

Press release. ALIENO unveiled ARCANUM - an all-electric hypercar with 5221 hp, 8880 Nm and 568+ km/h (353+ mph).

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ALIENO ARCANUM introduction:

Introduction:

ALIENO unveiled its first debut model named ARCANUM.

Founded in 2015 in Slashten, Bulgaria, ALIENO creates hypercars from the future.

The name of the brand is derived from the Italian word "alieno", which means "alien".

ALIENO ARCANUM is an all-electric hypercar, which in its top version has power of 5221 hp (3840 kW), 8880 Nm of torque, a top speed of 568+ km/h (353+ mph) and a power-to-weight ratio of up to 2.64 hp/kg.

The name of the model is derived from the Latin word "arcanum", which means "the secret of the secrets".

It is based on innovative ALIENO technologies and know-how and is a 2-door / 2-seater robotic all-electric hypercar. Actually, the first of its kind.

Packages:

According to the type of its drive and control, ALIENO ARCANUM is available in the following 2 packages, available for all ALIENO models (including UNUM): THF driven and controlled with electricity and TRS driven and controlled with electricity and air.

THF stands for "The Heavenly Founder" and actually represents the ALIENO technology for drive and control with electricity, whose debut is precisely in the ARCANUM model.

TRS stands for "The Rocket Successor" and represents advanced ALIENO technology for drive and control with electricity and air, featured in UNUM.

Ahmed Merchev, founder, CEO & CTO of ALIENO and chief constructor of ARCANUM, shares:

"ALIENO ARCANUM is an all-electric hypercar from the future with a brutal technical superiority, which is in the basis of the DNA of the brand ALIENO. This our first debut model, expresses clearly the mission of ALIENO to create hypercars with alien technologies from the future into the present. ALIENO ARCANUM does not follow the rules, but it creates new ones, providing an extremely exciting driving experience and enjoyment. By this, it touches not only the senses, but also your soul. Moreover, considering the intelligence of the car achieved through the ALIENO artificial intelligence systems built into it, it is like having at disposal your own alien, being your guide, your guardian and who teaches you how to reach its full potential, while driving it."



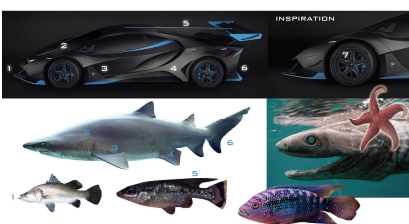
Ivan Kirov, CTP (Chief Test Pilot) and CSO (Chief Sales Officer) of ALIENO, shares:

"Our debut first model ALIENO ARCANUM, is definitely the most powerful hypercar, the world has ever seen. Not only it is the most powerful car, but it is robotic and all-electric. This means that it is so much faster in any way, than an equivalent in power, ordinary combustion engine car. This is due to the high efficiency of the electric motors and the innovative ALIENO technologies that we built into the car. That is why, in our work on the ARCANUM model, we have faced a huge challenge and are taking huge responsibility for our clients. The challenge comes from the fact, that we not only had to do something extraordinary, in terms of the power of the car, which was of course very difficult technically in the first place, but we also and mainly had to make it usable. What I mean by that is, that we had to utilize this power, in such a way, that it could be used by the car and the driver. What would be the use of a car, which has so much power, but you can use only a fraction of it. Or if it would be too dangerous or difficult to drive. And here comes the biggest challenge in creating this car, as we had to make sure we were creating a user friendly car, which is drivable. Not only drivable, but also pleasant to drive. Easy to drive, smooth, fun, enjoyable, safe or simply flawless. Superior in every way, to what we have seen or driven so far. Just perfect. Everything in this car happens logically. The maximum acceleration is easily achievable, by anyone who buys the car. The car is the safest one on the road in any term. It is amazingly stable and maneuverable. The braking is smooth and also logical. It feels like a normal

car for anyone who drives it. Of course, it is the fastest one as well, whenever you want it. The biggest challenge was to make the car behave like a normal car, so it can give the most driving pleasure to anyone and thus help to provide the highest safety."



Encho Enchev, CDO (Chief Design Officer) of ALIENO and chief designer of ARCANUM, shares: "Like everything else we do at ALIENO, our goal with the model ARCANUM was to create something unique, something that you do not see every day and something with unmatched performance. The ARCANUM model combines sharp edges and smooth curves at the same time, which contributes to the creation of a unique and very distinctive design. The whole car looks like a sculpture and all the elements are actually functional and not just a decoration. The overall shape of the car and its low-profile, contribute to the creation of an aggressive looks. We have managed to achieve this exterior design, without compromising the comfort and ergonomics of the driver. ARCANUM is a model, that can accommodate pilots that are taller than 2m (6'7"). Very few hypercars nowadays are able to do that. The color scheme that we selected for the unveiling of the model, is visible varnished carbon-fiber with light blue accents at key spots. For this project, we had few main sources of inspiration. The first one is the animal kingdom and sharks in particular. If you look at the front of the car you can see the resemblance. On top of the front fenders, you can see cooling vents, which look very much like shark gills. Another very interesting detail in the design is the element which bares the rear wing and looks like a shark fin. The next source of inspiration comes from the United States Air Force. The aesthetics of special aircrafts like F-117 Night Hawk, F-22 Raptor and SR-71 Blackbird, play a key role in the shaping of ARCANUM. The last influence in the design, comes from the cult movie series Star Wars and in particular from the helmet of Darth Vader. The only thing you need to do, is to look at the rear of the car and use your imagination".



Availability:

ALIENO manufactures ARCANUM only by customer pre-orders, which are already open for clients. Each of the cars is entirely assembled by hand by the team of ALIENO, but the components of the car are manufactured by hi-tech machines in the factory of ALIENO in Bulgaria, which is in a process of building and expansion.

Price:

ALIENO ARCANUM THF is available for pre-orders at the following base prices: 1 600 000 EUR for the RP2 version, 1 900 000 EUR for the RP3 version, 2 200 000 EUR for the RP4 version and 2 500 000 EUR for the RP5 version.

ALIENO ARCANUM TRS is available for pre-order at a base price starting from 2 800 000 EUR and going up to 4 300 000 EUR depending on its version.

The delivery time varies from 18 to 30 months, depending on the chosen modification (STR, TRC or RCE) and other options chosen by the customer.



ALIENO ARCANUM THF presentation:

Hypercar ALIENO ARCANUM THF is based on the THF package and is driven and controlled with electricity.

THF stands for "The Heavenly Founder" and actually represents the ALIENO technology for drive and control with electricity, whose debut is precisely in the ARCANUM model.



Versions:

Based on their power, ALIENO ARCANUM THF is available in the following 4 versions, which are also applicable for all other ALIENO models: RP5 with power of 5221 hp, RP4 with power of 4351 hp, RP3 with power of 3481 hp and RP2 with power of 2610 hp. Where RP stands for "Raw Power", while the corresponding number after it (5, 4, 3, 2) shows the approximate power of the version in thousands of horsepower.

Acceleration times and other dynamic characteristics will be announced additionally.

Modifications:

According to its purpose, each of the versions is available in 3 basic modifications: STR (Street), TRC (Track) and RCE (Race), whose basic dynamic characteristics are the same, but only differ by standards/homologations they meet.

The STR (Street) modification, is a street-legal car (a car approved for use on public roads) with global homologation.

The TRC (Track) modification is a track day car (car intended for use on a track) and does not fall under any restrictions, which are normally required by any homologations.

The RCE (Race) modification is a race car optimized to cover the requirements of specific race championships, while ALIENO is even prepared to modify the car to meet the requirements needed for the heir of LMP1 category of the 24 Hours of Le Mans and FIA World Endurance

Championship, immediately after the rules of the championship allow participation in it of an all-electric hypercars, powered by batteries, what ALIENO hypercars are.

Chassis & Body:

ALIENO ARCANUM THF has an innovative ALIENO chassis, built entirely from pre-preg carbon-fiber, kevlar/aramid and aluminum honeycomb core and consists of monocoque, front and rear subframes. The bottom is further reinforced with pre-preg carbon-kevlar. There are structural reinforcements and crumple/deformation zones from pre-preg carbon-kevlar for front, rear, side, upper and lower impacts, as well as front and rear pre-preg carbon-kevlar crash structures. In addition to its low weight, safety and strength, the chassis also features maximum torsional rigidity and allows the construction of a lightweight and aerodynamic shape of the exterior.

All core nodes (elements) of the car are robotic and are regulated electronically.

The exterior is built completely from ALIENO robotic pre-preg carbon-kevlar panels.

ALIENO ARCANUM THF has two ALIENO robotic pre-preg carbon-kevlar Butterfly wing doors, ALIENO robotic intelligent air conditioning system, ALIENO aerodynamic side digital mirrors, ALIENO front and rear adaptive matrix LED lights and ALIENO robotic pre-preg carbon-kevlar wheels.

It is equipped with ALIENO pre-preg carbon-kevlar, fully air-conditioned, fully electrically-adjustable and with memory robotic sports and racing seats with memory foam, leather and Alcantara. It also has an ALIENO quick release, pre-preg carbon-kevlar racing type steering wheel with fully electrically-adjustable memory robotic steering column and robotic pedal box, as well as ALIENO robotic power steering with variable ratio, speed sensitive and mode selectable.

ALIENO ARCANUM THF can be equipped with few different versions of the interior, details of which will be further revealed. Among them, there are futuristic designs, as well as more moderate and classic designs, which will be available for all other models of ALIENO. The goal is to provide optimal choice for each customer, as when it comes to the interior space of the car, where the ALIENO customer will spend most of his time, he is not restricted with only one interior, that he may not like, but has the option to choose from few different ones, according to his own personal preferences. The interior is made from ALIENO pre-preg carbon-kevlar details, leather and Alcantara.

The technologies from ARCANUM THF are available for all other ALIENO models, all of which have unique and different exterior design, with which ALIENO aims to cover all major design styles, rather than being limited to one of them. The goal here again is to cover all preferences of the customers, rather than be limited to only one exterior design, which is not suitable for the taste of everyone.

Apart from the choice of version, modification and interior, ALIENO ARCANUM THF can be ordered with customer selectable battery, wheels, tires, steering wheel, seats and even rear wing, amongst different options offered by ALIENO. The ARCANUM THF model, like all other ALIENO models, has entirely modular architecture and allows unrestricted further modification, and of course, future upgrades with the latest technologies.

Aerodynamics:

ALIENO ARCANUM THF has innovative ALIENO active, robotic and adaptive aerodynamics, with a lot of active robotic elements, flaps and mechanisms, part of which are visible in the exterior design, while others are inside of the car. This innovative technology, allows for an improved

movement and channeling of the airflow around the car, with main purpose of increasing the stability and the drag of the car to the road. Of course, depending on the need, this drag can be easily and precisely adjusted, for achieving higher speed.

Powertrain:

ALIENO ARCANUM THF is driven by an innovative ALIENO direct drive electric powertrain, realized with from 3 (in the RP2 version) up to 6 (in the RP5 version) electric motors per wheel. Total of 12 (in the RP2 version) up to 24 electric motors (in the RP5 version). The electric motors are connected with a common connecting axis, to transfer the power to the according wheel through a half-shaft.

Instead of one big electric motor, several smaller ones are used, that are individually controlled (each from its own motor controller) according to the needs, which significantly increases the possibilities and efficiency of the car in all its modes and speeds and the efficiency reaches up to 97%.

The electric motors in use are type AC three-phase axial flux electric motors with powerful permanent magnets, that provide the current technological maximum as power and torque per unit weight and volume, since they combine very high power with very high torque of the electric motor in very low own weight and low volume of the electric motor. They have almost unlimited life span and maximum torque from 0 all the way to their maximum rpm.

The powertrain has 3 different main drive modes (Street, Track and Race), which are activated depending on the desired use of the car and the desired dynamic characteristics preferred by the driver. In any of these modes, through adjustments of the load on the respective front and rear electric motors (the electric motors connected to the front wheels and the electric motors connected to the rear wheels), there is the possibility to precisely change the distribution of power between the front wheels and the rear wheels from 0% to 100% and from 100% to 0% respectively. In any of these combinations, the control system has the possibility to provide energy efficient drive of the car.

Apart from that, innovative ALIENO real-time system for vector control of the torque of each wheel separately (called ALIENO all-wheel real-time torque vectoring system) has been implemented in the control system, thanks to the individual and direct drive through electric motors of each wheel (from 3 to 6 electric motors per wheel) and the lack of mechanical reducers containing heavy and bulky mechanical parts with friction parts.

Given the ALIENO direct drive, the torque of the powertrain and the wheels is identical and is 8880 Nm in the RP5 version, 7400 Nm in the RP4 version, 5920 Nm in the RP3 version, and 4440 Nm in the RP2 version, and is practically available from 0 to the maximum rpm of the electric motors, i.e. at any speed of the car.

Battery:

ALIENO ARCANUM THF is powered by an innovative ALIENO battery, composed of Graphene LiPo cells and Supercapacitors.

Graphene LiPo cells are built through nanotechnologies forming graphene (a single layer of carbon atoms arranged in a hexagonal lattice). In comparison with the standard LiPo cells, the Graphene LiPo cells are capable of maintaining greater power output, have a higher energy density, lower internal resistance, higher discharge and charge rates, longer life span, and they stay way cooler and stable under full load and peak operating modes.

The supercapacitors, accumulate energy from the electric motors when the car is braking and they give it back to the powertrain when needed, mainly in the peak dynamic modes - when starting, accelerating and braking the car.

The battery is available in the following 3 variants: SBP (Street Battery Pack), with a capacity of 180 kWh, TBP (Track Battery Pack) with a capacity of 120 kWh and RBP (Race Battery Pack) with capacity of 60 kWh. They cover all practical needs: the SBP battery provides a long mileage, reaching up to 1020 km on a single charge, the TBP battery provides enough mileage of several laps on a track, while the RBP battery provides the lowest weight and respectively maximum dynamic characteristics of the car during races.

At maximum load in mode Race, on a single charge, depending on the battery with which it is equipped (variant RBP, TBP or SBP), its version and modification, ARCANUM THF can complete from 1 to 3 full laps on the track Nürburgring (on which the race 24 Hours Nürburgring takes place) and from 2 to 6 full laps on the track Circuit de la Sarthe (on which the race 24 Hours of Le Mans takes place).

The maximum voltage of the battery is 800V, as it is designed to provide huge power, where in the SBP variant it can reach up to 11.7 MW continuous power and 23.4 MW peak power.

Furthermore, the battery is capable of absorbing huge power during charging and regenerative braking, reaching up to 2.7 MW in the SBP variant.

The battery consists of few ALIENO Plug & Play interchangeable modules, as the car automatically adjusts its parameters according to the number and the status of the installed modules. It is possible to install different number of modules, with the idea of providing different capacities between the three base variants of the battery. In this case, according to the desired number of battery modules, "the alien" guides the user, where exactly he should place the modules, in order to achieve maximum stability and lowest center of gravity of the car, and of course achieving optimal weight distribution between the front and rear axles.

The minimum capacity of the battery that needs to be available to reach the maximum power of the car is 30 kWh for the RP5 version, 25 kWh for the RP4 version, 20 kWh for the RP3 version and 15 kWh for the RP2 version, which provides opportunity for significant optimization of the weight and the dynamic characteristics of the car on a track during track days and races (by installing just the number of battery modules required for the particular purpose).

The ALIENO Plug & Play interchangeable modules, also provide an option for easy replacement and upgrade of the battery with a new one. They have multiple built-in safety and security systems.

ALIENO ARCANUM THF has several different options for charging of the battery, including a wireless inductive, 3-phase 22 kW on-board and 350 kW DC Combo (CCS). Optionally available is also 400 kW DC CHAdeMO.

With a 350 kW DC Combo (CCS) charging station, from 0 to 100% SoC (State of charge), the SBP battery is charged for 30 min, the TBP battery for 20 min, and the RBP battery for 10 min.

Furthermore, the battery is designed in such a way, that with a special ALIENO DC charging station (900 kW DC for the RBP battery, 1800 kW DC for the TBP battery and 2700 kW DC for the SBP battery), designed and built by ALIENO upon customer order, it can be charged from 0 to 100% SoC for 4 min, and from 0 to 80% SoC for 3.2 min.

Dimensions, Weight and Power-to-weight ratio:

ALIENO ARCANUM THF has overall length of 5240 mm, overall width of 2180 mm (without and with the ALIENO aerodynamic side digital mirrors) and wheelbase of 3100 mm.

The height of the car, depending on the setting of the ground clearance, varies from 1170 mm to 1200 mm in Race mode, from 1190 mm to 1230 mm in Track mode and from 1220 mm to 1270 mm in Street mode.

The ground clearance of the car, is fully electrically-adjustable, as on the front and on the center of the car can be adjusted from 60 mm to 90 mm in Race mode, from 80 mm to 120 mm in Track mode and from 110 mm to 160 mm in Street mode, while at the rear it is with 40 mm larger.

The weight of the car, varies depending on its version and modification, starting from 1620 kg. For all versions and modifications, a power-to-weight ratio of more than 1 hp/kg is achieved, ranging from 1.04 hp/kg to 2.64 hp/kg, depending on the version and modification of the car.

Safety systems:

In addition to a total of 8 airbags (4 for the driver and 4 for the passenger) and 2 racing 6-point seatbelts / harnesses (one for the driver and one for the passenger), ALIENO ARCANUM THF also has numerous innovative ALIENO structural, dynamic and active intelligent safety systems.

Advanced driver-assistance systems (ADAS):

ALIENO ARCANUM THF possesses multiple innovative ALIENO ADAS systems (Advanced driver-assistance systems), the main one of which is called ALIENO Artificial Intelligence (AAI) or "The Alien" (TA). In reality the car is an "alien" ("alien robot", "intelligent robot on wheels"), who assists the driver, prevents him from making mistakes and teaches him how to improve his driving skills, habits and style, with the sole purpose of being able to explore and use the full potential of the car.

ARCANUM THF has a number of specialized sensors and performs continuous real-time diagnostic and exploration, not only of the external environment that surrounds it and the interior environment of the car, but also of all its systems, making its own self-diagnostic, in order to predict damages and dangerous situations, and dealing with emergency cases.

The ADAS systems of ARCANUM THF gather information from multiple sensors, which the car is equipped with, including 17 cameras, 1 LiDAR, 8 radars, 1 GPS sensor, 1 IMU sensor and a large number of other sensors.

ARCANUM THF has an ALIENO front stereo vision, consisting of a module with a 2 cameras and an 1 LiDAR, mounted from the inside behind the upper central part of the windshield. It has also an ALIENO rear stereo vision, consisting of 2 cameras, mounted at the top of the rear third stop-brake light of the car.

The vision of the car in all directions is complimented by ALIENO aerodynamic left and right side digital mirrors, each of which instead of a standard mirror is equipped with 5 cameras combined in aerodynamic detail. They are used also for a keyless access, through facial, iris and retina recognition, speech and fingerprint recognition, and allowing different levels of security to be set.

In addition, there are cameras and other sensors, which monitor the environment in the interior, the condition and the emotions of the driver and the passenger. They are used also for keyless starting of the car and diagnosing the state of both the driver and passenger.

Suspension:

ARCANUM THF has front and rear innovative ALIENO robotic suspension with double wishbone with push-rod and rocker arm architecture, along with adjustable anti-roll bar. Electronically adjustable dampers and active ride-height, fully independent per wheel. With memory, factory modes and custom user modes.

Optionally, there is also a pneumatic quick-lift system with 4 air-jacks for easy pit-service operations during racetrack on circuits.

Steering:

ARCANUM THF has ALIENO all-wheel steering, given that in addition to the main front steering system controlled by the driver through the steering wheel, which controls the steering of the front wheels, ARCANUM THF also has active, robotic and adaptive rear steering system, that can turn the rear wheels up to 3 degrees in either direction for faster and more confident cornering, better maneuverability, increased stability and more grip.

The exact steering angle of the rear wheels is determined by the main ALIENO ADAS system ("The Alien") based on current parameters such as selected main drive mode (Street, Track or Race), speed, acceleration, throttle and brake positions, steering angle of the front wheels set via the steering wheel, slip angle, lateral acceleration, position of the car on the road, slope of the road and others.

At low speeds, the system turns the rear wheels in the opposite direction to the direction of turning of the front wheels. This gives of ARCANUM THF a faster turn, as it effectively shortens the turning radius of the car.

At high speeds, the system turns the rear wheels in a direction coinciding with the direction of turning of the front wheels, which virtually leads to lengthening of the wheelbase of the car. This provides increased stability on the road and improves cornering efficiency on the track.

As a result, the system increases the car's responsiveness at both low and high speeds, including at a turning maneuver, reversing maneuver, entering and exiting a parking space, avoid obstacles, highway lane change, overtaking maneuver. It also minimizes both understeer and oversteer.

Braking systems:

ALIENO ARCANUM THF has three braking systems: ALIENO hydraulic braking system, ALIENO regenerative electromagnetic braking system (which is expected to become the main braking system in the future for all ALIENO models) and ALIENO robotic air braking system. Optionally, a fourth braking system is also available - ALIENO air brake parachute system with drag racing parachutes.

The ALIENO hydraulic braking system is based on equal in size and characteristics brake calipers and brake discs on the front and rear wheels, and more precisely, high-strength forged aluminum monobloc fixed brake calipers with 10 titanium pistons (titanium monobloc fixed brake calipers are optionally available) and huge carbon-ceramic brake discs with a diameter of 440 mm (17.32") and a thickness of 40 mm (1.57"). Other sizes and carbon-carbon brake discs are also optionally available.

The innovative ALIENO regenerative electromagnetic braking system is implemented by the control system with the motor controllers, by using of the electric motors in generator mode (in a passive-braking with recuperation and accumulation of energy), and also through forced rotation

of the electric motors in the opposite direction of the direction of movement of the car (in an active-braking with energy consumption).

When passively braking with recuperation and accumulation of energy, the control system switches part or all electric motors into generator mode. The recuperated energy generated while braking, is accumulated into the battery and the supercapacitors, which are recharged from the energy accumulated in the braking process (the energy gathered by the electric motors working in generator mode). Passive-braking with recuperation and accumulation of energy is possible when smoothly braking the car (smoothly reducing the speed of the car).

When actively braking with energy consumption, part or all of the electric motors are forced to rotate in the opposite direction of the direction of movement of the car, in order to achieve braking force on the wheels. In this case, energy from the battery and the supercapacitors can also be consumed, if the energy generated during braking (from the electric motors operating in generator mode) is insufficient. Active-braking with energy consumption, is applied at more abruptly aggressive braking, when requiring the car to brake in the shortest time and distance.

The innovative ALIENO robotic air braking system, is realized through multiple active robotic elements, flaps and mechanisms, that make up the innovative ALIENO active, robotic and adaptive aerodynamics of the car. That includes also the active robotic rear wing, which moves in different positions based on the needs, providing not only maximum grip in corners or at maximum speed, but also acts as an instantaneous air brake in case of extreme braking.

Wheels & Tires:

To ensure better grip with the road surface, ALIENO ARCANUM THF has extremely wide front and rear tires (which are the same in size), mounted on ALIENO robotic pre-preg carbon-kevlar wheels.

The STR (Street) modification is available with 21" wheels and 355/25ZR21 tires, but 325/30ZR21 tires are optionally available, as well as 20" wheels and 345/30ZR20 tires.

The TRC (Track) modification is available with 20" wheels and 345/30ZR20 tires, but 21" wheels and 325/30ZR21 tires are optionally available.

The Race (RCE) modification is available with 19" wheels and racing slicks at customer's choice.

The innovative ALIENO robotic pre-preg carbon-kevlar wheels, in addition to its low weight, unique design, Center Lock, strength and maximum torsional rigidity, are also characterized with a robotic construction with protective mechanisms and built-in sensors interacting with the intelligence of the car ("the alien"), in order to predict and detect damage to tires, wheels and brakes, and to minimize damages in case of imbalance, loss of pressure, wear, overheating, rupture or bursting (blowout) of a tire while driving the car. ARCANUM THF performs continuous real-time diagnostics of all its nodes, including the tires, the wheels and the braking systems, as adapting its behavior according to their condition.



ALIENO ARCANUM THF specification:

<https://alieno.io/thf-specification/>

ALIENO ARCANUM TRS presentation:

Hypercar ALIENO ARCANUM TRS is based on the TRS package and is driven and controlled with electricity and air.

TRS stands for "The Rocket Successor" and represents advanced ALIENO technology for drive and control with electricity and air, featured in UNUM.



TRS is a complement of a THF, upgrading it with the ability to drive and control not only with electricity, but also with air. This synergy is achieved through a system called ALIENO octopus synergistic system.

The TRS drive and control with air is carried out by an innovative system called ALIENO cold air thruster system, implemented with up to 24 pieces of ALIENO rocket cold air thrusters, but they are only a small part of the TRS package, which through ALIENO octopus synergistic system is integrated into all key systems of the hypercar, and in practice differs drastically from anything similar known up to now.

The Cold Gas Thruster, is a type of rocket engine, which uses the expansion of pressurized gas to generate thrust. The gas used in ALIENO ARCANUM TRS is ordinary air and therefore its thrusters are Cold Air Thrusters.

The thrusters of ALIENO ARCANUM TRS are with variable geometry and thrust direction. In this regard, in the TRS control system has implemented an innovative ALIENO real-time Thrust Vector Control (TVC) system, called ALIENO real-time thrust vectoring system, capable of changing the direction of the thrust of the thrusters, to control the position of the hypercar on the road.

The main thrusters in ALIENO ARCANUM TRS are located under the different grilles of its exterior, therefore they do not change its silhouette. The grilles in question are made of titanium and have a special geometry to optimize the thrust from the thrusters.

The compressed air in ALIENO ARCANUM TRS, is stored under a pressure of up to 700 bar (10 152 psi) in a special ALIENO cylinder made of composite materials, located behind the seats and above the battery.

The charging of the cylinder with compressed air, is done by one of the following three available options: from the built-in ALIENO ARCANUM TRS electric compressor, from a more powerful external compressor for faster charging, or from a larger external container with compressed air. The mentioned external elements are designed and built by ALIENO at the customer's request.

The built-in electric compressor is supplied with electricity through one of the following three available options: from the charger of the hypercar while charging it with electricity, from the battery or during passive-braking with recuperation and accumulation of energy, when the energy obtained from the innovative ALIENO regenerative electromagnetic braking system, in addition to charging the battery, it can also be used to power the compressor, with the battery/compressor priority and ratio being adjustable, including by the user. At times when the battery is fully charged and cannot absorb any more energy, the braking energy is used for charging with air, which increases the efficiency of the regenerative electromagnetic braking system.



The thrusters of the ALIENO ARCANUM TRS hypercar, help not only its drive, but also its control and aerodynamics, given that, in addition to acceleration, they can also be used as a brake, as well as to correct its trajectory of movement, and in addition, when necessary, provide a huge downforce for its additional stabilization. For this purpose, in the ALIENO ARCANUM TRS hypercar, the three different main drive modes (Street, Track and Race) known from the ARCANUM THF model and also available in UNUM THF, have an additional functionality called Rocket, from which the capabilities, functions and behavior of the TRS package are activated and adjusted.

The thrusters are particularly effective at extreme acceleration, extreme braking, high speed movement, when turning and in any extreme situation in order to avoid obstacles or other dangerous situation on the road. Their most significant application, is in the preservation and saving of life, given that the TRS package provides effective tools for preventive response in the extremely limited time window of the typical life-threatening situations accompanying the road accidents.

In addition to all this, the TRS package also represents a unique synergistic addition to all other systems of the ALIENO ARCANUM TRS hypercar, completely unknown until now in the automotive

world, given that it also includes the so-called ALIENO blissful comfort system and ALIENO save me always system.

ALIENO blissful comfort system realizes the following:

- in extreme operating modes, the compressed air is used for additional cooling of the braking mechanisms, electric motors, controllers and the battery of the hypercar, in order to prevent overheating;
- in an event of damage causing overheating of the battery, ensures its cooling in order to prevent setting fire to it;
- to achieve extreme acceleration or extreme braking, the thermal energy from the operation of the braking mechanisms, electric motors, controllers and the battery is used to heat the compressed air in order to increase the thrust of the thrusters;
- the compressed air is used for additional cooling or heating of the cabin and interior of the hypercar, the tires, braking mechanisms, electric motors, controllers and the battery;
- the compressed air is used for self-cleaning and defrosting of the front and side windows, cameras and sensors of the hypercar;
- provides the possibility for additional equipment with ALIENO air suspension for quick change of the ground clearance and additional modes with more comfortable suspension settings of the hypercar;
- provides the possibility for additional equipment with a special ALIENO exhaust system, when the compressed air passes through it, it provides an authentic sound of choice of the hypercar - it can be completely silent or sound like some of the epic conventional engines.

ALIENO save me always system realizes the following:

- in case of loss of a grip of the tires to the road (leading to partial or complete loss of control), which cannot be compensated by the active aerodynamics, through the thrusters, provides thrust in the respective directions to restore the grip, stabilize and restore the trajectory of movement of the hypercar or bring it to a safe full stop;
- in a situation with an impending collision or impact, through the thrusters, corrects the trajectory of movement of the hypercar in order to prevent it;
- in a situation with an unavoidable collision or impact, through the thrusters, it provides thrust in the direction opposite to the direction of the collision/impact in order to limit its consequences, thereby practically extending the crash structures of the hypercar;
- when driving on a contaminated road surface (for example with sand or gravel), when necessary, a powerful air jet is released in front of the tires of the hypercar, which pushes the pollutants aside from the road surface in front of the tire and prevents skidding, loss of control, damage or burst of a tire;
- when driving in rainy weather with a wet road surface, when necessary, a powerful air jet is released in front of the tires of the hypercar, which pushes the rainwater aside, dries the road surface in front of the tire and prevents aquaplaning;
- when driving in winter conditions with snowy and/or icy road surface, when necessary, a powerful hot air jet is released in front of the tires of the hypercar, which melts the snow/ice, pushes it aside from the road surface in front of the tire and prevents skidding and loss of control;
- when the tire burst, the compressed air restores the pressure in it as much as possible in motion, in order to maintain the correct trajectory of movement of the hypercar until it stops safely;
- in an event of a road accident that caused the hypercar to fall into a pool of water with the risk of its sinking, through the compressed air, additional pressure is created in the cabin to limit its filling with water, in order to increase the critical time for reaction and rescue of the passengers, and the chassis is kept above the surface as far as possible;
- in an event of a sudden failure or complete discharge of the battery, it provides the possibility of a short additional movement only with air and a safe stop of the hypercar.



The electric motors, battery and essentially all major nodes and systems of the ALIENO ARCANUM TRS, are basically identical or similar to those of the ALIENO ARCANUM THF.

Based on their power, ALIENO ARCANUM TRS is available in several versions, that differ in the number of electric motors, the number of thrusters and the volume of the composite cylinder with compressed air.

Like ALIENO ARCANUM THF, according to its purpose, each of the ALIENO ARCANUM TRS versions is available in 3 basic modifications: STR (Street), TRC (Track) and RCE (Race), whose basic dynamic characteristics, although are the same and differ mainly by the standards/homologations they meet, also differ in their permitted thrust, range, equipment level and the operating modes of the TRS package, given their specific application.

Details for the TRS package, its versions and modifications, as well as the acceleration times and other dynamic characteristics of the ALIENO ARCANUM TRS hypercar, will be announced additionally.

ALIENO ARCANUM image gallery:

Image gallery 3200x1800:

<https://alieno.io/arcanum-image-gallery-3200x1800/>

Image gallery 1920x1080:

<https://alieno.io/arcanum-image-gallery-1920x1080/>

Image gallery 1280x720:

<https://alieno.io/arcanum-image-gallery-1280x720/>

Image gallery 1024x576:

<https://alieno.io/arcanum-image-gallery-1024x576/>



About ALIENO:

ALIENO - HYPERCARS FROM THE FUTURE

ALIENO designs, develops and produces all-electric hypercars with futuristic sports design with instant WOW! effect, racing capabilities, robotic systems, active aerodynamics, artificial intelligence and phenomenal power.

Founded in 2015 in Slashten, Bulgaria, ALIENO creates hypercars from the future, built on the passion, vision and knowledge of its founder, CEO and CTO, Ahmed Merchev.

ALIENO all-electric hypercars have brutal technical superiority and are entirely own in-house development of ALIENO Ltd, based on own innovative patented technologies.

The name of the brand is derived from the Italian word "alieno", which means "alien".

Since the all-electric hypercars ALIENO are an own in-house development of ALIENO Ltd, this allows them to be manufactured, improved and perfected within the company and to directly guarantee and control their high technical parameters and innovations in every aspect.

To achieve its goals, ALIENO relies on its own innovative technology solutions and know-how, its own production facilities and its own talented R&D, production and administrative team, with which the complete cycle closes, from the idea to the realization of the finished commercial products.

In this connection, except of design, development and production of the electric hypercars, ALIENO is building its own manufacturing factory with campus, test track and design, research and development (R&D) department.

The factory of ALIENO, which is in process of building and expansion, is based in Tuhovishta, Bulgaria.

For the manufacturing of the ALIENO hypercars, in the factory of ALIENO have already been delivered all major production machines.

It is expected, ALIENO to present many new models all-electric hypercars. They will be offered at prices equal to the prices of the already presented ARCANUM and UNUM models, while having similar technical and dynamic characteristics, but entirely different exterior designs. With that, ALIENO aims to cover different design styles, thus enlarging the reach and potential customers, offering a car for each individual taste.

Unlike other car brands, ALIENO is not limited to a specific design style, but rather from the very beginning, will offer cars in any of the main design styles, including rounded with soft shapes, more moderate and conservative, sharp-edged with aggressive shapes, brutally-aggressive and futuristic designs. This is possible, since all ALIENO hypercars are entirely custom handmade and in small series, taking into account the exact personal preferences of each individual client. Furthermore, all models with the same body style, for example 2-door / 2-seater Coupe, are based on the same basic modular platform, developed and produced by ALIENO, so for changing the exterior design and offering many models with entirely different exterior vision, it is not necessary to modify the whole production line, which costs millions, like the conventional auto manufacturers must.

Despite this variety, the leading design style of ALIENO, is aggressive shapes with sharp edges, with sharp transitions between the surfaces, but not overburdened, rather elegant. The main colors of the brand are blue, black, grey and carbon.

Despite of the variety and differences in the design styles, the DNA of the brand is integrated into each of the ALIENO models and provides a hypercar from the future with brutal technical superiority.

For funding its activity, in 2021 ALIENO opened Series A investment round, with which it aims to attract 9 million EUR foreign investments for 10% equity stake in the company, at a company's valuation in 2021 of 90 million EUR (about 100 million USD). The minimum possible amount of investment within this round, is 900 EUR, for a share of 0.001% of the company.

Majority shareholder in ALIENO is the founder, CEO and CTO, Ahmed Merchev.

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