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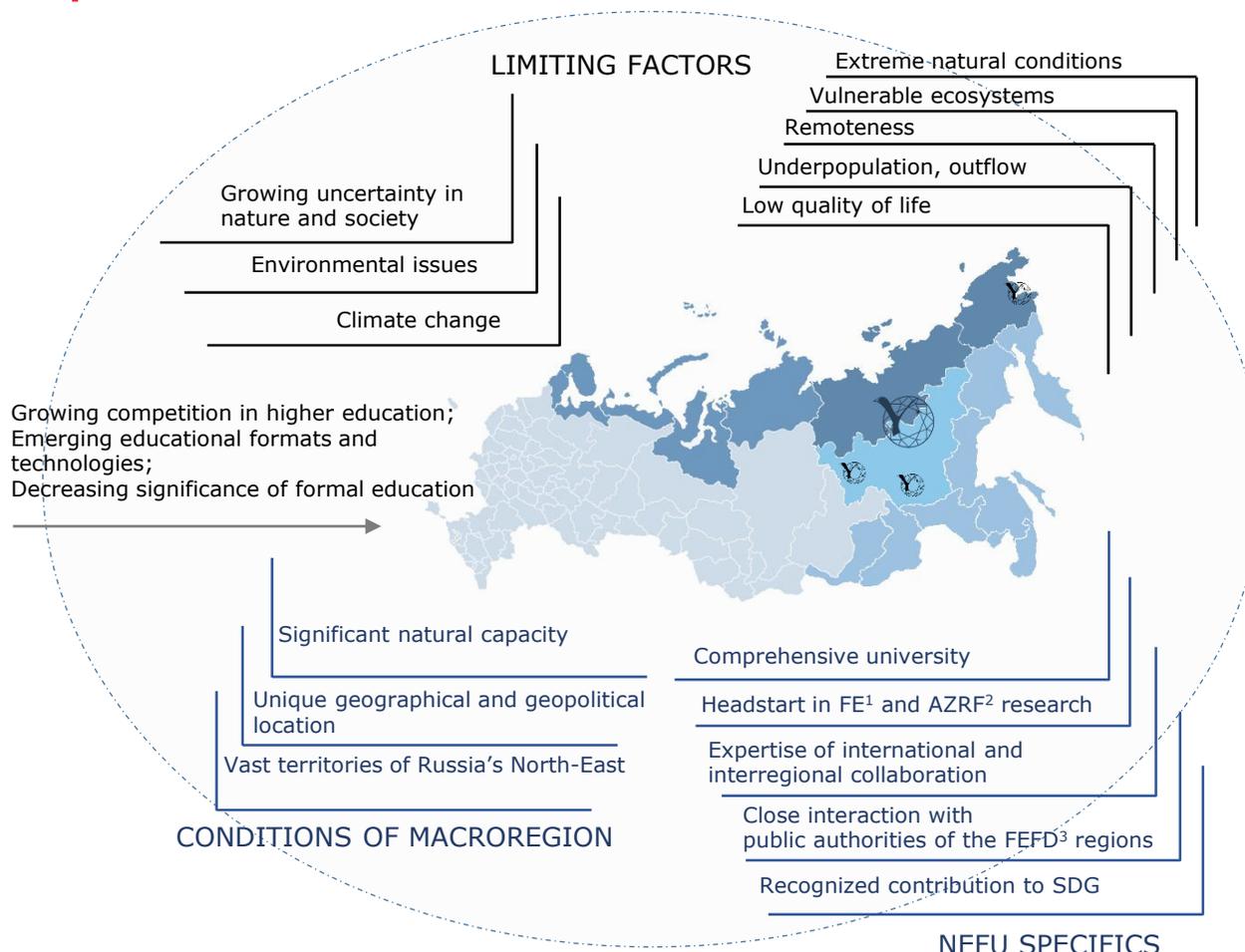
PROGRAM OF
DEVELOPMENT
**NORTH-EASTERN
FEDERAL UNIVERSITY**
FOR 2021-2030



September 17, 2021



Terms of Reference and Target Model



KEYNOTES of NEFU Development Program



- National Program for the Socio-Economic Development of the Far East until 2024 and further until 2035.
- *Socio-Economic Development of the Arctic Zone of the Russian Federation* State-run Program of the Russian Federation

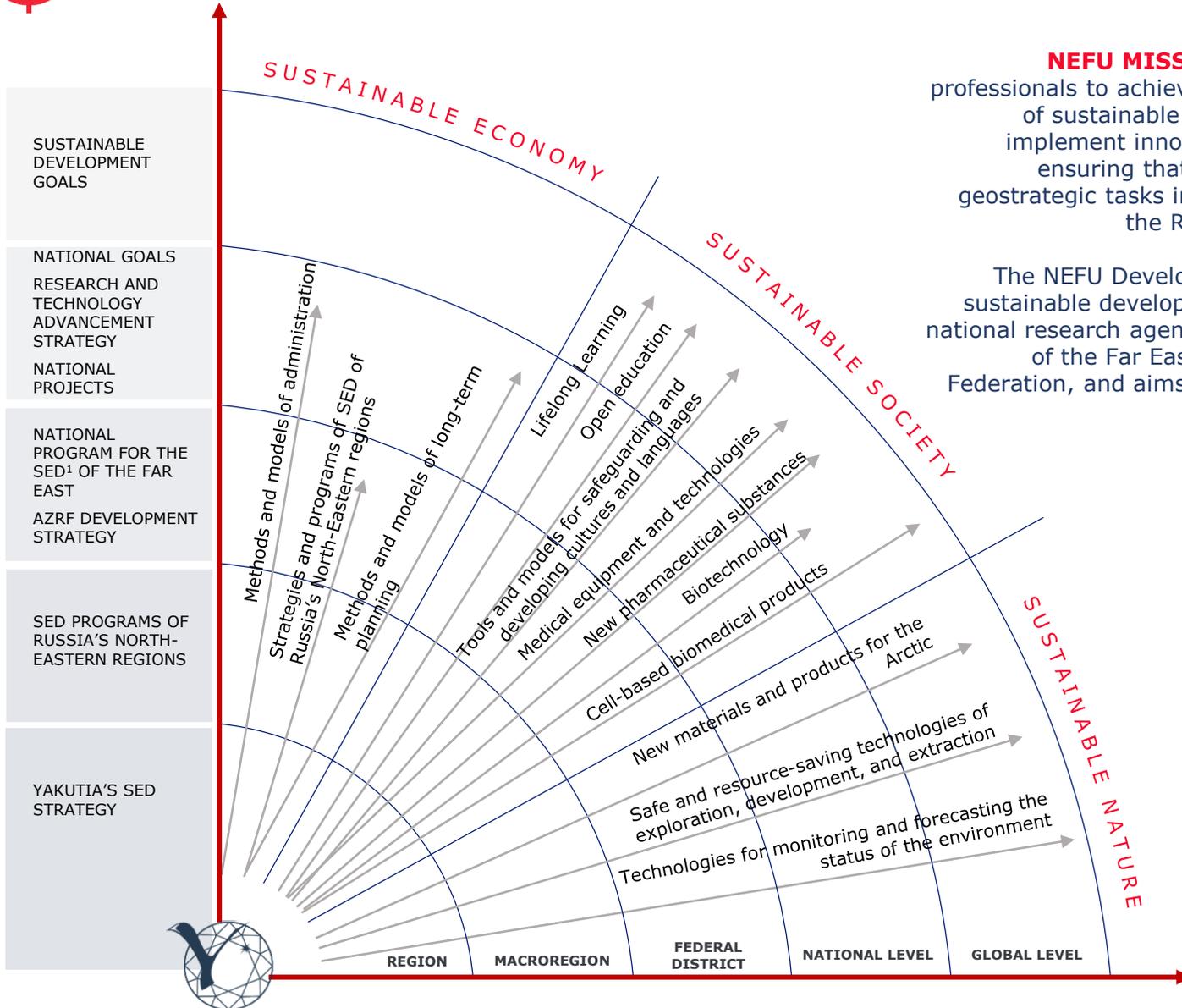
¹ (Russia's) Far East
² Arctic Zone of the Russian Federation
³ Far Eastern Federal District



Terms of Reference and Target Model

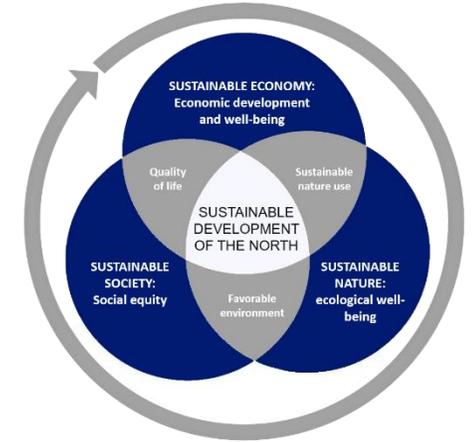


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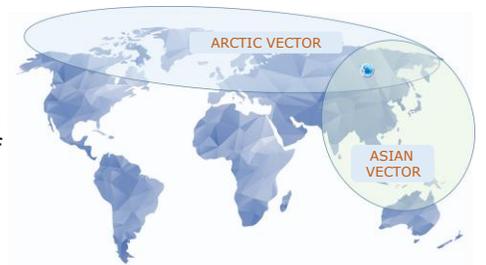
NEFU MISSION – to foster a new generation of professionals to achieve the goals and follow the principles of sustainable development; to carry out research, implement innovative solutions and social initiatives ensuring that the national goals are met, and the geostrategic tasks in the Far East and the Arctic Zone of the Russian Federation are accomplished.

The NEFU Development Program is based on ideas of sustainable development, resonates with the global and national research agenda and socio-economic development of the Far East and the Arctic Zone of the Russian Federation, and aims to achieve the model of sustainable development of the North.



By **2025** the NEFU will become the leading scientific, educational, expert, analytical, and cultural center of the Far East and the Arctic Zone of the RF, providing high-quality education and competitive research.

By **2030** the NEFU will have gained a stand as an authentic university of the Arctic and the Asia-Pacific regions, contributing to solving the global problems of humanity.



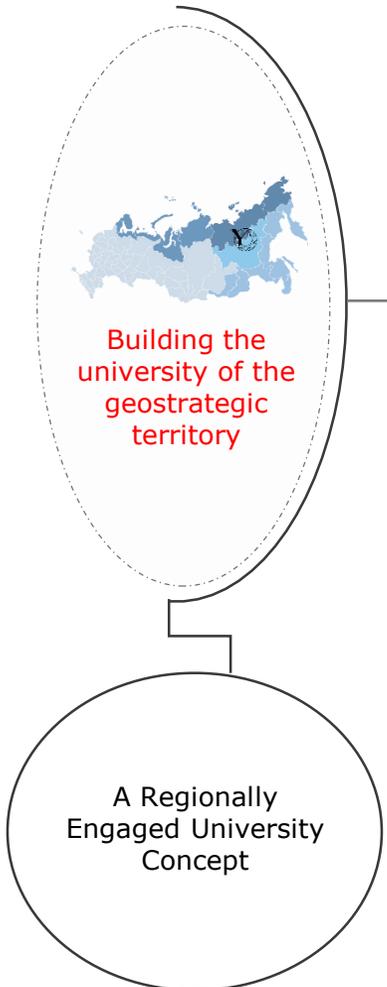
¹ Socio-economic development



Institutional Transformation of the University



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FUTURE VISION

The University shapes the **future vision** of the geostrategic territory and Russia as a whole

The University focuses on solving the **global problems of humanity**

The University explores **trends** of the macroregion's **development**

The University creates **precedents of new things** – thinking, goals, intellectual practices, technologies, and materials

The University builds soft skills and **future skills**

The University creates an environment fostering **self-development and self-actualization**

The University develops **technologies and models for improving the quality of life** in the North

The University promotes **Russia's traditional spiritual and ethical values**

The University is **open for interaction**

TRANSFORMATION AVENUES

Re-scaling the interaction – the Arctic and the Asian vectors of development

Personalizing and customizing education based on the digital footprint

Changing the **principles of organizing scientific** activity

Building a **geographically distributed network structure of the University**

Renewing **values** of youth policy

Building a **competitive environment within the University**

Exploring **new segments of the continuing professional education market**

Building an open, innovative socio-cultural **ecosystem**

Developing the campus, creating **high-tech scientific and educational clusters**

TRANSFORMATION TOOLS

Launching academic areas and majors that are crucial for the future-proof development of the Russian Far East and the Arctic

Focused development of **research master's programs**

Intensifying **interdisciplinary research**, governed by the priorities of research and technology advancement

Implementing the U360 model, building an extensive branch network in the Arctic and Asia-Pacific regions

Lining up project teams in breakthrough areas, introducing a cluster recruitment strategy

Enhancing international and interregional **scientific and educational partnerships**

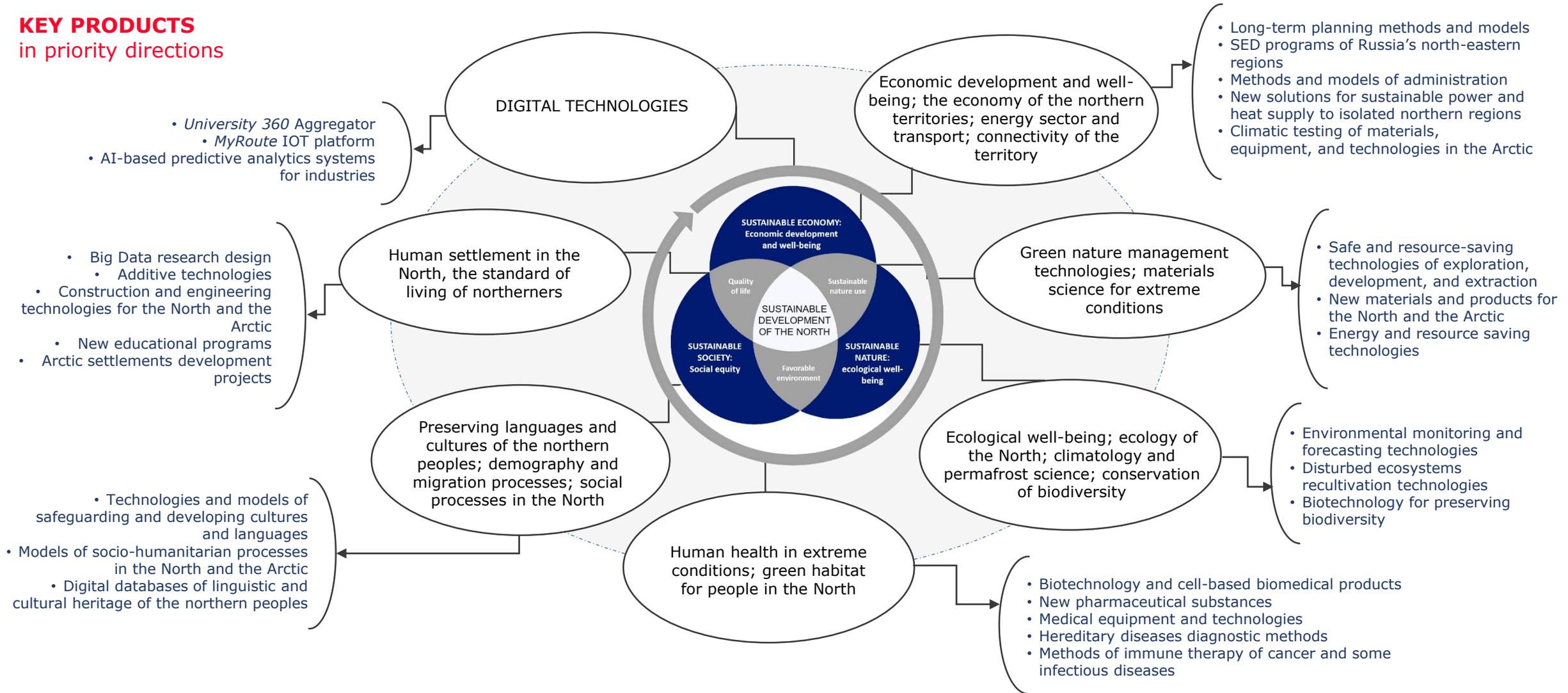
Restructuring of the governance system through the creation of breakthrough teams and making the University more open

Introducing **end-to-end digital technologies** and platform solutions

Providing scientific, analytical, expert, and consulting **support for the future-proof development of the FEFD and the AZRF**



KEY PRODUCTS
in priority directions





Strategic Projects



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ЛИДЕРАМИ СТАНОВЯТСЯ

Strategic Project #1. The University's Digital Ecosystem



1.1.

University 360



1.2.

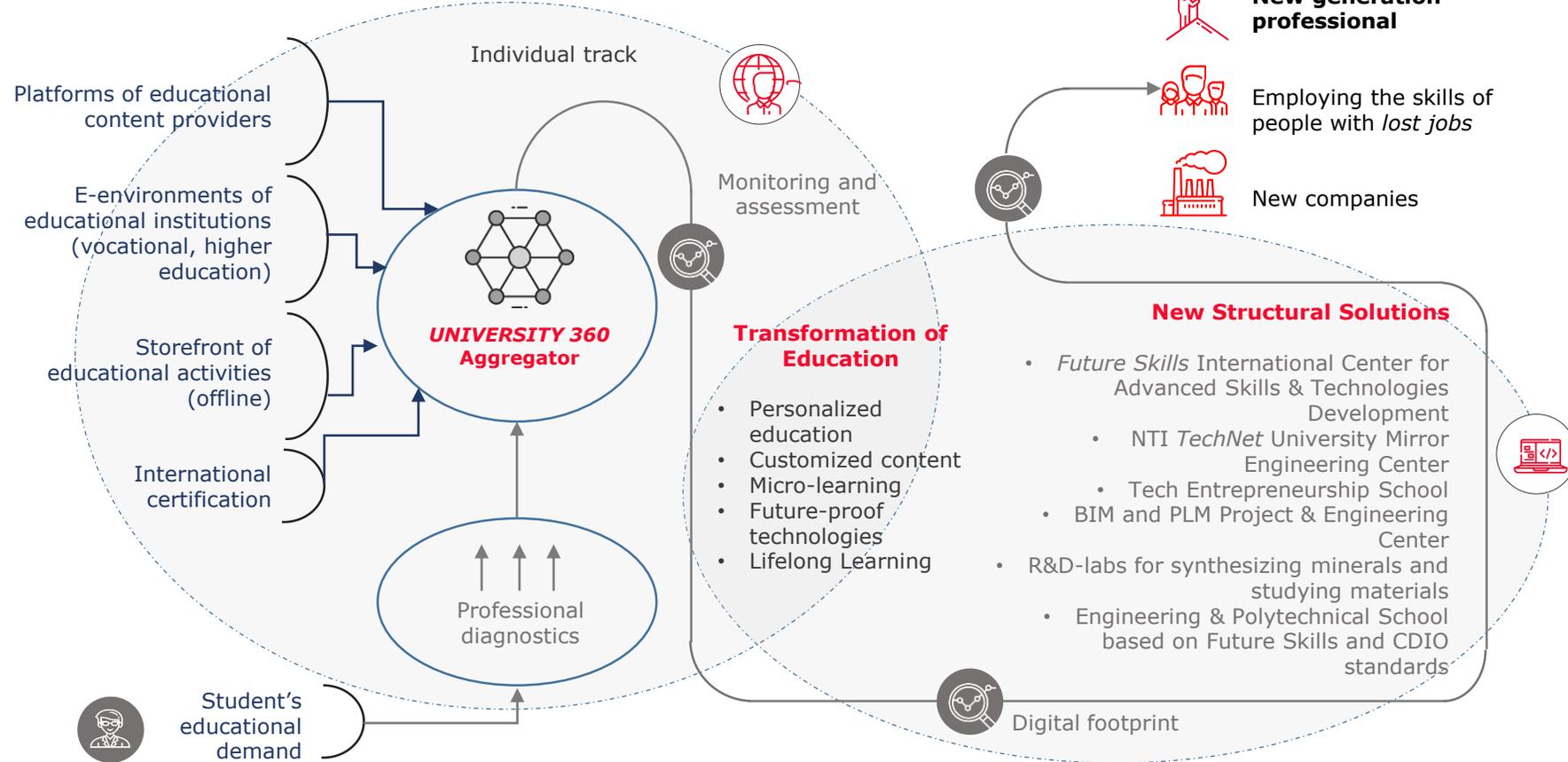
North-East Technopolis

Goal:

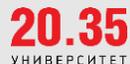
To transform the University's role as per the digital ecosystem model – adaptive, self-regulating, open for cooperation, integrated into the human life cycle, and focused on their maximum self-fulfillment.

Objectives:

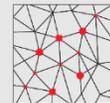
- to develop a system of digital profiles of students and use data to improve the quality of educational services;
- to organize training for students and staff, develop their skills based on free verified educational content through digital educational services;
- to build a dynamic digital environment.



Partners and networking as part of project implementation



Элемент



Технет
Национальная технологическая инициатива



- ❖ University Consortium of Big Data Researchers
- ❖ Association for Digital Transformation of Scientific and Educational Organizations of Russia



Strategic Project #2. Sustainable Technologies to Develop Northern Territories



2.1.

Sustainable Nature Use and Sustainable Development of Northern Ecosystems



2.2.

New Materials and Technologies for Extreme Northern Conditions

Sustainable Development Goals
Strategy of Scientific and Technological Development of Russia

MATERIALS

- new and renewable energy sources
 - polymer nanocomposites
- industrial rubber goods for the Arctic
- energy-efficient construction materials

EDUCATION

- Project learning
- Customized learning
- Future-proof technologies
- Mentorship

TECHNOLOGIES

- to monitor and forecast the status of the environment;
- to survey, explore, and develop mineral deposits;
- to design and construct energy-efficient buildings for Arctic and northern regions;
- of energy-saving systems of transporting, distributing, and utilizing energy;
- of computer modeling of nanomaterials, nanodevices, and nanotechnologies;
- of obtaining nanomaterials;
- graphene nanotechnologies



Digital footprint

New Structural Solutions

- Climate test facility in Tiksi
- *Future Skills: TechNet.North-East* NTI Engineering Center;
- engineering center of information modeling, digital twins, and building PLM in the North and the Arctic;
 - R&D labs network



New generation professional



Sustainable technologies



New materials

Partners and networking as part of project implementation





Strategic Projects



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ЛИДЕРАМИ СТАНОВЯТСЯ

Strategic Project #3. Human in the Extreme Conditions of the North



3.1. Cultural and Linguistic Diversity in the North



3.2. High Technologies for Preserving and Strengthening Human Health in the North



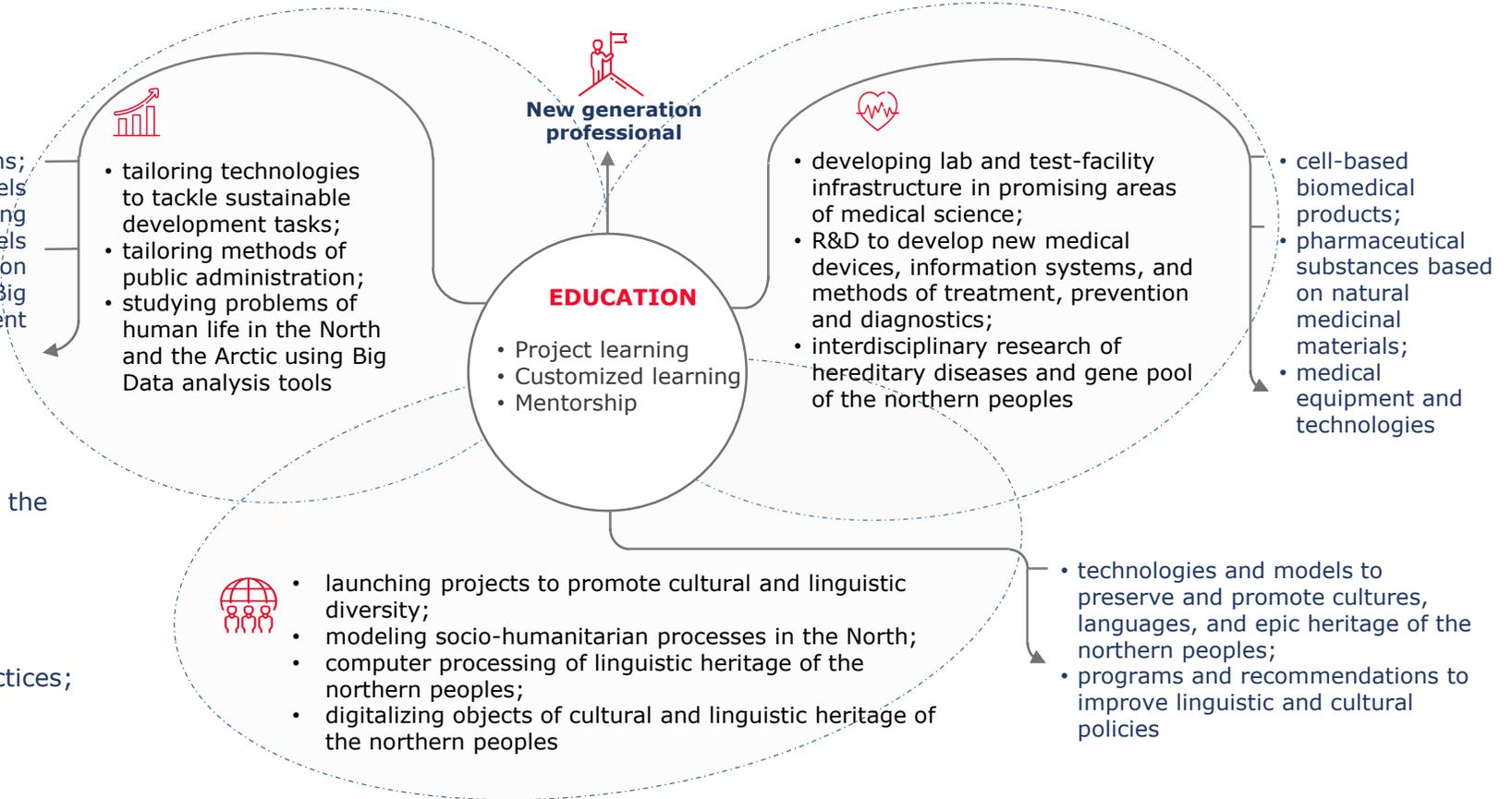
3.3. The Sustainable Economy of Russia's Geostrategic Territories

Goal:

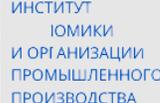
To increase life expectancy and improve the quality of life of the northerners.

Objectives:

- to foster cultural and linguistic diversity;
- to tailor and mainstream new future-proof, ecosystem-friendly health protecting technologies and efficient practices;
- to build a system of methods and models of strategic planning for the development of geostrategic regions.



Partners and networking as part of project implementation



Consortium for Researching Problems of Economic Development and International Cooperation in the Far East
Far East: a Space of Opportunities
Consortium



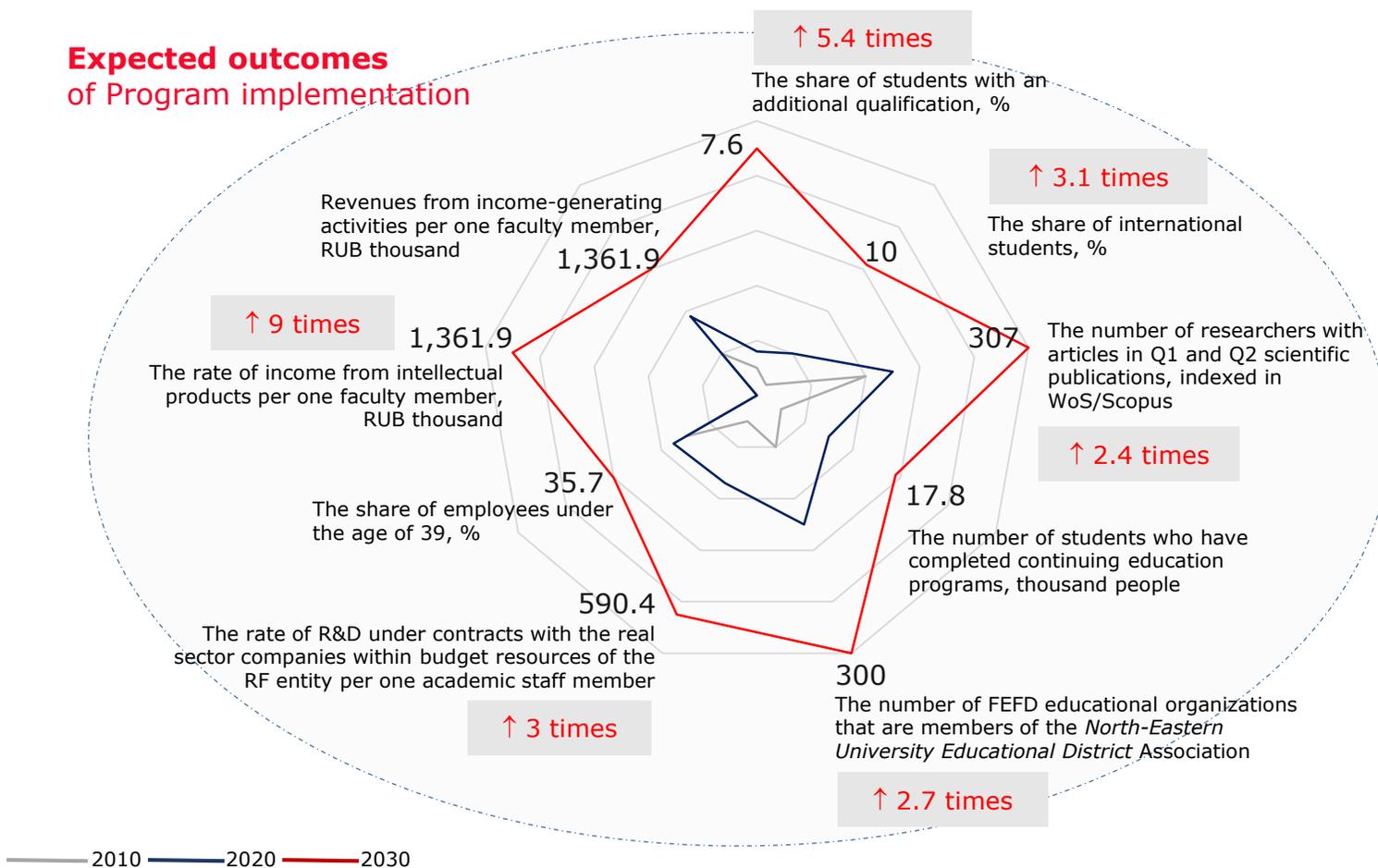
EXPECTED OUTCOMES



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Expected outcomes of Program implementation



NEFU impact

on the development of Russia's North-East

- cut outflow of population, anchoring young people;
- more accessible and widespread quality higher education;
- cut shortage of professionals in the macroregion;
- new safe technologies of prospecting and developing mineral and biological resources;
- new technologies to forecast major challenges and early warning about environmental hazards;
- new materials for extreme climatic conditions;
- new technologies of safeguarding and promoting cultures and languages of the northern peoples;
- new technologies for protecting health of the macroregion's population;
- new methods of public administration, ensuring well-being of the northerners;
- more investment for development of Russia's North-East



NEFU 2030

>20,000 students

>2,000 international students

>18,000 continuing education students

1,580 faculty members

75% faculty members with a degree

350 online courses offered

817 extended training programs

6,108 incomes from all sources per one faculty member, RUB thousand



NEFU Competitive Advantage for Program Implementation



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Pursuing Sustainable Development Goals

NEFU's contribution to the achievement of the Sustainable Development Goals recognized by the expert community:



• 18th in Russia as per **THE University Impact Rankings**



• 32nd in Russia as per **UI GreenMetric** rating, assessing universities' contribution to achieving SDG



• NEFU is the initiator and one of the organizers of the **Northern Sustainable Development Forum**



• NEFU is the initiator and the key venue of **UNESCO international conferences on preserving linguistic and cultural diversity in cyberspace**



• the Arctic Council has supported the project for **digitalization of linguistic and cultural heritage of indigenous peoples of the Arctic**



• an **Arctic Multilingual Portal** www.arctic-megapedia.ru has been launched



• as part of the Program of Multidisciplinary Scientific Research in the Sakha Republic (Yakutia) in 2016-2020, NEFU has implemented over **50 projects to solve sustainable development issues in Yakutia**

Arctic and Asian (Eastern) Vectors of Science and Education Development



EDUCATION

- **Over 50% of the basic academic programs** are Arctic-oriented
- **more than 60% of students** pursue Arctic-oriented basic academic programs
- NEFU is Russia's only university that trains professionals for **the entire diamond pipeline**
- NEFU is the only university of the Russian Ministry of Education and Science in the Far East that **trains doctors**
- NEFU is one of the leading centers in the Far East and Russia for training IT and digital economy professionals: 17.6% of offered basic educational programs focus on **the digital economy and ICT**
- NEFU is one of the **centers for strategic planning** of the SED in the Far East: over the past five years, we have developed 27 programs for the SED of regions, municipal districts, economic sectors, and enterprises of the FEFD
- **Cooperation agreements** with more than 500 scientific and educational organizations, 744 real-sector companies, and 145 overseas organizations
- NEFU is a member of **12** international associations and consortia

SCIENCE

- A **comprehensive university**
- Many years of **scientific collaboration experience** with Russian and international universities and research centers
- Expertise of undertaking **interdisciplinary research** of Yakutia's socio-economic development in 2016-2020
- *North: the Territory of Sustainable Development* world-class Scientific and Educational Center
- **37** research and education labs, **16** scientific and educational centers, **3** expert centers for fostering and supporting R&D
- **2** centers for collective use of scientific equipment and testing installations, **4** test facilities