

Avionics

Car Navigation

In-Car Electronics  
for the Automotive Industry

Marine Electronics

Precision Farming

**AvMAP**  
SATELLITE NAVIGATION

# AvMAP

SATELLITE NAVIGATION

*100% Made in Italy  
customized navigation systems  
and smart electronics.*

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# Sectors of Activity



Avionics



Car Navigation



In-Car Electronics  
for the Automotive Industry



Marine Electronics



Precision Farming

*Your journey, our technology.*

Since 1984



## AvMap Group, an Italian Hi-Tech Excellence

*30 years of expertise  
in moving maps  
and navigation technology*

AvMap is the Italian manufacturer of navigation systems since 1994.

AvMap was founded in Carrara, Tuscany, within the TWS holding, active in the sector of assisted navigation since 1984.

This land lapped by the sea and crowned by mountains has inspired us to apply our navigation technology to different environments to navigate the streets, the sea and the sky.



## Hardware manufacturing & software development for Consumer, B2B, OEM markets

AvMap manufactures assisted navigation solutions and smart electronic devices for different sectors: automotive, marine, avionics as well as intelligent farming.

AvMap serves B2C, B2B and OEM markets worldwide.

100%

*Production Control*



*Expertise, dynamism and the flexibility to adapt to changing market conditions are the key ingredients for our success.*



## Where new products come to life

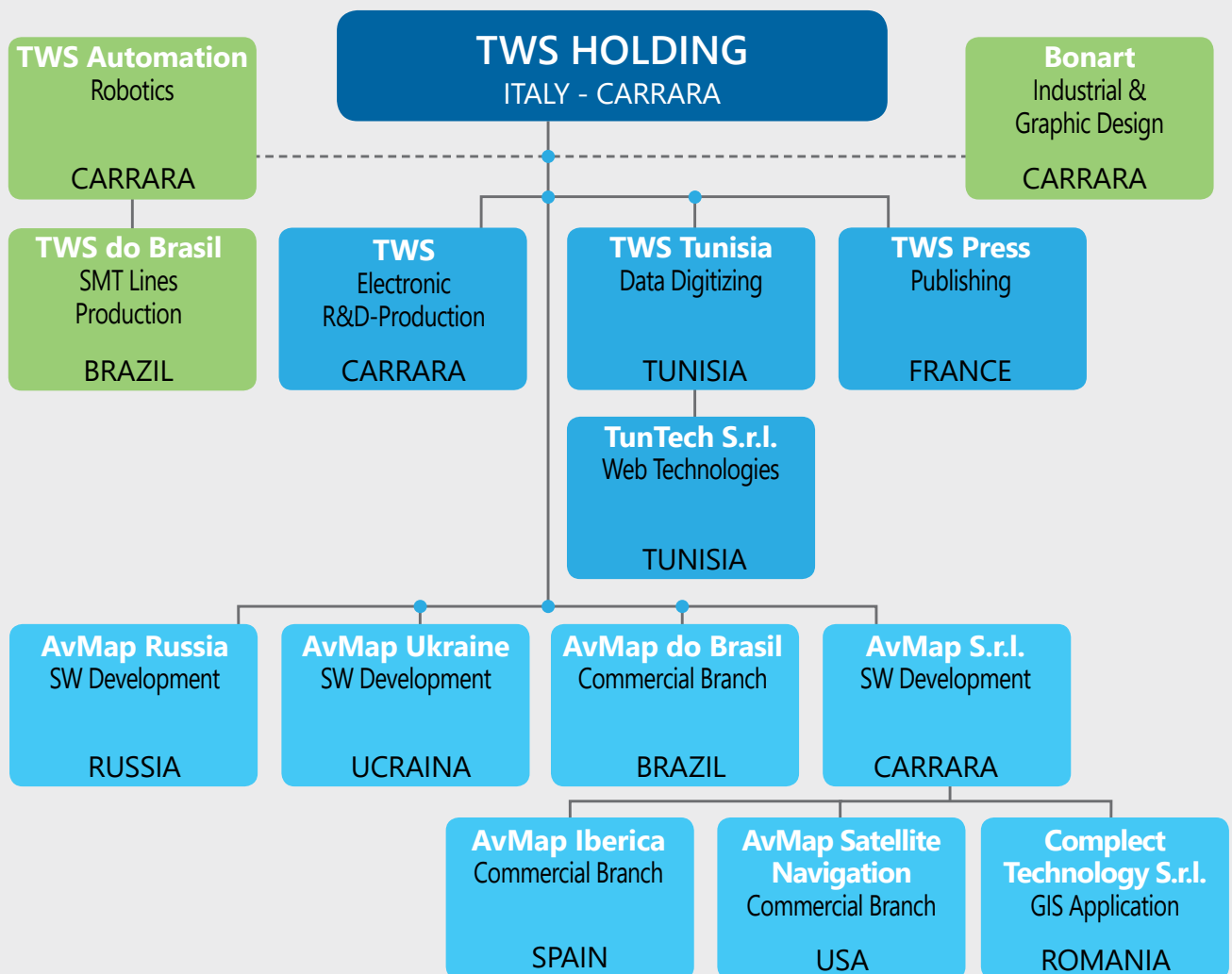
AvMap is not another system integrator, but a group of passionate electronics, mechanical and software engineers, and UI designers, who constantly research, design and bring to life new electronic solutions for specific customers' needs.

# AvMap Group: TWS Holding

## Total control of production

Our products are built within the TWS Holding, a group of companies specialized in different stages of the production process: from engineering to manufacturing, marketing and distribution.

The group solid background has allowed AvMap to maintain production facilities in Italy, keeping high quality standards and positioning its products in the high-end segment of the market.



**TWS Holding:** financial management, administration and logistics.

**TWS Automation:** industrial automation machines.

**TWS:** electronics design and production.

**AvMap:** software development; product marketing.

# Corporate History

## The evolution of assisted navigation

1984

TWS is founded.  
TWS starts the production of charting systems (for OEM) based on C-Map charts.

1985

C-Map creates a new vector format for marine electronic charting, that soon becomes an international standard.

1994

AvMap is founded. Electronic charting know how and hardware production expertise are transferred to the avionics and car navigation sectors.

2007

C-Map chart production activity is sold to Jeppesen (Boeing Group). TWS Holding maintains the production of hardware for marine OEM.

2008

AvMap enters new markets opening AvMap do Brasil and the Group acquires companies in Tunisia and Spain to expand activities.

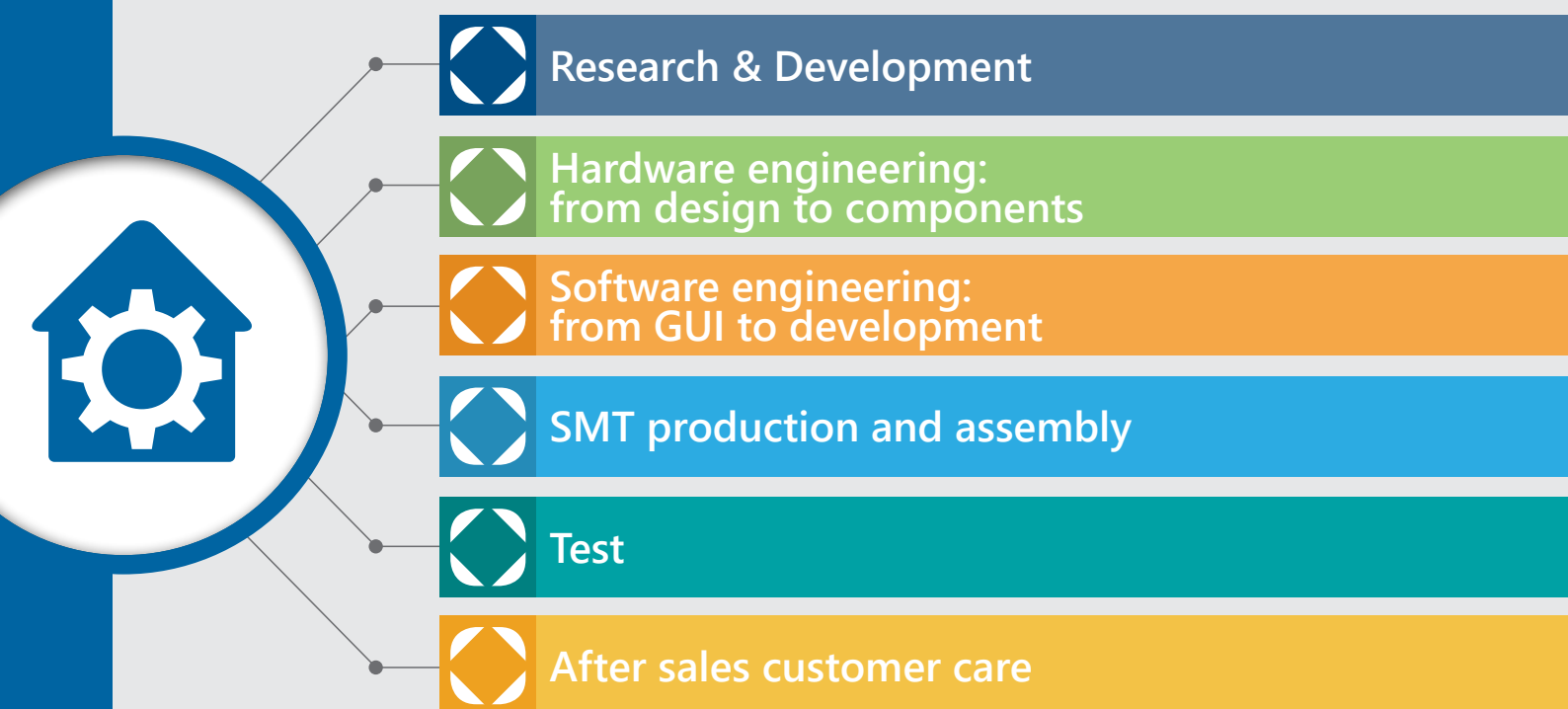
# AvMap's Vision

## Proprietary technology

The combination of flexible production, long time expertise, knowledge transfer through different markets and continue innovation makes it possible for AvMap to develop complex products in limited time.

AvMap products are positioned in all those markets requiring high technology and high quality with medium-small volumes, typically not interesting for big players and not achievable for small companies.

The group in-sourcing policy has proven to be a competitive advantage, as AvMap can provide know-how in all the stages of production:





## The European original equipment manufacturer

### Creating and driving technologies

AvMap offers the innovative technologies and professional services you need to rapidly deliver new, differentiated solutions.

Customization or tailoring can take place at different levels: adaptation of existing hardware, adaptation of software on existing hardware, design and development of new hardware. Whatever is your navigation need, AvMap B2B business unit can provide you with a tailor made solution.

### B2B Partnerships

AvMap Group has been serving OEMs for 30 years in aeronautical, marine and terrestrial navigation. AvMap adopts 3 golden rules in the relationship with OEMs:

- ◆ Adapt the offering to different requirements
- ◆ Provide complete service,  
from hardware to software and packaging
- ◆ Put AvMap's experience at OEM's service

# Avionics

[avionics.avmap.it](http://avionics.avmap.it)

AvMap's avionics solutions are dedicated to the Sport / Ultra light and General Aviation market.

AvMap avionic products are 100% Made in Italy since 1994 and used by private pilots, aerobatic teams as well as by armed forces, governmental agencies, rescue teams, civil defense.



1

AvMap is founded, deriving its name from the sector of Aviation.

**1994**

2

3

AvMap launches a hybrid product the Geopilot, which can navigate by sky and by land.

**2006**

4

AvMap launches EngiBOX, an engine monitoring system compatible with ROTAX aircraft engines. With the EngiBOX Portal, AvMap offers an innovative data collection service based on the cloud, where users can monitor the performance of their engine anytime.

**2016**

5

6

TWS designs and produces for Agusta (today Agusta Westland) the first military approved portable navigation system for helicopters.

## 1992

AvMap launches the first Electronic knee Pad (EKP) and in few months it conquers the European and American market. Up to that moment, pilots used to attach paper maps on their leg, while this solution came with a large and bright screen which could display lots of useful information. EKP was the first of a long successful product line that has been making continuous progresses.

## 1994

AvMap expands its activities beyond navigation, including new avionic instruments in its product line such as Electronic Flight Information Systems (EFIS) and ADAHRS (Air Data, Attitude and Heading Reference System).

## 2013



## Portable GPS

AvMap GPS are used by thousands of private pilots worldwide, from the successful Electronic Knee Pad series "EKP" to the hybrid Geopilot to navigate by sky and by land.



## Instruments

AvMap develops instruments for LSA and high performance aircrafts such as artificial horizons, EFIS, ADAHRS, Engine monitoring systems.



## Panel-mounted solutions

AvMap Avionics System is the easy to install, light and cost effective system designed for light-sport, ultra light & experimental aircraft. It can be interfaced with other on board instruments and third party accessories.



## MARKETS

- Armed forces, governmental agencies
- Voluntary rescue teams, civil defense
- Farmers or spraying companies
- End users (GA pilots, private pilots, flight schools, sport teams)

Panel-mounted and portable  
at the same time



# Car Navigation

## The early days: AvMap pioneers portable GPS

In the early 90's AvMap develops one of the first portable car navigators. When the portable navigator mass market boomed around 2005, AvMap is already a well established GPS producer.

From the Desert Cruiser to the Geosat 6 TV, AvMap has marked the GPS evolution.

## The GPS Boom: AvMap differentiates

As the Car GPS enters the GDO, AvMap differentiates the production and finds new challenges focusing on specific applications of the GPS technology.

Thanks to a deep understanding of the different applications of the navigation technology AvMap can provide customized solutions for any navigation need. Several products are launched for motor sport competitions, off road vehicles, recreational vehicles and rescue operations.



1994

### **The Desert Cruiser**

AvMap designs and produces the "Desert Cruiser", the first moving-map portable navigation system for cars. Inspired by the Paris-Dakar races in the desert, The Desert cruiser featured a 10" black and white display and huge key buttons.



1997

### **The origin of the street navigation**

The navigator gets urban as AvMap produces one of the first devices for the car, the Road Cruiser.



1998

### **The Geosat series**

The Geosat car navigator was born, the first of a long-lived product line that has been evolving through the years gaining brand awareness.



2005

### **AvMap and the car manufacturers**

AvMap starts supplying car manufacturers, producing portable GPS that are standard equipment in special editions of Peugeot cars. Geosat 4 Travel is the world's first navigator with audio-video input and APRS© compatible.



2006

### **Geosat 5: a GPS for any navigation need**

The Geosat 5 Series meet different navigation need: Geosat 5 Camp for the recreational vehicles lovers, Geosat 4x4 for the off road lovers, Geosat 5 APRS© for Radio Ham and so on...



2007

### **The multifunctional challenge**

AvMap designs and produces Geosat 6 Phone TV, the first GPS with built-in breath analyzer, GSM and DVB capabilities.



Today

### **B2B Partnerships and Innovation**

Starting in 2008, AvMap focuses in some niche markets developing highly customized products in collaboration with specialized partners. Thanks to a deep understanding of the different applications of the navigation technology AvMap can provide customized solutions for any navigation need.

# Niche Markets



1

## Motor Sport

### Geosat6 Regularità

the GPS with trip master and average speed chronometer dedicated to regularity class motor races such as the Mille Miglia.

2

## Off Road

### Geosat 4x4 Crossover

Developed with the Italian National Military Geographical Institute, Geosat 4x4 is the one and only GPS dedicated to off road navigation.



### Geosat 6 Camp

The first portable GPS solution dedicated to Recreational Vehicles, launched in collaboration with the most authoritative magazine for RV in Italy.



4

## Recreational Vehicles

## Radio Amateurs

### Geosat 6 APRS©

Developed with Kenwood USA, Geosat 6 can be connected to any APRS© ready Kenwood radio in order to see right on its screen the position of fixed and mobile APRS© stations.



3

# In-Car electronics for the automotive Industry

## From portable GPS to in-car solutions

In 2007 AvMap starts working closely with car makers to designs tailor-made car navigation systems. AvMap soon gains the trust of car makers and becomes official supplier for PSA group (Peugeot and Citroen), and Toyota Motor Europe.

## Beyond navigation

As in-car navigation solutions become more and more integrated, sophisticated and connected, AvMap expands its horizons beyond navigation developing other kinds of in-car electronics such as hotspots, apps and services for the connected car.

2007

AvMap introduces the concept of "PNiD" Personal Navigation in Dashboard: in-car integrated and portable at the same time. AvMap designs special car mounts to integrate the portable navigator into the car's dashboard. Geosat 6 is connected to the car speakers through a special docking station, custom designed for Peugeot 207.

2008

Mitsubishi Motor Company Brazil includes AvMap Geosat 5 in the L200 Savana. It is one of the first portable GPS included in a car standard equipment in Brazil. AvMap supplies the Brazilian Federal Police Department.

2010

AvMap starts working with Toyota Motor Europe

2011

Responding to a growing demand for mobility AvMap completes its products range offering mobile navigation apps for iOS devices.

2013

AvMap expands activities beyond navigation producing a hotspot module for the Toyota and Lexus range.

2014

AvMap produces for Toyota Motor Europe a Navi Box connecting to the head unit display through Mirror Link, one of the first of this kind.



# In-Car electronics Products



**PEUGEOT**

Geosat 6 Phone TV  
for  
Peugeot 207  
Energie Sport



**PEUGEOT**

Geosat 6 Drive safe  
Geosat 6 BLU  
for  
Peugeot 107



**CITROËN**

Geosat 6 DeeJay  
for  
Citroën C1 DeeJay



**TOYOTA**

Tailor-made car mount  
for the integration of  
TomTom GPS  
for  
Toyota Aygo Connect



**LEXUS**

Tailor-made car mount  
for the integration of  
TomTom GPS  
for  
Lexus CT 200h hybrid



**TOYOTA/LEXUS**

HotSpot 3G  
for  
Toyota and Lexus  
range



**TOYOTA**

NaviBox  
for  
Toyota Aygo  
2014



# Intelligent Agriculture

[farm.avmap.it](http://farm.avmap.it)

## Top notch electronics applied to agriculture

GPS technology applied to intelligent agriculture: helping farmer save time, reduce environmental impact and increase efficiency.

### FARM PRODUCTS

- Precision farming navigators (AvMap brand)
- Auto-steering systems
- Smart GPS receivers
- Displays for parallel guidance, sprayer control and seed counters (OEM)



### MARKETS

- Farmers
- Tractor manufacturers
- Implement manufacturers



AvMap launches G6 Farmnavigator, one of the first portable GPS dedicated to intelligent agriculture, helping farmer to approach precision farming with portable, professional yet affordable solutions.

**2009**

AvMap starts producing for OEM

**2010**

The Farmnavigator product line expands with accessories such as GPS receivers for different precision requirements, auto-steering system, power adapters for any kind of vehicle and spare parts.

**2016**

G7 Farmnavigator is launched, and thanks to strategic partnership with leading manufacturers of agricultural machinery, it connects and interfaces with several external devices and implements.

**2014**

# Marine Electronics

1985, the group has been pioneering the sector of marine navigation and electronic charting. Our marine activity is dedicated to OEM all over the world.

## The best implementation of C-Map charts

C-Map and AvMap belonged to the same Group of companies till 2007, when C-Map was acquired by Jeppesen, a subsidiary of Boeing. Today the two companies maintain a strong connection and keep collaborating very actively.

### MARINE PRODUCTS

- GPS navigators
- Marine navigation software
- GPS receivers
- Routers
- Fish finders (eco-sounder)
- Gas analyzers for diving applications
- Cloud services



### MARKETS

- Fishing vessels
- Leisure boats





TWS produces Geonav, the first marine charting system for the non-professional market designed by Mr. Bianchetti and Mr. Petrocchi.

1985

C-Map creates CF-85 the new vector format for marine electronic charting that will soon become an international standard.

1985

TWS starts the production of the Pan-Navigator 8640, the first charting system based on the new C-Map format. OEMs production service begins.

1986

C-Map creates CM93, a new map vector format for the commercial market, which is approved as legal substitute of paper charts published by Hydrographic Offices in ECDIS systems. Soon after C-Map's FAROS becomes the official Software used by Hydrographic Institutes to digitize charts.

1993

OEMs production service is extended to major brands worldwide.

Today

# AvMap Group Facts

100

More than 100 AvMap branded products and accessories

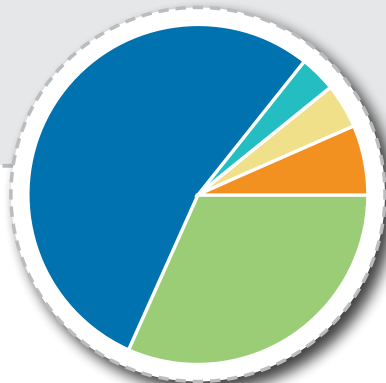
30

30 Years of Expertise

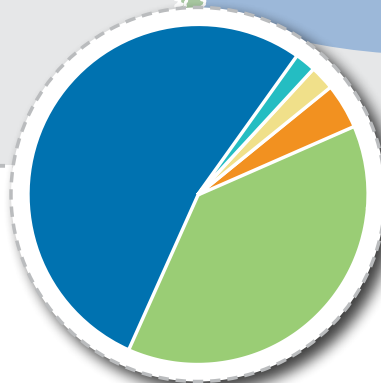
5

SW developed for 5 Operative Systems

Products sold in 46 countries  
Offices in 4 continents



Sales by Value



Sales by Volume

Automotive  
Avionics  
Marine  
Agriculture  
Other



35 Big B2B Customers

4

Funded Research Projects with international partners



70%

of employees are engineers

35%

of key personnel are women

9

Languages spoken



Portable GPS



Precision Farming



Avionics



Marine Electronics



Off Road



Motor Sports



Recreational Vehicles



Radio Hams



In-Car Navigation Systems

# AvMap Group Strengths



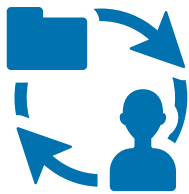
## **Insourcing**

From software development and hardware engineering to manufacturing, marketing and distribution, everything is done within the group.



## **A wide panorama of GPS applications**

More than 30 years of expertise in navigation technology for marine, aeronautical and terrestrial navigation.



## **High flexibility**

Insourcing and knowledge in different markets ensure the capability of adapting the product to customer's needs.



## **A lean organization**

Allows fast decision making and efficient project management.

# Quality Commitment

## Quality as a growth strategy

AvMap quality policy makes it possible to comply with the high demanding quality standards of the automotive industry as well as the aeronautical industry.

AvMap commitments to quality and has introduces a number of preventive actions for potential quality issues and production capability:



Standardization of product technical specifications



Validation test definition



Project planning analysis and revision



Product and production process design



Product / Process change form and process standardization



Project analysis / Lessons learned



8D reports, issue analysis and solving standardization



Prevention concept and preventive actions



## *On the WEB*

### Farming

[farm.avmap.it](http://farm.avmap.it)

Sales info: [farm@avmap.it](mailto:farm@avmap.it)

### Avionics

[avionics.avmap.it](http://avionics.avmap.it)

Sales info: [avionics@avmap.it](mailto:avionics@avmap.it)

### Car navigation and In-Car electronics

[www.avmap.it](http://www.avmap.it)

### Marine electronics

[www.seiwa-direct.it](http://www.seiwa-direct.it)





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