



# ROQED Physics Lab

A complete virtual 3D simulator of Physics lab to conduct practical experiments and demonstrations in Physics classes. ROQED Physics Lab allows students to systematically study and simulate various physical experiments on their own and/or under the supervision of an instructor. Working with ROQED Physics Lab students can setup specific labs, run experiments, derive needed values, analyze the results, estimate error and submit their lab reports to the instructor.



# ROQED Physics Lab



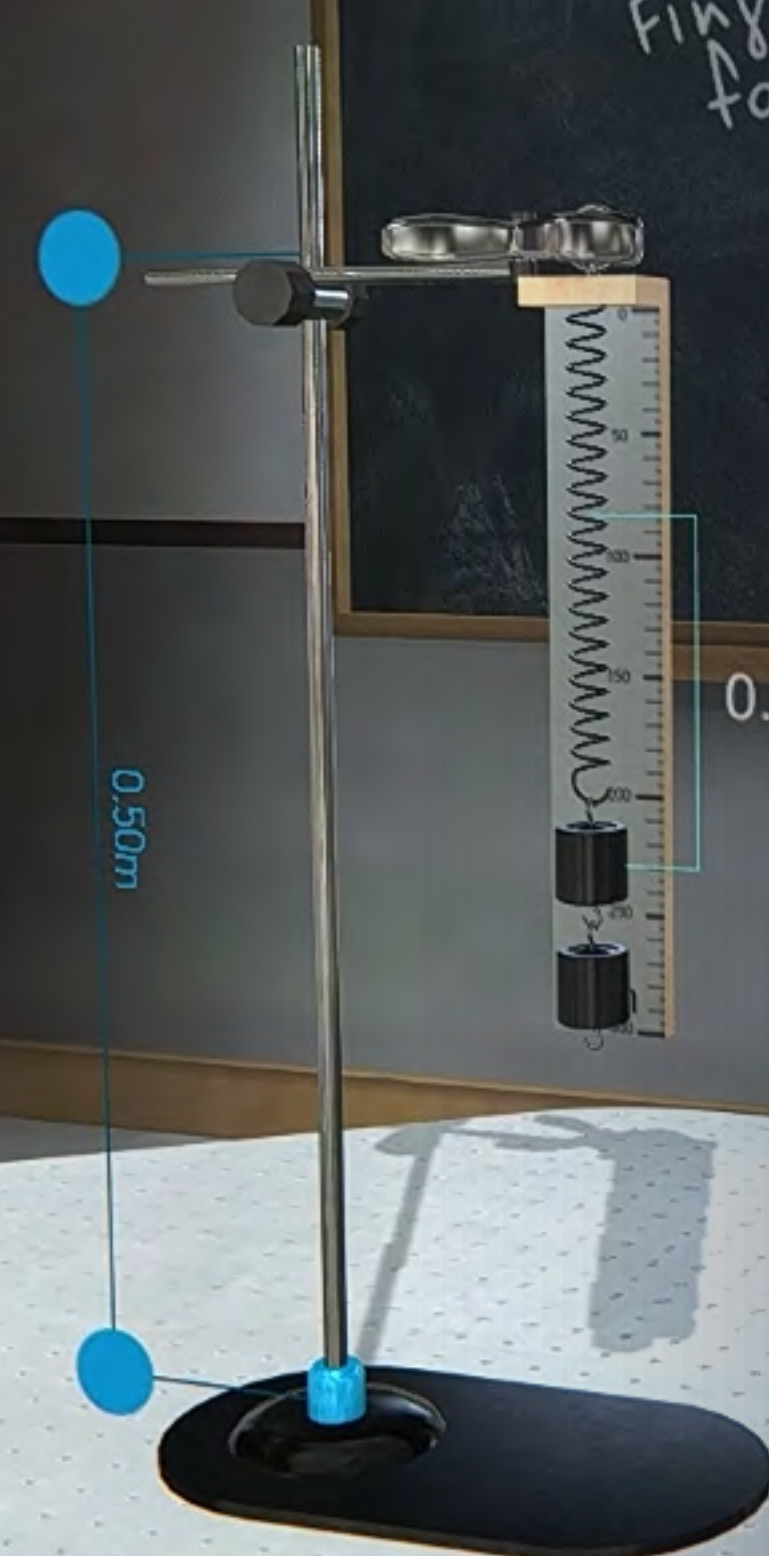
**40 pre-installed experiments**  
with step-by-step instructions



**Covers all k-12**  
Physics topics and materials



**Available in 13**  
languages



Suspending the weights to the spring,  
That the modulus of elasticity is directly proportional  
Elongation of the spring.  
The extension of the spring is the difference between the  
stretched spring and the length of the undeformed spring

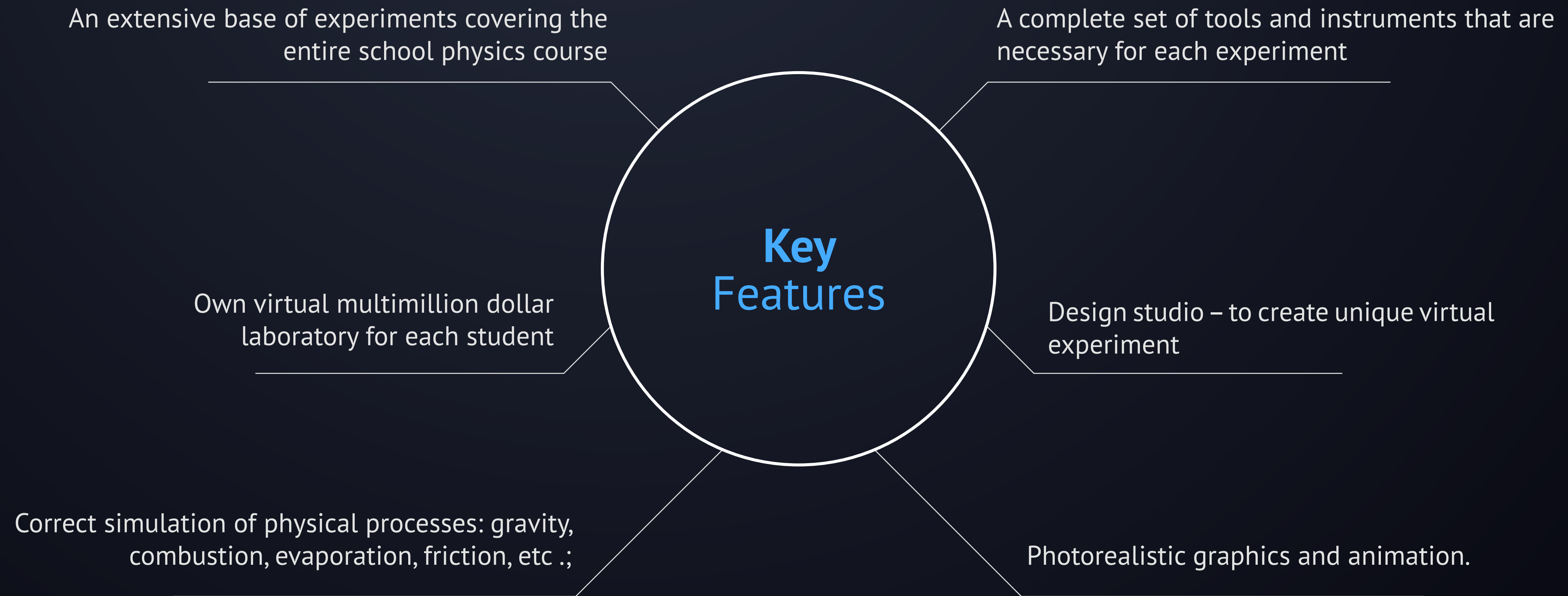
Finger clamps  
for holder

Holder

## With ROQED Physics Lab students can

- Enjoy complete set of equipment to conduct any possible lab in virtual physics classroom
- Try all virtual simulations that corresponds to the laws of nature
- Feel the accurate and realistic 3D models; create immersive experience into the virtual world
- Run more than 40 pre-installed experiments with step-by-step instructions
- Create their own real\fantastic experiments
- Learn physics thoroughly and more easily.





# The list of content

## Physical quantities and measurements

- Measurement of physical quantities.
- Sizing small bodies
- Body volume measurement
- Irregular body volume measurement

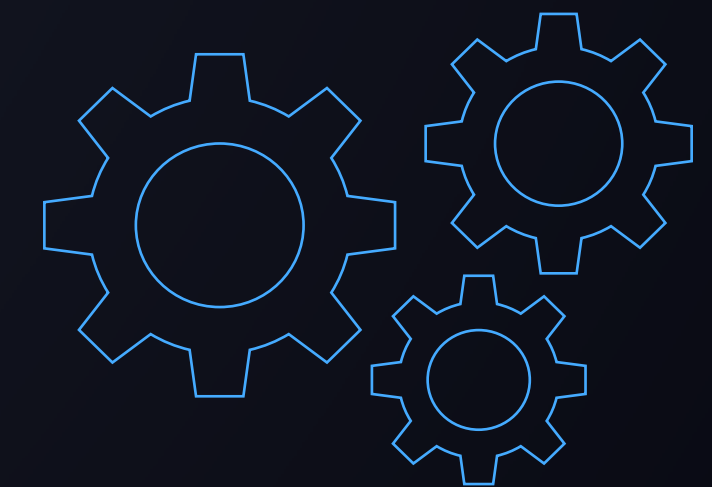
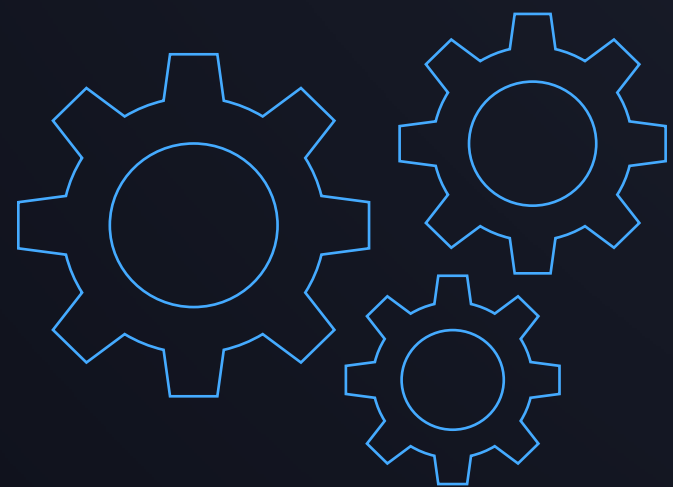
## Mechanics (kinematics)

- Determination of body acceleration with uniformly accelerated movement
- Study of a horizontal projectile motion
- Study of a circular motion under the gravity
- Investigation projectile motion launched at different angles

# THE LIST OF CONTENT

## Mechanics (statics and dynamics)

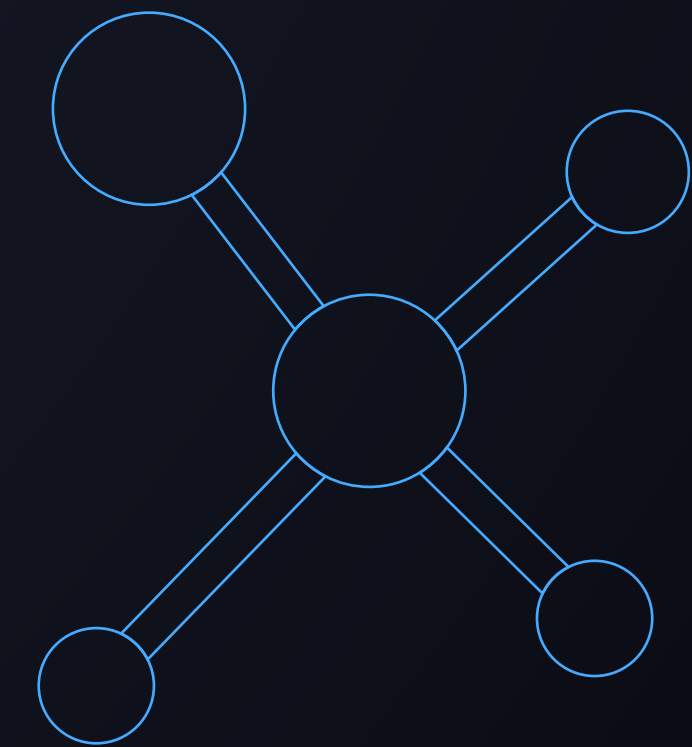
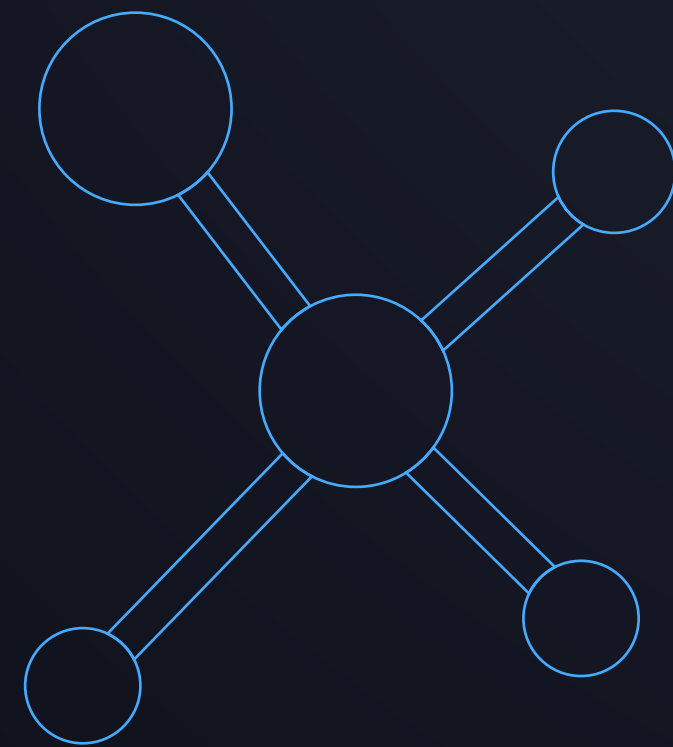
- The study of an elastic deformation
- The study of the law of Archimedes
- Checking the conditions for floating bodies in a liquid
- Definition of work done with uniform body lift
- Determination of the equilibrium condition of the lever
- Determination of the efficiency of an inclined plane
- Determining the acceleration due to gravity using a mathematical pendulum
- Determination of the propagation velocity of surface waves
- Determination of wavelength and period of wave oscillations
- Determination of the coefficient of friction
- Comparison of the work of the elastic force with a change in the kinetic energy of the body



# THE LIST OF CONTENT

## Molecular Physics and Thermodynamics

- Determination of the density of liquids and solids
- Comparison of the amount of heat when mixing water of different temperatures
- Determination of specific heat of melting ice
- Relative humidity measurement
- Atmospheric pressure measurement
- Measurement of surface tension of water
- Comparison of molar heat capacities of metals
- The study of the isothermal process
- Study of the isobaric process





# THE LIST OF CONTENT

## Electric Circuits

- Assembly of an electric circuit and measurement of current and voltage in its various sections
- Investigation of the dependence of current strength on voltage in a circuit section. Ohm's law test
- Studying serial and parallel connection of conductors
- Measurement of work and electric current power
- Studying Ohm's Law for a circuit Section
- Exploring Mixed Conductor Connections



# THE LIST OF CONTENT

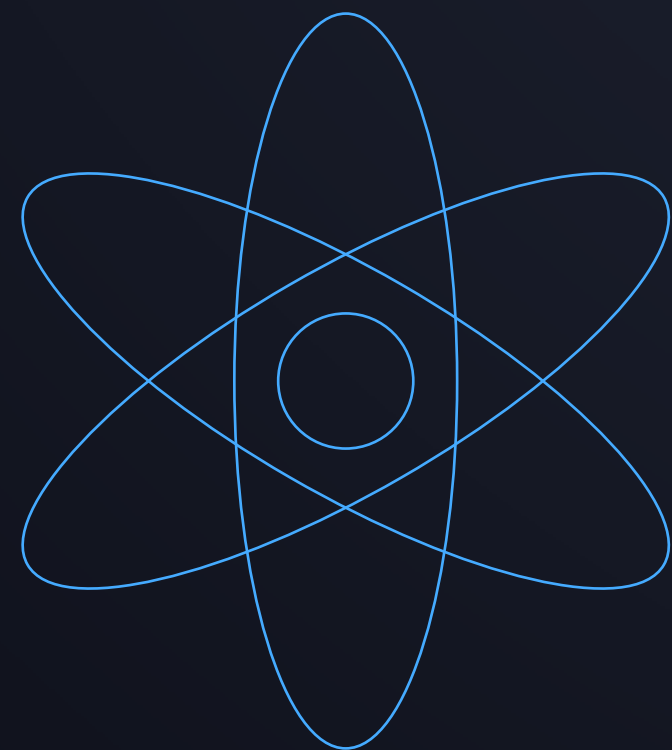


## Electricity and Magnetism

- Studying the properties of a permanent magnet and obtaining images of magnetic fields
- Assembly of an electromagnet and study of its action
- Determination of EMF of a current source and its internal resistance
- The study of the phenomenon of electromagnetic induction
- Determination of the charge of a monovalent ion
- Observation of the effect of a magnetic field on current



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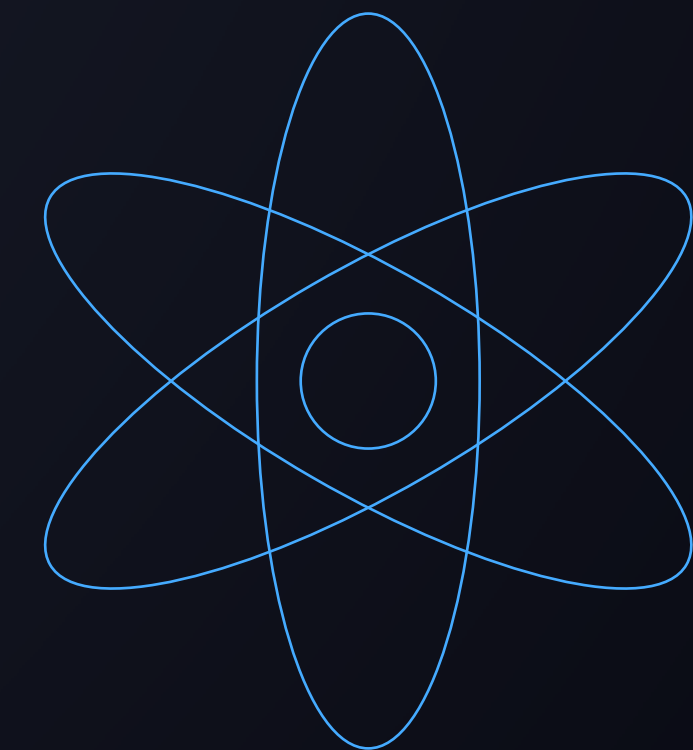


## Optics (wave optics)

- Observation of light interference and diffraction
- Determination of the light wave length using a diffraction grating

## Optics (geometric optics)

- Determination the focal length and optical strength of the collecting lens
- Determination of the refractive index of glass using plane parallel plates



## Elementary particle

- Studying charged particle tracks



# ROQED Physics Lab

- In virtue of the gamification of the program and well-thought-out scenarios, students' interest is highly stimulated through the course of the program.
- Students can recreate an experience of any complexity, without restrictions in space and resources.
- Develops spatial intelligence and critical thinking skills.
- Replaces the real components, devices, reagents that many schools lack, with its virtual counterparts
- It can be used as additional demonstration material in the classroom by the teacher when used both in a smart board\flat panels and in single computers in classes.
- Cheap and more practical.
- Safe for students.

The ball follows a parabolic path. The lower part of which is horizontal. The separation from the trough the ball moves along a parabola, the vertex of which is at the point of separation of the ball from the gutter.

Finger clamp  
for holder

ROQED  
PHYSICS LAB

Trough curved

Holder



# OUR BRANCHES



**North America**

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**Eurasian**

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Nur-Sultan 020000 - Europe/  
Central Asia/Middle East

**East Asia**

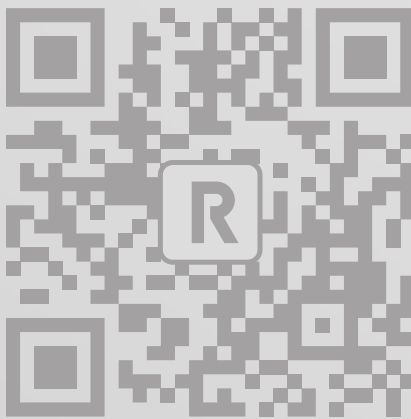
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