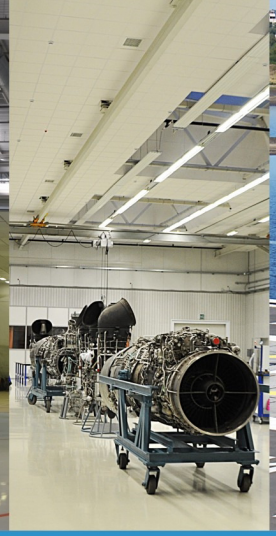
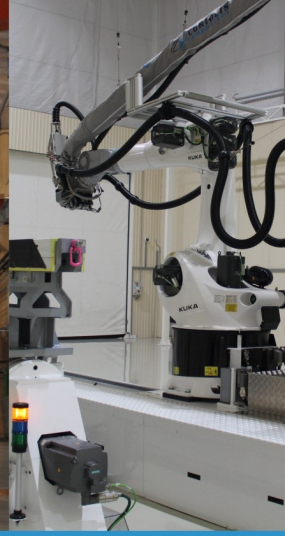







KAZAN GIPRONIIAVIAPROM

COMPANY GROUP

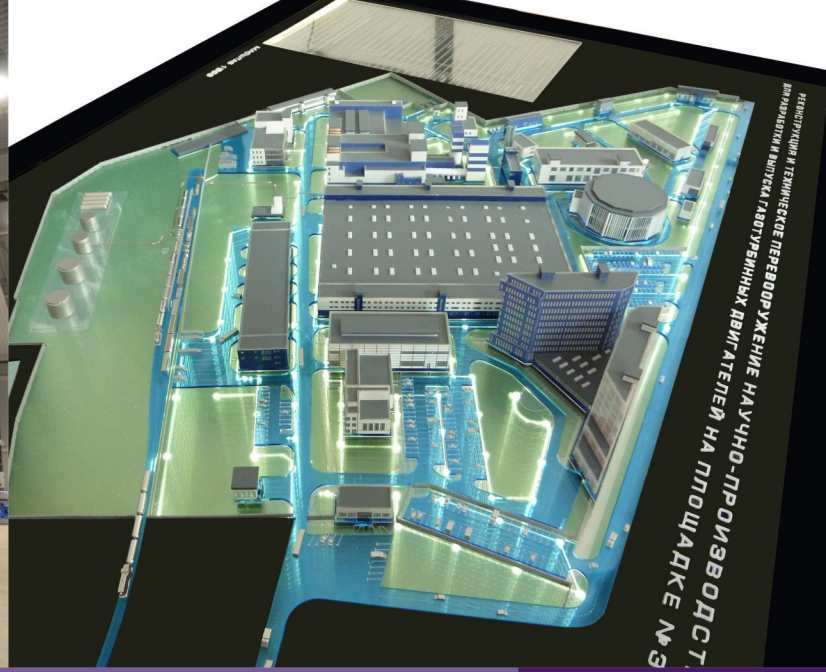




JSC «Klimov».
Reconstruction of production facility for helicopter engine manufacturing

Kazan Giproniiaviaprom performs the design works for the technical reequipment of the production facility for TVZ-117/VK-2500 engine manufacturing. The purpose - to re-establish the engine production for Russian civil and military helicopters at the territory of Russian Federation and to reduce the dependence of russian helicopter industry from foreign engine producers.

This re-establishment will mean to the fundamental changes of strategic competitive position of Russian helicopter engine building on the world market. The creation of production facility at the territory of Russian Federation will enable the development and the production of the all-new Russian helicopter engines of the forth generation providing the competitiveness of Russian helicopters on the world market.



JSC «Klimov».
Reconstruction of production facility for helicopter engine manufacturing

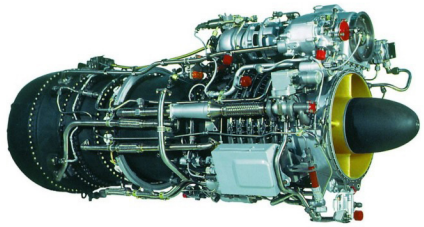
Organization of helicopter BK - 2500 engine production at the premises of PTC «UMPO»

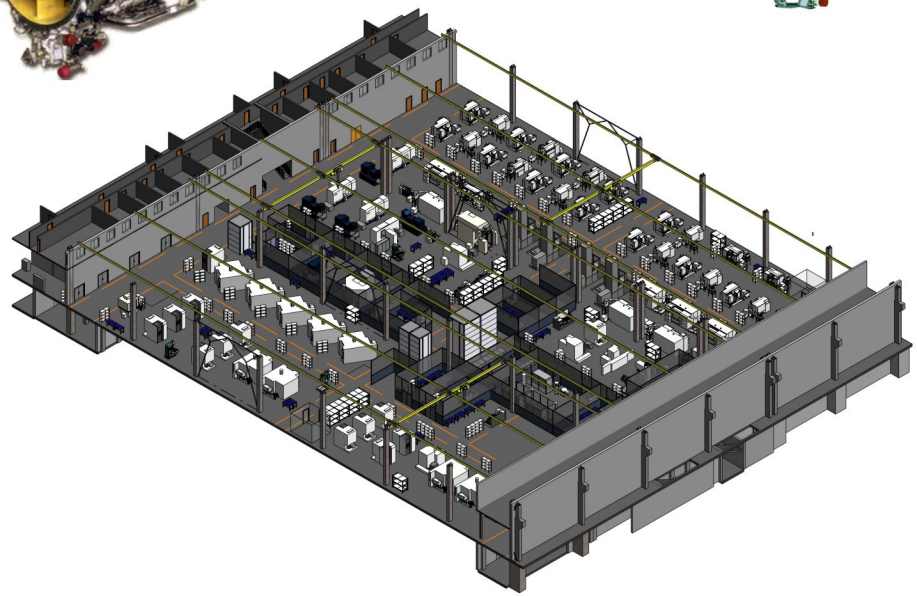
"Kazan Giproniiaviaprom" was selected as the general design organization for the renovation, the technical upgrade of the helicopter engines TVZ-117 and VK-2500 production plant JSC “UMPO” Ufa, the Republic of Bashkortostan by the decision of the JSC "United industrial corporation "Oboronprom" .

The enterprise producing the helicopter gas-turbine engines will be created on the base of the JSC "UMPO". This enterprise will realize the production, the overhaul and the after-sale service of the engines:

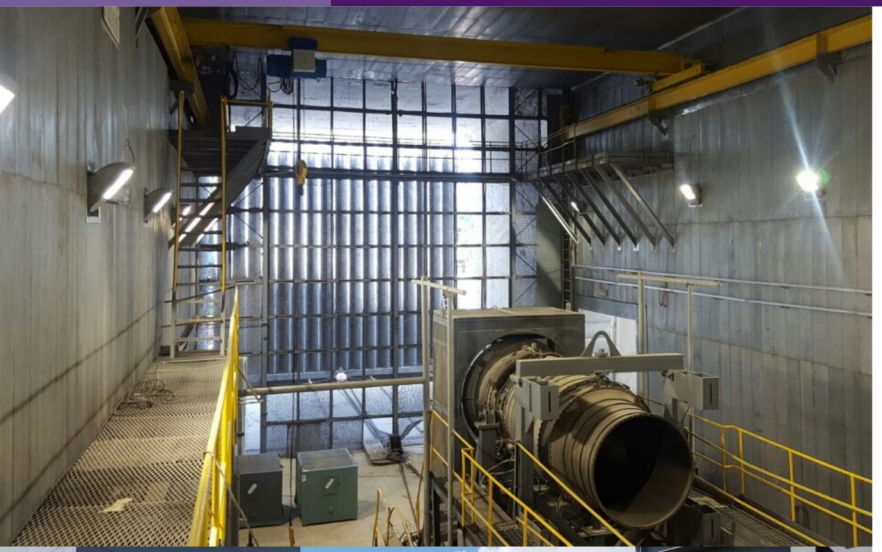
- TVZ -117/VK - 2500;
- VK - 800V;
- the advanced models of program "Helicopter engines".

To realize the program “Helicopter engines" the outline plan was developed for creation of the helicopter gas-turbine engine production facility, previewing the modernization, the renovation and the new construction of the existing productions of JSC “UMPO”.

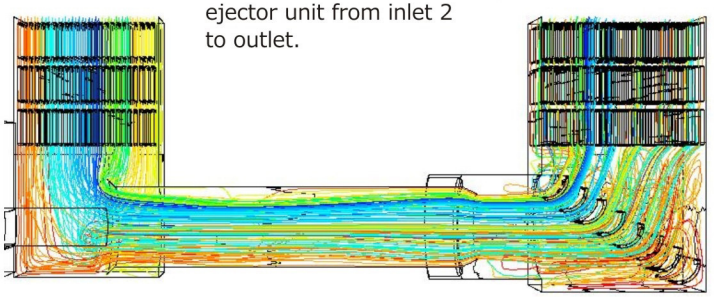


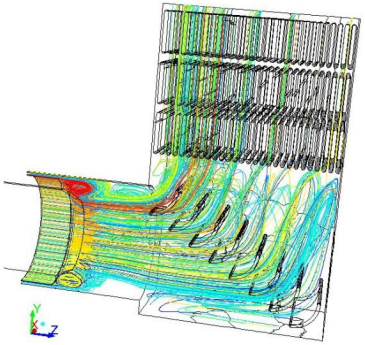


Upgrading and retooling of test bench №1 in building №6.
JSC "Kuznetsov" Samara



Line of flow of air induced by second ejector unit from inlet 2 to outlet.

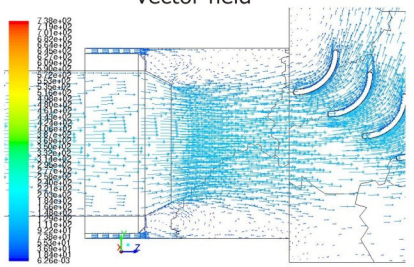


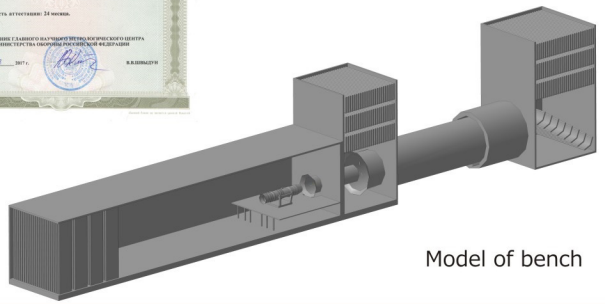


Lines of flow of air induced by third ejector unit

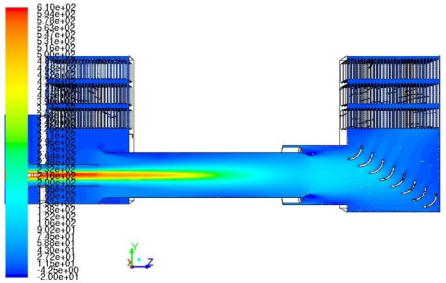
Certificate

Vector field





Model of bench



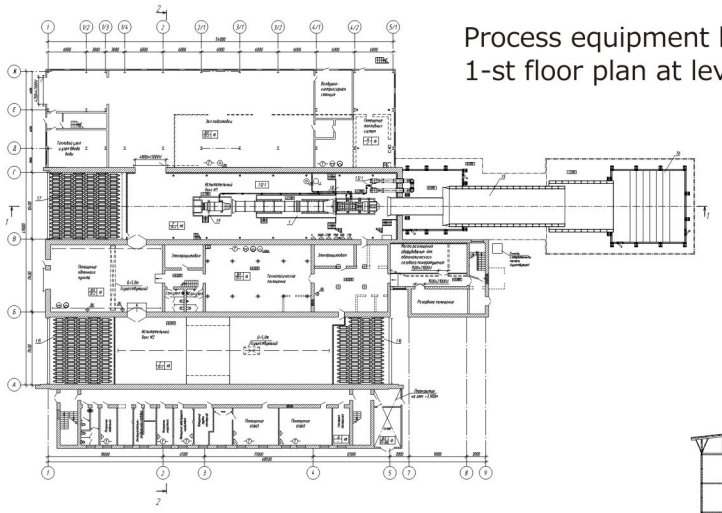
Distribution of velocity component vz, m/s.

Upgrading and retooling of bench facility in building №6 includes:

- renewal of utility systems in building 6;
- upgrading and retooling of test bench №1.

After development of design documentation there was received positive conclusion of Federal autonomous institution “Main Department of State Expertise. To realise the tests there was received certificate proving that the bench №1 is suitable for ground testing of aircraft gas turbine engines of type NK-32.

Upgrading and retooling of test bench №1 in building №6. JSC "Kuznetsov" Samara



Process equipment layout
1-st floor plan at level 0.000

Section 1-1

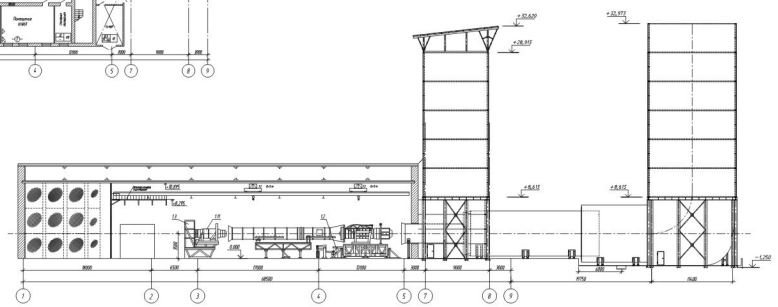


Table1.1

Name of parameter	Measurement unit	Size
Engine thrust in overdrive	kN	245,0
Engine dimensions		
lenght	mm	7453
overall diameter	mm	1785
Motor maintenance weight	kg	3650

The decisions made for the upgrading and the retooling. A set of the unique and advanced development of “Kazan Giproniiaviaprom” JSC was designed in engineering and technology solutions because the test bench is destined to the research works.

1. The development of an improved aerodynamic configuration, taking into account the raise requirements the new system of air inlet and feed to the self-designed engine with reduced air resistance; according to the exploitation data the exhaust system and by checking with software product ANSYS-Fluent and by 3D-modelling the not optimal aerodynamics of gases exhaust was proved, the new exhaust system was designed meeting the requirements of OST 1 01021-93 on the basis of modelling and blowing of different exhaust charts, with a view to testing the new modifications of engines.

2. To reduce the time of engine preparation for testing there was designed "engine preparation for test room", the next step is the utilization of an "adaptor" scheme of testing i.e. utilization of quick-release joints during the mounting of engines with the multi-purpose quick-release plates (UEC Saturn, Rybinsk).

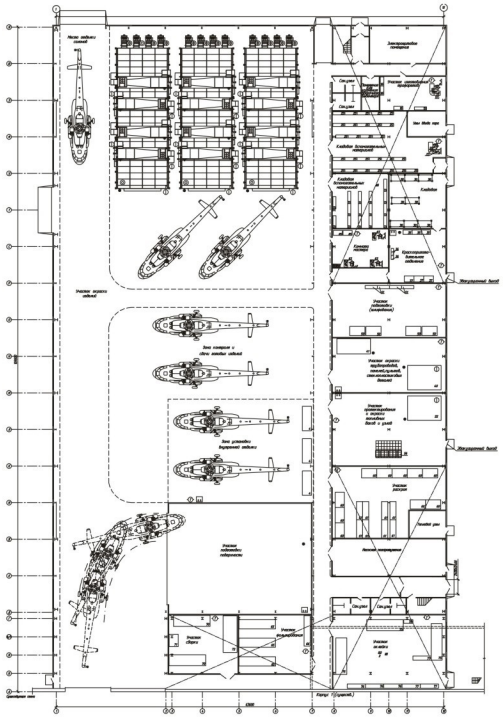
3. The equipment for automation of certification of dynamomeasuring system was included for measuring the engine thrust on the base of the hydraulic and electrical drivers.

4. The problem of the most test benches in Russian Federation was decided – the fuel system of engine of A category (in the annex building) was removed out of the control room.

5. There was used the modern APCS and IS system and the engine parameters gaging system.

Intedrated reconstruction of principal industrial site of PTC «Kazan helicopter plant»

Helicopter final painting new building



Until recently the final painting of helicopters was realized at the factory by the "open way" not using the painting chambers. This low technology does not allow to receive the helicopter protective coating of a quite high quality, and this incurred displeasure of the Client. The project was developed and the new production building was constructed were the final painting of helicopters is realized inside of the special separated painting and drying chambers by the airless spraying. In these chambers the optimal temperature is maintained automatically in the modes of painting and drying, providing the maximum quality of coating. To prepare the item for painting there are the separated boxes allowing keeping the production clean to provide the high quality.

The separate units are painted in the chambers of the less dimensions. As a result the culture of the paint spray processing is increased and the working conditions are improved.

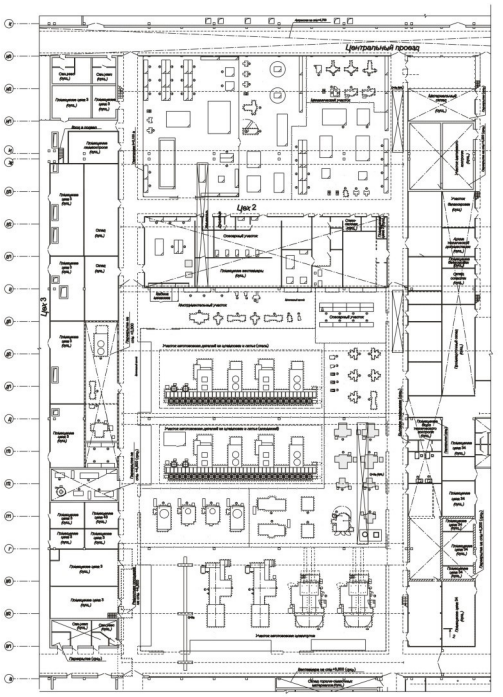
Aggregate assembly new building

Renovation of machining production

Upon the project of "Kazan Giproniiaviaprom" there was created the unique machining production Mazak cyberline-based - unmanned manufacturing system, equipped with automatic feeding and accumulating stocks. The system is able to automatically change over for production of other range of parts with the automatic change of tools and processing control software.

The radiant water heating with the ceiling panels in the infrared band - the modern high-efficiency way of heating was used for the first time at the plant for this production.

Technological layout of machining production



Renovation of preliminary production


Building 40A


Building 40A


Building 40Г

Renovation of unit of buildings for production of fuselage blades and parts from polymeric composite materials (buildings 40, 40А, 40Г)

COMPOSITE PRODUCTION IN BUILDINGS 40, 40А, 40Б

The project of creation of the modern production of blades and fuselage parts from the polymer composite materials is under development on the base of the renovation of the buildings 40, 40A and the construction of the building 40Б, connected by the one communicative warm gallery.

The complex is the closed production unit for the fabrication of the composite structures, starting with the creation of half finished products(«prepregs») and ending by the acceptance operations, based on the autoclaving.

The production areas, where the incured materials sensitive to the micro-climate are processed are equipped with the cleanliness rooms with the environment controlling the presence of dust, the temperature and the humidity.

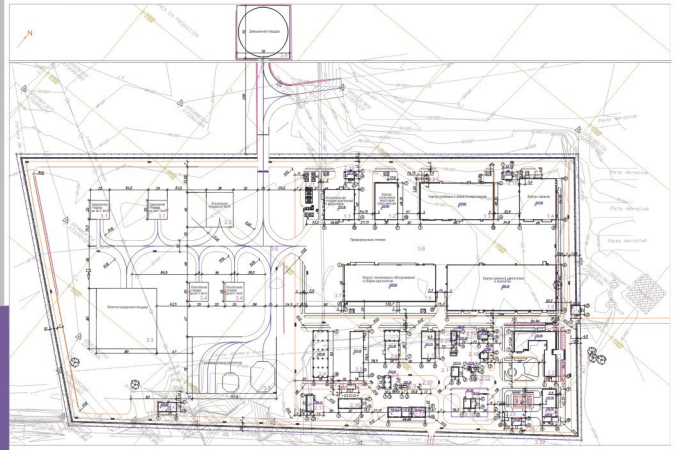

Building 40

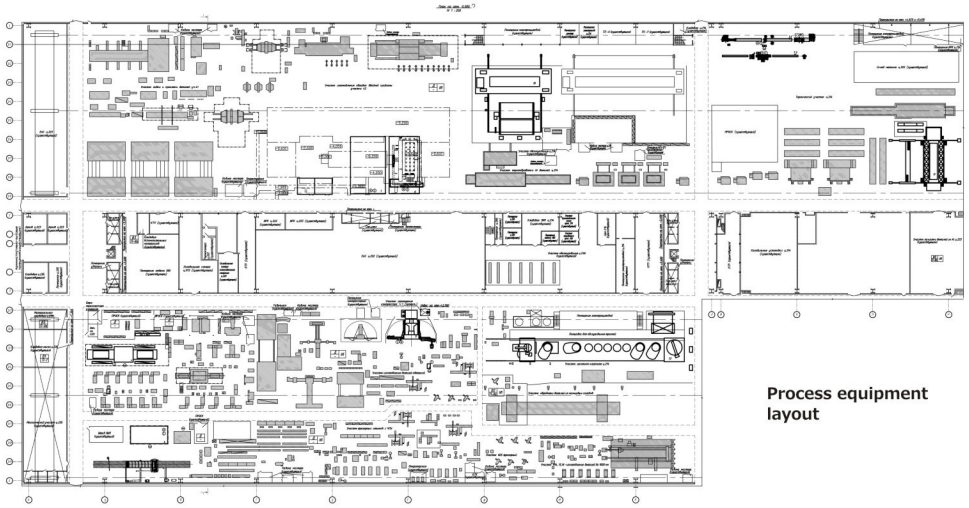

Building 40

Helicopter maintenance and overhaul center. Venezuela

One of the branches of activity of “Kazan Giproniiaviaprom” is the design of the maintenance centers. At the moment the specialists of the enterprise work on the creation of the maintenance center for the Russian aerotechnics in Venezuela. The maintenance center is the technological complex fitted with the modern equipment for maintenance and repair including overhaul.

The creation of the developed service network in the Baltics and the CIS and the non-CIS countries will increase the competitiveness of Russian aircrafts and helicopters and will allow strengthening positions of the Russian aerotechnics manufacturer in the world market.





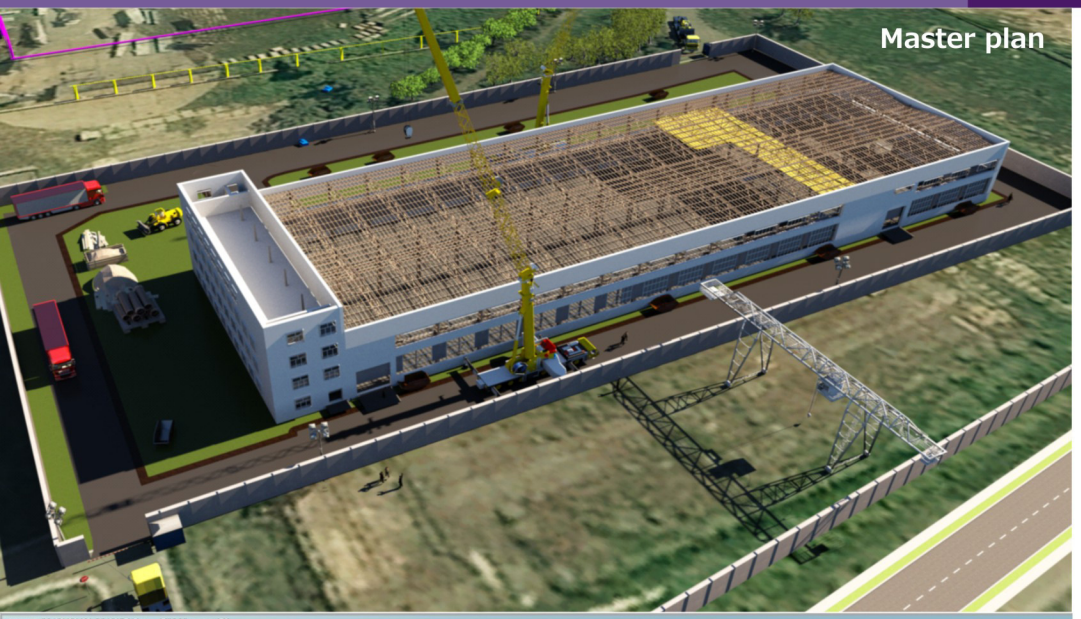
Process equipment layout

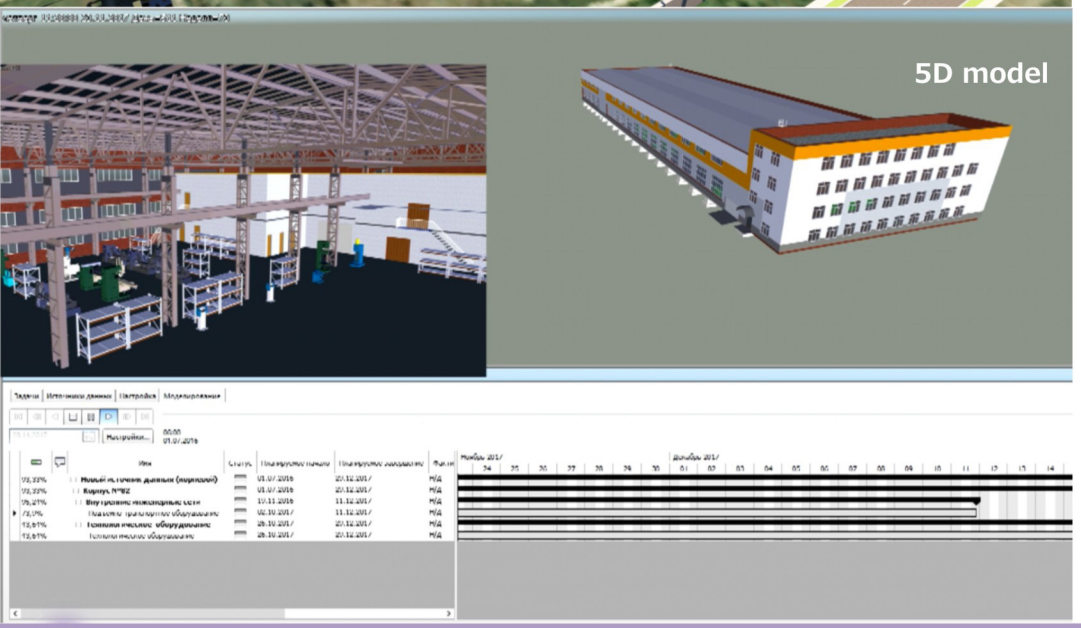
Technical upgrade and reconstruction of machining production, blank and stamping production shops, protective coating shops, aggregate-assembly plant, final assembly plant and flight-test center in the JSC «Aviastar-SP» to produce the heavy military transport plane IL-76MD-90A

Renovation of «Kazan Aviation Factory n.a. S.P.Gorbunov - branch of Tupolev PJSC»

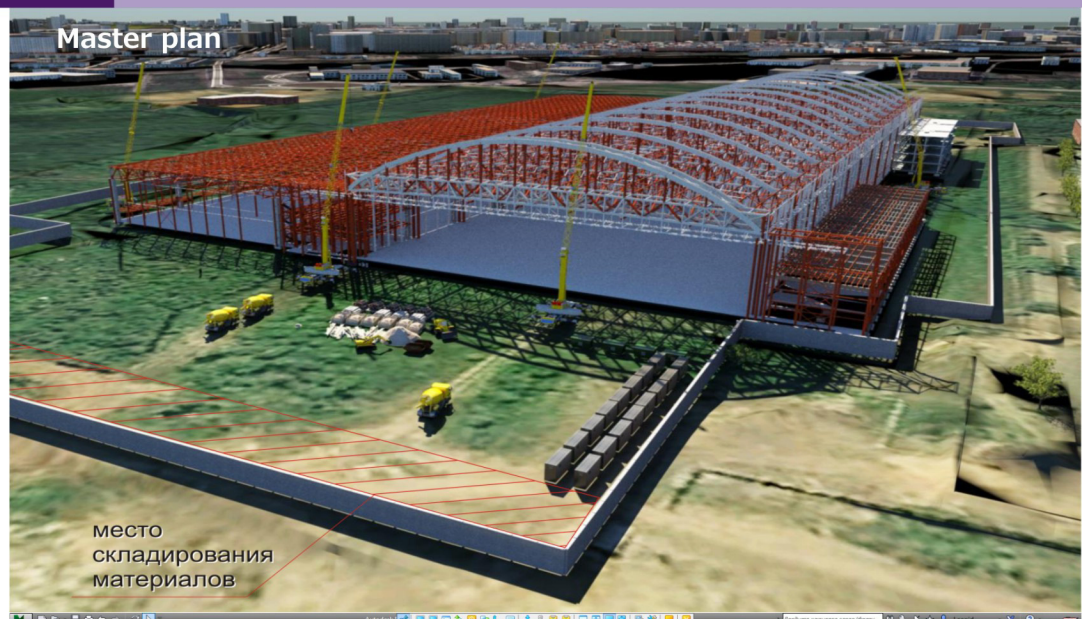
Industrial site design concepts. 3D model

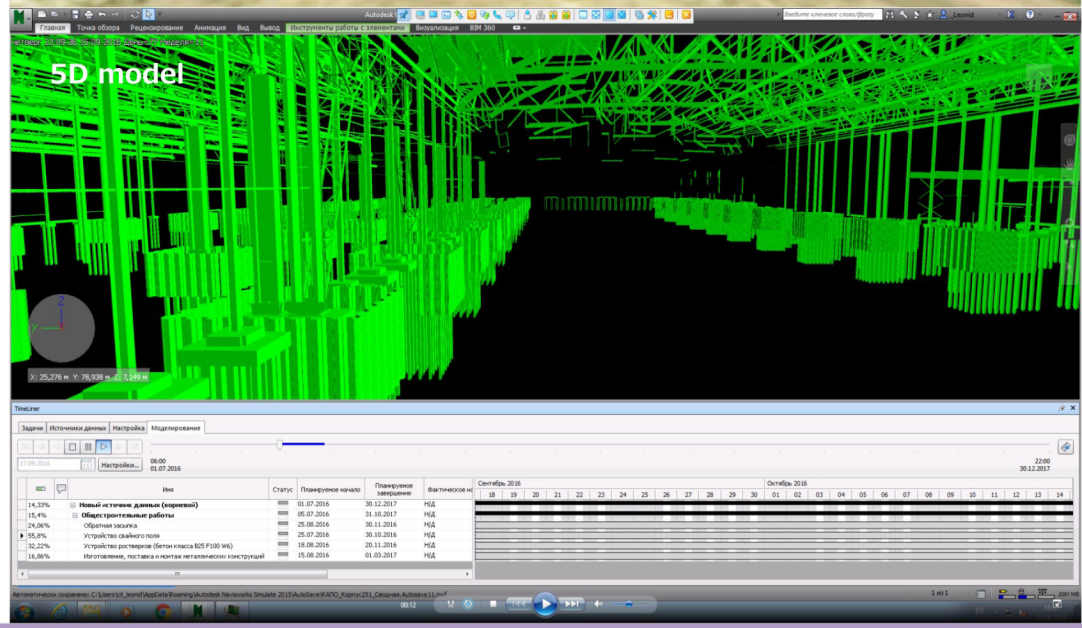
Construction of new building №251 for aggregate and final assembling





Renovation of preproduction shops. Building №82





Upgrading and retooling of flight-test center. “Kazan Aviation Factory n.a. S.P.Gorbunov”

Construction of parking №13, 14

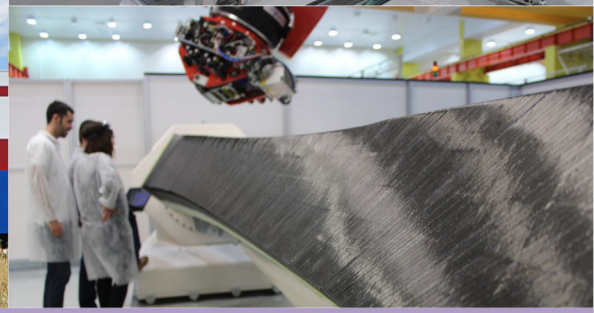
Upgrading and retooling of hangar №4

Renovation of flight control tower

Enroute radar facility “Sopka-2"

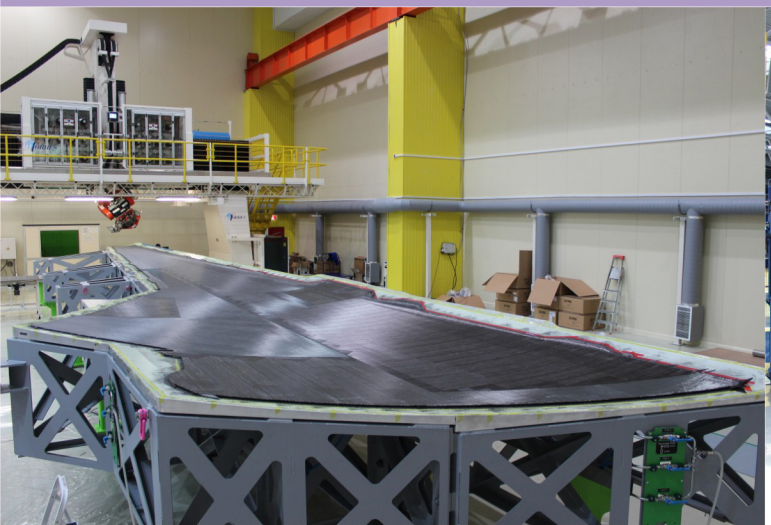
Radio detector AORL-1AS

Reconstruction of production building 1B at the territory of JSC «AVIASTAR-SP»



For the first time in the world the new technologies and equipment for the production of the articles from the polymer composite materials are concentrated in this production, modified and completed by the specialists of the technology center of the CJSC “AeroComposite” with account of the national developments and the structural particularities of the produced items.

The leading world companies took part in the competition for the engineering services rendering, among them BROTJE-Automation GmbH,Comau France, ThyssenKrupp Krause GmbH, Diamond Aircraft Industries GmbH, Fischer Advanced Composite Components AG and MAG Industrial Automation Sistems.



- laser positioning equipment
- automated docking benches
- automatic ultrasonic inspection plants
- plotters with the control panels for the reinforcing materials cutting
- heat-treatment machinery for polymerization of the polymer composite materials
- paint equipment for the chamber painting

and other advanced program controlled process equipment, considerably excluding the impact of the subjective factors, such as the skills and background of the contractors, the items quality.

The project is designed together with the foreign integrators and the specialists of the CJSC “AeroComposite”.

To provide the high quality of the wing and its parts, and to receive the stable strength properties the “cleanliness rooms” were created, the microclimate parameters preset by the technologists as the temperature and the humidity with the hard limits of the dust content in the air of the working zones.

In the process of the wing parts manufacturing the unique equipment will be used:

- laser equipment for the panels robot-assisted manufacturing by the method of spreading;

Reconstruction of production building 1B at the territory of JSC «AVIASTAR-SP»

International airport "Kazan" Terminal 1A

Shortly before the Universiade-2013 the administration of the Republic of Tatarstan took the decision about the fundamental upgrade of the international airport Kazan – the air gate of the republic.The new passenger terminals were to be constructed to decide the dual problem – to take up the participants and the guests of the Universiade-2013 and to provide the constantly rising requirements of the population of the republic in the air transport.

For the construction of the new airport complex was considered the experience of the several countries. The development of the basic and detailed engineering documentation and the integration of the project in whole, its protection in the Government expert body was made by «Kazan Giproniiaviaprom». The building of the new terminal 1A has four passenger boarding bridges with the systems of automatic parking of the aircrafts: three boarding bridges for maintenance of the aircrafts of category «С» — Yak-42, B-737, A-319/320 and their analogues; one boarding bridge for the aircrafts of category «Д» — Tu-154, Tu-204, Tu-214, B-767, A-310, A-321 and their analogues.

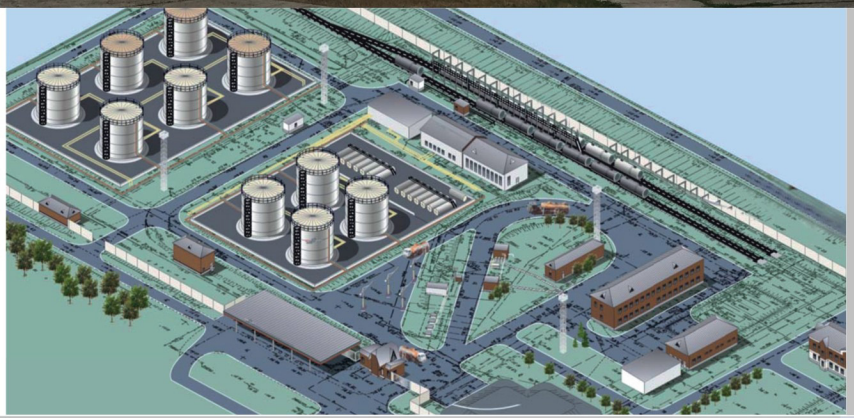
The capacity of the Terminal 1A – 600 passengers in hour, from them 240 – in the sector if international air lines.

The terminal can serve 1,2 mln. of passengers in a year.

In 2015 it was named for the second time «The best regional airport in Russia and CIS countries»;

This is the first airport in Russia received 4 stars according to Skytrax (Great Britain).

Design of bulk fuel installations, constructions and facilities of aerodrome operating agencies



The bulk fuel installations of the aerodrome are intended for receiving and storing of fuel and lubricants, as well as for providing of fueling of aircraft. When developing bulk fuel installations it is necessary to solve several problems. The first one is providing for approach roads (including railway) for fuel delivery, arrangement of reservoirs for fuel storage and equipment for refuelers.

The renovation of bulk fuel installations of the International airport “Kazan” was realized under the project designed by the Institute. As a result the filling of aircrafts performing international flights became possible.

The construction of buildings and structures of aerodrome operating agencies is previewed to perform the set of actions to maintain the aerodrome airfield in the constant operational readiness for take off - landing, taxiing-out and parking of aircrafts, and the set of actions for the timely and high-quality aircraft maintenance at the aerodrome.

Design of aircraft maintenance bases, flight test bases and development bases

The JSC «Kazan Giproniiaviaprom» performs the design works for creation of modern hangars for the aircrafts of different classes, including business aviation, and realizes the projects for construction and renovation of aircraft maintenance bases, flight test and development bases.

All the designed hangars, aircraft maintenance bases correspond to the modern standard requirements for reliability, safety, ergonomics, and are fitted with all necessary equipment for realization of the set of actions for maintenance of aircrafts, different scheduled tasks.

The project were realized (including «Basic engineering», «Detailed engineering») for the following facilities:

International airport «Kazan» (Kazan):

- hangar for maintenance of aircrafts CL-604 (CHALLENGER);
- hangars for store and maintenance of aircrafts with the planform dimensions 96x48 m and 72x42 m;

JSC «Kazan helicopter plant»:

- Construction of the building for the flight test complex.

Aerodrome «Ermolino» (the Kaluga region):

- Hangar-laboratory of maintenance squadron (Section «Design and space-planning decision»).

Hangar for maintenance of aircrafts in the airport «Begishevo», Nizhnekamsk

The hangar is located at the territory of the International airport which is the big air transport enterprise of North-East economic region of the Republic of Tatarstan, being the most important transport hub of the Zakamie region.

In the hangar the urgent maintenance works are realized. This is the system of preparation works, examinations and maintenance checks of aviation equipment, providing the condition and the flight readiness of two aircrafts:

- B737-600, -700, -800 (company Boeing, USA);
- A-320 (company Airbus S.A.S., EU);
- Challenger, Cl-850 (company Bombardier Aerospace, Canada).

Design of heliport, heliport deck.

The helicopter segment is one of the more important part of the aviation branch and air transport market of Russian Federation.

The JSC «Kazan Giproniiaviaprom» is experienced with the design of the projects of creation and renovation, and the technical assistance of construction of surface facilities for test flight support, supporting of take-off and landing of helicopters.

In this domain the Institute realized the following projects:

- Renovation of airdrome base Rostov-on-Don «Severny» (Rostov-on-Don);
- Heliport deck in the recreation camp «TAIF» the Laishevo district;
- Heliport deck for the Ministry of civil defense and emergency situations on Kirovskaya embankment (Kazan);
- Heliport deck at the highway «Amur» (Chita - Habarovsk);
- Heliport deck for critical helicopter Mi-17 (Moscow region).

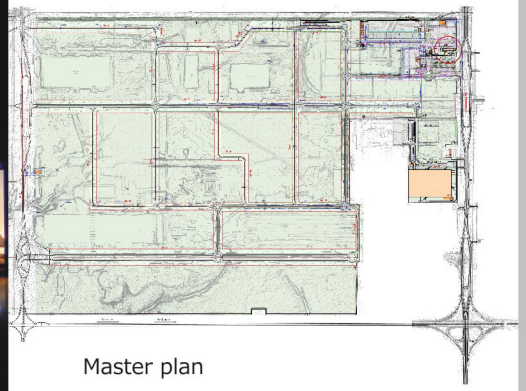
Electroplating industry

Kazan Giproniiaviaprom designs and implements the construction and the overhaul projects, performs the renovation and the technical upgrade, supplies the equipment, perform the installation and the commissioning and start-up of the process and engineering equipment for the electroplating production facilities, including the treatment facilities, provides the service support.

Kazan Giproniiaviaprom:

- provides the system decisions of the technical problems of the electroplating productions;
- receives the design arrangements based on its large experience in the design of the different productions;
- creates the conditions for the comprehensive solution of tasks of the new modern productions creation, increases the technical level and the environment safety of the existing electroplating production, including the treatment facilities of the enterprises of the different branches of industry;
- quickly resolves the questions raised during the design, the installation, the commissioning and start-up of the electroplating lines, provides the new chemical and electro-chemical solutions;
- forwards in the Russian market the national and foreign equipment and materials for chemical and electro-chemical coatings.

Special economic zone “Alabuga”
Administrative and business center



Master plan

Total area of the SEZ - 20000000 sq. m.
Power supply - 340MW
Water supply - 6672 cub.m./day
Land improvement - 6000000 sq. m
Annual cargo turn-over of the SEZ - 3780000 t, including:
- by road - 2646000 t
- by rail way - 113400 t
Cars annual quantity - 132300 pcs
Tracks annual quantity - 16200 pcs

The 8-stage building 1 comprises: customs office, security office, automatic telephone station, registration service (one stop principle), expo center, conference hall, public catering facilities, fitness center, energetic and auxiliary rooms

“Ford” engines production plant in the SEZ “Alabuga”

On demand of the “Ford Sollers Elabuga” LLC in the SEZ “Alabuga” there was realized the multiple span building 601 renovation project with the dimensions in plan 384 on 243m.

Within axes 27-65 of the main building it is situated the logistic area and the top assembly line for Ford Transit, Tourneo Custom, Edge, S-Max, Galaxy, within axes 65-129 it was designed and operates after 2013 the welding, painting and assembly production of vehicles (Ford Transit, Ford Kuga) with the annual capacity of 85000 vehicles a year.

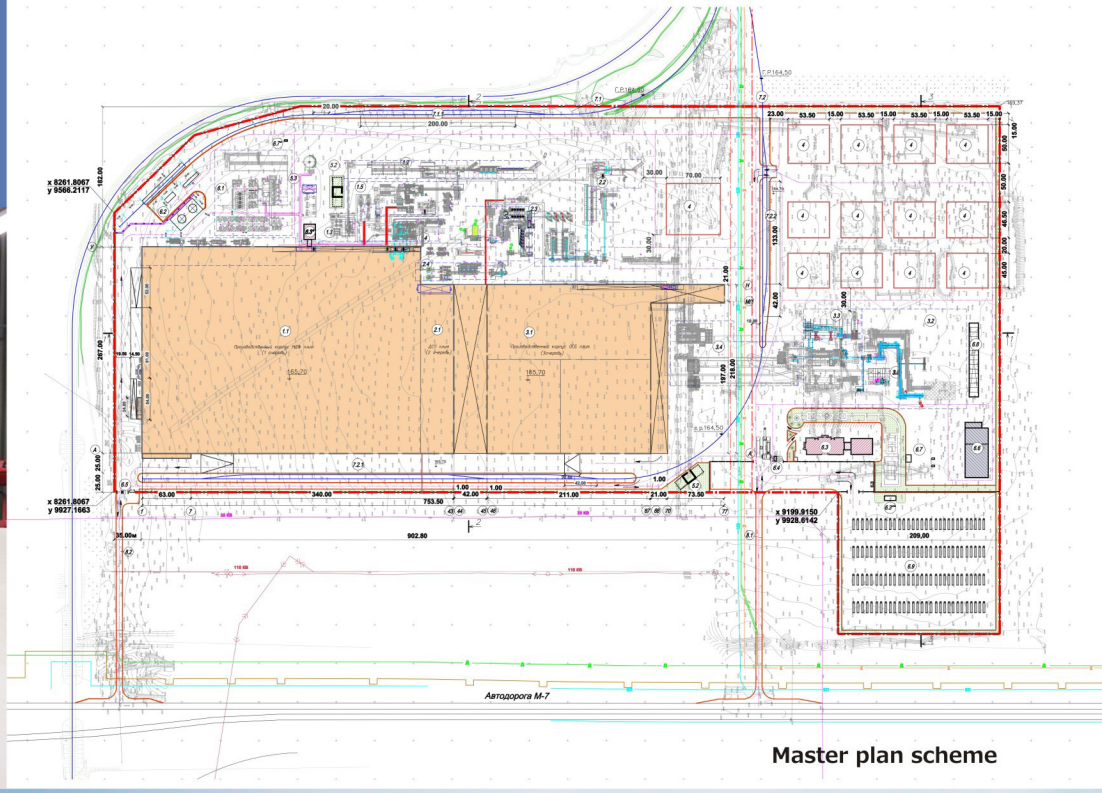
The covered track was designed for vehicle tests.

The energy supply facilities were designed: boiler houses, fuel storages, refrigerating station, pump stations, compressor stations, recycling water cooling towers, in-site engineering lines.

It was realized the renovation of the integrated-built administration and amenity building with canteen and first-aid station for improving of the environment of workers. The adjacent area was improved, the approach roads, the car parking and the finished products place were designed according to reasonable scheme.

Испытательный трек

MDF, OSB plant



Master plan scheme

MDF, particle boards and OSB plates production plant is located at the territory of the SEZ «Alabuga».

The MDF, PB and OSB plates production is previewed at the plant including the final polishing (polishing, laminating, laminated flooring production). The great virtue of this project is the absence of the technological hard waste of the production.

The annual production program is:

-MDF plate (polishing and laminated) – 475 thous.m3/year

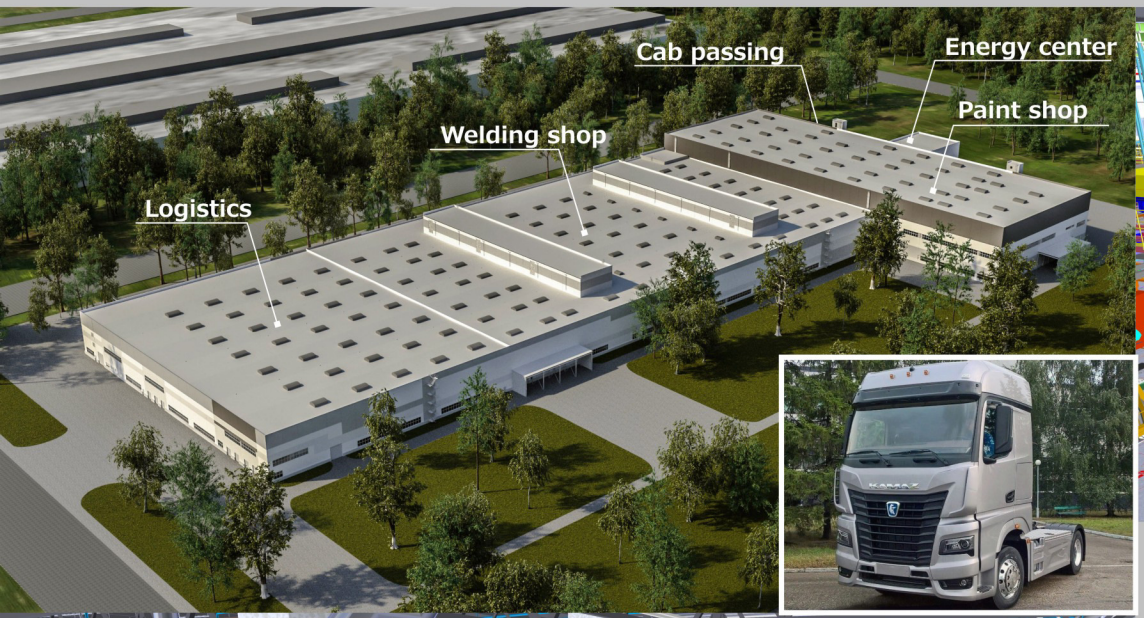
-PB plate (polishing and laminated) – 725 thous.m3/year

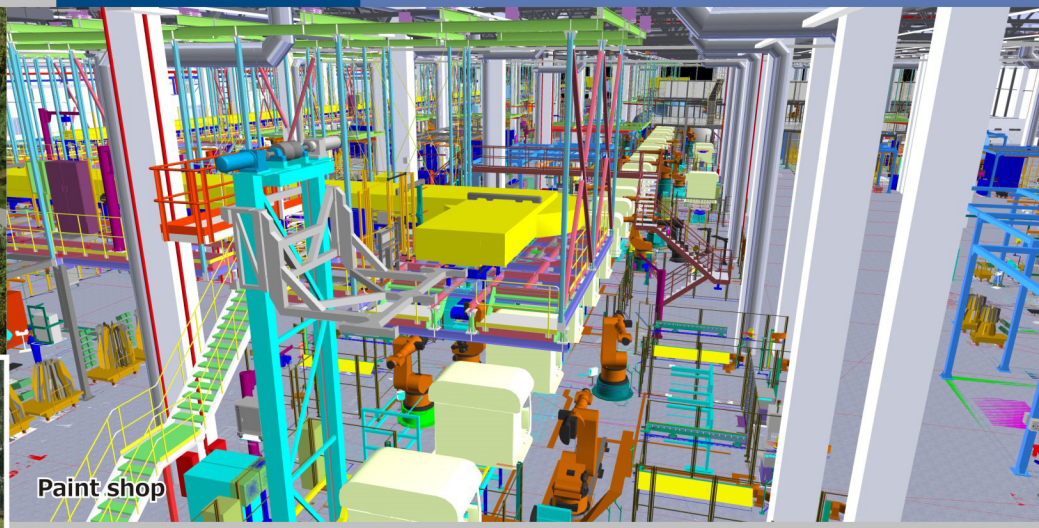
OSB plate – 575 thous.m3/year.

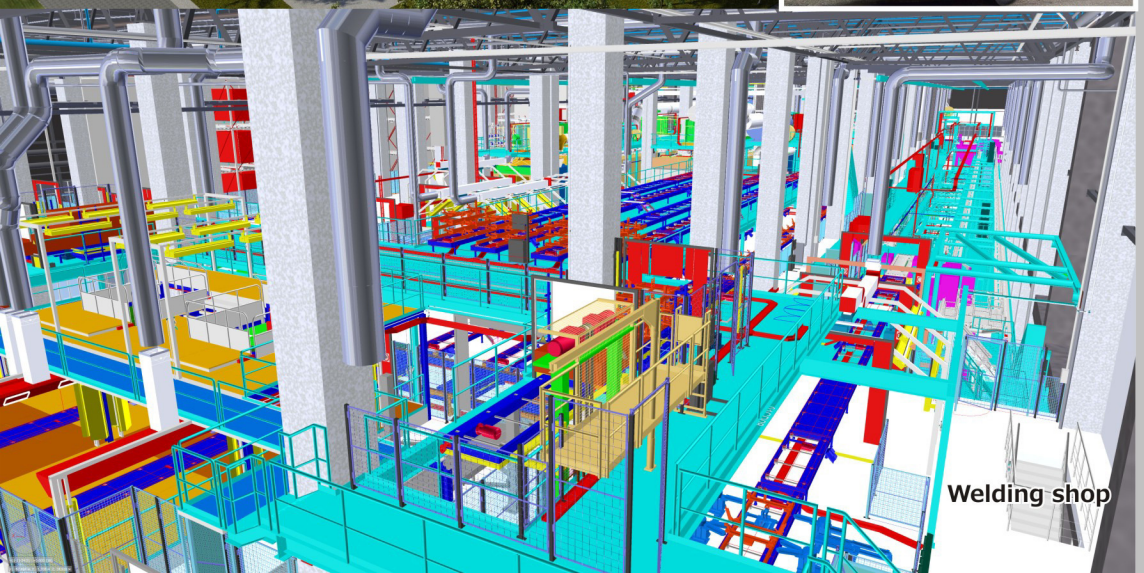
KAMAZ PTC. SFTP
Cab frame production

The joint venture Daimler KAMAZ Tracks Vostok (DKTV) intends to produce the cabs for the load-carrying vehicles KAMAZ Daimler SFTP cabs and to sell them to KAMAZ PTC to install on the new-generation vehicles KAMAZ. Kazan Giproniiaviaprom, JSC designs the basic and the detailed engineering documentation for the new enterprise on demand of KAMAZ PTC.

Annual production 55 thousands cabs







SFTP cab frame production composition:
Logistic shop total area – 8716.3 sq.m., including:
-Administrative and amenities – 2676.3 sq.m.
Welding shop total area – 28647.4 sq.m., including
-Administrative and amenities – 2029.4 sq.m.
Painting shop total area – 22155.2 sq.m., including:
-Administrative and amenities – 960.6 sq.m.
-Cabs passing into assembly shop – 1091.1 sq.m.
Total area 59518.9 sq.m.
Energy center – 2626 sq.m.
Ramp 1800 sq.m.
Check point 260 sq.m.
Land plot within fencing – 12.3 ha.

The batch manufacturing of cabs starts 31.10.2018. It is planned the 3-shift work 5-day working week, 243 working days in a year.

Staff: workers – 720 persons, engineering and technical personal – 66 pers.

Interregional multimodal logistic center in Sviyazhsk

Facility location – the urban settlement Nijniye Vyazovye of the Zelenodolsk district, the Republic of Tatarstan, Russian Federation.

Work objective: creation of the logistic center, providing the large freights traffic control, the close together arrangement and close cooperation of the different services, delivering freights by the different kinds of transport (railway, road, inland water transport), the segregation of the delivered freights, the warehousing and custom services.

Investment outlay pay back period – 8,4 years.

Number of workers – 1166 persons.

The cargo base of the center in 2015.

- pessimistic forecast – 5,5 mln. t/year,
- optimistic forecast – 11,8 mln. t/year.

Land plot total area – 224 ha, including:

- building area – 92,1 ha
- planting area – 59 ha
- reserved territory area – 67 ha
- buffer zone area – 5,9 ha

Total cost according to the results of the feasibility study (in prices on the 1 qr. 2008. in basic prices of 2001) – 12028,7/2628 mln.rub., including:

SMR – 9461,6/1830,7 mln. rub.,

RF public funds (in prices on the 1 qr. 2008) – 4203,9 mln. rub.,

RT public funds (in prices on the 1 qr. 2008) – 1354,9 mln. rub.,

private investments (in prices on the 1 qr. 2008) – 6469,9 mln.

JSC “Izhstal”

JSC “Izhstal” - unique metallurgical plant.

The renovation of the electric steel casting workshop includes the installation of the new arc steel melting furnace with capacity of 40 t, the ladle furnace and the vacuum steel treatment installation let receive 400 thous.t of the liquid steel in a year. With pouring in the new continuous casting machine with section 125x125 mm and 140x180 mm.

Including: alloy-treated steel, tool steel, bearing steel, spring steel, construction steel, stainless steel and other groups of steel.

The renovation of the rolling mill for production of 155000 t/year of mild steel rolled products and rolled steel in rods and coils. Grades:

- carbon steel of commercial quality;
- quality carbon steel;
- structural alloy steel and high alloy steel;
- tool carbon steel, alloy, rapid steel;
- ball bearing steel and spring steel;
- stainless steel.

Special economic zone Innopolis

Buinsk alcohol plant

Production part

Technical and economic features

Feature name	Unit of measurm.	Size
1. Rectified ethyl alcohol "LUXE" GOST 5962-67	dal/day	6000
2. DDGS	T/day	80
3. Ether-aldehidic fraction	dal/day	60
4. Fusel oils	dal/day	28,8
5. Carbon dioxide	Kg/hour	1850

Special economic zone Innopolis

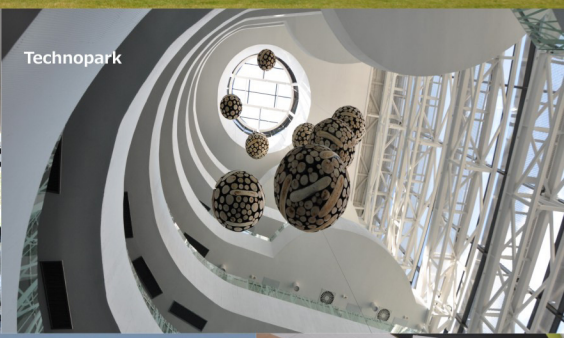

Technopark


Technopark

Technopark

The Innopolis city - is the first new city with proper engineering and social infrastructure, constructed in Russia for 40 years in a raw. The city development prospect - 155000 persons, including 60000 IT specialists. The territory of SEZ Innopolis is destined to locate the innovative facilities in high tech.


Technopark


Technopark


Sports complex of University


Sports complex of University


Educational and laboratory building of University


Educational and laboratory building of University

The building is designed as the single complex consisting of three blocks (administrative, laboratory and hotel for employers), connected by the hall between them. The facade solution are the special «earth layers», symbolizing the connection of the researches at the laboratory and the outside world.

The full glazing symbolizes the transparency of the company «Tatneft».

The «oil barrel» (oval space) in the center of the administrative block reflects the company core business - oil extraction.

The area for construction of the designed research and development center of the JSC «Tatneft» is located at the following address: the Moscow region, the Odintsovo district, RC «Skolkovo».

The 4-stage building has the dimensions within axes 91,2 x 64,500, the total area – 10000 m2, the height – 20 m. In the center there is the inner court providing the additional insolation and lighting of the rooms. |The main entrance in the building is realized from the square, the entrance in the hotel for the employers is located from the side of the avenue. The entrances in the laboratory blocks are located over against the main avenue. At the side of the avenue there is the public zone (shops, public catering). The work-rooms, the hotel, the meeting rooms, the conference hall and the laboratories are located on the 2-4 stage.

Research and development center of JSC «Tatneft» in Skolkovo, Moscow

Water sports palace

Three pools were designed:

- multi purpose pool for competitions with dimensions 52x25m, the depth 3,0 m;
- pool for the highboard diving competitions with pool deck – 33.3 x 25m, the depth – 5,5 m;
-training pool with the pool deck 50x25m the depth 2,2 m, it is intended to train the sportsmen, and for the fitness center visitors. There is the pool for children with dimensions 10x6 m in the fitness center zone.

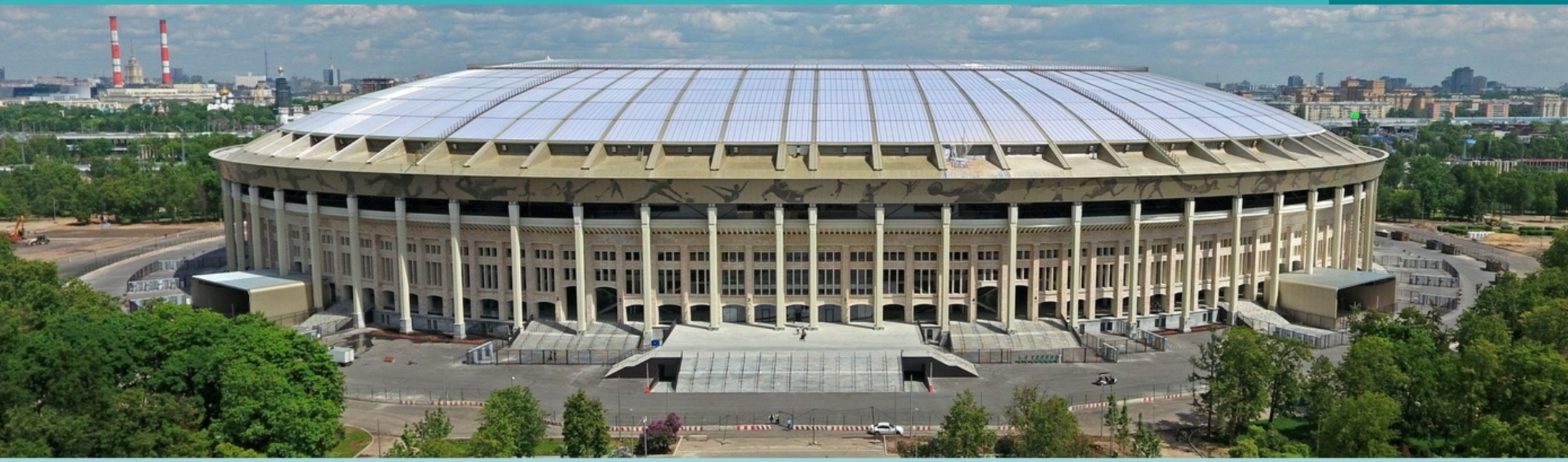
The project provides for the moving floor in the multi purpose and highboard diving pool and the mobile partition in the multi purpose pool, this allows running the different competitions: this can be the swimming for 50 and 25 m, the cross swimming on 25 m, the synchronous swimming, the highboard diving, the woman's and man's water polo, the swimming of the baby groups by changing the depth and the dimensions of pools These engineering solutions allow changing the functional set of the water theater elements. The modern water treatment system by ozonizing is designed for every pool.

The water sports palace - the future water theater of the FINA World Championships 2015, the second sports facility in order of importance of the XXVII Universiade 2013, one of the largest sport complexes of Russia and Europe. This is the unique building from the point of view of its architectural look, process and engineering equipment, applied structures and materials.

Total area of building – 43700 sq.m.

Construction volume – 426260 cub.m.

«Renovation of the Great sport arena “Luzhniki” for the FIFA World Cup 2018



The sports complex «Luzhniki» - the multifunctional stadium of «A» class.
Roof – 30000 sq.m;
Total area – 165330 sq.m;
Construction volume – 1190000 cub.m.The purpose of the renovation of the great sport arena of the sportcomplex «Luzhniki» is the creation of the stadium to hold the title game of the FIFA World Cup 2018, and the creation of the main multifunctional arena of the country to hold the most important sporting and cultural events keeping the historical look of the stadium. The main purpose of creation of inside and the outside view of the facility is to preserve the historical architectural look of the stadium and the conformance to the requirements of FIFA.

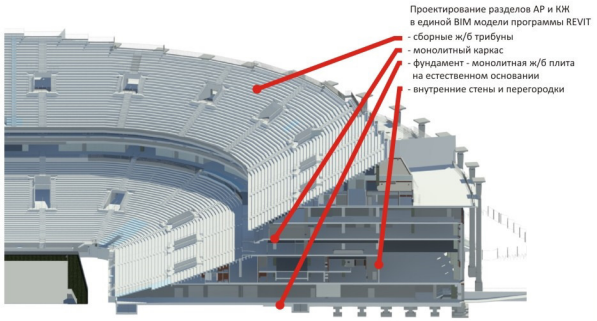
The staduim area is located in south-west of the Central administrative district of Moscow and is limited with the Komsomolsky prospect, the Third ring road and the Luzhnetskaya quay of the river Moscow.

The fasades setting is based on the conservation of the existing geometry and proportions of the historical fasade, the glazing is basically removed, that allows considerably reducing the expensions for the engineering equipment, as the stadium becomes «opened». The glazing presents only in the western, the eastern, the northern and the southern parts, where the VIP rooms, guest service rooms and the commercial rooms are concentrated.

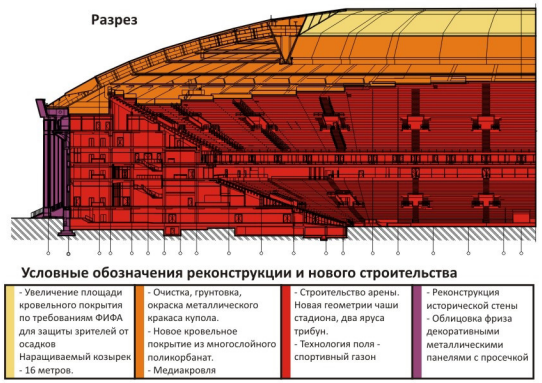
The key element of the indoor scene of the stadsium is the inside street that is created at the expense of the emergency ladders setback from the historical fasade. The emergency ladders are designed as the whole system of cascade runs, that arises sensation of the presence of the second fasade of the stadium. In such a way the resulting inside street is the dialogue between the historical fasade reminding the

spectators of the great sports events of the past, and the new inner dynamic fasade being the evidence of the future sporting achievements.

The concept previews the changing of the stadium bowl shape. In particular, the racing sulkies are removed, the stands are displaced closer to the field, the stand's edge becomes more "rectangular", their slope is changed, two additional tiers are added.



BIM модель трибун, каркаса, стен и перегородок



«Renovation of the Great sport arena “Luzhniki” for the FIFA World Cup 2018

Client / Great sport arena “Luzhniki”

General designer /
JSC ”Mosinzhproekt”

TPD / LLC “SPiCH”,
Development team:

Project designer	Choban S.E.
Project designer, chief of arch.studio	Gordushin N.V.
CPA	Gubkin A.A.
Lead architect	Fedorov A.V.
Architect	Korneeva L.V.
Architect	Lipis O.

Detailed design AS WD /
JSC “Kazan Giproniiaviaprom”
Design team:

CPE	Gaisina G.T.
Chief of arch.studio	Utkuzova G.F.
CPA	Ibragimov R.M.
Head of group	Valiev R.N.
Lead architect	Khisamutdinov F.R.
Architect	Galliamov R.Sh.
Architect	Blinov B.N.
Architect	Ganina T.S.
Architect	Belova A.P.
Architect	Ulianova L.S.

Detailed design RCS MS WD /
JSC “Kazan Giproniiaviaprom”
Engineers and architects of construction center

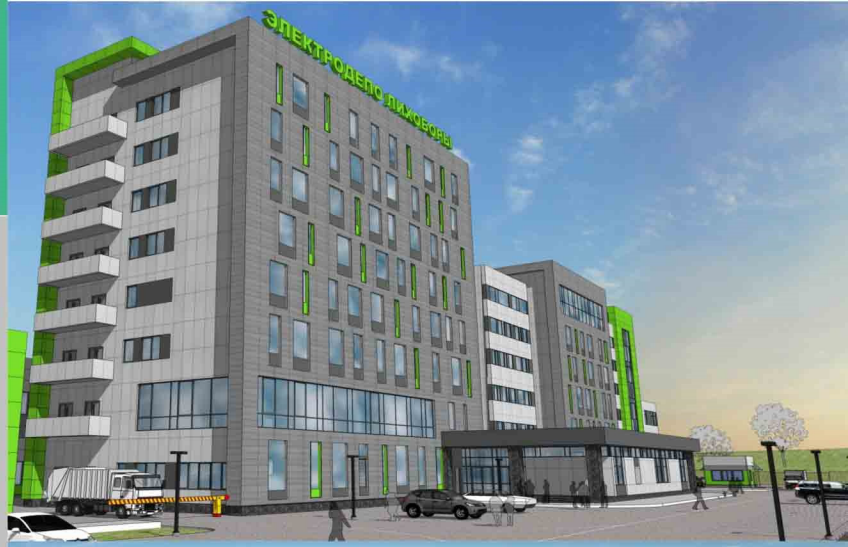
Electric engine house "Lihobory" Moscow

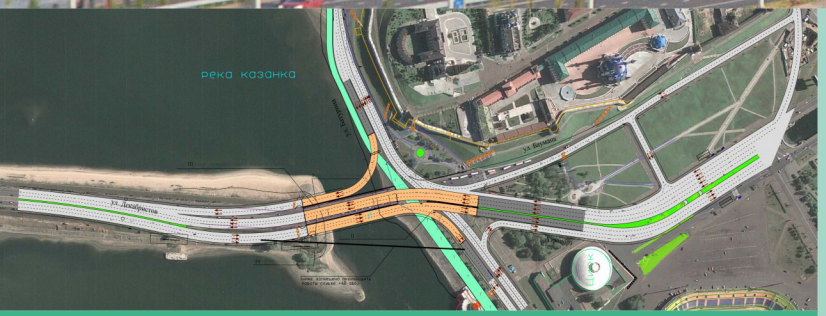
The area for construction of the electric engine house "Lihobory" is situated in the Northern Administrative District of Moscow, at the territory of the Zapadnoe Digunino region, between the crossing of the axes of the Oktyabrskaya railway and the Junction line (2a) of the small ring of the Moscow railway with the station Hovrino (Verhnelyhoborskaya str, est.5).

The area is limited:

- in the North - by the protective zone of Lyhoborka river;
- in the North - East and the East - by the connecting railway line reservation between the small ring of the Moscow railway and the Oktyabrskaya railway;
- in the South -West and the West - by the Oktyabrskaya railway reservation;
- in the South - by the small ring of the Moscow railway reservation.
- electric engine house area - 13,24 ha;
- zone of the planning public road arrangement (from the side of the east boundary of the electric engine house) - 1,31 ha;
- zone of the planning public road arrangement (from the side of the north boundary of the electric engine house) - 0,5 ha;
- zone of the planning location of the parking near the facility - 0,44 ha.

The building facades color schemes of the electric engine house under construction correspond to the Lubninsko-Dmitrovskaya line at the scheme of the Moscow subway line.





Renovation of the existing area of the Leninskaya dike and the bridge through the Kazanka river

The renovation objective: is the extension of the traffic area to increase the traffic capacity.

The grade of the street: main urban artery with uninterrupted traffic.

During the renovation the old bridge was disassembled. Three new bridges were constructed on its place through the Kazanka river with the interchange at the crossing with Kremlevskaya naberezhnaya street in different levels.

The length of two principle bridges – 410 m;

The travel width 16 and 13,5 m with 4 and 3 traffic lanes in each direction and the width of the auxiliary bridge – 7 m.

The total length of the Leninskaya dike renovation project – 2 km, the travel width –33 m with 4 traffic lanes in each direction.