers (e.g. in mental hygiene, gerontology, rehabilitation counselling)

233 Occupations in employment and career counselling
   2331 Employment counsellors
   2332 Career counsellors

24 TEACHING PROFESSIONALS

241 Third-level education teaching professionals
   2410 Third-level education teaching professionals (e.g. university or college professors, associate professors, assistant professors)

242 Secondary education teaching professionals
   2421 Secondary school teachers, instructors
   2422 Secondary level vocational training instructors
   2429 Secondary education teaching professionals n.e.c.
243 Primary, pre-primary and other education teaching professionals
  2431 Primary school teachers
  2432 Kindergarten teachers
  2439 Primary education teaching professionals n.e.c.

244 Special education teaching professionals
  2441 Teachers for the handicapped
  2442 Teachers for the physically disabled
  2443 Health educators
  2449 Special education teaching professionals n.e.c. (e.g. psycho-pedagogical teachers)

249 Other teaching professionals n.e.c.
  2491 Education specialists, school inspectors
  2499 Teaching professionals n.e.c. (e.g. welfare instructors, vocational training instructors in a company, irrespective of the educational level)

25 BUSINESS, LEGAL AND SOCIAL SCIENCE PROFESSIONALS

251-252 Business professionals
  2511 Economists
  2512 Tax advisors, consultants
  2513 Financial and credit organizers
  2514 Auditors
  2515 Plant economists, management organizers
  2516 Statisticians
  2517 Trade organizers
  2518 Auditors
  2521 Market researcher, advertising and PR occupations
  2522 Commercial sales representatives
  2523 Personnel organizers
  2529 Business professionals n.e.c.

253 Legal professionals
  2531 Lawyers, legal advisors
  2532 Prosecutors
  2533 Judges
  2534 Notaries
  2535 Attorneys
  2536 Patent officer

254 Social science professionals
  2541 Philosophers
  2542 Political scientists
  2543 Historians, archaeologists
  2544 Ethnographers
  2545 Sociologists, demographers
  2546 Philologists, literary historians
  2547 Psychologists
  2549 Social science professionals n.e.c.
26 CULTURAL, SPORT, ARTISTIC AND RELIGIOUS PROFESSIONALS

261 Cultural and sport professionals
   2611 Librarians
   2612 Archivists
   2613 Curators (restorers, taxidermists)
   2614 Cultural organizers
   2615 Book and newspaper editors
   2616 Journalists
   2617 Broadcasting editors (radio & TV)
   2618 Qualified coaches, sport organizers/coordinators
   2619 Cultural professionals n.e.c.

262 Creative artists
   2621 Writers (except journalists)
   2622 Literary translators
   2623 Sculptors, painters and related artists
   2624 Industrial designers
   2625 Composers
   2626 Film, stage and related directors
   2627 Cameramen, artistic photographers
   2629 Creative artists n.e.c.

263 Performing artists
   2631 Actors, stage performing artists, puppet artists
   2632 Musicians, singers
   2633 Choreographers, dancers
   2639 Performing artists n.e.c.

264 Religious professionals
   2640 Priests, religious professionals

29 PROFESSIONALS N.E.C.

291 Professionals n.e.c.
   2910 Professionals n.e.c.
3 TECHNICIANS AND ASSOCIATE PROFESSIONALS

31 TECHNOICIANS AND RELATED ASSOCIATE PROFESSIONALS

311-312 Technicians
  311 Mining technicians
  3112 Surveying and GIS (Geographical Information System) technicians
  3113 Food and beverage industry technicians
  3114 Wood and light industry technicians
  3115 Chemical engineering technicians
  3116 Metallurgical technicians
  3117 Mechanical engineering technicians
  3118 Power-current (electrical) engineering technicians
  3121 Light-current (electronics) engineering technicians
  3122 Transportation technicians
  3123 Construction technicians
  3124 Agricultural (horticultural) technicians
  3125 Forestry and natural reserve technicians
  3126 Environmental protection technicians
  3129 Technicians n.e.c.

313 Computer associate professionals
  3131 Computer-network operators
  3132 Computer programmers
  3133 Database managers
  3139 Computer associate professionals n.e.c.

314 Programmers, dispatchers
  3141 Schedule programmers
  3142 Dispatchers

315 Occupations in plant maintenance
  3151 Energy planning occupations
  3152 Industrial safety occupations prevention of industrial accidents
  3153 Manufacturing equipment distribution occupations
  3154 Plant maintenance and safety occupations
  3155 Time-study, norm-estimating occupations
  3159 Occupations in plant maintenance n.e.c.

316 Functional directing occupations in transportation, postal and communications services
  3161 Captains, shipmasters (sea and river)
  3162 Ships' deck officers, steersmen
  3163 Pilots, flight engineers
  3164 Air traffic controllers
  3165 Functional directing occupations in land transport
  3166 Functional directing occupations in postal and communications services

319 Other technical associate professionals n.e.c.
  3191 Technical innovation associate professionals
  3192 Quality, technological and safety inspectors
  3193 Material and product testers, qualified laboratory assistants
3194 Draughtspersons
3199 Technical associate professionals n.e.c.

32 HEALTH ASSOCIATE PROFESSIONALS

321 Nurses
  3211 General nurses
  3212 Specialized nurses

322 Personal care workers
  3221 Personal care workers
  3222 Specialized personal care workers

323 Medical assistants
  3231 General medical assistants
  3232 Specialized medical assistants
  3233 Dental assistants
  3234 Pharmaceutical assistants
  3235 Specialized medicine supply assistants
  3239 Medical assistants n.e.c.

324 Occupations related to human health protection
  3241 Public health, epidemics inspectors
  3242 Midwives
  3243 *
  3244 Dieticians
  3245 *
  3246 *
  3247 *
  3248 Dental mechanic

325 Occupations related to animal health protection
  3250 Veterinary assistants

33 WELFARE AND LABOUR MARKET SERVICES OCCUPATIONS

331 Welfare associate professionals
  3311 Welfare assistants
  3312 Mental hygiene assistants
  3313 Welfare care workers
  3314 Professional foster-parents
  3315 Welfare and child protection official in charge
  3319 Welfare associate professionals n.e.c.

332 Labour market services occupations
  3320 Labour market services occupations

34 TEACHING ASSOCIATE PROFESSIONALS
341 Teaching associate professionals
   3411 Teachers without third-level qualification
   3412 Child- and youth-care associate professionals
   3413 Pedagogical assistants
   3414 Health education assistants
   3415 Assistant for the education of the challenged/handicapped
   3419 Teaching associate professionals n.e.c.

35 LEGAL, LIFE AND PROPERTY PROTECTION SERVICES ASSOCIATE PROFESSIONALS

351 Legal clerks
   3511 Law clerks, court reporters
   3512 Candidate lawyers
   3513 Bailiffs
   3519 Legal clerks n.e.c.

352 Life and property protection associate professionals
   3521 Fire prevention clerks
   3522 Customs and government excise officers
   3523 Factory protection officials
   3524 Civil defense occupations
   3525 Detectives, private detectives
   3529 Life and property protection associate professionals n.e.c.

36 BUSINESS AND FINANCIAL INTERMEDIATION CLERKS

360-361 Business clerks
   3601 General secretaries
   3602 Administrative clerks
   3603 Personnel clerks
   3604 Wage and social security accounting clerks
   3605 Finance clerks
   3606 Accounting clerks
   3607 Statistical clerks
   3608 Planning clerks
   3611 Investment clerks
   3612 Post office and communications clerks
   3613 Real estate maintenance (caretaking) clerks
   3619 Business clerks n.e.c.

362 Trade and sales clerks
   3621 Trade clerks
   3622 Exhibition and advertising clerks
   3623 Materials control clerks, buyers
   3624 Stock and management clerks
   3625 *
   3626 Agents (services, sales)
   3627 Valuers, auctioneers
   3629 Trade and sales clerks n.e.c.
363 Financial intermediation and insurance clerks
   3631 Bank financing clerks
   3632 Payment and deposit clerks
   3633 Cash and securities clerks
   3634 Insurance clerks
   3635 Brokers and dealers
   3639 Financial intermediation clerks n.e.c.

364 Tourist agency, catering trade and related clerks
   3641 Travel consultants and organisers, travel agency clerks
   3642 Guides
   3643 Hotel porters, receptionists
   3644 Hostesses
   3649 Tourist agency clerks n.e.c.

37 CULTURAL, SPORT, ARTISTIC AND RELIGIOUS ASSOCIATE PROFESSIONALS

371 Cultural and sport associate professionals
   3711 Library assistants
   3712 Archivist assistants
   3713 Cultural organizer assistants
   3714 Broadcasting (radio, TV) assistant editors
   3715 Book and newspaper assistant editors
   3716 Professional sportsman and sportswoman, sports assistants
   3717 Translators, interpreters
   3719 Cultural associate professionals n.e.c.

372 Artistic associate professionals
   3721 Supporting actors
   3722 Film, stage and related assistant directors
   3723 Folk musicians
   3724 Restaurant and night-club musicians
   3725 Circus artists
   3729 Artistic associate professionals n.e.c.

373 Religious associate professionals n.e.c.
   3730 Religious associate professionals n.e.c.

39 CLERKS N.E.C.

391 Clerks n.e.c.
   3910 Clerks n.e.c.
4 OFFICE AND MANAGEMENT (CUSTOMER SERVICES) CLERKS

41 OFFICE CLERKS

411 Analytic accounting clerks
   4111 Analytic bookkeeping clerks
   4112 Payroll clerks
   4119 Analytic accounting clerks n.e.c.

412 Office filing clerks
   4121 Stock clerks
   4122 Financial, personnel clerks
   4123 Library and archive stock clerks, other filing clerks
   4129 Office filing clerks n.e.c.

419 Other office clerks
   4191 Secretaries
   4192 Stenographers, typists
   4193 Office administrators, clerical writers
   4194 Office photocopying machine operators
   4199 Office clerks n.e.c.

42 MANAGEMENT (CONSUMER SERVICES) CLERKS

421 Tellers, cashiers
   4211 Postal and bank tellers
   4212 Shop cashiers
   4213 Ticket clerks
   4219 Tellers, cashiers n.e.c.

422 Electronic data processing administrative occupations
   4220 Electronic data processing administrative occupations

429 Other management (consumer services) clerks
   4291 Client information clerks
   4292 Telephone, telex and telefax operators
   4299 Other management (customer services) clerks n.e.c.
5 SERVICES WORKERS

51 WHOLESALE AND RETAIL TRADE, HOTELS AND RESTAURANTS WORKERS

511 Wholesale and retail trade workers
   5111 Shopkeepers
   5112 Shop assistants
   5113 Market and stall salespersons, street vendors
   5114 Occupations in making up consignment of goods
   5115 Buyers/receivers, merchandises
   5116 Display and decoration designers, demonstrators (e.g. fashion models)
   5119 Wholesale and retail trade workers n.e.c.

512 Hotels and restaurants workers
   5121 Restaurant managers, restaurateurs
   5122 Confectioners
   5123 Waiters, restaurant salespersons
   5124 Cooks
   5125 Chambermaids
   5129 Hotels and restaurants workers n.e.c.

52 TRANSPORT, POSTAL AND COMMUNICATIONS WORKERS

521 Transport workers
   5211 Conductors, sleeping-car conductors
   5212 Ticket inspectors
   5213 Travel stewards, air-hostesses
   5214 Traffic dispatchers
   5219 Transport workers n.e.c.

522 Occupations related to driving of vehicles
   5221 Train driver assistants
   5222 Railway brakers, shunters
   5223 Switchmen
   5224 Train receivers
   5229 Occupations related to driving of vehicles n.e.c.

523 Communications workers
   5231 Mail carriers
   5232 Travelling post office handlers
   5233 Postal truck driver helpers
   5234 Telecommunications workers
   5235 *
   5239 Communications workers n.e.c.
53  NON-MATERIAL SERVICE WORKERS

531  Personal services workers
   5311  Hairdressers, barbers
   5312  Cosmetologists
   5313  Manicurists, pedicurists
   5314  Masseurs
   5315  Housekeepers
   5316  Dry cleaners, dyers
   5319  Personal services workers n.e.c.

532  Health and educational services workers
   5320  Health and educational services workers (e.g. assistant nurses, ambulance men, hospital orderlies, nannies)

533  Welfare services workers
   5330  Welfare services workers (e.g. communal or home based personal care workers)

534  Cultural, sports and entertainment services workers
   5341  Photographers, photo and film developers
   5342  Light technicians and other motion picture workers
   5343  Scenery shifters
   5344  Cinema projectionists
   5349  Cultural, sports and entertainment services workers n.e.c.

535  Housing and communal services workers
   5351  Heating maintenance workers and chimney sweeps
   5352  Janitors, building concierges
   5353  Health exterminators
   5354  Funeral services workers
   5355  Public place inspectors
   5359  Housing and communal services workers n.e.c.

536  Protective services workers
   5361  Policemen
   5362  Fire-fighters
   5363  Penal enforcement warden
   5364  Natural reserve wardens
   5365  Bodyguards
   5366  Security guards
   5369  Protective services workers n.e.c.

537  Water treatment workers
   5371  Drainage and sanitation workers
   5372  Public bath attendants
   5373  Water supply workers
   5379  Water treatment workers n.e.c.

539  Other service workers
   5391  Debt collectors, electricity, gas and water supply meter readers
   5392  Rental services clerks
   5399  Service workers n.e.c.
6 SKILLED AGRICULTURAL AND FORESTRY WORKERS

61 SKILLED AGRICULTURAL WORKERS

611-612 Crop growing and gardening workers
   6111 Crop growers
   6112 Bio-gardeners
   6113 Vegetable growers
   6114 Fruit growers
   6115 Wine growers
   6116 Ornamental plant and flower gardeners
   6117 Tree nursery workers
   6118 Park and landscape workers
   6121 Medicinal herb growers
   6122 Reed- and poplar-farming workers
   6129 Crop growing and gardening workers n.e.c.

613 Animal husbandry workers
   6131 General livestock-farming workers
   6132 Cattle-farming workers
   6133 Pig-farming workers
   6134 Horse-farming workers
   6135 Sheep-farming workers
   6136 Poultry farming workers
   6137 Small animal breeders
   6139 Animal husbandry workers n.e.c.

614 General farming workers
   6140 General farming workers

62 SKILLED FORESTRY AND GAME FARMING WORKERS

621 Forestry workers and loggers
   6211 Foresters, aid foresters
   6212 Forest tree nursery workers
   6213 Logging, lumbering (manual and machine operating) workers
   6219 Forestry workers and loggers n.e.c.

622 Game farming workers
   6221 Hunters, game raisers
   6229 Game farming workers n.e.c.

63 SKILLED FISHERY WORKERS

631 Fishery workers
   6311 Fishermen, fish farmers
   6319 Fishery workers n.e.c.
64 PLANT PROTECTION, PLANT HEALTH PROTECTION AND SOIL CONSERVATION WORKERS

641 Plant protection, plant health protection and soil conservation workers
   6411 Plant protection, plant health protection workers
   6412 Soil conservation and amelioration workers
7 CRAFT AND RELATED TRADES WORKERS

71 EXTRACTION WORKERS

711 Solid minerals extraction workers
   7111 Deep-drilling workers
   7112 Blasters
   7113 Miners, aid miners
   7114 Trammers
   7115 Quarry workers, stone cutters
   7119 Solid minerals extraction workers n.e.c.

712 Crude oil and natural gas extraction workers
   7121 Crude oil extraction workers
   7129 Crude oil and natural gas extraction workers n.e.c., research drilling workers

72 FOOD PROCESSING AND RELATED TRADES WORKERS

721 Food processing workers
   7211 Meat, fish and poultry processing workers
   7212 Food preservers, fruit and vegetable processing workers
   7213 Vegetable oil manufacturers
   7214 Milk processing workers
   7215 Milling industry workers
   7216 Bakers, pastry industry workers
   7217 Sugar industry workers
   7218 Sweets industry products manufacturers
   7219 Food processing workers n.e.c.

722 Beverage manufacturers
   7221 Alcohol, alcoholic drinks manufacturers
   7222 Wine and champagne producers
   7223 Brewery workers
   7224 Soft drinks, mineral and soda water manufacturers

723 Tobacco preparers and tobacco products manufacturers
   7230 Tobacco preparers and tobacco products manufacturers

73 LIGHT INDUSTRY WORKERS

731 Textile industry workers
   7311 Fibre preparers
   7312 Spinners
   7313 Weavers
   7314 Knitters
   7315 Dyers, textile printing, finishing workers
   7319 Textile industry workers n.e.c.

732 Dressmakers, pelt dressers, furriers
7321 Tailors, dressmakers, needlewomen, model makers
7322 Tailor's cutters (in manufacture of garments)
7323 Hatters, milliners, cap makers (except knitters)
7324 Pelt dressers, fur dyers
7325 Furriers
7329 Dress making and fur processing workers n.e.c.

733 Tanners, leather goods makers and shoemakers
7331 Tanners, leather dressers
7332 Saddlers, leather belt makers
7333 Fancy leather goods and luggage makers
7334 Leather glove makers
7335 Shoemakers and repairers
7336 Leather dressmakers and repairers
7339 Leather industry workers n.e.c.

734 Wood industry workers
7341 Cabinet-makers
7342 Building joiners
7343 Upholsterers
7344 Wood pattern makers
7345 Coopers, wheelwrights
7346 Wood turners
7349 Wood industry workers n.e.c.

735 Printing and recorded media (audio and video) reproduction workers
7351 Typesetters, typographical editors
7352 Printers
7353 Relief printing, photogravure, planography preparatory workers
7354 Bookbinders
7355 Recorded media (audio, video, computer data carrier) reproduction workers
7356 Photocopying workers
7359 Printing workers n.e.c.

74 STEEL AND METAL TRADES WORKERS

741 Metallurgy workers
7411 Metallurgical raw material preparers
7412 Iron, steel and non-ferrous metal smelters
7413 *
7414 Sheet metal workers
7415 Metal casting workers
7419 Metallurgy workers n.e.c.

742 Metal processing, shaping and forming and surface treatment workers
7421 Locksmiths
7422 Tool and die makers
7423 Forging-press workers
7424 Industrial precious metal workers
7425 Welders, flame cutters
7426 Blacksmiths
7429 Metal processing, shaping and forming and surface treatment workers n.e.c.

743 Repairmen, mechanics
   7431 Motor-vehicle mechanics, engine repairmen
   7432 Aircraft mechanics, repairmen
   7433 Agricultural equipment mechanics, repairmen
   7439 Mechanics, repairmen n.e.c.

744 Precision instrument mechanics
   7441 Mechanical instrument mechanics
   7442 Precision instrument mechanics
   7443 Electronic instrument mechanics
   7444 Radio-, TV- and computer-mechanics
   7445 Electrical equipment mechanics
   7446 Opticians
   7449 Electrical equipment and precision instrument mechanics n.e.c.

749 Steel and metal trades workers n.e.c.
   7490 Steel and metal trades workers n.e.c.

75 HANDICRAFT, MISCELLANEOUS INDUSTRY AND WAREHOUSE WORKERS, LABORATORY ASSISTANTS

751 Handicraft industry workers
   7511 Animal hair and feather processing workers
   7512 Reed and poplar processing workers
   7513 Broom and brush makers
   7514 Toy, fancy-goods, and sporting-goods makers and repairers
   7515 Embroiders, lace-makers
   7519 Handicraft industry workers n.e.c.

752 Miscellaneous industry workers
   7521 Sign painters
   7522 Jewellers, engravers, precious stone grinders
   7523 Potters, ceramists
   7524 Glass-makers
   7525 Tire and rubber products repairers
   7526 Musical instrument makers, repairers
   7527 Concrete building block makers
   7529 Miscellaneous industry workers n.e.c.

753 Warehouse workers
   7530 Stock clerks, warehousemen

754 Laboratory assistants (without qualification)
   7540 Laboratory assistants (without qualification)
76 CONSTRUCTION WORKERS

761 Building frame workers
   7611 Bricklayers, masons
   7612 Carpenters, scaffolders
   7613 Reinforced concrete frame assemblers
   7614 Building block assemblers
   7619 Building frame workers n.e.c.

762 Building-assembling workers
   7621 Plumbers and pipe-network fitters
   7622 Air-conditioning and ventilation mechanics
   7623 Elevator repairers
   7624 Building electricians
   7629 Building-assembling workers n.e.c.

763 Building finishers and related trades workers
   7631 Insulation workers
   7632 Roofers
   7633 Building tinsmiths
   7634 Tilers, coverers
   7635 Painters
   7636 Building stone cutters, stonemasons, artificial stone setters
   7637 Stove makers
   7638 Glaziers
   7639 Building finishers and related trades workers n.e.c.

764 Civil engineering workers
   7641 Road construction and paving workers, road maintenance workers
   7642 Railroad construction and maintenance workers
   7643 Bridge structure construction workers
   7644 Pipeline setters
   7645 Underwater construction workers
   7649 Civil engineering workers n.e.c
81 MANUFACTURING MACHINE OPERATORS

811 Food, beverage and tobacco products machine operators
   8111 Food products machine operators
   8112 Beverage products machine operators
   8113 Tobacco products machine operators

812 Light industry machine operators and production-line workers
   8121 Textile industry machine operators and production-line workers
   8122 Dressmaking machine operators and production-line workers
   8123 Leather tanning and processing machine operators and production-line workers
   8124 Shoemaking machine operators and production-line workers
   8125 Wood processing machine operators and production-line workers
   8126 Paper and pulp industry machine operators
   8127 Printing machine operators
   8129 Light industry machine operators and production-line workers n.e.c.

813 Basic chemicals and chemical products manufacturers and machine operators
   8131 Petroleum refinery and processing machine operators
   8132 Gas-making and processing machine operators
   8133 Basic chemicals and chemical products machine operators
   8134 Pharmaceutical products machine operators
   8135 Fertilizer and plant-protection products machine operators
   8136 Plastic processing machine operators
   8137 Rubber goods manufacturers, vulcanizers

814 Building materials industry machine operators
   8141 Ceramic products machine operators
   8142 Fine ceramics products machine operators
   8143 Glass and glass-products machine operators
   8144 Concrete building block machine operators
   8145 Lime and cement products machine operators
   8149 Building materials industry machine operators n.e.c.

819 Other processing machine operators, production-line workers
   8191 Metallurgical machine operators
   8192 Metal working machine operators
   8193 Production-line assemblers
   8199 Processing machine operators, production-line workers n.e.c.

82 OTHER STATIONARY-PLANT OPERATORS

821 Mining-plant operators
   8211 Solid minerals extraction machine operators
   8219 Mining-plant operators n.e.c.
822 Power production and related plant operators
   8221 Power-production and transformation plant mechanics and operators
   8222 Coal- or oil-fired power-generating plant operators
   8223 Nuclear-fuelled power-generating plant operators
   8224 Hydroelectric power-generating station mechanics and machine operators
   8229 Power production and related plant operators n.e.c.

823 Water treatment plant operators
   8231 Water works machine operators
   8232 Sewage plant operators
   8233 Water pump operators
   8239 Water treatment plant operators n.e.c.

824 Packaging-machine operators
   8240 Packaging-machine operators

829 Other non-manufacturing machine operators
   8291 Boiler operators (licensed boilermen)
   8292 Decontaminating machine and equipment operators
   8293 Agricultural machine operators, mechanics
   8299 Other non-manufacturing machine operators n.e.c.

83 MOBILE-PLANT OPERATORS

831 Agricultural and forestry mobile-plant drivers and operators
   8311 Agricultural engine drivers and operators
   8312 Forestry plant operators
   8313 Plant protection machine operators
   8319 Agricultural and forestry mobile-plant drivers, operators n.e.c.

832 Construction machine operators
   8321 Earth moving equipment operators
   8322 Groundwork machine operators
   8323 Road, bridge and railroad building machine operators
   8324 Hydromechanical and floating plant operators
   8325 Well drilling machine operators
   8329 Construction machine operators n.e.c.

833 Public and municipal sanitation machine operators and drivers
   8331 Scavengery machine operators and drivers
   8332 Cesspool-pumping, sewage-collecting truck operators

834 Material conveying machine operators
   8341 Crane operators
   8342 Elevator and conveying machine operators
   8343 Lift-trolley operators
   8344 Loading/unloading machine operators
   8349 Material conveying machine operators n.e.c.

835 Vehicle drivers
   8351 Locomotive-engine and train drivers
8352  Tram drivers
8353  Metro drivers
8354  Trolley-bus drivers
8355  Car drivers
8356  Heavy-truck and lorry drivers
8357  Bus drivers
8358  Animal-drawn vehicle drivers
8359  Vehicle drivers n.e.c.

836  Ships' deck crews and related workers
   8361  Bargemen
   8362  Boatswains, chief engineers
   8363  Sailors, engine operators
   8364  Small boat steermen
   8369  Ships' deck crews and related workers n.e.c.

839  Mobile-plant operators n.e.c.
   8390  Mobile-plant operators n.e.c.
9 ELEMENTARY OCCUPATIONS

91 ELEMENTARY SERVICES OCCUPATIONS (WITHOUT AGRICULTURE)

911 Cleaners and related elementary occupations
   9111 House, flat and office cleaners
   9112 Vehicle, window and related cleaners
   9113 Domestic helpers
   9114 Kitchen helpers
   9115 Chambermaids
   9116 Hand launderers and pressers
   9117 Garbage collectors, street sweepers
   9118 Switches cleaners
   9119 Cleaners and related elementary occupations n.e.c.

912 Watchpersons and related elementary occupations
   9121 Doorkeepers, porters
   9122 Night-watchmen, establishment-watchmen
   9123 Cloakroom, swimming-pool and luggage-room attendants, ticket collectors
   9124 Office boys, office mail carriers
   9125 Luggage porters, deliverers
   9129 Watchpersons and related elementary occupations n.e.c.

913 Materials handlers
   9131 Manual materials handlers, hand packers
   9132 Transport, loading/unloading labourers
   9133 Driver's mates

914 Navvies, construction labourers
   9140 Navvies, construction labourers

915 Elementary services occupations
   9150 Services elementary occupations

919 Labourers and helpers n.e.c.
   9190 Labourers and helpers n.e.c. (e.g. odd-job persons)

92 AGRICULTURAL AND FORESTRY LABOURERS

921 Agricultural labourers
   9210 Agricultural labourers (e.g. day-labourers, rangers)

922 Forestry, hunting, fishery labourers
   9220 Forestry, hunting, fishery labourers (e.g. fishing wardens)
0 ARMED FORCES

01 OCCUPATIONS OF ARMED FORCES REQUIRING HIGHER (THIRD-LEVEL) QUALIFICATION

  011 Occupations of armed forces requiring higher (third-level) qualification
      0110 Occupations of armed forces requiring higher (third-level) qualification

02 OCCUPATIONS OF ARMED FORCES REQUIRING SECONDARY-LEVEL QUALIFICATION

  021 Occupations of armed forces requiring secondary-level qualification
      0210 Occupations of armed forces requiring secondary-level qualification

03 OCCUPATIONS OF ARMED FORCES NOT REQUIRING SECONDARY-LEVEL QUALIFICATION

  031 Occupations of armed forces not requiring secondary-level qualification
      0310 Occupations of armed forces not requiring secondary-level qualification
Notes

to the corresponding table between ISCO–88 and HSCO–93

In the course of elaboration of the original version of HSCO–93 the basic idea was to be in line with the system of ISCO–88 at the level of major groups, and that groups (second digit) should be comparable directly with groups of ISCO–88 by means of reduction. On the other hand, minor groups and occupations forming the third and fourth digits, respectively, serve the demands of native users first of all.

Consequently, comparison of the third digit, namely minor groups of ISCO–88 and the system of HSCO–93 was possible only with the help of a correspondance table. This three-digit deep clue could connect the system of HSCO–93 to individual minor groups of ISCO–88 only in a way that it specified minor groups and – if necessary – occupations in HSCO–93 similar in their contents. In case of certain minor groups comparison of the two systems at the three-digit level could be realized only with the help of employing HSCO-93 in its whole depth. The clue table elaborated this way and refined by repeated revisions makes comparison of sufficient correctness possible.

The system of HSCO–93 has been revised in the meantime. The revised system came into force on 1st January, 1997. The modification did not influence principles and basic structure of the system. Nevertheless, certain parts changed, which entailed the partial correction of the "clue" table. In case of major groups 1, 6 and 0 there were no changes at all, and even in case of other major groups changes were not significant.
## CORRESPONDENCE TABLE BETWEEN ISCO–88 AND HSCO–93

(according to the major, sub-major and minor group levels of ISCO–88)

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