



MAISON MUMM

announces its collaboration
with Axiom Space:

Mumm Cordon Rouge Stellar champagne,
a symbol of our culture, will embark
on future human space flights



PARIS - Maison Mumm revealed the final design of Mumm Cordon Rouge Stellar, the first champagne bottle and tasting experience designed for space travel and human spaceflight. In a historic collaboration with Axiom Space, a leader in commercial human spaceflight, Mumm Cordon Rouge Stellar will join Axiom's human spaceflight program and fly on future space missions.

Beyond the technological challenge, Mumm Cordon Rouge Stellar participates in making our culture and its rituals a part of history wherever humankind explores new territories. Initiated in 2017, this ambitious project has now achieved full compliance with space cargo specifications and AOC Champagne regulations. Following on this achievement, Mumm Cordon Rouge Stellar will join Axiom's upcoming crewed missions to low Earth orbit and extend the collaboration to Axiom Station, the world's first commercial space station, to test and discover the tasting ritual in the real conditions of space.

COMPLIANCE WITH THE SPECIFICATIONS OF THE CNES AND THE AOC CHAMPAGNE

True to the avant-garde spirit that has been driving it since 1827, Maison Mumm has been pursuing a project since 2017 that is as ambitious as it is innovative. The first Mumm Cordon Rouge Stellar model presented in 2018 set the framework for the project's different aspects – culture, designinnovation, wine - and generated

observations - technical and oenological - useful for the development of the second model to be certified.

Surrounded by the best experts in their field, Maison Mumm continued the research and experimentation - in collaboration with Octave de Gaulle, founder of SPADE, an agency specialized in the design of objects for space application, and the Centre National d'Etudes Spatiales (CNES), the national French space agency. Laurent Fresnet, Maison Mumm Cellar Master, also participated in a parabolic flight in order to understand the impact of zero-gravity conditions on the wine and guarantee its integrity in the finalization of the specific blend of the Mumm Cordon Rouge Stellar cuvée.

After four years of this new phase of research of development, Mumm Cordon Rouge Stellar has now achieved full compliance with space requirements certified by the CNES, attesting to its readiness for future space flights. Furthermore, Mumm Cordon Rouge Stellar respects AOC Champagne regulations, certifying the integrity of the wine.

MAISON MUMM AND AXIOM SPACE: TERRESTRIAL CULTURE AT THE OUTPOST OF HUMANITY IN SPACE

Maison Mumm is taking champagne into a new era of human history. Jean-François Clervoy, French European Space Agency (ESA) astronaut and veteran of three NASA space missions,

collaborated on the project and comments: *"In space, it is essential to maintain a link with Earth and its culture. As a symbol of the art of living that has endured through time, champagne has this universal appeal."*

Space exploration allows us to have a better observation and understanding of our own world. It also generates technological innovations that help change our lives on Earth and research that creates progress in various fields.

If the notion of progress is inscribed in the founding identity of Maison Mumm, the Mumm Cordon Rouge Stellar project gives a definition that goes far beyond champagne. It is part of a much larger vision for humankind: a vision that the champagne House shares with Axiom Space and which has led them to announce their collaboration to establish terrestrial culture at the outpost of humanity in space.

The Mumm Cordon Rouge Stellar champagne will embark on an upcoming Axiom Space mission to test the tasting ritual in real space flight conditions. This will help finalize the development of the experience and make last-minute adjustments.

The ultimate goal is for Mumm Cordon Rouge Stellar to participate in the pursuit of space exploration by taking part in life on board the station currently being developed by Axiom Space. As a result, space travelers will be able to

enjoy a product that comes from Earth's soil as well as the savoir-faire of humankind, a symbol of our culture.

Champagne allows us to recreate an emblematic ritual of celebration and conviviality that brings us together on Earth: a real link that conveys common values.

The champagne will be used to recreate an iconic celebration ritual that brings together humans on Earth and allows future professional and private astronauts to experience this ritual of conviviality in space where it could prove to be of utmost importance. As a symbol of terrestrial culture, Mumm Cordon Rouge Stellar champagne will serve as a universal beacon, uniting international crews around common values on their most challenging journeys.



Jean-François Clervoy





100% French: demanding production and a high-tech design

In order to comply with the dual space-AOC Champagne specifications, Mumm Cordon Rouge Stellar had to meet a complex set of constraints (e.g. gaseous liquid in the absence of gravity, pressure contained in the bottle, food compatibility, material specifications, size, ergonomics and intuitive use). All technical questions related to the design were addressed by Octave de Gaulle, the founder of SPADE, with the active support of CNES and the Comat design office.

Mumm Cordon Rouge Stellar is designed in three parts:

Contained in a half glass bottle, the wine is secured by a **1.** perfectly reliable stainless steel opening-closing device. It only comes into contact with glass and stainless steel, identical to Mumm's blending vats in Reims - two materials that ideally ensure its preservation.

This assembly fully meets the constraints dictated by the champagne.

A shell made of aeronautical-grade aluminum protects the **2.** glass bottle.

The upper part, known as the "service" part, is composed **3.** of a long neck topped by a cork and a ring (which allows the cork to be retained and locks the bottle's stainless steel mechanism).

These two elements fully respond to the constraints dictated by space.

With its futuristic appearance, Mumm Cordon Rouge Stellar nevertheless has a shape that's similar to a traditional champagne bottle and reproduces as faithfully as possible the ritual of champagne tasting.

"This project is, of course, very stimulating because of its highly technological nature and its 100% French identity, from design to manufacturing. But it is also very exciting because technology serves a greater purpose here: champagne condenses the memory of a terroir, a climate, an ancestral savoir-faire and tasting sensations for all those who will evolve far from Earth," comments Octave de Gaulle, founder of the SPADE agency.



Octave de Gaulle

A BLEND OF MUMM CORDON ROUGE ADAPTED TO TASTING IN SPACE

The conditions of tasting champagne in space differ on the physiological level with an alteration of the sense of smell. The behavior of the champagne is also modified: the bubbles no longer rise to the surface, so they don't release the aroma molecules they contain.

The sensory sequence is specific, creating new sensations. First, the sense of sight is solicited then the wine - in the form of foam - enters in contact with the lips and mouth and is inhaled through the mouth. Once inside the mouth, the foam coats the walls as capillary action takes place. The overall perception of the wine changes with the decrease in olfaction, which is a main feature of wine tasting. Certain notes are perceived more than others.

Taking into account these specific parameters, Laurent Fresnet has selected a blend of Mumm Cordon Rouge made with grapes from the 2016 harvest, which includes a majority of Pinot Noir - the House's signature grape variety - and is supplemented with reserve wines from the past five years (up to 36%). *"My goal was to retain the freshness and power of Mumm Cordon Rouge, and to enhance the intensity of its aromas with more aging and a dosage liqueur made with wines aged in oak barrels,"* explains Laurent Fresnet, Maison Mumm's Cellar Master.



Laurent Fresnet

With an aging on laths extended to five years, the champagne has developed notes of ripe yellow fruit and vine peach, but also dried fruit, hazelnut and praline. Aged in oak barrels, the dosage liqueur, elaborated from wines, brings a touch of vanilla and pastry notes. As a result, Laurent Fresnet has reinforced the characteristics of the Mumm style - freshness, intensity, complexity - in tasting conditions where the senses - olfactory and gustatory - are altered.

Michael Suffredini, Axiom Space's President & CEO, says: "Axiom's collaboration with Mumm and the Mumm Cordon Rouge Stellar recognizes that, to bring humanity to space we can't just bring humans, we need to bring human traditions. This philosophy of celebrating humankind empowers our goal for Axiom Station, a next generation destination that will serve as a thriving home in space to enable a diverse space economy, further exploration and enable more of humanity to access space."



César Giron

César Giron, President of Maison Mumm, says: *"Innovation has been part of Maison Mumm's identity since 1827 and Mumm Cordon Rouge Stellar is a perfect illustration of this. This project brings together the French savoir-faire of excellence for the benefit of conviviality that is so dear to us here on Earth. As early as 1904, Mumm was present on board with Commander Jean-Baptiste Charcot to celebrate the first successful French expedition to Antarctica. Tomorrow, it will accompany the life of the pioneers of the 21st century in the same way in this new territory that is space"*.

About



Mumm is part of Martell Mumm Perrier-Jouët, the prestige cognac and champagne business of Pernod Ricard, the world's n°2 in wines and spirits. With its distinguished heritage dating back to 1827, Mumm is the leading super Premium champagne House in France and third worldwide*. Mumm Grand Cordon pays tribute to the iconic red sash – indented in the glass as part of a whole series of innovations. The revolutionary bottle is the perfect embodiment of the spirit of the House associated with audacious challenges and groundbreaking endeavors.
* IWSR 2019



CNES (Centre National d'Etudes Spatiales) is the public establishment responsible for proposing French space policy to the Government and implementing it in Europe. It designs and puts satellites in orbit and invents the space systems of tomorrow; it promotes the emergence of new services that are useful in everyday life. CNES, created in 1961, initiates major space projects, launchers and satellites and is the natural partner of industry for pushing innovation. CNES has nearly 2,400 employees, men and women who are passionate about space, which opens up infinite, innovative fields of application; it intervenes in five areas: the Ariane launcher, scientific research, observation, telecommunications and defence. CNES is a major player in technological innovation, economic development and industrial policy in France. It also establishes scientific partnerships and is involved in numerous international projects. France, represented by CNES, is one of the main contributors to the European Space Agency (ESA).



Axiom Space is guided by the vision of a thriving home in space that benefits every human, everywhere. The leading provider of human spaceflight services and developer of human-rated space infrastructure, Axiom operates end-to-end missions to the International Space Station today while privately building its successor, Axiom Station, the first permanent commercial destination in Earth's orbit that will sustain human growth off the planet and bring untold benefits back home

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