

**NOVATRANS** *research & production center*



INTERACTION



OBJECTIVITY



MOBILITY



MODULARITY

# E-LEARNING

## ADVANTAGES OF E-LEARNING



### INTERACTIVITY

E-learning courses captivate the user and keep his attention allowing to interact with the object in real time.



### USE OF 3D TECHNOLOGY

The user can explore the composition and working principles of the equipment in a realistic three-dimensional pace.



### MOBILITY

You can start the course at home, in the classroom, in the workplace and at any point of the world where there is the Internet.



### MODULAR SYSTEM

The course consists of several sections, which contain theoretical and test parts. The end-to-end navigation allows the user to determine independently the way of studying the electronic course.



### AUTOMATIC SAVING

The user can continue studying the course from the place where he has stopped his training.



### OBJECTIVITY

The system gives the exam score in an automatic mode and acts as an independent expert.



**SCB**

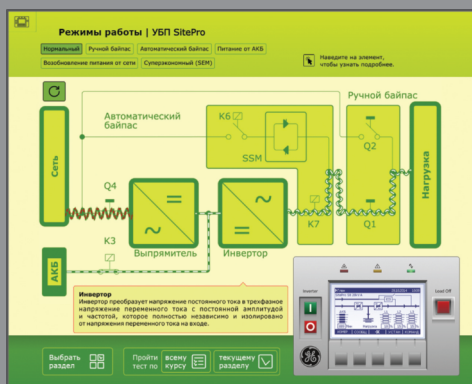
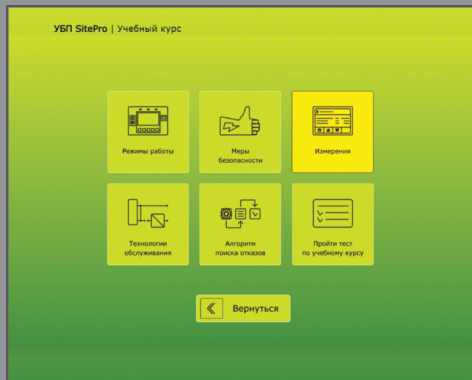
e-learning courses





## Service technology of uninterrupted Power Supplies SitePro

The course for training and testing the knowledge of the workers serving the uninterrupted power supply SitePro device. The course is designed on the basis of the technological process cards.



The course includes:

- animated 2D graphics
- photo and video
- professional VoiceOver
- interactive trainer
- multivariate search algorithm of failures

The course structure:

- modes of operation
- security measures
- measurements
- service technology
- the algorithm for searching for failures
- test block of 50 questions

## Service technology of power panels of type PV-ETC

The course for training and testing knowledge of the workers serving power panels of PV-ETC type.

The course is based on the technological process cards.

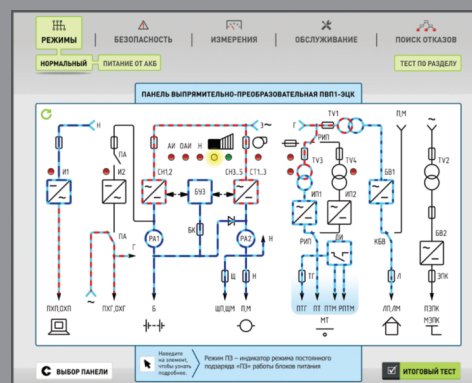
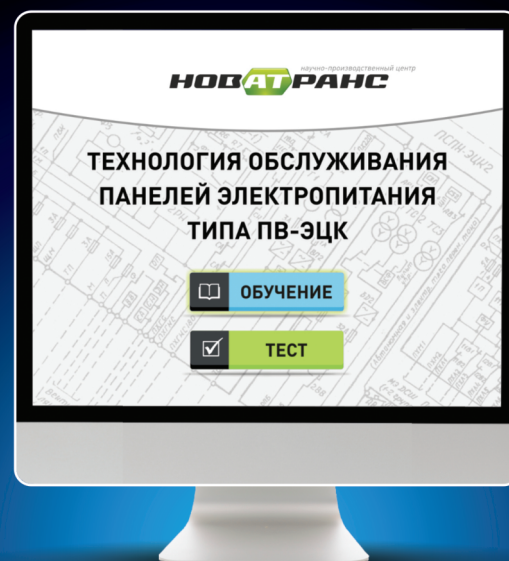
The course covers 5 panels of PV-ETC: PV1, PR1, RVP1, PP25.1, PSTN1 (ПВ-ЭЦК: ПВ1, ПР1, ПВП1, ПП25.1, ПСТН1) types.

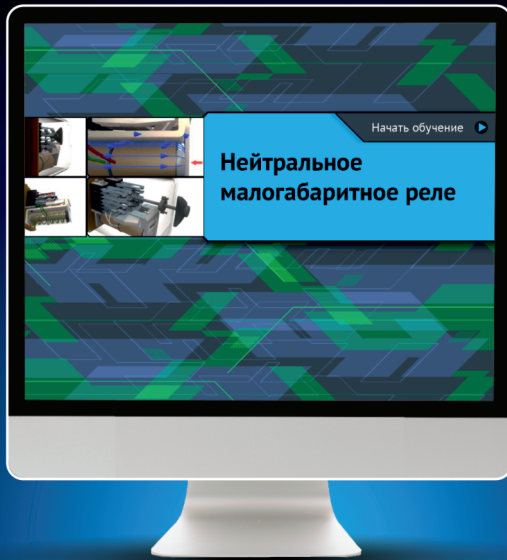
The course includes:

- animated 2D graphics
- photo and video
- professional Voice Over
- multivariate search algorithm of failures

The course structure:

- modes of operation
- security measures
- measurements
- service technology
- the algorithm for searching for failures
- the test block of 93 questions





## Neutral Small-size Plug-in relay

The course for training students and railway workers.

МАЛОГАБАРИТНОЕ РЕЛЕ

Теоретические сведения | Диаграмма запасных частей | Информация о разработчике

Дополнительные схемы

Искра разной степени интенсивности создает эрозию контактов.

**Эрозия** — это перенос металла с одного контакта на другой с частичным выгоранием. В результате разрушения контактных поверхностей надежность замыкания цепи нарушается (рис. 1).

Размеры эрозии зависят от:

- значений тока,
- напряжения,
- индуктивности или емкости цепи,
- материала контактов,
- формы поверхности,
- скорости замыкания и размыкания контактов,
- условий окружающей среды.

Эрозия контактов в индуктивной цепи | Эрозия контактов в емкостной цепи

перенос металла на якорь | перенос металла на катушку

Для каждого вида контактных материалов существует определенные значения напряжения и тока, при превышении которых начинается искрообразование или возникновение дуги.

Рис. 1. Эрозия на контакте

Для большинства реле напряжение, при котором создается условия возникновения искры, составляет около 300 В, при токе переключения — 0,5–1 А.

Диаграмма запасных частей реле

Теоретические сведения

Выбор реле

- НМШ1
- НМШ2
- НМШ3
- НМШ4
- НМШМ1
- НМШМ2
- НМШМ4
- НМШТ
- НМПШ-0,3/90
- НМПШ-900
- НМПШ2
- НМПШ3
- НМПШ3-0,2/250
- НМВШ2

The course includes:

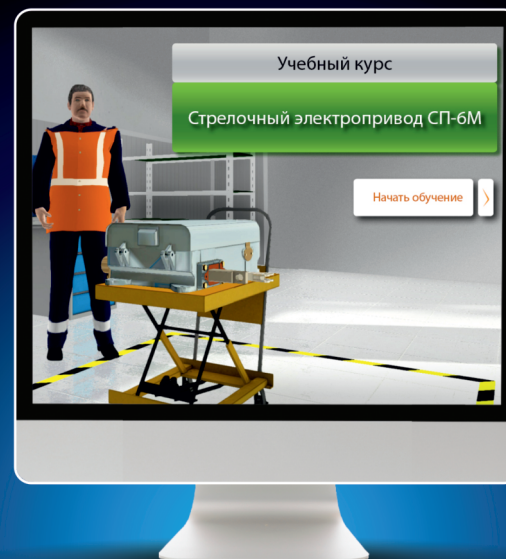
- animated 3D graphics
- photo and video
- professional Voice Over
- 3D models

The course structure:

- electromagnetic relay
- relay NMSH
- the principle of operation
- classifier
- interactive 3D transformer
- spare parts chart
- maintenance technology for relays
- knowledge test unit

## The switch electric drive SP-6M

The course is designed for studying the design and proper disassembly/assembly of electric switch drive.

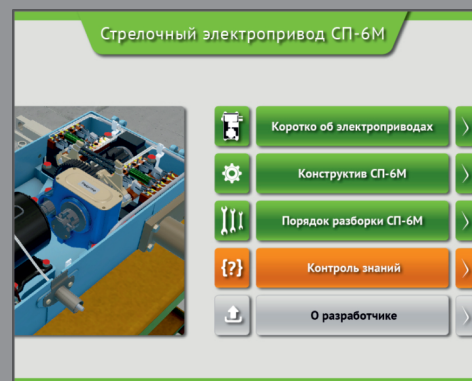


The course includes:

- animated 3D graphics
- photo and video
- professional Voice Over

The course structure:

- briefly about the drives
- classification of electric drives
- construct SP-6M
- the order of SP-6M disassembly
- knowledge test unit





## Cable. Cutting technology

Training course for railway workers and technical professionals working in telecommunications systems.

The course deals with cable SBVNGG.

Системы скруток

Кабели делятся на два вида исполнения: парной скрутки и беспарной.

Жилы кабеля при парной скрутке перевиты по парам для исключения взаимного влияния, при беспарной — скручены по одной жиле.

**Беспарная скрутка**  
(жилы скручены по одной)

**Парная скрутка**  
(жилы перевиты по парам)

Скрученные в группы изолированные жилы систематизируют по определенному закону и объединяют в общий кабельный сердечник.

1 2 3

Кабель  
технология разделки  
SBVng

На главную  
О курсе  
Термины  
Системы скруток  
Номенклатура  
Разделка  
Соединение  
Проверка знаний  
О разработчике

Верно ли утверждение?

1 Счётный пучок промаркирован красным цветом нити.

Нет, зеленым цветом

Нет, без маркировки

Да, это верно

Принять ответ

Кабель  
технология разделки

The course includes:

- 2D graphics
- photo images

The course structure:

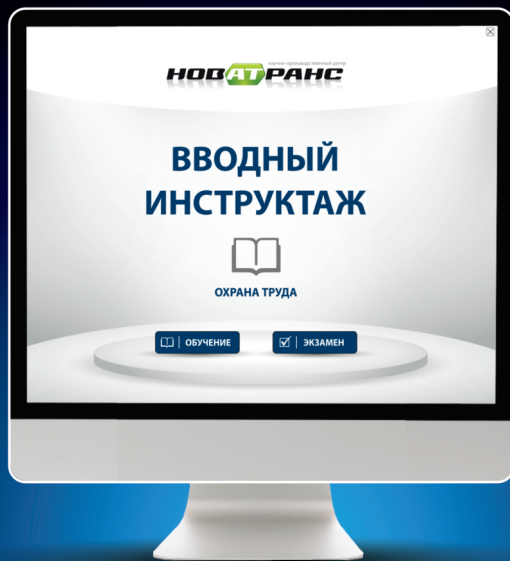
- terms
- twists
- nomenclature
- cutting
- connection
- knowledge test unit





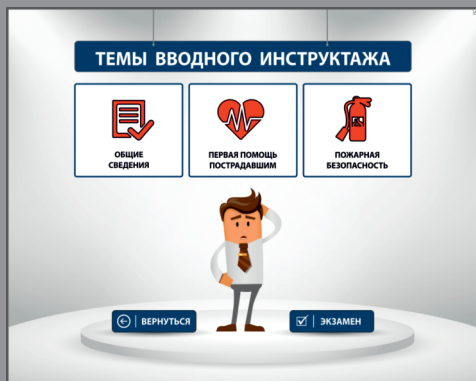
# **OCCUPATIONAL SAFETY AND HEALTH**

e-learning courses



## Introductory instruction

The course aims at introducing each employee into the production activity. The training is intended to familiarize the employee with the basic aspects of occupational safety and security in the enterprise.



The course includes:

- 2D graphics
- professional Voice Over

The course structure:

- general information
- first aid
- fire safety
- knowledge test unit



## Fire security

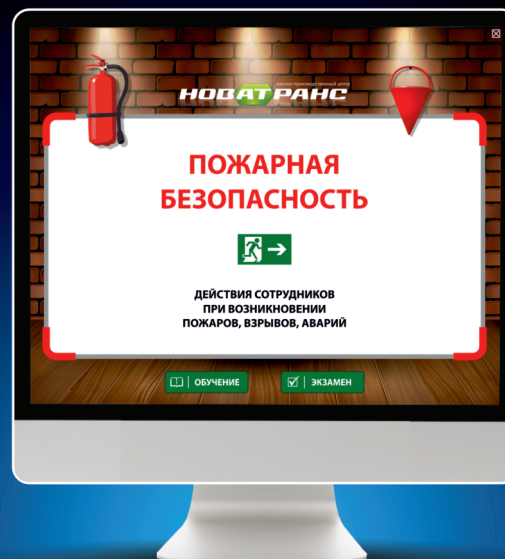
The course trains employees how to act during the evacuation and the fire.

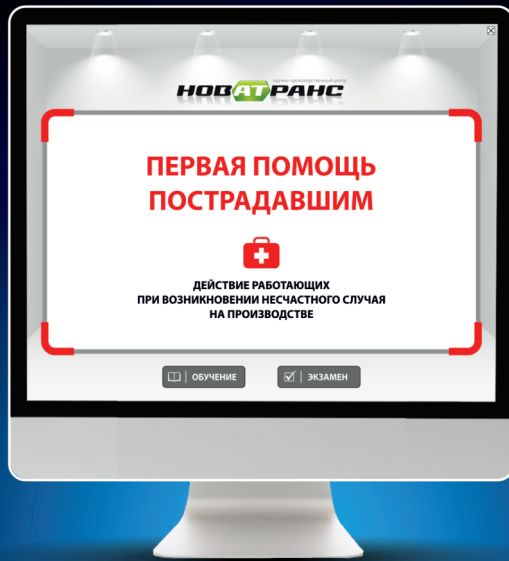
The course includes:

- 2D graphics
- professional Voice Over

The course structure:

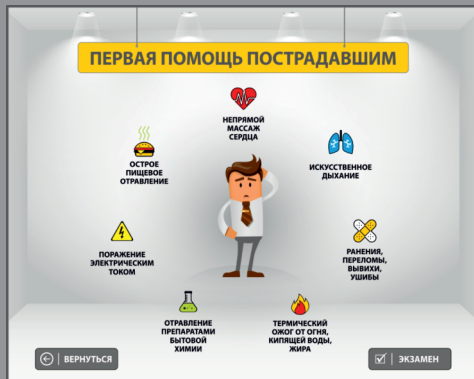
- general requirements
- the primary means of extinguishing fires
- actions in case of fire
- fire in the office
- fire in a public place
- fire in a warehouse, basement, attic
- fire in the yard
- knowledge test unit





## The first aid to the casualties

A course to teach employees the skills of the first aid in the workplace. Includes the complex of the emergency events to the casualties at the site.



The course includes:

- 2D graphics
- professional Voice Over

The course structure:

- wounds, fractures, dislocations, contusions
- acute food poisoning
- indirect cardiac massage
- artificial respiration
- electric shock
- poisoning with household chemicals
- thermal burns from fire, water, fat
- knowledge test unit

## Electrical safety Group 1

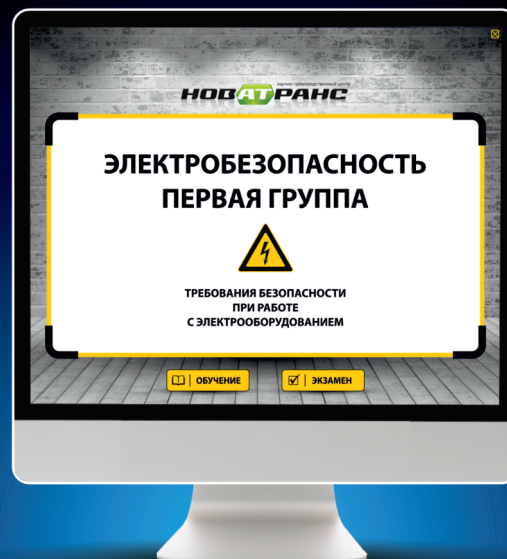
The course training the staff who don't deal with electricity safe methods of work and ways of providing the first aid in case of electric shock.

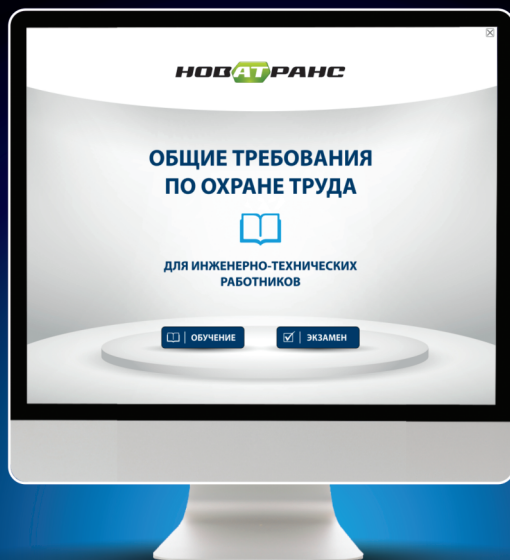
The course includes:

- 2D graphics
- professional Voice Over

The course structure:

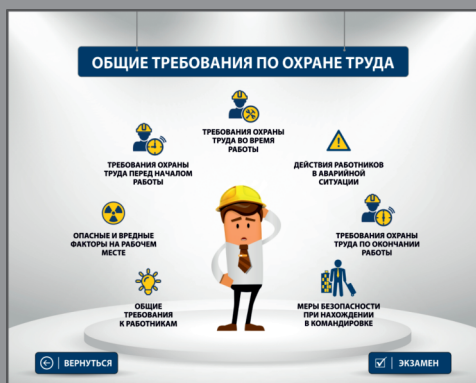
- general requirements
- exposure a person to electric current
- security requirements
- the release of the casualty suffered from the current
- the first aid after electric shock
- knowledge test unit





## General safety requirements for engineering workers

The training course for technical officers and administrative staff teaching the general requirements for the occupational safety and health.



The course includes:

- 2D graphics
- professional Voice Over

The course structure:

- general requirements for employees
- hazardous and harmful factors
- requirements for occupational safety and health before starting work
- requirements for occupational safety and health during the work
- worker actions in case of emergency
- requirements for occupational safety and health upon completing the work
- safety measures on a business trip
- knowledge test unit

## General safety requirements for working occupations

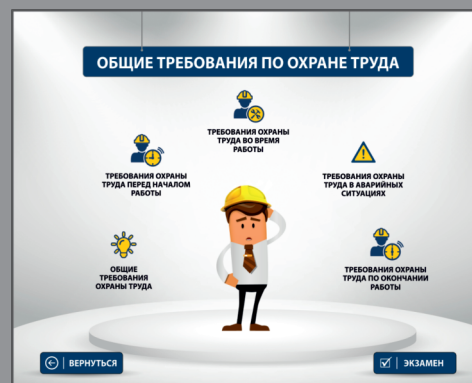
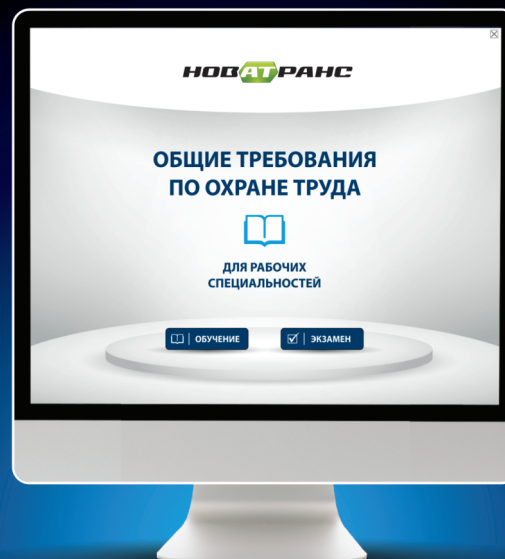
The training course for all employees teaching general requirements of occupational safety and health.

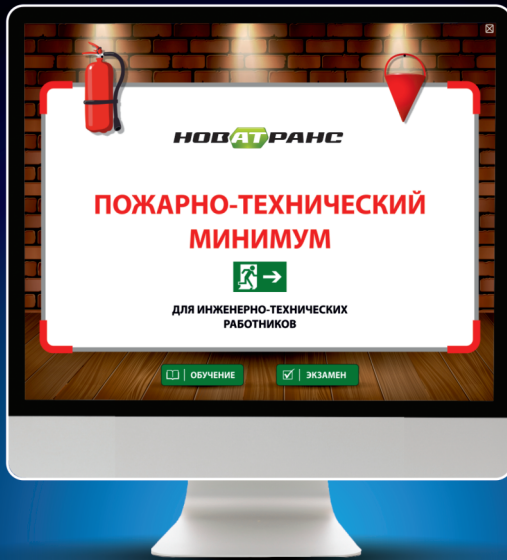
The course includes:

- 2D graphics
- professional Voice Over

The course structure:

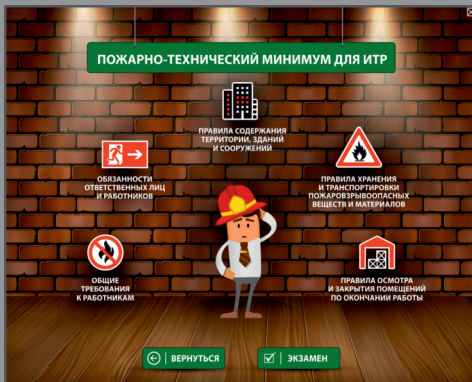
- general requirements for occupational safety and health
- requirements for occupational safety and health before starting work
- requirements for occupational safety and health during the work
- workers' actions in case of emergency
- requirements for occupational safety and health upon completing the work
- knowledge test unit





## Fire-technical minimum for engineering workers

The training course for technical officers and administrative staff in fire safety measures.



The course includes:

- 2D graphics
- professional Voice Over

The course structure:

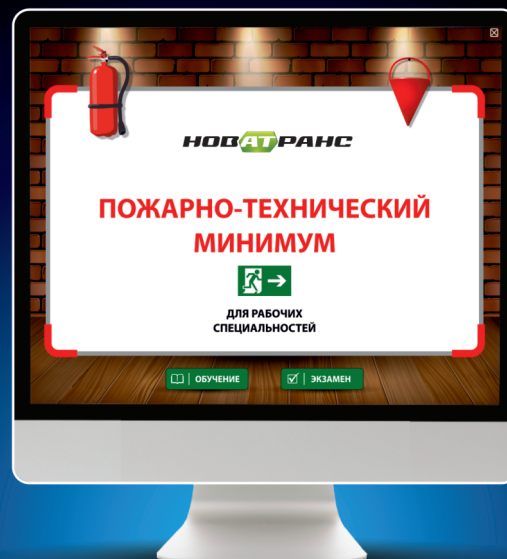
- general requirements for employees
- officers and employees' responsibilities
- rules for territories, buildings and structures maintenance
- storage and transportation of fire and explosion hazard substances and materials
- rules for inspection and closure of premises upon completing the work
- knowledge test unit





## Fire-technical minimum for working specialties

The training course teaching all employees fire safety measures.

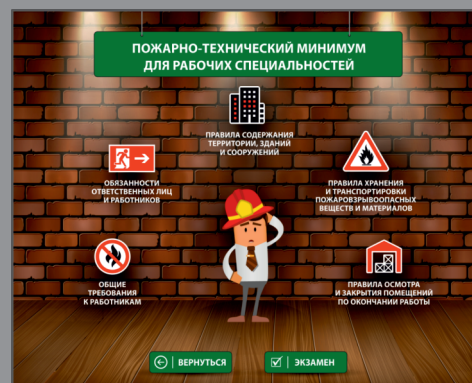


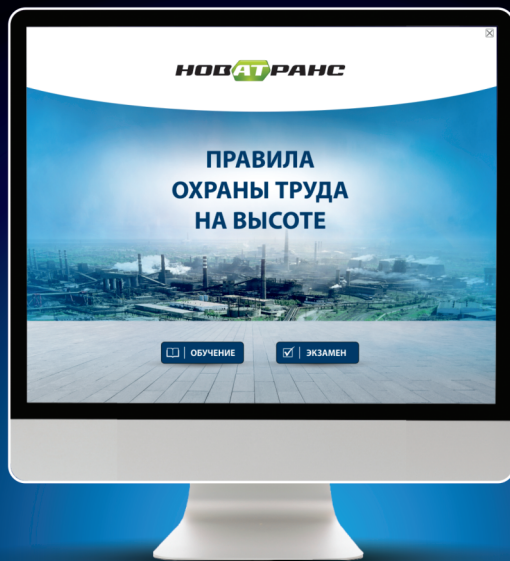
The course includes:

- 2D graphics
- professional Voice Over

The course structure:

- general fire safety requirements
- responsibilities for officers and employees
- restrictions for the formation of combustible environment
- fire safety requirements before starting work
- fire safety requirements during operation
- the actions of workers in emergency situations
- fire safety requirements upon completing the work





## Safety Rules for working at the height

The training course for the employer and the employee organizing and carrying out the work at the height.



The course includes:

- 2D graphics
- professional Voice Over

The course structure:

- general requirements for occupational safety and health
- requirements for occupational safety and health before starting work
- requirements for occupational safety and health during the work
- requirements for occupational safety and health in emergency situations
- requirements for occupational safety and health upon completing the work
- knowledge test unit

# Industrial security for working occupations

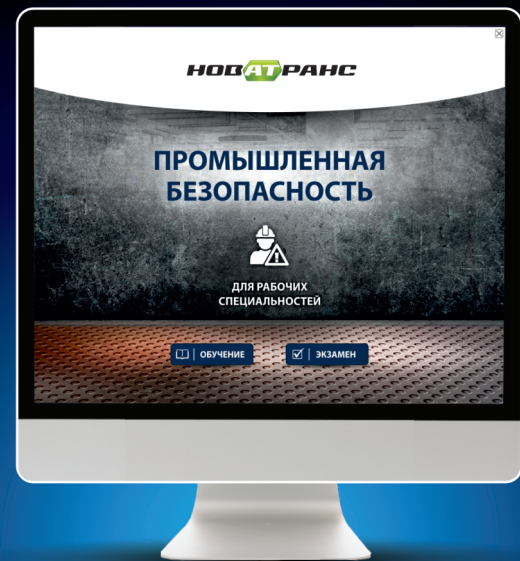
The training course for employees of the organizations operating hazardous production objects.

The course includes:

- 2D graphics
- professional Voice Over

The course structure:

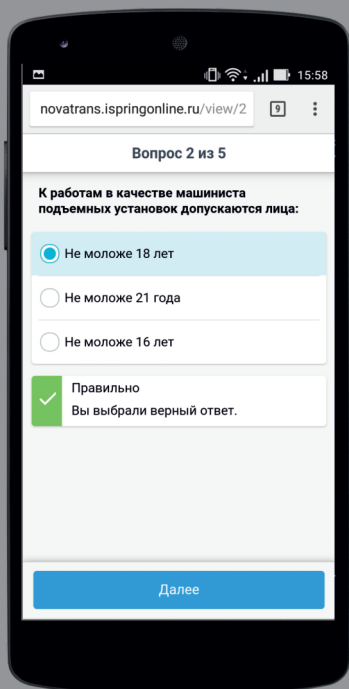
- general safety requirements
- safety requirements on the site and premises of the enterprise
- security requirements when performing work
- industrial sanitation and personal hygiene
- security requirements in emergency situations
- knowledge test unit





## Pre-shift test instruction

Pre-shift instruction, lasting from 5 to 15 minutes designed for daily access to work.



The instruction includes:

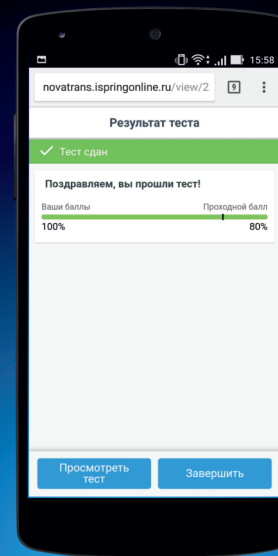
- 2D graphics
- photos

The main topics of the instructions:

- occupational safety and health
- actions in emergency situations
- technology of work execution
- issues of regulatory documents
- troubleshooting

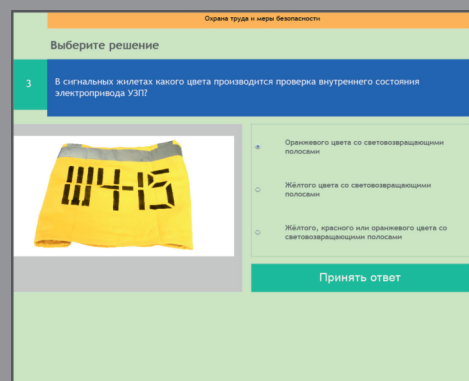
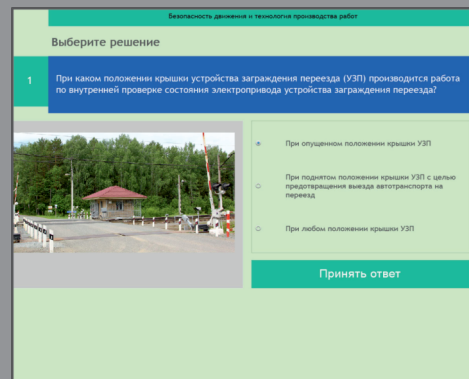
## Opportunities of coaching:

- mobility – coaching is available from any type of devices
- adaptive interface for each device
- a random sample of questions



## 12 types of questions:

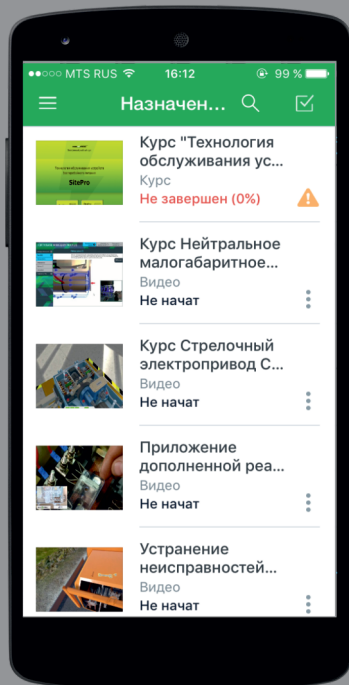
- true/false
- single choice
- multiple choice
- enter a line
- compliance
- order
- enter a number
- gaps
- included replies
- the bank of words
- active area





## Remote Learning System (RLS)

RLS aims at organizing remote learning process.



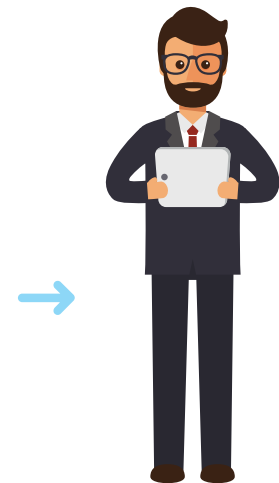
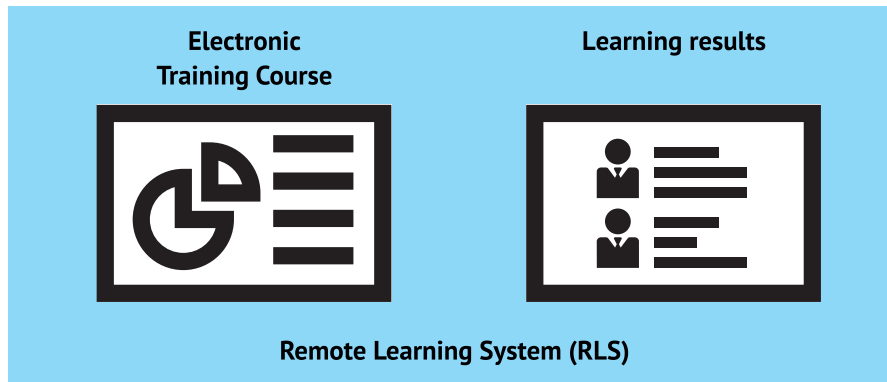
The possibilities of RLS:

- cloud-based system does not require installation onto the server
- fast implementation – the use of the RLS immediately after purchase
- convenient and intuitive running of the system
- mobility – e-course or test can be accessed from any device
- customize your training schedule according to the curriculum
- visual reporting for managers
- technical support by phone, e-mail
- the possibility of issuing the certificate
- upon completing the training

Interaction scheme



Staff: take a course and test



The Manager receives objective data about the level of employees' competence



The Administrator loads the course in RLS

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