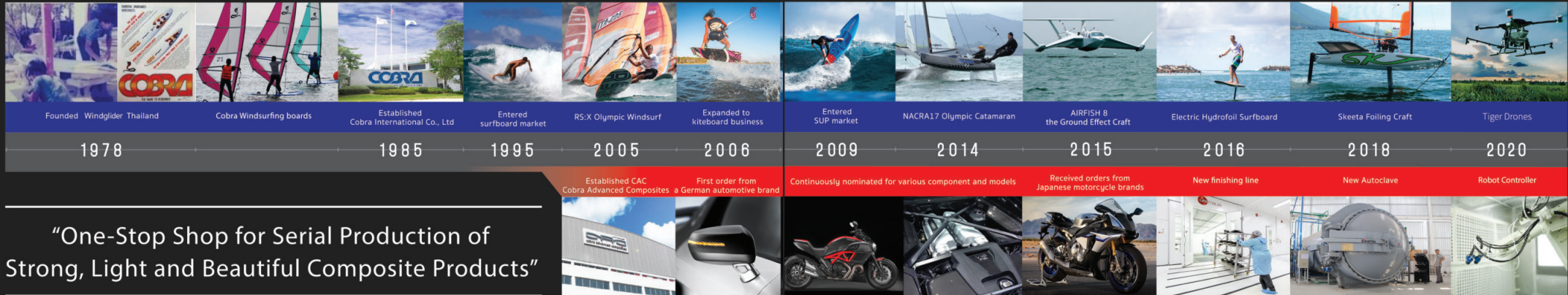




**STRONG**  
**LIGHT**  
*BEAUTIFUL*





**"One-Stop Shop for Serial Production of  
Strong, Light and Beautiful Composite Products"**

COBRA was founded in Bangkok, Thailand in the late 1970s, under the name "Windglider Thailand", by Mr. Vorapan Chotikapanich, the company's current chairman and majority shareholder. Established initially as an own-brand manufacturer, COBRA began by producing light-weight windsurfing boards. In 1987, the company entered OEM production, serving the worldwide market for composite sandwich watersport equipment and by 1999 had become the leading manufacturer of windsurfing boards with over 50% global market share.



Strong, light and beautiful composites are at the heart of what COBRA does. This guides the development of new products, catering to markets like Watersports, Marine, Automotive, Motorcycle, Aviation, Architectural, Construction and Luxury Goods. On top of this, the company's "One-Stop Shop" philosophy means that customers are offered the most complete range of products and services possible: from design and development, mold making, serial production of composite parts, supporting production capabilities like plastic injection and accessories, as well as world-wide logistics solutions.

## Key Highlights

- One-Stop-Shop business
- Vision of creating Strong, Light and Beautiful components, ready for the 'coming of age' of composites
- Dedicated management team and staff, many of whom are celebrating over 15 years with COBRA
- Excellent worldwide market connections and distribution channels
- Strategic location 50 km from both main airport and sea port
- Strong relationships with strategic partners including suppliers, distributors and customers
- Standardize supported by ISO 9001:2015, ISO 14001:2015 ISO 45001:2018 and IATF 16949:2016 (Automotive) certifications
- Purpose-built Design & Development center opened early 2015
- Best-in-class Automotive finishing line opened early in 2016. Complete upgrade of the rest of Automotive production completed in 2018
- Cobra Composite Structures formed in September 2017 to focus on large structural parts
- Participation in the Olympic Games through the serial production of Nacra 17 catamaran, the RS-X windsurf board, and the IQ Foil windsurf board

## PROFILE

Established	1978
Location	Amata City Chonburi Industrial Estate, Thailand
Employees	Over 2,700
Production area	100,000 sq.m.
International Standardization	ISO 9001:2015 ISO 14001:2015 ISO 45001:2018 IATF 16949:2016

## DESIGN & DEVELOPMENT CENTER

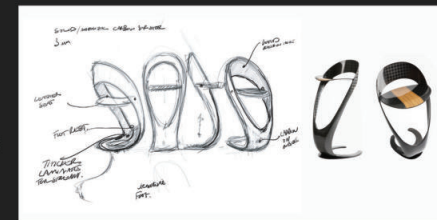
COBRA's Design & Development center was established in 2015 to provide the group with expertise ranging from product design, industrial design, engineering, testing, prototyping, process design to production launch and technical support.

The company prides itself on building Strong, Light, and Beautiful composite products, and on its concept-to-market process. By having an in-house Design & Development center, well integrated into the manufacturing shop floor, the team can promptly and effectively support customers' requirements.

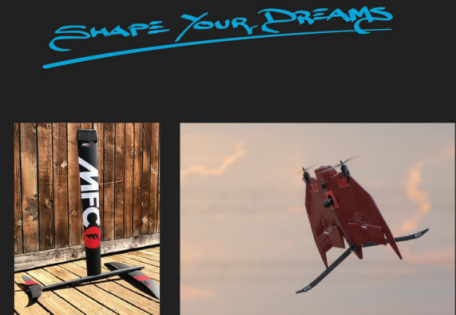
Together these factors put COBRA in a unique position, ready for the 'coming of age' of composites, where customers' dreams are realized.

Services Include:

- Product design and development
- Rapid prototyping
- Manufacturing process design
- Tooling support
- Manage smooth transfer of newly designed manufacturing processes to mass production
- Development of new materials package



Luxury items are natural extensions to COBRA's core values of delivering Strong, Light and Beautiful products. The Cobra stool depicted here is a great example of COBRA's Design and Development work for a renowned industrial designer. Defying formal design parameters, the elegant structure and ultra-slim flowing ribbon is made possible only through the use of carbon composite materials.



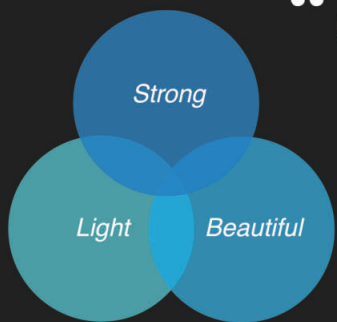
Hydrofoil for surfboard  
and windsurf



### IQFoil Windsurf Board

## Composite Body Shell Cladding for Security Robots





# “One-Stop Shop for Serial Production of Strong, Light and Beautiful Composite Products”

*COBRA prides itself on manufacturing Strong, Light and Beautiful products that have excited millions of people around the world and have set the reference point for quality in every market.*

## PEOPLE

COBRA's competitive advantage lies within its people. The dedicated management team and staff, many of whom have been with the company for over fifteen years, are among the world's most experienced professionals in the industry.

From a legendary board shaper and an Olympic gold medalist, to well-known composite specialists and world-class automotive engineers, COBRA has built a talented and engaged team.

Staff in the different production areas possess the important skills from laminating to finishing. Key strengths are consolidated through individual training and continuous improvement throughout the company.



## FACILITY

Today, with its state-of-the-art production facilities of approximately 100,000 sq.m. an impressive range of production technologies and depth of material expertise, COBRA is recognized as a world leading manufacturer of composites parts which are Strong, Light and Beautiful.

In 2016, COBRA opened a new paint and finishing production area in its automotive plant. This world-class facility has already set a new standard within the automotive composites' arena

In 2017, COBRA implemented a major upgrade to its EPS expansion plant and the building of a dedicated CNC machine center.

In 2018, a new autoclave measuring 5m x 2.5m diameter was commissioned as part of the full upgrade of the Cobra Advanced Composites automotive plant.

## DESIGN TO DELIVERY

COBRA's business model is based on being a one-stop shop to simplify the lives of its customers. From product design, prototyping, tooling through to manufacturing using a wide range of composite materials, processes and technology, COBRA can deliver a complete solution from a single place.

### Composites Technologies

- Prepreg autoclave
- Compression molding
- RTM, Lite RTM, RIM
- Infusion
- Wet layup
- Sandwich core
- Epoxy foaming

### Finishing Technologies

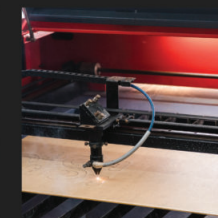
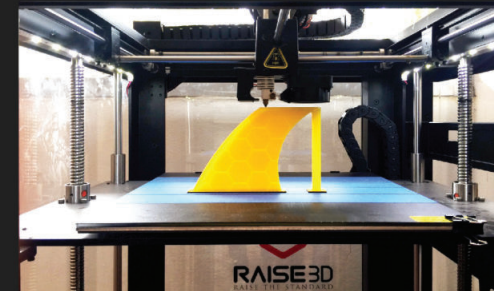
- Thermoforming
- Decal
- Design films
- Screen printing
- Paint coating
- Surface Polishing

### Prototype and Master

- 3D Printing
- Rapid Prototyping
- Master
  - Glass fiber
  - High density PU and Epoxy
  - Aluminium or Steel

### Tooling Technologies

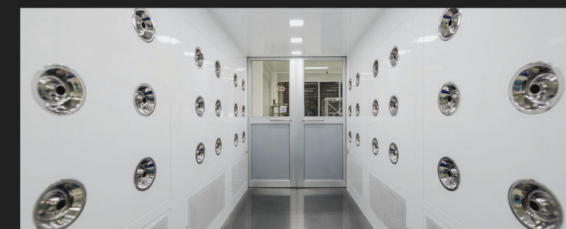
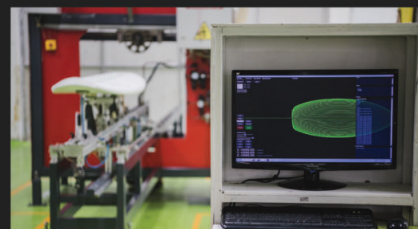
- Tooling Engineering
- CAD Design
- Tolerance Investigation
- Certified supplier
- Lay up molds
  - Glass fiber
  - Prepreg Carbon Fiber
  - Hybrid Molds
  - Aluminium/Steel
- Jigs
  - Trimming
  - Gluing
  - Sanding
  - Painting
  - Control Fixture
  - CMM



## QUALITY SYSTEM

Traceability, standardization and continuous improvement is a focus in everything that COBRA does.

The company is ISO 9001, ISO 14001, and ISO 45001 certified with Cobra Advanced Composites automotive center IATF 16949.







## WATER SPORTS

COBRA's ability to engineer and produce superior quality lightweight composite boards enabled a revolution in the world of windsurfing, with durable high-performance options for sailors around the world. The company's proprietary technologies and skilled craftsmen continue to lead the way in this area as well as in the fields of surfboards and SUP's. As a result, COBRA has become the largest composite board producer supplying a wide range of leading OEM water sports brands.

By establishing a large-scale board production facility, COBRA standardized manufacturing processes, implemented quality controls, and began developing new and innovative board building techniques. COBRA's ability to mass produce and export into the world market has enabled its own brands and its OEM customers to experience rapid growth.

Today, COBRA is the most complete one-stop-shop for watersports brands. In addition to windsurf boards, SUP, kiteboards, surfboards, motorized boards, kayaks and boats, COBRA also offers a complete range of accessories from fins and foils, dagger boards and rudders to traction pads and board bags.

## AUTOMOTIVE

Building on 40 years of composites experience, COBRA has successfully extended its core value of Strong, Light, and Beautiful into the Automotive market with the creation of Cobra Advanced Composites (CAC). The company entered the prepreg component market in 2006 and is now a trusted supplier of serial carbon fiber parts to a number of premium automotive programs in Germany, Italy, Japan and the UK.

Combining a unique understanding of composite materials, structural design and careful craftsmanship, with state-of-the-art facilities including a multimillion dollar finishing line, COBRA is able to prototype, industrialize and manufacture fully finished painted or clear coated automotive components and panels for serial production.

Its extensive product portfolio includes motorcycle and automotive interior, exterior and powertrain components, sub-assemblies and assemblies



## COMPOSITE STRUCTURES

Formed in response to strong customer demand for COBRA's product development expertise, production efficiency and quality, COBRA has launched Cobra Composite Structures (CCS) with a focus on large structural composite parts such as roofs, facades, bridges and large vehicle components for rail, bus and truck applications.

With lightweight advanced composites delivering design freedom and faster installation in architecture as well as providing fuel savings and efficiency gains in transport applications, COBRA is the perfect partner to support customers from initial design concept through to finished composite structure.

COBRA prides itself on setting the reference point for safety and quality in every market it supplies and the company has recently committed significant research and development investment into fire resistant composites and sustainable materials - two important drivers in Cobra Composite Structures' key markets.



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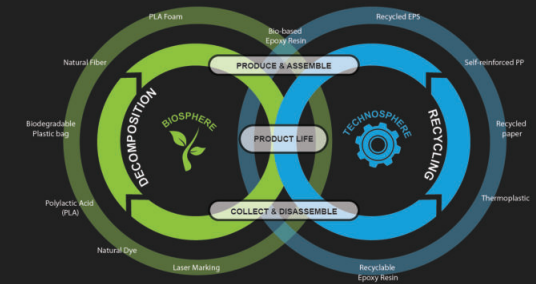
COBRA will do business in a socially and globally responsible way. We will strive for a high standard, clean and safe working environment, provide secure jobs for our employees, and build products that provide happiness and enhance quality of life. We will develop products to be environmental friendly using natural resources in a sustainable manner.

In addition, COBRA will organize further social activities that will create a happy society around us. ”

Extract from COBRA's Code of Conduct

In 2007, COBRA incorporated sustainability guidelines into its code of conduct. The company has focused its efforts on the work environment and product design. In 2018, an annual sustainability report was released, which can be found on the website [www.cobrainter.com](http://www.cobrainter.com). So far, almost all goals have been achieved in electricity and water consumption reductions, dust control, waste management and green area improvements.

On the product development side, COBRA follows the Cradle-to-Cradle design concept of Prof. Dr. Michael Braungart. Efforts are made throughout the company as COBRA strives to achieve this goal. COBRA encourages everyone to join forces in bringing a truly sustainable product to the composites industry.



Cradle to Cradle Diagram

Source: Environmentally Sustainable Culture Free Living

## Innovation Award



Working together closely with industry partners COBRA continues to develop innovative environmentally friendly processes for the industry. In 2009 COBRA joined forces with French technical Specialists Porcher Industries to develop a new environmentally Friendly surfboard using high-performance renewable Greenlite cellulose reinforcements. We were the winner in the 2020 JEC world Innovation Awards for our work together with Aditya Birla to develop a closed loop recycling system for Watersports parts. Using their Recyclamine Technology, we can recover almost all of the original material value from end of use parts for re-use in new parts in our production. Together with Aditya Birla we are currently working to scale this project into the first commercial projects at COBRA.



2019 saw COBRA continuing with its 'green factory' concept by expanding green areas to roughly 5,400 sqm. and planting more trees. We now have more than 2,000 trees in our facility. You can download COBRA's full 2019 Sustainable Development Report at [www.cobrainter.com](http://www.cobrainter.com).



● Cork core sandwich board ● Flax fabrics board ● Banana Fiber board

## Bio-based Surfboard

Our journey to sustainability goes back many years. In surfing we began when nature and science collided resulting in the first generation Cocomat Surfboards by NSP in 2010. The Patented processes, developed in partnership with COBRA, creates a Coco-fiber sandwich which is extremely light and produces a durable product with unique visual finish. Continued R&D lead to the release of several additional sustainable surfboard designs in the past 10 years. Today COBRA is a market leader in sustainable surfboard manufacturing using up to 56% Bio-based epoxies, recycled cores, bio-based paint and a wide range of bio-based materials including cork, flax, banana, cellulose and many more.





Cobra International Co., Ltd.  
700/478 Amata City Chonburi Industrial Estate  
Moo 7, Donhuaror, Muang District, Chonburi  
20000, Thailand  
Email : [info@cobrainter.com](mailto:info@cobrainter.com)  
[www.cobrainter.com](http://www.cobrainter.com)

