



since 1988

Commercial offer

Giant Wheels

125m

150m

175m

with certification
according to
EN13814

March 2021



Panoramic wheel 128m in Ulsan, South Korea





Dear Sirs!

In recent years, the demand for giant Ferris wheels height from 150 m has significantly increased. But their cost is more than 100 million euros and this increases the payback period. We offer new technological wheels for an attractive price, which makes giant wheels very affordable and payback period 2-5 years!

Having experience in construction of 20 Ferris wheels, including 90m in Italy and 128 m in South Korea, we have developed a fundamentally new design of Ferris wheels with large cabins for various usage.

We are ready to sell these wheels, but it is more profitable for us to promote them in partnership with land owners in tourist zones around the world.

- We were established in 1988 and have been successfully operating in the world market since 1993. **We have created 108 modern amusement rides since 1988, including the largest Wheels for its time:** the largest in Europe 70 m Wheel in Moscow at the VDNH Expo, the largest in Europe 90 m Wheel in the park "Mirabilandia", Italy; the highest in Asia 128 m Wheel on the roof of a trade building in Ulsan, South Korea; the highest in Russia 80.2 m Wheel in Lazarevskoye Sochi, and 16 other Ferris wheels.
- In addition to our business, we manage international standardization and create for the market at our own expense safety standards of attractions ISO 17842, EN13814 and GOST 33807.
- Our attractions work without breakage for decades, because we use high-quality steel and welding, European: transmissions, electrical equipment, fastening products, welding and painting materials!
- From 2016 to 2018 we have designed, patented and now offer you the new designs of light and rigid Panoramic Wheels – "Crystal" and "Wheel of the World". The wheels are characterized by a new modern design, high safety construction, resistance to III-V wind areas, **twice bigger size of air-conditioned cabins for various group events.** We do not use rubber tires that slip in the rain and frost - **we use a steel gear to engage with the fingers of the drive arc.**



Since 2017, our production base is Krasnogorsk plant JSC "Betsema"- Russian-Dutch joint venture. We invite customers to visit it at any convenient time.

Our new Wheels are two times lighter and more technological than that of competitors, so we can offer the **best quality for the best price on the market! Call me! +7 903 7902872**

Sincerely yours, dr. **Vladimir Gnezdilov**, honored designer of the Russian Federation,
President of the Russian Association of amusement Parks and attractions, chairman of Technical Committee № 254 ISO,
([biography](#))

Giant panoramic wheels 126-175m



Leisure Technical Consultants Ltd.

TYPE 'A' REGISTERED INSPECTION BODY

73 Crescent Road, Dukinfield, Cheshire, SK16 4EU **Tel:** 0161 351 9526;

e-mail: ltd@ltdci.co.uk; www.ltdci.co.uk

To whom it may concern

23rd June 2017

Leisure technical Consultants, are a bon fide inspection company with offices in Manchester UK and United Arab Emirates, and have worked with Pax Company for a project in Dubai aiming to build a panoramic wheel of 170m in height. As a result of our working relationship with them, we were able to look into the calculations of the wheel design.

With this, we are optimistic that using the same technology, Pax Company is capable to design, manufacture and install a 255m wheel for the Middle East region in accordance with the requirements of ISO 17842 "Safety of Amusement Rides" standard.

We have known of the existence of Pax Company and its manufacturing ability as a legitimate company in the amusements rides industry and the international market. Also, we have worked with them in the creation of the new international standard on Safety of Amusement Rides.

For that reason, we would be please to take part as the 3rd party inspection body in the construction installation of the world's highest panoramic wheel in Kuwait.

Best Regards

Robert F Nicholls

Managing/Technical Director of LTC Ltd



Giant panoramic wheels 126-175m

Wheel 175m

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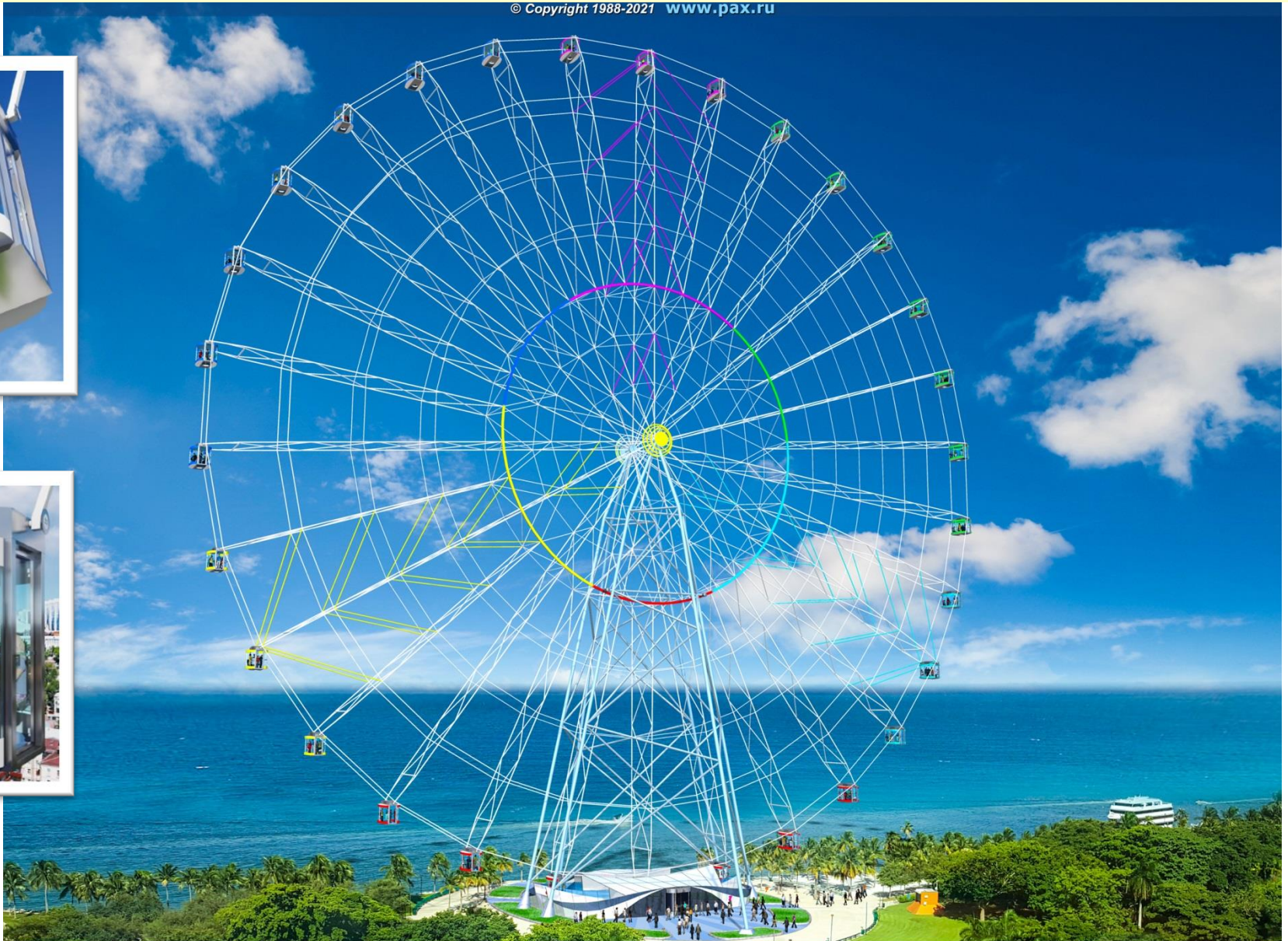
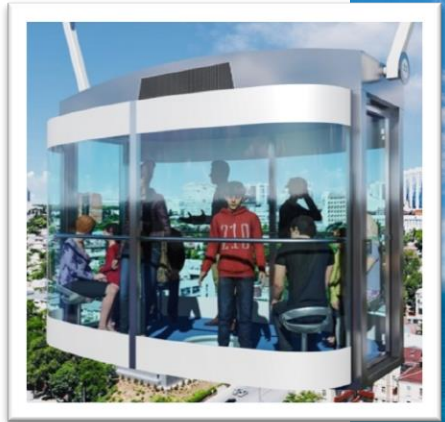
Fast rotation wheel https://www.youtube.com/watch?v=-0amX_SxcB0



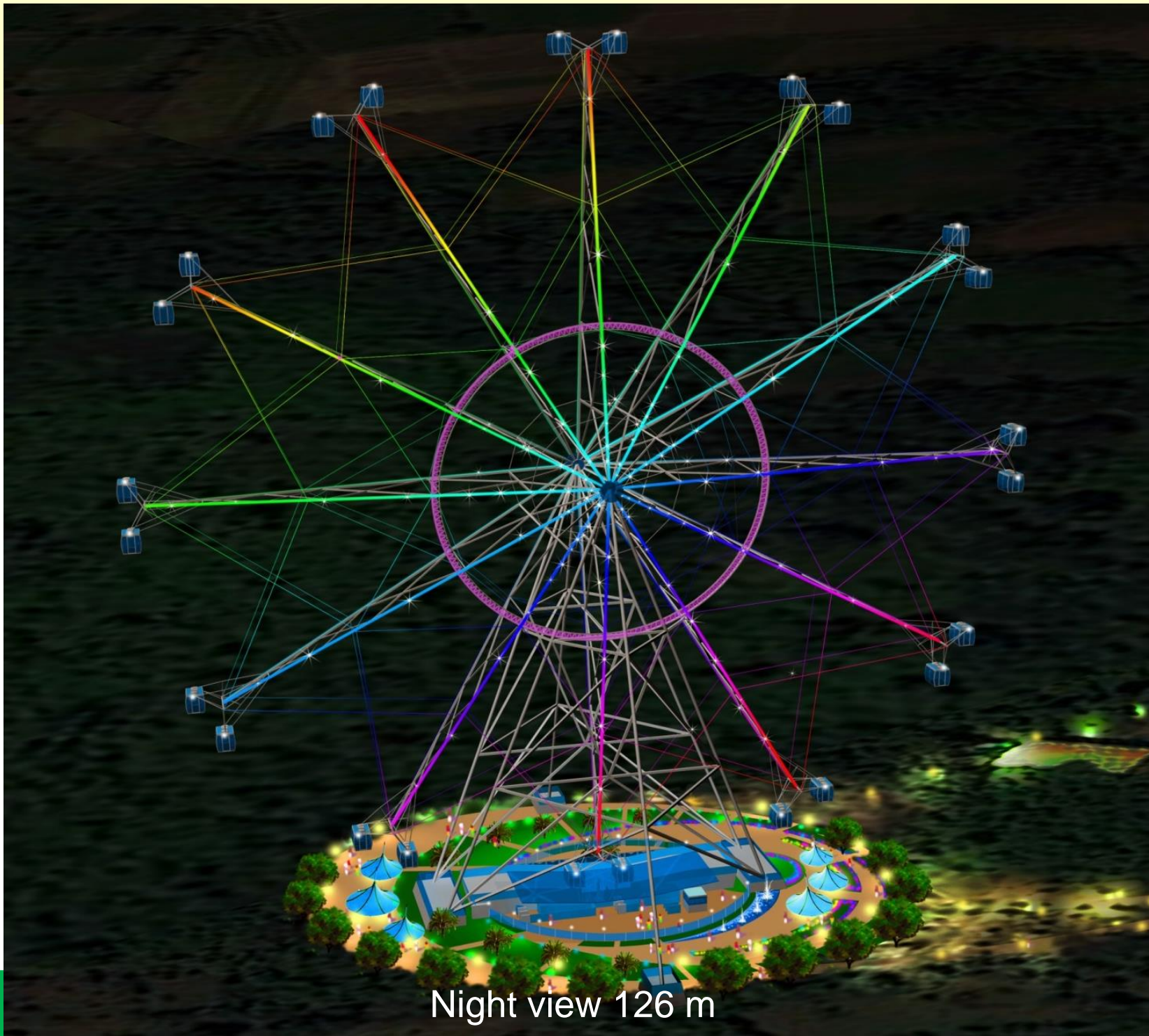
Station of the wheel 175m



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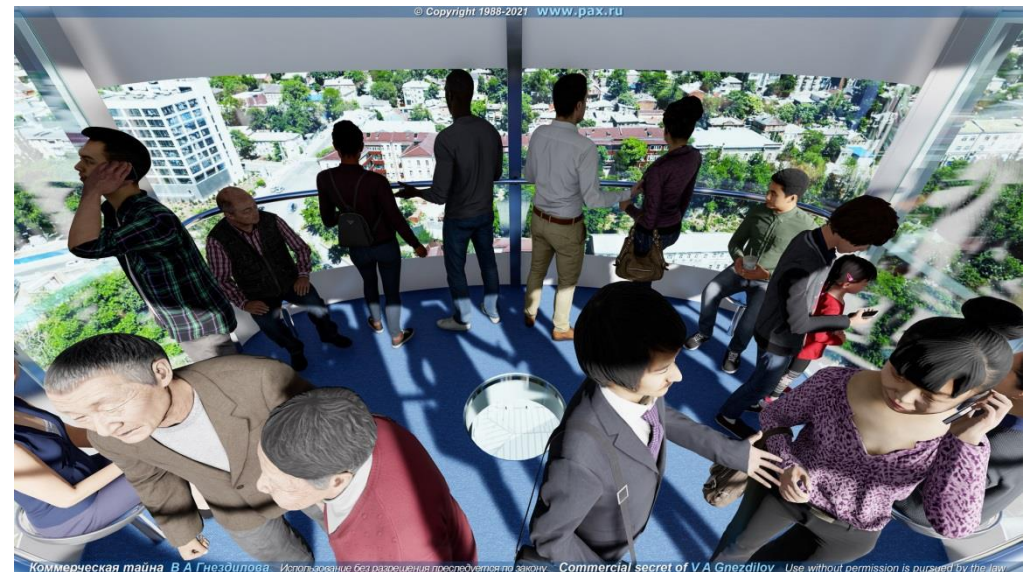
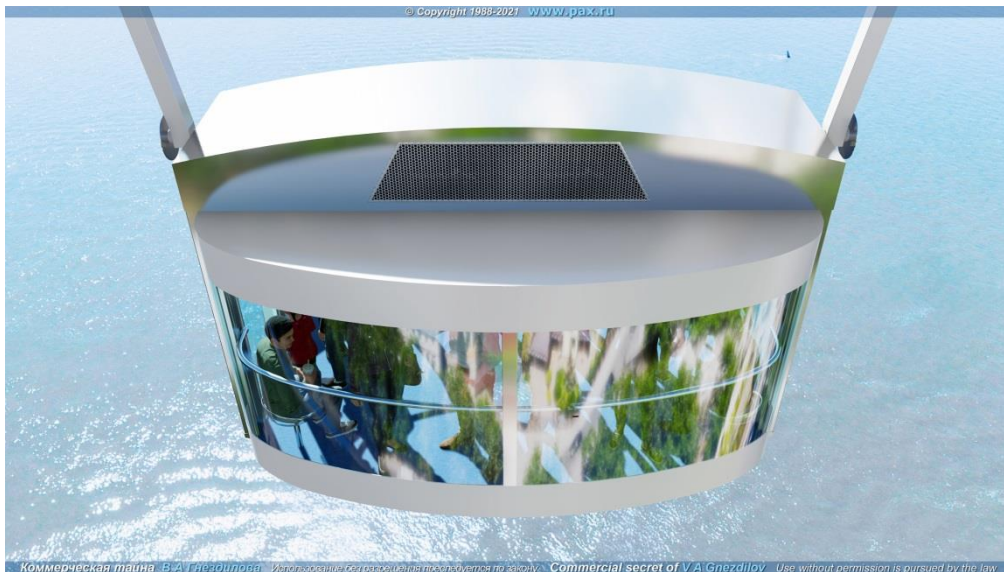
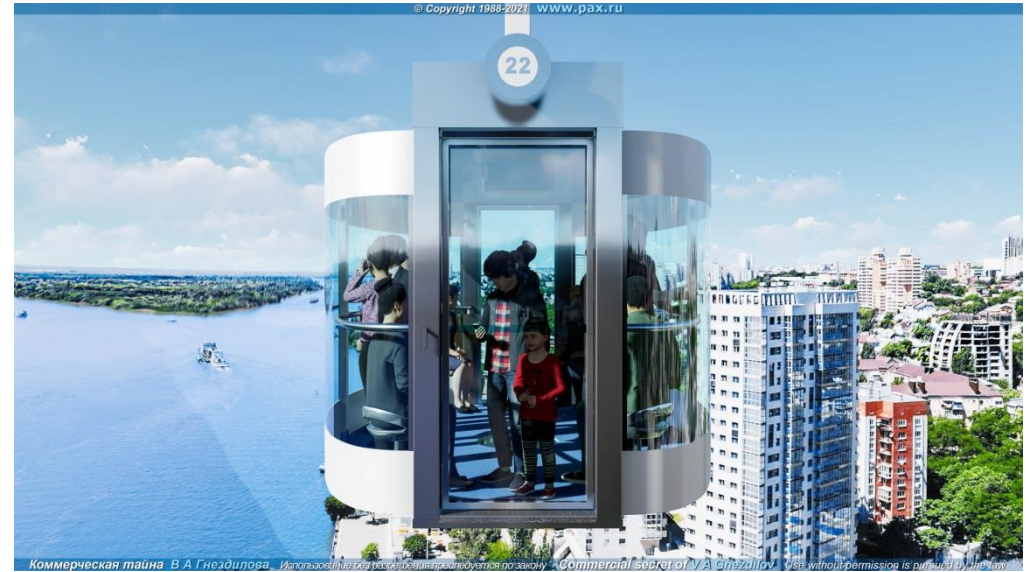


Wheel 126m



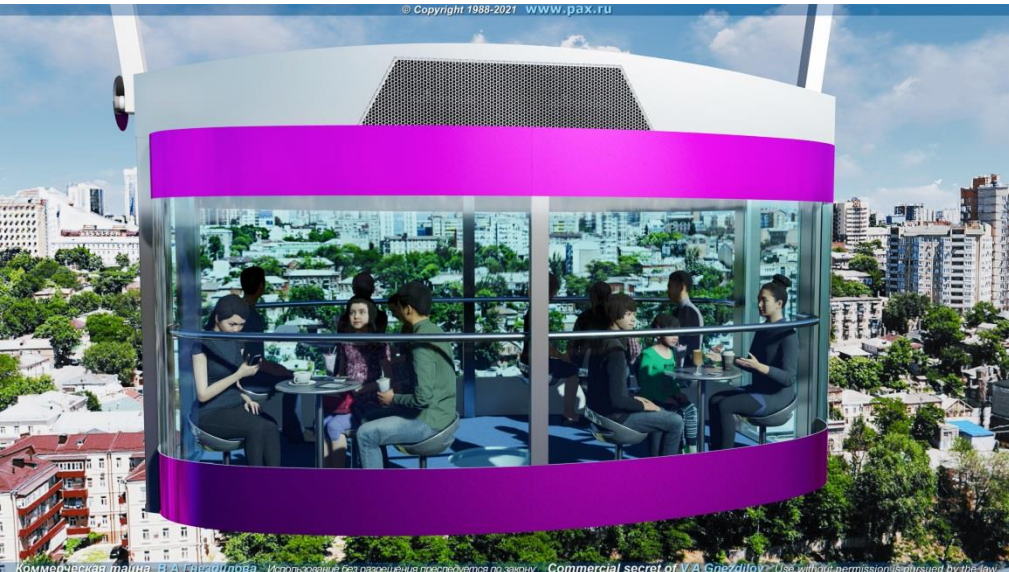
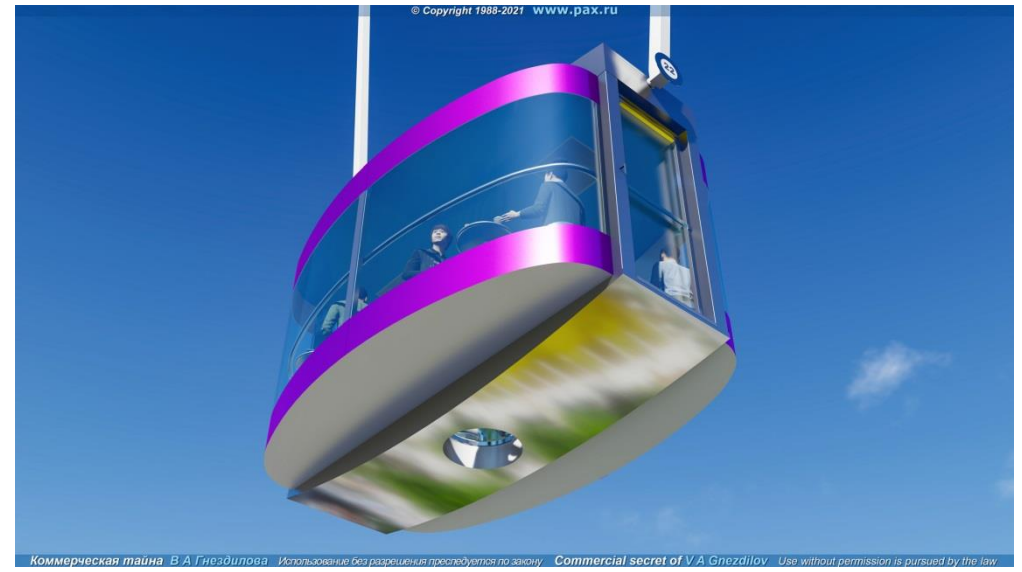
Night view 126 m

Cabins for 15–20 persons



Giant panoramic wheels 126-175m

Cabins including tables – 12 persons



Giant panoramic wheels 126-175m

OUR ADVANTAGES:

Experience: Non-slip rotation of the wheel drive in rain and snow, large cabins for groups of visitors, cafe-cabins, access for the disabled, protection from ice falling from the top of the cabins, fastening and painting materials made in Europe.



Biggest fast panoramic wheel in the world! Riding session includes 3 rotations: 1 long rotation for 23 minutes (entering and exit) and 2 speed rotations for 7 minutes. Capacity: 1500 passengers per hour or 6.5 million passengers per year.

COMPLETENESS OF PANORAMIC WHEEL OF 175 METERS HEIGHT

Cabins: 48 spacious Panoramic cabins, each sized 4.5x3x3.5 m, with an overall area of each cabin 14 sq.m. and the total capacity of 48x15=720 passengers. Panoramic wheel is supplied with: mechanical locks and doors locking sensors; 2 climate control systems per cabin.

Transmission: There are a main and a backup drives (from European suppliers) supplied with a gear (pinion) engagement to a wheel arc, with brakes and control system. In case of rain and uneven loading of the Ferris wheel cabins, the control system prevents drive and the drive arc slippage.

Metal structures: Two pyramidal supports supplied with access ladders; trusses of the rotating part; bearing units; loading platform; hot-dip galvanized marked fasteners in accordance with ISO. Coat-painting of metal structures: 1 layer of primer and 2 layers of enamel for marine climate of the 5th area.

Electrical equipment: Control boxes; operator consoles; cable set, sensors - in accordance with the EN 13814, a pavilion for control console.

Installation supervision, adjustment, testing, training the staff of the Panoramic wheel.

Operational documentation in accordance with EN 13814 requirements;

A kit of spare parts and tools for the first year of operation of the Panoramic wheel; spare parts supply and technical support for at least 10 years.

MAIN TECHNICAL CHARACTERISTICS (APPROXIMATE)

Dimensions: height - 175 m, diameter - 166 m, site for supports - 60x80m; volume of foundations ~ 2000 m³. Speed of cabins: 1) 0 m/s; 2) 0.45 m/s; 3) 3 m/s

Electrical equipment (all data are preliminary): - drives: while fully loaded - not more than 2x200 kW, average per hour - 50 kW, drive power source - V/phase/Hz/A 380/3/50/1000; climate control system – up to 2 kW per cabin, cabin power source - V/phase/Hz/A 220/1/50(60)/10/per cabin; dynamic lighting- up to 100 kW, power supply source - V/phase/Hz/A 220/1/50/500.

Back up electricity supply for evacuation of passengers: is produced by the 50 kW power generator (to be purchased by buyer), which is required in case of power outage.

External effects: wind – 45 m/s X 10 minutes on ten meters high; earthquake – magnitude 7.

The number of 40-foot open-top containers for transporting a Panoramic wheel – 95, and for oversized cargo (cabins sized 5*3*3,5 m) - 48.

The cost of a standard included set is € 55 million (fast rotation system not included)

Ordered and purchased separately (not a part of a standard included set!):

Lighting – LED – stripe along the trusses, lighting of cabins' bottom.

EN 13814 certificate of conformity (a certified copy).

Panoramic wheel installation by the seller's personnel,

Panoramic wheel warranty.

Elevators for lifting personnel to supports' platforms for the Panoramic wheel maintenance.

Video surveillance of passengers in a cabin – upon request

Intercom system, sound system a cabin – upon request.

Furniture for the cabin – stools, chairs, tables, sofas – upon request

Way of payment: 20% prepayment, 60% - payment proportional to the number of containers shipped, payment of 10% after installation completion and performing a trial operation during 10 days, the final payment of 10% - not later than 5 days after 3 months of the trial operation.

The manufacturing time for the Panoramic wheel is 24 months. The installation time is 180 days.

A buyer's responsibility: receiving a permission for a Ferris wheel installation, production of 2000 m³ foundations, transportation, equipment rental for installation, site preparation, electric power supply. Building a station above the platform.

Giant panoramic wheels 126-175m

Experience of Pax Group of Companies



520 facilities designed and built in Europe, Asia, and America for **32** years, since **1988**

- Over 108 major rides around the world.
- 212 telecommunications and TV towers up to 84 meters in height.
- “Moscow – 850” Panoramic Wheel 70m high- the highest in Europe in 1995.
- Panoramic Wheel 90 m in height for Mirabilandia park, Italy – the highest in Europe in 1998.
- Roller Coasters for Saudi Arabia, France (Parc Saint-Paul); Austria (Erlebnispark).
- Mobile Gantry for pre-launch preparation of "Soyuz-CT" launchers for Guiana Space Center, France in 2011. Up to 2014 there were 8 successful launches of Soyuz rockets.
- Set of containers for "Soyuz-CT" launchers transportation from Russia to Guiana Space Center.
- In 2012-13, ISO TC 254, which is headed by Vladimir Gnezdilov created 3 new world standards "Safety of amusement rides and amusement devices“.
- 2013 - the Russian and International Union of Scientific and Engineering Public Associations has awarded the specialists of Pax Design with the Golden Medal named after V.G. Shukhov for the creation of the Mobile Gantry for SOYUZ space vehicles in Guiana Space Center (GSC), Kourou, French Guiana
- Since 2017 Pax Group is in the head of committee 427 of Rosstandart.
- Now we make a draft design of the equipment of the launch complex for the heavy of the rocket launcher for Roskosmos.



Mobile Gantry in GSC



Cobra, Dammam



Wheel 90 m, Italy



Wheel 80 m. Sochi, Russia

Giant panoramic wheels 126-175m



Safety of amusement rides

Pax Group of Companies pays serious attention to safety of amusement rides under design and production. Back to 1989-90 we conducted centrifuge tests in Gagarin's Center for test subjects of different ages from 6 to 78 years old with different health problems to establish safety requirements for amusement rides, the test results and data are used by us to develop International standard ISO 17842 Safety of amusement rides.

System of design and manufacture of amusement rides of Pax Group of Companies is certified by the leading world expert TUV SUD (Germany). We have the license by Roscosmos for manufacture of space equipment. There were no incidents with our products.

The leader of Pax Group of Companies, Vladimir Gnezdilov, is the head of aerospace structure stress analysis department of the Moscow Aviation Institute (University), Chairman of TC 254 «Safety of amusement rides» ISO – International Organization for Standardization

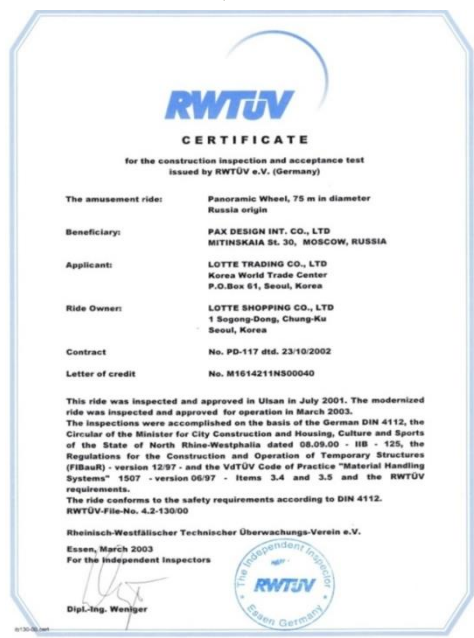
Space work license



Certificate of TUV SUD for quality assurance system of Pax Group of companies



Certificate of TUV NORD (Germany) for panoramic wheel Ulsan, Korea



Certificate by TUV SUD (Germany) For Mobile Gantry in Guiana Space Center



Giant panoramic wheels 126-175m

Patented wheel transmission with gear engagement



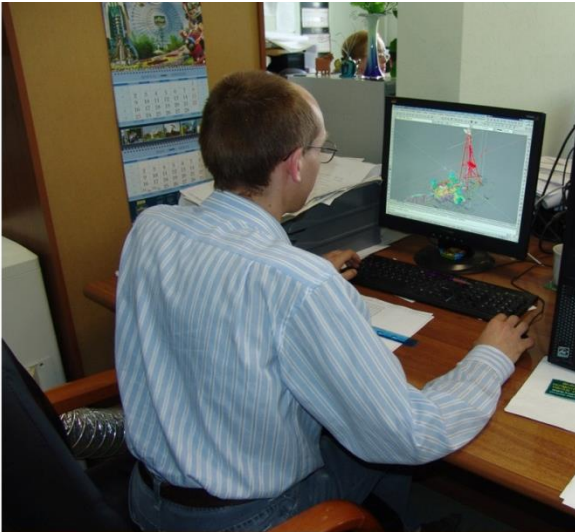
Giant panoramic wheels 126-175m

Wheel assembly




Giant panoramic wheels 126-175m

Manufacture processes



CERTIFICADO ♦ CERTIFICAT ♦ CERTIFICATE ♦ ZERTIFIKAT ♦



CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that



Pax Company Ltd.
97 Volokolamskoe sh.
125424 Moscow
Russian Federation

has established and applies
a Quality Management System for


**Assembly and technical maintenance of mechanized amusement rides
and high-rise spatial structures**

An audit was performed, Report No. 707026537.
Proof has been furnished that the requirements
according to

ISO 9001:2008

are fulfilled. The certificate is valid in conjunction
with the main certificate from 2014-08-21 until 2019-08-20.
Certificate Registration No. 12 100 48520/01 TMS

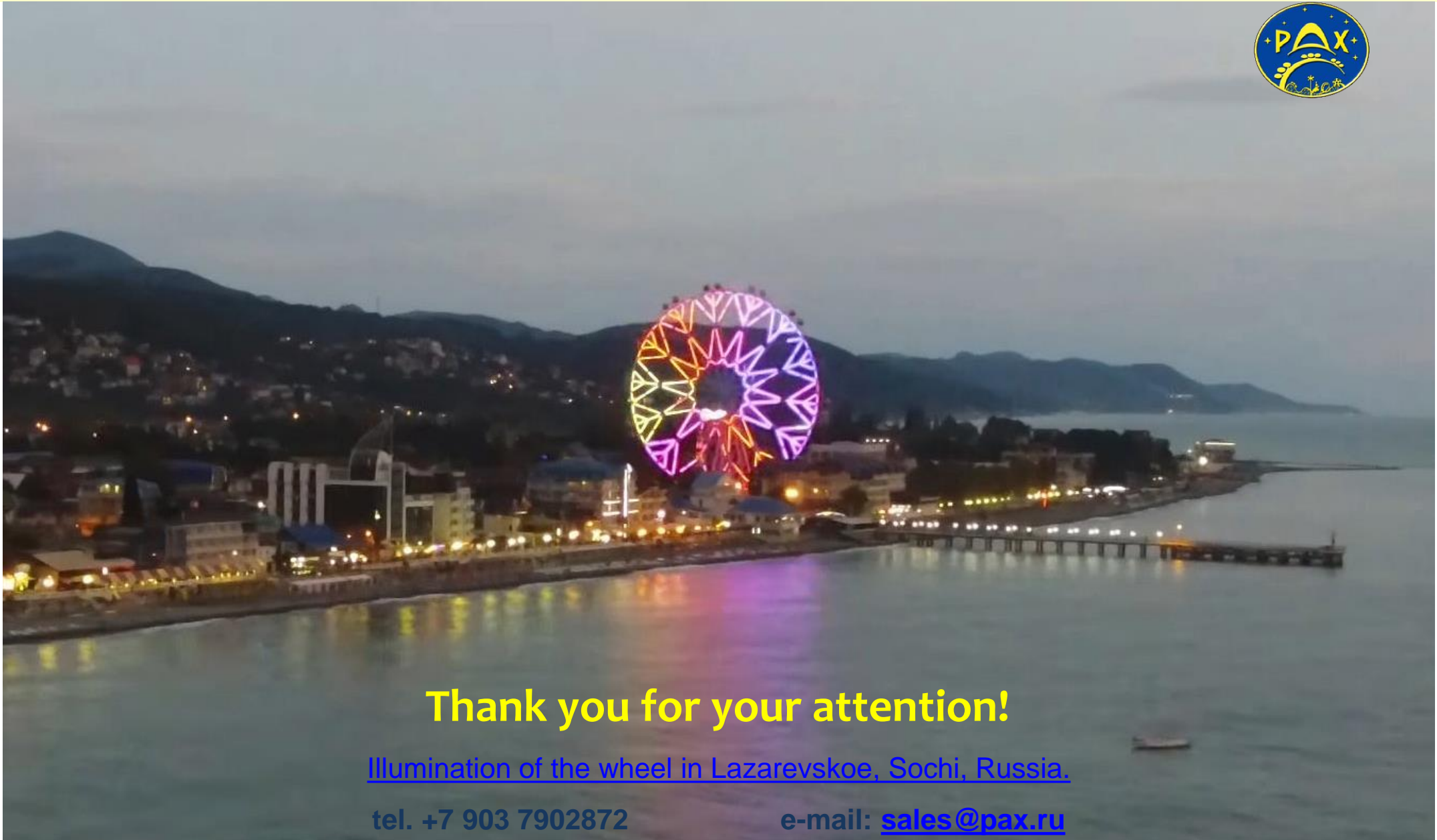

Product Compliance Management
Munich, 2014-08-22


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TUV



Our wheel in Lazarevskoe, Sochi



Thank you for your attention!

[Illumination of the wheel in Lazarevskoe, Sochi, Russia.](#)

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