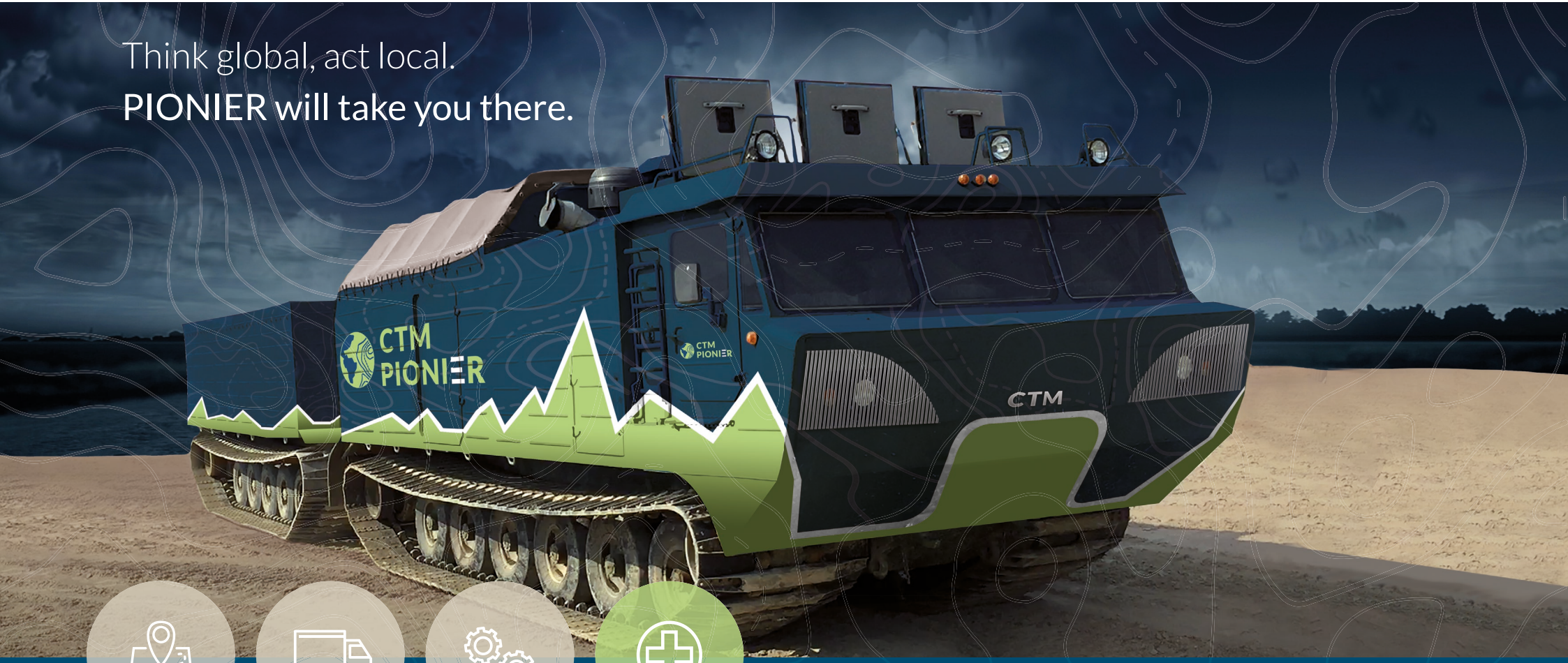
CTM PIONIER

CTM FAHRZEUGBAU GmbH

Think global, act local.

PIONIER will take you there.



EXPLORATION

TRANSPORT

CONSTRUCTION

RESCUE

THE PIONIER

The new vehicle class for
use in civil defense and disaster control

CREATIVE TRUCK MANUFACTURING made in Germany

CTM – the name says it all: For over 20 years we have been configuring, designing and producing tailor-made specialist vehicles that can withstand the highest demands of everyday life. With a total of 60 highly qualified employees at two locations in the center and affluent suburbs of Berlin, we accompany our customers from the idea through planning and production, up until the commissioning of the vehicles with a thorough briefing, and we also take care of maintenance, repair and servicing.

When it comes to components for the vehicle body, we rely on well-known partners such as Bosch, Palfinger, Volvo and Caterpillar. Our clients include vehicle manufacturers such as Mercedes-Benz, MAN, IVECO, Volvo and Scania as well as companies, authorities and municipal enterprises in Germany, Europe and beyond. To date, a total of 6,500 vehicle bodies have been built for 750 different customers in 23 countries.

Location CTM Berlin

For a long time, however, we were unable to fulfil a very special customer request: A genuine all-terrain vehicle with a high payload, which can be used on land and water on all surfaces and also under extreme climatic conditions. So we decided to develop this vehicle ourselves: The PIONIER.

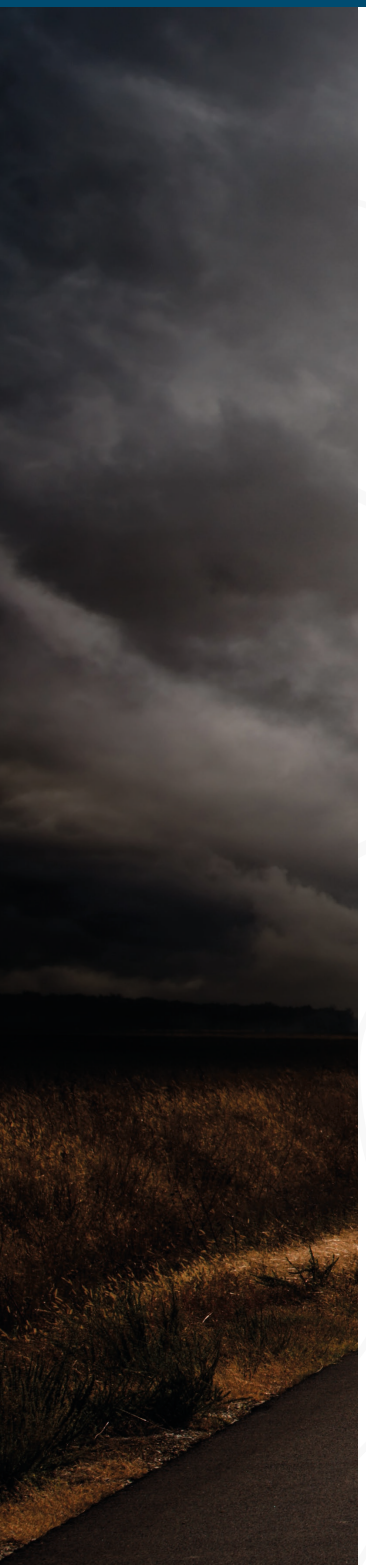
New solutions for new challenges

Nobody wants natural disasters. They just happen. Even more frequently, accelerated by climate change.

We are vehicle manufacturers. Our vocation is to develop high-performance commercial vehicles that help people perform certain tasks in the best possible way. Civil protection and disaster control – covering a range of conceivable scenarios – poses a particular challenge. Earthquakes, floods, avalanches, mudslides, fires, destroyed traffic routes and extreme climatic conditions previously required vehicles specialized in the respective scenario in order to reach the scene and act efficiently.

As an amphibious all-terrain heavy-duty transporter with a payload of up to 30 tons, the PIONIER from CTM overcomes previous hurdles and effectively establishes a new class of vehicles. It reaches locations that would be inaccessible to other vehicles thanks to itsunique capabilities. And thanks to its modular design concept, it can also perform various tasks upon reaching its destination, from rescuing people, to first aid and rebuilding infrastructures.

FEATURES



LOGISTICS

Rescue planning after catastrophes always begins with logistical considerations: Which rescue forces, equipment and relief supplies are needed at the scene and how can they be brought there as quickly as possible? Both globally and locally.

On the one hand, the vehicles themselves have to be transportable, on the other hand it must be possible for them to move around the target area as autonomously as possible, even in the most difficult terrain under extreme conditions, and to overcome obstacles of all kinds.

There are light vehicles and aircraft that can be on the spot quickly, but which only have limited transport capacity. And there are vehicles with large transport capacity, but which cannot even reach hard-to-access areas.

And now there is the PIONIER from CTM, a chain-driven amphibious vehicle with a payload of up to 30 tons that can reach almost any place on land or sea. Thanks to its enormous transport capacity, it provides, for example, the option of carrying the additional fuel and goods required for the rescue forces to be self-sufficient, thus enabling them to carry out operations lasting several days without the need for replenishment.

RESCUE / EVACUATION

In principle, there are three ways to rescue people from emergencies and dangerous situations in complex conditions: By land, by sea and by air. Each option requires a specialized means of transport, each with its own restrictions.

If, for example, it is necessary to cross land and water for rescue operations, possibly on an alternating basis, then this leaves only the aerial route, usually traversed by helicopter. The limiting factors here are weather conditions, visibility and intake capacity. The same applies to areas that are difficult to reach, where access roads are destroyed or blocked by landslides, debris or other obstacles.

As a true all-terrain vehicle with amphibious capabilities, CTM‘s PIONIER can move on land on virtually any surface and overcome obstacles, as well as cover longer distances in deep waters. It can also accommodate up to 60 people on site using the appropriate superstructures, and transport them to safety the same way.

The helicopter is by no means superfluous, but can concentrate on its strengths: Reconnaissance. Its seeks and locates the targets, then the PIONIER carries out the rescue or evacuation.

WATER RESCUE

Bodies of water that emerge temporarily as a result of river flooding or storm surges must be reconnoitered before they can be safely crossed by appropriate vehicles. Light floods up to a maximum of 80 cm can still be traversed by trucks capable of fording, while anything deeper than this necessitates floatable vehicles, which in turn require a continuous minimum water depth.

The commonly used lightweight lifeboats also have to be transported to the last land-water crossing, are susceptible to heavy flotsam and have a relatively small range and load-bearing capacity.

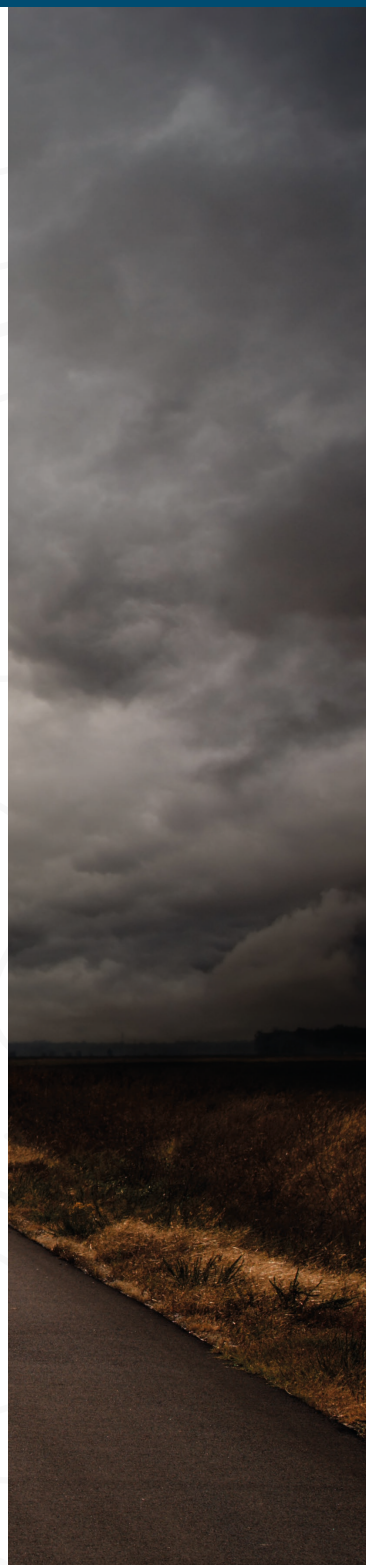
The PIONIER, on the other hand, is a genuine amphibious vehicle that can move in waters of any depth and condition, cross disparate land masses, overcome obstacles and thus reach almost any destination using the most direct route. Its drive technology is largely protected against damage caused by flotsam and its enormous loading capacity enables the safe transport of up to 60 people. In addition, the PIONIER can be equipped with cranes and work baskets that enable rescue from roofs and parts of buildings above the surface of the water as well as the removal of floating debris.

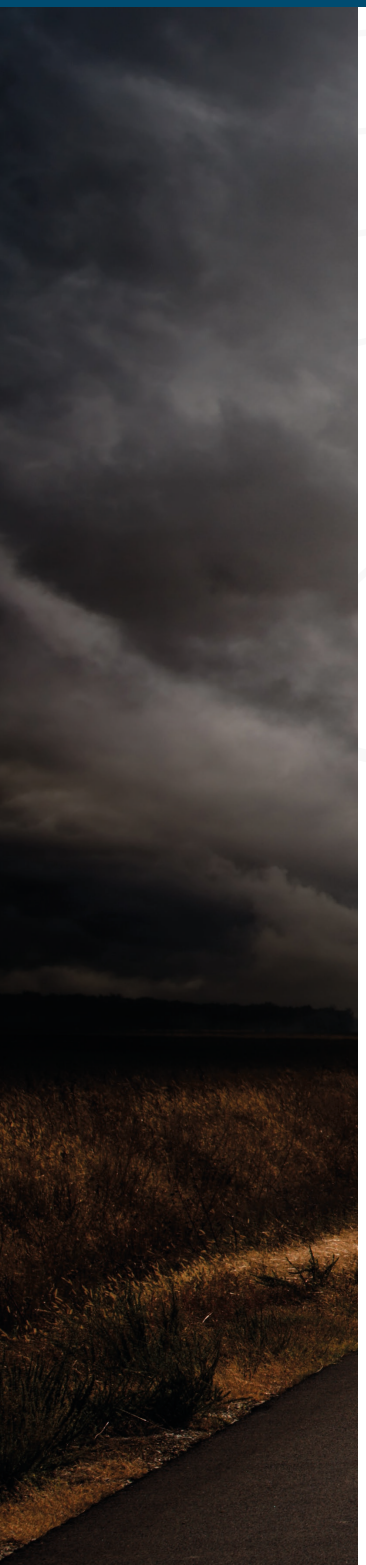
SUPPLY / CARE

When a disaster, natural or otherwise, injures people, destroys infrastructure and cuts off supplies, it is essential that supplies to the affected people are ensured quickly. Drinking water, food and emergency shelters are mostly needed in large quantities, as are electricity generators, medicines and medical support.

The vehicles used must therefore not only be able to reach the location, but also offer the highest possible transport capacity. The PIONIER guarantees both. With a payload of up to 30 tons, it can deliver large quantities of relief supplies and rescue workers to the target area on the first trip if necessary. Alternatively, it can distribute these to several locations if necessary, thanks to its long range.

Once the initial supply is assured, the PIONIER also ensures regular replenishment, even under the most difficult conditions – climatic or otherwise. On the way back, for example, it can transport residual materials, packaging materials or injured persons.





MEDICAL SERVICES

The most urgent task in major emergencies and catastrophes with a large number of injured and ill persons is their medical care. To this end, the necessary materials such as stretchers, blankets, medication, bandages and medical equipment must be procured and an appropriate infrastructure with treatment and rescue stations set up on site.

With its enormous transport capacity and modularity, the PIONIER can be used as a complete mobile hospital for rapid-deployment groups without escort vehicles if required. Equipment, right up to intensive medical care, can be permanently installed in a box body similar to normal rescue vehicles or can be set up on site as a temporary system.

In addition, the PIONIER with its unique driving characteristics can also help in the search for injured people in hard-to-reach areas, providing first aid and transport to the hospital or nearest road connection.

MATERIALS HANDLING

A considerable part of disaster relief consists of transport logistics. Rescue workers and relief supplies must be brought to the deployment site and affected persons evacuated from the danger zone. Some of this can be carried out with light vehicles and aircraft to a small extent.

But at the latest, when it comes to large quantities of relief supplies, building materials or heavy equipment, the question arises how to get it to the deployment site and how it can be loaded or unloaded when it arrives. This is especially true when the affected region is difficult to access, traffic routes are destroyed and extreme climatic conditions prevail.

The PIONIER is also largely self-sufficient and extremely versatile purely as a transport vehicle. It can move not only large quantities of goods, but also heavy ones. And because it can be equipped with crane superstructures, it is also able to load and unload its cargo independently.

Equipped with superstructures that adhere to the ISO container standard, the PIONIER can even be integrated into international transport chains and accept freight directly from ships, trains or trucks.

FIREFIGHTING

Forest fires and wildfires are also on the increase in densely populated Central Europe and, with their high propagation rate and strong smoke development, pose a serious threat to the population of affected regions.

Containing and fighting such fires always poses a special challenge for the fire brigades. On the one hand, enormous quantities of extinguishing water are required. On the other hand, fire engines have to get close enough to the location of the fires, which are often difficult to reach due to the landscape. Firefighting aircraft can support firefighting from the air, but are not sufficient on their own.

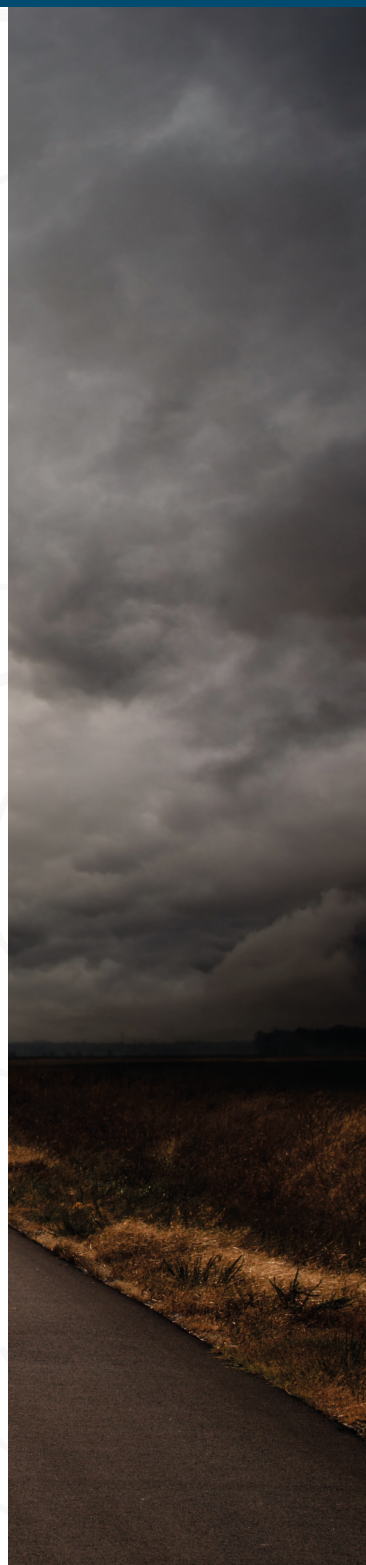
The PIONIER can be used both as a water transporter and deployed directly as an extinguishing vehicle in the case of forest fires and large fires where water is in short supply. With appropriate tank superstructures and its payload of 30 tons, it can transport several times more water than conventional firefighting vehicles. And thanks to its unique driving characteristics, it makes its way across almost any surface to the scene of the fire or, if necessary, to nearby water, where it collects fresh extinguishing water autonomously.

TECHNICAL ASSISTANCE / REPAIR WORK

When people are directly affected by natural disasters and other major damage events, rescue, salvage and evacuation take top priority. In the immediate aftermath – or often as the event is still occurring – it is a question of restoring the partially or completely destroyed infrastructure in the affected areas. The sooner this happens, the sooner further efficient measures can be implemented and the consequences of the disaster can be mitigated.

Using appropriate add-on modules, the PIONIER can also function as an excavator, crane or tipper and help with the repair of infrastructure facilities for as long as the site is not accessible to conventional construction machinery or this is not available for other reasons. It can transport building materials, move debris, earth masses and fallen trees or support the installation of radio masts, pipelines and similar technical equipment.

As a true amphibious vehicle, the PIONIER is also able to carry out many of these activities on water, after dam breaches for example, or extreme precipitation.

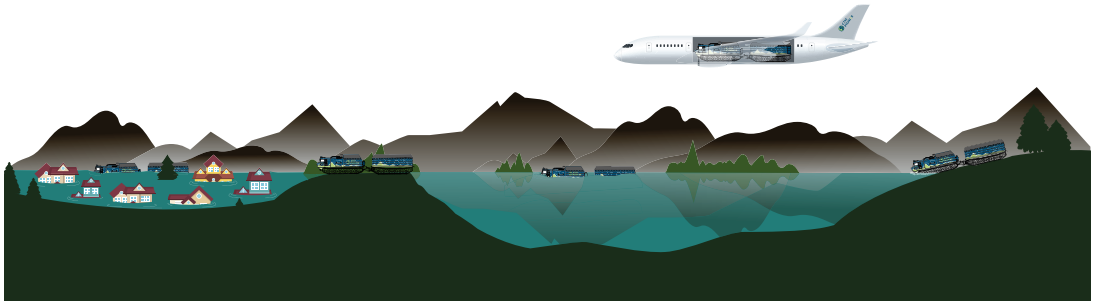


How does the PIONIER get to the job site?

As an amphibious all-terrain vehicle with a modular design concept, the PIONIER is unbeatable in its versatility and independence when used in almost any target area. It conquers virtually any surface, crosses waters and wetlands, climbs mountains and inclines, overcomes obstacles and can carry payloads of up to 30 tons. With a range of up to 800 kilometers and the option of carrying additional fuel for self-fueling, it can also cover longer distances and operate completely independently for several days. All this with a full load and under extreme climatic conditions with heavy precipitation, icy cold or scorching heat.

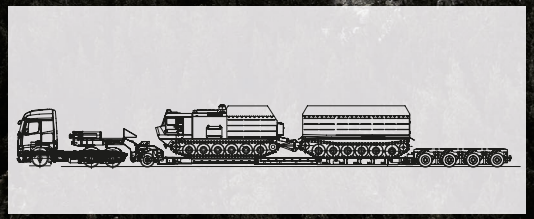
However, if the deployment site is far away, for example in the case of international deployments, the question that also arises with the PIONIER is: How does it get there as quickly as possible? Because every hour counts, especially after natural disasters.

The good news: The PIONIER can not only transport large quantities of goods, but can also be transported by itself in a number of ways.



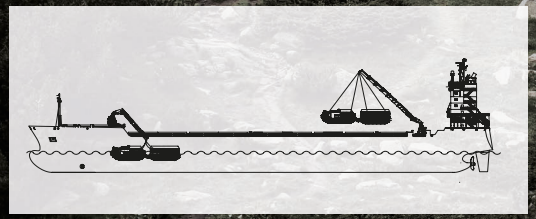
BY LAND

The unique capabilities of the PIONIER to move in rough terrain have been described in detail. With its heavy-duty rubber tracks, it can of course also drive on roads without causing major damage, while reaching speeds of up to 45 km/h. For even greater distances and even faster transport, it can be transported close to the site of deployment or the next loading station with a low-bed semi-trailer. Due to the low height of the PIONIER, it has no problems passing under bridges of 3.80 meters and more.



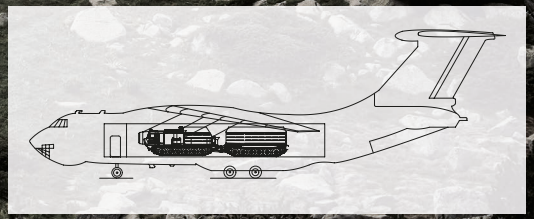
BY WATER

As a true amphibious vehicle, the PIONIER can cover long distances in flowing and turbulent waters autonomously. In addition, it can of course be transported by ship, and its unique capabilities also come into play here. It is not dependent on functioning ports, but can, for example, be picked up together with crew and cargo by a deep-sea vessel in the coastal area and put back into the water in the target area, swim independently to the shore, where it can climb a slope and continue on its way to the deployment site on land.



BY AIR

The aerial route is usually the only option for the speedy transport of relief goods and supplies to distant countries and continents. The PI18 3660, the junior version of the PIONIER, which has a payload of 10 tons, can be transported to almost anywhere in the world very quickly using freighter aircraft. And here, too, it shows off its special abilities. In the event of natural disasters, airports are often also affected by damage, so that remote, possibly temporary runways have to be used. The PIONIER can continue on its way directly from there.



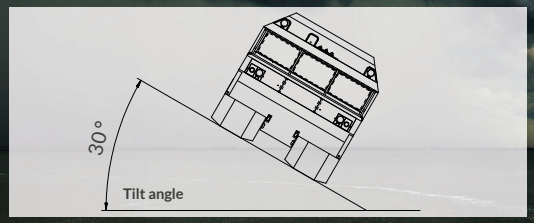
MODULES

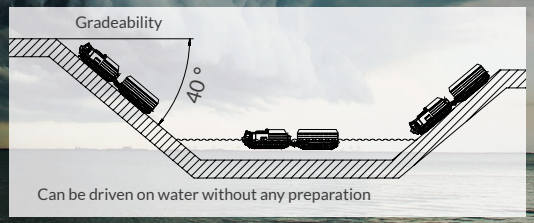
- Container van
- Material and supply van
- Crane
- Digger
- Mobile hospital
- Generators
- Fire brigade
- Floating crane
- Manned working platform
- Tanker
- People carrier
- Vehicle towing/ salvage

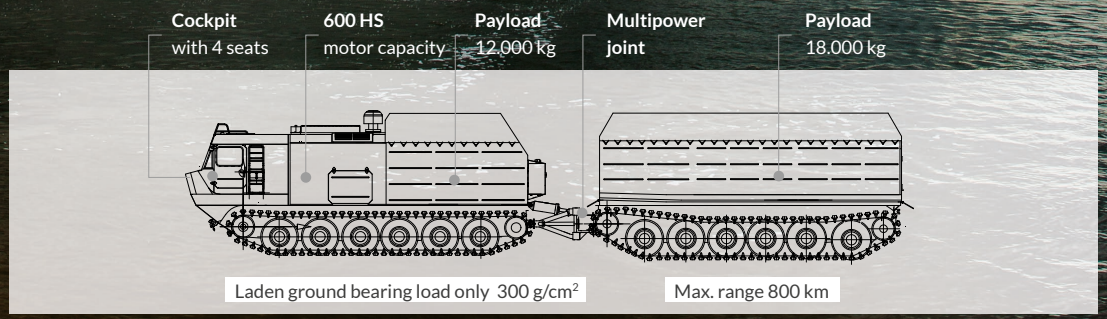
The PIONIER. One for all.

The PIONIER can be used almost anywhere, and thanks to its modular concept, there are virtually no limits to its application areas on site. Using the appropriate superstructures, it can play the role of passenger and aid transporter, mobile hospital, construction machine or clearing and recovery equipment. Or a combination of the above. You decide on a case-by-case basis. The superstructures can even be designed on request so that they can be replaced as required. It is impossible to be more flexible.

The following overview shows examples of some of the many options, but does not claim to be complete. We design the PIONIER with its superstructures according to your individual requirements. Should you have completely different ideas or wishes, no matter how special they may be: Just get in touch with us. Having gathered many years of experience in tailor-made vehicle construction, we implement what is technically possible.







Tried-and-tested technology combined with an innovative solution.

The PIONIER is based on a vehicle concept that has been tried and tested over many years, modernized by CTM with high-quality technology and developed into a market-ready product that can be adapted to various applications and withstand the highest demands. The components of the PIONIER are manufactured by European partners. Final assembly, individualization and quality control take place at CTM in Berlin. The PI18 3660 „junior version“ still offers a payload of 10 tons, but otherwise has the same advantages and features as its „big brother“, the PI18 5860.

For further information about the PIONIER please do not hesitate to contact us!

TECHNICAL VEHICLE DATA

	PI18 5860	PI18 3660
Engine	CAT C18 six-cylinder four-stroke diesel	
Performance	589 bhp / 439 kW / 597 HS	
Torque value at rated speed	2.627 Nm / 1.400 min^{-1}	
Gears	Allison 4700SP 7-gear automatic	
Wheel suspension	12 separately for each section	
Electrics	24 V	
Battery capacity	760 Ah	
Tank capacity	Nominal volume 900 / 1.400 l	
Steering	multi-power articulated steering	
Brakes	pneumatic drum brakes	
Tracks	Rubber with steel reinforcement	
Drive type	All chain drive with differential locks	
Gross vehicle weight	58.000 kg	36.000 kg
Load capacity	30.000 kg	10.000 kg
Maximum speed on land	45 km/h	

	PI18 5860	PI18 3660
Maximum speed in water	5 km/h	
Structural space of first section	3.720 x 2.980 mm (l x w)	2.450 x 2.750 mm (l x w)
Structural space of second section	6.570 x 2.910 mm (l x w)	6.000 x 2.750 mm (l x w)
Trench / crevice crossing	4,5 m	3,5 m
Step crossing	1,8 m	1,6 m
Max. range	800 km	600 km
Tilt	+/- 30°	
Gradeability / descent	+/- 40°	
Turning radius	16 m	14 m
Total vehicle measurements	16,10 x 3,10 x 2,80 m (l x w x h)	14,00 x 2,80 x 2,70 m (l x w x h)
Environmental temperature	- 50 degrees Celsius / + 40 degrees Celsius	
Ground pressure unladen / laden	145 g/cm^2 / 300 g/cm^2	
Traversable ground	grass, forest, sand, peat, moor, Marsh, beach, dunes, rocks, scree, gravel, snow, ice	
Waters that can be traversed without any preparation	pond, lake, river, river delta, sandbanks, shore, intertidal coasts, ocean, polar sea, shoals, frozen waters	

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