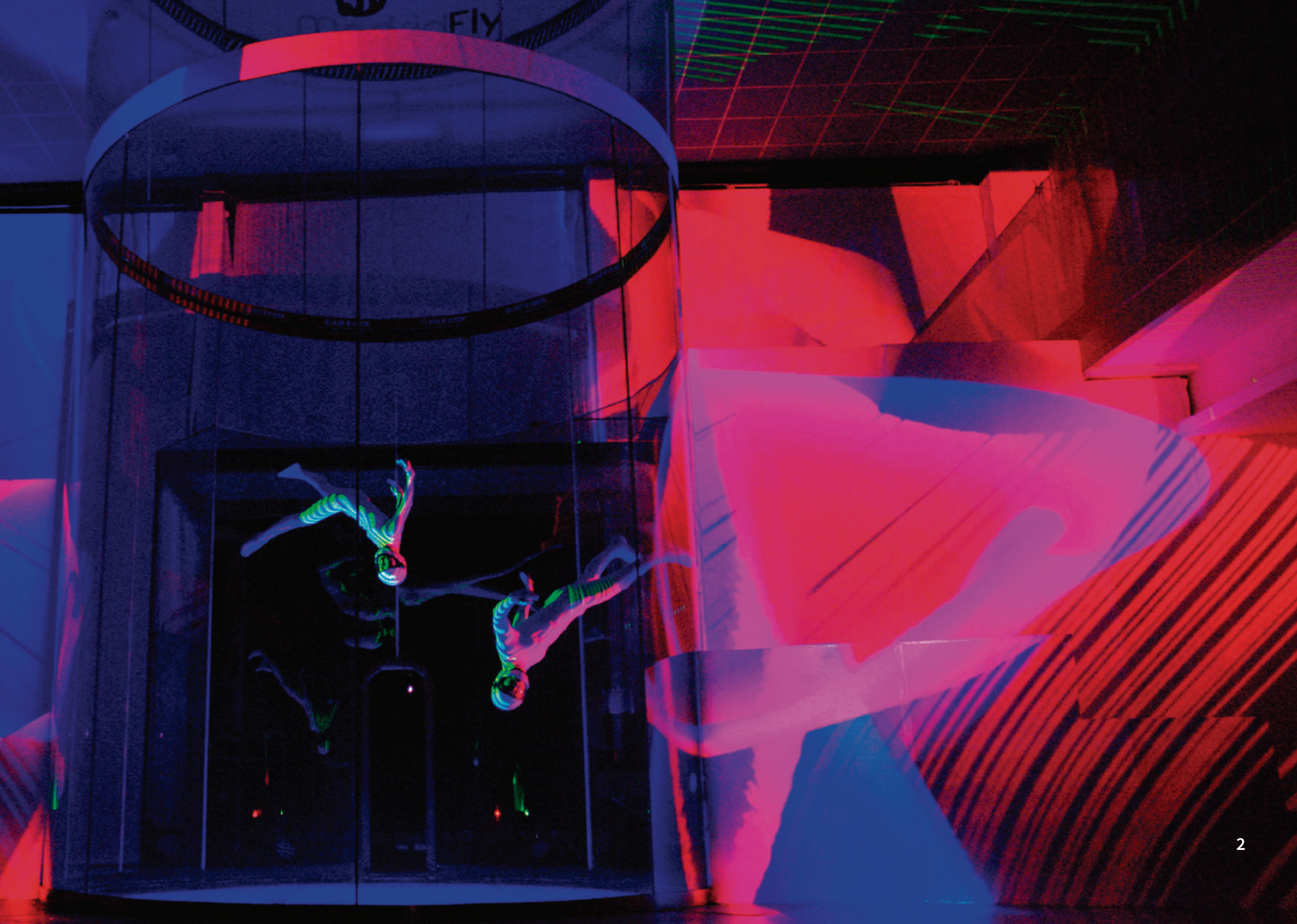


EYDISA
WIND TUNNELS



Technology, Research & Development Wind Tunnel Builders





ABOUT US.....5

OUR TEAM.....7

TECHNOLOGY.....14

CONSTRUCTION.....34

OTHER SERVICES.....40

OUR 2ND TUNNEL.....44

OUR 3RD TUNNEL.....46





OUR COMPANY

Anyone can build a wind tunnel. But not everyone can build a wind tunnel that runs well for 30 years, with the highest efficiency ratios ever seen and the safest technology ever used.

EYDISA Wind Tunnels with its team of 15 people has made it happen. The group is comprised of:

EYDISA, a Spanish construction company with over 43 years of experience, who funded the project and contributed valuable knowledge about concrete foundations and structures.

Alberto Fuertes, a former Skydiving World Champion, expert tunnel flyer, and co-founder of the safety organisation “*Tunnel Instructor Org*”, who came up with the idea and united all parties of the project since the early stages.

A team of fabulous engineers, who shaped all EYDISA’s ideas into designs.





OUR HISTORY

After winning the *Skydiving World Championships* in 2009, Alberto Fuertes – current CEO of *MadridFly* - visited all the existing wind tunnels in Europe for research, with the vision of developing the best tunnel technology to date. It was during that time that he met a team of engineers that went on to transform this vision into a tangible design. Nine months later Alberto partnered with *EYDISA*, who financed the project and formed the final link to bring this innovative wind tunnel technology into existence.

EYDISA was founded in September 1983. Since then it has formed part of the construction industry, becoming one of the leading players in the field of calculation and execution of concrete structures. Working with all the top Spanish architectural and building companies, they have successfully constructed over one million square meters throughout their 43 years of experience.

OUR TEAM



Jerónimo Rosa
PRESIDENT



Alberto Fuertes
CEO



Marino Kalligas
OPERATIONAL ADVISOR



Quique de la Higuera
LEGAL DEPT. DIRECTOR



Mª Ángeles Blazquez
FINANCIAL MANAGER



Olena Kosarmygina
ARCHITECT



Aitor Sola
ENGINEER



MADRIDFLY

Our Prototype

In 2016, *MadridFly* opens its doors to the public, offering the most innovative wind tunnel in the world.

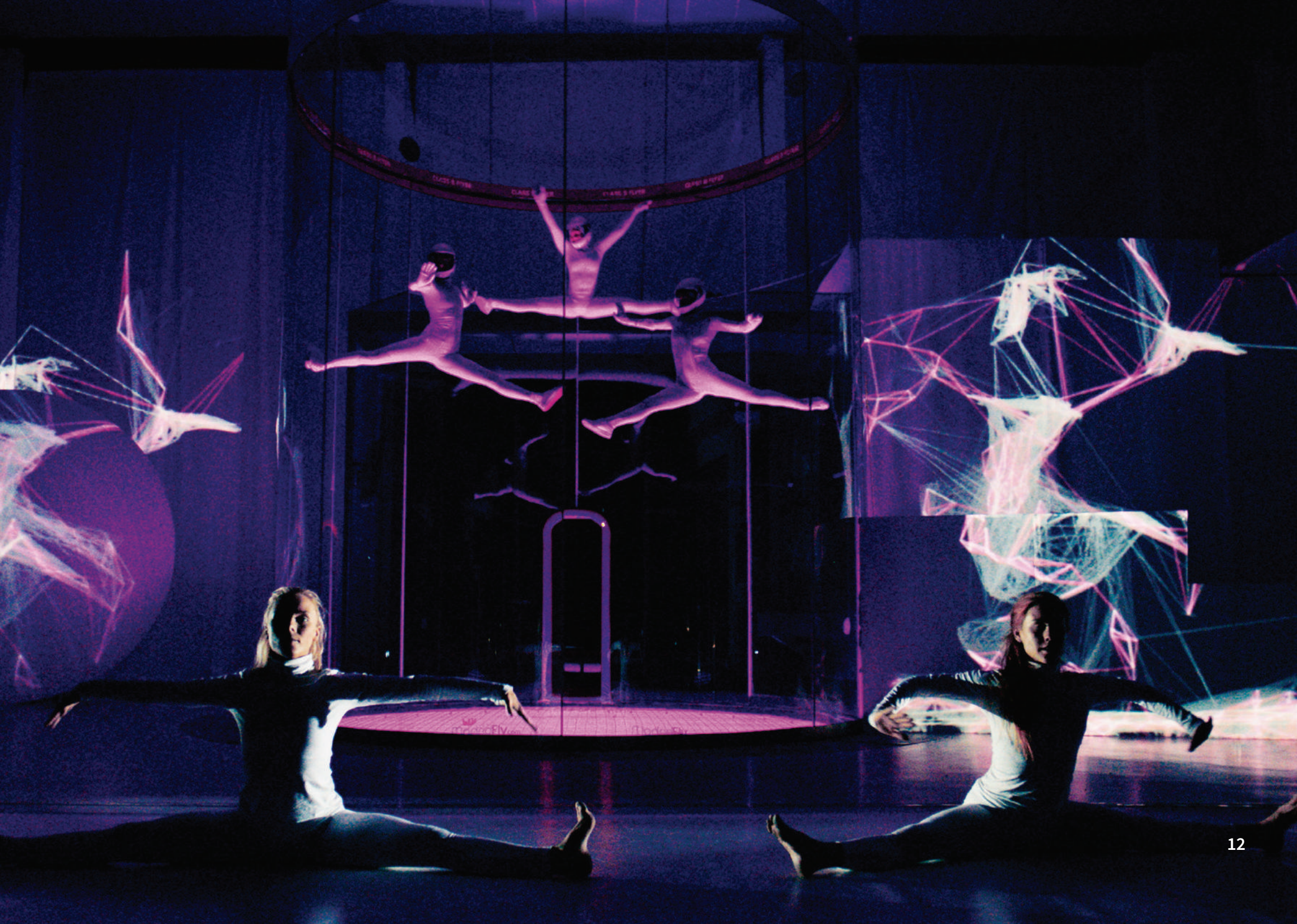
All building materials went through an exhaustive selection process, to assure an optimal air flow and maximum comfort for all visitors. Measuring 4.6 meters wide and

17 meters high, *MadridFly* has the largest flight chamber in Europe.

The air flow inside can reach 300 km/h, depending on the flyer's level of experience. For all these reasons, **more and more people are choosing** *MadridFly* to try the amazing experience of indoor flying.

The Importance of the Prototype

Without our prototype to execute tests in a real environment, the efficiency ratios of our tunnel would be much lower given the variety of details that the computer models cannot predict.





Our Technology

**ENERGY EFFICIENCY
COOLING SYSTEM
MAINTENANCE**

Better Energy Efficiency

We know the importance of aerodynamics.

Our award-winning engineers have invested such a great amount of time and effort into studying aerodynamics, that their research results form a key part of a PhD on Wind Tunnel Aerodynamics.

After investing almost one million euros in research & development and having built the largest wind tunnel prototype to date, we are

confident that we have achieved the most advanced technology in fourth generation wind tunnels. What has resulted as the main achievement?

Higher energy efficiency: For every kW used, we achieved higher wind speeds compared to other tunnels, which means you'll need much less electricity to run yours.



TECHNOLOGY

ENERGY EFFICIENCY

Superior Schematics

We create innovative and high quality wind tunnels.

EYDISA Wind Tunnels has invested nearly one million euros in research and development.

Other existing manufacturers to date have used computer programs to design their tunnels and simulate air flow efficiency. But as *NASA* knew when they invented the first vertical wind tunnel: A computer program cannot flawlessly replicate real

aerodynamic forces. It can only estimate approximations, which sometimes isn't good enough. And for *EYDISA*, that wasn't good enough.

EYDISA built the largest wind tunnel prototype to date, on a 1:5 scale of the initial wind tunnel design. The prototype flight chamber is about 1m wide and the produced wind speeds reach up to 310 km/h.



Development in 3 Phases

For each aspect of our wind tunnels, all the designs must pass through three phases.

1. RESEARCH

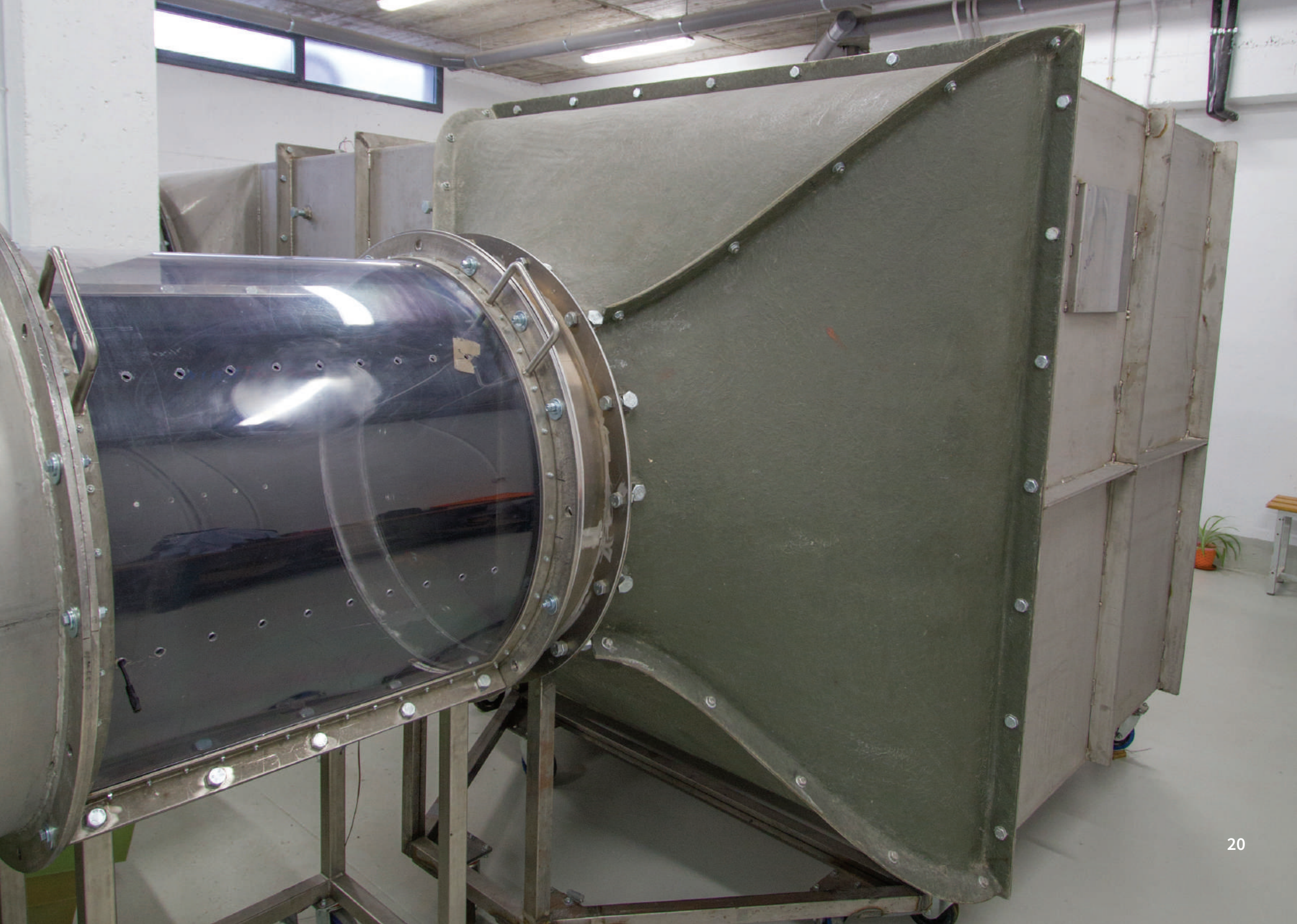
The latest technology is analysed and evaluated by *EYDISA* and Alberto Fuertes, as well as other experienced engineers, flyers, wind tunnel staff and owners. This round of discussion and brainstorming allows for substantial improvements to be proposed and incorporated.

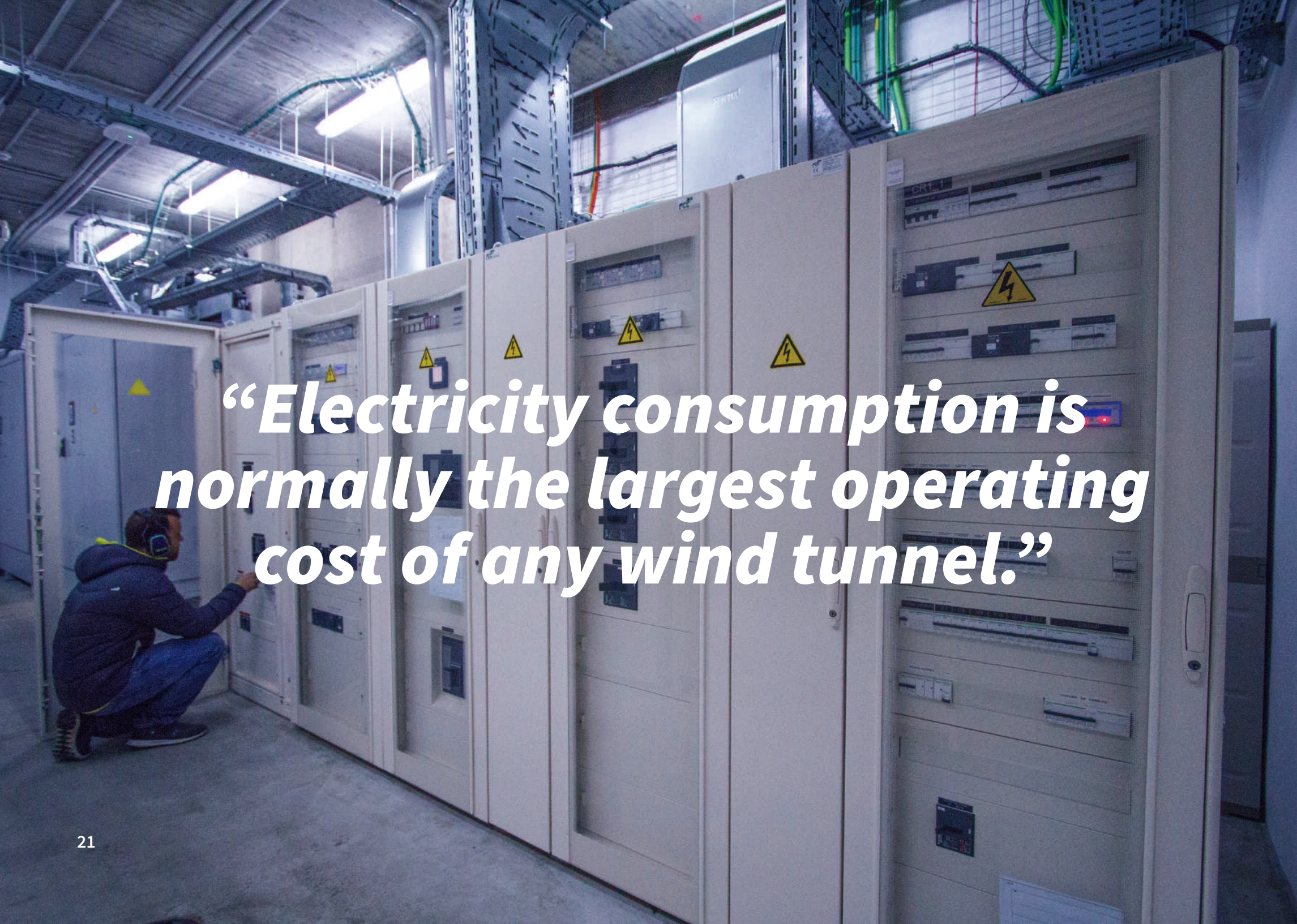
2. DESIGN

Our engineers design the parts and run them through multiple tests, using computer software. The software helps to determine whether certain aspects of the design need improvement until optimal results are obtained.

3. TEST & CALIBRATION

The final computer design gets built and placed in the prototype, allowing the wind speed variations to be measured in a real environment. Adjustments are made to examine if further improvements are possible, and once the best possible design is achieved, it gets approved for construction.



A photograph of a control room or server room. In the foreground, a person wearing a dark jacket and headphones is crouching down, working on a large, light-colored electrical cabinet. The cabinet has several yellow warning triangles with a lightning bolt symbol. The background shows a long row of similar cabinets, with more cabinets visible in the distance. The room has a high ceiling with exposed pipes and ductwork. The lighting is dim, with some bright spots from overhead lights.

“Electricity consumption is normally the largest operating cost of any wind tunnel.”

TECHNOLOGY

ENERGY EFFICIENCY

Importance of Aerodynamics.

Electricity consumption is normally the largest operating cost of any wind tunnel. Depending on the applied wind speeds, running a non-efficient wind tunnel can cost between 250 - 450 euros per hour, while running an efficient wind tunnel will only cost you an average of 100 - 180 euros per hour.

Offer the best price to your customers.

Making sure you have the lowest operational cost does not only mean that you make more profit. You can also fluctuate your prices for promotions, special events or any other reason far easier and without having to run below or even close to cost price.

Make your company competitive.

If one day you face competition in your area, lower operating costs will make a crucial difference. Saving around 270 euros per hour in operating cost is not an easy task and can surely make or break your market position.

Transparency in our service.

We suggest that our potential buyers talk with other tunnel manufacturers and ask how many aerodynamic tests they have done and how much they have invested in research and development.

We Regulate the Temperature

Thanks to our advanced cooling system, flyers experience much great comfort.

While deciding about tunnel designs, the cooling system is often underrated. Despite common perception, the higher the wind speed, the higher the temperature will get in the flight chamber.

This is due to friction of the air molecules in the ducts and the heat from the engines.

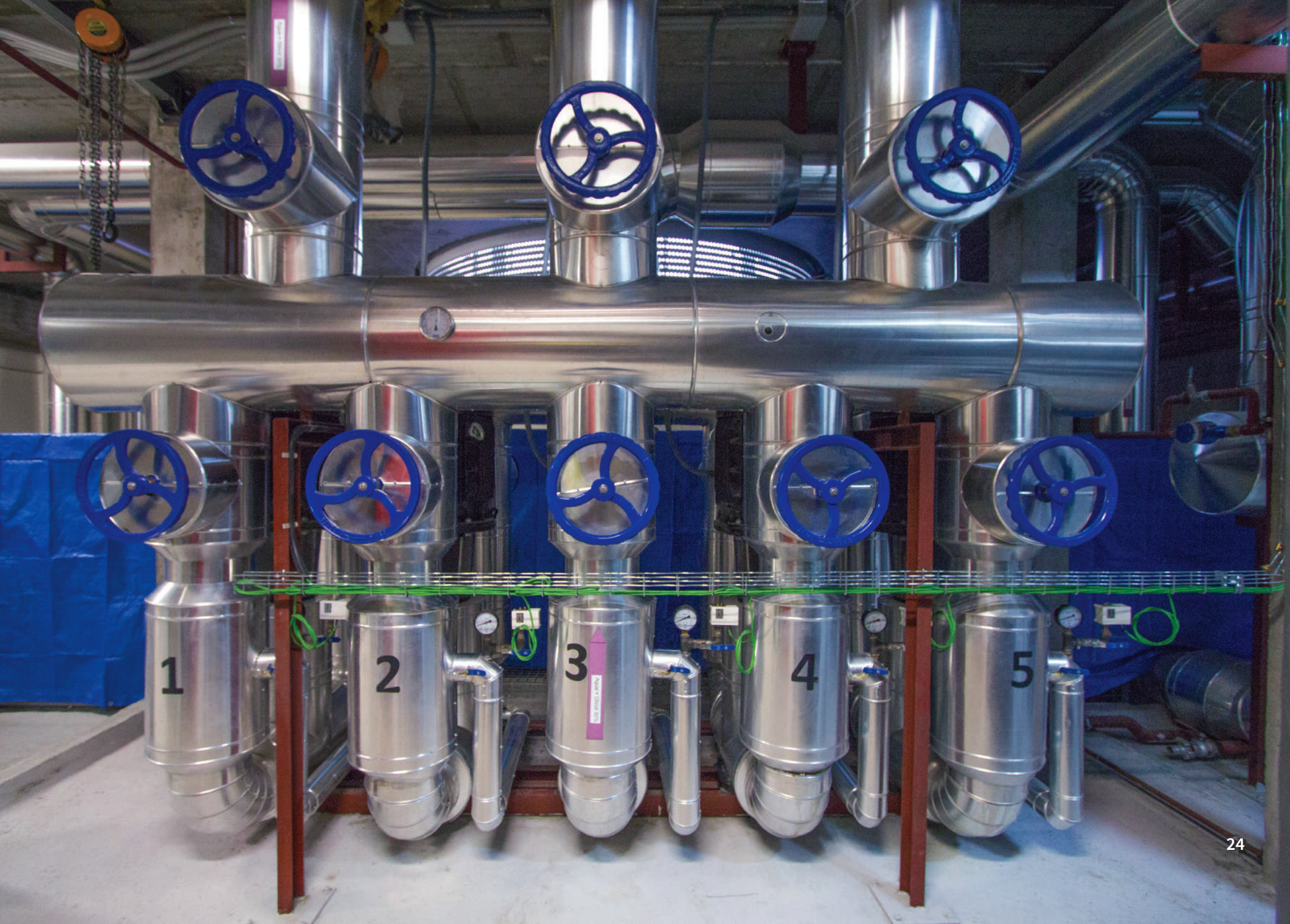
When flying on high wind speeds (over 150 km/h), other existing tunnels often see the temperature in the

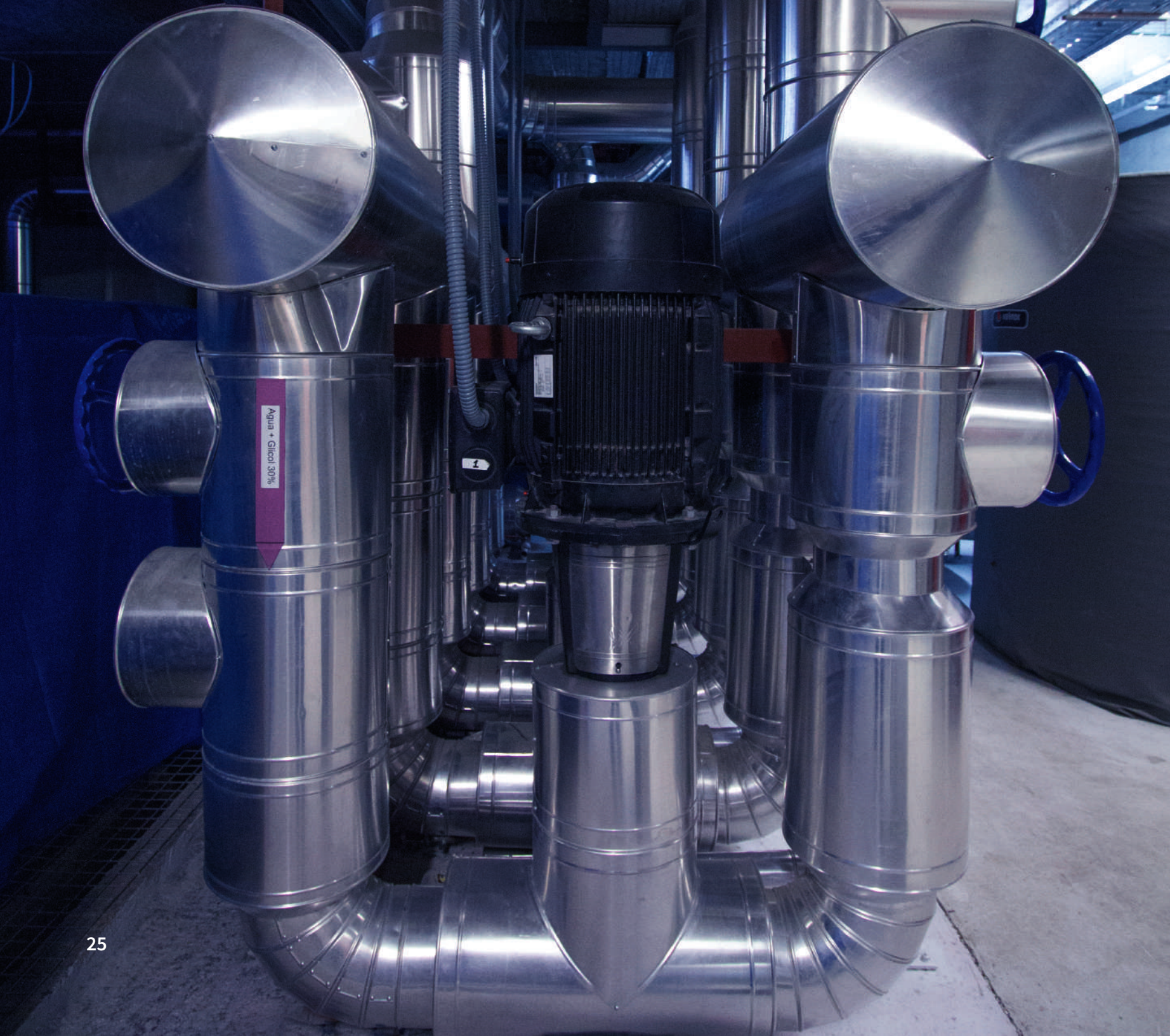
flight chamber rise to above 30 degrees Celsius (86 F). With the popularity of dynamic flying, VFS and competitions held at high speeds, these elevated temperatures pose a growing problem.

Not only does it cause discomfort and makes flyers sweat, it also poses a risk of rapid dehydration and reduced concentration, with a higher chance of potential accidents.

EYDISA Wind Tunnels has invented and patented a pioneering cooling system that allows the wind temperature to be regulated down to any desirable level, without generating turbulence or significant power loss.

As more wind tunnels are constructed and new technologies invented, an excellent cooling system will be a requirement for all.





TECHNOLOGY

COOLING SYSTEM

Eydisa Wind Tunnels has developed a technology that not only prevents condensation, but also eliminates any liquid produced in the air flow.



Take Advantage Of The Cold Exterior

**Benefit from the cold external air without reducing
the air speed of the flight chamber.**

If you could choose between a car with Air Conditioning and a car without, which one would you choose? The answer is obvious.

A special note can be made for cold climate locations. Cold exterior air can be used to cool down the air flow, as long as the outside air temperature is below 20 degrees Celsius (68 F). This does come with an expense in form of energy loss and decreased wind speed, since the cold air being sucked into the wind tunnel is “still” and must be brought up to speed.

Not only does the air become turbulent, it also causes the noise pollution to be much higher, which might create problems concerning local regulations e.g. near residential areas. With our system this does not happen.

Another specific problem commonly found in wind tunnels is water condensation. Water flying through the tunnel at a speed of 230 km/h is very uncomfortable and can even be painful for the flyers.

TECHNOLOGY MAINTENANCE

30 Years

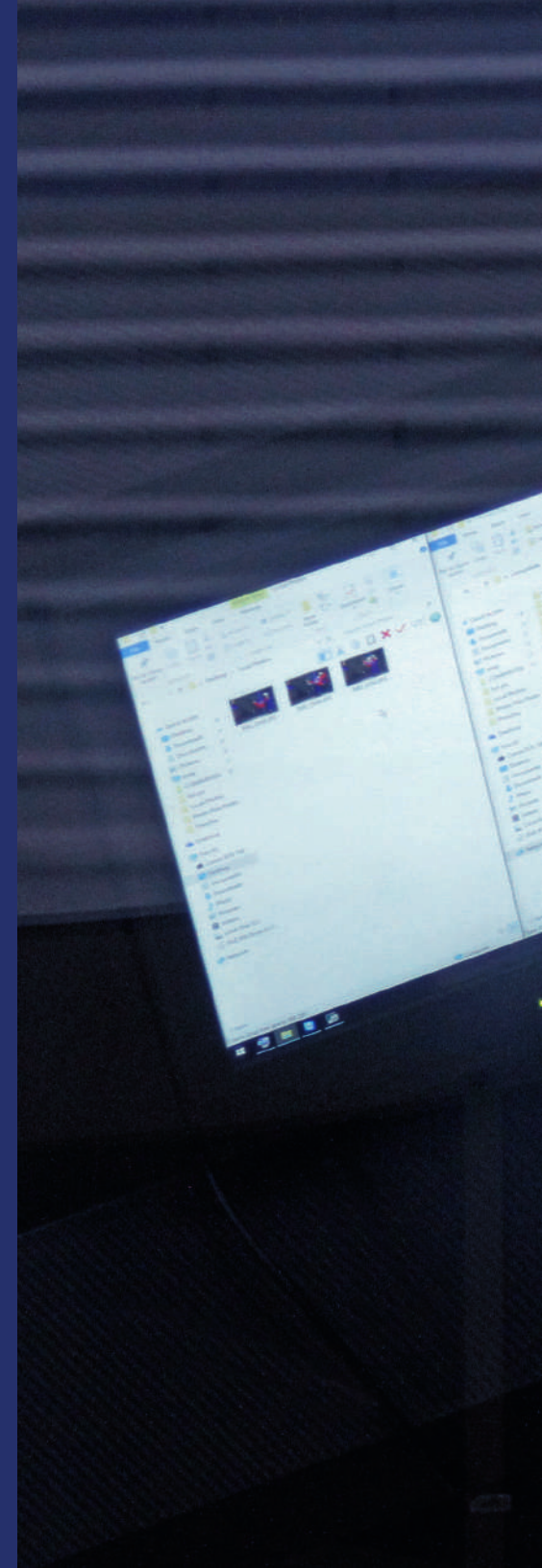
Non Stop Flying

EYDISA's wind tunnels are designed to have wind blasting through them at all times. Many of the flyers who will enter your wind tunnel are amateurs. This means that helmets and shoes will at some point come off and fly into the wind stream despite your instructor's best efforts.

In some tunnels this means a 2-hours activity stop in order to successfully remove any loose items from the recirculating airflow.

EYDISA Wind Tunnels has cut down that time loss to under 5 minutes. Any staff member can check all the ducts within this time, because our system offers direct access to all points of the installation thanks to an exclusive architectural design.

On top of that, our technology also substantially lowers the possibility of any item getting trapped in the circuit.





16.7.2016

Time	Speed	Temperature	Altitude	Angle	Roll	Yaw	Acc X	Acc Y	Acc Z	G-Force	Engine	Brake	Clutch	Throttle	Steering	Buttons	Notes
19:47:08	158	25															
19:47:09	158	25															
19:47:10	158	25															
19:47:11	158	25															
19:47:12	158	25															
19:47:13	158	25															
19:47:14	158	25															
19:47:15	158	25															
19:47:16	158	25															
19:47:17	158	25															
19:47:18	158	25															
19:47:19	158	25															
19:47:20	158	25															
19:47:21	158	25															
19:47:22	158	25															
19:47:23	158	25															
19:47:24	158	25															
19:47:25	158	25															
19:47:26	158	25															
19:47:27	158	25															
19:47:28	158	25															
19:47:29	158	25															
19:47:30	158	25															
19:47:31	158	25															
19:47:32	158	25															
19:47:33	158	25															
19:47:34	158	25															
19:47:35	158	25															
19:47:36	158	25															
19:47:37	158	25															
19:47:38	158	25															
19:47:39	158	25															
19:47:40	158	25															
19:47:41	158	25															
19:47:42	158	25															
19:47:43	158	25															
19:47:44	158	25															
19:47:45	158	25															
19:47:46	158	25															
19:47:47	158	25															
19:47:48	158	25															
19:47:49	158	25															
19:47:50	158	25															
19:47:51	158	25															
19:47:52	158	25															
19:47:53	158	25															
19:47:54	158	25															
19:47:55	158	25															
19:47:56	158	25															
19:47:57	158	25															
19:47:58	158	25															
19:47:59	158	25															
19:48:00	158	25															
19:48:01	158	25															
19:48:02	158	25															
19:48:03	158	25															
19:48:04	158	25															
19:48:05	158	25															
19:48:06	158	25															
19:48:07	158	25															
19:48:08	158	25															
19:48:09	158	25															
19:48:10	158	25															
19:48:11	158	25															
19:48:12	158	25															
19:48:13	158	25															
19:48:14	158	25															
19:48:15	158	25															
19:48:16	158	25															
19:48:17	158	25															
19:48:18	158	25															
19:48:19	158	25															
19:48:20	158	25															
19:48:21	158	25															
19:48:22	158	25															
19:48:23	158	25															
19:48:24	158	25															
19:48:25	158	25															
19:48:26	158	25															
19:48:27	158	25															
19:48:28	158	25															
19:48:29	158	25															
19:48:30	158	25															
19:48:31	158	25															
19:48:32	158	25															
19:48:33	158	25															
19:48:34	158	25															
19:48:35	158	25															
19:48:36	158	25															
19:48:37	158	25															
19:48:38	158	25															
19:48:39	158	25															
19:48:40	158	25															
19:48:41	158	25															
19:48:42	158	25															
19:48:43	158	25															
19:48:44	158	25															
19:48:45	158	25															
19:48:46	158	25															
19:48:47	158	25															
19:48:48	158	25															
19:48:49	158	25															
19:48:50	158	25															
19:48:51	158	25															
19:48:52	158	25															
19:48:53	158	25															
19:48:54	158	25															
19:48:55	158	25															
19:48:56	158	25															
19:48:57	158	25															
19:48:58	158	25															
19:48:59	158	25															
19:49:00	158	25															
19:49:01	158	25															
19:49:02	158	25															
19:49:03	158	25															
19:49:04	158	25															
19:49:05	158	25															
19:49:06	158	25															
19:49:07	158	25															
19:49:08	158	25															
19:49:09	158	25															
19:49:10	158	25															
19:49:11	158	25															
19:49:12	158	25															
19:49:13	158	25															
19:49:14	158	25															
19:49:15	158	25															
19:49:16	158	25															



We use the best materials to guarantee the longest possible life for our tunnels.

Renewing the Air

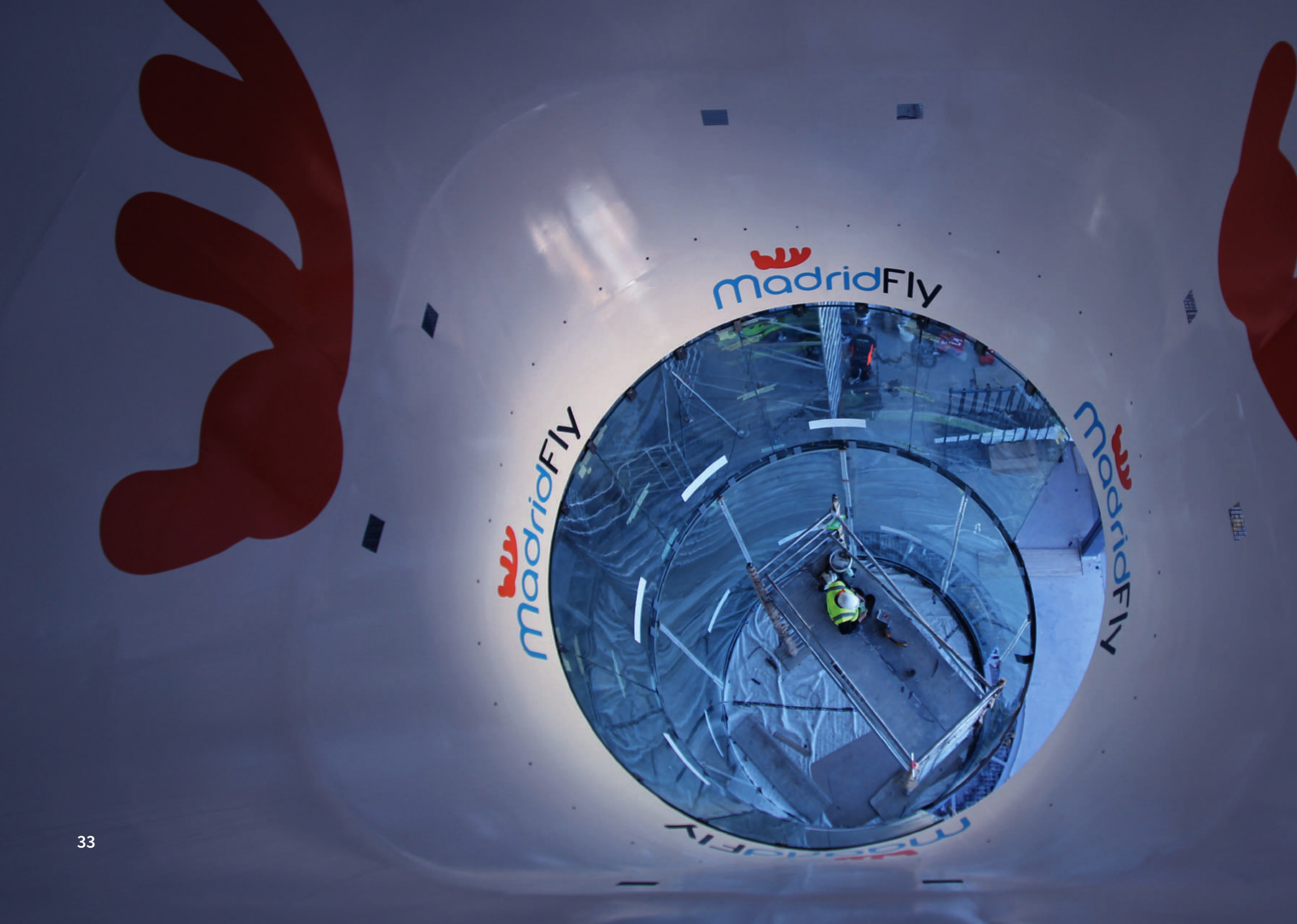
While recovering loose items is handy, renewing the air that is in the circuit is key. It helps keeping your staff and visitors healthy. If one ill person flies in the wind tunnel and the air never gets renewed, there is a high probability that within days more flyers or staff members will fall ill.

Long-lasting Tunnels

EYDISA's wind tunnels are not just made to outperform other wind tunnels, but also to outlive them. Whenever we build a wind tunnel, we aim to get 30 to 40 years of high quality performance out of it.

Replace your engine in 24 hours

However, engine manufacturers cannot guarantee a 40-year period of smoothly running engines, which is why we have also installed a system that allows the quick extraction of engines and frequency drives, dropping the replacement time to under 24 hours while other wind tunnels need up to more than two weeks.





CONSTRUCTION

Building a Wind Tunnel

CONSTRUCTION

Step by Step

The decision to build a wind tunnel

Building a wind tunnel is a big step and we feel that such an important decision needs to be as well thought through as possible. A project of this size demands months of dedication and requires an important financial investment. Whenever a potential client seriously considers building a wind tunnel with us, we invite him to see our design up close and make sure to adjust it to the individual client's specific needs.

How to choose the right type of wind tunnel

Unlike what many people think, wind tunnels do not only come in a variety of shapes and sizes but can also have fundamental differences in other areas. Some very important varying aspects of wind tunnels are:

Safety

Air flow quality

Energy efficiency

Flyer comfort

Ease of maintenance

Choosing the right wind tunnel can be compared to buying a car. The perfect car for you depends on what you want to accomplish with it.

Choosing a partner to build your wind tunnel

EYDISA Wind Tunnels is 100% committed to building excellent wind tunnels. We don't just provide the tunnel technology, we partner with you throughout the entire process. We take great pride in making sure every single wind tunnel built by *EYDISA* is a prestigious machine that inspires respect and admiration.

Building your wind tunnel

Once you have chosen a partner, the planning phase begins, where the specifics of your wind tunnel are addressed. As soon as the planning is finalised, permits are obtained and the building works commence. Normally the building phase takes between 12 and 18 months to complete, although *EYDISA Wind Tunnels* also excels in this area. Today's largest facilities in Europe (*MadridFly*) including a restaurant, meeting rooms etc. were constructed in just 13 months, of which the tunnel technology itself took 6 months to be installed.

Running the business

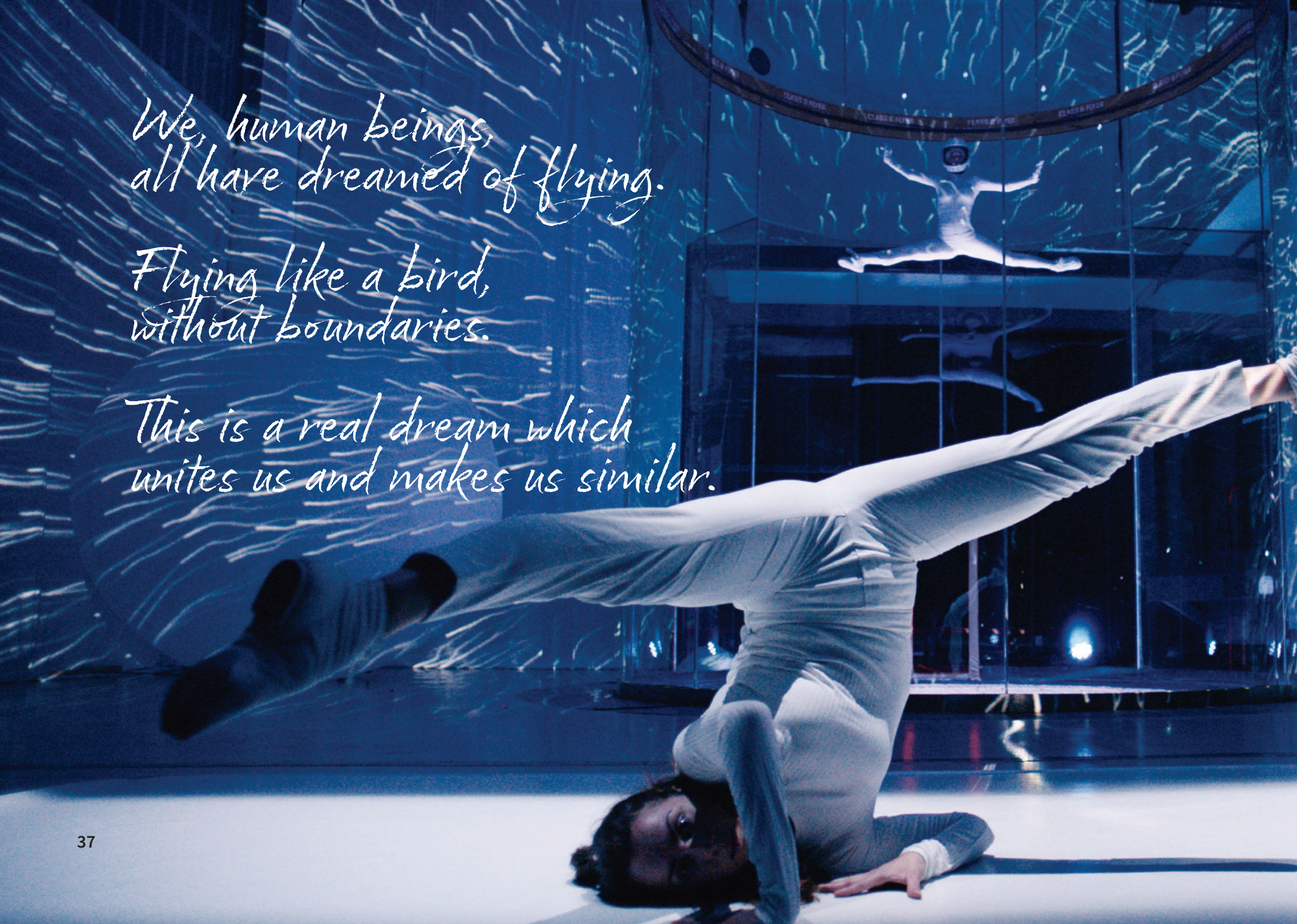
Before opening a wind tunnel to the public, it is recommended and common practice to run a testing and calibrating period of about one month, during which the tunnel staff usually gets trained. This guarantees safe and flawless operation, well ahead of your big opening day. The testing period shouldn't delay the project in any way, as your tunnel can easily be operational a month before the rest of the building is completed.



*We, human beings,
all have dreamed of flying.*

*Flying like a bird,
without boundaries.*

*This is a real dream which
unites us and makes us similar.*





AtmoDance

Modern Aerial Dance Company

Our passionate team, *MAD (Modern Aerial Dance Company)*, is working tirelessly to transform indoor freefall from a sport into an art form. As the first wind dance theatre in history, MAD has created an entirely new interdisciplinary genre: AtmoDance.

“Atmo” is a Greek word meaning “air.” *ATMODANCE*, or atmospheric dance — also known as Windballet

or Airdance — is a performing arts genre in which one or more artists perform aerial acrobatics and contemporary ballet while freefalling inside a wind tunnel.

The choreography of the artist or artists is always combined with light and sound. AtmoDance is a new type of contemporary dance performed in an extraordinary environment.



Training Your Staff

Well Trained Instructors and the best technology.

Appropriate staff training can make or break your daily wind tunnel operations. Having the safest wind tunnel technology means nothing if the staff is not equally well trained. As in all sport related activities, even with the best equipment there is a chance of injury. However, this chance can be drastically reduced if the staff is properly trained and the wind tunnel maintenance is up to date.

Alberto Fuertes has guided the start-up of 9 different wind tunnels worldwide. He has trained their Chief Instructors and in most cases their entire initial staff. Throughout his career in wind tunnel flying, he has extensively studied all the occurring incidents and along with other experts in the field, he has established an organisation called *Tunnel Instructor Org*, guaranteeing the highest safety standards and methods for best-practice in tunnel flying and tunnel operations.



tunnelinstructors.org

Is a non-profit organization aiming to make tunnel flying a safer and more enjoyable sport.

OTHER SERVICE SOFTWARE





Booking & Invoicing System Software

Photo & Video System

The photo and video system (PVS) developed by Digital Pzaz allow an easy online after-sales website, where customers can purchase their photos and videos.



Caracas Fly

It open in 2022 and it has been very successful since the start, operating 23 hours per day.

CaracasFly is the largest Wind Tunnel in South America, located in Caracas, Venezuela.

This wind tunnel has many improvements compared to the one at *MadridFly*. Wind quality has improved significantly due to changes made to the internal duct geometry. The cooling system has been upgraded, increasing its efficiency. The antechambers have been reinforced with a metal structure and thicker glass.

The software has been improved, and there are many other small improvements implemented.

CaracasFly is configured for pro flyers, using engines one size larger than those at *MadridFly*. Even so, *EYDISA* 15-Foot Wind Tunnel remains the most energy-efficient on the market.



Athens Wind Tunnel Construction





3RD WIND TUNNEL

AthensFly

AthensFly is our third tunnel. This tunnel will be operated by the Greek Army.

This model is very similar to *CaracasFly*. It's a 15-foot tunnel where we've added a door in the diffuser, allowing flyers to jump into the flight chamber, the "*base door*".

We've further improved the cooling system and completely redesigned the air renewal system. The new system is much simpler, more efficient and fully automated.

Its opening is scheduled for the end of 2026.



INFO@EYDISA.COM
+34 626 733 227
WWW.EYDISA.COM