



# **CABLE CRANE SYSTEMS FOR MOUNTAIN CONSTRUCTION SITES**



Our cable crane systems and special winches enable and simplify construction sites in inaccessible terrain as a complete solution. In this way, we overcome every transport challenge for our customers – safely and with a thoughtful eye on the surrounding nature. No matter how adverse the environmental conditions or how complex the project requirements: With our complete systems, we increase the efficiency of the construction project, reduce construction costs and ensure the safety of everyone involved – worldwide and at any time.



# THE CABLE CRANE COMPANY



## Our promise

We can say with a clear conscience: our extensive and individual cable crane systems and winch systems, combined with our many years of experience, lead every project to a successful conclusion. With flexible solutions, adaptable to any project, we make seemingly inaccessible construction sites accessible – with full efficiency and the highest safety standards.

Maintaining the ecological balance is an important aspect of this. To protect the environment, we act sustainably and with an eye to the future. We interfere as little as necessary with the environment and nature.

# WE ARE TRUE SOLUTION FINDERS

## Mountain construction sites are accompanied by steep, dangerous slopes, impassable terrain and by mountain lakes, rivers and gorges.

Each terrain presents a unique challenge, but our cable crane systems ensure the safe and efficient transport of machinery, construction materials, and personnel to these sites.

Inaccessible terrain often makes mountain construction sites seem almost impossible to undertake. However, we recognize the importance of adhering to cost and time

schedules, regardless of the terrain. Our cable crane systems enable the suspended transport of loads and personnel over a distance of up to three kilometers. If the project requires it, our systems can be in operation seven days a week, around the clock.

Thereby, each cable crane system is specifically tailored to the respective project.

### OUR SOLUTION

1

The design possibilities of our cable crane solutions are as diverse as they are flexible – regardless of the terrain structure. We adapt our systems specifically to the project requirements, the climatic conditions and the surrounding mountain situation.

- ✓ various design possibilities worldwide
- ✓ for every terrain structure and climate
- ✓ customised to the respective project

### WHY LCS?

2

With a proven track record of successful cable crane projects worldwide, we specialize in tailored solutions for transport situations in rough terrain. We are committed to environmental responsibility and providing reliable, efficient solutions to meet our clients' needs.

- ✓ vast expertise
- ✓ one contact from planning to operation
- ✓ worldwide project realisation

### HSEQ

3

We place high internal demands on material, machines and processes. Various ISO certifications certify our demanding standards with regard to occupational health and safety guidelines as well as our environmental and quality management.

- ✓ safety for the workers
- ✓ safe machine operation
- ✓ safety for the construction project and the environment

### OUR COMPANY

4

We have long-term experience and a great internal expertise. Through the merger with the mechanical engineering company GANTNER, founded in 1948, we were able to expand this once again. When it comes to temporary cable crane system for various applications, we are the specialists.

- ✓ vast expertise due to more than 200 realised projects worldwide
- ✓ goal-oriented and professional project work
- ✓ extraordinary technical know-how





**WE PROVIDE THE  
SOLUTION FOR  
CHALLENGING  
TRANSPORT SITUATIONS  
IN MOUNTAIN REGIONS**



SPANNING DISTANCE UP TO  
**3.000 m**

PAYLOADS UP TO  
**30 to**

LIFTING SPEED UP TO  
**1,5 m/s**

TRAVEL SPEED UP TO  
**7 m/s**

SLOPE UP TO  
**70°**

LIFTING HEIGHT UP TO  
**200 m**

**„Challenging terrain situations require a customised transport solution and absolute safety for all persons involved. Only then mountain construction sites can be realised successfully.“**

CHRISTOPH LUDESCHER  
FOUNDER AND MANAGING DIRECTOR

### Customised solutions

Inaccessible terrain, steep slopes, gorges, rivers, lakes or swamps determine the landscape in the mountains. Hardly any landscape is like the other. Construction sites in this environment shaped by nature require an environmentally conscious and safe overall concept. We achieve this with our cable crane systems.

As customised transport solutions, our cable crane systems transport machines, material and personnel to the desired destination regardless of the terrain situation. The cable crane systems effortlessly transport even unwieldy material that are difficult to transport above the ground to the construction site – there is no need to build access roads.

Our team of experts evaluates the terrain situation on site, plans and designs an individual cable crane solution – taking into account the respective conditions as well as the project requirements. This is precisely where our modular systems create maximum flexibility: for example, they can be customised in terms of length, transport height or even the number of towers.

Regardless of how the system is later equipped and what transport situation it solves: the safety of man and machine as well as the quality of the system and the protection of the environment are always our highest priority. Our professional project design enables us to realise construction sites in a time- and cost-efficient manner.



# BRIDGE CONSTRUCTION: CHALLENGES AT GREAT HEIGHTS

Only a bridge creates a path over impassable terrain. While this is being built, our cable crane system makes the connection.

Deep gorges, lakes, rivers, impassable landscape – during bridge construction, our cable cranes create a path across these impassabilities. Even at considerable heights, they lift, lower and transport loads and personnel safely and quickly – and over long distances. For transport with a cable crane system, carriages are often used. These travel on a track rope and are moved by a hauling rope via a winch. Self-propelled carriages have their own drive system and can therefore – at a horizontal rope line – be controlled by remote control.

## Bridge construction

Our cable crane systems transport loads of up to 40 tonnes and up to 40 people suspended in the air – and are specifically customised to the project in question.

- ✓ possibilities for adaptation: number of towers, length, height, payload, etc.
- ✓ tailored to the most diverse loads
- ✓ dual cable crane system for very heavy loads or for transporting personnel / material
- ✓ luffing cable crane system for an extended working area
- ✓ self-propelling unit, even on a slight incline



# MANPOWER TRANSPORT

Personnel is just as essential on a construction site as building material or equipment. When access to the construction site is impossible with vehicles and very difficult on foot, a cable crane system is an efficient and safe alternative.

Our cable crane systems for limited manpower transportation can transport up to 40 people by means of gondolas. Depending on the number of people required on site, a system with one or two lines is used. At a dual cable crane system, one line can be used for material transport and the other for personnel transport. Alternatively, both lines can transport personnel or material.

Personnel can thus be transported safely and securely along the entire track of the cable crane system and be lowered at any point along the track. Due to our numerous projects worldwide, we have experience with the most diverse, country-specific regulations in terms of the transport of personnel.

## Manpower transportation

Transporting personnel using a cable crane system is a good alternative to costly helicopter operations and inefficient walking.

- ✓ safe transport of personnel
- ✓ personnel transportation along the complete track
- ✓ personnel can be lowered at any point of the construction site
- ✓ efficient and safe alternative
- ✓ compliance with the specific regulations of various countries







# WE HAVE THE SOLUTION FOR YOUR TRANSPORT SITUATION

Since ancient times immemorial, people have been fascinated by the mightiness of the mountains and mountain ranges. The rugged terrain, steep slopes and deep gorges are still challenging today when it comes to successfully implementing a mountain construction site.

Our cable crane systems overcome inaccessible terrain and transport machines, material and people safely and quickly to the construction site. A mountain construction site is challenging in two aspects: the terrain is extremely demanding and the construction site must not have a lasting impact on nature.

As a specialist for temporary cable crane systems, we adapt our systems specifically to the respective project requirements. The impact on nature is therefore comparatively small. At the same time, the construction project

can be realised cost- and time-efficiently thanks to the high level of expertise and international experience of our employees. The cable crane system enables high cycle times and makes maximum use of existing capacities.

On the basis of goal-oriented and professionally managed planning, we construct individual cable crane systems for every mountain construction site. If required, the cable crane system can remain in operation all year round, around the clock, seven days a week. Whether the cable crane system is rented or purchased is decided by the customer.



# WHY LCS

## International projects

We operated in over 35 countries worldwide and have realised more than 200 projects to date. This gives our team of experts a great deal of international know-how. Our cable crane systems accompany the most diverse construction sites in the most different terrain situations. The climate and cultures also differ. It goes without saying that our specialists take all of this into account during the planning, realisation and logistics of the construction site.

## Long-term experience

Since our foundation in 1989 we are specialised in the application of cable crane systems at mountain construction sites and during bridge construction. The merger with the traditional company GANTNER added another 70 years of experience. Our experts have solved a wide variety of project requirements and know the special features of mountain construction sites and bridge construction. They dispose of extensive technical know-how and a lot of experience in terms of country-specific requirements for smooth operation.

## Individual solutions

Rivers, lakes, gorges and rocky, seemingly impassable terrain – our cable crane systems overcome all this with ease. Their modular design solves transport challenges in every terrain situation and for every project requirement. Regardless of whether particularly bulky, heavy equipment, material or manpower are to be transported: Our systems bring them effortlessly to their desired destination. This saves time, money and protects the environment.

## 24/7 operation

Often, continuous operation of the construction site is required. Our cable crane systems can remain in operation all year round, around the clock, seven days a week, if required. In doing so, they work with very high cycle times and utilise the available capacities to the maximum. The reliability of material and machine as well as the safety of all persons involved have top priority. As soon as our systems are no longer needed, they are dismantled by our specialists.



# ADVANTAGES OF CABLE CRANE SYSTEMS AT MOUNTAIN CONSTRUCTION SITES

Cable crane systems transport machines, material and manpower to the desired area of the construction site – and effortlessly overcome lakes, gorges and steep cliffs.

When the terrain makes access routes impossible or very cost-intensive, our cable crane systems are powerful and reliable construction site partners: They overcome extreme natural conditions and create direct routes even to remote areas. Personnel also reach their desired destination safely and quickly. With high cycle times accompanied by high capacities, the cable crane systems work very efficiently. A cable crane system can be more than three kilometers long. It can lift up to 30 tonnes of load and move it at up to seven meters per second. In a temperature range of -20 °C to +40 °C, the cable crane system works reliably and efficiently.

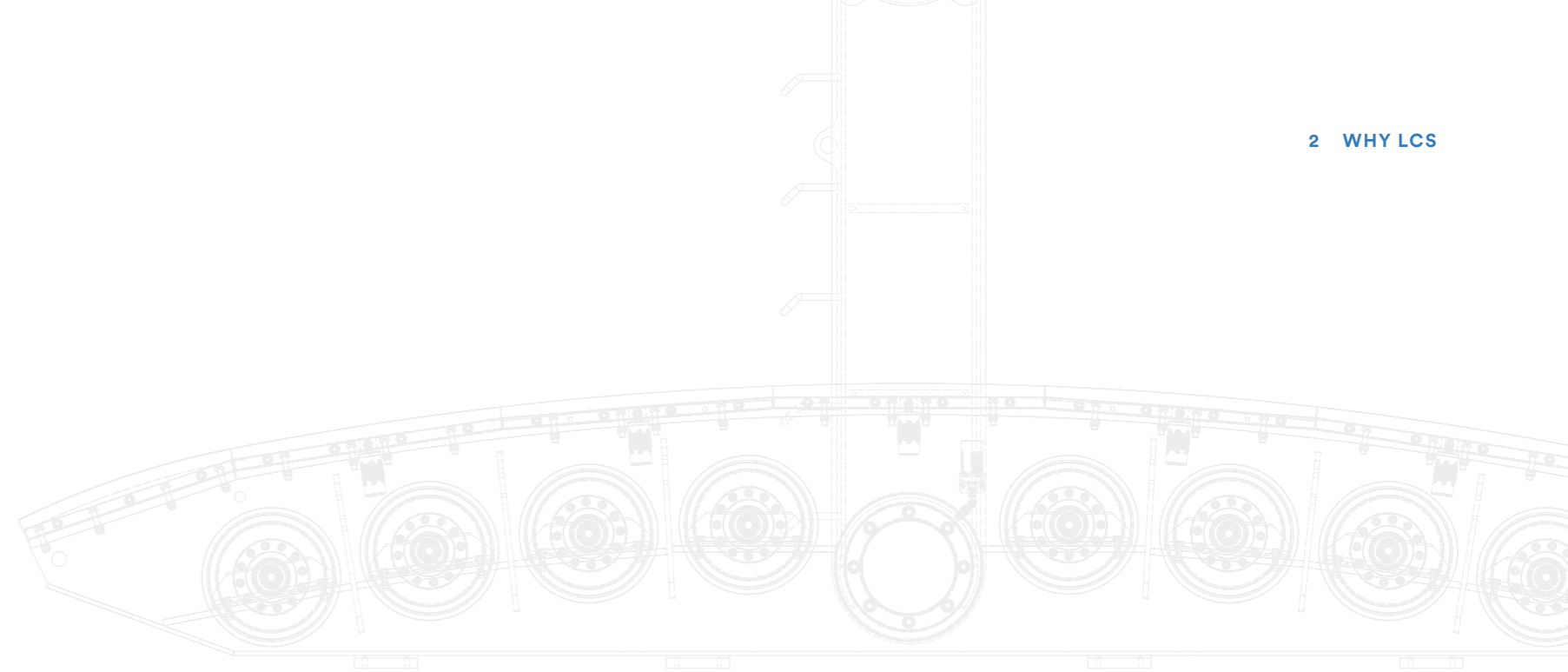
## Advantages for mountain construction sites

Cable crane systems transport material, machines and personnel safely and directly to the mountain construction site – and keep costs and interference with nature low.

- ✓ safe, efficient transport
- ✓ high cycle times
- ✓ high capacities of the system
- ✓ direct routes, even to remote areas
- ✓ minor intervention in nature and complete dismantling



# WHY CABLE CRANE SYSTEMS ARE ESSENTIAL



> **High cycle times**

The performance of our cable crane systems is also founded on their high cycle time. The systems transport the loads at a speed of up to 7 m/s and thus achieve a high frequency.

> **High capacities**

Our cable crane systems transport loads of up to 30 tonnes per line. As a two-line system, they even effortlessly transport up to 40 tonnes.

> **Cost reduction**

Direct routes keep the impact on nature low, the re-instatement costs decrease. There is no need to build access roads.

> **Complete dismantling**

As a temporary system, we completely dismantle our cable crane systems after successful operation. There are no permanent traces.

> **Direct routes**

Our cable crane systems are individually adapted to the respective project requirements and to the surrounding environmental conditions. They can even overcome rivers, lakes, gorges and rugged mountains effortlessly and transport the goods safely to their destination along a direct route.

> **24/7 operation**

If the project is time-critical or the seasonal and natural conditions require rapid project success, our cable crane systems can also be in operation around the clock.

> **Limited manpower transportation**

If the construction site is difficult to reach on foot and inaccessible by vehicle, crane units transport personnel safely in a gondola along the entire route to the site.

> **For all environmental conditions**

Our systems work reliably and efficiently all year round. Regardless of the temperature, weather conditions or season, they always transport goods safely to the desired destination.





# LCS

## SAFETY, ENVIRONMENT AND QUALITY

On all our projects, the safety of people and machines as well as the quality of our systems are in the foreground. We care about the environment and our impact on it.

Extreme environmental conditions, temperature fluctuations and natural impassability put our cable crane systems to the test intensively, especially on mountain construction sites. This is the reason for us to focus on high-quality components and machines. Only this way we can fulfil our demand for the safety of our systems and their smooth operation. Employees are safely transported to the construction site in a gondola with our crane units. To avoid serious risks, appropriate protective equipment additionally ensures safety on the construction site. As a preventive measure and also in an emergency, rescue winches are used for people.

For the long-term preservation of nature, we focus on sustainability, durability and recyclability. We use working materials sparingly and carefully separate any waste that is produced. We also keep our ecological footprint low in the terrain itself: our cable crane systems transport material, personnel and even heavy, bulky equipment suspended in mid-air and along direct routes to the desired site of operation. There is no need to build additional roads.

Where possible, we work with electro-hydraulic drives. In this way, we can feed recovered energy, such as that generated during downhill runs, back into the existing power grid.



# OUR PRINCIPLES

Our temporary cable crane systems have one main goal: to successfully realise the mountain construction site in a cost- and time-efficient manner and in consideration of the natural conditions.

Thereby, each system is individually customised to the respective project requirements. We treat the safety of all persons involved as a top priority.

Especially in challenging alpine terrain, the functionality, quality and performance of machines, material and all components must be reliable. We therefore place the highest demands on our cable crane systems. They should be 100% trouble-free in operation and guarantee smooth transport. This is ensured by coordinated processes, accompanied by our comprehensive safety, prevention and health plans. If the worst case occurs, our risk management acts quickly and purposefully. All safety relevant components are

checked and modernised continuously. This ensures the safety and reliability of our solutions additionally.

Our cable crane systems are a safe and reliable transport solution, especially in terrain that is difficult to access and in difficult natural conditions. This is also confirmed by our various ISO certifications: Within the framework of these, all processes are analysed and continuously monitored. For us, this is both a control and an incentive. By constantly improving, we can respond even more specifically to our customers' wishes. ISO certifications create transparency and are mostly recognised worldwide.

## Safety ISO 45001:2018

This certification concerns occupational health and safety and internal health management. We ensure safe working conditions and support the health of all people involved – both our employees and all workers along the value and supply chain.

- ✓ active occupational and health management
- ✓ reduction of accidents and/or their severity
- ✓ protection of all persons involved from illness and/or accidents
- ✓ continuous development
- ✓ integration of the experience and competence of the stakeholders

## Environment ISO 14001:2015

This certification concerns sustainable environmental management. As a globally recognised and applied standard for the environmental performance of an organisation, this ISO standard uses a continuous improvement process: planning, execution, control and optimisation go hand in hand – also for us.

- ✓ determining a corporate environmental policy and environmental targets
- ✓ establishment of internal management systems and processes
- ✓ reduction of waste, sewage and emissions
- ✓ as little impact on the environment as possible
- ✓ adaptable to different geographical, cultural, environmental or social conditions

## Quality ISO 9001:2015

This ISO standard concerns the quality management of a company and is recognised worldwide. Defined business processes ensure a consistently high performance of the company towards its customers. As service provider the standard helps us to lead our customers and our operations to sustainable success.

- ✓ reliable structures and processes
- ✓ targeted customer orientation
- ✓ products and services adapted to customer needs
- ✓ fulfilment of the highest quality standards
- ✓ continuous improvement and control

# SAFETY AS THE HIGHEST PRIORITY

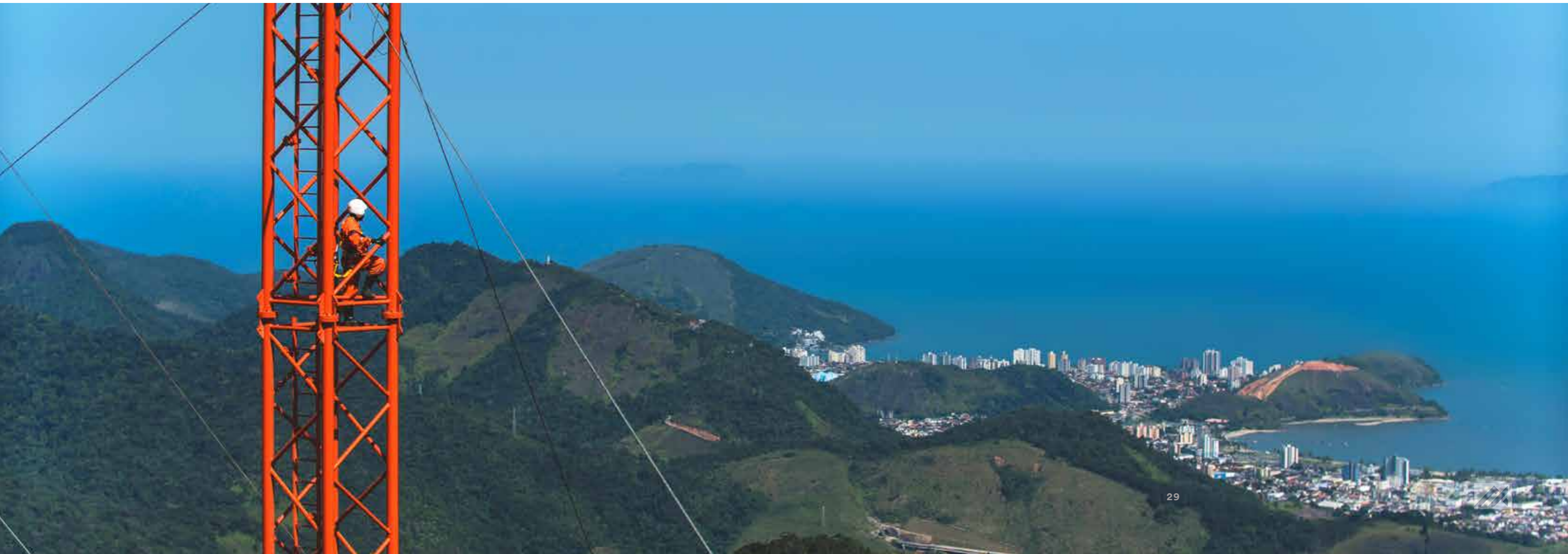
The safety of all persons involved in the respective project is an utmost concern for us. A 100% trouble-free daily routine is an essential aspect.

The mountains per se present some dangers. In terms of mountain construction sites, this means: serious risks to the people involved must be anticipated in this challenging terrain. With our cable crane systems and safety winches, we ensure the safety of everyone involved in the project. Preventively, but also in an emergency. Comprehensive safety equipment and the safe, suspended transport of personnel in a gondola, complete our safety precautions. Heavy machines and equipment can also be transported directly to the intended location. The high quality of our systems and components as well as their regular maintenance and modernisation additionally ensure safety during construction work.

## Our safety requirement

In every project, we ensure the highest level on safety for all people involved.

- ✓ high safety and quality standards
- ✓ safe personnel transportation by gondola
- ✓ no heavy machinery in the terrain
- ✓ preventive reduction of accident risks
- ✓ continuous system inspection and modernisation



# PRESERVATION AND PROTECTION OF THE ENVIRONMENT

Nature is unique. We want to treat the nature with respect and esteem. Our impact on the environment is minor and temporary, but our contribution to environmental protection is an everyday must.

Hardly any environment is as natural as that of the mountains. To keep it that way, we plan all projects with the least possible impact on nature. Our cable crane systems require only a narrow Right of Way, are temporary and can be completely dismantled. We even transport heavy machines suspended – and thus avoid deep tracks in the terrain. Our cable crane solutions also create a direct route to remote areas. There is no need to build access roads. By using electro-hydraulic drives, we can feed energy back into the existing power grid. We carefully separate waste and use raw and working materials sparingly. In this way, we also make a contribution to protecting the environment.

## Our view of the environment

We plan and realise our projects with respect for nature.

- ✓ economical use of raw materials
- ✓ direct routes suspended in mid-air
- ✓ temporary and fully dismantable
- ✓ quiet operation
- ✓ active energy recovery through electro-hydraulic drives







## THIS IS US

Since 1989 we have been developing customised solutions for challenging transports in steep terrain. Today we are one of the leading companies in the field of cable crane systems.

Hydro power, pipeline construction, mountain construction sites, mining – in all these areas, we look back on a successful project history worldwide. LCS has been around since 1989. Due to numerous construction sites in a wide range of countries, we gained a wealth of experience.

Through the merger with our Austrian affiliate – the mechanical engineering company GANTNER – in 2017, its broad and specific wealth of experience also became part of our extensive knowledge portfolio. Thus, we have been

able to extend our experience over 70 years.

For the various projects, our cable crane systems meet the most diverse technical specifications. In addition to cable crane systems, special winches are often used in mining, for example. Individual regulations of the various countries make specific solutions repeatedly necessary. Due to climatic requirements, we also have to act flexibly at all times.





„With our cable crane systems we solve complex transport situations – environmentally friendly, efficient, safe and simple.“

## Our expertise

With over 70 years of experience, we are very knowledgeable specialists when it comes to cable crane systems and special winches. We are the leading supplier in the field of temporary cable crane systems. We manufacture all components to the highest quality and revise them continuously. Our customers benefit from comprehensive project support – from planning to successful implementation.

## Our demand

We have made it our goal to become even better every day. Because we are sure: There is a suitable solution for every transport situation. Our experienced specialists adapt our systems until they meet the requirements of the customer. From initial planning to production, assembly, inspection and dismantling, everything comes from a single source.

## Our promise of success

Hydro power, pipeline construction, mountain construction sites, mining – the list of our realised projects is almost endless. Our wealth of experience and our goal-oriented project management lead the respective construction site efficiently, quickly and safely to success. In doing so, we place high demands on the safety of all involved and to the quality of our installations.

## Our internationality

In our more than 200 completed projects around the world, we have already experienced a lot. In each of the five continents on which we operate, there are certain regulations to be observed or foreign languages to be understood. The terrain, the climatic conditions and, last but not least, the cultures are also often very different.



# CUSTOMISED SOLUTIONS

Every project places different demands on our solutions. These solutions are as flexible as they are numerous – for transport, monitoring and safety.

The success of a construction site is particularly dependent on the performance, safety and quality of the components and systems used. Especially when circumstances are difficult, we believe in the potential of solutions that use cable crane systems or winches. Thereby, standard solutions tend to be the exception.

We develop solutions that are specifically tailored to the requirements of our customers – both for the mining industry, for plant, dam and bridge construction, and for the transport of materials and personnel.

From the initial planning and design of the system to assembly and continuous monitoring, our highly qualified team of experts takes care of the complete service scope.

Our systems can be individually adapted depending on the terrain situation, the required payloads or the project-related requirements with regard to safety and monitoring functions. Ongoing improvement of our methods and processes ensures long-term operation of the system.

## Material transport

Cable crane systems transport a wide variety of material in a wide variety of applications – regardless of the terrain structure and the required payloads.

## Dam and bridge construction

With precision, safety and speed, cable crane systems transport material, equipment and personnel at great heights and over long distances.

## Pipeline construction

Extreme environmental conditions, steep slopes and rocky terrain push traditional methods to their limits. Cable crane systems provide efficient and sustainable transport solutions.

## Personnel safety systems

During maintenance and surveillance activities, the safety of all persons involved is one of the biggest challenges. With appropriate surveillance systems, this is guaranteed at all times.

## Special winches

Winches fulfil several functions at once. They are efficient and precise – equally so when transporting material, machines and workers. This makes the winches reliable companions for transport, securing and rescue.





## Hydro power

The construction of hydro power plants is and remains a challenge: steep sloping terrain, wide gorges, impassable terrain and huge water masses create extremely difficult project conditions. Cable crane systems overcome this impassability and are also a safe and cost-effective long-term solution.

## Oil and gas

Hardly any pipeline runs straight. Curves, slopes, sheer terrain or even climatic differences require well thought-out solutions for transport situations, for the positioning of the pipes and for any required excavation and reinstatement work. Our highly professional cable crane systems explicitly contribute to the success of the project and to the long-term usability of the pipeline.



## Dam construction

Especially during dam construction, the construction sites are often located in terrain that is difficult to access. We have taken over the technology of our high-performance cable crane systems – especially for dam construction – from the company ThyssenKrupp. The crane units move the loads in all three axes of the space, i.e. the X-, Y- and Z-axes, making every area of the construction site accessible. The enormous transport volume significantly increases the efficiency of the construction site.

## Mountain construction sites

Rivers, lakes, mountains and steep terrain are seemingly unsolvable transport challenges. Our cable crane systems provide weather-independent operation without a major impact on the surrounding nature. They create access exactly where the mountain construction site requires it – cost-effectively and efficiently. If required, also around the clock, seven days a week.



## Bridge construction

Long distances, great heights and the need for a wide variety of materials and machines on the construction site make bridge construction particularly special. With exact project planning, maximum precision, speed and the highest quality, we ensure a smooth process throughout the entire construction period. Our cable crane systems transport material, machines and personnel safely to the desired location.

## Mining

Tight spaces, great depths and heavy material determine the construction site in mining. Added to this is the absolute safety priority of the people involved. Our shaft winches are therefore often used. They are used for material transport, as service or rescue winches. We enable the monitoring and maintenance of mining construction sites with our special surveillance systems.



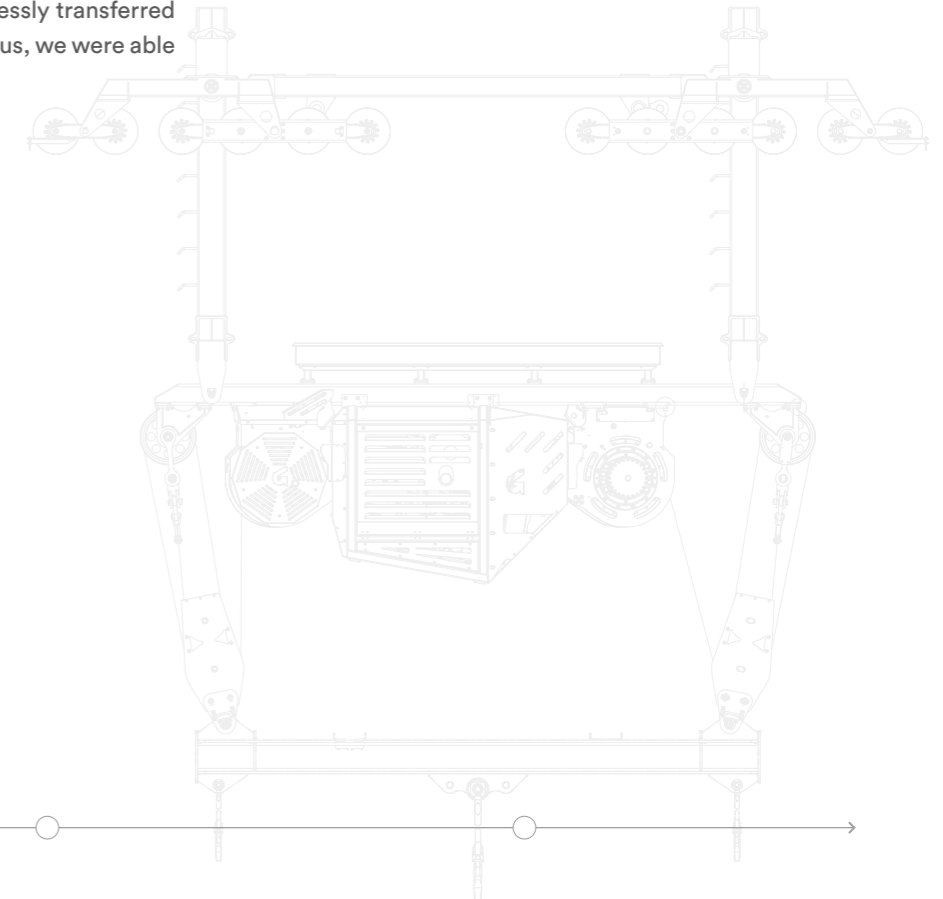
# WE ARE THE EXPERTS FOR CABLE CRANE SYSTEMS – FOR OVER 70 YEARS

We take new paths. Efficient, with an eye on costs, safe and in harmony with the environment. We find the right solution for challenging transport situations.

Our success story began in 1989 – with the foundation of LCS Cable Cranes. From 2004 onwards, we – as a specialist in cable crane systems – repeatedly worked together with the company GANTNER with its headquarter in Austria. GANTNER was specialised in winches and corresponding components. Exactly these were relevant for our projects over and over again. In order to make the best possible use of the specialist knowledge and experience of both companies, the affiliate GANTNER was merged with LCS Cable Cranes in 2017. The comprehensive knowledge of the traditional company was thus seamlessly transferred to the expertise of LCS Cable Cranes. Thus, we were able

to expand our wealth of experience to around 70 years. In addition to temporary cable crane systems, special and safety winches are now also part of the company's portfolio.

Since the merger, the vast specialist knowledge of both companies has been brought together under the current company name LCS Cable Cranes. With the comprehensive re-branding in 2021, a uniform communication presence was achieved across all business areas. This once again illustrates our comprehensive expertise from a single source.



**1948**

Foundation of the engineering company GANTNER Seilbahnbau for the manufacturing of winches, crane units and corresponding accessories.

**1989**

Foundation of LCS Cable Cranes, a company specialising in cable crane systems: With the help of a mobile cable crane system, Christoph Ludescher works on various projects for ski lift construction and timber transport.

**1996**

Use of the new cable crane technologies on international construction sites in alpine terrain, for example in the construction of pipelines or hydro power plants.

**2004**

Start of an intensive cooperation between the companies GANTNER Seilbahnbau and LCS Cable Cranes. The aim was the development and application of new machines on construction sites.

**2017**

Merger of the affiliate GANTNER with LCS Cable Cranes. Fusion with the expert for special machines and drive systems ECCON. Continuation of all operations under the name LCS Cable Cranes.

**2021**

Establishing a modern brand for LCS Cable Cranes through comprehensive re-branding and by clearly communicating its own values, products and strengths. Aim: overall representation of all business areas.



# WE SOLVE TRANSPORT CHALLENGES

With our cable crane systems and special winches, we solve challenging transport situations in mining, dam, pipeline and bridge construction as well as on mountain construction sites or in the construction of hydro power plants. Our systems are as flexible as they are versatile. From initial planning to construction, assembly and monitoring, our customers receive a fast, cost-effective long-term solution from a single source.

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