

# FIGHT ILLEGAL FISHING

## ECONOMICAL COASTAL SURVEILLANCE

On site force by a new cost efficient class of Unmanned Aerial Systems (UAS)



**EASY TO USE – SEAWORTHY – LOW OPERATING COSTS – DETERRENT**

# ILLEGAL, UNREPORTED, UNREGULATED

IUU FISHING IS A BILLION DOLLAR ACT OF CRIME

# 1,300,000,000\$

Illegal fishing (IUU) in the waters of six of the seven countries of northwest Africa is worth US\$1.3 bn every year. One in four fish in Africa is caught illegally.

# 300.000 jobs

were lost to illegal fishing in that region. IUU fishing threatens the sustainability of fish stocks, damages the ecosystem and deprives governments of income and people of livelihoods. It is also putting the nutrition security of millions people at risk.

# THE NEW TECHNOLOGY

## FOR ECONOMICAL COASTAL SURVEILLANCE



### THE CHALLENGE

## Monitoring and control of fishing activities at sea

IUU detection is complex and often highly time consuming. With limited resources, how can a large sea area be monitored cost-effectively yet continuously and efficiently?



### THE SPECIAL TASKS

## Numerous IUU methods and high criminal energy offenders

There are diverse types of illegal fishing: disregard for fishing quotas, vessel identity fraud, use of restricted fishing areas, catching undersized fish, fishing for protected or endangered species, the use of prohibited fishing practices or gear, Saiko Business...



### THE SOLUTION

## UAS support existing measures and can be the breakthrough

The use of Unmanned aerial systems (UAS) for maritime surveillance is predestined to be the missing tool. Unobtrusively from the air, fishing activities in large sea areas can be video monitored and documented day and night in real time from the shore.



### THE ADVANTAGES

## Easy to use – low operating cost – deterrent – day and night

Real time video up to 17 sea miles away from shore, 4 hours of operating time even in bad weather conditions, vertical take off and landing, remote control, operability also from sea vessels, pre-programmable flight routes, easy handling...



### YOUR PARTNER

## bbcom secure maritime division

We plan, deliver and train highly modern UAS-Technology which helps our clients to reach their security goals. bbcom secure has twenty years experience in the security industry. We know the market and design highly specialized solutions.

# THE CHALLENGE

## THE NEED FOR A NEW ON-SITE FORCE

Illegal, unreported and unregulated (IUU) fishing causes significant social, economic and environmental damage. The coastal states of West Africa are highly affected by this. IUU fishing is considered a global threat that needs to be effectively and promptly curbed. Local enforcement is still difficult. How can this situation be improved?

### The time to stop the plundering of fish stocks is running out

African coastal waters contain some of the world's largest, most diverse and most prized fishery assets. Unlike the mining and petroleum sectors, fisheries represent a critical source of employment in Africa and provide trade, food and nutrition security. In West Africa up to a quarter of all jobs are linked to fisheries. Up to two-thirds of all animal protein consumed in coastal west african states is fish and seafood.

#### Powerful magnet for international large-scale commercial fishing fleets

At the same time West Africa has some of the world's highest reported rates of illegal, unreported and unregulated (IUU) fishery activity. It is estimated that up to 40% of the catch in West Africa is illegal. This threatens the sustainability of fish stocks, damages the ecosystem and deprives governments of income and people of livelihoods. It also is putting the nutrition security of millions of people in West Africa at risk.

The worst affected victims of Illegal, unreported and unregulated fishing are the country's artisanal fishers. The livelihoods of many coastal communities depend heavily on fishing resources as their main source of food and income.

*WEST AFRICA ALONE  
COULD BE LOSING US\$1.3  
BILLION ANNUALLY*

### Overexploitation is at the center of a looming disaster

According to the Food and Agriculture Organization of the United Nations (FAO), half of the fish stocks off the west coast of Africa are already overexploited. This is downright catastrophic for the fish stocks, which are already exploited in this region anyway. Just one large international trawler can catch up to 250 tons of fish every day, equivalent to what 50 pirogues might catch in a year. IUU activities are one of the primary drivers of overexploitation. When this marine ecosystem is destroyed, it will not be possible to restore it again. This must never happen.

## Worldwide measures – but one in three fish is still caught illegally

The negative impacts of IUU fishing are real, pronounced and varied: it adds pressure to already overexploited fish stocks, while simultaneously compromising efforts to rebuild them based on scientific advice; and it also distorts global fish markets and prices, leaving legal fishermen disadvantaged. In addition, IUU fishing often occurs alongside other crimes such as human rights abuse, drugs and weapons trafficking, tax fraud and corruption.

In 2010, the European Union, the largest global seafood market, introduced regulations that aim to increase the traceability of catches, fighting IUU fishing.

Both local governments and numerous international organizations are dealing with the problem. Nevertheless, the plundering of one of West Africa's most important resources continues at a rapid speed.

*MOST GOVERNMENTS  
LACK THE ABILITY TO  
EFFECTIVELY MONITOR  
THEIR COASTAL WATERS*

Illegal fishermen choose fishing areas with weak security resources. In practice, most African states still lack the capacity to effectively patrol their coastal waters. However, experience has shown that there will be no success without deterrent controls at sea. But how to do that with limited financial and sea control resources?

*„THE CAPABILITIES OF THE NEW SPECIAL  
UNMANNED AERIAL SYSTEMS (S-UAS) NOW  
OFFER COMPLETELY NEW POSSIBILITIES.“*



# THE SPECIAL TASKS

## TODAY'S CONTROLS ARE TOO LIMITED

IUU fishing is a massive and often organized crime business that generates up to US\$ 26 billion p.a. worldwide. Accordingly diverse are the illegal methods and the applied tricks for their concealment. To achieve a breakthrough in combatting IUU, the current measures should be complemented by a new way of fishing activities surveillance to generate sound evidence against the criminals.

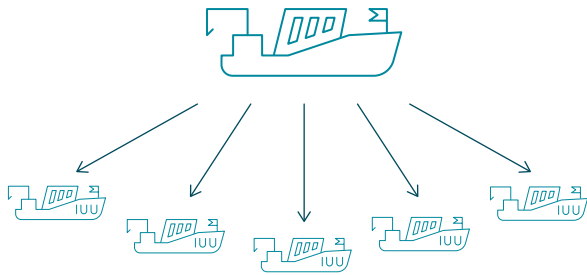
### **AIS surveillance itself does not provide the needed evidence**

The system of monitoring fisheries using AIS (Automatic Identification System) has a number of disadvantages. For example, there can be no evidence of actual IUU activity. It always requires the additional control boat on site. In most ports, however, there are paid informants who warn IUU fishermen immediately when a control boat leaves the port.

Special Unmanned Aerial Systems (S-UAS) can compensate these disadvantages. They can be launched outside of a port, raise real video evidence of illegal fishing and are hardly recognizable to offenders. Typical IUU methods which can be inconspicuously discovered, recorded and documented as evidence by employing S-UAS are listed on the next page.

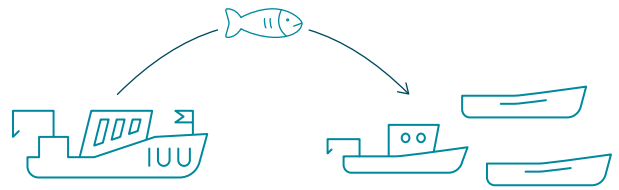


### ① Identity fraud



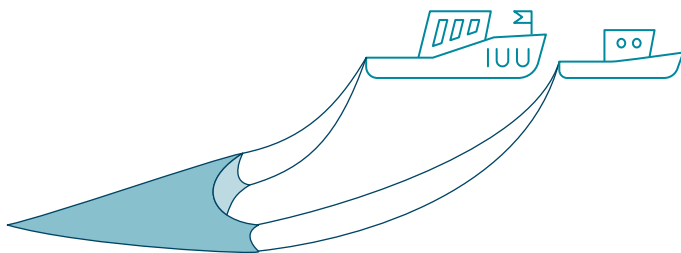
Vessel identity fraud is a key factor in many cases of illegal fishing activities like re-flagging, re-naming of vessels, forgery or concealment of identification or identity or registration.

### ② Saiko fishing and transshipping



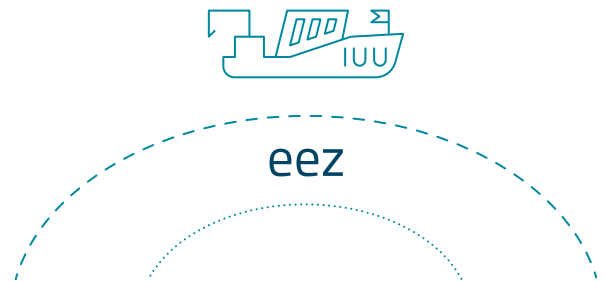
The sale of fish from vessels at sea to local fishers to be traded at home ports as their own catch (Saiko Fishing), as well as forbidden transshipping of fish on sea to avoid controls in supervised harbours.

### ③ Destructive gear and illegal fishing methods



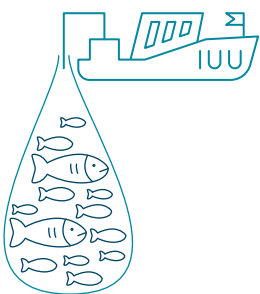
Destructive fishing like bottom trawling, pair trawling, finning or bycatch will harm and destroy the affected marine ecosystems forever.

### ④ Illegal fishing in restricted areas



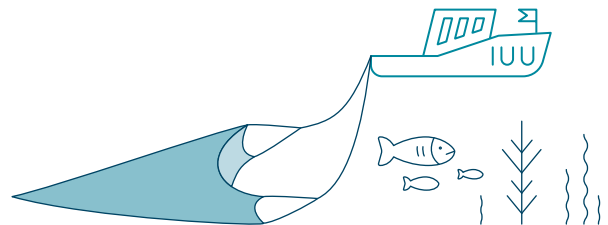
Disregard for fishing quotas, use of restricted fishing areas, catching undersized fish, fishing for rare or endangered species and the use of prohibited fishing practices within the 12 miles zone and the Exclusive Economic Zone (EEZ).

### ⑤ Unlicensed and unregistered fishing



Illegal fishing operations in national or international waters, unregistered and without permission, is a crime that has massive effects on the maritime eco system, forces overexploitation and deprives the country of its revenue for permits and taxes.

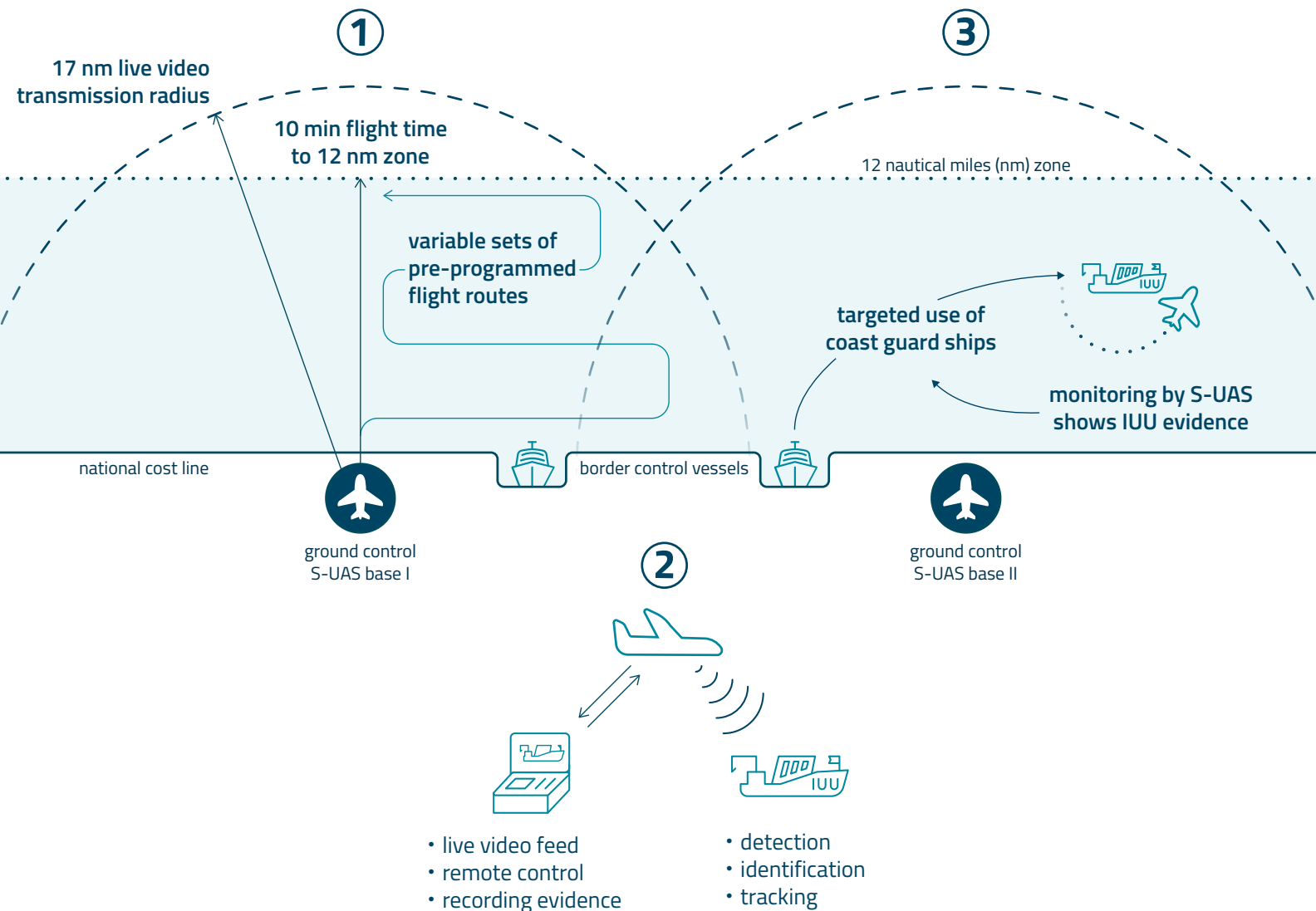
### ⑥ Illegal high and deep sea fishing



Killing, destroying and threatening vulnerable species and life on the seafloor and deep-water coral ecosystems in the Exclusive Economic Zone (EEZ).

# THE SOLUTION

## A NEW CLASS OF UNMANNED AERIAL SYSTEMS



## Advantages of our fully integrated S-UAS system



### EASE OF USE

Highly automated, easy and safe handling, route planning and safe remote flying



### EVIDENCE

Video in real time, recorded and monitored at ground station, tracking, 24/7 observation



### LOW COST

Low acquisition and operating costs, easy to maintain, short procurement phase



### DETERRENT

The unpredictability and invisibility of surveillance will quickly get around and frighten away offenders



# THE FEATURES

## S-UAS MULTIPLIES YOUR SURVEILLANCE CAPACITY

### Special Unmanned Aerial System (S-UAS)

Fully autonomous flight from  
takeoff through landing

Vertical take-off and landing

Reliable and rapidly-  
deployable camera systems:

High res video camera in the day

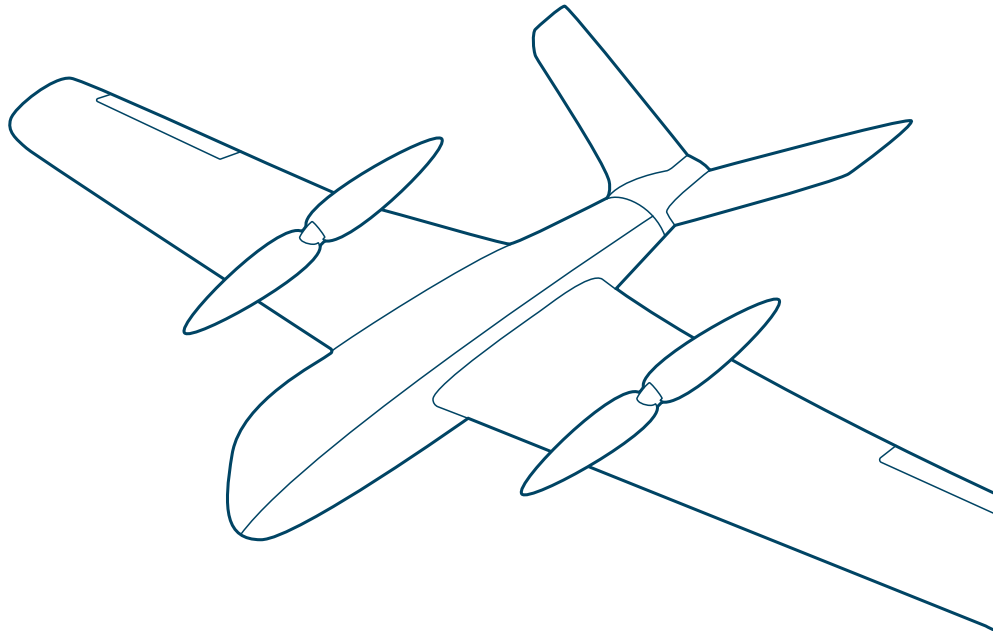
Aerial thermal imaging at night

4 hours air time

Live video transmission  
of 17 nautical miles

Safe flying even in harsh  
weather conditions

90 mph maximal speed

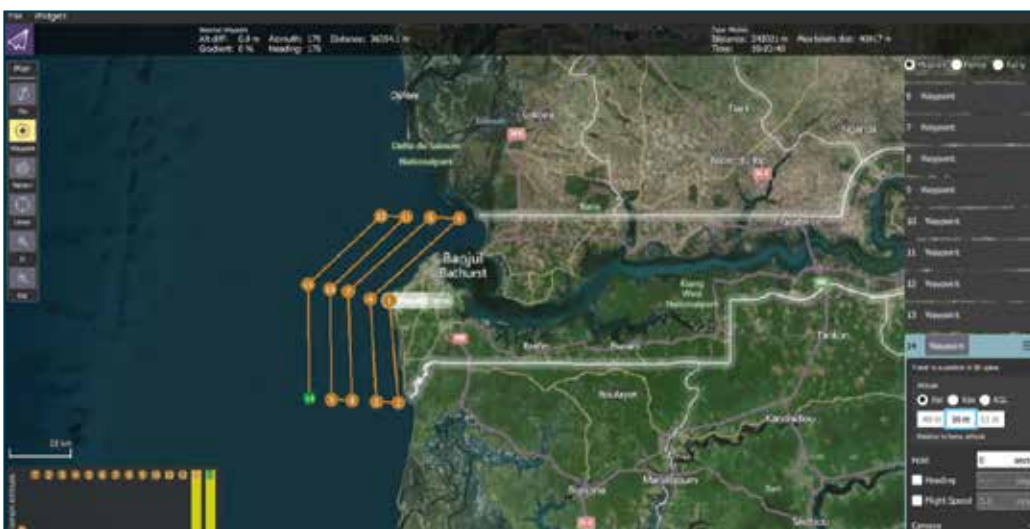
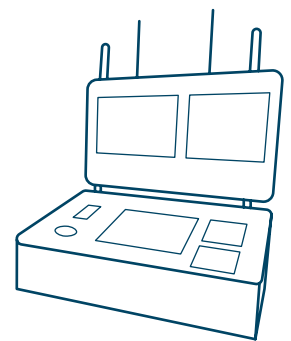


### Portable dual-screen ground station

Can be used from land and from vessels

Rapid assembly and disassembly

Mission planning and operations software



Easy-to-use  
User Interface

# OUR BUSINESS

## S-UAS WITH DIVERSE APPLICATIONS

# UAV

The Unmanned Aerial Vehicle (UAV) is the actual aircraft collecting the required data and imagery.

# UAS

An Unmanned Aerial System (UAS) is the entire package needed to operate the system, which includes the UAV itself, the ground control system, cameras, GPS, all the software and special equipment needed to operate and maintain the system.

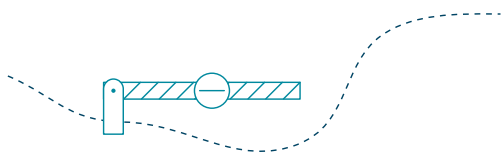
# S-UAS

Special Unmanned Aerial Systems (S-UAS) are assembled for individual tasks and equipped with special capabilities for this purpose. They form a new class of highly professional systems with many skills similar to those of governmental drones, but cost effective like no other solution.

**THAT IS THE BUSINESS  
OF BBCOM SECURE.**

## The S-UAS solution enables multipurpose applications

Our aerial surveillance system can also be used for a variety of other sovereign tasks without any changes. The UAV and the ground control station are completely mobile and can be moved easily to any location. The ability to take off and land vertically does not require a platform or runway. This S-UAS technology is also excellent at border control, brings surveillance and reconnaissance to areas that are difficult to enter, enables detection and investigation of smuggling and provides the opportunity to expose other environmental crimes such as slash-and-burn or illegal logging.



### ① Border Control

National sovereignty and its protection against border crossing without permission, detection and suppression of terrorism, reconnaissance and control of long green borders.



### ② Organized crime and illegal activities

Border protection, reconnaissance and evidence against crimes like movement of weapons, drugs, human trafficking, illegal immigration and smuggling.



### ③ Illegal logging and slash-and-burn

Surveillance of large forest areas, reconnaissance and evidence collection in areas that are difficult to enter, prevention of irreversible damage to the environment, wildlife and living conditions of the indigenous population and the loss of the natural water balance.

# YOUR PARTNER

## BBCOM SECURE MARITIME DIVISION

As a project developer we plan, support and train modern S-UAS applications, that enable our clients to reach their individual or security goals. With over twenty years experience in the security branch, bbcom secure combines the best and most economical components on the market into specialized solutions for international security and maritime clients.

### The new century of Special Unmanned Aerial Vehicles

The technology of Unmanned Aerial Vehicles (UAV) will strongly change our life and the face of the world similar to the development of the smartphone before. Many tasks in logistics, state and private security, reconnaissance, surveying, exploration, supply and rescue will in the future be carried out cost-effectively and reliably by drones and other specially designed UAVs. Their potential applications and the already impressive capabilities of their components are constantly advancing and becoming ever more specific.

For governments and civilian users, it is becoming more and more difficult to see which UAV hardware, software and components meet their individual functional and economical requirements.

*WE DESIGN MODULAR  
SYSTEMS ACCORDING TO  
CUSTOMER REQUIREMENTS*

With our business units Security, Maritime and Data Privacy we design individual S-UAS and counter drone solutions according to customer requirements. Our solutions are characterized by fast availability, modular construction, high efficiency and practicality for the specific task. For example bbcom secure's maritime division has designed a solution against illegal fishing at any coast-line worldwide. The system is also a multi purpose solution for border control based on our experience in international projects.

bbcom secure is your partner for all tasks regarding Special Unmanned Aerial Systems. We are looking forward to your inquiry or your special customer project.

### Your partner for aerial projects

Between the classic consumer drones and the highly complex and very expensive large governmental unmanned aerial vehicles, a new class of UAV has evolved. They form a class of very professional systems with many skills similar to those of governmental drones, but cost effective like no other system. That is the business of bbcom secure.

We are aware and follow the market for these Special Unmanned Aerial Systems (S-UAS), the available technologies and components and their advantages and disadvantages.

Founded twenty years ago in Switzerland as a specialist for tap-proof communication, the now german bbcom secure provides its knowledge and many years of experience in international projects.



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