

# BREATHE TOGETHER



 **AGARTA**  
CREATIVE SOLUTIONS

**labulle**<sup>®</sup>  
personal protection 2.0

A NEW ERA

# Ascertainment

Since March 2020, the global COVID-19 epidemic has forced nations to take urgent measures to limit the spread of the virus: **confinements, barrier gestures, wearing masks, increasing tests, limiting or banning gatherings of individuals, social distancing, curfews ...**

During this health crisis, many business sectors were severely impacted. **Those involved in culture and the world of entertainment are in particular experiencing an unprecedented exponential economic crisis, the events still being very limited, even prohibited.**

The choral singing activity, which concerns several million amateurs around the world, is considered one of the most risky cultural activities. The air exhaled while singing increases the viral load in a closed environment and despite large distances between people, the risk of spread and contamination remains very high.

As a result, and with a few rare exceptions, this activity has remained at a standstill since the start of the pandemic. Following this observation, and while waiting for a vaccine, it was urgent to imagine an effective protection system allowing the secure grouping of choristers and at the same time also allowing spectators to gather.





## NEW PERSONAL PROTECTION

# LaBulle®

Imagined by Emmanuel PATERNE, French company director and choir director (see presentation and interview in appendix), **La Bulle® is an FFP2 (N95) type filtering suit**, totally transparent, very light and with a refined design that **effectively protects the respiratory and ophthalmic** tract for user while **ensuring normal, fluid and improved breathing thanks to a silent ventilation system.**

This protection is fully integrated into the health protocol in force and allows the regrouping of individuals without any distancing: concerts, shows, museums, cinemas, choral singing, theaters, nightclubs, universities ...

**The bubble® allows you to breathe together !**

It can also be used, among others, by the protagonists of **education, catering or health.**

Currently, only 4 projects of this type are developed worldwide but are more expensive and more restrictive for the user (see comparative study in the appendix).

## TECHNOLOGY FEATURES

# LaBulle®

**Very light and comfortable to wear**

**Quick set up and practical storage**

**Ease of external and internal cleaning**

**Easy to change FFP2 filter tablets**

**Hydration: Hermetic valve**  
for inserting the drink tube

**Suitable for wearers of glasses or hearing aids**

**Easy maintenance and repairable by the user** (excluding polymer)

Desired public sale price  
**59 €**

- **Assistance in the extraction of exhaled air** (nitrogen, carbon dioxide, humidity) by battery-powered fan (rechargeable). Avoids fogging and allows a steady flow inside the bubble.

Fan usage time : 8 to 42 hours (varying depending on battery capacity)

- **Transparent polymer screen offering** offering a perfect panoramic vision.

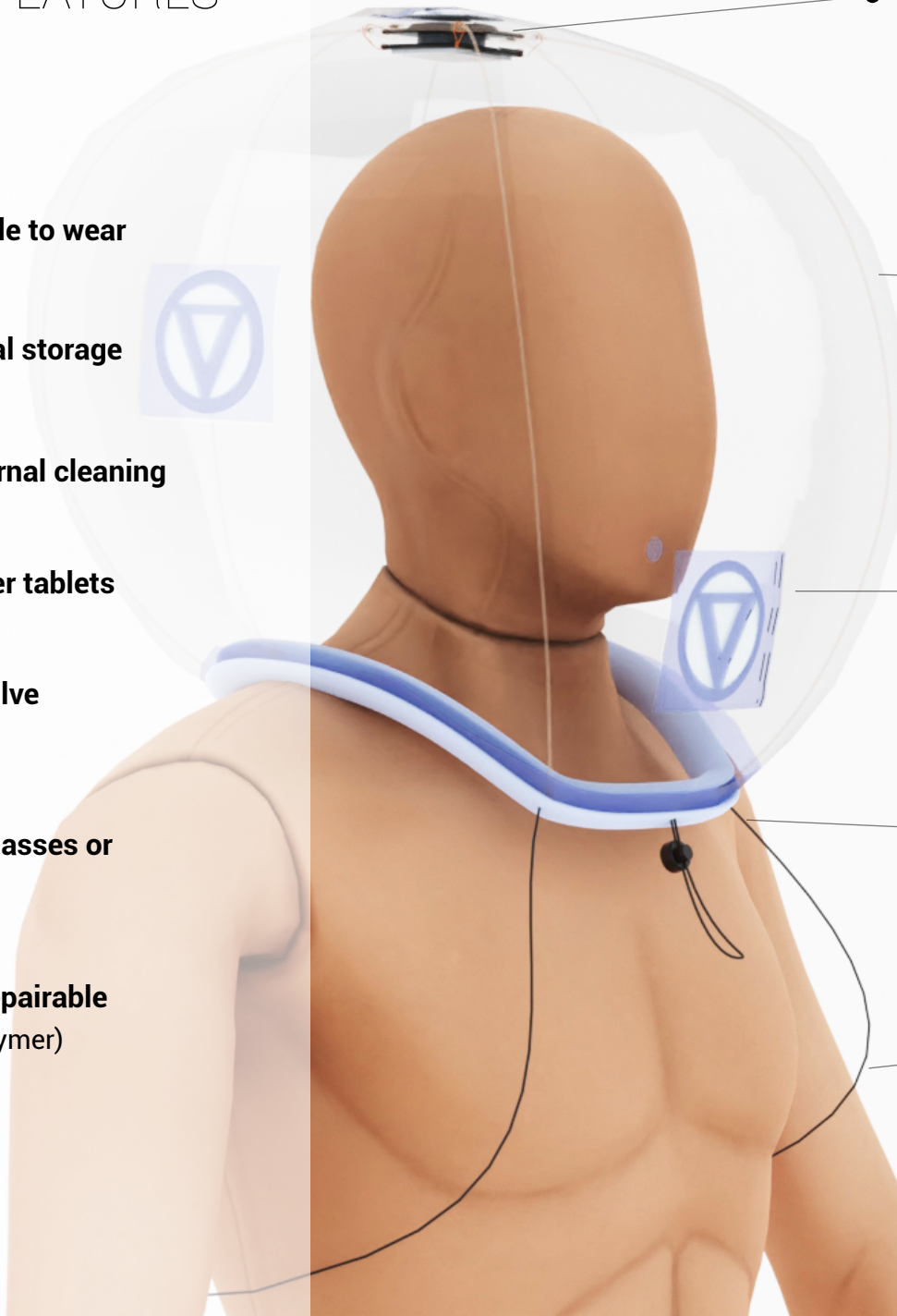
This flexible material also helps to relieve, by external pressure, the temporary natural itching of the face.  
Biocide and bactericide treatment.

- **FFP2 (N95) filtration of air inlets and outlets of the bubble**

Option FFP3 (N99/N100)

- **The support collar** adapts to different types of morphology

- **« Lock Laces » system** for maintaining the bubble when moving



## TEAM PRESENTATION

# LaBulle®



### **Emmanuel PATERNE**

Creator-Designer of « LaBulle® »

Passionate since his childhood by human interactions, management, technology and music, Emmanuel PATERNE's versatile and atypical professional career has allowed him to acquire solid experience in many fields. After ten years of music conservatory carried out in parallel with his technological studies, a license in musicology, three years as a trainer in computer science and office automation, he co-created with a friend in 2002 in the Drôme (France) a commercial company bringing together his main centers of interests: music, computers, and Human. In 2007, he created a second service company dedicated to his new parallel activities: choir direction, public speaking coaching, team building and experience sharing in companies. He will intervene in particular for companies such as EDF, Orange, Crédit Agricole, Société Générale, Rians, Sanofi-Pasteur or GlaxoSmithKline and associations such as « Club des jeunes Dirigeants », « Club Agile Provence » or « la Ligue des Optimistes de France ». For ten years, he was also a volunteer leader within « Initiative France », sponsor and trainer of young business creators and member of approval committees.



### **Frédéric PATERNE**

Marketing & networks

After having been responsible for communication / marketing and sales management in a company focused on sustainable development, Frédéric created his creative studio in 2009. After a few years in the Paris region as artistic director-creator and communication consultant for many brands and organizations, he created AGARTA, an agency for strategic design and image engineering. Actually, he works on extended realities projects for different industrial solutions.



### **Ugo BIMAR**

Visual art & 3D design

Ugo, based in Paris, has been a filmmaker and special effects filmmaker for 20 years. Passionate about history, he has notably written, produced and directed the YouTube web series «Confessions d'histoire » which now has more than 150,000 subscribers with more than 5 million views.



# INTERVIEW WITH

## Emmanuel PATERNE

**Q : When and how did you come up with this idea ?**

**EP :** The choral singing activity was immediately impacted from the start of the pandemic. Concerts and festivals were all postponed, cinemas and theaters, among others, were closed to the public, humans could no longer assemble... It was unreal ! The visors and masks were unavailable at the start of sanitary confinement, so I quickly imagined a first draft of this protection system with the idea of allowing the choristers to continue rehearsing together. As the exhalation of the air generated by the singing voice is indeed more intense than that of the spoken voice, the viral load increases rapidly in closed environments.

The virus is transmitted by the respiratory and ophthalmic tracts, it was therefore obvious that for an optimal protection, it was necessary to isolate the whole head ! Quickly, I therefore envisioned a "homemade" DIY, very inexpensive, accessible and easily achievable by everyone with common materials available in local shops.

I imagined a home-made pentagonal rhodoid prism but there were too many uncontrolled elements such as mist, temperature, extraction of exhaled air and general airtightness.

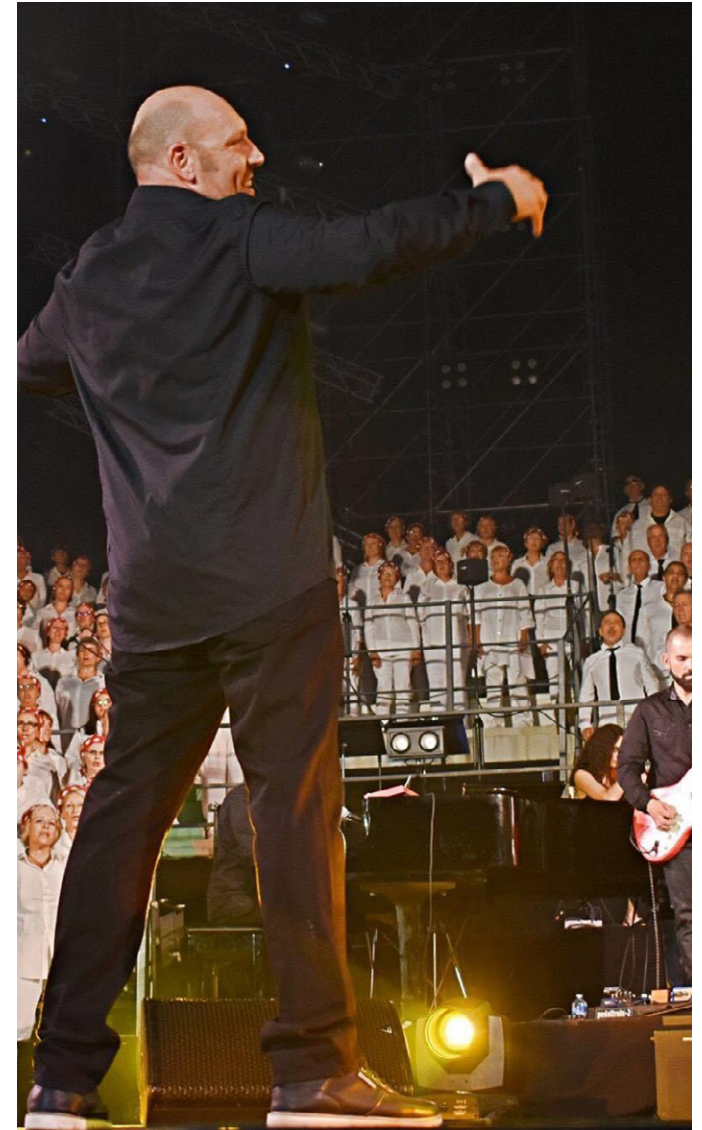
So I gave up on the idea and did like everyone else, I waited and hoped that this crisis would not last or that a manufacturer would offer a similar type of protection ...

**Q : Finally, You relaunched the project ...**

**EP :** Most of my professional time is spent doing things that bring people together, so this virus has compelled me to take action. Regarding the total and general stopping of the choral singing activity, I actually had two ideas. The first idea was to evolve towards a virtual "live choir" but this process is currently only partially feasible with the technology at our disposal.

Each member of the choir should indeed be equipped with an augmented reality headset, an amplified hearing system and a microphone. Everyone would connect via the Internet to a virtual amphitheater with their own avatar to sing live with the others connected. When it comes to immersion and interaction in a virtual environment, there are many online games that already use this system and it works. Sound management, meanwhile, is currently technologically impossible because the latency and spatialization of live sound would require complex IT management and a very high connection speed. This would require a significant financial investment for each participant as well as individual technical training.

Either way, virtual reality will never replace what we experience and feel in a real choir, but it would allow us to sing together while we can resume "normal" social life. So I only had the solution of the "diving suit" to allow my activities to resume safely and I therefore started to draw a first sketch of the "bubble".



INTERVIEW WITH

# Emmanuel PATERNE

**Q : You finally went beyond the sketch ! What was your motivation to continue?**

**EP :** This health crisis made us all realize that we were neither prepared nor equipped in a personal capacity for such a situation. As of now, and for the future, having a respiratory and ophthalmic protection system is therefore obvious and unavoidable. A multitude of protective equipment for the human body is available to the general public, but when it comes to air filtration, professional "asbestos" type masks are expensive and in limited stock. In France, gas masks, for their part, are considered "category II weapons" (article L.311-2 of the CSI) and are reserved for military use. In the years to come, we are not immune to an epidemic caused by mega-viruses already released by the melting permafrost or accidental air pollution caused by the fire in a warehouse in chemical products. I was also surprised that no manufacturer has anticipated this type of situation in recent years by developing a consumer product like "La Bulle". If this had been the case, the schools would have remained open, the shows, the meetings and all the gatherings of individuals would have continued, the visits to authorized EHPADs thereby limiting the sliding syndromes, many companies would still be in activity and the choirs would have continued to sing !

All these reasons therefore motivated me to continue on this project and whatever the purpose, I would have at least proposed a solution.

**Q : What were the next steps?**

**EP :** My basic training in electrical engineering and my ease with technical drawing allowed me to quickly make detailed sketches with precise specifications, but I lacked certain skills to move forward more concretely. I therefore had to build a team of people who were trustworthy, available, competent, efficient, motivated and above all, a force for proposal.

My brother Frédéric runs the company AGARTA, a strategic design agency at the cutting edge of communication and Augmented Reality technology. I like their know-how, their interpersonal skills, their motivation and their involvement in new challenges. So I told him about it and he immediately joined the project by mobilizing his team and his professional network.

For the virtual creation of "La Bulle", I needed someone who could accompany me on the 3D design phase. So I contacted Ugo BIMAR, a childhood friend, who specializes in visual effects and digital effects. He has worked for TV commercials, international films, short films, including the exciting YouTube web series "Confessions d'Histoire". He was also immediately motivated ! We worked together on the design and fine-tuned the details. I also could not move forward without a serious study of the materials considered for manufacture.



On the advice of a friend, I contacted Didier PERRIN, professor at IMT Mines in Alès and specializing in the study of hybrid polymers and composites. He also quickly joined the project by offering it for study to his 27 engineering students who were a source of proposals during their defense.

Today the "I" has become "us" and this project could never have progressed without all these competent and motivated people !

# INTERVIEW WITH **Emmanuel PATERNE**

## **Q : How do you see the future?**

**EP :** I have already personally made several "in-house" prototypes and even if the system works, it is necessary to move on to the final prototyping phase which will allow fine-tuning of the last details before calmly launching a sale. The 7Tech company wishes to accompany us for the production of the prototype as well as the SGROUP company for additional technical tests. To finance this prototype, we are going to launch a crowdfunding on social networks and at the same time carry out an audit with the general public.

## **Q : Do you think the people are ready to equip themselves with a bubble ?**

**EP :** Personally I find the concept futuristic and to be honest my brain isn't prepared for it yet (laughs). Masks are now part of our daily lives and over time we have all got used to using them and seeing them worn. This is of course a paradigm shift but do we have a choice ?

While waiting for an effective vaccine, either someone finds another means of protection that allows everyone to breathe again together and without distancing, or everyone stays at home watching this health crisis transform into an economic and social crisis. For me, the question today is not : "Do I want to use this equipment?" or "do I see myself wearing this?"

But rather "given the environmental changes expected in the years to come, do I really have a choice if I still want to live my community activities?"

Personally, today I would like to have such equipment to protect myself and my family and be able to continue to have a safe social life. I would also be more at ease in the event of a similar future situation ... although of course, I wish I never had to use it !







# labulle®

BREATHE TOGETHER AGAIN



Contact & Relationship  
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OUR PARTNERS

