

1

## SUPPORT FOR EARLY DEVELOPMENT



### PROBLEM

Between 2011 and 2017, Russia saw the share of special-needs preschoolers expand 1.5 times. How students perform in the first grade varies significantly across the early schooler cohort. Research has found that school failure and social maladjustment are rooted in early development problems in over 50% of cases.

### SOLUTION

- CREATING A PATRONAGE FUNCTION TO SUPPORT THE DEVELOPMENT OF CHILDREN BETWEEN AGES 0 AND 3 (AND FOR SPECIAL-NEEDS CHILDREN AGED 0-6 YEARS).
- COUNSELORS AND OTHER PROFESSIONALS WILL PROVIDE FREE CONSULTATIONS TO FAMILIES OVER A RANGE OF TOPICS IN EARLY DEVELOPMENT, WHICH SHOULD ALLEVIATE DEVELOPMENTAL RISKS IN YOUNGER CHILDREN AND FACILITATE THEIR BETTER PERFORMANCE AT SCHOOL.

### OUTCOME

- PROMOTING ROBUST UPBRINGING PRACTICES, REDUCING DISABILITIES AND MENTAL DISORDERS IN YOUNGER CHILDREN, ENSURING EFFECTIVE SOCIALIZATION.
- STRONGER EDUCATIONAL ACHIEVEMENT AND HIGHER PROSPECTS FOR DECENT LIVING, ESPECIALLY IN DISADVANTAGED COHORTS.

2

## DIGITAL SCHOOLING



### PROBLEM

Russia has substantially lagged behind the world's foremost economies in terms of ICT literacy of the population. Teachers spend 10-20% of their time on legacy routines (such as paper record-keeping, etc.) which can be effectively automated. Only 10% of schools have access to high-speed broadband internet.

### SOLUTION

- MASS-DEPLOYING CUTTING-EDGE DIGITAL TEACHING & LEARNING SOLUTIONS. THIS WILL ENABLE MORE EFFECTIVE PERSONALIZED LEARNING STRATEGIES TO DELIVER THE RIGHT LESSON AT THE RIGHT TIME AND IN THE RIGHT FORMAT, WHILE ALSO FACILITATING TEACHER ROUTINES SUCH AS RECORD-KEEPING, CHECKING HOME ASSIGNMENTS, ETC.
- INVIGORATING EDUCATION BY IMPLEMENTING GAME-BASED AND SIMULATION TOOLS AND TECHNIQUES. THIS WILL HELP BOOST STUDENT ENGAGEMENT, ADD HANDS-ON EXPERIENCES, AND BETTER NURTURE SUCH PIVOTAL CAPACITIES AS CRITICAL THINKING, ABILITY TO SEEK OUT OUTSIDE-THE-BOX SOLUTIONS, TEAMWORK, ETC.
- DEVELOPING DISTANCE AND HYBRID LEARNING FORMATS TO ENSURE THE FLEXIBILITY IN COURSEWORK DESIGN AND PROGRESSION (KEY SEMINARS AND EXAMS REMAIN CLASSROOM-BASED), ESPECIALLY FOR ADVANCED-STUDY SUBJECTS AND EXTRACURRICULARS.

### OUTCOME

- MARKED IMPROVEMENTS IN STUDENT MOTIVATION AND LEARNING OUTCOMES.
- ICT-ASSISTED SOLUTIONS WILL SPARE OUT TIME FOR TEACHERS TO UNLEASH THEIR CREATIVE POTENTIAL.



3

## UPGRADING SCHOOL INFRASTRUCTURE



### SOLUTION

- PROVIDING THE ENTIRE STOCK OF RUSSIAN SCHOOLS WITH HIGH-SPEED BROADBAND INTERNET ACCESS (100 MBPS BY 2020 AND 1 GBPS BY 2023), THEREBY FACILITATING THE TRANSITION TO A FULLY-FLEDGED ICT-SUPPORTED LEARNING INFRASTRUCTURE.
- CREATING L&D SETTINGS WITH MODERN LAYOUT AND FIT-OUT.
- SUPPLYING AN EXTRA 70 THOUSAND EARLY DAYCARE SLOTS ANNUALLY.
- BUILDING 2,000 NEW SCHOOLS TO CUT SECOND AND THIRD STUDY SHIFTS; RENOVATING ANOTHER 5,000 SCHOOLS WITH INADEQUATE L&D CONDITIONS.
- UPDATING SCHOOL FACILITIES IN RURAL AREAS; SETTING UP INTEGRATED CULTURAL, EDUCATIONAL AND SPORTS COMPOUNDS, REPLACING / REPAIRING 12.5 THOUSAND SCHOOL BUSES.

### PROBLEM

Today, 15% of Russian school students still have to study in shifts. Also, about 300 thousand early daycare slots are lacking for nursery children between 2 and 3 years of age. The K-11 educational system has been afflicted by largely archaic and underdeveloped infrastructure, which seriously impedes transitioning to best-practice learning design and instruction.

### OUTCOME

- REDUCING THE NUMBER OF STUDENTS DOING SECOND AND THIRD SHIFTS.
- DAYCARE SUPPLY SUFFICIENT TO ACCOMMODATE THE ENTIRE NURSERY-AGE COHORT.
- UP-TO-DATE FACILITIES AND EQUIPMENT AT ALL SCHOOLS.



4

## EQUAL OPPORTUNITY FOR ALL



### PROBLEM

Russia is starkly divided by students' school-entry ability across territories and socio-economic groups. The gap in preparedness for school between students from well-to-do and vulnerable backgrounds can reach up to 1.5 years of formal schooling. Children from major cities and highly educated families have way better prospects for life success.

### SOLUTION

- MAKING SCHOOL PREP COURSES UBIGUOUSLY ACCESSIBLE BY GRANTING EDUCATION VOUCHERS TO FAMILIES WITH CHILDREN AGED 6-7 YEARS OLD TO COVER TUITION FEES FOR SUCH TRAINING.
- PROVIDING TARGET SUPPORT TO DISADVANTAGED FAMILIES, INCLUDING FREE EXTRA CLASSES WITHIN THE CORE CURRICULUM, EXTRACURRICULAR ACTIVITIES, ENROLLMENT IN SUMMER SCHOOLS AND LEADING CHILDREN'S CENTERS, ETC.
- CREATING EXTRA JOBS FOR SPEECH THERAPISTS, COUNSELORS, TUTORS, ETC. IN THE MOST VULNERABLE COMMUNITIES.
- PROVING WELFARE ALLOWANCES OF AT LEAST 80% OF THE REGION'S MINIMUM SUBSISTENCE LEVEL TO UNDERPRIVILEGED COLLEGE AND UNIVERSITY STUDENTS.

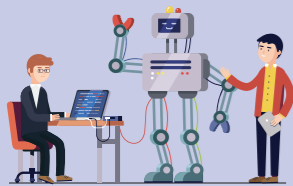
### OUTCOME

- IMPROVED OPPORTUNITIES FOR DECENT CAREERS AND MOBILITY ACROSS POPULATION COHORTS.
- SOCIAL COHESION AND WELFARE GAINS.



5

## NEW TECHNOLOGY EDUCATION



### PROBLEM

Russian adult population remains less effective in terms of the ability to operate in technological environments, comparing to other countries. Today, only 8.2% of middle schoolers in Russia choose to pursue the advanced study of technology-related fields at high school.

### SOLUTION

- OVERHAULING THE SYSTEM OF TECHNOLOGY EDUCATION AT SCHOOLS AND VOCATIONAL COLLEGES; DEPLOYING CUTTING-EDGE INFRASTRUCTURE (INDUSTRY-STANDARD WORKSHOPS, ETC.).
- DEPLOYING A COUNTRY-WIDE SYSTEM OF CHILDREN'S R&D PARKS AFTER THE QUANTORIUM MODEL.
- DESIGNING AND MASS-INTRODUCING DIGITAL SIMULATOR SOLUTIONS TO HELP STUDENTS BUILD A SOUND TECHNOLOGICAL EDGE IN TOP-PRIORITY FIELDS.
- CONVERTING A THIRD OF VOCATIONAL COURSES INTO APPLIED BACHELOR'S PROGRAMS AND YET ANOTHER THIRD, INTO FAST-TRACK COURSES FOR SPECIFIC QUALIFICATIONS AT RAPID TRAINING CENTERS.

### OUTCOME

- INCREASED INFUX OF SKILLED TECHNOLOGY STAFF TO SPUR RUSSIA'S INDUSTRIAL UPGRADES.
- IMPROVEMENTS IN PRODUCTIVITY AND THE STANDARDS OF LIVING THANKS TO MODERN TECHNOLOGY MORE EXTENSIVELY HARNESSSED ACROSS SOCIO-ECONOMIC DOMAINS.



6

## SUPPORTING AND DEVELOPING TALENT



### PROBLEM

Today, the Russian system for supporting and developing talent only covers 7% of children and these directions of support correspond to only 4% positions on the labor market. A number of areas crucial to fostering socio-economic development, such as innovative R&D, the creative sector, entrepreneurship, leadership, etc., are outside the scope of the existing talent support framework.

### SOLUTION

- ALLOWING EVERY SCHOOL STUDENT TO PURSUE THE ADVANCED STUDY OF ANY SUBJECT THEY ARE KEEN ON, INCLUDING THROUGH MODERN ICT FORMATS IN COOPERATION WITH LEADING SPECIALIZED UNIVERSITIES.
- CREATING 40 INTERREGIONAL GIFTED EDUCATION CENTERS AFTER THE SIRIUS MODEL TO OFFER TRAINING TO UP TO 58 THOUSAND SCHOOLERS ANNUALLY.
- CO-FINANCING 50% OF UNIVERSITY TUITION FOR FEE-PAYING STUDENTS AND THOSE LIVING AWAY FROM HOME (PROVIDED THEY SCORED AT LEAST 80 POINTS ON THE K-11 STATE EXAM OR WON A SPECIALIZED ACADEMIC OLYMPIAD).

### OUTCOME

- IMPROVED HUMAN CAPITAL QUALIFICATIONS AND LABOR PAYOFF.
- REDUCTION IN "BRAIN DRAIN" LOSSES.



7

## FOSTERING CONTINUING LEARNING & DEVELOPMENT



### SOLUTION

- CO-FINANCING A DIVERSE RANGE OF UPSKILLING AND RESKILLING OPPORTUNITIES FOR ADULTS.
- CREATING UBIGUOUSLY ACCESSIBLE CENTERS FOR INDEPENDENT QUALIFICATION ASSESSMENT AND CERTIFICATION.
- EDUCATION CENTERS IN COOPERATION WITH VOCATIONAL TRAINING, HIGHER EDUCATION AND CORPORATE L&D INSTITUTIONS.
- CONVERTING TRADITIONAL PART-TIME PROGRAMS INTO MODERN ONLINE COURSES AT VOCATIONAL COLLEGES AND UNIVERSITIES.
- ESTABLISHING A UNIFIED NATIONAL ONLINE PLATFORM FOR NAVIGATING EDUCATIONAL OFFERINGS AND JOB ASSISTANCE SERVICES, INCLUDING OPPORTUNITIES FOR RETIRED INDIVIDUALS.

### PROBLEM

Today, only 17-20% of Russians are engaged in continuing education and development, a proportion 2-3 times smaller than in Europe. Low participation in adult learning hampers productivity and welfare gains.

### OUTCOME

- RAMP-UPS IN LABOR PRODUCTIVITY AND ACCELERATED ECONOMIC GROWTH.
- BETTER CAREER PROSPECTS; GAINS IN SOCIAL MOBILITY.



8

## UNIVERSITIES AS INNOVATION HUBS



### PROBLEM

In 29 Russian regions, universities now solely enroll applicants who score below Grade A equivalent on the K-11 state exam. Such local universities have no appeal to high-performing school graduates who favor entering the most prestigious programs by leading institutions. Furthermore, there has been only very limited cooperation between industry and academia in Russian regions.

### SOLUTION

- EMPHASIZING THE DEVELOPMENT OF ENTREPRENEURIAL COMPETENCIES AMONG STUDENTS.
- TRANSFERRING TO UNIVERSITIES THE EXISTING REGIONAL INFRASTRUCTURE FOR SUPPORTING INNOVATION (E.G., BUSINESS INCUBATORS, BUSINESS ACCELERATORS, INNOVATIVE R&D CENTERS, TECHNOLOGY PARKS, ETC.).
- PROVIDING FUNDING INCENTIVES TO 100 UNIVERSITIES TO SUPPORT REGIONAL ECONOMIC DEVELOPMENT PROGRAMS AND TO ANOTHER 25 UNIVERSITIES, TO SUPPORT DEVELOPMENT PROGRAMS FOR INDIVIDUAL ECONOMIC SECTORS.
- ALLOCATING 200 COMPETITIVE GRANTS TO LEADING UNIVERSITIES PARTICIPATING IN UNIVERSITY-INDUSTRY COLLABORATION PROGRAMS.

### OUTCOME

- IMPROVED MATCH BETWEEN UNIVERSITY TRAINING AND LABOR MARKET NEEDS; HIGHER GRADUATE SALARIES.
- UNIVERSITIES CONTRIBUTING MORE TO THE INNOVATIVE DEVELOPMENT OF THEIR HOST REGIONS.



9

## FOSTERING BASIC RESEARCH



### PROBLEM

Russia currently conducts R&D in only 5% of global research frontiers (most rapidly developing fields of research) – a rate 3–4 times below the respective average for the GDP peer states.

### SOLUTION

- EXPANDING THE GLOBAL ACADEMIC EXCELLENCE PROGRAM TO SPAN 40 UNIVERSITIES.
- INCREASING FUNDING FOR LONG-TERM (5–10 YEARS) BASIC AND EXPLORATORY R&D PROGRAMS AT LEADING UNIVERSITIES AND CENTERS.
- CREATING ACADEMIC UNIVERSITIES THROUGH PARTNERSHIPS BETWEEN RESEARCH UNIVERSITIES AND INSTITUTES AT THE RUSSIAN ACADEMY OF SCIENCES.
- PROMOTING DOCTORAL RESEARCH BY ALLOCATING R&D GRANTS ON PAR WITH THE REGION'S AVERAGE PAY.

### OUTCOME

- INFLOW OF GROUNDBREAKING R&D OUTPUTS FOR A NEW ECONOMIC MOMENTUM AND WELFARE GROWTH.
- ACCELERATED UPGRADES ACROSS SOCIO-ECONOMIC DOMAINS.



10

## EDUCATIONAL EXPORT



### PROBLEM

Despite its significant foreign student body, which now exceeds 250 thousands, Russia has so far failed either to make any material revenues in this export niche, or to secure a sizeable influx of highly skilled international workforce. For comparison, in Australia, whose university system enrolls roughly just as many overseas students, proceeds from educational exports are 18 times those in Russia.

### SOLUTION

- DEPLOYING EDUCATIONAL ENVIRONMENTS WITH BEST-STANDARD INFRASTRUCTURE FOR EFFECTIVE LEARNING AND RECREATION (RENOVATING AND BUILDING NEW MODERN FACILITIES FOR TRAINING, ACCOMMODATION, SPORTS, ETC.; ENSURING MORE ACADEMIC STAFF BECOME PROFICIENT IN ENGLISH; SIMPLIFYING MIGRATORY PROCEDURES, ETC.).
- BOOSTING THE ENROLLMENT OF TALENTED FOREIGN STUDENTS, INCLUDING BY OFFERING GRANTS TO THOSE PURSUING MASTER'S AND DOCTORAL PROGRAMS IN TOP-PRIORITY AREAS.

### OUTCOME

- INCREASED SUPPLY OF QUALIFIED LABOR IN A RANGE OF AREAS.
- GROWTH IN EDUCATIONAL EXPORT EARNINGS.

11

## UPDATING SCHOOL CURRICULUM & INSTRUCTION



### PROBLEM

Confronted with this fast-paced and disruptive world, Russian schooling is increasingly falling out of sync with modern learning standards and socio-economic expectations. Between Grades 5 and 9, the share of motivated and engaged school students nearly halves, which stresses the need for an all-round overhaul in instructional design and delivery.

### SOLUTION

- UPDATING SYLLABI AND INSTRUCTIONAL TECHNIQUES, INCLUDING TO EFFECTIVELY NURTURE HIGHER COGNITIVE FACULTIES AND METASUBJECT SKILLS IN YOUNGER POPULATION COHORTS (E.G., ICT LITERACY, MULTIFACETED CRITICAL THINKING, THE ABILITY TO LEARN IN MULTIPLE DIRECTIONS AND IN A SELF-PROPELLED FASHION, ETC.).

### OUTCOME

- APPROPRIATELY SKILLED HUMAN CAPITAL; SUSTAINABLE WELFARE GROWTH.
- EMPOWERING RESILIENT, FUTURE-PROOF COMMUNITIES.

12

## HUMAN RESOURCES FOR EDUCATION DEVELOPMENT



### PROBLEM

Competent and motivated human resources are an indispensable foundation for sustained education development. The modern-day teacher must be equipped with a range of faculties central to delivering effective L&D, including, among others, strong ICT literacy and the ability to design person-centric educational strategies.

### SOLUTION

- UPSKILLING MANAGEMENT TEAMS AT ALL L&D ORGANIZATIONS ACROSS EDUCATIONAL LEVELS.
- INTRODUCING CERTIFICATION PROCEDURES ENTITLING TEACHERS TO A PAY RISE AS AN INSTRUMENT TO FOSTER TEACHER MOTIVATION FOR ONGOING PROFESSIONAL DEVELOPMENT.
- UPGRADING TEACHER TRAINING PROGRAMS TO EMPHASIZE HANDS-ON COMPONENTS, AND INTRODUCING POST-DEGREE SUPPORT SYSTEMS FOR EARLY-CAREER TEACHERS.

### OUTCOME

- LEARNING ENVIRONMENTS BETTER MATCHED WITH STAKEHOLDER EXPECTATIONS.
- IMPROVED LEARNING OUTCOMES ACROSS EDUCATIONAL LEVELS.
- HIGHER PRESTIGE AND LIVING STANDARDS OF THE TEACHING PROFESSION.



CENTER  
FOR STRATEGIC  
RESEARCH

HUMAN CAPITAL

# 12 SOLUTIONS for New Education

Based on a joint paper by the HSE Institute of Education and the Center for Strategic Research, which puts forth a comprehensive roadmap for the development of Russian education through 2024.



NATIONAL RESEARCH  
UNIVERSITY