iMAR NAVIGATION & CONTROL

Advanced Gyro Stabilized Platforms and Motion Tables

Land - Sea - Air Applications

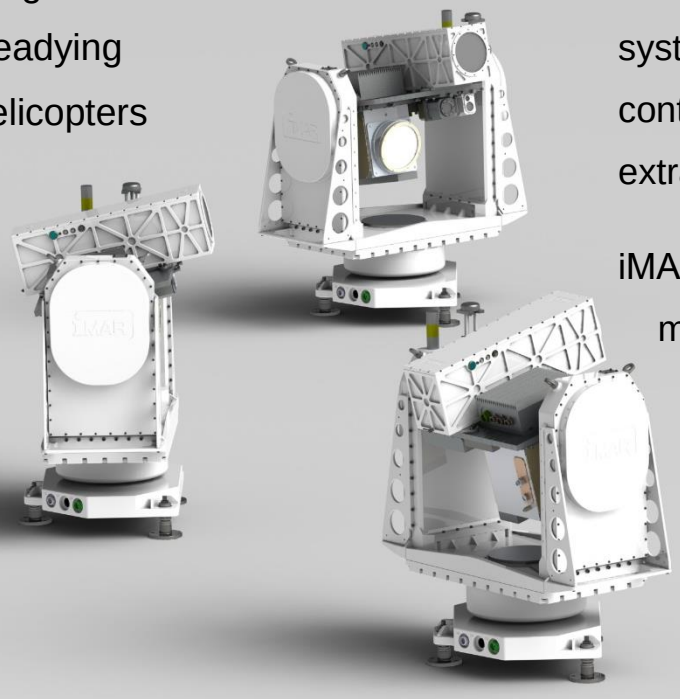
purpose directed & budget oriented

Stabilisation – Detection – Tracking

Multi Axes Platforms

from simple Pan&Tilt heads up to high sophisticated solutions

Gyro stabilization is being used in applications such as steadying cameras mounted to helicopters or weapons being fired from mobile sources.



Coming from the inertial sensors and systems, iMAR is experienced also in controlling extreme conditions, such as extraordinary velocities and accelerations.

iMAR's gimbals are being designed and developed to military standards, such as MIL-STD-810G, MIL-STD-461G.

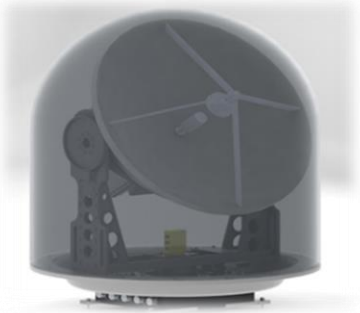
iMAR is a worldwide leading developer and producer of inertial systems for Navigation, Guidance, Control, Surveying and Stabilisation.

purpose directed & budget oriented

Examples for iMAR's stabilized Gimbals

- ✓ in-house design and manufacturing of complex mechanical structures
- ✓ suitable for land – sea – air environment
- ✓ recognition – identification - tracking
- ✓ up to ultra fast angular speed & acceleration
- ✓ versatile, also customzed designs
- ✓ all technological drive systems available (direct drives, gearbox motors, …)
- ✓ payloads from few grams to several tons
- ✓ iSCU Interface for control via iOET[2] (video tracking), joystick, geo referencing IMS and external control computer

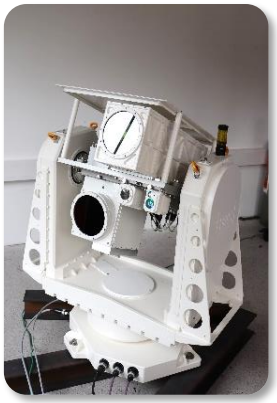
SEA BASED GIMBALS



- high precision stabilized marine gimbals
- designed with direct drive brushless torques and direct shaft mounted angular encoders for ultra-high dynamics, high position resolution and accuracy and low wobble
- smooth stable rates over large dynamic range, suitable also for long focal length sensors
- continuous rotation in azimuth and elevation
- sliprings for optical video link (FORJ), UART RS422, Ethernet, RF rotary joint, discrete lines available
- designed for harsh naval environment
- integrated IMS or INS/GNSS for stabilization, control and geo-referencing

SINGLE AXIS

- in operation on land and sea
- pointing of antennas
- customized, various payloads
- up to 50 kg payload or customized



2-AXES AND 3-AXES (4-AXES AS OPTION)

- 2 axes and 4 axes azimuth / elevation gimbals
- RPY 3-axes gimbals, high speed gimbals (up to 5'000 °/s²)
- high speed mirror stabilization systems (up to 80'000 °/s²)
- wide range of precision, < 15 µrad … 10 mrad
- light weight to heavy load platforms, gimbals with specific and exchangeable payloads
- In house design and manufacturing of advanced electronics, sensors and gimbal control with video tracker feedback, joystick control and remote control interfaces
- standard systems and customized designs

AIRBORNE GIMBALS

- high precision stabilized gimbals
- designed with direct drive brushless torques and direct shaft mounted angular encoders for ultra-high dynamics, high position resolution and accuracy and low wobble
- smooth stable rates over large dynamic range, suitable also for long focal length sensors
- continuous or limited rotation in azimuth and/or elevation
- sliprings for optical video link, RS422, Ethernet, discrete lines, payload power supply
- designed for helicopter environment

purpose directed & budget oriented

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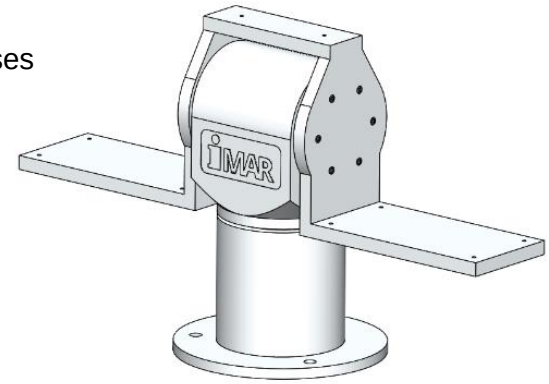
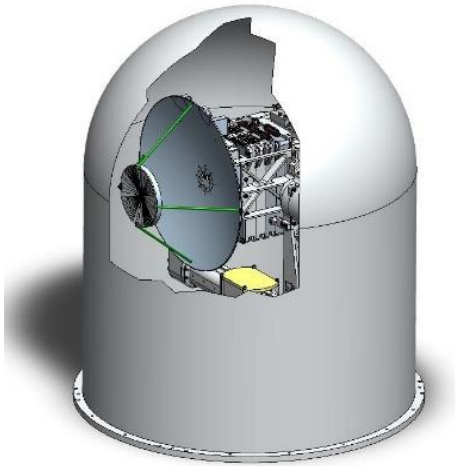
2-Axes Pan&Tilt Heads

- different weight classes
- with and without stabilization

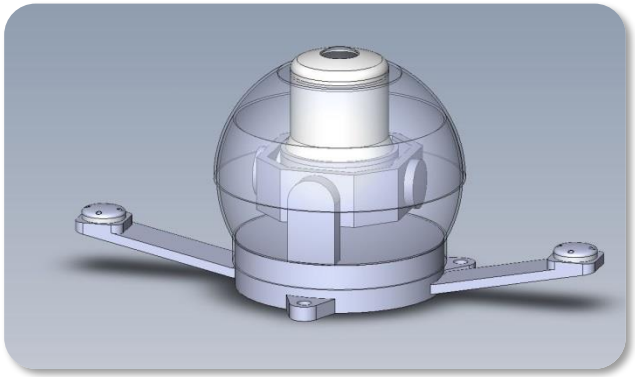




1, 2 and 3-Axes Stabilized Gimbals

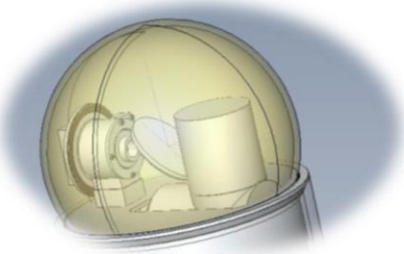
- lightweight
- nearly all kind of payloads
- deliverable for any application

Excellence in Variety – at the Edge of Physics



Sky View: Stabilization of Scientific Instruments

Fast Mirror Control for pointing Lasers and other Devices



Example for customized Solution:

Same gimbal is capable to

- carry different payloads, depending on mission
- provide video target tracking with many different cameras
- provide separate controlled optical pathes

Excellence in Variety – at the Edge of Physics

Variable, expandable GUI, with Interfaces to many Payload Sensors

Groundbreaking ToolChain for Gimbal & Control Design, System Development, Testing and Verification

- ✓ Hexapod for up to 1 ton payload
- ✓ rotatory and translatory movements, up to 50 °/s and 500 °/s² and 1 g acceleration in all spatial directions
- ✓ testing with simulated as well as with real acquired motion excitation data
- ✓ in-house design, manufacturing, testing, verification, FAT

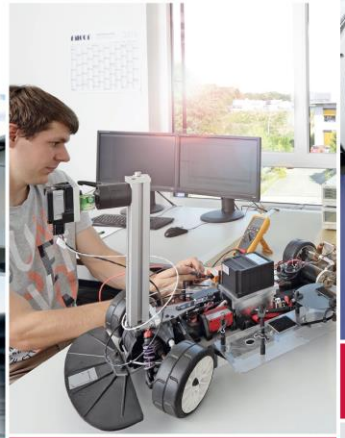
Excellence in Variety – at the Edge of Physics

iMAR NAVIGATION & CONTROL

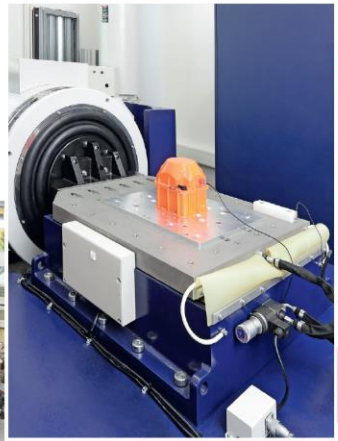
Everything from research and development, manufacturing and integration, up to qualification and testing in house. Engineering and production Made in Germany.

Commercial independance, technical autonomy and logistical flexibility form the bases of our leading technological position. We are highly experienced and provide in-depth knowledge and expertise in research, development and environmental qualification for production, integration and testing solutions to your needs.

RESEARCH



DEVELOPMENT



QUALIFICATION

MANUFACTURING

INTEGRATION

TESTING

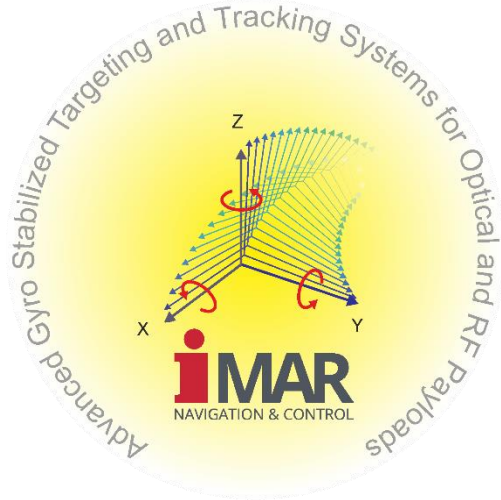
Quality and flexibility to the satisfaction of our customers are distinct features which iMAR demonstrates and proves in all diversified fields of application every day. We are proud to serve your needs.

TÜVRheinland® CERT ISO 9001 EN 9100

Excellence in Variety – at the Edge of Physics

DEVELOPING SOLUTIONS FOR THE TASKS OF TODAY AND TOMORROW

WHATEVER YOUR CHALLENGE YOU NAME IT AND WE'LL MASTER IT



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