



DEEP SEA

PARTNER:



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www.heinz-fritz.com

Company HEINZ FRITZ was established in 1950

Now, in second generation the company is led by Heinz Fritz, his wife Sabine Hildebrandt and their sons Jakob Antoniuk and Julian Mecklenburg (third generation)

We work with 40 highly trained employees to manufacture - amongst others - large acrylic windows and tanks for public aquariums. Therefor Heinz Fritz developed an excellent and worldwide unique gluing system. Our machinery park grew up to a huge scale:
We do - for example - thermoforming or annealing up to 15 x 4,5 meter. In our 5-axis machining center we can mill up to 20 x 5 x 2,5 meter in highest precision. This made the manufacturing of hemispherical windows for manned submersibles possible in 2010.

In 2014 company HEINZ FRITZ was able to deliver 4 perfect Nemo windows with an application depth of 1000 m.

Certificated by Germanischer Lloyd and ABS.



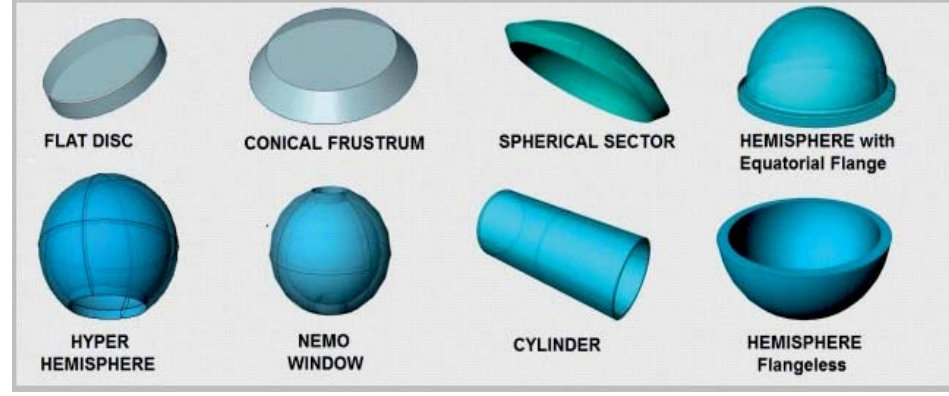
In tight cooperation with our customers we challenge and think of every aspect seriously. We optimize, construct, draw and calculate all acrylic windows to the desired application.

Specification of material and manufacturing surpasses PVHO newest edition.

HEINZ FRITZ production processes are certified by Germanischer Lloyd.

Made in Germany.

There is no barrier for your vision with our experience and leading competence.



Certification of Material Manufacturer
Zertifizierung von Werkstoffherstellern

GL

Heinz Fritz Kunststoffverarbeitung
GEWERBESTRAßE 11
D-89542 HERBRECHTINGEN
GERMANY

This is to certify that the works of
Herrn Fritz sind beschneidet, dass die Firma

has an appropriate quality-assurance system, which has been subjected to a specific assessment for materials in accordance with the European Pressure Equipment Directive 97/23/EC in its valid version and has shown the capability for the manufacture of the following products:

ein polierfähiges Qualitätsmanagement-system anwendet, welches einer werkstofftechnischen Bewertung gemäß der Europäischen Druckgerätrichtlinie 97/23/EG, in der gültigen Fassung, unterzogen wurde und die Fähigkeit nachgewiesen hat, folgende Erzeugnisse herzustellen:

Acrylic Windows
from raw material - none laminated acrylic castings
Acrylglasteuer aus Rohmaterial - gegossenen, unlaminierten Acrylglasteilen

Manufacturing process:
Herstellungsverfahren:

Joining of acrylic castings by bonding (max. thickness 200mm)
(for PVHO applications - only for membrane compressive stress)
Verbinden von Acrylglasteilen durch Verklebung (max. Dicke 200mm)
(für bemannte Druckbehälter - nur für Membran-Druckbeanspruchung)
Machining, surface finishing (grinding, polishing), tempering
Spanende Bearbeitung, Oberflächenbearbeitung (Schleifen, Polieren), Tempern

This certificate is granted provided that all materials intended to be used for the construction of pressure equipment comply with the requirements of EC-Directive 97/23/EC.

Die Zertifizierung erfolgt unter der Voraussetzung, dass alle Werkstoffe, die für den Bau von Druckgeräten bestimmt sind, die Anforderungen der EG-Richtlinie 97/23/EG erfüllen.

As the above mentioned materials do not comply with a harmonized standard, a particular material appraisal is required for the individual application.

Da o.g. Werkstoffe keinem harmonisierten Standard entsprechen, sind für die jeweiligen Anwendungsbereiche Einzugsurkunden zu erstellen.

Certification No.
Zertifizierungs-Nr.

DZ 126 HH 2

This Certification is valid until:
Diese Zertifizierung ist gültig bis:

2016 / March

Part of the certification is our letter Ref. No. 10-086310 dated 2010-07-28 and Report 13-003 dated 2013-04-17

Bestandteil der Zertifizierung ist unser Anschreiben, Typ-Nr. 10-086310 vom 2010-07-28 und Bericht 13-003 vom 2013-04-17

Hamburg, 2014-03-17

Germanischer Lloyd

Notified body (no. 0098) according to EC-Directive 97/23/EC
Benannte Stelle (Nr. 0098) gemäß EG-Richtlinie 97/23/EG

M.D. Hagen
Karsten D. Hagen

Place of performance and jurisdiction is Hamburg. The latest edition of the General Terms and Conditions of Germanischer Lloyd is applicable.
Ort der Leistungserbringung und Erfüllungsort ist Hamburg. Es gelten die Allgemeinen Geschäftsbedingungen des Germanischer Lloyd in ihrer jeweils aktuellen Fassung.
Es gilt deutsches Recht.

We work with PLEXIGLAS® (Polymethylmethacrylat - PMMA)

Due to the unique polymerisation process extraordinary optical and mechanical properties can be provided. Already the windows of the bathyscaph Trieste (diving depth 11000 m) had been made of PLEXIGLAS®. The absolutely colorless and clear material has an unequalled resistance to weathering and aging without any yellowing.

PLEXIGLAS® meets the requirements according to the ASME-PVHO, the DNV-GL and European pressure equipment directive. The PLEXIGLAS® Type 0Z00, which is used in this case is approved by the DNV-GL. The certification of Type 0Z00 in accordance with the ASME-PVHO as a custom casting Type 1 underlines the high quality level.

PLEXIGLAS® stands for the best quality.

Two brands one product: Evonik Industries manufactures its PMMA products under the ACRYLITE® brand in the Americas. Everywhere else in the world the brand is PLEXIGLAS®.

HEINZ FRITZ
manufacturing
starts with careful
control of the
casted PMMA:
Is transparency, purity
or dimension ok?

Every
- even smallest-sized -
inclusion, dirt or bubble
will be detected by
illuminating of the block
material.

We have to be
100% sure about the
raw material before we
start to work. To assure
perfect quality.





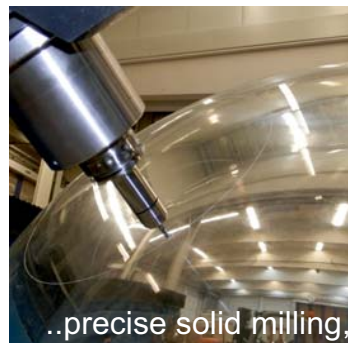
Our highly educated employees do CAD-



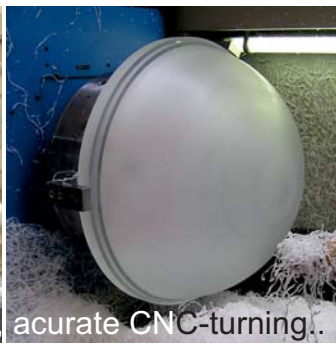
drawing.. ..programing..



..thermoforming..



..precise solid milling,



acurate CNC-turning..



..invisible gluing..



..designing, building, handling of special tools



grinding and polishing to brilliant performance!



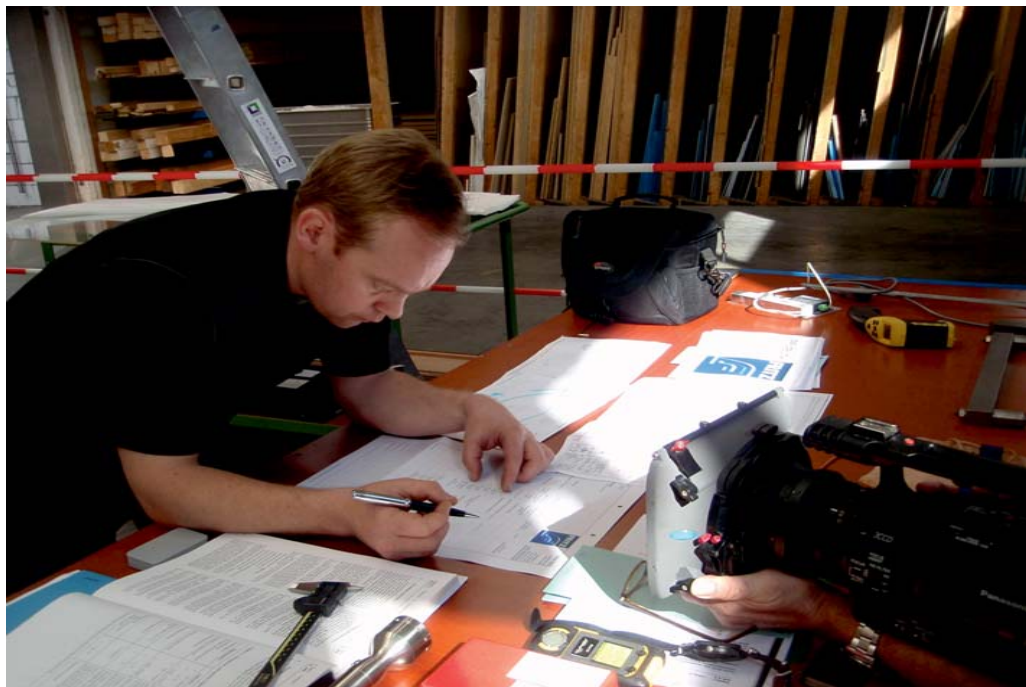
A new dimension in bonding of acrylic.
Aquarium convention EUAG - Stralsund, Germany

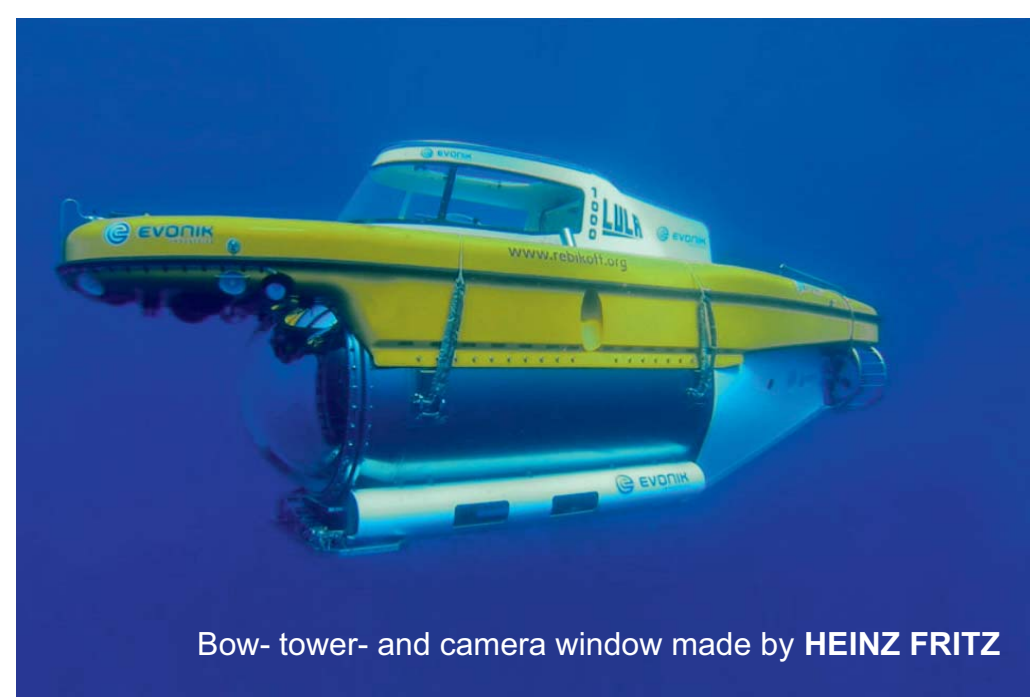


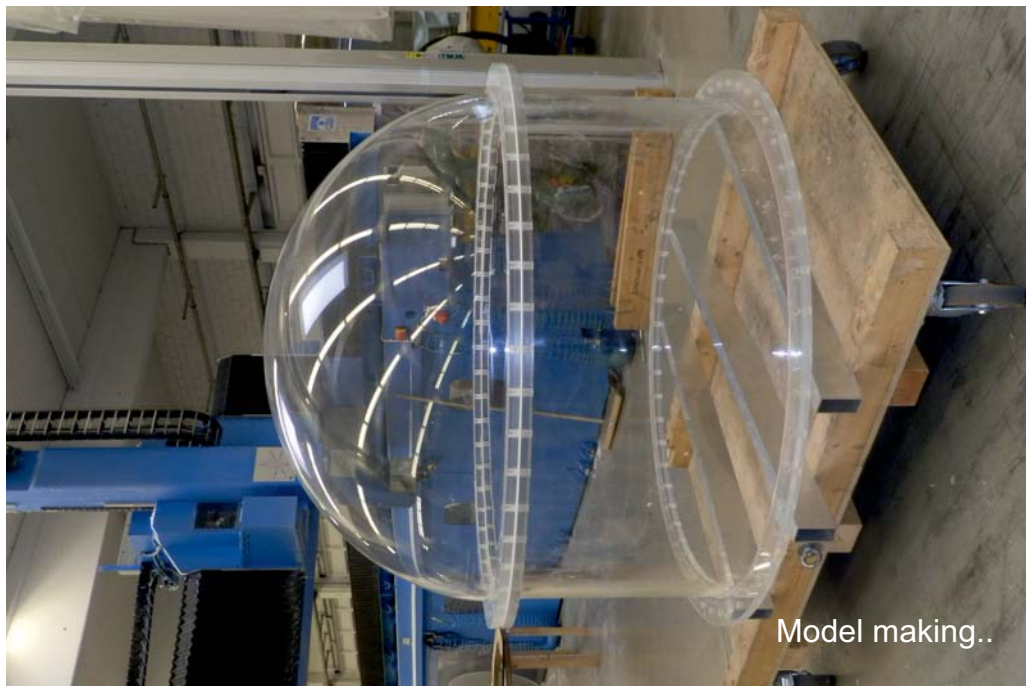
..finishing for approval

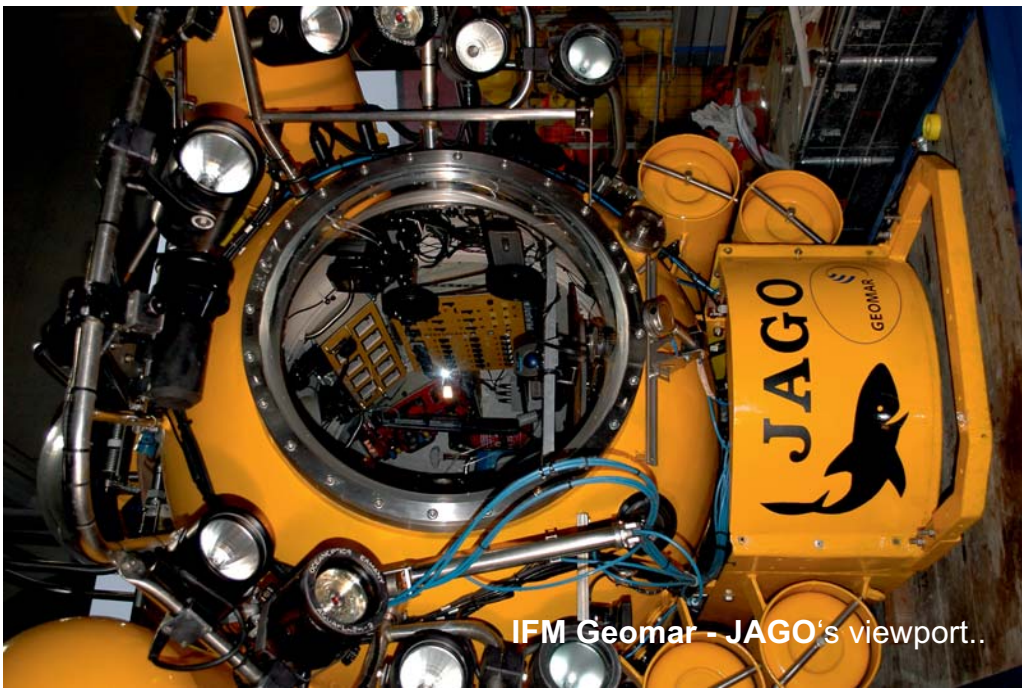










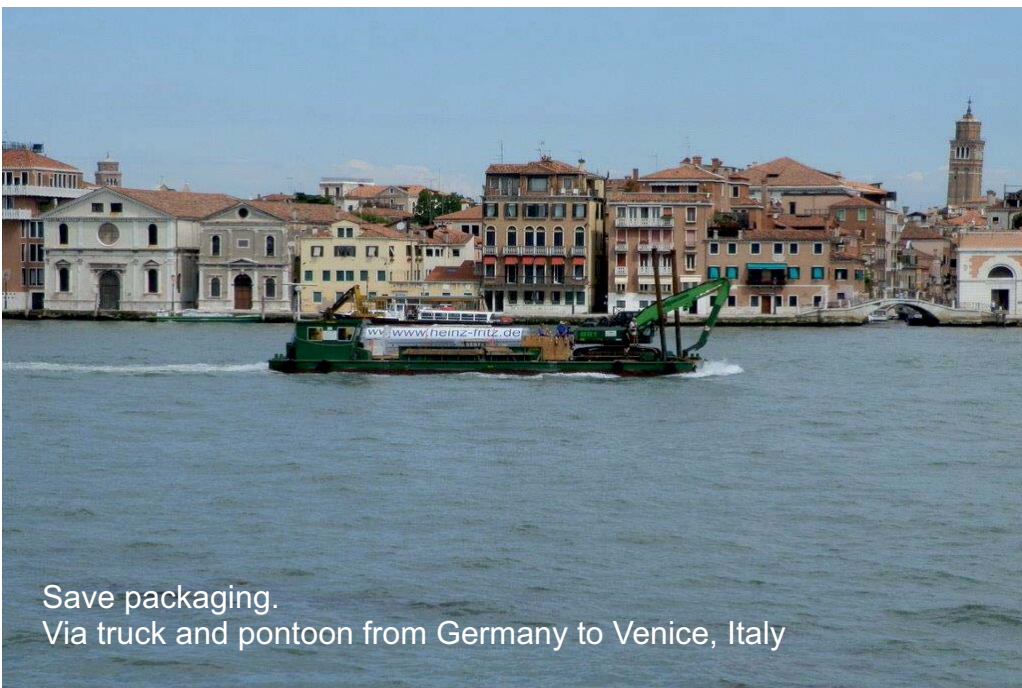


IFM Geomar - JAGO's viewport..



..and for TRITON some conical frustrums made by HEINZ FRITZ





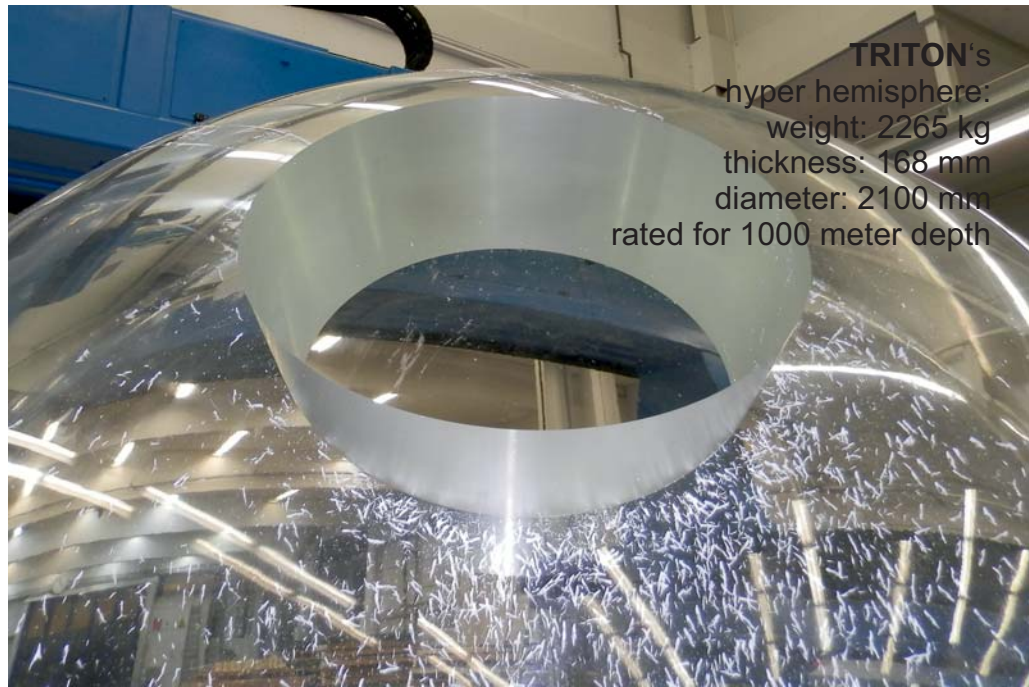
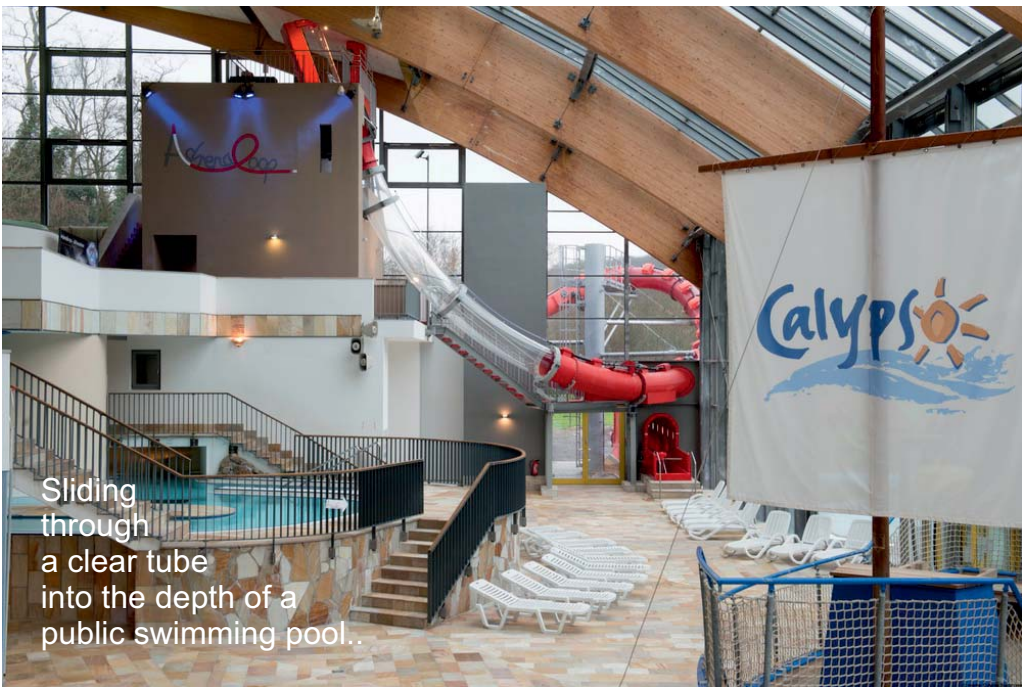
Save packaging.
Via truck and pontoon from Germany to Venice, Italy



La Biennale di Venezia - Italy
„one of a thousand ways to defeat Entropy“
performing artist: **Alexander Ponomarev** - Russia

A new **HEINZ FRITZ** challenge in 2014:
3-d-thermoforming, 5-axis milling, gluing, annealing of an elbow
with the length of 9 and diameter of 0,9 meter.







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UI2015 | **25 DAYS**
3 hrs 46 min

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The world's most premier event for Commercial Diving Contractors, Remotely Operated Vehicles, Manned Submersibles, and all other aspects of the Underwater Operations Industry will take place at the Morial Convention Center in New Orleans, LA. February 10-12, 2015.

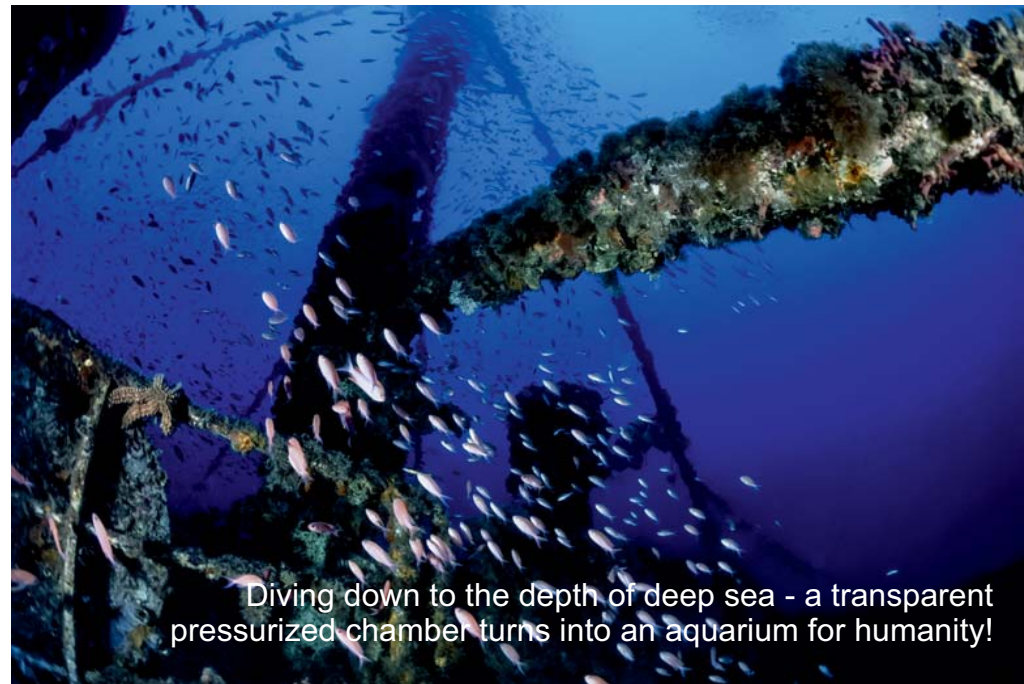
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UI

IS THE COMBINED ANNUAL
CONFERENCE OF:



We proudly present



Diving down to the depth of deep sea - a transparent
pressurized chamber turns into an aquarium for humanity!