



Engineered Cooling Solutions for Global Markets



About us

NEXT COOLING is a global leader in cutting edge cooling technologies, with offices in Switzerland, South Africa, India, Australia and Italy, delivering cooling towers, air cooled condensers, and comprehensive aftermarket services worldwide.

The group is united by a shared vision of excellence, growth, and a commitment to delivering advanced cooling solutions to multiple industries including power generation, oil and gas, chemical, mining & minerals.

Our combined capabilities provide a competitive edge by capitalising on a diverse portfolio of world-class projects, and open new opportunities to market our air cooled condensers, cooling towers, bulk air coolers and solution & slurry cooling towers in global markets.

With a well-established global presence, the group brings decades of expertise and a strong reputation for delivering advanced, reliable cooling towers and air cooled condensers.

At the heart of NEXT's success is its remarkable team of professionals, including R&D experts who work closely with academia to further enhance our extensive product range.

By combining engineering excellence, proven expertise and regional leadership, NEXT is poised to set a new global standard of innovation and performance in the cooling industry.



We offer cooling solutions to the following industries

- / Power Generation
- / Oil & Gas
- / Petrochemical
- / Chemical/Fertiliser
- / WTE / Biomass
- / Mining
- / Steel & Aluminium
- / Food & Beverage
- / HVAC and Refrigeration

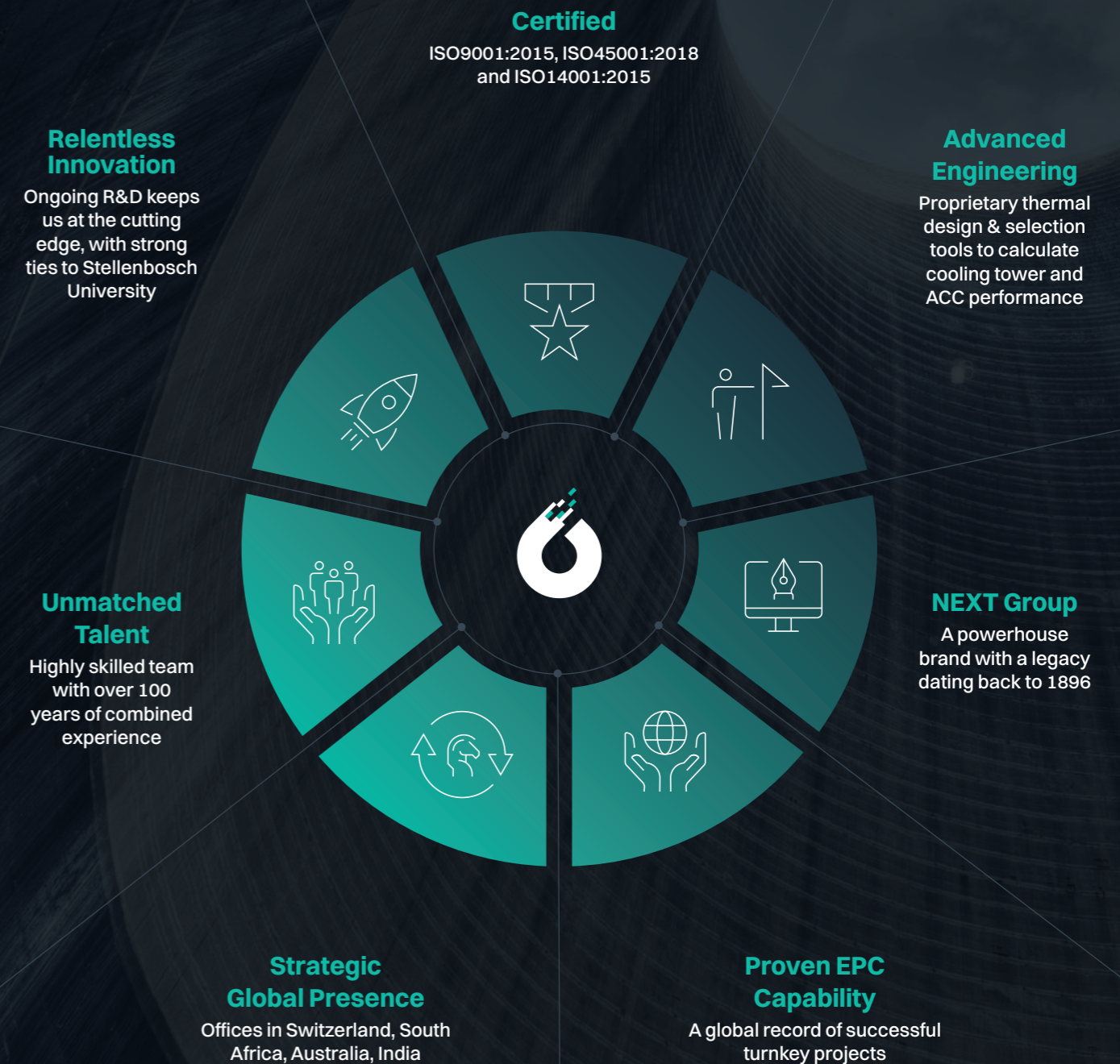
About IWC Industrial

IWC Industrial is subsidiary company of NEXT Cooling and specialises in factory built, package cooling towers and heat exchangers for a variety of industries.

The cooling tower range includes small EWK cooling towers which are simple plug and play towers suitable for small to medium size applications such as distilleries, dry cleaners and wineries. The FM range of cooling towers is a range of multi-fanned factory assembled cooling towers manufactured in a robust, durable, and compact fibre reinforced polyester casing. This range of cooling towers provides high cooling capacity units that are easily transported, installed, and maintained and are ideal for larger processing facilities or remote locations.


We offer a range of plate heat exchangers for numerous applications. We also offer spares and gaskets for most brands of exchangers.


At a glance...





Capabilities

We provide the following expertise:

-  Design and engineer to all internationally recognized standards, specifications and codes

-  Manufacture

-  Installation

-  Maintenance

Engineering and Project Management Services:

- / Detailed project engineering and project management
- / Thermal design of cooling towers and air-cooled condensers
- / Mechanical design
- / Electrical & Control
- / Civil & Structural
- / Hydraulic flow calculations and flow simulations/modelling
- / Finite Element Analysis
- / Stress Analysis (Piping)
- / 3D modelling & detailing of plants, equipment and piping isometrics
- / EPC Projects

Products and Services

Products

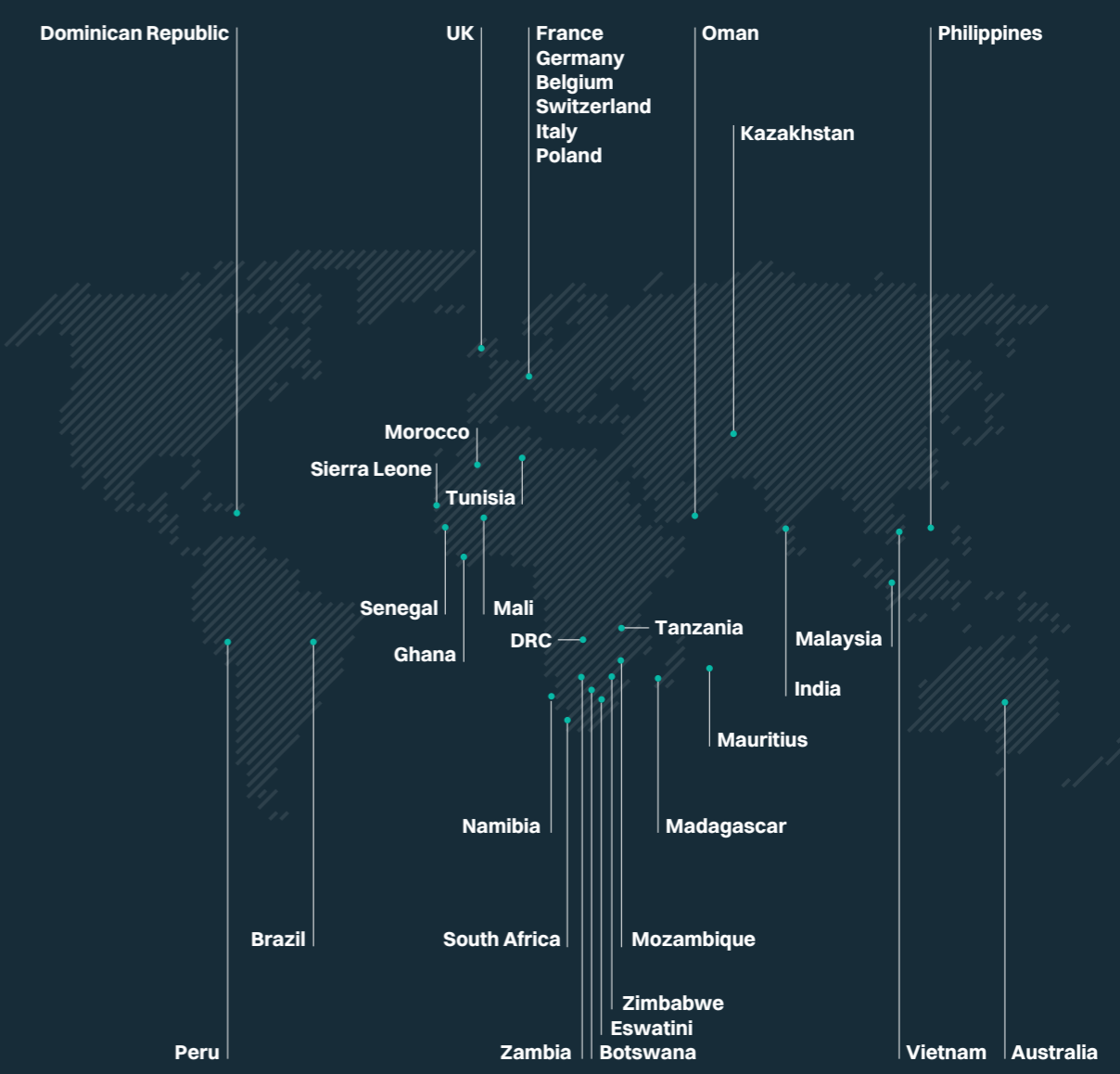
- / Large field erected mechanical draught cooling towers of all types and materials of construction
- / Air Cooled Condensers (Induced & Forced Draft)
- / Bulk Air Coolers
- / Aftermarket service including spares for cooling towers and ACC

Services

- / Construction management and supervision
- / Erection of plant and equipment
- / Refurbishment and upgrading of cooling towers and cooling systems
- / Commissioning and acceptance testing
- / Testing and thermal evaluations (Cooling Towers) and ACC's
- / Complete demolition and installation services
- / Access and maintenance platforms to suit local standards and specifications.

Geographic Regions

The NEXT Group have delivered projects located in the following regions:



Air-Cooled Condensers

Efficient. Sustainable. Built to Perform.

As a recognised leader in advanced cooling technologies, NEXT proudly offers a high-performance portfolio of Air-Cooled Condensers (ACC's) to clients across the globe. Our ACC solutions are meticulously engineered to minimise environmental impact by minimizing noise, water usage and lowering carbon emissions.

A-Frame Design

Smart Design for Direct Steam Condensation

The A-frame Air-Cooled Condensers (ACCs) represent the Best Available Technology for modern industries and power plants requiring reliable condensation and heat rejection. These units are a top choice worldwide, delivering exceptional energy savings, robust reliability, and sustainable performance. Our design is in line with industry standards and engineering practices, as well as international codes (HEI code).

Design Highlights:

- ✓ **Modular Construction**
Easy to install, maintain with minimal downtime
- ✓ **FV to 1.5 bar(a)**
Maximize steam turbine output
- ✓ **Heavy-Duty Materials**
Galvanized steel, Aluminium clad tubes, and UV-resistant FRP offer decades of service
- ✓ **Robust Structure**
Engineered for wind, seismic, and snow loads specific for each region
- ✓ **Forced Draft**
Mechanical group is protected and exposed to fresh air
- ✓ **Maintenance Made Easy**
Crews can reach all critical areas

Each ACC undergoes rigorous evaluation by our experienced engineering team to ensure optimal component integration and system-wide efficiency. This approach underpins long-term reliability and consistent operational performance.

Feedback from operators underscores that A-frame ACCs often outlast expectations, with routine annual inspections sufficient for long-term reliability.



Single Tube Row Configuration

Compact. Efficient. Freeze-Resistant.

Our air-cooled condensers are designed with single row tube-bundles, providing maximum thermal efficiency in all climates. They uniquely optimize heat transfer and airflow while maintaining compact footprints and low operating noise.

Single-row overperform conventional multi-row models, especially at low ambient temperatures or fluctuating loads. This proven technology has transformed dry cooling worldwide, especially for renewable energy projects and power generation

Our single row tube-bundle design features:

- ✓ Low pressure drops (steam and air side) > Lower energy use
- ✓ Consistent steam distribution
- ✓ No "dead zones" or freezing risks
- ✓ Nearly 100% finned surface for optimal heat transfer
- ✓ Allows high steam velocity and efficient drainage
- ✓ Steam-contact design keeps condensate at safe temperatures
- ✓ Corrosion resistant aluminium cladding

Operating under Vacuum

Maintaining Performance in Low-Pressure Conditions

ACCs operate under vacuum. Small leaks and non-condensable gases are inevitable and require removal in order to preserve thermal efficiency (Holding).

Rapid initial evacuation (Hogging) is critical in modern power plants requiring operational flexibility. High-capacity vacuum systems like steam jet ejectors or liquid ring pumps ensure proper operability.

Tailored Solutions

Custom Designs for Unique Site Needs

Every site is different. We offer bespoke ACC systems to meet your specific operational and environmental requirements.

Noise Control

We tackle noise from fans, motors, and steam ducts with:

- ✓ Low-noise and ultra-low noise fan blade shapes
- ✓ Soundproof mechanical group enclosures
- ✓ Insulated duct surfaces
- ✓ Inlet/outlet silencers for maximum reduction

Cold Climate Adaptations

Reliable Performance in Freezing Conditions

- ✓ Fan control systems and logics
- ✓ Steam Isolation valves
- ✓ Optimized dephlegmator bundles configuration up to full dephlegmation
- ✓ Thermal insulation and heat tracing
- ✓ Hot-box configuration



Mechanical Draft Cooling Towers

NEXT Cooling's solutions optimise energy and water usage while maintaining high cooling efficiency and minimising visual impact.

Our experienced team of engineers can design both wet and hybrid (wet/dry) cooling solutions as required by site conditions and specifications.

Our mechanical draft cooling towers effectively cool hot water in many industries, such as power generation, oil and gas, chemical processing, steel production, and food manufacturing.

We offer both mechanical and natural draft cooling solutions and can design for a wide range of project requirements, such as seismic, noise, corrosive conditions, low temperature operation (sub-zero), and seawater use.

These towers are classified as induced or forced draft, based on fan positioning, and as either counterflow or crossflow, based on the relative direction of air vs water flow.



Bulk Air Cooling Towers & Spray Chambers

Bulk Air Coolers (BAC's) are critical infrastructure in deep-level mining environments, they are designed to mitigate extreme underground temperatures and ensure safe, productive working conditions. BAC's can either be surface-mounted or installed underground, with the primary function being to reduce the temperature of the air in underground mine workings.

BAC's are tailored to site-specific airflows and thermal load requirements. Underground BAC's are usually constructed within the mine workings and in stopes specifically for this purpose.

Hybrid Cooling Towers (Wet/Dry)

Hybrid systems combine air-cooled and water-cooled technologies to effectively reduce visible plume emissions. By dynamically switching between evaporative or hybrid modes, our systems ensure environmental compliance and operational efficiency.

Closed Circuit Evaporative Cooler

A closed-circuit evaporative cooler is an energy-efficient system that removes heat from process fluids without exposing them to outside air. It circulates the fluid through a sealed coil, while water cascades over the coil and a fan draws air through the unit. As the water evaporates, it absorbs heat from the fluid inside the coil, cooling it efficiently while keeping it clean and contamination-free.

Key Benefits:

- / **Clean Loop**
No direct contact between process fluid and air, which is ideal for sensitive or recirculated systems
- / **Water-Efficient**
Uses evaporation to maximize cooling with minimal water consumption
- / **Low Maintenance**
Reduces fouling, scaling, and chemical treatment needs
- / **Versatile**
Perfect for industrial processes, furnace cooling as well as HVAC, and data centre cooling applications.

Evaporative Condenser

An evaporative condenser condenses refrigerant vapor by water evaporation. The refrigerant flows through a coil, while water is sprayed over the coil and a fan draws air through the unit. As the water evaporates, it removes heat from the coil, condensing the vapor inside into liquid form.

Key Benefits:

- / **Energy-Efficient**
Uses natural evaporation to reduce compressor load and lower energy costs
- / **Compact Design**
Combines heat exchange and cooling in a single unit, saving space
- / **Clean Operation**
Closed-loop refrigerant system minimizes contamination and leakage
- / **Reliable Performance**
Ideal for HVAC, industrial refrigeration, and process cooling

Slurry & Solution Cooling Towers

NEXT Cooling's slurry and solution (including zinc electrolyte) cooling towers are purpose-built for demanding industrial applications that involve high-solids slurries and corrosive or abrasive solutions. These field-erected units feature a fill-less design that minimises fouling and corrosion while ensuring reliable thermal performance. Built to withstand highly corrosive fluids and suspended solids, these towers combine efficiency, durability, and chemical resistance. Typical construction includes fibreglass-reinforced plastic (FRP) or corrosion-resistant duplex stainless steel and aluminium-zinc plate materials, ensuring long-term structural integrity and safe operation under demanding process conditions.

These towers are ideally suited to the harsh operating environments of the minerals and metals processing industry.





Cooling Tower Materials of Construction

Cooling towers can be constructed from FRP (Fibre Reinforced Polymer), concrete, steel or timber.

FRP (Fibre Reinforced Polymer)

Our FRP Cooling Towers are built using pultruded profiles made from fiber-reinforced polymer, offering excellent corrosion resistance and structural strength.

Frame structures are spaced between 1.8 and 2.4 meters and delivered pre-cut and pre-drilled for efficient on-site assembly. The lightweight nature of FRP reduces foundation loads and simplifies handling.

NEXT Cooling's FRP cooling towers conform to CTI, EN, DIN and ASTM standards as required.

Concrete

Concrete Cooling Towers are engineered for environments with harsh water conditions. These towers provide robust structural integrity and are ideal for areas with high wind loads or seismic activity. We can offer both cast in situ and pre-cast solutions.

Timber

Timber Cooling Towers provide a traditional yet practical way to cool water in industrial applications. These towers, made of natural lumber, provide optimum thermal performance while also blending with their environment.

Steel

We offer cooling towers with structures constructed of various grades of steel, including but not limited to the following:

- / Hot-dip galvanised carbon steel
- / Epoxy-coated carbon steel
- / Stainless steel (316 or 304)

Local Codes and Standards

NEXT Cooling's engineers design our cooling towers to comply with local wind and seismic codes and standards.

Special Design Considerations

Recognising that each facility presents unique operational challenges, we provide bespoke cooling solutions tailored to specific site requirements.

NEXT Cooling prioritises ease of maintenance, with designs that enhance accessibility and streamline servicing activities.

Noise Management

Effective noise control is critical in cooling tower installations, influencing both operational efficiency and regulatory compliance. Noise may originate from mechanical components, such as fans, or from water impact.

NEXT conducts comprehensive acoustic assessments early in the design phase to evaluate alternative mitigation strategies.

Our solutions include:

- / **Impact Attenuation in the Water Basin**
Floating surfaces are installed to dampen the sound of falling water in the basin.
- / **Inlet and Outlet Silencers**
These devices reduce noise from air intake and exhaust flows.
- / **Low-Noise Fans**
Specially designed blades minimise sound emissions while maintaining airflow efficiency.
- / **Soundproof Enclosures**
Soundproof boxes are used to contain and reduce motor-generated noise.

Cold Climate Adaptations

For operations in sub-zero environments, we offer advanced solutions to prevent freezing and ensure uninterrupted performance:

- / Bypass systems
- / De-icing systems with warm water spray at air inlets
- / Heat tracing
- / Insulated and heated lubrication systems
- / Use of cold-resistant materials

Marine Environment Solutions

Seawater cooling applications demand materials that withstand high salinity and corrosion. NEXT designs and supplies systems using corrosion-resistant alloys and protective coatings, ensuring durability and reliability in marine conditions.

Fire Protection

Our cooling towers are compliant with the NFPA 214 guidelines or local standards as needed. NFPA 214 standards are for fire protection for field-erected and factory-assembled water-cooling towers of combustible construction, or those in which the fill is of combustible material.



Natural Draft Cooling Towers



NEXT Cooling specialises in the refurbishment of Natural Draft Cooling Towers and have successfully completed many refurbishment projects across the globe. NEXT Cooling is arguably the world's most experienced contractor in this field, having completely refurbished 10 cooling towers on-line and undertaken other on-line remedial works on others.

Our experienced team of engineers can design both wet and hybrid (Wet/Dry) cooling solutions as required by site conditions and specifications.

We provide a range of engineering solutions to suit project requirements including seismic, noise, instrumentation and control systems, corrosion, low temperature operation (sub-zero) as well as cooling towers for sea water use.

Natural Draft Cooling Towers utilise the natural upward movement of air, resulting from the pressure difference between inlet and outlet elevation (extending >200 m above ground level) as well as the buoyancy effect of heated air to cool water without the assistance of mechanical fans, significantly reducing operational costs.

Where spatial constraints exist, performance can be enhanced through the integration of auxiliary fans.

Fan assisted natural draft (FAND) cooling towers have a reduced height for the same thermal performance, provide higher operational flexibility, are less susceptible to wind effects and require a smaller plot area.

Cooling Tower Materials of Construction

Typically constructed from cast-in-situ concrete, our natural draft cooling towers are engineered for longevity, even in the most demanding environments. The iconic hyperboloid shape of natural draft cooling towers provides robust structural integrity that is resistant to high wind loads and is stable at heights exceeding 200m.

Special Design Considerations

Recognising that each facility presents unique operational challenges, we provide bespoke cooling solutions tailored to specific site requirements.

NEXT prioritises ease of maintenance, with designs that enhance accessibility and streamline servicing activities.

Refurbishment Services

- ✓ **Concrete Repair & Protection**
Repairing damaged concrete, applying waterproofing, and installing cathodic protection systems to prevent rebar corrosion.
- ✓ **Fill & Structure Refurbishment**
Replacing damaged fill and fill supports and other internal components to restore thermal performance.
- ✓ **Structural Upgrades**
Replacing corroded or failed structural elements, such as beams, corbel brackets and columns.
- ✓ **Performance Optimization**
Improving airflow and water distribution, fill enhancements and reducing pressure drop for better cooling efficiency.

Why Refurbishment is Needed:

- ✓ **Extended Asset Life**
Prevents costly replacement of concrete structures.
- ✓ **Improved Efficiency**
Restores or improves thermal performance lost due to damage, impacting plant output.
- ✓ **Downtime Minimization**
Strategic planning and techniques (like online refurbishment) reduce production losses during maintenance.

Marine Environment Solutions

Seawater cooling applications demand materials that withstand high salinity and corrosion. NEXT designs and supplies systems using corrosion-resistant alloys and protective coatings, ensuring durability and reliability in marine conditions

Noise Management

Effective noise control is critical in cooling tower installations, influencing both operational efficiency and regulatory compliance.

NEXT conducts comprehensive acoustic assessments early in the design phase to evaluate alternative mitigation strategies.

Our solutions include:

- ✓ **Impact Attenuation in the Water Basin**
Floating surfaces are installed to dampen the sound of falling water in the basin.
- ✓ **Inlet Silencers or Barriers**
These devices reduce noise from the air inlets.
- ✓ **Low-Noise Fans (Fan Assisted NDCT)**
Specially designed blades minimise sound emissions while maintaining airflow efficiency.

Cold Climate Adaptations

For operations in sub-zero environments, we offer advanced solutions to prevent freezing and ensure uninterrupted performance:

- ✓ Bypass systems
- ✓ De-icing systems with warm water spray at air inlets



Aftermarket Services



At NEXT, we set the global standard in refurbishment and aftermarket solutions, from the installation of fill media, drift eliminators and spray systems, to nozzles and fan mechanical components.

Our support doesn't end once a system is commissioned. We provide complete post-installation services that keep your operations running at peak performance, delivering greater efficiency, reliability, and long-term value.

With NEXT, you can:

- / Restore your system to its original operating conditions
- / Unlock enhanced performance levels
- / Reduce energy consumption and operating costs

Every maintenance strategy is tailored to your plant's specific needs and guided by the knowledge of our engineering and R&D experts. Our teams are always available to assess your cooling system and recommend the best solutions.

Our service model is designed to be clear and results-driven. In the first phase, we assess your requirements, current system performance, plant configuration, and environmental factors to identify exactly where improvements are needed.

We provide:

- / Immediate technical support when you need it most
- / Advanced performance data analysis
- / On-site inspections by experts
- / Comprehensive feasibility studies

The insights gained form the blueprint for targeted interventions, giving you defined outcomes, transparent timelines, and complete cost control.

Cooling Towers

- / Replacement and modernisation of internal components
- / Maintenance / Upgrades of fans, gearboxes, and motors
- / Servicing of hybrid (WET/DRY) cooling tower systems
- / Installation of noise reduction equipment:
- / Anti Legionella system design and implementation
- / Fire prevention solutions
- / Louver installation

Air Cooled Condensers

- / Intensive ACC cleaning
- / Helium leak test and repairs
- / Vacuum decay testing and vacuum system restoration
- / Re bundling
- / Maintenance / Upgrades of fans, gearboxes, and motors
- / Parallel Condensing (PAC) system
- / Wind dependency reduction measures



Air cooled Condensers



Mechanical Draft Cooling Towers



Natural Draft Cooling Towers



Aftermarket Services



Heat Exchangers



EUROPE and MENA

Switzerland, Italy

E info@nextcooling.com

AFRICA

South Africa

E info-za@nextcooling.com

INDIA

Delhi, Mumbai, Chennai

E info-in@nextcooling.com

ASIA PACIFIC

Australia

E info-au@nextcooling.com



Global Presence, Local Expertise