



Mission:

To support our customers throughout their entire project process with intelligent solutions, through quality and continuous improvement, to achieve complete satisfaction.

Vision:

To be the option of choice for the application of “nanotechnology” in the construction sector of ground roads, hydraulic works, petroleum works, and ports, as well as airports, foundations, and containment of highly-contaminated materials, always committed to protecting the environment.

Values:

- **Honesty:** We behave and express ourselves with consistency, honesty, and transparency. We act with fairness towards our teams and our customers, always respecting the applicable regulations.
- **Professionalism:** We work as efficiently as possible to achieve optimal results.
- **Respect:** We develop our business in an environment of deep respect. The integrity and diversity of all people we interact with is essential: acknowledging, accepting, and appreciating each individual's qualities.
- **Commitment:** We are a team of people committed to our job.
- **We do what is necessary, individually, to contribute with our best knowledge towards a common goal.**
- **Human quality:** Professionalism is not enough: we care about having good people enrolled in our company.
- **Teamwork:** We have put together a team where hard work and cooperation is deeply appreciated.

Philosophy:

Never measure what you accomplish with the only factor success should not be measured with: money. Money hides from whoever is obsessed to find it, and always appears to whoever realized there was no reason to look for it.

Find the most important aspects of yourself and your company, and all else will be given to you in addition.

La Isla - Acayucan Highway, Veracruz, Mexico



PowerCem[®]
Jubilee



To our dear friends:

More than 15 years ago, we introduced in North and South America an innovative “nanotechnology” solution, which transforms the molecular composition of the soil, significantly improving its qualities and creating a new concrete: the RoadCem Synthetic Zeolite Concrete.

With the use of our RoadCem Synthetic Zeolite Concrete, many infrastructure works are carried out within a sustainable ecologic environment, drastically reducing execution times, with a much longer lifespan and greater strength, far superior to conventional processes. With this new solution, we have managed to reduce the financial burdens generated by execution and maintenance processes in construction works by providing the option of a much more economical project in the medium and long terms.

Thanks to this, a considerable number of solutions have been provided for traffic infrastructure works, platforms, railway lines, airports, toxic waste containment, channels, and dams.

This “nanotechnology” has been assessed and certified by multiple government institutions and entities both in Mexico and globally.

We are committed to generating added value in all our actions, always improving our processes and offering adequate solutions for current challenges.

Expecting to fulfill your project expectations, we welcome you to this new technology.

Sincerely

CEO Lic. Rolando Montero Casillas
PowerCem Mexico America



20 years of PowerCem Technologies, 20 years of innovation, 20 years of international success!

Dear friends,

It's our 20th anniversary, reason for celebration!

Who would have thought 20 years ago that we would be where we are today: an international operating organization, active in over 40 countries with a network of more than 100 people around the globe.

Our "Nano modification of cement bound materials" have made an impact on a world scale. We have, through the years, enhanced the day to day lives of people around the world with sustainable environmental applications. As result we have contributed in the reduction of poverty in many countries thus contributing in the support and securing of human rights as a whole.

Before you lays a copy of our celebration issue with more than 20 years of projects around the world. This issue is very personal to me because it is a kaleidoscope of what can be achieved with conviction and hard work. During the last 30 years that I have been personally active in finding a solution to the global environmental problems we face as result of our ever growing population.

After 10 years of international experience and research I started PowerCem Technologies which combines the solving of these environmental issues with the enhancement of the infrastructure, thus implementing my conviction that "There are no problems, there are only solutions".

Of course we could not have realised the many projects and achieved all these fantastic results without our highly committed team nor without the strong support of our many professional partners around the world. This publication is therefor also a statement of immense gratitude towards all of them.

PowerCem Technologies continues to lead the way, which besides supplying "Nano" based products and the associated know-how, also goes in research of sustainable and economic solutions together with our customers and scientific partners around the world. Our team endeavors to provide the highest quality service in a personal manner.

I am extremely proud of the achievements we have reached to date and it is with the greatest pleasure that I present this publication to you so you can share in our celebration.

Yours sincerely

PowerCem Technologies B.V.
CEO-CTO Robin de La Roij



Plan Chontalpa Highway, Tabasco, Mexico

“ PowerCem Technologies,
in harmony with the environment ”



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**“ Let’s not pretend that things will change
if we keep doing the same things ”**
Albert Einstein



About Us



Products



RoadCem®

Is specially designed for applications in soil, road construction and in water works. It is a fine powder like substance that enables the bonding of nearly any type of material to form pavements. By making use of in situ materials such as clay, sand and peat the addition of granular material is in principal not necessary. It significantly reduces the costs of road construction and the environmental impact thereof.

RoadCem's unique characteristics enable cost effective and rapid construction of high quality roads of different categories and rapid and effective stabilization of soil for different purposes like: roads, parking lots, harbors, airports, embankments, dikes, supporting structures like industrial flooring, etc.



ImmoCem®

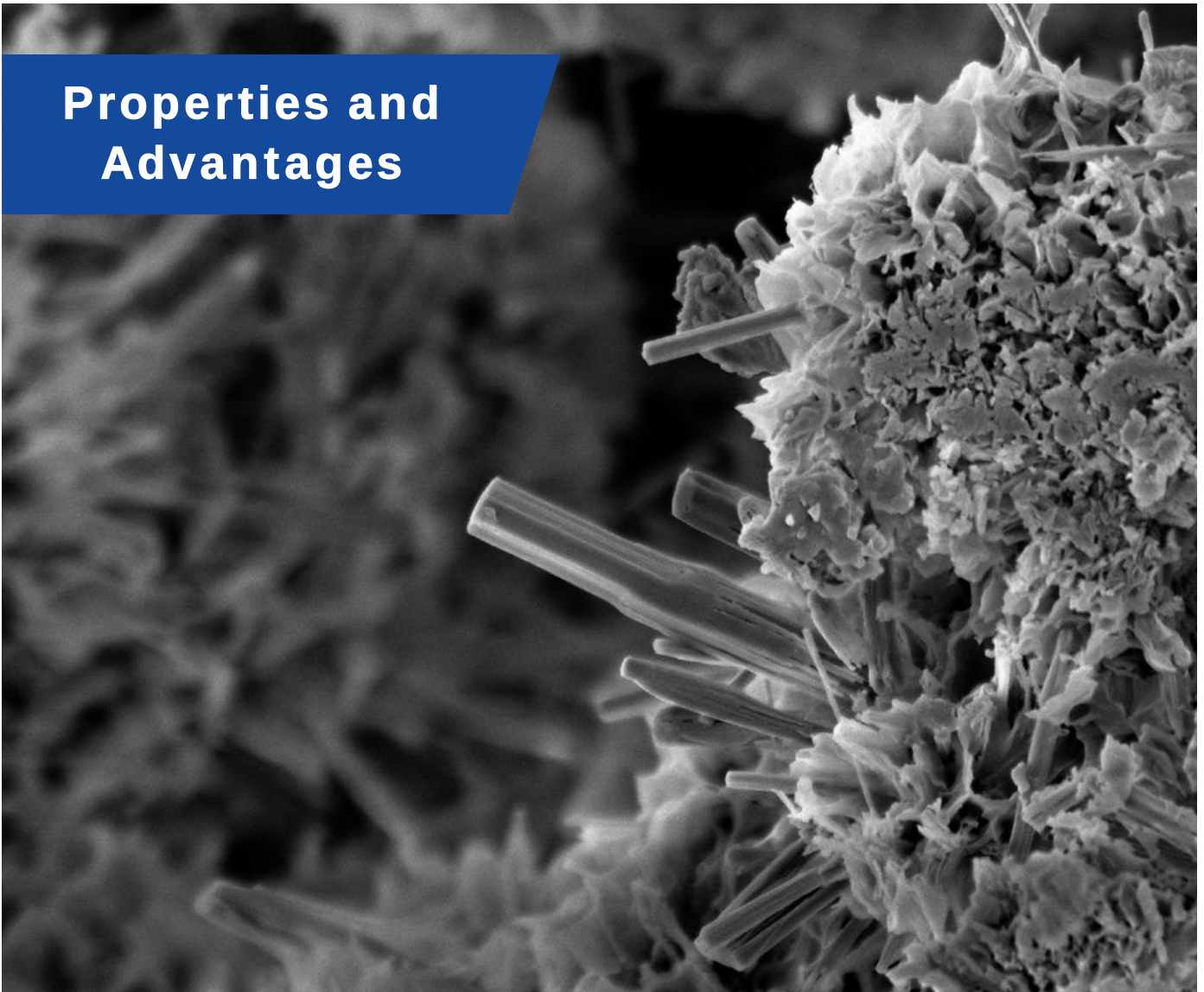
Is specifically designed for use in pollutant immobilization and remediation of polluted sites. It is used to turn contaminated soils and sludge into a harmless and useful construction material, which is based on the formation of crystalline structures wherein the chemical pollution is permanently fixed, so that in the long term leaching no longer takes place in the environment. ImmoCem is suitable for effective immobilization of organic and inorganic chemical pollutions and is also highly effective for immobilization of heavy metals.



ConcreCem®

Is specifically designed for use as a concrete and mortar improver. ConcreCem modifies the dynamic and chemical process of the cement hydration process and enhances the crystallization process. It provides for strongly improved impermeability against water, salts and acids and delivers significant improvements in heat resistance and overall performance of the finished products. ConcreCem's unique characteristics increase and extend the properties of concrete and allow for tailor made concrete and mortar mix design to serve the needs of the market and specific concrete and cement application areas.

Properties and Advantages



“Needles up to 1 nm long and diameters less than 50 nm can clearly be detected”

Properties and Advantages

- Use of on-site materials
- Reduced import and export materials
- Reduced execution times
- Reduced execution costs
- Reduced maintenance costs
- Application in rain moderate
- Cracking and leaching suppression
- Uniformity in stress distribution (σ) and deformations (ϵ)
- Increase in resistance to extreme temperatures (expansion/contraction)
- Soil acidity neutralization
- Heavy metal isolation
- Thickness reduction in pavement structures

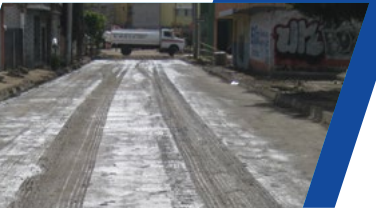
Applications



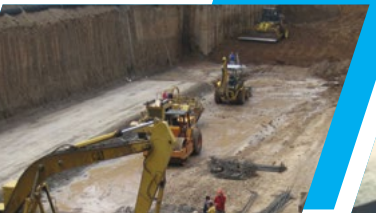
Highways and
freeways



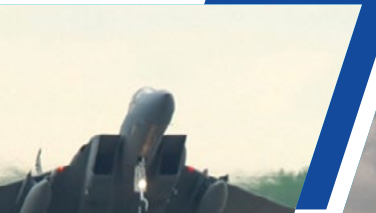
Rural roads



Urban roads



Foundations



Airports



Ports / Platforms



Parking lots



Mines



Containment of
toxic waste

Research and Development

According to a recent research by the United Nations Organization for Education, Science, and Culture, the **UNESCO**, and **PowerCem Technologies** (Netherlands), the possibility of building highways and rural roads that are more resistant to weather changes has been demonstrated.

The study developed by the **UNESCO-IHE** and **PowerCem Mexico** has demonstrated that the resistance and durability of highways constructed using RoadCem allow the increase in the service life of asphalt concrete or hydraulic structures thanks to its high performance, impermeability, and many other mechanical qualities.

The results of the project, overseen by Dr. Chris Zevenbergen of the **UNESCO** Institute for Water Education (**UNESCO – IHE**) and researcher Rauf Slim Montero from **PowerCem Mexico** were reassuring.

RoadCem applications on Tabasco highways proved that, with the passing of the years (2008-2012), such roads remained in good conditions, with no evidence of erosion, which reduces preventive and corrective maintenance costs to practically zero.

Furthermore, thanks to **RoadCem** allowing the use of materials deemed unsuitable for construction works, both operation and construction costs are reduced, which positively impacts project execution times, and comprehensively optimizes the road construction process.

UNESCO-IHE
Institute for Water Education



Macro-economic Effects of PowerCem Technology on Road Infrastructure in inundation areas

Ref. no. RC.INT.17.11182011

November 28th, 2011

10-year Financial Forecast of Maintenance Costs

UNESCO – IHE for Water Education Macroeconomic effects of the Use of PowerCem Technology in road Infrastructure in areas with risk of flooding

Maintenance Costs in Mexican Pesos

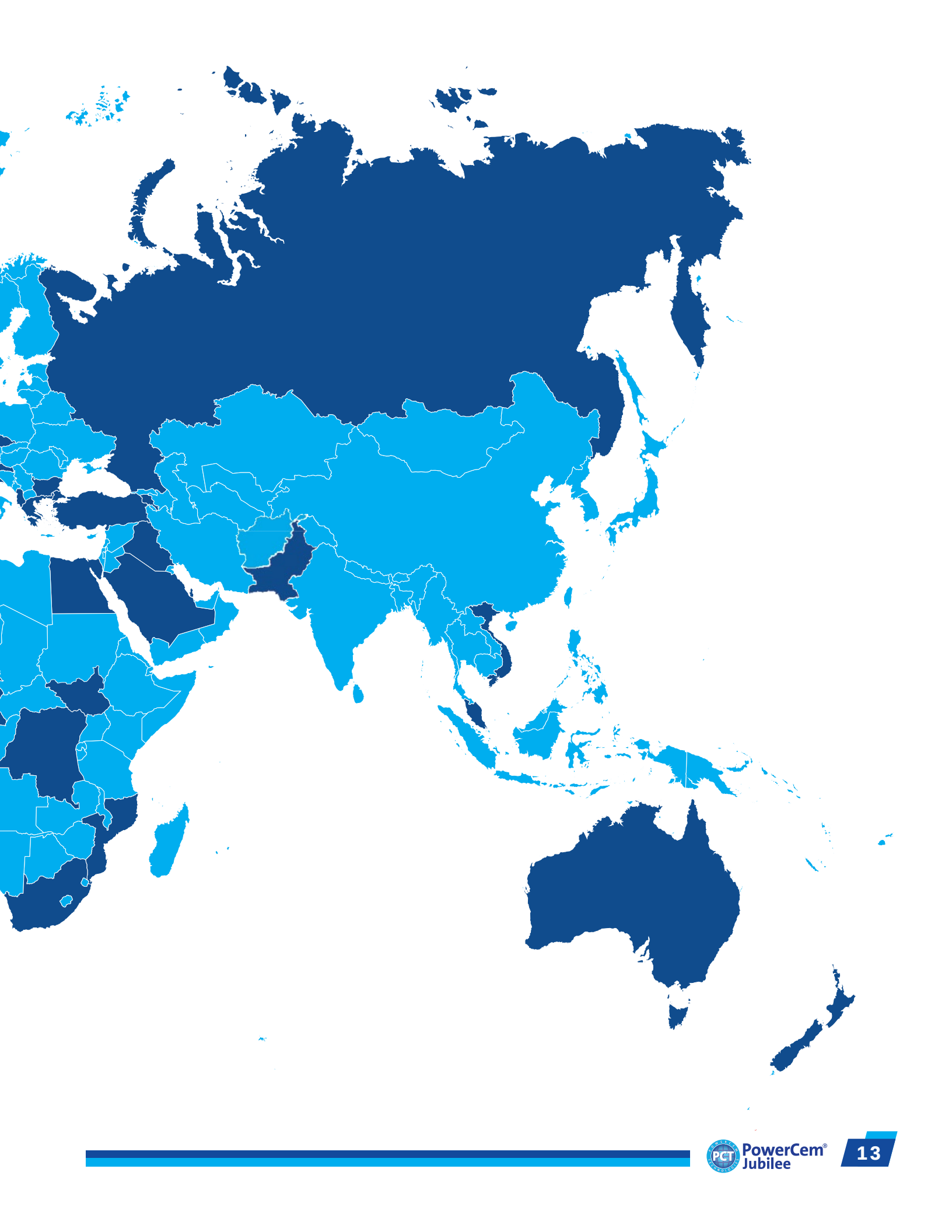
Maintenance Costs



Maintenance costs displayed during a reference period of 10 years.

Source: Macroeconomic effects of PowerCem Technology in road infrastructures in areas with risk of flooding.





Chable Highway, Tabasco, Mexico

Tamuin, San Luis Potosi, Mexico



PORTFOLIO



Bogota - Colombia



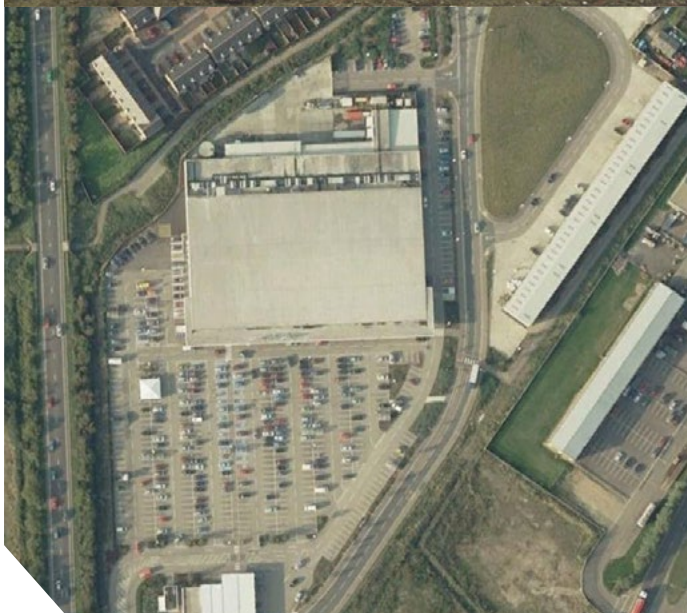
Airport

The El Dorado International Airport is located 9 miles West of the city of Bogota, and serves the entire metropolitan area in Bogota and the country for international flights. It receives flights from North and South America and the main cities in Europe. Furthermore, it is the most important cargo airport in Latin America, and has one of the longest landing strips in the world.

In this airport, PowerCem Technologies participated in the construction of taxi strips in May 2000. The Aircrafts that serviced as design bases were the McDonnell Douglas MD-83 with 72.4376 Ton (160,000 pounds) in weight, with 200,000 repetitions throughout the expected service life.



Project: Air Strip Rehabilitation
Country: Colombia
Location: Bogota, Colombia
Year: 2000
Product: RoadCem



Platform and parking lots

The project was executed with a local British company on behalf of TESCO Superstores at Great Yarmouth, Norfolk, England. The topsoil was found to be highly organic, with rootlets or made ground consisting generally silty sand, with gravel, cobbles, quartz, wood, ash, rubble and also peaty and soft clayey materials.

A part of the process of undertaking preliminary site investigations, trials were conducted (September 2001) to assess the potential use for various forms of ground/soils improvement techniques, to determine the most appropriate method to apply to the infrastructure construction of floor slabs to building areas, and to external pavements, car park and hard standings.

The highly organically and heterogeneous soil was turned into a monolithically non frost susceptible material.

Project: Platform and parking lots
Country: United Kingdom
Location: Great Yarmouth
Year: 2002
Product: RoadCem



Nordrhein Westfalen - Germany



Platform

Biodiesel plant located in Germany with a negative ground surface level related to connected agriculture site. Regular flooding of water after rain occurs in the complete area and groundwater level is near the surface.

The RoadCem modified area is used for deposit of vegetables for the bio-industry.

Due to acids requirements, RoadCem was used to make the construction water impermeable.

Project: Biodiesel plant
Country: Germany
Location: Kvelaer
Year: 2004
Product: RoadCem



Sachsen Anhalt - Germany



Rural road

The design of the rural road in Freiburg, Germany, was made with a RoadCem base and asphalt surface layer.

Due to the use of RoadCem the local municipalities achieved cost savings for this project up to 37%. All involved parties were impressed with the speed of construction.

Project: 5 km Rural road
Country: Germany
Location: Freiburg
Year: 2004
Product: RoadCem



Zuid Holland - The Netherlands



Access road

The basic material is a selection of substances like crushed asphalt and other heterogeneous materials converted by RoadCem in conjunction with binder into an environmentally safe constructive end product which fits within the CAT 1 category of the Building Material decree which was applicable at that particular period.

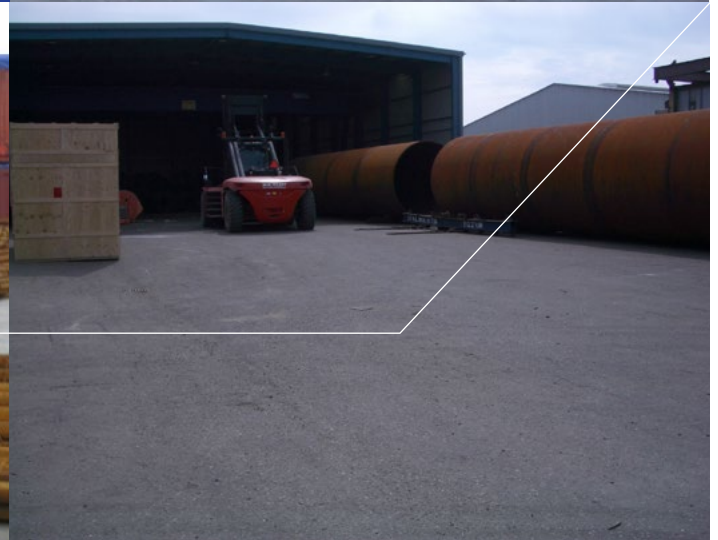
The RoadCem layer was covered with a wearing course of chip and spray. A typical example of reusing industrial residues or waste streams in an environmentally friendly constructive application with maximum economic benefit.

A durable holistic solution!

Project: Stoomdepot access road
Country: The Netherlands
Location: Rotterdam
Year: 2004
Product: RoadCem



Harbour Moerdijk - Noord Brabant



Caterpillar storage platform

In the industrial area of Moerdijk a storage for Caterpillar and heavy duty material was constructed.

The normative loads on top of the construction are heavy reachstackers with an axle loads of 100 ton, loading and unloading containers and other heavy materials.

The stabilization was made without any joints.

Project: Storage for Caterpillar
Country: The Netherlands
Location: Moerdijk
Year: 2005
Product: RoadCem



Noord Brabant - The Netherlands



Platform

Stabilization and Immobilization of chemically polluted Bottom ash. The bottom ash is reused in a practical application according the Dutch Building Material Decree in a so called formed building product. This sustainable environmentally friendly technology is an holistic solution with an high economical surplus. The wearing course is polished by mortar helicopter.

The area is used by heavy truck transport and must resist the most harsh circumstances physically and mechanically. Design parameters on heavy use industrial traffic.

Project: Immobilization chemically polluted bottom ash
Country: The Netherlands
Location: Oosterhout
Year: 2005
Product: RoadCem



Slavonski Brod - Croatia



Forest road

Forest road constructed with RoadCem due to its impermeability. The road remained intact and in good condition without any maintenance since it was constructed, although the area was flooded a number of occasions since 2005.

The cost savings achieved for the client were 29 % compared to traditional approach. The traditional method required regular annual maintenance to keep the roads in good condition.

Project: Forest road
Country: Croatia
Location: Slovenia oak forest
Year: 2005
Product: RoadCem



Tiền Giang - Vietnam



Farm roads

These roads are important to connect several villages and rise fields farming areas.

In this area basic equipment and local labor achieved to construct roads with heavy clay and fine fractions.

The clay was changed into a durable monolithic structure, which was able to bare heavy trucks within 12 hours after construction.



Project: Farm roads
Country: Vietnam
Location: Mekong Delta
Year: 2006
Product: RoadCem



Oil drilling platform

"Shell Canada" was challenged with a location on Chinook Ridge Southwest of Grande Prairie, Alberta (Canada) where road bans were in effect and aggregate was in short supply, rainfall caused the local clays to loose load bearing capacity and or where matting costs were prohibited.

The product RoadCem makes it possible to custom design mixes combined with fly ash, cement and in-situ soils of virtually any type eliminating the environmental impacts.

RoadCem construction is water impermeable so pollutions on top of the stabilization are not able to penetrate in the soil.

Project: Oil drilling platform
Country: Canada
Location: Alberta
Year: 2007
Product: RoadCem



Alberta - Canada



Platform

PowerCem astounded everyone involved by achieving an amazingly strong base in spite of the marginal soils treated.

Extreme cold weather, especially overnight lows, were probable for mid-November. Laboratory testing showed that PowerCem would yield sufficient strength to accommodate heavy equipment traffic (loaded forklift, transport trucks etc.).

Project: Nilex distribution yard
Country: Canada
Location: Calgary
Year: 2007
Product: RoadCem



Tabasco - Mexico



Highways and rural roads

Since 2008, PowerCem Mexico has completed projects for municipal roads and highway sections in Tabasco for the "Ministry of Communications and Transport" (SCT) and for the "State Board of Roads".

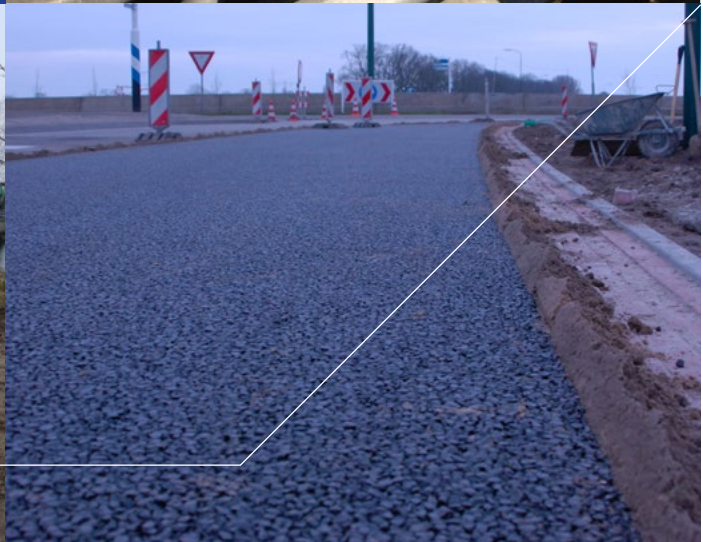
Follow-up has been given to projects in which RoadCem was used. After major flooding, roads constructed with RoadCem stayed in excellent conditions, despite undercuts and corrosion by floodings.

As result the "Office of Coordination of Projects and Supervision of Federal Roads", has extended a wide recommendation for RoadCem to be applied in projects throughout the national territory.

Project: Highways and rural roads
Country: Mexico
Location: Tabasco
Year: 2008
Product: RoadCem



Noord Brabant - The Netherlands



Secondary road

For the extension of a roundabout, which is part of the N279, RoadCem stabilization turned out to be the best solution. It was of great importance that the flow of traffic be guaranteed during implementation.

After the completion of the stabilization asphalt was applied and the roundabout was ready for use.

Project: Extension roundabout
Country: The Netherlands
Location: Beek en Donk
Year: 2008
Product: RoadCem



Michoacan - Mexico



Highway

Constructed with the purpose of resolving the complicated vehicle mobility around the crossing located at the "Nueva España" peripheral freeway, the Charo highway, and access to the Industrial city. It is also one of the main accesses to the city downtown, wherefore the vehicle capacity in this area amounts to an average of 35 thousand vehicles per day.

Thanks to the excellent properties of RoadCem, the "Ministry of Communications and Transport" (SCT) included in the construction process the use of RoadCem as an innovative solution by substituting piles by a foundation slab, dirt roads and hydraulic concrete works.

This project ranked third in the infrastructure category of the CEMEX projects award in 2010.

Project: Main access road Michoacán city
Country: Mexico
Location: Morelia
Year: 2008
Product: RoadCem



North West - South Africa



Rural road

Material in-situ was red brown clay with a very high plasticity index. Subsequently RoadCem was the best solution to use for quick and secure stabilization of the road.

The stabilization process for 4.6km of road was finished within a period of eleven days. The surface layer applied on the RoadCem layer is a single seal chip and spray, which was placed in January 2009.

Project: Rural road
Country: South Africa
Location: Seolong
Year: 2008
Product: RoadCem



Queensland - Australia



Rural roads

In the north of Curtis Island, Great Barrier Reef, Queensland, Australia there are over 2,400 acres of land called North Curtis Island was to be developed in phases into a prestigious luxury resorts. The Curtis Island Expedition was planned and executed in 2008.

The objective was to implement the use of RoadCem for road construction and rehabilitation on Curtis Island. The proposed development was extensive and involved rehabilitation/reconstruction of almost all existing dirt roads as well as construction of many new roads.

Project: Rural roads
Country: Australia
Location: North Curtis Island
Year: 2008
Product: RoadCem



Alberta - Canada



Oil drilling platform

In August of 2008 a major multinational oil company choose the RoadCem based solution to stabilize four drilling pads and access roads.

The import of materials was reduced by 90%, better clays didn't have to be sourced as in-situ native soils were sufficient and expensive wood matting didn't have to be manufactured and placed.

Construction time was significantly reduced and the benefit not only met the high load demand of the initial drilling cycle, the stabilized base provided years of trouble free access and a simple future reclamation.

Project: Oil drilling platform
Country: Canada
Location: Conklin
Year: 2008
Product: RoadCem



Gauteng - South Africa



Secondary road

The R52 is a secondary road, between the towns of Lichtenburg and Koster. The project basically consisted of widening and structurally rehabilitating the existing road.

The complete rehabilitation project was executed with RoadCem, mixed with the existing basecourse and finished with an asphalt wearing course.

The client chose for RoadCem based on quality, price and huge time saving.

Project: Provincial road
Country: South Africa
Location: Lichtenburg-Koster
Year: 2009
Product: RoadCem



Utrecht – The Netherlands



Access road

RoadCem was used for the municipality of Bunschoten to construct a complete sport area infrastructure in collaboration with ARCADIS.

RoadCem offered a smart, fast and economical solution. Because of restricted truck, traffic and earth movements the CO2 release was significantly reduced.

The stabilization could be used by heavy cranes within 24 hours. After 6 months an asphalt layer was applied.

Project: Access road
Country: The Netherlands
Location: Bunschoten
Year: 2009
Product: RoadCem



Colima - Mexico



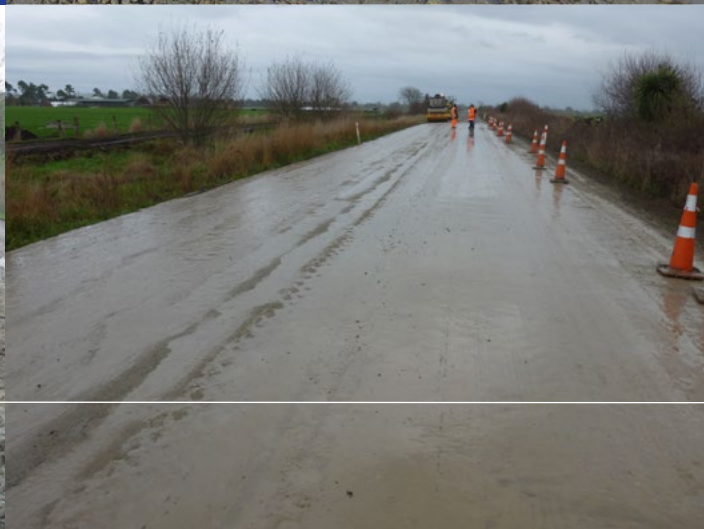
Foundation railway

This project was regarded as special given its size. RoadCem was employed in the construction of 2.98 miles of an access bridge over the lagoon through which heavy load vehicles and 500-ton cranes can pass carrying assembled concrete pre-manufactured pieces of up to 300 tons.

Project: Provisional road for railway
Country: Mexico
Location: Manzanillo, Colima
Year: 2010
Product: RoadCem



Waikato - New Zealand



Rural road

The Piako road has a fair amount of traffic, about 500 trucks a day. The road is situated in a peat area which is very settlement sensitive. Since traditional constructions lead to an increase in weight, this could lead to uneven settlements.

A stabilization with RoadCem would prevent uneven settlements and distribute the weight evenly on the sub soil.

Using RoadCem lead to a much faster increase in initial strength and the necessary "flexibility" of the stabilized layer in this peat area. After two days a new asphalt layer was placed.

Project: Rural road
Country: New Zealand
Location: Waikato
Year: 2010
Product: RoadCem



Overijssel - The Netherlands



Bicycle path

In Kampen, the use of Roadcem appeared to be a perfect solution for the re-construction of bicycle roads on wetlands, of which there are many in the Netherlands.

The choice for RoadCem was based on impermeability and time reduction for construction.

Project: Bicycle path
Country: The Netherlands
Location: Kampen
Year: 2011
Product: RoadCem



Tabasco - Mexico



Secondary road rehabilitation

This section is located in the Zapatero – Jonuta highway, alongside the Usumacinta River: the largest river between Guatemala and Mexico, with a flow of approximately 1,500,00 liters per second; therefore this area records the greatest rainfalls of the entire Mexican territory, causing large floods every year, which severely affects roads and highways in the so-called “zone of the large rivers and swamps”.

Due to the serious damage caused to the highway infrastructure and social and economic devastations caused by such floods, the State Office of Roads of the state of Tabasco, through its subcontractors, made use of our technology for rehabilitating this section, since RoadCem has proven, in multiple occasions, to be the only construction method capable of supporting major floods as they occur in such area.

Project: Secondary road rehabilitation
Country: Mexico
Location: Tabasco
Year: 2011
Product: RoadCem



Zuid Holland - The Netherlands



Entrance road

The European Bulk- Transshipment Company (EMO) B.V. is the largest dry bulk terminal in Europe and since 1973 located at the Maasvlakte in Rotterdam. EMO specializes in the handling and storage of iron, ore and coal from around the world.

The entrance of the terminal was rehabilitated using RoadCem. The existing asphalt pavement was crushed and re-used in the new RoadCem layer. The PowerCem technology was chosen as it was the most effective solution. The accessibility of the plant was guaranteed and the new pavement construction was able to bear the high traffic volumes.

Project: Entrance EMO
Country: The Netherlands
Location: Rotterdam
Year: 2011
Product: RoadCem



Brno město – Czech Republic



Airport taxiway

Due to the increase in air traffic and the size of the airplanes utilizing the airport, one of the taxiways at the Brno Airport had to be widened.

RoadCem made it possible that the supply and removal of construction materials was kept to a minimum and the amount of traffic caused by construction needs was drastically limited.

The utilization of the in-situ material not only resulted in time-savings, but a cost-saving of 25% in comparison with traditional construction methods was also achieved.

Project: Airport taxiway
Country: Czech Republic
Location: Brno
Year: 2012
Product: RoadCem



Michoacan - Mexico



Highway

This project carried out for the "Ministry of Communications and Transport" (SCT) consisted in the Construction of the Irapuato and Numaran junctions, located in the Penjamo, Guanajuato, and La Piedad municipalities, in Michoacan, in the Center-West region of Mexico.

For this project, RoadCem was used to conform the highway base, significantly improving construction costs and times, with a better service life expectancy.

Project: Highway
Country: Mexico
Location: Penjamo - La Piedad
Year: 2012
Product: RoadCem



Noord Brabant - The Netherlands



Platform

The terrain along the lake of the nature reserve is a popular location for festivals and events. The sand on the lake side surrounded by the forest gives the visitors a unique experience. However due to new regulations the terrain needs to be paved and be accessible at all times for emergency vehicles. Also in event of heavy weather.

RoadCem was chosen to make a sustainable pavement construction with a natural look. The lake side sand was stabilized. The solid RoadCem floor is extremely suitable to bear trucks, cranes and temporary constructions, what makes the set up and break off of events much easier.



Project: Platform
Country: The Netherlands
Location: Hilvarenbeek
Year: 2012
Product: RoadCem



Riyadh - Saudi Arabia



Rural road

When laying pavements in the desert, there are a number of important points which have a significant influence on the service life of the construction. The extremely high temperatures during the day and low temperatures at night result in high stresses on road materials.

The "Ministry of Transport" in Saudi Arabia chose RoadCem for the execution of a project between Riyadh and Mecca.

In this area, natural resources are scarce and desert sand is traditionally difficult to stabilize. It was successfully stabilized with RoadCem and used as a durable foundation.

Project: Rural road
Country: Saudi Arabia
Location: Riyadh - Mecca
Year: 2012
Product: RoadCem



San Luis Potosi - Mexico



Highway

This project consisted of the construction of an 11,18 miles highway with two lanes, including the Tampoan II bridge, the "San Vicente" and "San Juan" junctions and 6 junctions that form the total project, as well as 22 vehicle crossings and 4 major structures. The highway joins Ciudad Valles with San Luis Potosi in North Eastern Mexico.

This project contained an innovative section, first of its kind, with a slope surface which acts as foundation for the embankments and the pavement structure, overcoming the 2013 floods and remaining underwater for more than 30 days.

Project: 18 km highway construction
Country: Mexico
Location: Ciudad Valles – Tamuin, San Luis Potosi
Year: 2012
Product: RoadCem



Surrey - United Kingdom



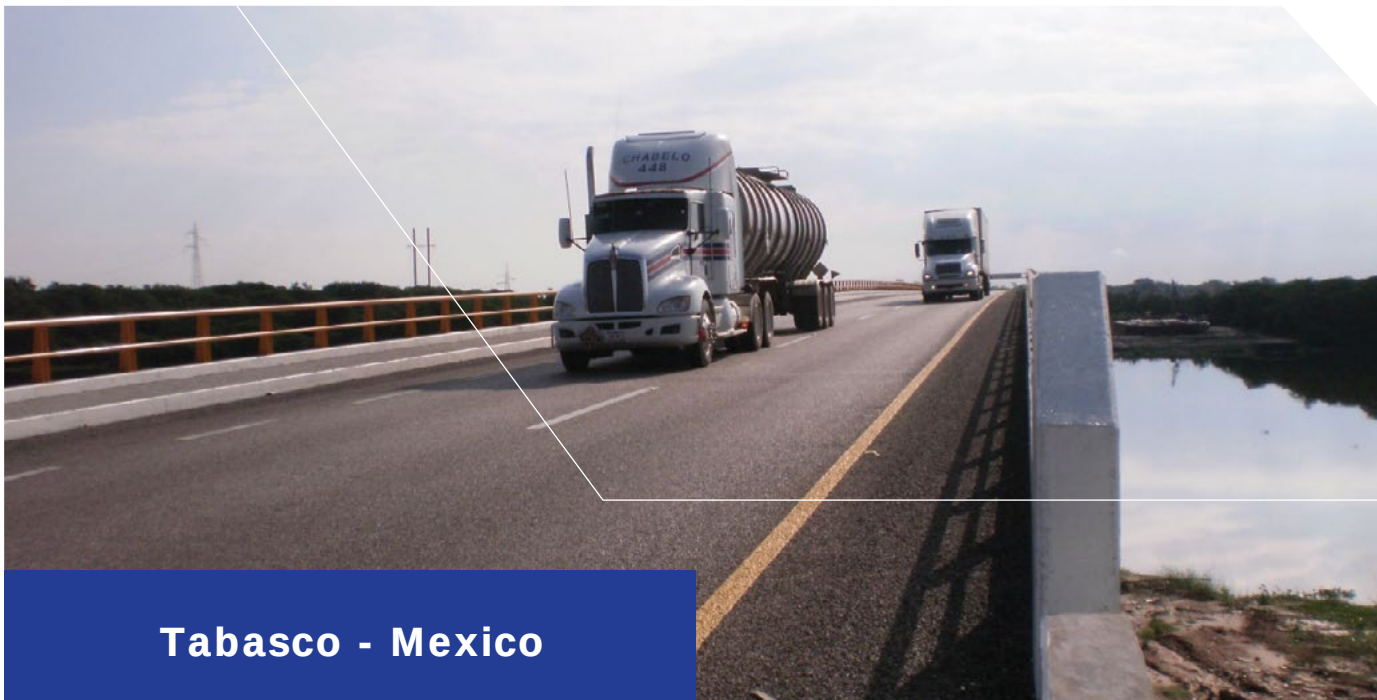
Piling mats and construction platforms

All soils found on the construction site, including organic top soils can be stabilized by the use of RoadCem.

The use of in situ soils and materials had major sustainability benefits in this project; reductions in the extraction of primary aggregates and the costly exercise of land filling excavated site waste.

The working platform provided a safe and sufficient durable working surface on which trucks and construction plant, such as piling rigs and cranes could operate safely.

Project: Piling mats and platforms A244 Walton Bridge
Country: United Kingdom
Location: Clay Mills
Year: 2012
Product: RoadCem



Tabasco - Mexico



Highway and bridge construction

The "Tonala" bridge is located in the municipality of Agua Dulce, Tabasco in Southeastern Mexico. With 0,19 miles in length, it is part of the federal highway 180 and joins the towns of Cardenas in Tabasco and Coatzacoalcos in the state of Veracruz, being one of the most important land communication roads in the Gulf of Mexico, since it connects to the Yucatan peninsula.

The Ministry of Communications and Transport, along with a construction company in charge of the new design, selected RoadCem and ConcreCem due to their features: Short construction time, extended service life and high resistance to heavy and constant loads.

All these unique qualities can only be provided by the PowerCem technology products.

Project: Highway and bridge reconstruction
Country: Mexico
Location: Tabasco
Year: 2012
Product: RoadCem



Athos - Greece



Roads

On the Holy Peninsula of Athos, PowerCem had been requested to use their technology for the roads near the Vatopedi Monastery.

The monasteries on the peninsula are not connected via roads with the mainland. The existing road consists of gravel road, which leads to intensive maintenance, due to specific climate and soil conditions.

The Monastery choose to use RoadCem because its ability to stabilize soil with natural components in such a way that the in-situ Athos soil would be used. This lead to a road construction that was in harmony with the nature on the Holy Peninsula.

Project: Roads
Country: Greece
Location: Athos - Vatopedi Monastery
Year: 2013
Product: RoadCem



Central Russia - Russia



Access road

RoadCem was used for the rehabilitation of the access road to the Moscow country club golf court.

For this specific project RoadCem was used to rehabilitate the existing construction with the in-situ material.

This gave a significant reduction for the need to add new building materials, what resulted in a more efficient construction method and cost effective.

Project: Access road Moscow Golf Court
Country: Russia
Location: Moscow
Year: 2013
Product: RoadCem



Drenthe - The Netherlands



Forest roads

In the woods in the North East of the Netherlands several nature reserves are situated that are under control of the Dutch "Forest Management Agency".

Part of their activities is the control and maintenance of the forest roads, which are mainly unpaved roads to keep the natural look. All those unpaved roads cause significant maintenance costs and they were looking for alternative solutions.

RoadCem was used to reconstruct the unpaved roads and selected due to its sustainable and environmental friendly character.

Project: Forest roads
Country: The Netherlands
Location: Drenthe
Year: 2013
Product: RoadCem



Drenthe - The Netherlands



Grass storage platforms

Under the authority of the "Forest Management Agency", grass silage sites are being constructed in Groningen, Friesland and Drenthe.

By applying the RoadCem technology, the pH value was lowered to a level that will allow the regrowth of plants after the stabilization is milled. This way, the milled stabilization material can remain in nature at the end of the service life of the road.

Project: Grass storage platform
Country: The Netherlands
Location: Tynaarlo
Year: 2013
Product: RoadCem



Veracruz - Mexico



Roads and Platforms

Located around the petrochemical industrial zone in the port city of Coatzacoalcos in the state of Veracruz. Accessed from the Coatzacoalcos – Villahermosa highway, 6.21 miles, in front of the "La Cangrejera" petrochemical facility.

RoadCem was used in the construction of:

- Railway lines with sub-ballast system
- Maneuvering courtyards
- Platform for internal project parking
- Perimeter roads
- Perimeter roads
- Platforms STAVANATO I and II.

Project: XXI Ethylene Petrochemical Facility
 Country: Mexico
 Location: Veracruz
 Year: 2013
 Product: RoadCem



Amazonas - Brazil



Platform and roads

In Urucu in the Amazon region, roads are subjected to extreme forces as a result of heavy lorries, the relative weakness of the clay layer and the extreme weather conditions. Working conditions in the Amazon region are challenging. As it is impossible to estimate when downpours will occur, it is important that a quick construction method is used. This minimizes time loss due to saturation after heavy rainfall.

In the Amazon region, it is important that applied constructions, have as little impact on the ecosystem as possible. In addition, the ground upon which the road is constructed must be able to reforest at the end of the road's operational lifetime. Using RoadCem stabilization fulfils all of these vital preconditions. And in addition to being 30% cheaper, the quality of the surfacing was higher and the construction time was significantly reduced.

Project: Platform and roads
Country: Brazil
Location: Urucu
Year: 2014
Product: RoadCem



Basra - Iraq



Rural road

The Iraqi government invited PowerCem Technologies to introduce RoadCem for its application in safe and long-lasting infrastructures.

In this project construction time was an essential factor for the decision to use RoadCem.

Due to the security risk in Iraq execution was done under heavy military guard.



Project: Rural road
Country: Iraq
Location: Basra
Year: 2014
Product: RoadCem



Road Rehabilitation

Given the need to carry out a rehabilitation of roads that were practically unusable, the Bosa mayor in the Capital District of Bogota, Colombia, through the Local Development Fund generated the intensive reconstruction of streets in this city.

RoadCem was selected for constructing the bases due to the difficulty on maneuvering for construction traffic.

RoadCem achieved a quick commissioning of roads with minimum trouble for inhabitants and significant savings in terms of construction with regards to traditional methods.

Project: Road rehabilitation
Country: Colombia
Location: Bogota
Year: 2014
Product: RoadCem



Estado de Mexico - Mexico



Highway

Located within the limits of the Tlahuac delegation close to the Valle de Chalco municipality.

This road presented various issues, for instance bumps that provoked waterlogging and damaged the structural stability of the road.

PowerCem Mexico completed a section with onsite materials for a comprehensive redevelopment of the pavement structure.

Project: Highway
Country: Mexico
Location: Tlahuac Delegation Limits
Year: 2014
Product: RoadCem



Girardota - Colombia



Platform

For the construction of a platform for heavy machines a construction was required without a surface layer.

Due to its characteristics, RoadCem was chosen for the project, ensuring a strong and reliable stabilization, using the in situ materials.

Next to the technical advantages the huge time saving during construction was a major decision factor for the client.

Project: Concreto Platform
Country: Colombia
Location: Girardota, Antioquia
Year: 2014
Product: RoadCem



North West - Russia



Warehouse floor and parking lot

In Saint Petersburg a warehouse was built, situated on a landfill area next to the city. RoadCem stabilisation has earned a solid reputation, and the client was keen to use the technology.

The warehouse floor was made with a RoadCem stabilisation finished with a concrete top-layer to bear the intensive warehouse activities.

The outdoor terrain was made with a RoadCem stabilisation finished with an asphalt surface layer.

Project: Warehouse floor and parking lot
Country: Russia
Location: Saint Petersburg
Year: 2014
Product: RoadCem



Sliven - Bulgaria



Road rehabilitation

In the village of Sliven, the city council wanted to upgrade the existing road constructions. The streets were in a very poor condition.

The current road construction showed severe damage, such as eroded asphalt surface, considerable deformation of the pavement and potholes.

A decision was made to repair the street using RoadCem. To be able to achieve the required levels to match the neighboring streets, some material had to be added. The objectives were met, and the streets were finished within agreed time frame.

Project: Road rehabilitation
Country: Bulgaria
Location: Sliven
Year: 2014
Product: RoadCem



Texas - USA



Temporary access road

RoadCem was chosen to show its capabilities in high plasticity clay for an temporary access road to a cement plant in Houston, Texas. The access road has been designed for an traffic intensity of 200 trucks a day.

Due to the usages of RoadCem the client accomplished to construct the temporary road in a much shorter timeframe than traditional systems. Another benefit was the possibility to return the stabilized soil into its natural state.

Project: Temporary access road cement plant
Country: United States of America
Location: Texas
Year: 2014
Product: RoadCem



Utrecht - The Netherlands



Secondary road

In Utrecht the N227 was completely reconstructed with RoadCem. The project was commissioned by the province of Utrecht and the design was developed in collaboration with ARCADIS.

The existing road structure was a rubble foundation with an asphalt coating. By using RoadCem the existing pavement material was re-used in the new design.

RoadCem has led to a significant cost and construction time reduction. In addition limited re-use of materials didn't impact the environment.

Project: Secondary road N227
Country: The Netherlands
Location: Utrecht
Year: 2014
Product: RoadCem



Barahona - Dominican Republic



Roads and platforms

The Larimar Wind Park is a project located in the crowded province of Barahona. These platforms are used for heavy loads, as operational platforms for assembly cranes, which weigh 1200 tons each.

For this project, in-situ materials (limestone gravel) were used and mixed with RoadCem which resulted in a significant cost and time reduction.

Project: Larimar Wind Park
Country: Dominican Republic
Location: Enriquillo
Year: 2015
Product: RoadCem



Benešov - Czech Republic



Reconstruction urban roads

In the village Pysely on the South West of Prague there are a lot of dirt roads that need to be rehabilitated.

RoadCem is a proven product in the region to do effective rehabilitation of existing roads. By using RoadCem the hindrance for residents and emergency services was limited.

The existing unpaved roads are recycled and there was no need for import and removal of materials. The second benefit for this project was the speed of the progress.

Project: Reconstruction urban roads
Country: Czech Republic
Location: Pysely
Year: 2015
Product: RoadCem



Gran Asuncion - Paraguay



Freeway shoulder

The traffic intensity on the roads of the Paraguayan capital Asuncion is high and the government choose RoadCem for a durable and sustainable solution as well as to minimize the traffic hindrance.

Whilst the traffic continued over the existing road both shoulders were stabilized with the in-situ soil to get a wider road profile. A layer of asphalt will be brought on top. This ecological solution saves both the environment and is to the benefit of its users in the broadest sense.

Project: Freeway
Country: Paraguay
Location: Asuncion
Year: 2015
Product: RoadCem



Kunice - Czech Republic



Urban roads

Dolní Lomnice, in the South of Prague is developing in a quick pace.

This project was challenging due to narrow streets full of manholes and valves from electricity, water, etc., what made traditional construction almost impossible.

As surface treatment an asphalt layer has been applied and a high quality end result was realized.

Project: Urban roads
Country: Czech Republic
Location: Dolní Lomnice
Year: 2015
Product: RoadCem



Quito - Ecuador



Road Rehabilitation

An existing road, which allowed connecting the E35 with the E10. This road allows the connection with various towns of the region, strengthening their ties and accessibility by means of passenger transports to this region of Equator.

Project: Carchi station rehabilitation – E10
Country: Ecuador
Location: Imbaura
Year: 2015
Product: RoadCem



Ovest - Haiti



Urban Roads

In Port du Prince, Haiti, a road section was built, with in-situ materials, RoadCem, cement and water.

The construction was carried out with RoadCem for the "Ministry of Public Works, Transport, and Communication" (MTPTC).

The section was open for traffic on the day following its construction. The Ministry, as well the general public, were all positive, since they were completely satisfied by the results obtained.

Project: Urban roads
Country: Haiti
Location: Port du Prince
Year: 2015
Product: RoadCem



Singapore - Singapore



Construction site

Singapore is a country with limited resources for construction materials. Primary construction materials are scarce and become more and more expensive. In line with this a big developing company for social livings invested in a platform for innovations in the construction business. RoadCem was selected as the best innovation and introduced in the project.

RoadCem was used for a temporary construction floor during the piling works of the new housing complex. Due to the low bearing capacity of the high plastic clays, the area was only accessible for track based vehicles. The RoadCem stabilization was intended to be part of the new access roads and parking lots.

The significant reduction of construction traffic was one of the most important topics for this CO2 conscious country.

Project: Construction site
Country: Singapore
Location: Singapore
Year: 2015
Product: RoadCem



Veracruz - Mexico



Highway Rehabilitation

Rehabilitation of the La Tinaja – Cosoleacaque highway, located on the Isla – Acauycan section of km 118+000 to 121+000 in the municipality of La Isla in the state of Veracruz. Consisting of a RoadCem Synthetic Zeolite Concret Base, 11.811 inches thick and an asphalt layer of 3.14961 inches thick.

Project: Highway rehabilitation
Country: Mexico
Location: Veracruz
Year: 2015
Product: RoadCem



Alexandria - Egypt



Highway

To increase the capacity of the highway between Alexandria and Cairo, a security road was built. The highway is very important because it connects the two biggest cities of Egypt. Therefore the traffic flow has priority and construction works should not cause any hindrance. The new security road has to guarantee the traffic flow in case of traffic jams on the highway.

RoadCem was the solution as an efficient construction method resulting in a high quality road, easily connected to the existing sections.

Project: Highway Alexandria - Cairo
Country: Egypt
Location: Alexandria
Year: 2016
Product: RoadCem



Essex - United Kingdom



Rural roads

In a areas with highly organic soil as well as a high ground water table, a stabilization was realized by using RoadCem. On top of the RoadCem layer an asphalt wearing course was applied.

The results were as expected, strong, fast and durable, to the satisfaction of the client.

Project: Rural roads
Country: United Kingdom
Location: Shenfield
Year: 2016
Product: RoadCem



Nouakchott - Mauritania



Rural road

The capital of Mauritania is growing and the traffic has multiplied much in the last years.

Except for a few thorough fares most streets in the city are unpaved. The government of Mauritania was looking for a solution to make new sustainable roads for the developing of new districts, and an effective way to pave the existing sand roads in the city.

The main road was build using RoadCem. The road is situated through sand dunes of the desert and salty Sabcha, swampy areas.

RoadCem was chosen as it was very effective to make new roads. The new pavement support the construction traffic needed to develop the new district. This means heavy traffic is expected and will grow significantly for the coming years.

Project: Rural road
Country: Mauritania
Location: Nouakchott
Year: 2016
Product: RoadCem

Jilotepec – Aculco Highway, Estado de Mexico, Mexico

“ Innovations for better solutions ”

We wish to thank all the company staff, both from the Netherlands and Mexico for their collaboration and support in developing this project. In particular we wish to thank PowerCem Mexico and its CEO Mr. Rolando Montero Casillas for realizing this jubilee issue.

**PowerCem 20 Years of Innovation
1996 - 2016**



