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# MACHINE BUILDING COMPLEX OF THE REPUBLIC OF BASHKORTOSTAN

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## **Machine Building Complex of the Republic of Bashkortostan:**

- **covers more than 100 major and medium companies;**
- **Personnel – over 110 000;**
- **The Complex share in the structure of Processing Operations – 17.5%**

**The Operations structure of the machine building companies offers the possibility of manufacturing separate items, component parts as well as end products**



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## Bashkortostan Output Performance against regions of the Russian Federation

Products	Bashkortostan Ranking
Metal-cutting machines	I
Trolley-buses	II
Concrete mixer trucks	II
Universal motors	II
Helicopters	III
Buses	V



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## PRIORITY ORINETATIONS FOR THE DEVELOPMENT OF MACHINE BUILDING COMPLEX OF THE REPUBLIC OF BASHKORTOSTAN

**Aviation Engine Industry**

**Helicopter Industry**

**Equipment Manufacturing for Fuel and Energy Complex**

**Power Engineering Industry**

**Transport Industry**

**Telecommunication transmission Industry**

**Vehicle components Manufacturing**

### Strategic Objectives for Development of Machine Building Complex:

1. Upgrading existing and constructing new manufacturing facilities.
2. Diversification of existing manufacturing, assimilation of batch manufacturing of dual purpose products by Defense Industry Complex ventures
3. Further development of competitive machine tool industry of the Republic
4. Improved Investment commitment of machine building complex companies of the Republic of Bashkortostan
5. Improved Performance indicators of machine building companies
6. Further improvement of industrial energy efficiency and manufactured products



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## Motor transport manufacturing

- Dual link track carrier and integrated mounted technological systems,
- Passenger coaches
- Trolley buses
- Motor trailers and semitrailer
- Concrete mixer trucks, cementing units
- Fire fighting equipment







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## JSC «Machine Building Company «Vityaz»

An exclusive Russian manufacturer of dual link track carriers (type *DT*) with a load capacity of 2-30 tons and technological systems mounted thereof

The all-terrain units combine maneuverability and speed along with buoyancy under significant loads, overcoming non-explored areas without any engineering itinerary support, if needed crossing vast areas which cannot be challenged by other types of transport



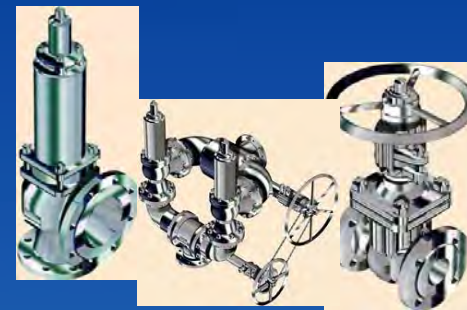


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# Fuel and Energy Complex Facilities Industry



- Oil field development equipment
- Oil field and drilling equipment
- Pipeline accessories
- Geology exploration equipment
- Energy equipment
- Chemical equipment



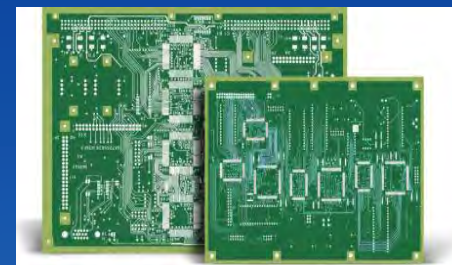


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## Telecom transmission industry



- telecommunication equipment featuring coarse and mobile operation
- automatic motor-transport tracking control systems
- digital equipment and other







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# Machine tool Industry

Every 5<sup>th</sup> machine in the Russian Federation is manufactured in the Republic of Bashkortostan

#	Company	Goods manufactured
1.	JSC «Sterlitamak Machine-tool Manufacturer»	Manufactures metal cutting machines and machining centers
2.	JSC « <i>Iskra</i> » Innovative Science and Technology Center	Development and make-to-order manufacturing for specialized electro sparking and electrochemical equipment
3.	LLC « <i>ECM</i> »	Manufactures electrochemical processed machining tools
4.	LLC «The <i>Ishimbai</i> Machine tool repairing plant»	Repair and upgrades metal-processing, forge-and-press equipment of any type and class, digital control machine tools



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# Machine-tool manufacturing

## Joint Stock Company «Sterlitamak Machine-tool Manufacturer»

**1-st place** among machining centers in the Russian Federation

Annual manufacturing capacity of the company – up to 500 digital control machine tools and machining centers; up to 2000 all-purpose machines

The company manufactures digital control machines featuring processing of details with a simultaneous control through 3 and 5 coordinates; turning-milling centers, all-purpose drilling and milling machines





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## Manufacturing vehicle components

#	Company	Goods manufactured
1.	JSC «Белебеевский завод «Автономаль»	Over 3500 size-typed and definitions of fasteners and springs
2.	LLC «Viitsenmann-Russia»	Compensators, metal-hoses
3.	LLC «Industrial company «AvtoPribor»	Electrical accessories for cars, buses, agricultural and road building machines
4.	FSUE «Ufa aggregate company «Гидравлика»	Fuel filters, exhaust compensators, brake hoses, fluoropolymer braid hoses
5.	JSC «Ufa manufacturer of elastic materials, items and constructions»	Fan drive and generator belts, formed rubber



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## Manufacturing vehicle components

#	Company	Goods manufactured
6.	FSUE «Ufa aggregate manufacturer»	Glow and spark plugs
7.	JSC «UfimKabel»	Vehicle wires, bundled hi voltage cables
8.	FSUE USIC «Molniya»	VAZ vehicle ignition systems
9.	JSC «МК «Vityaz»	Major class bus and trolley bus drive axles
10.	JSC Neftekamsk manufacturer «Iskoz»	Vynil leather, PVC, vehicle facing cloth
11.	LLC «Non-woven products manufacturer»	Non-woven products
12.	LLC «AvtoPlast»	Manufactures composite and polymer materials
13.	LLC «BelAvtoDetal»	Door control accessories, oil meters, faucet clamps
14.	LLC «INMASH» Concern	Hydraulic steering boost system for GAZ vehicles





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## Components manufactured

- Springs
- Fasteners
- Carriage springs
- Metal hoses
- Automobile glass
- Vehicular belts
- Fiberglass items
- Technical lubricating and cooling liquids





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## Feasible suppliers of vehicle components to Mitsubishi Motors Automobile manufacturer in Kaluga city

### JSC «SalavatSteklo»

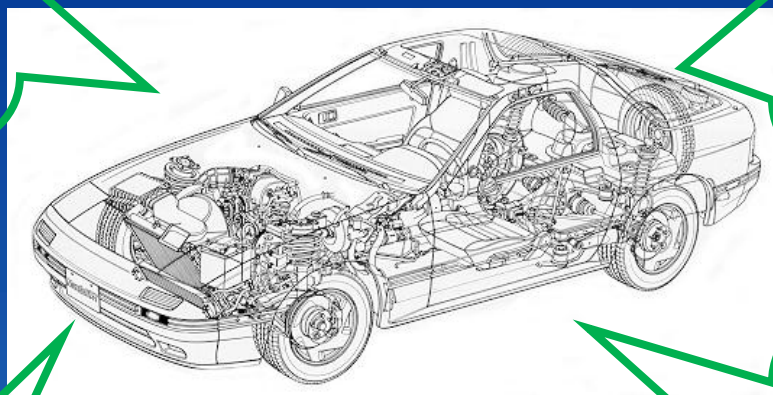
Safe Multilayered glass

ISO 9001:2008 – safe glass for on-surface vehicles

### JSC Neftekamsk

manufacturer «Iskoz»  
Vynil leather, PVC, vehicle facing cloth

ISO/TS 16949



### JSC «BeIZAN»

Over 3500 size-typed and definitions of fasteners and springs

ISO/TS 16949:2002

### LCC

«Viitsenmann-Russia»

Compensators,  
Metal-hoses

ISO TS 16949



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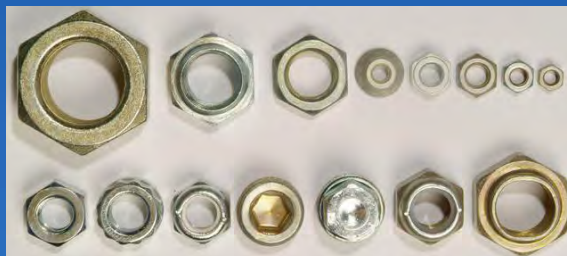
**JSC «Belebeevski manufacturer «AvtoNormal» (JSC «BelZAN»)**

**Proved products assortment list – over 4500**

**Certificate for the existing line of the manufacturer line issued by «UTAK» company**

**«BelZAN» QMS in compliance with ISO/TS 16949:2002 automobile certificate**

**«BelZAN» QMS in compliance with ISO 9001:2000 International automobile certificate**







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# Fasteners and springs manufactured by «BelZAN» used for:

... interior elements and lining

...seats

...steering wheel parts

... clutch plates

... engine



... cooler and heater system

... other automobile parts

... suspension parts

... wheel fasteners

...brake power end system

... door components

... interior heating system ... lighting elements

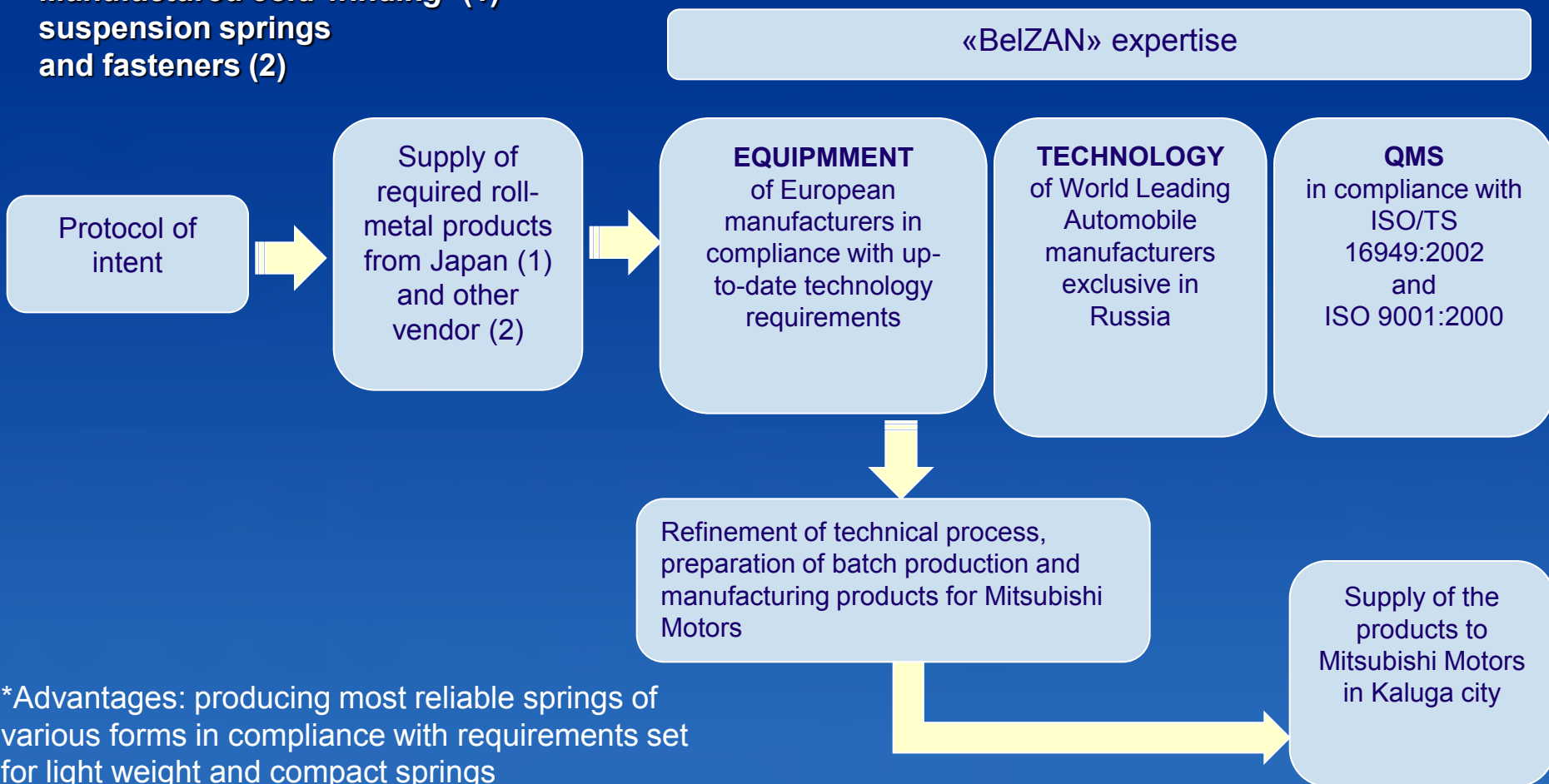




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## Proposed partnership chart between «BelZAN» and Mitsubishi Motors Automobile manufacturer in Kaluga city

Manufactured *cold-winding* \*(1)  
suspension springs  
and fasteners (2)



\*Advantages: producing most reliable springs of various forms in compliance with requirements set for light weight and compact springs



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# WITZENMANN RUSSIA

(LLC «Witzenmann-Russia» Joint Venture, c.Ufa

Maximum manufactured car components capacity:

**1 600 000 items/year**

## Products:

- Metalhoses;
- Axial compensators;
- Metal bellow valves;
- Car components;
- Suspensions and supports

## Production Certificates

ISO 9001:2000

ISO TS 16949





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## JSC «SalavatSteklo»

Venture share in the glassware market of Russia— **20%**.

ISO 9001:2008 certificate

«SalavatSteklo» one of the largest producers of automobile glass in Russia

Production involves the usage of leading foreign equipment



Curved multi-layer glass for on-surface transport is manufactured sized 2650\*1400mm (max), maximum deflection lengthways 430 mm.

Maximum plane face glass manufactured for onsurface transport is 2600\*1400 mm.



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## JSC Manufacturer «Iskoz»

The largest Russian manufacturer of car interior materials

Being 2<sup>nd</sup> rate Vendor JSC «Iskoz» holds partnership with World manufacturers of  
**seat upholstery:**

Johnson Controls Inc.

Lear

Prevent

DaeWon, (Korea)

Management - EN ISO 9001:2008

ISO/TS 16949 obtainment in progress

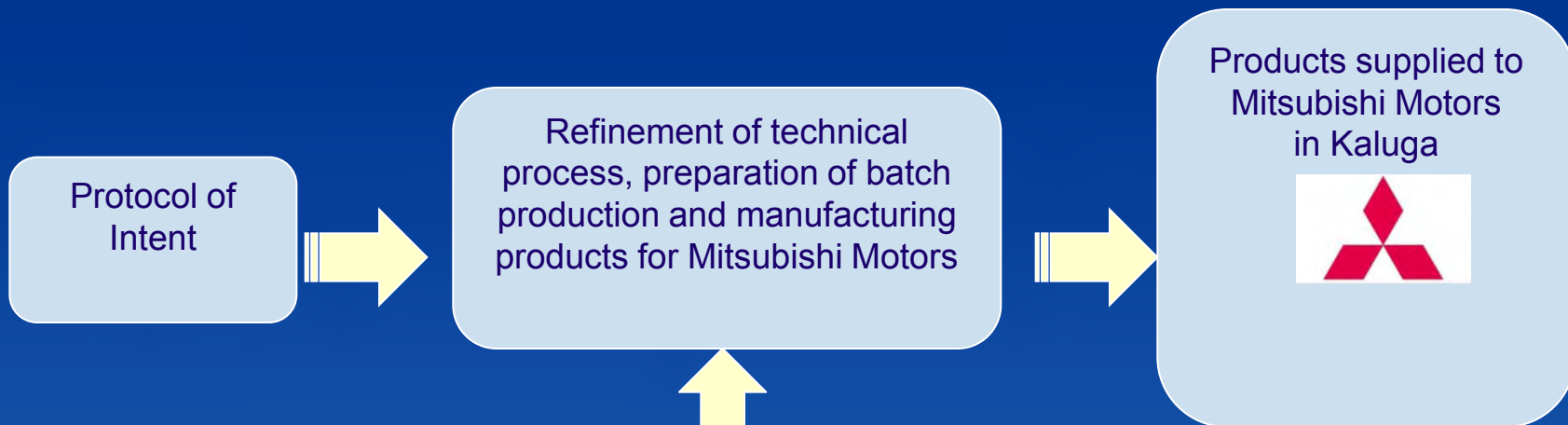
Internal laboratory possessing test accreditation certificate





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## Proposed partnership chart between JV «Witzenmann Russia» and «SalavatSteklo» with Mitsubishi Motors in Kaluga city



### Conformity certificates:

**LLC JV «Witzenmann Russia»:** ISO 9001:2000 and ISO/TS 16949;

**JSC «SallavatSteklo»:** ISO 9001:2008

**JSC «Iskozh»:** EN ISO 9001:2008; ISO/TS 16949 obtainment in progress

Internal laboratory possessing test accreditation certificate



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# Aircraft Industry

## Manufactured component parts and elements

#	Company	Goods manufactured
1.	JSC «Ufa Engine Production Association»	Manufacturing, maintenance services for and repair of turbojets, helicopter elements, manufacturing on-surface civil products, manufacturing gas turbines
2.	JSC «Kumertau Aircraft Manufacturer»	Manufacturing co-axial helicopters developed by «Kamov» Design Department
3.	FSUE «Ufa aggregate company «Hydraulika»	Model range of aircraft auxiliary power units, over hundred items for air, fuel and hydraulic filters, units, metal- and fluoropolymer hoses
4.	FSUE «Ufa aggregate Production Association»	Development, production and repairing electro technical equipment for aircraft



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## Aircraft Industry

### Manufactured component parts and elements

#	Company	Goods manufactured
5.	FSUE «Ufa Device Production Association»	Development, production, testing and repairing aerial equipment for aircraft and helicopters (navigation and piloting complexes, automatic flight control sets and autopilots, airborne computers and on-land control systems)
6.	FSUE USIC «Molniya»	Development, production, upgrading and post-sales maintenance of electrical ignition systems and automatic electronic control systems for aircraft
7.	JSC «SPC «Motor»	Development and manufacturing hi-performance gas turbines for military aviation and Energy power gas turbines
8.	JSC «Institute for Technology and Operations Management»	Technology development support for aircraft manufacturers



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## Series Products of JSC «UMPO»

Definition ( <i>Russian abbrevs.</i> )	Application area
<i>AL-31F, AL-31FP</i>	Aircraft: <i>Su-27, Su-30MK, Su-33, Su-34</i>
<i>AL-31<sup>ST</sup></i>	Main gas and oil transportation pipelines
<i>R195</i>	Aircraft: <i>Su-25</i> and <i>Su-39</i>
<i>D2B</i> and Item 90 components	Transmission elements for <i>Ka-27/21</i> and <i>Mi-26</i> class helicopters





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**Products to be manufactured  
by Joint Stock Company  
*UMPO* in series**

<b>Definition</b>	<b>Application area</b>
117C, 117	Aircraft: <i>Su-35S</i> , ( <i>PAK FA – phase 1</i> )
Item of 5 <sup>th</sup> Generation	Long term aircraft complex for front aviation ( <i>PAK FA</i> )
<i>AL-55i</i>	Training plane <i>HJT-36</i> (India); also <i>MiG-AT</i>
<i>VK-800V</i>	Helicopters: <i>Ansat</i>
<i>VK-2500 / TB3-117</i>	Helicopters: <i>Mi-24/35</i> , <i>Mi-28</i> , <i>Ka-50/52</i> , <i>Ka-27/28/29/31</i> , <i>Ka-32</i>
<i>PD-14</i>	Hollow blade aerator (complete)



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## JSC «KumAPP»



### Helicopter Ka-226

All-purpose helicopter.  
Designed modifications: medical services, training, cruising and protection of public order (police), ER,  
Company is planning to compete certified testing and commence the production of Ka-226T in series in 2011



### Helicopter Ka-32A

Wide range of application and multifunctional  
Modification: Helicopter Ka-32A11VS – An all-purpose two-rotor co-axial helicopter designed to function any-season



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# Development Design Department «Rotor»



R-30 «RotorFly» - an ultra lightweight (co-axial helicopter) – jointly developed by :



JSC «UMPO»



JSC «KumAPP»

LCC «OKB «Rotor» Experimental Design Office

Rewards:

- European patent EP1944234 of 12.01.2007
- Rotor system
- Russia Airworthiness Certificate # 2102100887 (single original)
- Italy Airworthiness Certificate (single original)



**Looking for investors and partnership for certifying and organizing in-series production of the helicopter**