Overview of the progress of work on the International Standard Classification of Occupations (ISCO-08) revision

Lara Badre

Senior Statistician- ILO Department of Statistics

October 2024

Overview of the progress of work on the ISCO-08 revision

The case to revise ISCO-08 at the 20th ICLS in 2018

- 20th ICLS in 2018: support and mandate to start the revision of ISCO-08 to be completed in time for the 2030 round of housing and population censuses

ISCO-08 revision following the 20th ICLS

- Established the **ISCO-08 revision TWG end of June 2021** and undertook several online meetings/ consultations (composition: Countries; Employers & Workers; Observers)
- **Evaluated** the various known **issues and recommendations** of the **20th ICLS room document**
- **Gathered additional input** and feedback on ISCO-08 (direct inputs, survey of country practice in 2023, etc)
- **Established priorities, roadmap and methodology: Top-down approach**: address structural concerns/ issues first, then update the structure and related concerns
- **Developed proposals** for improvements and modifications
  - Presented the **progress of work to the 21st ICLS in 2023**: great support from conference delegates on the suggested changes and improvements

Major type of issues in ISCO-08 and progress of work

Issues in ISCO-08 can be grouped as follow: (<u>Some</u> concrete examples in bold in the next slides)

- **Conceptual issues** (progress: significant)

  ▶ Addressed most of the complex conceptual issues, including those listed as part of the <u>20th ICLS room document</u> in addition to some other ones

- **Structure-related issues** (progress: limited)

  ▶ Some progress has been made on some group-specific issues, but major work is planned for the period 2025-2027

- **Modernization of ISCO** (progress: limited)

  ▶ Some testing and development has been made, but these are mostly long-term activities and projects that could extend beyond 2028.

Type of issues to address in ISCO

Conceptual issues

- **Conceptual approach: Alignment of ISCO** with recent statistical standards

- **Boundary adjustment** between Skill Levels 2/3 and replacing ISCED-97 with ISCED-11

- Skill Model: Skill Level Framework: measurement and application of **skill level as a classification criterion** (extending the definition beyond formal education)

- Identification of **appropriate Skill Levels for many categories** in ISCO

- Treatment of some **specific categories**: operators of small businesses, supervisors, green jobs, etc.

ISCO-08 Skill levels	ISCED-97 levels of education	ISCO-28 skill levels	ISCED-11 levels of education	Scope of change on ISCO skill levels
4	6 - Second stage of tertiary education) 5a - First stage of tertiary education, 1st degree (medium duration)	4	8 – Doctoral or equivalent 7 – Master's or equivalent 6 – Bachelor's or equivalent	Unchanged⁶
3	5b - First stage of tertiary education (short or medium duration)⁷	3	5 – Short-cycle tertiary education 4 - Post-secondary non-tertiary education	ISCED level 4 Post-secondary non-tertiary education is moved from ISCO Skill Level 2 to Skill Level 3.
2	4 - Post-secondary non-tertiary education 3 - Upper secondary education 2 - Lower secondary education	2	3 - Upper secondary education 2 - Lower secondary education	
1	1 - Primary level of education	1	1 - Primary level of education 0 – Early childhood education	Unchanged⁸

Advancing social justice, promoting decent work

▶ ilo.org

Type of issues to address in ISCO

Conceptual issues

- **Conceptual approach: Alignment of ISCO** with recent statistical standards

- **Boundary adjustment** between Skill Levels 2/3 and replacing ISCED-97 with ISCED-11

- Skill Model: Skill Level Framework: measurement and application of **skill level as a classification criterion** (extending the definition beyond formal education)

- Identification of **appropriate Skill Levels for many categories** in ISCO

- Treatment of some **specific categories**: operators of small businesses, supervisors, green jobs, etc.

Dimension	Inclusion criteria for Skill level 1	Inclusion criteria for Skill level 2	Inclusion criteria for Skill level 3	Inclusion criteria for Skill level 4
Education	Up to primary education	Lower secondary education or Upper secondary education	Post-secondary non-tertiary education or Short-cycle tertiary education	Bachelor's, Master's, Doctoral or equivalent level
Typical requirements	Up to ISCED-11 level 1	ISCED-11 level 2 or level 3	ISCED-11 level 4 or level 5	ISCED-11 level 6 or level 7 or level 8
Responsibilities	No responsibilities are involved (none)	Not a significant component of the work	Moderate component of the work	Significant component of the work
Typical requirements	Not a requirement, most jobs are supervised by workers at other Skill levels. Occupations at this skill level require close and extensive guidance. They typically involve performing simple and routine tasks with minimal decision-making.	Relevant for some occupations when this involves carrying out the line or technical work with limited supervision of workers and/or overseeing of the day-to-day activities of a small business, but responsibilities are not a major component or a predominant activity of the work. Occupations at this skill level typically involve a range of tasks that may require some degree of judgement.	Relevant for some occupations when: -Supervision of staff is a major activity and when supervisors do not mainly perform the same tasks as the workers they supervise, or - This involves considerable safety responsibility. Occupations at this level typically involve a variety of tasks that require independent decision-making and autonomy	Relevant for some occupations when management of an enterprise or organization or a department within an organization with a hierarchy of managers is the major or significant component of the work. Occupations at this level typically involve complex tasks that require advanced skills, knowledge, and significant decision-making and autonomy
Experience	Little or no previous experience is required	Some previous relevant experience is required	Considerable previous relevant experience is required	Extensive previous relevant experience is required
Typical requirements	Few days to a few months, when applicable	Less than 2 years in a related occupation, when applicable	Between 2 and less than 5 years in a related occupation from skill level 2, possibly in a related field, when applicable.	5 or more years in a related occupation from skill levels 3 or 4, often in a specialized field, when applicable
Work-based learning (Apprenticeship/On-the-Job Training)	Little or no WBL	Short-to Medium-term OJT/ Initial to Intermediate level apprenticeships	Long-term OJT/ Advanced level apprenticeships	WBL is not a major requirement
Typical characteristics	Little or no training/ learning is required/ provided by the employer. The typical duration of such training can last for a few weeks, when applicable	Short-to Medium-term OJT/ Initial to Intermediate level apprenticeships are required/provided by the employer. The typical duration of such training or Initial to Intermediate level apprenticeships can range from a few months to several months, when applicable	Long-term on-the-job training/ learning is required / provided by the employer for a typical duration that can range from several months to a few years, when applicable. Advanced level apprenticeships are available or required for some occupations classified at this level, for a typical duration that can extend to several years, when applicable	Certain forms of WBL may be available or provided by the employer for some occupations classified at this level, when applicable, but most workers at this SL already possess the required skills to competently perform the tasks within a specific role. Some occupations classified at this level may be entered with apprenticeships, when applicable, which are more complex and structured compared to programs available at SL3. Internship/ residency may be required for some occupations classified at this SL, when applicable. Their typical duration can range from few weeks to several years. Some on-the-job training may be provided by employers, when applicable.

▶ ilo.org

Type of issues to address in ISCO

Conceptual issues

- **Conceptual approach: Alignment of ISCO** with recent statistical standards

- **Boundary adjustment** between Skill Levels 2/3 and replacing ISCED-97 with ISCED-11

- Skill Model: Skill Level Framework: measurement and application of **skill level as a classification criterion** (extending the definition beyond formal education)

- Identification of **appropriate Skill Levels** for many categories in ISCO

- Treatment of some **specific categories**: operators of small businesses, supervisors, green jobs, etc.

Application of the Skill Level Framework and assessment of required skills:

228 out of 259 **unit groups from MGs 3, 4, 5, 7, and 8 were assessed for detailed skill requirements**

  ➢ 52% of total categories in ISCO-08

A number of categories *shall be partially or entirely moved and established at a* different skill level in the revised ISCO

  ➢ Mainly concerning categories from MGs 3, 5, 7

  ➢ Several categories in ISCO will be impacted (a code change, title change, creation of new categories including unit, minor and SMG groups, etc)

Type of issues to address in ISCO

Conceptual issues

- **Conceptual approach: Alignment of ISCO** with recent statistical standards

- **Boundary adjustment** between Skill Levels 2/3 and replacing ISCED-97 with ISCED-11

- Skill Model: Skill Level Framework: measurement and application of **skill level as a classification criterion** (extending the definition beyond formal education)

- Identification of **appropriate Skill Levels for many categories** in ISCO

- Treatment of some specific categories: operators of small businesses, supervisors, status of Major Group 6, green jobs, etc.

Ongoing:

Developing proposal of approaches to address existing limitations or improvements related to these aspects and identity possible related new categories

- What is the best approach to take?

- Taking into account available practices, major policy needs, etc.

- Assessment of feasibility and potential impact on ISCO

Discussions at the next TWG meeting taking place online in November 2024

Advancing social justice, promoting decent work

▶ ilo.org

Type of issues to address in ISCO

Structure-related issues

- **Issues related to specific categories:** re-organization of some groups, etc

- **New and Emerging Occupations (NEO):** (IT/ICT, social media, etc.)

- **Obsolete occupations**: jobs in decline

- **Other improvements**: Separate identification of some categories, guidance and explanatory notes on potential boundary difficulties, etc
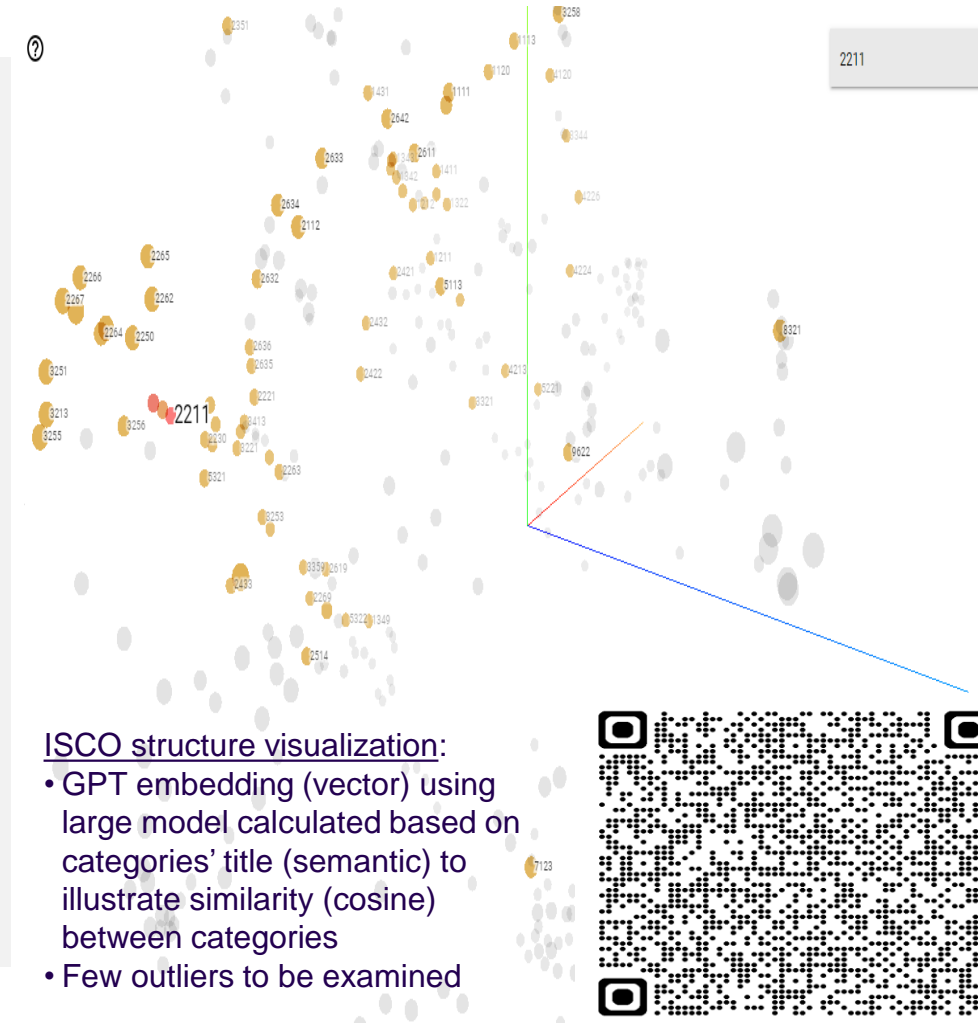
- Improved **group description**

Advancing social justice, promoting decent work

Progress:

- Examining group similarity

- Reorganized some sub major groups

- Moved/ created (new) categories (resulting from skill level change)

- Resolved some group-specific issues (e.g. maintain MG0, separate identification of some emerging occupations, etc.

Most of the work will be conducted during 2025-2027:

- Focus on key areas or aspects requiring improvements

- Incorporating NEO, treating obsolete categories

- Reviewing group descriptions

- Etc.

ISCO structure visualization:
- GPT embedding (vector) using large model calculated based on categories' title (semantic) to illustrate similarity (cosine) between categories
- Few outliers to be examined

Type of issues to address in ISCO

Modernization of ISCO

- **Developing some tools and applications** for a transparent and collaborative revision process

- **Testing** the feasibility of using of new and innovative data sources and methods for future ISCO update (Web scraping, OJA, etc.)

- Proposals to shorten the ISCO **revision cycle**, identify a **maintenance scheme for ISCO** between major revisions,

- etc.

Two applications: Safer and user-friendly
- **ISCO Revision Data Entry Application: to collect input and feedback from the TWG**
- **ISCO revision Data Management Application**: (BO) Edit, implement changes, version control, etc.

▶ ilo.org

Type of issues to address in ISCO

Modernization of ISCO

- **Developing some tools and applications** for a transparent and collaborative revision process

- **Testing** the feasibility of using of new and innovative data sources and methods for future ISCO update (Web scraping, OJA, etc.)

- Proposals to shorten the ISCO **revision cycle**, identify a **maintenance scheme for ISCO** between major revisions,

- etc.

Advancing social justice, promoting decent work
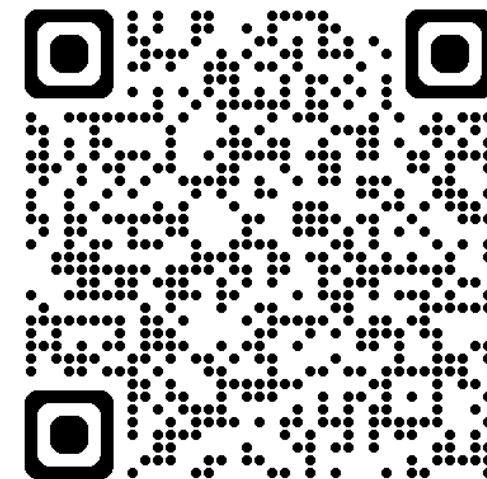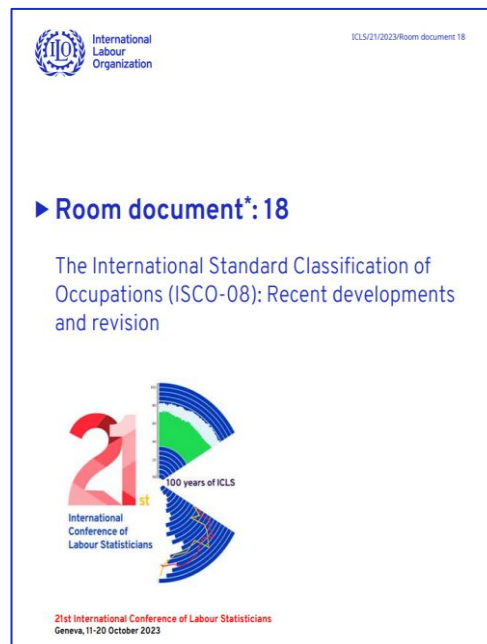
Developing and testing a methodology to be potentially adopted in future ISCO revision as a complement to existing methods and sources of information

➢ Plan: to conduct further testing and developments (including tools, data sources, etc.)

(Parts of this work is being conducted in collaboration with others)
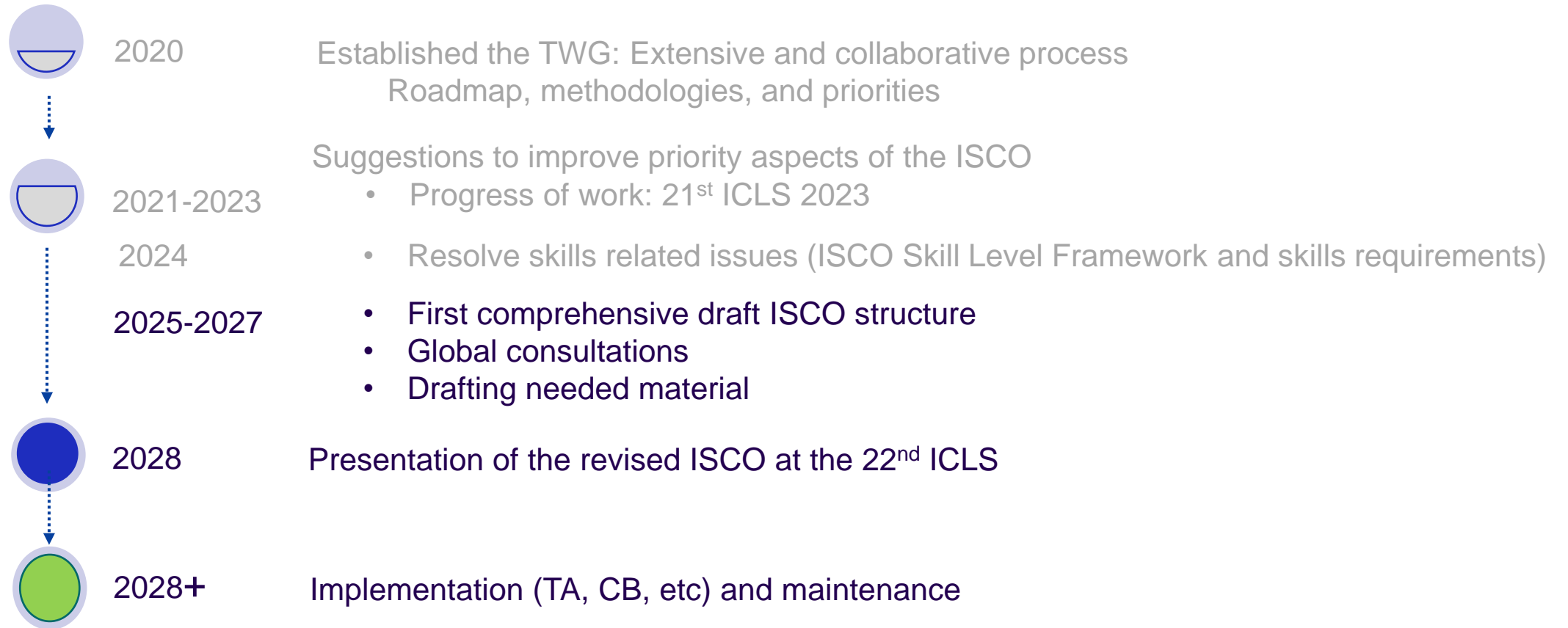
▶ ilo.org

Source of information

Extensive research and analysis are being used

Using available information / data from all regions and income groups, therefore not based on a single country/ region and reflects different economic situations and labour markets, such as:

- **Country practices**: Recently updated and available NOCs, feedback from countries and other users, etc.

- **Professional associations**: Information on training/ education requirements, job roles/ descriptions, job titles, etc.

- **Research and data analysis**: ILO STAT data, (other national) data sources, information from selected job hubs, OJA, etc.

- **Beyond data**: Information and literature review from available reports, job outlook, economic trends, jobs in decline, impact of technology on jobs, automation, relevant concepts, etc.

- **Other sources**: Including ad hoc consultations, expert opinion, etc.

Next steps

2020 — Established the TWG: Extensive and collaborative process
Roadmap, methodologies, and priorities

2021-2023 — Suggestions to improve priority aspects of the ISCO
- Progress of work: 21st ICLS 2023

2024 — Resolve skills related issues (ISCO Skill Level Framework and skills requirements)

2025-2027
- First comprehensive draft ISCO structure
- Global consultations
- Drafting needed material

2028 — Presentation of the revised ISCO at the 22nd ICLS

2028+ — Implementation (TA, CB, etc) and maintenance

Thank you!