



GREAT TRANSFORMATION PROGRAM

EDUCATION 4.0: UKRAINIAN SUNRISE

During the war and after the Victory

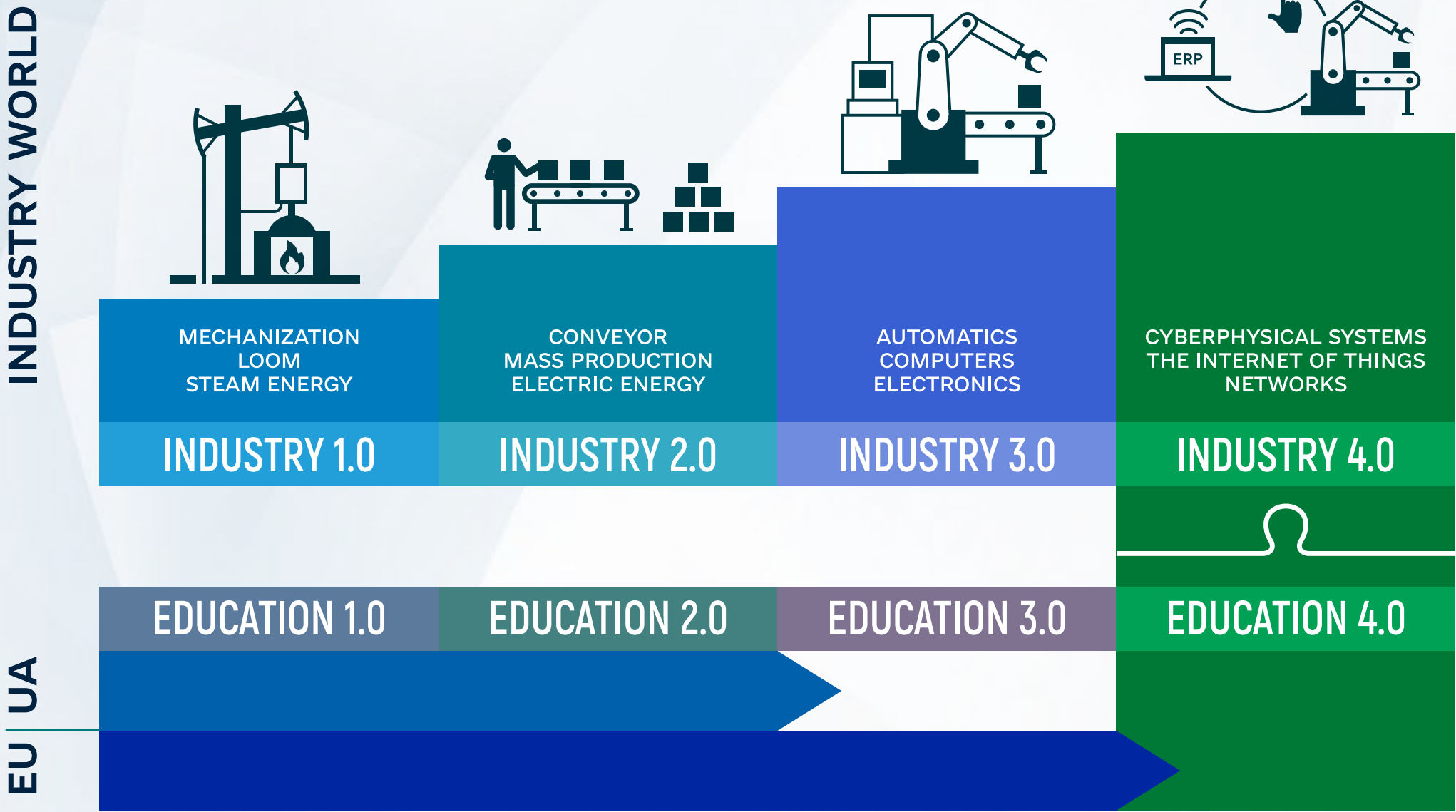


1. INDUSTRY 4.0 – EDUCATION 4.0
2. CHALLENGES AND OPPORTUNITIES
3. BASIC TERMS OF TRANSFORMATION
4. THE PROGRAM OF GREAT TRANSFORMATION "EDUCATION 4.0: UKRAINIAN SUNRISE"
5. HARMONIZATION OF THE NATIONAL AND EUROPEAN EDUCATIONAL AREAS

A man in a white suit is shown in profile, holding a tablet. He is looking at a futuristic digital interface that features a globe, various data charts, and a network of nodes and lines. The background is dark with a blue and green glow emanating from the globe. The overall theme is technology and industry.

INDUSTRY EDUCATION 4.0

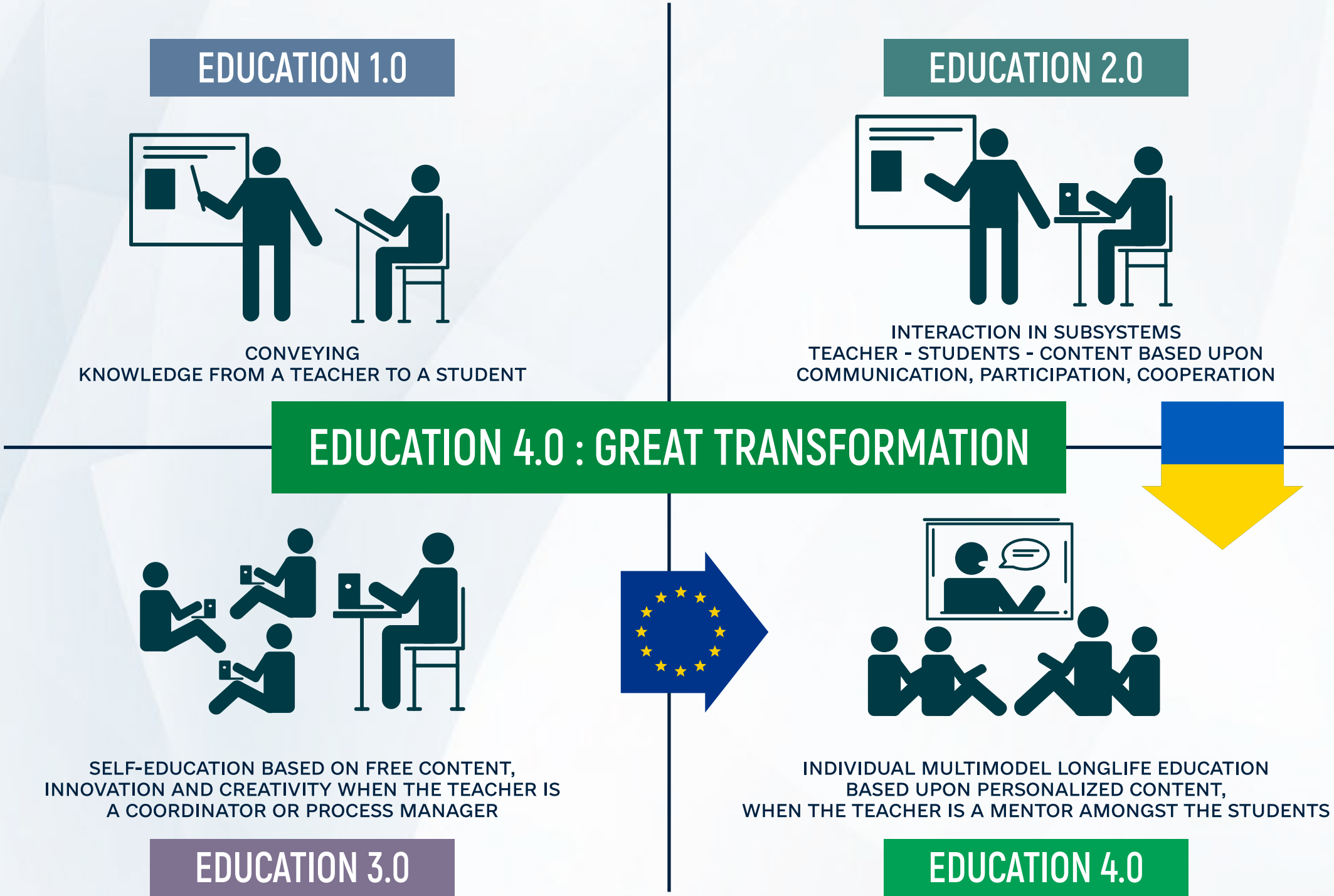
CONFORMITY BETWEEN EUROPEAN
AND UKRAINIAN EDUCATION SYSTEMS



“EDUCATION 4.0 is education,
which meets the human
resources requirements
INDUSTRIES 4.0,
where people and technologies
are united for opening
new opportunities”

[Anealka Aziz Hussin, „Education 4.0 Made Simple: Ideas For Teaching, International Journal of Education & Literacy Studies]

Source: World Economic Forum, 2016



THE PROGRAM OF GREAT
TRANSFORMATION

EDUCATION 4.0:
UKRAINIAN SUNRISE.

We are not catching up
we are working
ahead of time!

Source: Forbes, 2022

FRAMEWORK PROGRAM "EDUCATION 4.0" OF WORLD ECONOMIC FORUM

CONTENT

(BUILT-IN SKILLS ADAPTATION MECHANISMS)



Global citizenship skills



Innovative and creative skills



Technological skills



Interpersonal
communication skills

EXPERIENCE

(APPLYING INNOVATIVE PEDAGOGY)



Individual and independent
studying



Accessible and inclusive
studying



Problematic and common
studying



Longlife studying
student-centered teaching

Source: World Economic Forum, 2020

CONTENT OF EDUCATION 4.0

Every:

- \$ 1 invested in education gives \$ 2.5-5.0 additional gross lifetime income
- additional year of education increases lifetime earnings by 9-15%

(Source: World Economic Forum, 2022)

CHALLENGES AND OPPORTUNITIES

CHALLENGES AND OPPORTUNITIES IN THE FIELD OF EDUCATION

CHALLENGES



COVID-19



Unequal opportunities in different countries



The advent of 4IR

OPPORTUNITIES



New knowledge assessment approaches.
Knowledge assessment as a part of training, not a control of results



New technologies for studying.
Technologies do not replace but complement educationist



Expanding opportunities for educators. Investments in educators for all their professional life

Source : World Economic Forum, 2022

Potential growth of world GDP
from investments
in the development
of only one of the skills formed
by EDUCATION 4.0, is evaluated
in \$ 2.455 trillion

(Catalysing EDUCATION 4.0 Investing in the Future of Learning for a Human-Centric Recovery. INSIGHT REPORT MAY 2022. World Economic Forum, 2022)

CHALLENGES AND OPPORTUNITIES IN THE FIELD OF EDUCATION (UKRAINE)

CHALLENGES



Armed invasion of the Russian Federation



Ruined infrastructure



Mass forced migration



Unfinished programs and reforms



COVID-19



Unequal opportunities in communities and regions



The advent of INDUSTRIAL 4.0

OPPORTUNITIES



Reconstruction of infrastructure according to new standards



A new network of educational institutions



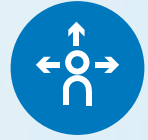
Implementation of the NUS reform



The leap in science and technologies



Teachers training for EDUCATION 4.0



A new generation of education managers



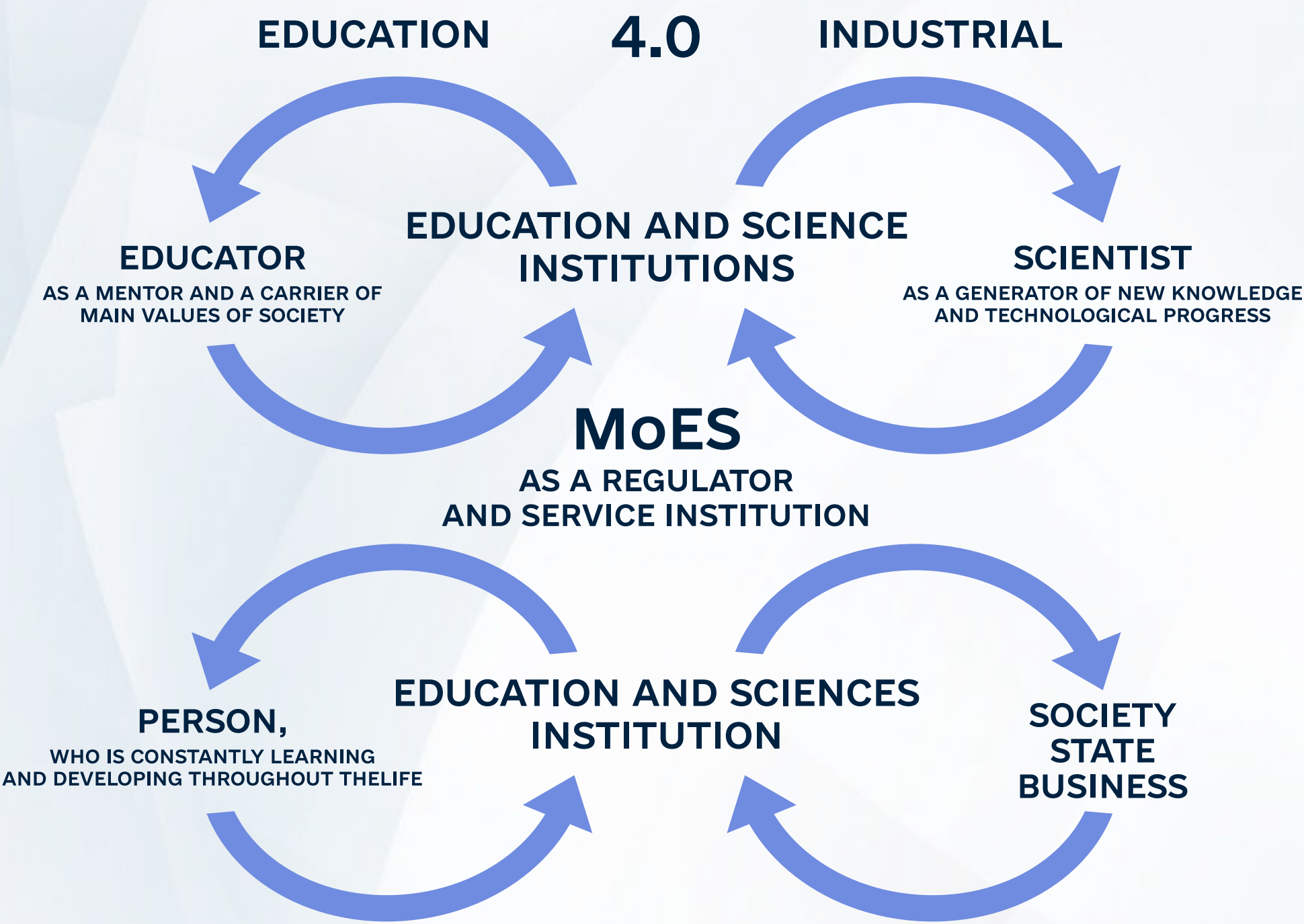
Transition to EDUCATION 4.0

"A country that aspires to be competitive in the modern world, must declare education and science to be the strategic spheres..."

The President of Ukraine
Volodymyr Zelenskyy

BASIC TERMS OF TRANSFORMATION

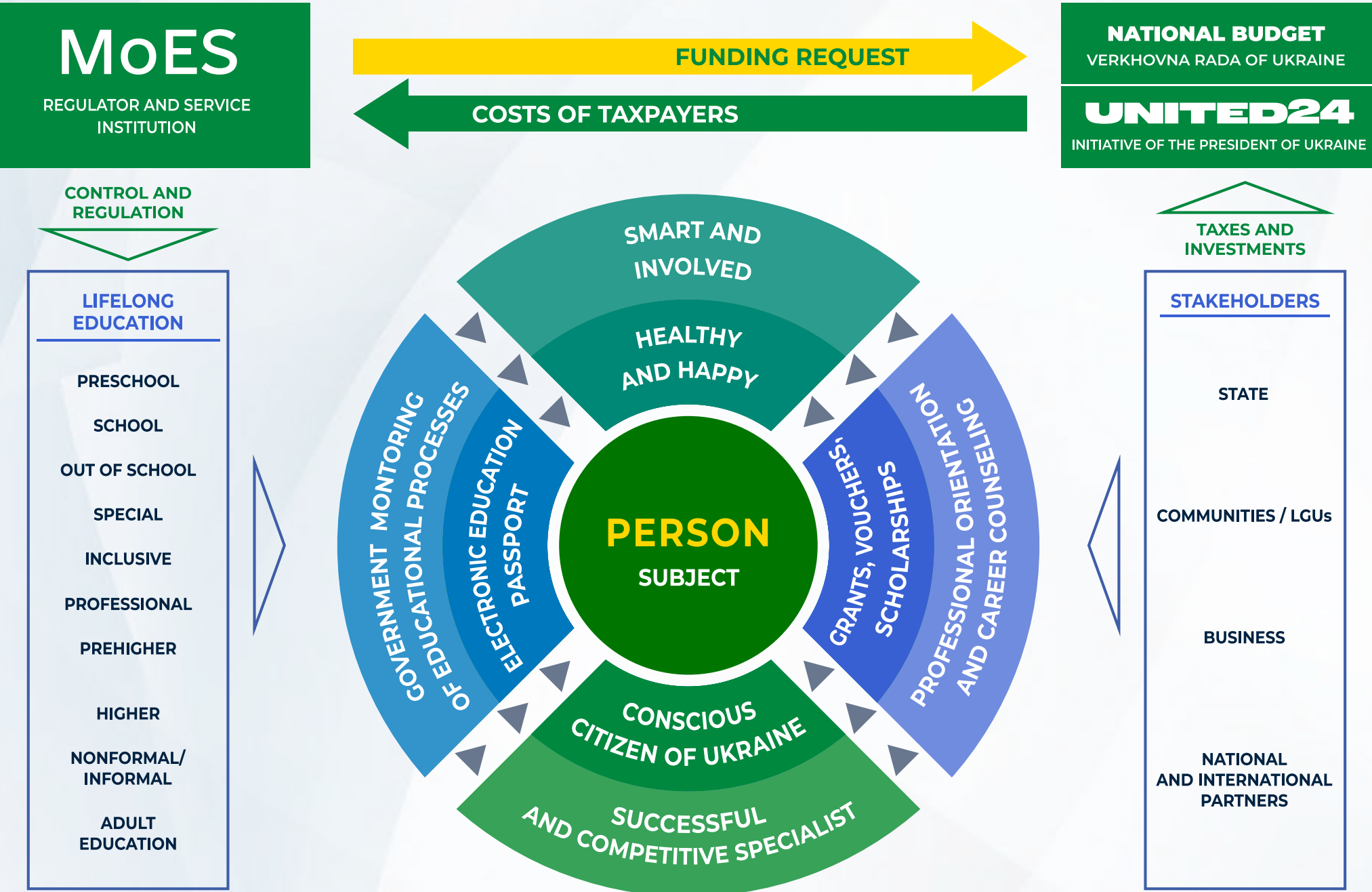
EDUCATION AND SCIENCE FORMULA



Ministry of Education
and Sciences of Ukraine
is not a passive observer,
but rather
an active participant

“MONEY FOLLOWS PEOPLE”

EDUCATION FINANCING MODEL



Owing to the financial model, a citizen of Ukraine becomes a subject of educational policy

A woman with long dark hair, wearing a white shirt and a dark blazer, is shown from the chest up. She is holding a small, glowing yellow point in her right hand, which is positioned near a complex network of lines and hexagonal nodes that fills the background. The background is a dark, textured surface with a grid-like pattern. The text "PROGRAM OF GREAT TRANSFORMATION 'EDUCATION 4.0: UKRAINIAN SUNRISE'" is written in large, white, sans-serif capital letters on the right side of the image.

PROGRAM OF GREAT TRANSFORMATION "EDUCATION 4.0: UKRAINIAN SUNRISE"

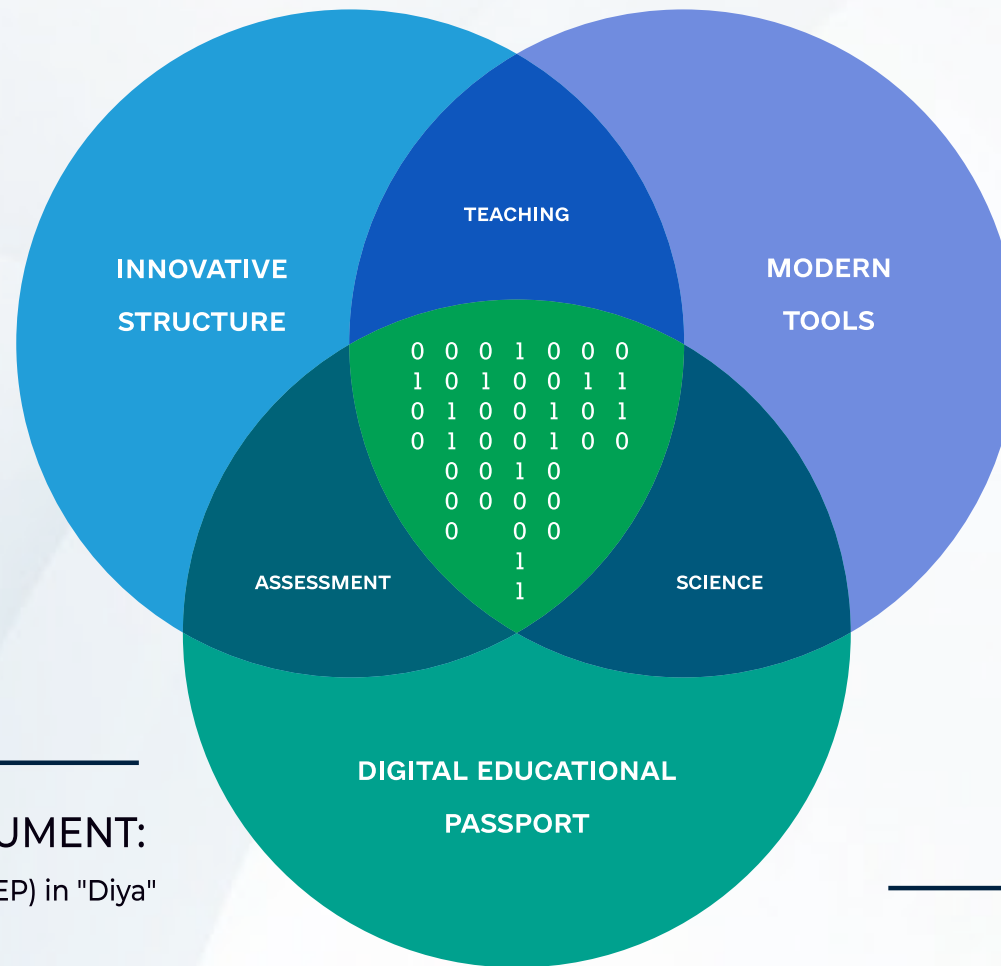
DIGITAL TRANSFORMATION OF EDUCATION AND SCIENCE

DIGITAL EDUCATIONAL INFRASTRUCTURE:

- Access to content without restrictions
- Free Internet territory
- A laptop for each teacher
- Digital spaces in every institution
- Working tablets for students

A SINGLE DIGITAL DOCUMENT:

- Digital educational passport (DEP) in "Diya"
- Electronic document flow
- Big-Data in management processes
- Physical DEP medium for students
- Online entrance campaign



MODERN DIGITAL INSTRUMENTS:

- "All-Ukrainian online school" (+English version)
- Project TEACHER 4.0
- Cloud library for all teachers
- Electronic textbooks, e-registers / daybooks
- Digital skills of teachers according to the EU standard
- Online exams, testing, External Independent Evaluation (ZNO), NMT
- New model of IT education
- Hub of the European cloud of open science

PURPOSES:

- Development of digital competences
- Digital modernization
- Debureaucratization of education and science

In partnership with the Ministry of Digital Transformation

17+ National projects

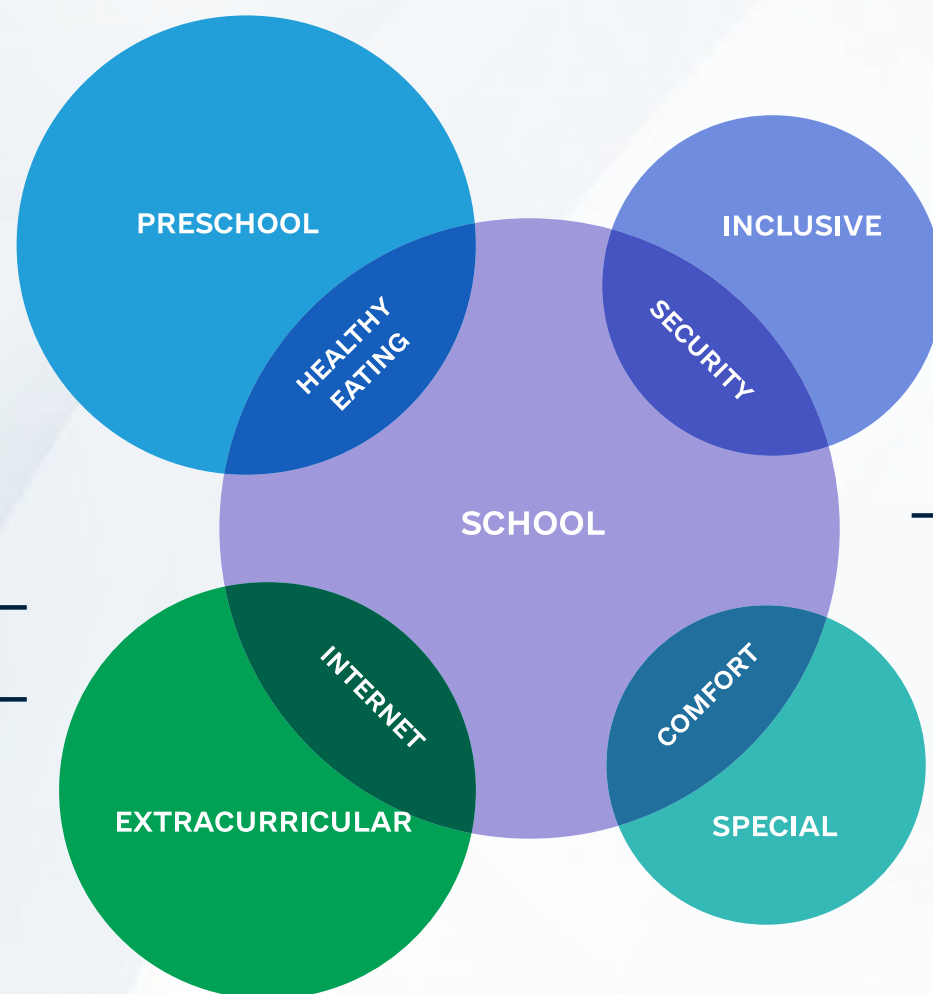
PRESCHOOL, SCHOOL, EXTRACURRICULAR, SPECIAL AND INCLUSIVE EDUCATION

EFFICIENT NETWORK:

- reconstruction of educational institutions for communities
- development of professional education
- network of institutions for early development
- development of private institutions
- "School of superheroes" for children who have been in hospitals for a long time
- educational hubs abroad

THE AREA OF SECURITY AND COMFORT:

- shelter in each institution
- president's program "Healthy Ukraine"
- "Healthy nutrition" program
- "School bus" program
- "Safety Class" and "School Policeman" projects



NATIONAL PATRIOTIC EDUCATION:

- integration of upbringing and education
- network of centers (PLAST, JURA), game "CyberJURA"

MODERN CONTENT AND INNOVATIVE TECHNOLOGIES:

- new programs and e-textbooks for NUS
- 25 STEM centers and STEM laboratories
- interactive science museums
- development of bilingual education

FORMATION AND SUPPORT OF THE TEACHING ELITE:

- mandatory certification of teachers
- training of teachers for the needs of NUS
- training of teachers to work with children with SEN
- SKILLS OF PROVIDING FIRST AID "KoLeSo"
- management skills in critical situations ("Resilience Codes")
- national school of managers
- electronic self-evaluation of educational institutions ("EvalUED")
- tool for obtaining objective data for decision-making in education "Solidinfo"

PURPOSES:

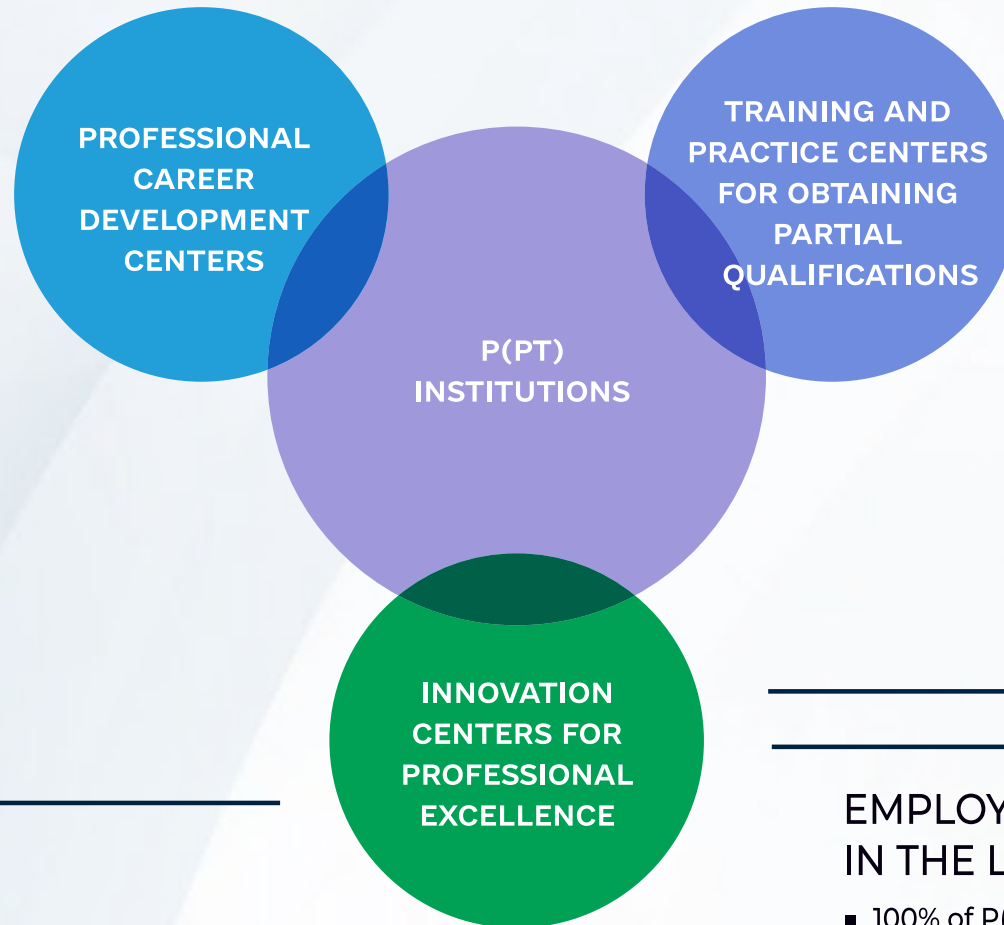
- Self-realization of each child
- Early detection of abilities and formation of a future specialist
- Development of the EDUCATION 4.0 system in Ukraine

27+ National projects
150+ Recovery Plan tasks

PROFESSIONAL EDUCATION

UKRAINIAN CITIZENS
GET QUALITY
PROFESSIONAL
EDUCATION
FOLLOWING THEIR
OWN TRAJECTORY:

- retraining of P(PT)E institutions teaching staff according to modern programs – 80+%
- introduction of online courses – 160+, available on the platform "Professional education online"
- launching short-term professional training programs – 1500+
- updating educational standards for professions – 300



BALANCED AND
EFFICIENT NETWORK
FOR THE NEEDS
OF THE ECONOMY AND
COMMUNITIES:

- renovating 100 P(PT)E institutions and 40 dormitories to accommodate the security component
- creation of 12 innovative Centres for Professional Excellence and 200 Partial Skills Training Centres (PTCs)
- expansion of the network of P(PT)E institutions through the reform of Faculty of Postgraduate Education institutions

EMPLOYEE MOBILITY
IN THE LABOR MARKET:

- 100% of P(PT)E institutions should have career development centers
- introduction of a dual form of education and internship programs in at least 50% of P(PT)E institutions with the participation of at least 30% of employers
- opening of 100 qualification centers for professional competencies evaluation

OBJECTIVES:

- Meeting the needs of the economy in qualified personnel after the Victory (builders, farmers, IT workers and technologically sophisticated professions, etc.)
- Rapid entry into the labor market and lifelong education

17+ National projects
55+ Recovery Plan tasks

PROFESSIONAL PRE-HIGHER, HIGHER EDUCATION AND SCIENCE

CREDIBILITY OF EDUCATIONAL, SCIENTIFIC AND EXPERT ACTIVITIES OF THE UNIVERSITY:

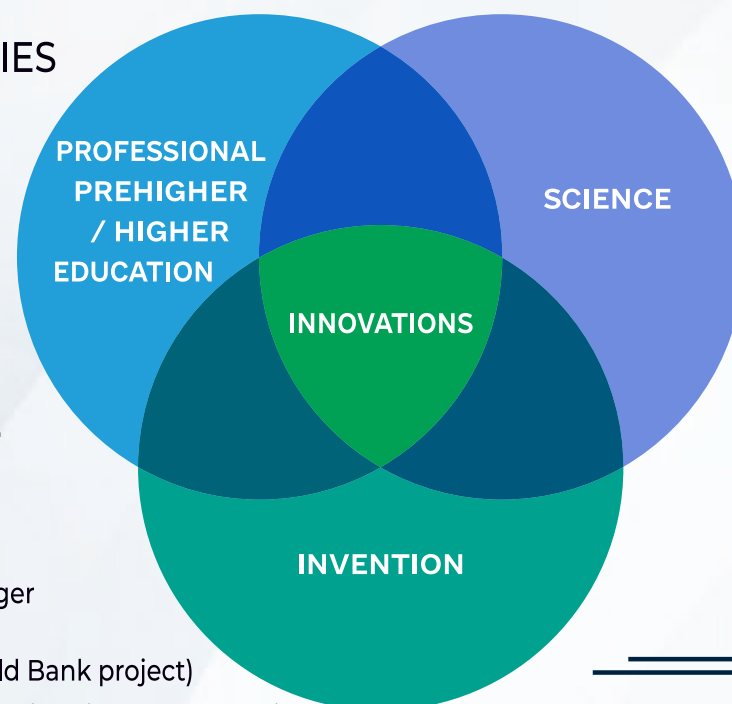
- use of digital tools
- formation of European culture and academic integrity
- bringing the level of the minimum salary of a university teacher to the average in the Baltic countries

MODERN NETWORK AND EDUCATIONAL SPACE:

- optimization of universities through their merger and enlargement
- 2 thousand laboratories and classrooms (World Bank project)
- reconstruction of 200 student dormitories (public-private partnership)
- dual education in all universities
- private capital in the ecosystem of 70 universities
- development of university autonomy in line with European standards
- university scholarship programs

INTERNATIONALIZATION OF HIGHER EDUCATION AND SCIENCE OF UKRAINE:

- inclusion of at least 20 Ukrainian universities into the world's top 1,000 universities
- increase in the number of foreign students in Ukraine up to 200 thousand people Integration into the European educational space, harmonization of educational and scientific legislation and public policy of Ukraine with the EU
- bringing internal education quality assurance systems in line with the "European standards and guidelines"



STATUS, CONDITIONS AND OPPORTUNITIES FOR SCIENTISTS:

- salary (min, €): Candidate of Sciences (PhD) – 1000+, Doctors of Sciences – 1500+
- research funding: + UAH 531 million ("Horizon Europe"), + 20 million € (EIC for startups)
- access to 27 scientific databases
- scientific mobility for 27 thousand scientists
- increased R&D funding for levels 4-6 on Technology Readiness Level (TRL)
- integration into the European Research Area (ERA)

CUTTING-EDGE INFRASTRUCTURE:

- co-financing by business of 7 innovation parks
- International infrastructure research consortium (Chornobyl Radiation and Ecology Biosphere Reserve)
- National Portal for International Scientific and Technological Cooperation
- Science and Invention program on the basis of universities and research institutes (Ministry of Education and Science + Ministry of Economy)

RESULT FOR THE ECONOMY:

- preservation and enhancement of intellectual potential
- increase in the share of researchers under the age of 40 from 30.7% to 34%
- focus on the post-war development of Ukraine: defense, security, medicine, IT, biotechnology, energy, space, etc.

OBJECTIVES:

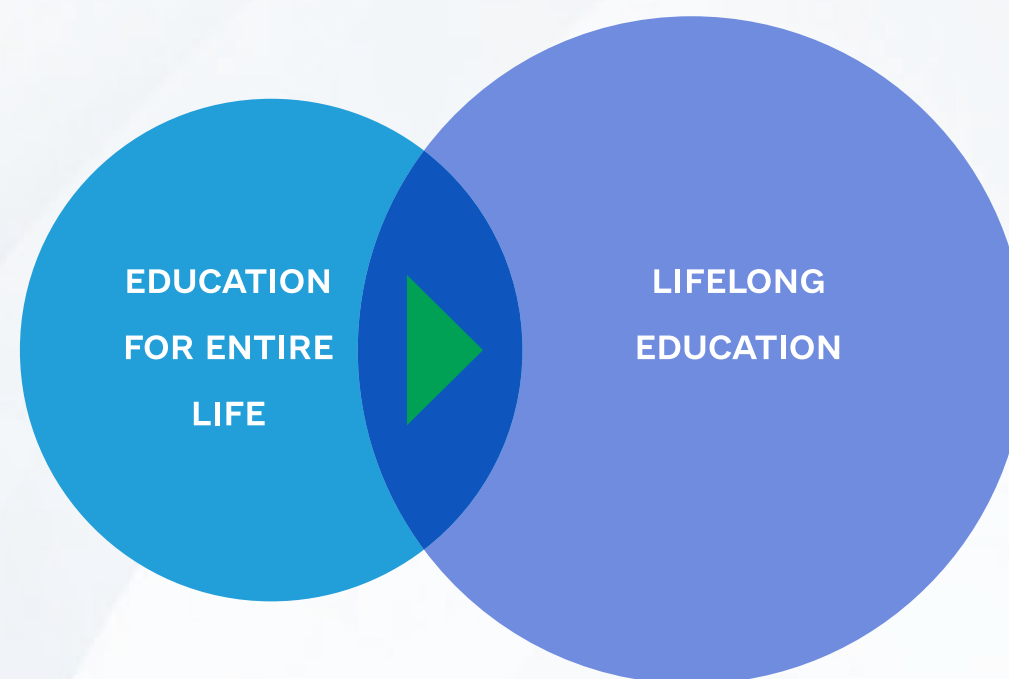
- Industrial competitiveness and the development of high-tech production
- Increase of GDP science intensity by 3 times
- Global challenges, cooperation with global scientific community

7+ National Projects
140+ Recovery Plan tasks

LIFELONG EDUCATION

ECOSYSTEM FOR LIFELONG EDUCATION:

- provision of an individual educational trajectory
 - formation of a system of individual study accounts (financing of retraining – vouchers, etc.) (EU recommendations concerning individual study accounts)
 - support for retraining and advanced training, at the workplace in particular
- introduction of micro-qualifications
 - recognition of results of short-term training (EU recommendations regarding European course on micro-qualifications and employment improvement)
- forecasting the needs of the labor market in qualifications and development of in-demand skills, including digital and green skills
- support for the development of qualification centers and recognition of the results of non-formal and informal learning on their basis



TRAINING OF VETERANS AND DEMOBOLIZED PEOPLE:

- introduction of vouchers for obtaining the first professional or the first higher education for the demobilized people
- providing access to educational programs on social adaptation (online programs in particular)
- providing access to training programs for retraining

EDUCATION FOR AN ACTIVE LIFE IN THE THIRD AGE:

- implementation of the EU recommendations and WHO recommendations on active aging
- development of a network of universities of the third age and educational and leisure hubs (at educational institutions)
- development of intergenerational programs, in particular on teaching digital skills, supporting the employment of elderly people, popular educational programs in the network of educational institutions "Popular History of Ukraine", "Physical Culture without Limits"

PURPOSES:

- Increase of economically active population and sustainable competitiveness of Ukrainian market
- Provision of constitutional rights to education
- Quick response to crises and challenges
- Social integration of individual population groups by formal and non-formal education

4+ National projects
50+ Recovery Plan tasks

PROJECT MAP

UNTIL THE END OF
2022



Implementation of current projects that are crucial for the support of education and science systems in working condition, fulfillment of wartime tasks

2023-2025



Projects aimed at infrastructure development and transformation of the content of education and science, respectively to EU standards and the LUGANO program

2026-2032



Implementation of a package of projects that complete a large transformation of the system of education and science "EDUCATION 4.0: UKRAINIAN SUNRISE"

"The journey of a thousand miles begins with one step..."

Lao Tzu

("The Tao Te Ching. A book about the way and the power")

Adoption and amendment of 143+ NPA

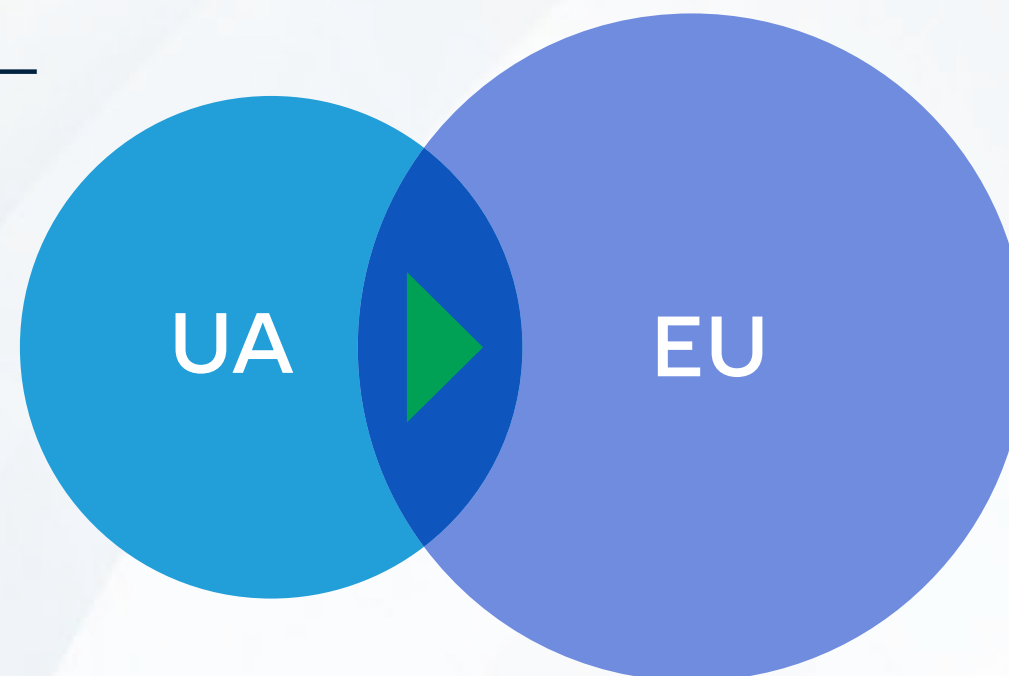
HARMONIZATION IN UKRAINIAN AND EUROPEAN EDUCATIONAL AREAS



PAN-EUROPEAN QUALIFICATIONS AREA ENTRY

HARMONIZATION AND DEVELOPMENT OF THE REGULATORY FRAMEWORK:

- the enactment of the National Qualifications System Law
- streamlining of the National Qualifications Framework
- modernization of special laws regarding qualification, taking into consideration European criteria
- developing sector- and industry-specific qualification frameworks
- streamlining the processes for mutually recognizing qualification for regulated professions



ESTABLISHMENT OF INSTITUTIONS AND USE OF COMMON TOOLS:

- joining Europass and establishing the National Europass Center
- launching The National Coordination Center for the European Qualifications Framework
- using ECTS to express various qualification kinds (vocational education, retraining, etc.)
- making the switch to the ESCO program

TRANSPARENCY AND QUALITY ASSURANCE QUALIFICATIONS:

- ensuring the availability of information about qualifications, their comparability, requirements for the assessment of qualifications, qualifications/standards developers, etc., in particular in English.
- developing the Register of Qualifications, taking into consideration European criteria, and joining the Europass platform
- harmonizing the requirements for the development and use of professional and educational standards.

PURPOSES:

- Mutual recognition of qualifications between the EU and Ukraine
- Ensuring labor and educational mobility
- Meeting the needs of the local labor market

HARMONIZATION IN UKRAINIAN AND EUROPEAN EDUCATION AND SCIENCE SYSTEMS



INDUSTRY 4.0



EDUCATION 4.0

10 years,
a sufficient budget
and efficient work
transform Ukraine
into an advanced
educational and scientific hub
of the European Union
of I4E4 level

(INDUSTRIAL 4.0 – EDUCATION 4.0)



CREATING THE FUTURE

EDUCATION 4.0: UKRAINIAN SUNRISE