



Summary

AVTECH's solutions are based on **patented** modular platforms which enable the company to deliver a range of services to the air transport industry depending on how the modules are combined. The modules also form the basis for a unique set of capabilities that AVTECH can offer in the form of consultancy assignments to a wide array of potential customers within the industry.

Innovations

Since the start over 25 years ago, AVTECH has been a leader in the global development of Performance-based Operations (PBO)

AVTECH is the only company in the world that can distribute processed weather information based on the most up-to-date and advanced forecasts available. These are derived from the UK Met Office's high resolution global meteorological model.

Aventus SIGMA

A high quality tool that uses the actual route in the FMC or the planned route and time combined with the Met Office Global High Resolution Weather model. This produces a hazardous weather forecast/alert, based on the most up to date information which is then presented on the iOS tablet app, ACARS printer and/or as part of the preflight briefing package.

Next Generation Forecast

Powered by the Met Office High Resolution Global Weather model Aventus SIGMA can improve the safety and comfort of passengers and crew. The forecast is tailored to the flight's trajectory and time. CAT areas move constantly, so does the aircraft. SIGMA alerts are based on a moving aircraft and a mobile weather pattern.

Turbulence can be avoided or reduced. If turbulence is encountered, the crew will have the best information possible for the climb/descent decision.



No Ordinary Weather Services

Flight crews around the world often use the SWC charts to determine hazardous flight conditions. These charts are made by hand and cover large areas and time periods.




SIGMETS are also usually large areas defined by coordinates, not always very easy to relate to the flight at hand.






Service includes

-  **Wind Uplink:**
Makes your aircraft SESAR/NextGen compliant and saves fuel via ACARS and SIGMA App
-  **High Resolution analysis:**
Turbulence warnings, tailored to the flight via ACARS and SIGMA App
-  **SIGMA iOS App:**
Presenting high resolution weather both pre-flight and with live in-flight updates

Benefits



-  **Safety** – turbulence avoidance
-  **Fuel** – reduces fuel cost
-  Can be **tailored** to meet all operative needs

How to get started ?

-  Get a demo
-  Sign up for a Trial
-  Contact us!

Key Features

The Aventus SIGMA service does 2 main things:

-  Gives a high-resolution forecast relating to hazards on your route based on the flights actual trajectory (route) and time.
-  Relates any SIGMETS published to the flights actual route and time in a more easily read format.

The information from the SIGMA service is supplementary to the official publications of SWC and SIGMETS. SWC and SIGMETS are the sources approved by the authorities, but the SIGMA service can help give more information and a clearer picture on what is going on. The source is the same, just more in detail and related to your flight.

The underlying data for the SIGMA service comes from the high resolution global weather model at Met Office (UK) in Exeter. Route information from the FMC is downlinked and matched for hazardous weather. The results are then uplinked to the FMC and printed on the ACARS printer as a SIGMA SIGMET REPORT along with the actual SIGMET or a SIGMA HAZARDOUS WXR REPORT. It can look like this:

```
=====
SIGMA REPORT 27164022
=====
```

```
SIGMA SIGMET REPORT (Here related to the flight)
```

```
===
FROM ESILA/-46 TO CASPE/-75
WSSP31 LEMM 020752 LECM SIGMET 4 VALID
020800/021200 LEVA- LECM MADRID FIR/UIR
SEV TURB FCST E OF LINE N4310 W00120 -
N36 W004 FL240/360 MOV E 10KT WKN=
```

```
SIGMETS (Here in raw format)
```

```
===
WSSP31 LEMM 020752 LECM SIGMET 4 VALID
020800/021200 LEVA- LECM MADRID FIR/UIR
SEV TURB FCST E OF LINE N4310 W00120 -
N36 W004 FL240/360 MOV E 10KT WKN=
```

```
SIGMA HAZARDOUS WXR REPORT (Turbulence forecasted based on high-res data)
```

```
=====
TURBULENCE
=====
```

	FL300	FL320	FL340	FL360	FL380
-50					LGT12
ESILA				LGT12	
-100	LGT12	LGT12	LGT12	LGT12	
-50	LGT12	LGT12	MOD19	SEV48	
MINGU	LGT12	LGT12	MOD19	SEV48	
-100	LGT12	MOD19	MOD19	SEV48	
-50	LGT12	SEV48	MOD19	SEV48	
CASPE	LGT12	SEV48	MOD19	MOD19	
-200	LGT12	SEV48	MOD19	LGT12	
-150	LGT12	SEV48	MOD19	MOD19	
-100	LGT12	SEV48	LGT12	MOD19	
-50		SEV48	LGT12	LGT12	
DEGOL		LGT12	LGT12	LGT12	
-50		LGT12	LGT12	LGT12	
ARDEG		LGT12	LGT12		
NEDRU		LGT12	LGT12		
LAPRI		LGT12			
TUPUP					
TONDA					
-50		LGT12			
BOTAL		LGT12			
PIKOT					
-100		LGT12			
LIPE		LGT12			

The "LGT12" means "Light" and the number representing a turbulence level from the weather model on a scale as follows. This gives crew of various airframes the ability to judge the level depending on equipment. A A380 might accept a higher level versus a CRJ.
LGT=8 - 15 MOD 15 - 30 SEV > 30

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