

Delivering 25 Pools for the Olympic Games

Challenges Faced

A requirement for 25 pools to be designed, manufactured and installed in time for the games, these pools consisted of 7 new permanent facilities created for club and community legacy use after the games. Warm up temporary pools for two venues along with full filtration, swim walls and moveable floors.

This included the new CAO Centre Aquatique Olympique

La Défense (the temporary Pool in the stadium) is probably the pool of most interest to you

A task indeed !

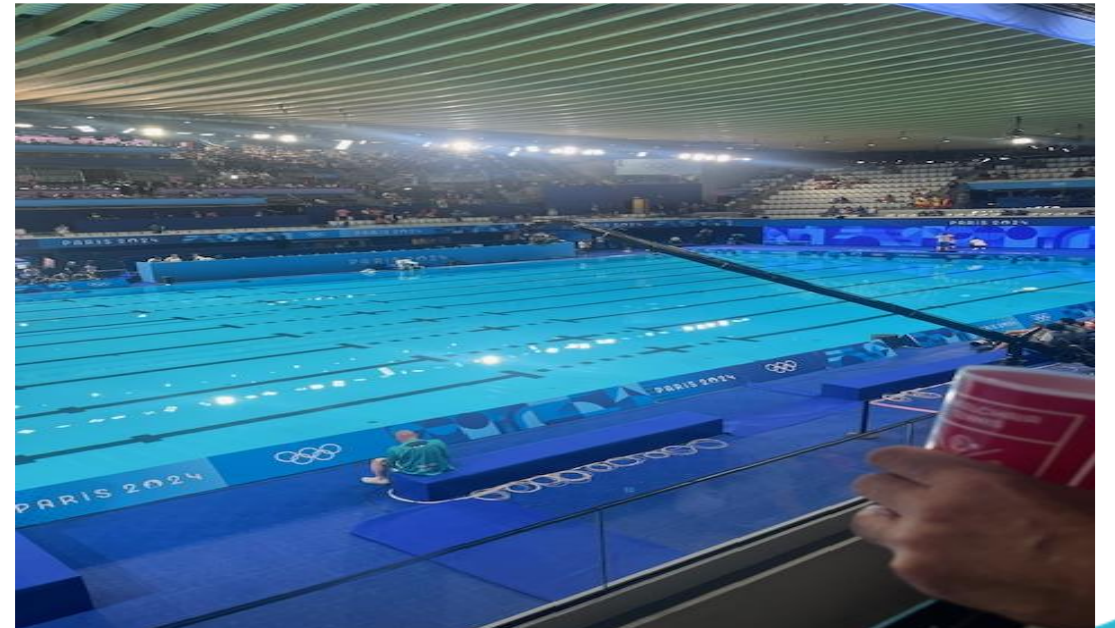


Centre Aquatique Olympique

50.025 m x 25 m x 3m deep + Diving Pit Area

This pool was created by using a panel system on a new concrete structure?

The pool was determined to be 70m focusing more on the legacy mode rather than the Olympic mode. The decision was taken to create 2 pools and using a bulkhead and temporary platform to separate the diving pool. This saved at least 8 metres of building and considering the bid included 20 years of operation, the saving total was huge.





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PARIS 2024



PARIS 2024

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La Defense Arena – Temporary Games Pool

50.025 m x 25 m x 2m deep

Constraints Taylor Swift Concert!!

Foundations made of 12m lengths/ slabs of wood not concrete first time in the history of our company we had carried this out.

48 hour window

Wood to be used for Home on the east side of France

Another first, they were given permission to change only 15 litres of water per swimmer providing the water quality stayed within the standards

Achieved by installing a new stripping system called **Breathe**



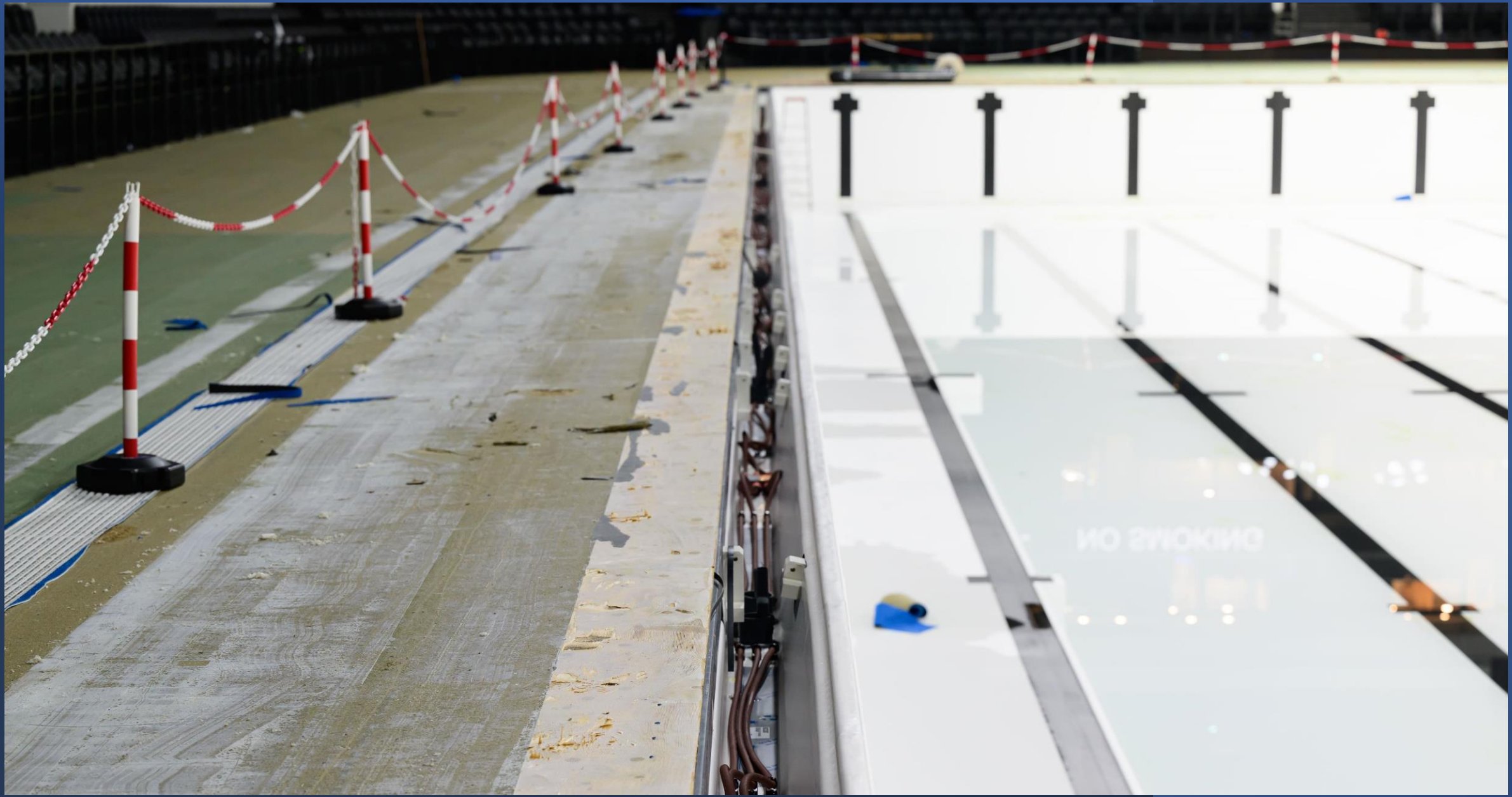
La Défense – Temporary Pool

In France it is common to use UV and stripping is usually done through the balance tank

The breath system was placed in the gutter so removes chloramines from the pool water and exhausts them to the exterior of the building.

The idea was to compare how much the breathe system compares to the norms of the 'as is solution'





BREATHE

Breathe is a system developed with the purpose of removing harmful Disinfection by-Products (DBPs), such as chloramines and halomethanes, from an indoor swimming facility.

It aims at preserving pools cleanliness and preventing the onset of illness caused by a prolonged exposure to DBPs. The system is comprised of 3 thin porous pipes that lie along the base of the pool's gutter.

This main gutter is flanked by a secondary gutter and between the gutters is a suction conduit that extracts the contaminated air from the main gutter to the outside of the building

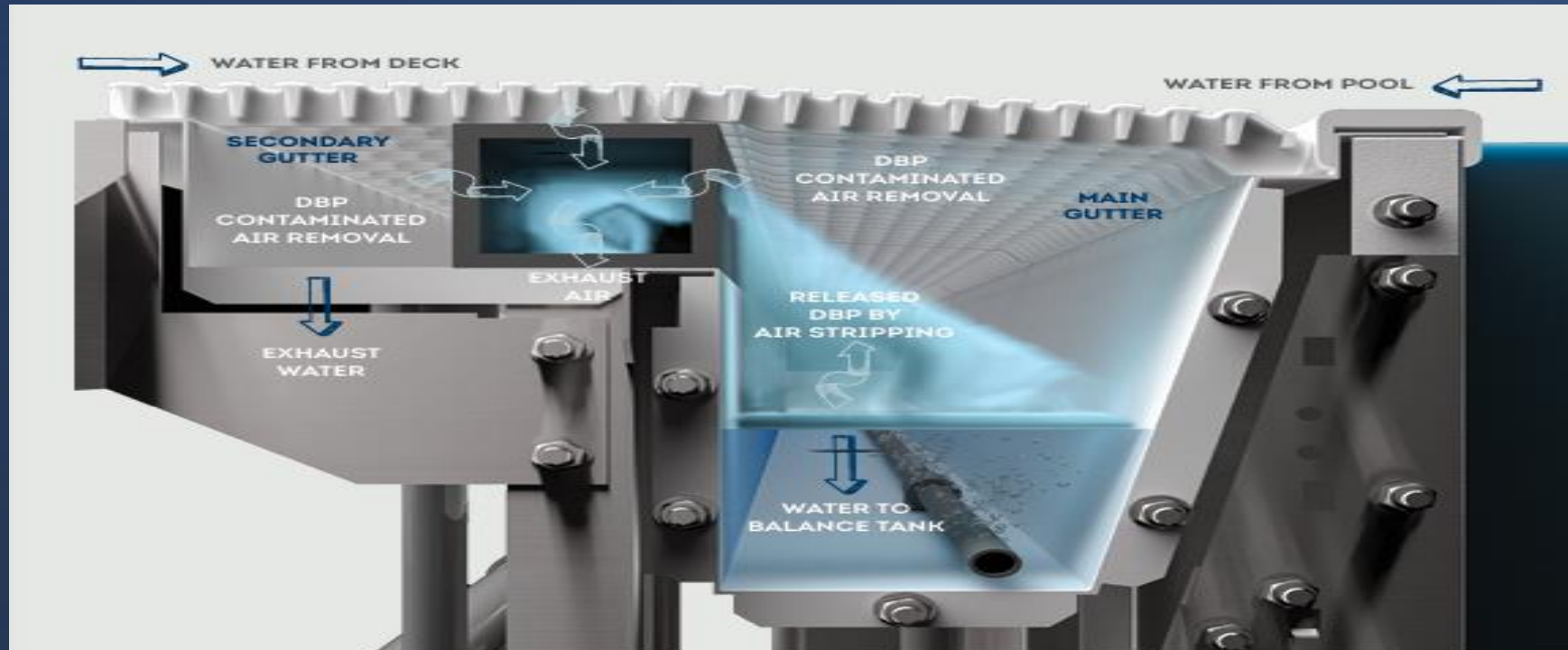


HOW DOES IT WORK?

DBP stripping is performed in the gutter channel surrounding the pool.

Air is insufflated through porous pipes that form fine bubbles, which absorb the DBPs dissolved in the pool water and releases them into the air inside the channel.

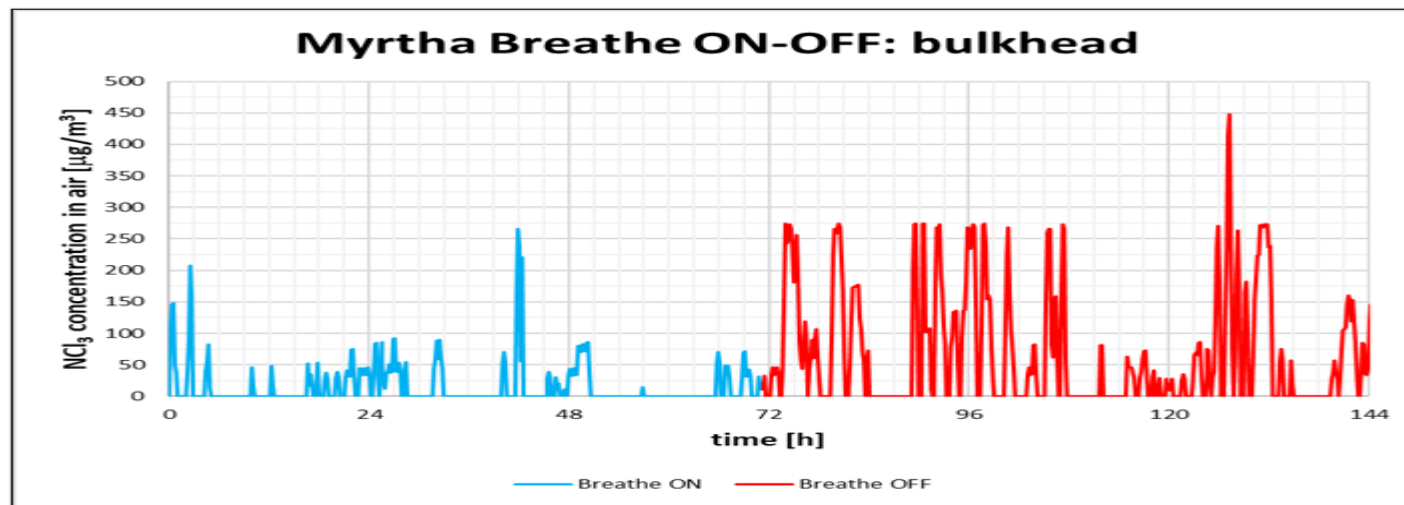
From there, **suction removes the stripped DBPs** from the channel and generates an air flow which borders the channel preventing DBPs from exiting the extraction area. The contaminated air is then exhausted outside the natatorium.



RESULTS

Comparison Breathe ON and OFF during a period of 3 days VS. 3 days equivalent competition conditions, the average “in air” trichloramine concentration close to the swimming pool is 4 time reduced by Breathe.

Such a result is supposed to be even better in a standard indoor swimming pool venue (the Defense Arena building have a larger volume of air which dilutes the DBPs). See graph below



Défense Arena HVAC system vented out of the building a trichloramine concentration level divided by two when Breathe was ON (23 mg/m³ VS 50 mg/m³)

3 days ON and 3 days OFF

Average NCl₃ concentration while ON:

16 µg/m³

Average NCl₃ concentration while OFF:

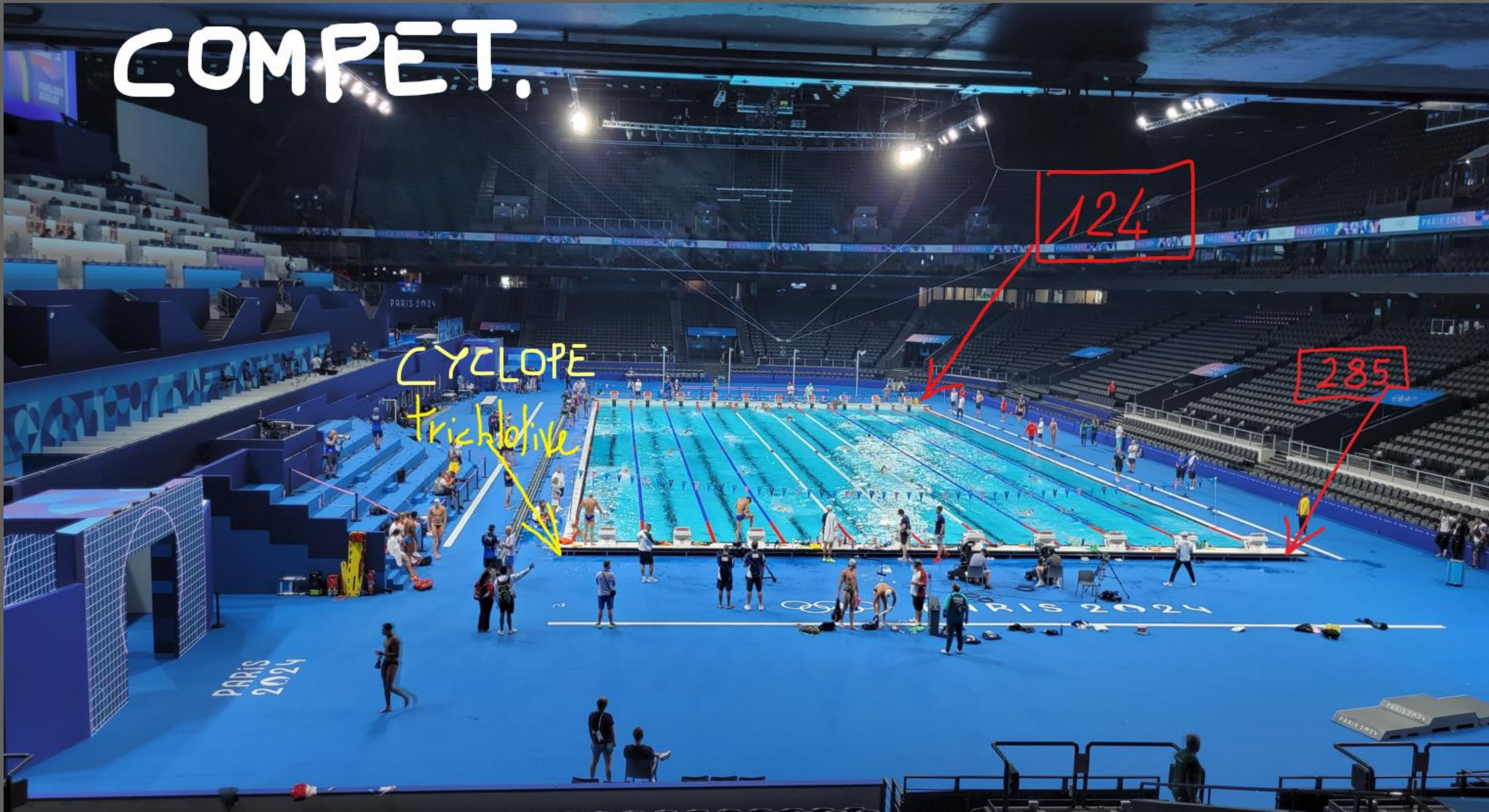
68 µg/m³

COMPET.

CYCLOPE
Trichlofiv

124

285



Throughout the time frame that the Breathe system was in use, the direct comparison of the 50m competition pool with the Breathe system on, and the warm-up pool without the system installed, showed half the trichloramine “in air” levels around the competition pool

Additionally, the balance tank stripping had shown poor performances, compared to when the Breathe system was in use. Furthermore, Paris La Defense Arena HVAC system released a trichloramine concentration level divided by two when the Myrtha Breathe system was on (23 µg/m³ VS 50 µg/m³).



Being a professional swimmer means hours and hours in the pool and around the pool deck, and very often indoors. I was extremely happy to learn about this new innovation for aquatic sports and to be able to compete in the swimming pool that was equipped with the Myrtha Breathe system, a system that created a fresher and cleaner atmosphere for swimmers during the Games in Paris.

*Kira Toussaint
3xDutch Olympic Swimmer and European Champion*

Until Next Time – Thank you Paris

