

# IMPORTANCE OF EDUCATION ON STANDARDIZATION PERSPECTIVE FROM THE WP.6 START-ED AND SLOVAKIA

**Prof. Marta ORVISKA**

marta.orviska@umb.sk

Matej Bel University in Banska Bystrica, Slovakia













«STANDARDS ARE A CATALYST TO ACHIEVING THE SDGs»  
REGIONAL FORUM, UNECE / ECTD / MAS / WP.6  
6th APRIL 2022, GENEVA

# Outline

1. Importance of standardization for sustainable development - needs for education
2. UNECE WP.6 Initiative on education about standardization, START-ED group.
3. New courses in countries - Slovakia, Matej Bel University in Banska Bystrica
4. Perspective of WP.6 START-ED group in education on standardization fostering the contribution to SDGs achievement

# Growing Importance of Standardization in SDGs – Challenge for Multidisciplinary Education

	GOAL	MARCH 2022
GOAL 1	 NO POVERTY	354
GOAL 2	 ZERO HUNGER	544
GOAL 3	 GOOD HEALTH AND WELL-BEING	3035
GOAL 4	 QUALITY EDUCATION	532
GOAL 5	 GENDER EQUALITY	191
GOAL 6	 CLEAN WATER AND SANITATION	577
GOAL 7	 AFFORDABLE AND CLEAN ENERGY	881
GOAL 8	 DECENT WORK AND ECONOMIC GROWTH	2499
GOAL 9	 INDUSTRY, INNOVATION AND INFRASTRUCTURE	13053
GOAL 10	 REDUCED INEQUALITIES	549
GOAL 11	 SUSTAINABLE CITIES AND COMMUNITIES	2451
GOAL 12	 RESPONSIBLE CONSUMPTION AND PRODUCTION	2727
GOAL 13	 CLIMATE ACTION	1154
GOAL 14	 LIFE BELOW WATER	297
GOAL 15	 LIFE ON LAND	1075
GOAL 16	 PEACE, JUSTICE AND STRONG INSTITUTIONS	174
GOAL 17	 PARTNERSHIPS	2

Sources:

<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>; [www.iso.org](http://www.iso.org)

# Standards and 3 Pillars of SDGs

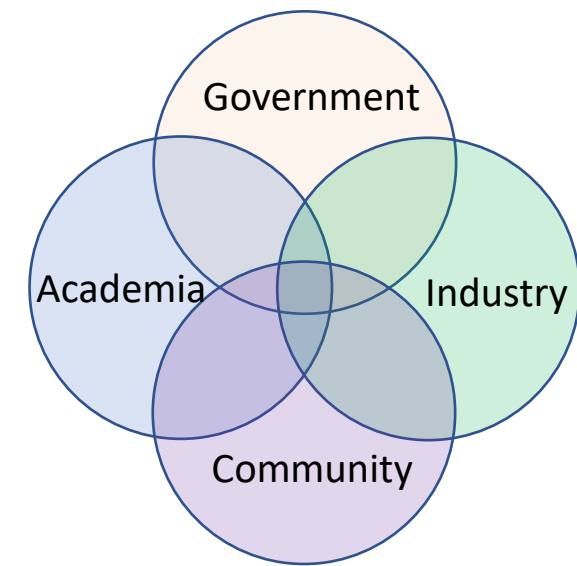
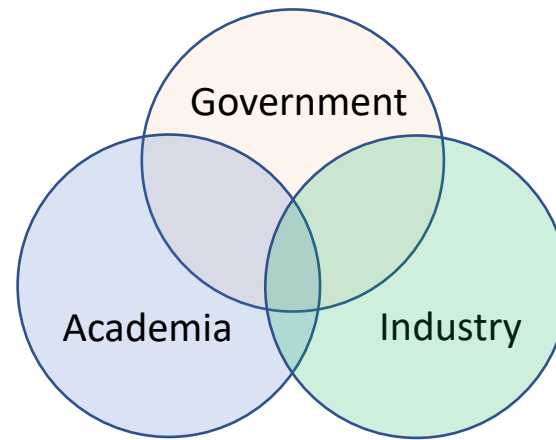


*(<https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100429.pdf>)*

The role of public–private partnerships in monitoring the needs and target groups and providing the standards education related to the SDGs

# Expertise Co-creation and Knowledge Sharing: Crucial to SDGs Achievement

## The shift from triple to quadruple helix innovation ecosystem model



- The fourth helix in innovation achievement – civil society (e.g. NGOs active in ecological issues etc.) can play the crucial role of activator for identification and dissemination of solutions towards SDGs
- The role of academia remains irreplaceable in fostering partnership between multiple actors, identifying problems, finding solutions for sustainable development and growth

# UNECE Initiatives on Education about Standardization, START-ED

- Recommendation „I“ on “Education on standards-related issues”, 2012, available at [https://www.unece.org/fileadmin/DAM/trade/wp6/Recommendations/Rec\\_1.pdf](https://www.unece.org/fileadmin/DAM/trade/wp6/Recommendations/Rec_1.pdf)

*recommends Governments to include standards in educational curricula for not only engineers but also economists, lawyers, managers, etc.*

- Model programmes on education about standardization

*UNECE Model programme (15 modules) – professors can start their own programmes*

- Library on teaching standardization and the development of teaching materials

*teaching materials – help to students and professors*

**Regional Initiatives**

**National Initiatives**

# European Initiatives

## **EUROPEAN COMMISSION package on standardization (2022)**

[An EU Strategy on Standardisation - Setting global standards in support of a resilient, green and digital EU single market | StandICT.eu 2023](#)

Ensuring future standardization expertise – the need for education and skills

- Standardization University Days
- Deploy initiatives for young researchers and networks
- EU Academy Platform for dissemination of e-learning training materials

**National Initiatives**

# Standards Education Organised by Individual Universities

3 main joined areas of academic activities at universities:

- Teaching and educational activities
- Research – basic and applied
- Cooperation with non-academic professionals, governmental, national and international bodies with the impact of the universities on the non-academic environment and society as a whole



Matej Bel  
University in  
Banska Bystrica,  
Faculty of  
Economics

Courses related  
to Standards  
and Quality  
Management

	Language	Study program	Degree
<b>Standardization and international standards</b>	Slovak, English	Finance, banking and investment	Master
<b>Quality management 1</b>	Slovak, English	Economy and management of enterprises/ Marketing Management of Business	Master
<b>Quality management 2</b>	Slovak	Business Economics and Management	Doctoral/ PhD.
<b>System of quality management</b>	Slovak	Economy and management of enterprises/ Marketing Management of Business	Master

# Stimulus for the New Course on Standardization at MBU

- challenges and needs of the current dynamic development of the economy and society
- consultations and communication within the WP.6 group and START ED team
- consultations and communication within the EURAS (European Academy for Standardization) community
- cooperation with the Slovak national standardization body - the Slovak Office of Standards, Metrology and Testing

**The UNECE model programme - as an impulse for the preparation of the course «Standardization and international standards» and remains important for the course development answering new challenges of SDGs.**

# MBU Course «Standardization and International Standards»

## Course outline

- Introduction to standardization. Standards, regulation, certification, accreditation and global markets.
- Economics of standardization.
- Standardization and innovations.
- National legislative and institutional frameworks of standardization. Market surveillance and the role of state.
- Standards and management of firms.
- International standardization and international cooperation in the area of standardization.
- Regulative measurements and standards in finance.
- International trade, standards and regulation.
- Standardization in the EU.
- International institutions in the area of standardization. Political implications of standardization

The content of the course is close to the UNECE model programme. It consists of 13 areas with two of them different from UNECE suggestions

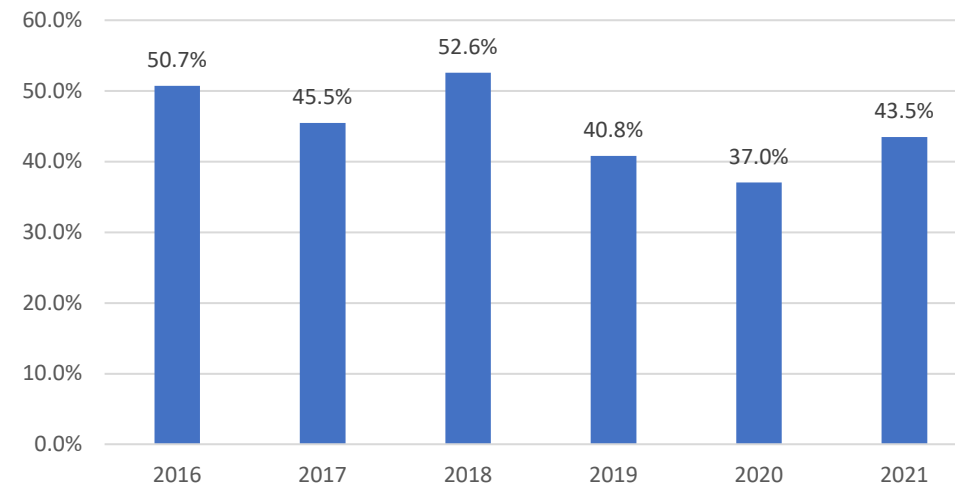
[https://unece.org/DAM/trade/Publications/ECE\\_TRADE\\_440.pdf](https://unece.org/DAM/trade/Publications/ECE_TRADE_440.pdf)

# MBU Course «Standardization and International Standards»

## Target group

- In total: 178 students from 2016
- 20-42 students / year
- Compulsory elective course for **master degree** students, study program: Finance, banking and investment

The proportion of study program students opting for the new course



## Course methodology

- 3h per week, 39 h per semester – theoretical and conceptual framework, application framework: case studies
- Individual case study developed by students: Challenge-based learning principle

# MBU Course «Standardization and International Standards»

## The reaction of students/alumni

„Looking back, I see that writing a diploma thesis on the theme "The use of new technologies in banking services and the role of standards" gave me a chance to see the world of Standards from different perspectives. Digging deeper into this topic, wasn't the easiest one, but definitely helped me to recognize the importance of connections between standards and innovations. A theme of Standards concerns everyone I think, it could be beneficial to emphasize it more in each different subjects at the Universities. “

*Kristína Tekelová*

*HR Operations Analyst with French*

*JOHNSON CONTROLS INTERNATIONAL*

# Challenges for Standardization in Higher Education Institutions in Slovakia

- **2020 - 21** – distance learning development  
Course e-learning platform in LMS Moodle
- **2021 - 22** – new accreditation procedure  
Compliance with higher education standards

The course „Standardization and international standards“ meets the requirements and continues to be provided by the Faculty of Economics to its students, as well as to students of other faculties

- MBU was the first Slovak university with the EU’s recognition of the HR Excellence in Research Award (in **2018**) based on a customized HR strategy (e.g. Gender Action Plans)

# Research activities

- The international scientific conference „Innovation, standardization and European policies in the context of sustainable development goals“

6<sup>th</sup> November 2018 Banska Bystrica organized by the Matej Bel University in Banska Bystrica with the Representation of the European Commission in Slovakia and The Slovak Office of Standards, Metrology, and Testing



- Research projects with the WPs on standards related issues
  - APVV (SRDA – the Slovak Research and Development Agency) research projects:
    - „Driving forces of economic growth and firms survival in the sixth K-wave“
    - „Competitiveness, economic growth and firm survival“

The cooperation between different stakeholders is an important base for the successful outputs

- Government (in particular the SOSMT – **The Slovak Office of Standards, Metrology and Testing**)
- UNECE – START-ED Initiative
- EURAS – The European Academy for Standardization
- European Commission - **AAstaRT WG**
- B&RUSEA - The Belt and Road Universities Alliances for Standardization Education and Academics



# Widening Target Groups for Education on Standardization

For a smoother SDGs achievement, the target groups for standardization courses

- Uni students
- Standards professionals (standards-setters)
- Engineers (standards-practitioners)
- Managers for SDGs (standards-managers)

and

- Experts/Professionals/Activists from civil society

Educational Institutions in cooperation with other stakeholders should provide the channels to deliver these specific skills to wider population, largely affected by different areas of standardization.

The increasing role of national and international standardization organizations in the field of education about standardization for sustainable development.

# UN sustainable goals = warning to mankind

- climate change : reduce our impact, emission mitigate/minimize damage
- make development sustainable or climate change
- challenges: green economy, circular economy, corporate responsibility, etc.

# START-ED and Adapting teaching to life

- START-ED Teams (since 2012) information and methodological support
- New module on global sustainability challenges to add to WP.6 model programme
- To make students aware of the latest developments:  
standards ISO 14090:2019/ ISO 14091:2021 on adaptation to climate change  
new: ISO TC 322 sustainable finance and ISO TC 323 circular economy



# Discussion and the way forward?

- Composition of each type of course?
- Strengths and weaknesses of standards education for sustainable development?
- Establishment of a consortium of experts representing various areas of standardization?
- Development of professional networks
- Development of cooperation between educational institutions
- Development of regional information centers, depositories of literature, databases
- Development of multi-country research centers
- Cooperation between disciplines – interdisciplinary and multidisciplinary approach