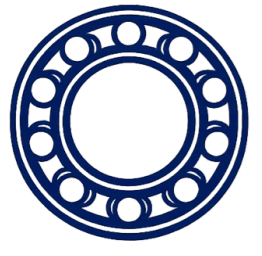


# THE BUTTERFLY CAGE ECOSYSTEM

Comprehensive system. Cumulative value.

## 1. The value it produces

Multiple and cumulative benefits



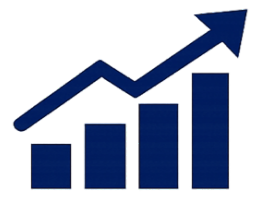
Complete prevention of instability (rattling noise)



Less noise and microvibration



Better thermal behavior



Increased reliability, precision and performance

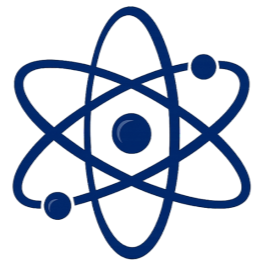
## 2. Method and tools

The foundation

The Butterfly cage results from a unique combination of



A specific technology for addressing bearing performance problems

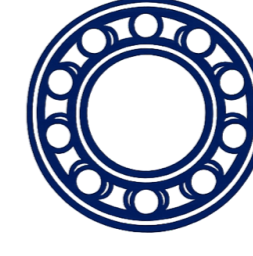


Deep understanding of bearing physics and new related scientific discoveries



Proprietary and innovative modeling tools

## 3. Capabilities and expertise



Innovative product development



Unique diagnostic capabilities

- investigation of existing instability problems
- preventive diagnostics before failures occur



Application-specific customization

Butterfly cages adapted and optimized for each application, condition and performance target

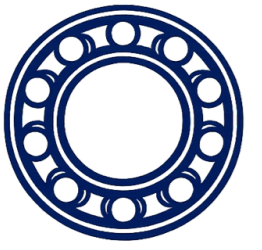


New testing and qualification approaches

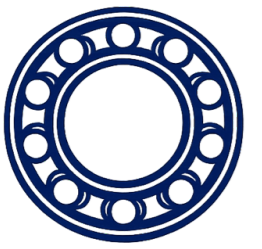
Innovative testing methodologies dedicated to cage instability phenomena

## 4. Flexible industrial and business integration

Multiple ways to implement the technology



Upgraded COTS bearings



Full custom bearing solutions



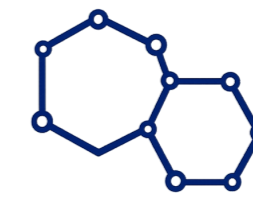
Different business models adapted to customer needs

## The Butterfly cage®



## 5. Material

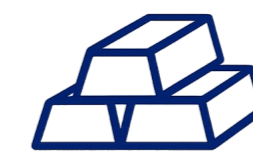
Materials adapted to operational conditions



Phenolic resin



Plastic



Metal

## 6. Proven multi-industry applications

Already applied in demanding and critical environment



Aerospace



Defense



Spindle



Turbo-molecular pump



Boat stabilizer



High-end motor sport

## 7. Strong and multi-layered intellectual property strategy

Combination of complementary elements for robust and durable protection



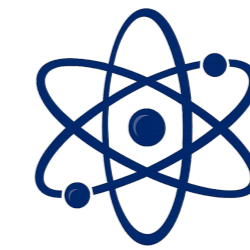
- Patents
- Protected inventions
- Technical innovations



- Proprietary know-how and trade secrets
- Confidential expertise



Non-distributed proprietary modeling tools  
Powerful tools that remain our exclusive advantage



Unpublished scientific discoveries related to bearing physics  
Original scientific results that reinforce our technological lead