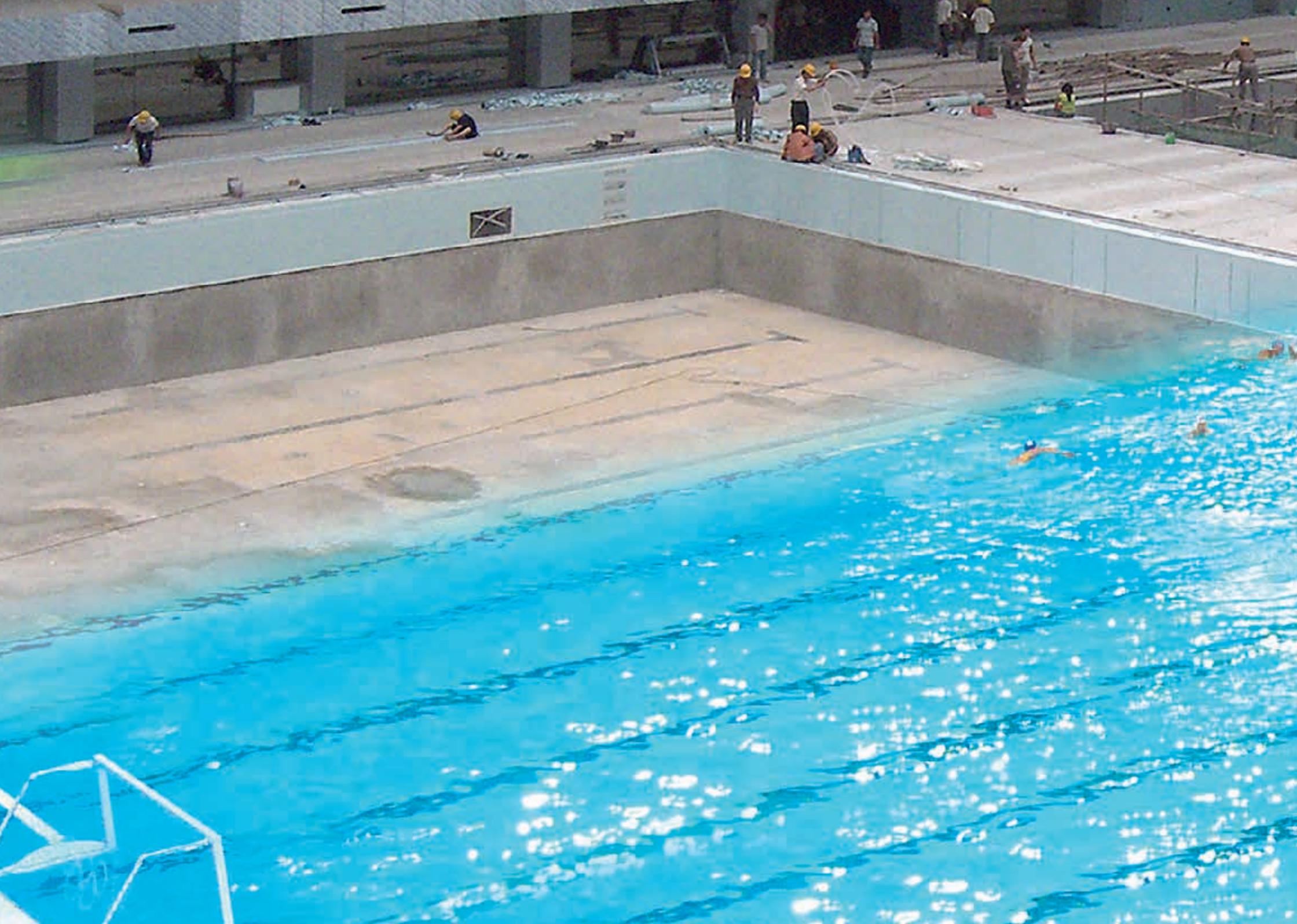


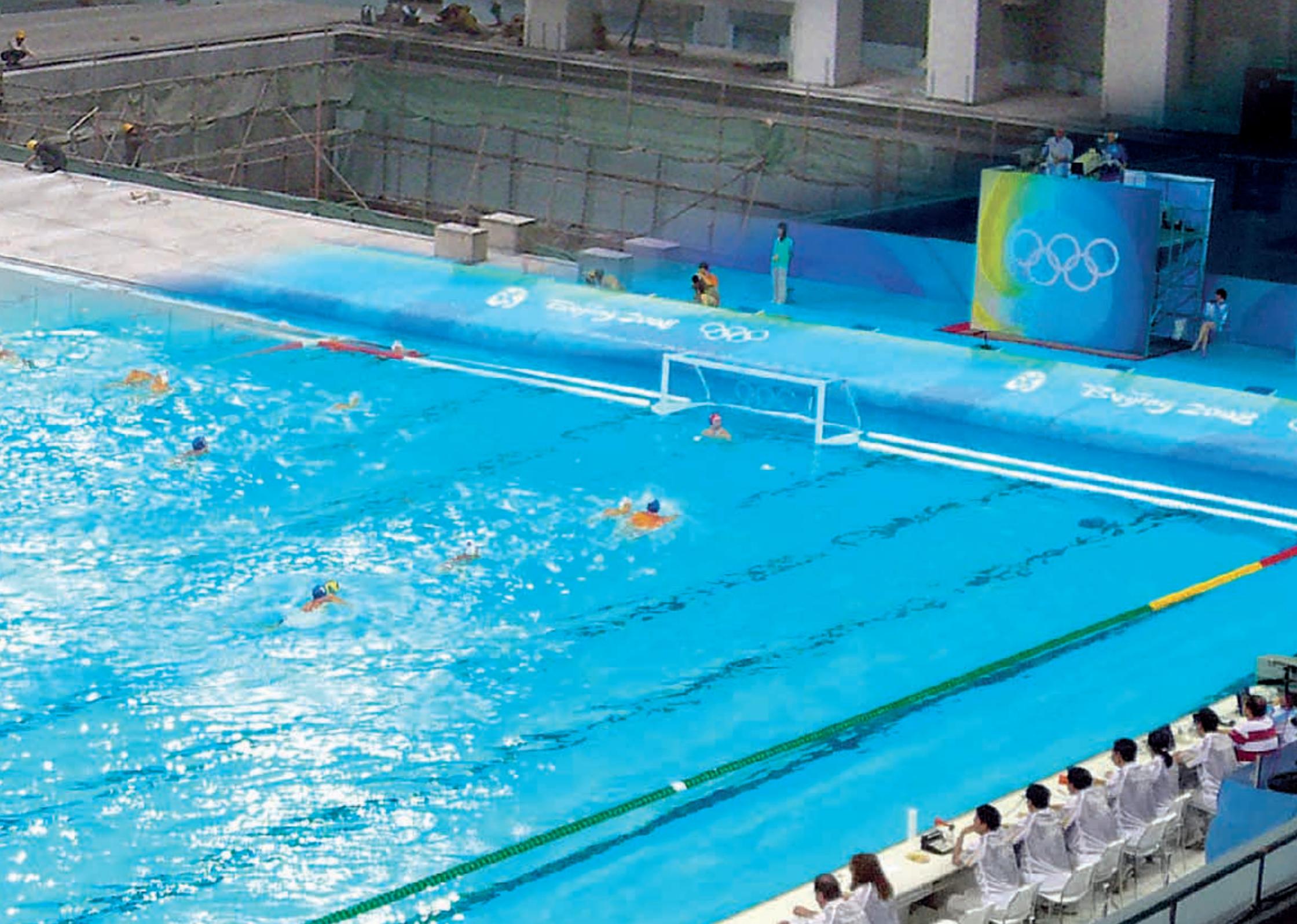


# RenovAction

Exclusive Technology for  
Pool Refurbishment







# New Technologies to Outperform Concrete

**RenovAction is Myrtha Pools' patented and exclusive technology specifically developed for swimming pool refurbishment and renovation of existing pools.**

The process is based on Myrtha technology's pre-engineered modular system, which incorporates the use of precision-engineered PVC laminated stainless steel panels and a buttress system. **RenovAction** solves all of the problems that often arise in concrete, gunite, or shotcrete pools that have been in operation for extended periods of time.

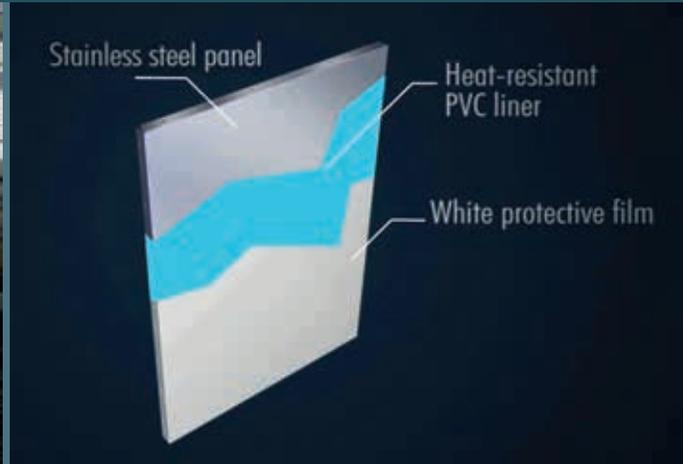
## Why Renovate?

1. Many existing pools fail to meet today's health code regulations and therefore require modifications necessary to bring them into compliance.
2. In order to meet new design and engineering criteria, refurbishment is the perfect solution. Older pools can be modernized with numerous additional leisure components including: free-form sections, lazy rivers, water play equipment and hydro-massage areas.
3. Outdated filtration equipment and older recirculation technology need to be updated from a skimmer system to overflow gutter technology.
4. Traditional reinforced concrete, gunite and shotcrete pools will eventually develop structural problems that require significant maintenance and repairs resulting in a substantial investment of both time and resources.



# The Materials

RenovAction uses superior materials that Myrtha Pools has specifically designed for swimming pool use.



## Stainless Steel

High-quality stainless steel guarantees extremely long life of the structure. RenovAction uses exclusive modular components eliminating welding of the panels, which are subject to increased risk of corrosion. Stainless steel ensures maximum mechanical strength of the individual panels, guaranteeing the structural integrity of the entire pool.

## PVC

Perfect waterproofing is ensured through the unique process of bonding PVC to the Myrtha steel panel. A hard PVC membrane is hot-laminated to the steel in the manufacturing process and reinforced membrane is used on the floor of the pool in order to ensure waterproofing.

## Finishes

To achieve high-level finishes, RenovAction uses ceramic and special vitreous mosaics, as well as distinctive stone and marbles that complement the range of PVC colors.

Unlike traditional concrete installations RenovAction exclusively uses ceramic tiles to cover the upper part of the pool panels. The superior quality of the adhesive materials utilized, significantly limits the occurrence of traditional problems such as the detachment of the tiles.

# Why RenovAction?



## Company Experience and Knowledge

Myrtha Pools' over 50 years of experience is proven by the installation of 1,500 pools per year. With 300 pools installed annually for public use and more than 50 installations for international swimming events, Myrtha has references in over 70 countries worldwide. Myrtha Pools boasts an advanced technical department that allows for direct transmission of the manufacturing drawings to production of the pool components; a Research & Innovation team that continually strives to improve on the Company's already industry leading technology; installation personnel trained at the Company's Pool Academy; and a Company incumbent on a complete pool package. All of these factors ensure that you will have one of the best products on the market today.



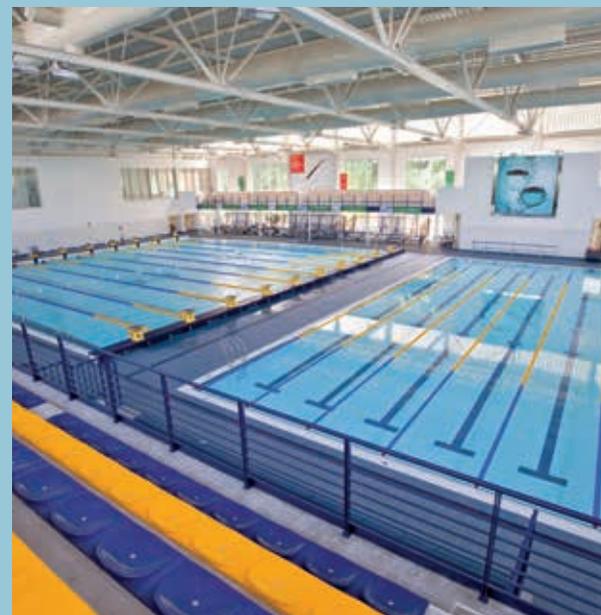
## Minimum Interventions, Zero Demolitions

RenovAction does not require destructive demolition of the existing structure, thereby resulting in considerable savings with regard to both the installation time and overall costs. The internal surface of the original pool remains unchanged and only the accessories on the walls or floor will need to be replaced.



## Renovation Speed

The renovation of a concrete pool requires an extended period time for preparation, curing of adhesives, and drying time for plaster and waterproofing materials. RenovAction allows for rapid installation stages without lengthy pool preparation times or the use of specialized building equipment. This avoids any prolonged pool down time.



## Fixed Costs

RenovAction reduces both refurbishment and routine operating costs of the pool. Much higher costs are typically associated with maintaining traditional pool finishes as well as regular ongoing pool maintenance. The speed of installation also significantly reduces the risk of cost overruns.



## Long Life, Extensive Guarantee

RenovAction pools offer a virtually unlimited lifespan thanks to the structural integrity of the materials and advanced technological features of this modular system. For these reasons Myrtha can confidently warranty its RenovAction pools for many years.



## Suitable for Difficult Field Conditions

Seismic activities, soil conditions or dramatic temperature swings will damage traditional concrete pools. The RenovAction design and seismic engineering are flexible and are therefore the ideal system for pools built in such conditions. In specialized and challenging environments, such as elevated floors of buildings or in limited spaces, there is minimal change required to accommodate the pool dimensions thanks to the ability to adjust the distances.



## Low and Easy Maintenance

Unlike traditional construction, RenovAction pools do not require a significant maintenance schedule. The RenovAction structure is sturdy and not subject to dimensional variation. It will not experience cracking or deterioration of the pool shell and is not affected by the aggressive action of chlorinated pool water.



## Environmentally Friendly

With most governments recommending the reduction of CO<sub>2</sub> emissions Myrtha Pools commissioned ACOR Consultants to calculate the energy used in building a Myrtha Pool. The carbon footprint of a Myrtha Pool is significantly lower by 50% compared to a traditional pool made with concrete and tiles. What does this mean? The energy savings of a Myrtha Pool is enough to provide heat for a 100 sqm house for at least 45 years!

# The Installation Process

The RenovAction installation process is both simple and fast, without the possibility of mistakes or delays in the renovation work.



## Rail Installation

The existing surface of the pool is commonly left untouched. Stainless steel rails are aligned and affixed to the pool wall prior to panel installation.

## Spacer Installation

High density foam spacers are installed between each rail to avoid any bending of the panel. The spacers allow for a high degree of installation precision. They are glued to the concrete wall and trimmed to panel level with the use of a high temperature electric cable.

## Panel Installation

Wall panels are inserted into the pre-aligned rails. Special corner pieces are manufactured, which are the starting point for the RenovAction installation.

## Overflow Gutter Installation

The overflow gutter is installed on steel supports, which are anchored to the existing concrete. The gutter is manufactured with Myrtha stainless steel and is able to be installed at adjustable heights and with a transversal sloping angle.



5



6



7



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## Panel Sealing

Once installed, the entire structure is waterproofed with a combination of semi-rigid PVC profiles and a special Myrtha sealant, which is applied to the joints of the wall panels, guaranteeing a perfect weld on the entire surface.

## Joint Protection

Reinforced PVC tape is welded to the gutter joints to ensure additional waterproofing.

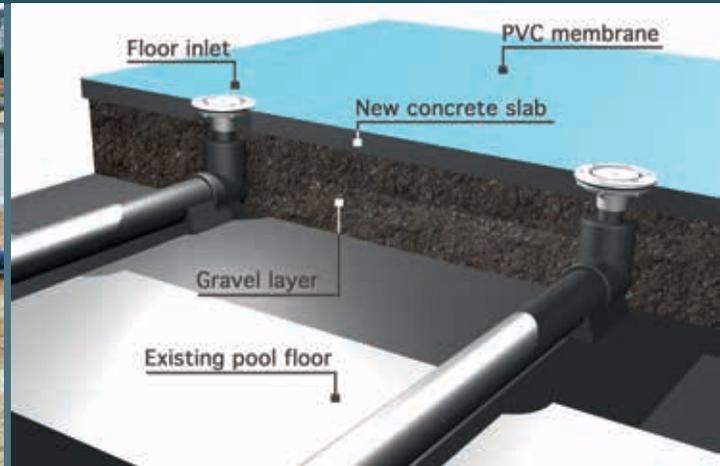
## Floor Covering with Reinforced PVC Membrane

The floor is lined with a special reinforced PVC membrane. The membrane is supplied in rolls which are hot welded together at the seams. The wall panels and the floor are joined together by a PVC profile, which is also hot-welded to the walls and the floor.

## Finish Installation

Ceramic tiles are applied on the top of the Myrtha surface for a clean and elegant finish. Adhesion of tile to a Myrtha stainless steel surface is much easier and safer than to a concrete surface, as there is no possibility of water penetration beneath the tiled surface.

# Individual Solutions for Every Installation Challenge



## Overflow Gutter Case A

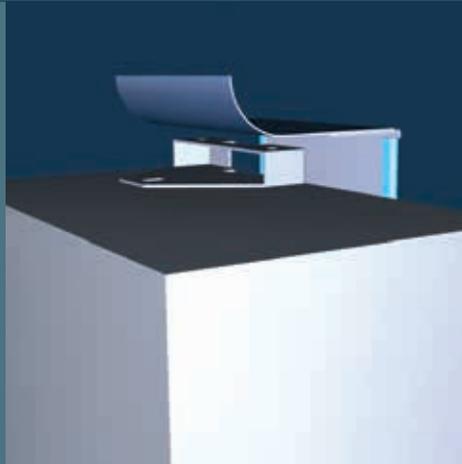
As per project requirements, the new gutter section can be positioned by partial removal of the existing concrete deck, which creates a recess for the installation of the Myrtha gutter. This solution does not obligate changes to the surrounding pool deck level.

## Overflow Gutter Case B

Alternatively, the Myrtha gutter can be situated directly onto the existing pool deck without demolition. The surrounding deck level will need to be raised to the new overflow level by means of a step adjacent to the new RenovAction gutter. The resulting increase in the pool depth allows for a comprehensive modification of the water circulation system, as there is enough space to install pipes and fittings necessary for floor return inlets. This solution eliminates the need for excavation to access the old piping.

## The Circulation System

New pipes are embedded in a 20 cm bed of gravel which is covered by a light layer of concrete. It is then lined with PVC floor membrane to ensure water tightness. This allows for a remarkable improvement of water circulation in the pool and is a considerable departure from an obsolete recirculation system with an insufficient number of inlet fittings.



## Regulator

In some cases when it is not possible to eliminate the existing concrete gutter, RenovAction gives the opportunity to use a special adjustable steel profile called "Regulator". The Regulator is anchored to the existing concrete wall and allows for adjustment to the new overflow level. A reinforced membrane is then welded on this profile and connected to the old gutter, to guarantee waterproofing of the surface. This special solution is cost effective although the scope of work is not as comprehensive as in a standard RenovAction.



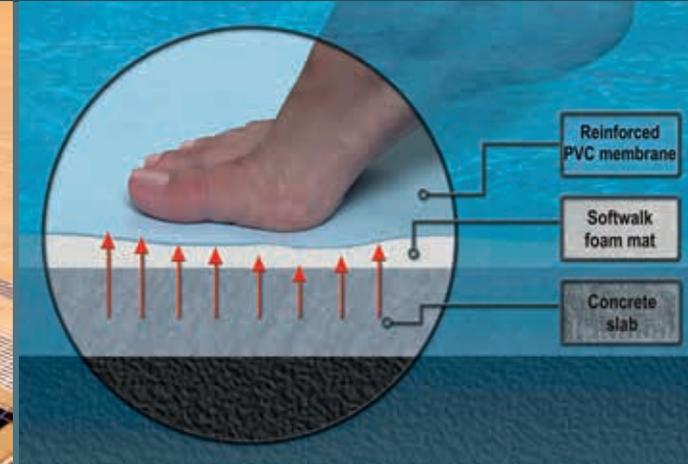
## Portholes and Windowed Walls

For competition pools originally equipped with portholes or windowed walls, RenovAction technology offers the possibility to maintain the same accessories in the renovated project. RenovAction panels are positioned in the original openings in the walls. Portholes or windows for the underwater photography or video are installed in the panels with a special flange system.



## Staircases and Recessed Steps

RenovAction guarantees maximum flexibility of design with recessed stairs and built-in steps. Recessed ladders are built into a RenovAction panel, with a minimum depth allowance for treads, then installed in the same manner as all other panels.



## SoftWalk® Floor

The special SoftWalk® foam mat is permanently adhered to the floor and covered by PVC membrane. It does not deform and maintains elasticity through the years. Combined with the non-slip floor membrane, it is the ideal solution for obtaining greater safety in the pool. SoftWalk® is an excellent choice for multi-purpose pools that include activity for shallow water pools, spray-pads and beach entries.

# Variations and Finishes

The RenovAction technology has been developed with the goal of providing the same range of design solutions and finish options as are available with new installations. Most finishes can be applied both on rectangular shapes and on free-form pools.

## Skimmer

The traditional Skimmer version, which establishes the water level below deck level, has a ceramic finish that enriches the visible part of the pool and aids with cleaning operations. This skimmer system is ideal for public pools with smaller dimensions.



## Overflow Gutter Classic

The Myrtha Classic Overflow gutter is ideal for all pools and guarantees an excellent water flow. It has reduced dimensions while still maintaining an aesthetically uniform mirroring surface. It is completed with a simple but smart PVC finish on the upper part of the panel.



## Overflow Gutter Classic Competition

This structure is ideal for large competition pools, as the PVC coping is flush with the wall panels, either on entire perimeter of the pool or on the two short sides only. This technology is also the most suitable for the renovation of pools that need to meet international regulations. Both the Classic and the Classic Competition gutter styles are available with a wide variety of finishes.

## Overflow Gutter Ceramic 1

For public pools used mainly for training sessions, the Myrtha Ceramic 1 is the most commonly used and appreciated technology. Its ceramic tile, with integral finger hold, places the overflow gutter slightly removed from the pool wall so the wave produced by the swimmer is better absorbed and does not affect the swimmer's pace.



## Overflow Gutter Ceramic 2

The Myrtha Ceramic 2 gutter profile incorporates two ceramic tiles, one provided with integral finger hold, that place the overflow gutter slightly further back from the pool wall. This guarantees the maximum absorption of the waves created during training sessions and competitive events. This is the most suitable technology for competition venues.



## Overflow Gutter Structural

The Myrtha Structural Overflow technology is distinguished by a ceramic tile that functions as a structural component of the wall panels. This structure guarantees a perfect overflow level while maintaining an attractive finish and can be considered the ideal technology for public leisure pools with any design.

## Vanishing Edge Ceramic 1

The Vanishing Edge Ceramic 1 profile is available with an infinity edge effect that provides a perfect solution for sites with slopes or irregular topography. Commonly it is utilized on the side of the pool with a deck level that is lower than the water level and is finished with ceramic tile. The overflow creates a cascading effect into the gutter. This technology is an elegant and efficient solution for leisure pools, particularly in condominium or hotel facilities.



## Recessed Overflow Gutter

The Recessed Overflow Gutter finishing solution is Myrtha's newest alternative to a standard ABS grate. Special edge elements, specially designed for swimming pool use, are fixed to the overflow gutter and allow for the perfect flow of water while providing an elegant finish to the pool. A variety of materials and finishes are available for both the deck and the edge of the pool, such as marble, stone, wood and porcelain stoneware. These materials are highly durable and provide high-tech performance.



## Vanishing Edge Structural

The Vanishing Edge Structural technology is an evolution of the Vanishing Edge Ceramic 1 profile. Structural ceramic tiles overlay the Myrtha wall panels in a gentle slope, creating a cascade effect into the gutter.

## Headwalls

To comply with F.I.N.A. regulations for competition pools that do not have an overflow structure on all four sides, a headwall is required at 30 cm above the water level. The Myrtha headwall offers a ceramic tile finish that guarantees ease of cleaning while also maintaining the pool aesthetic.

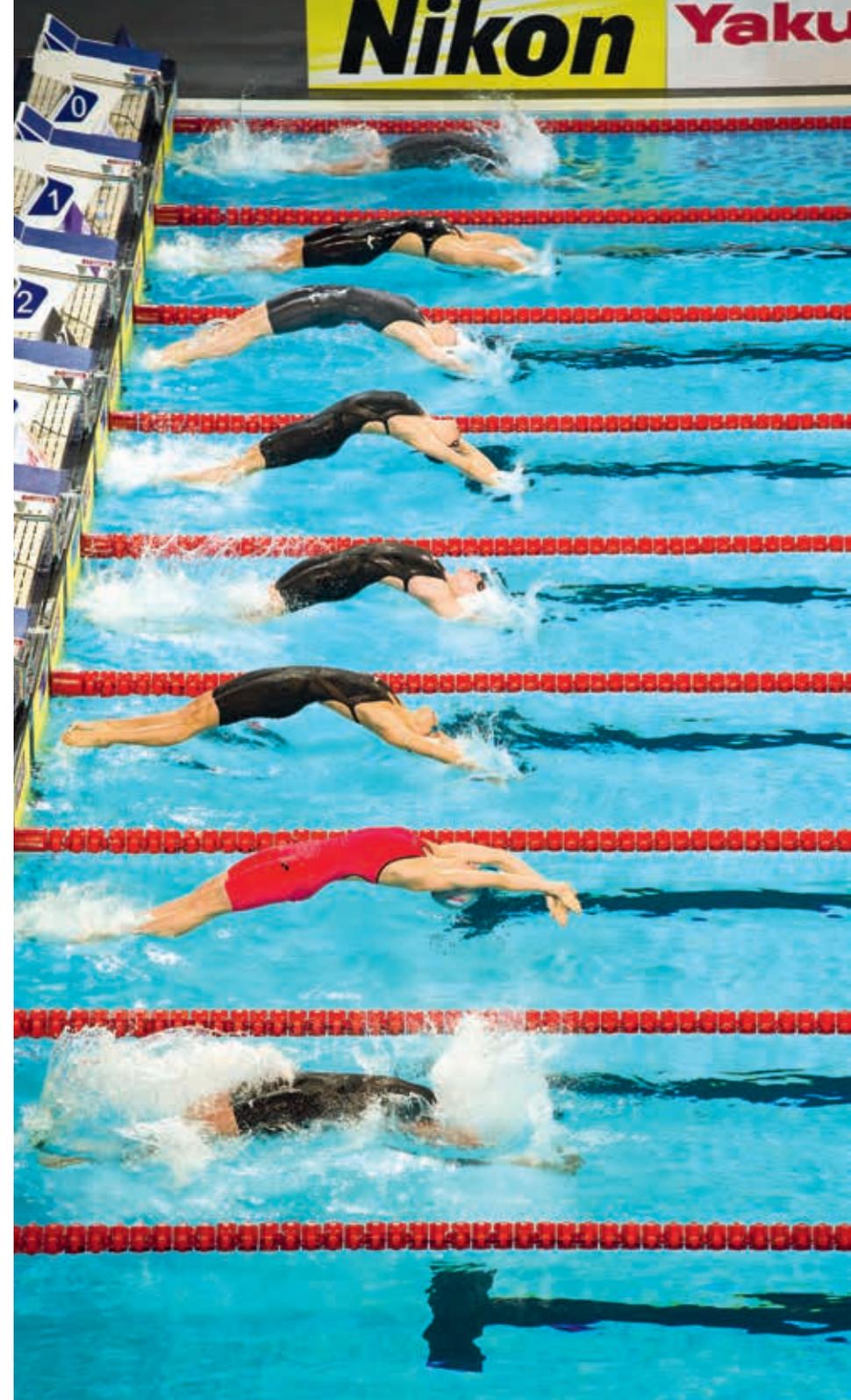


## Combined Technologies

All of the technologies described above can be combined to meet specific design requirements. For example, competition pools can combine overflow technologies with headwalls; public and leisure pools combine skimmer systems with one or more vanishing edges or headwall systems. Myrtha Pools offers the work of a specialized technical staff who continuously search for the best solutions for the client according to their needs and surroundings.

# Systems, solutions, accessories

A precise installation is imperative in the construction of competition pools. This is why RenovAction has been selected and specified by Swimming Federations and Organizing Committees throughout the world for some of their most important competitions, such as the 2012 London Olympic Games. For competition swimming pools, the RenovAction system and accessories have been developed to meet F.I.N.A. regulations for international competitions, without compromising safety or quality.



## Bulkhead

The Myrtha Bulkhead is used to define separate areas within the pool and easily moves along rails installed on the pool deck thanks to a patented movement system. The movement system can be either mechanically or electrically driven. Anchors for starting blocks are included and other options such as a footrest step, handgrips, and floating lane line anchors are also available.

## Floating Movable Floor

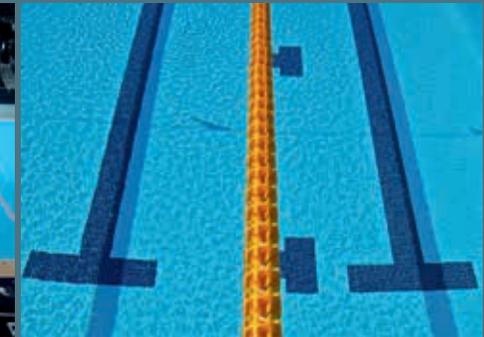
This allows the depth of the pool to be varied providing multifunctional use of the pool. The floating structure is anchored to the floor through a system of steel cables and an actuating mechanism outside the pool allows the cables to be positioned and the movable floor to be fixed to the desired depth.

## Air Safety Cushion

This reduces the diver's impact by producing a uniform mixture of water and air in the area where the diver enters the pool. Spargers positioned under the diving board provide adjustable bubbling volume and intensity.

## Removable Headwalls

This provides pools with overflow gutter on four sides with a 30 cm headwall as required by F.I.N.A. regulations. It also serves as an ideal support for timing touch pads, starting blocks and floating lane anchors.



## Starting Blocks

Myrtha Track-Start blocks are officially approved by FINA and are now used in all international competitions. The Track Start starting blocks allow for an Omega top to be integrated and are compatible most timing systems. They have been utilized in the 2012 Summer Olympics and the U.S. Olympic Team Trials.

## Virtual Trainer

LED strips, installed on the pool floor, are used to monitor the performance of swimmers during training sessions. The system contains a number of preinstalled training programs and can be operated easily with a wireless system.

## Waterpolo Visual System

This F.I.N.A. approved system employs LED markings placed in the specific areas of water-polo match rules inside and outside the pool and allows athletes, referees, judges and spectators to more easily follow the progress of the match.

## Lane Markings and Targets

Ceramic lane markings and targets are available.

# Beijing 2008, Olympic Games

YingTung Natatorium at the Beijing Olympics was a major focus for the Olympic competition venue renovation project. The natatorium revealed signs of aging due to its continuous use since being built nearly 20 years prior. Cracking and leakage had become a severe issue rendering the facilities far short of competition standards.

Completely replacing the pool would have been both costly and time-consuming. The renovation of the pool with RenovAction involved minimal impact to the existing structure with a marked savings in time and resources. Only a few short months after commencement of work, the pool was officially inaugurated in September 2007 and was ready to host the water-polo and modern pentathlon competitions for 2008 Olympic Games.

Phase  
4



Phase  
1



Phase  
5



2 Phase



3 Phase



6 Phase



7 Phase



# Challenge Stadium Aquatic Center, Perth

The Center has hosted outstanding international sporting events and has world-class swimming facilities, which include an outdoor water-polo pool built by Myrtha Pools for the 8th F.I.N.A. World Championships, in 1998.

In 2007 the Center's management selected RenovAction for the refurbishment of two 50 m outdoor pools. As proven from the results of a comparative study performed on the pools, it was determined that the maintenance of a concrete pool is more complex and onerous as compared to that of a Myrtha pool. The Myrtha pool, built in 1996, had not undergone any substantial maintenance until 2003. Alternatively, the indoor concrete tiled 50m pools, after only 9 years of operation, have since required the total replacement of the ceramic tiles along with major water-proofing repairs. The renovation of the pools started in September 2007 and each pool took only few weeks to finish.

## The 8-lane warm-up pool

- 50x21x2-3 m
- Ceramic overflow gutter on long sides
- Ceramic competition headwalls on the pool ends
- Pool equipment: recessed steps, 4 sets of recessed steps, starting blocks, mosaic lane markings and targets

Phase  
1



## The 10-lane competition pool

- 51x25x2 m. Initially 50 m. Modified and lengthened to include a movable bulkhead. To accommodate the movable bulkhead one end of the pool had to be demolished and replaced with Myrtha panels
- Ceramic overflow gutter on three sides
- Ceramic competition headwall
- Pool equipment: movable bulkhead, 8 sets of recessed steps, starting blocks, mosaic lane markings and targets

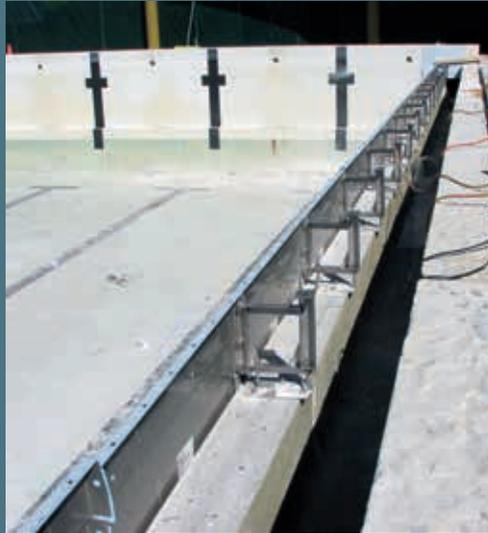
Phase  
1



Phase  
2



Phase  
3



Phase  
4



Phase  
2



Phase  
3



Phase  
4



# Birrong Swim Center, Sydney

The 50 m outdoor reinforced concrete tiled pool of the Center was completely renovated in 2007 using RenovAction technology. For many years the pool had been unusable due to its deteriorated condition and required major refurbishment. A combination of RenovAction and Myrtha technology was selected for the complete refurbishment of the failed concrete pool. The width of the pool was reduced, which would provide area for the installation of a special needs, barrier free access ramp. Additionally, this solution provided for an ease of installation for wall inlets circulation system and lighting systems. The pool is a 50x21x3 m with ceramic overflow gutter on the long sides and ceramic competition headwalls on the short sides. The completed pool also accommodates 5 sets of recessed steps, barrier free access ramp and mosaic marking lines on the floor.

Phase

1



*Installation of Myrtha components started from the side with the ramp. This side was completely built with Myrtha Technology and adjusted according to the width of the ramp. Once the base frame was installed, the new RevovAction panels were affixed to the existing wall. Upon completion of the panels installation, the overflow channel is positioned and secured in place. The RenovAction panels were installed directly onto the walls of the other three sides of the pool.*

*Vertical spacers were installed between the RenovAction panels and the concrete pool walls to compensate for any imperfections in the existing structure. Finally, the floor membrane and mosaic lane markings were applied.*

2 Phase



3 Phase



4 Phase



5 Phase



# Centre Nautique Le Kremlin-Bicêtre, France

Built in the mid Sixties, after more than 30 years of activity the Center's facilities and the pools were damaged and obsolete. The introduction of new standards, health requirements and safety regulations made the refurbishment of the sport facility necessary. The renovation of the pool began a few months before the Center reopened in November 2008. The pool, refurbished with RenovAction, is a 50x20 m with variable depth, from 0.80 m up to 4.20 m in the diving area. It is equipped with a movable bulkhead anchored to the wall and the "aileron mobile" (movable aileron) that divides the pool into "modules" allowing for multiple activities to take place in the pool.

Phase  
1



Phase  
4



2 Phase



3 Phase



5 Phase



6 Phase



# Saronno Municipal Aquatic Center Saronno, Italy

The 25 m indoor pool in Saronno (Northern Italy) was renovated by Myrtha Pools in just 3 months from the time of the project's approval. The pool, as well as the entire venue, has been completely refurbished with the ultimate goal of creating a comfortable and functional structure, with environmentally friendly and energy saving solutions. Construction on the existing pool began first with the leveling of the floor. The existing pool depth was 4 m but actually was varying from 1.30 to 1.80 m. The number of lanes was increased from 6 to 8. And finally, the pool was equipped with a blind cover integrated into the structure. This allows for reduction of heat dispersion and water evaporation while also protecting the environment from the damage caused by humidity.

Phase

1



2 Phase



3 Phase



4 Phase



5 Phase



# Trecate Community Pool

## Turin, Italy

This project was developed with the goal of creating diversified large aquatic areas, that would provide for both competitive and recreational swimming activities (outdoor and indoor).

Myrtha Pools has refurbished two pools within the center:

- A 50x21 m Olympic outdoor pool which was later equipped with a new fixed cover allowing the pool to be used during the winter months to host competitions at

an international level. The pool has also been equipped with removable headwalls and starting blocks.

- A 25 m indoor pool equipped with removable headwalls and starting blocks.

In addition to the RenovAction, two new Myrtha pools were installed, one multipurpose indoor 19x8.50 m and a new 30x26 m outdoor recreational pool.

Phase 1  
50x21m



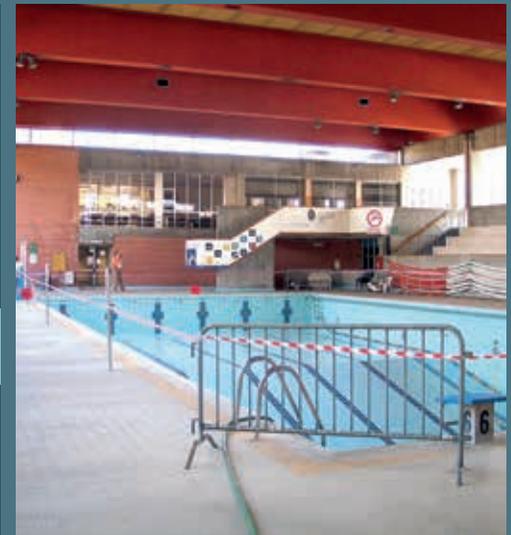
Phase 2  
50x21m



Phase 3  
50x21m



Phase 1  
25 m



Phase

2

25 m



Phase

3

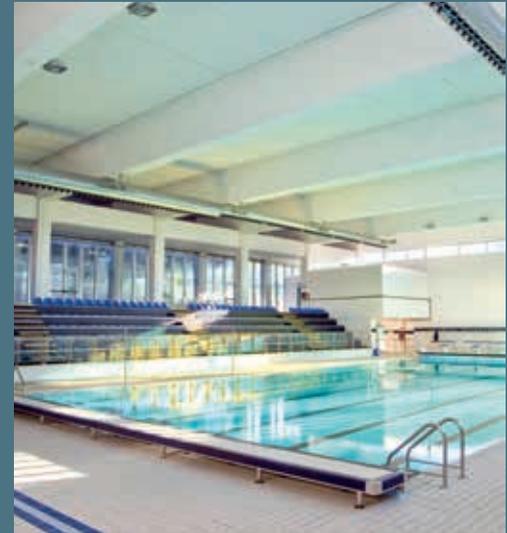
25 m



Phase

4

25 m



Phase

4

50x21m



Phase

5

50x21m



Phase

6

50x21m



# JW Marriott Hotel

## Seoul, South Korea

After a few years of operation, the two reinforced concrete tiled swimming pools at the Thermal&Spa Fitness Center of JW Marriott Hotel in Seoul were damaged and required major refurbishment.

Pools were slightly leaking due to cracks in the original tiles that allowed water to go behind the tiles. Also the columns adjacent to the pool had not been properly waterproofed and increased the issue.

Both pools have been refurbished using RenovAction technology, with a special Ceramic 3 Overflow gutter.

The main pool (24x12,30x1,20 m) accommodates 4 recessed steps and is provided with SoftWalk mat on the pool floor, mosaic lane marking and floating lane lines.

The children pool (20x3,70x0,60-1,30 m) has been refurbished following the original pool design: the pool's floor has a double level depth, created by a large underwater stair that separates the children's area from the leisure area. SoftWalk mat has been used for the floor and steps, and wall hydromassage inlets have been placed in the leisure area.

Phase

1

Main pool



Phase

2

Main pool



Phase

1

Children pool



Phase

3

Main pool



Phase

4

Main pool



Phase

5

Main pool



Phase

2

Children pool



Phase

3

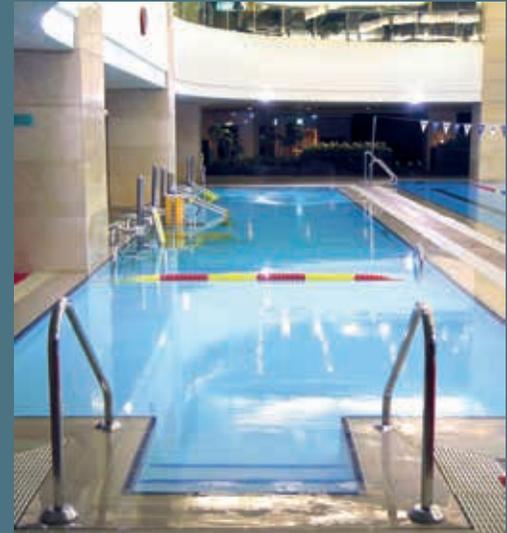
Children pool



Phase

4

Children pool





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