



MeteoSwiss Aviation User Consultation 2024



An aerial photograph showing a Swiss Air Force aircraft in flight over a vast mountain range. The aircraft is white with red accents and a red cross on its tail. In the foreground, the wing of the viewer's aircraft is visible, also featuring a red cross. The landscape below consists of rugged, brownish mountains and a valley with a river and some buildings. The sky is blue with scattered white clouds.

Opening

«MET matters!»

Markus Aebischer

Head of Key Account Management and Distribution



An aerial photograph showing a Swiss Air Force aircraft in flight over a vast mountain range. The aircraft is white with red accents and a red cross on its tail. In the foreground, the wing of another aircraft is visible, also featuring a red cross. The landscape below consists of rugged, brownish mountains and a valley with a river and some buildings. The sky is blue with scattered white clouds.

Welcome

«Continuous Development
for Society and Economy»

Manuel Keller
Deputy Director General

Summer 2024:

Substantial socioeconomic
impact of weather related
phenomena



Lostallo, 21.6.2024
<https://www.rsi.ch/>



Zermatt, 21.6.2024
<https://www.baerntoday.ch/>



Morges, 25.6.2024
<https://www.24heures.ch/>



Cevio, 29.6.2024
www.tagesanzeiger.ch/



Brienz, 12.8.2024
<https://www.plattformj.ch/>



Tschechien, 14.9.24
<https://www.srf.ch/>



Rumänien, 15.9.24
<https://www.srf.ch/>



Italien, 20.09.24
<https://www.lastampa.it/>

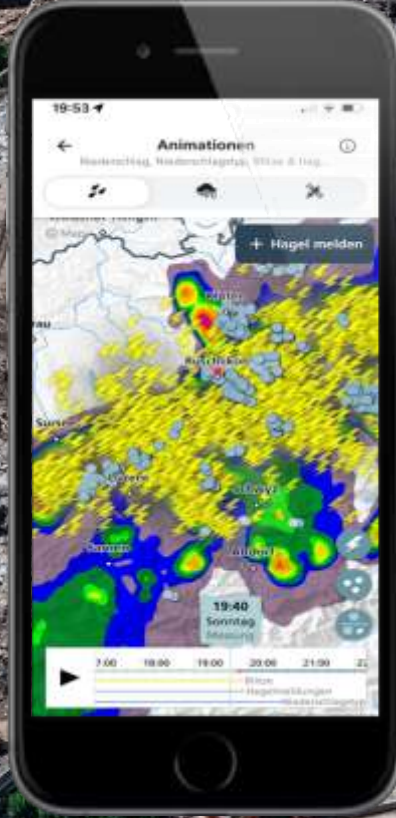


Frankreich, 18.10.24
<https://www.lastampa.it/>



Österreich, 18.08.24
<https://www.wetter.com/>

Intensive warning activity

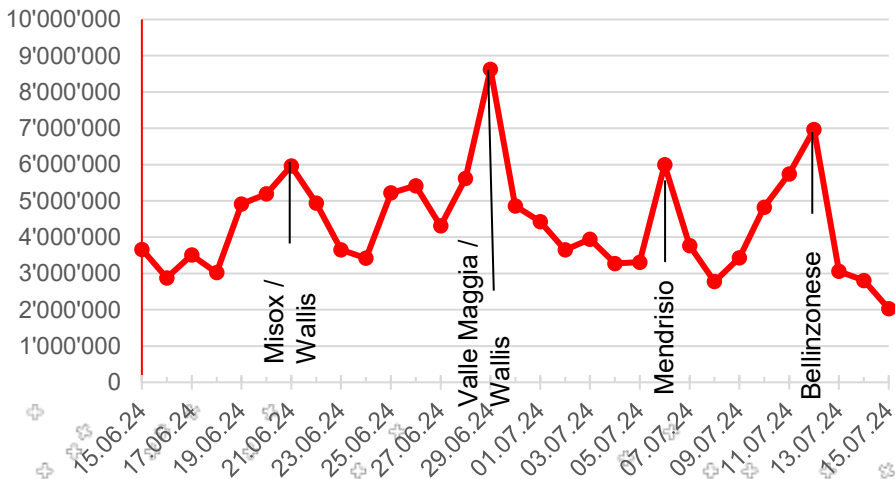




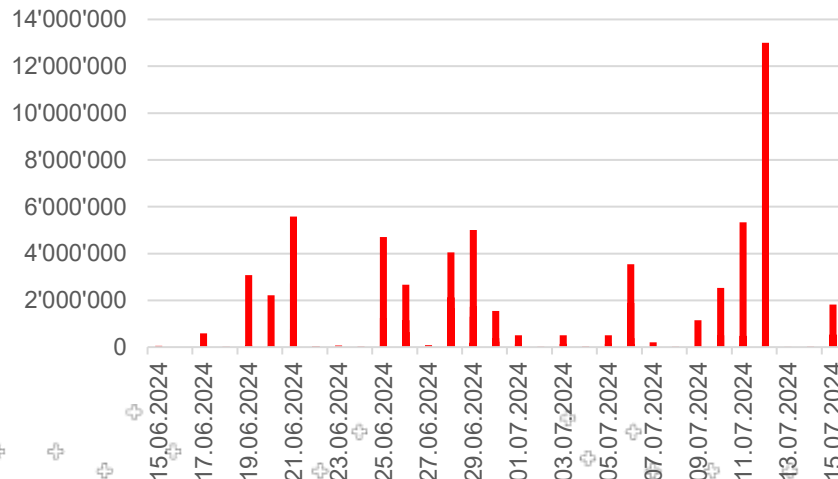
Push Warnings (MeteoSwiss App) 15.06. - 15.07.2024

Total App Starts	135'212'921
Total Push	80'478'094
Thunderstorm Push	56'381'267
Thunderstorm Push Level 4	753'032

App Starts



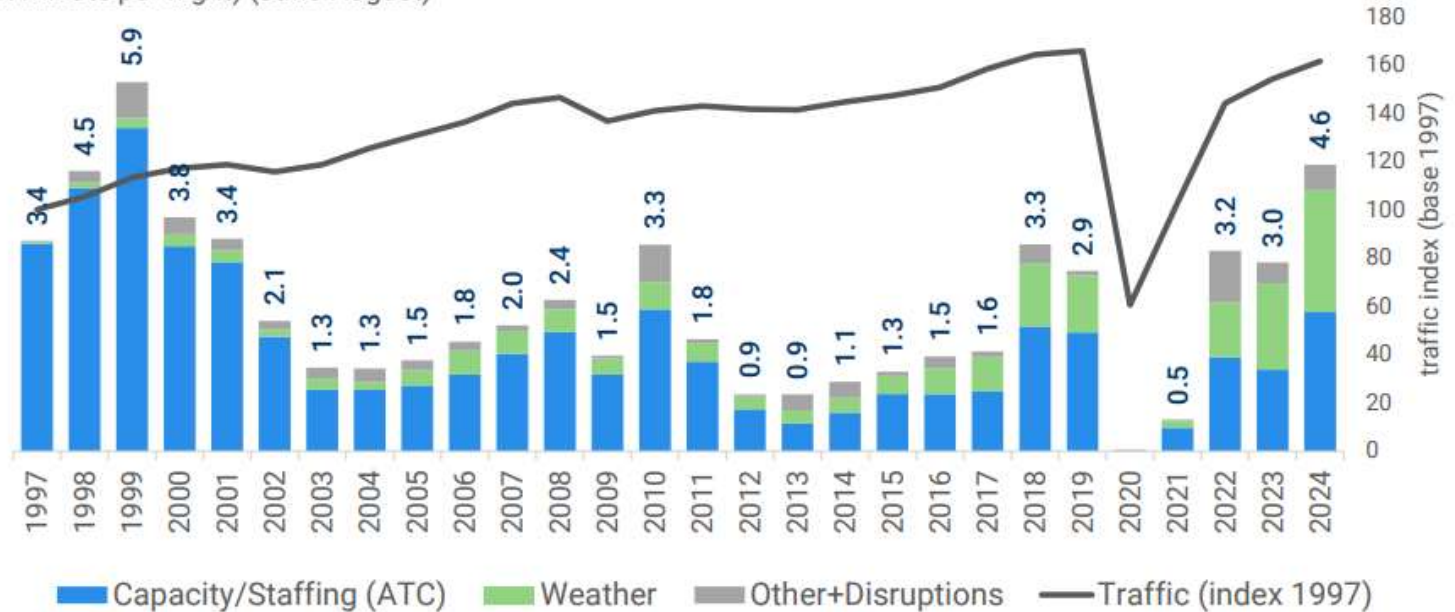
Push Count





MET matters!

Evolution of en-route ATFM delays per flight
(in minute per flight) (June-August)



Performance Review Commission; Observer #2 – October 2024



Continuous Development / Improvement



Every weather forecast...



...is based on a numerical weather prediction model

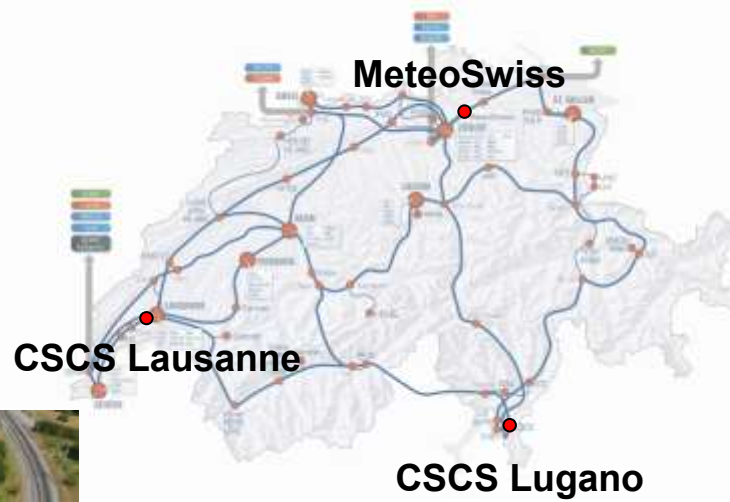


ICON - Our new NWP model





Multi-Site Strategy for ICON Production



MeteoSwiss



© MeteoSwiss Aviation User Consultation 12.12.2024



19.6.2024; Power Failure at Supercomputing Centre CSCS Lugano

- 01:37 Short circuit on the 16 kV switchgear cabinet causes a **complete power failure at CSCS Lugano**. CSCS Lausanne not affected but no longer accessible via the network
- 06:00 Partial power supply restored and COSMO systems restarted, technical problems remain
- 06:15 Network available again; ICON systems back in operation
- 19:10 Technical problems resolved; COSMO systems back in operation



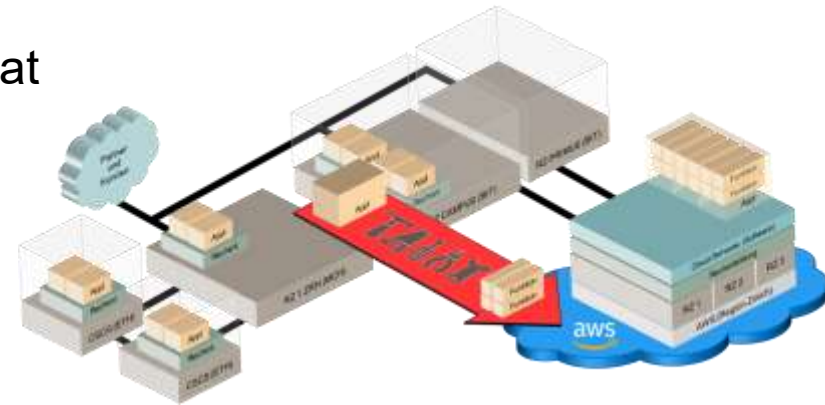
➤ **Dissemination of regulatory MET products permanently guaranteed**



Program RZ-Plus; Resilient Computing power

Achievements in 2024

- On Prem computing infrastructure at the Federal Computing Center Campus/Frauenfeld «ready for migration»
- Second CSCS site in Lausanne
- AWS Cloud Platform MeteoSwiss (ACPM) ready for operation
- Start of modernization of application portfolio





Open Government Data

→ As of 1st of April 2025, MeteoSwiss will make its data available to the general public for free reuse as Open Government Data (OGD)

Der Bundesrat verabschiedet totalrevidierte Verordnung über die Meteorologie und Klimatologie


Bern, 14.08.2024 - Der Bundesrat hat an seiner Sitzung vom 14. August 2024 die Totalrevision der Verordnung über die Meteorologie und Klimatologie (MetV) verabschiedet. Mit der Revision erhält das Bundesamt für Meteorologie und Klimatologie MeteoSchweiz die Grundlage, um der Öffentlichkeit meteorologische und klimatologische Daten frei und kostenlos zugänglich zu machen. Dies entspricht der Open-Government-Strategie (OGD) der Schweiz. Die revidierte MetV tritt auf den 1. April 2025 in Kraft.

Die «Open Government Data»-Strategie (OGD) des Bundes sieht vor, dass die Daten, die von Bundesämtern zur Erfüllung ihres gesetzlichen Auftrags auch der Öffentlichkeit zugänglich gemacht werden. Das Ziel durch offene und frei nutzbare Verwaltungsdaten die Partizipation und Innovation in allen gesellschaftlichen Sphären. Meteorologische und klimatologische Daten werden wirtschaftlich und wirtschaftlich besonders wertvoll erachtet. Mit der Verordnung über die Meteorologie und Klimatologie leistet das Bundesamt für Meteorologie und Klimatologie die Strategie Folge leisten.





Continuous development of MET services

 Next Generation of customized products for Swiss air traffic management



Weather general	Thunder	Precipitation	Wind	Temperature	Cloud
0. Visibility	1000	1000	1000	1000	1000
1. Temperature	10	10	10	10	10
2. Humidity	50	50	50	50	50
3. Wind speed	10	10	10	10	10
4. Wind direction	10	10	10	10	10
5. Cloud base	1000	1000	1000	1000	1000
6. Cloud top	1000	1000	1000	1000	1000
7. Cloud type	1000	1000	1000	1000	1000
8. Cloud amount	1000	1000	1000	1000	1000
9. Cloud cover	1000	1000	1000	1000	1000
10. Cloud height	1000	1000	1000	1000	1000

From

To

Manually generated products.

Automation and collaborative decision-making with dedicated forecasters.

Products (e.g. PDF files) sent to customers.

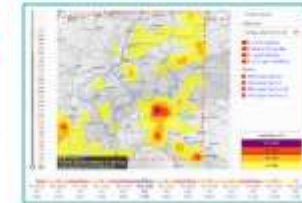
Data sharing services (System-Wide Information Management SWIM).

Generation of a few products per day.

Updated and higher resolution forecasts for key phenomena.

Weather forecasting.

Impact-oriented and impact-based weather forecasting.





Dedicated Forecaster



- **Temporary** Dedicated Forecaster on a Best Effort basis: 3rd of June – 31st of August 2024
- **Permanent** Dedicated Forecaster: from 2025
 - exact start tbd → FOCA)
 - Financing included in RP4 planning (2025-2029)

Continuous development
requires continuous
investments



Savings Programs (Federal Administration)

in Mrd. CHF

	VA 2024	VA 2025	FP 2026	FP 2027	FP 2028
--	------------	------------	------------	------------	------------

- Cost cutting measures in 2024, 2025 (2x) with recurring effect → all Federal Agencies affected
- Additional, specific cost cutting measures in the area of Research & Development

Zahlen gerundet, allfällige Abweichungen bei den Ergebnissen sind rundungsbedingt.

Quelle: EFV · [Daten herunterladen](#)



Consequences for MeteoSwiss

- Priority: guarantee stable 24/7 operations

but....

- Necessary life cycle investments in basic infrastructure delayed
- Necessary investments in technological improvements delayed or postponed

“The biggest room in the world is
the room for improvement.”


Helmut Schmidt



Thank you for your trust
and partnership

An aerial photograph showing a Swiss Air Force aircraft in the foreground, flying over a vast mountain range. The aircraft's wing is visible, featuring a prominent red circle with a white cross. In the distance, another Swiss Air Force aircraft is seen flying against a blue sky with scattered white clouds. The landscape below consists of rugged, brownish mountains and a valley with a winding road and a body of water.

MeteoSwiss Aviation User Consultation 2024

An aerial photograph showing a Swiss Air Force aircraft flying over a vast mountain range. The aircraft is white with red accents and a red cross on its tail. In the foreground, the wing of another aircraft is visible, also featuring a red cross. The landscape below is a mix of green valleys and brown, rocky mountain peaks under a blue sky with scattered white clouds.

«The weather is the weather.
You have to deal with whatever
is out there.»

(Matt Cassel)



Agenda

13:50 – Business Continuity Management and Emergency Organisation MET

14:10 – Guest Presentation

14:30 – Functional System MET

14:50 – Coffee break

15:20 – Guest Presentation

15:40 – MeteoSwiss News

16:25 – Q&A Session - Closing

16:30 – Business Aperitif



Wish Box 2025





Business Continuity Management for Forecasters

Marianne Giroud
Deputy Head of Forecasting Center West

What is it?

How are we organized ?

What do we do?



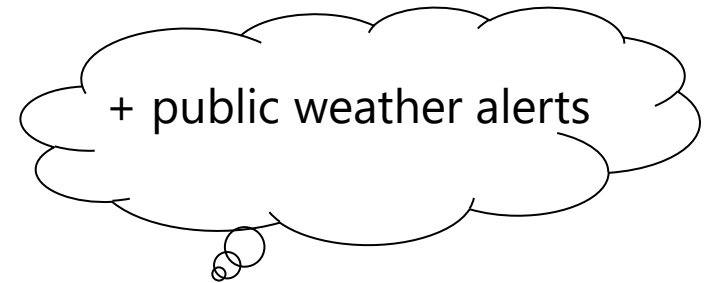
BCM ?

- **Business Continuity Management (BCM) is a management process to identify**
 - **potential threats to an organization**
 - **impacts on operations (that those threats, if realized, could cause)**
- ❑ **BCM ensures the resilience of the company**
- ❑ **BCM minimizes operational disruptions**
- ❑ **BCM protects the interests of stakeholders**



BCM @PB (Prognose und Beratung)

- **Objective:**
to maintain the production and distribution of critical weather forecasting services/products in the event of an incident, using available resources and applying prioritization.
- **Critical aeronautical products include**
 - **SIGMET**
 - **SPECIAL AIR REPORTS**
 - **TAFs, METAR, MET REPORT/SPECIAL**
 - **LLSWC**
 - **FL140, FL100/180**
 - **Airport Alerts**





BCM @PB (Prognose und Beratung)



- **first emergency procedure**
Ask other forecasting centers to take over tasks
- **Second emergency procedure**
Use emergency laptop
- **Evacuation**
Specific evacuation procedures are defined for each forecasting center, with identified backup sites to ensure continuity of operations



BCM @PB (Prognose und Beratung)

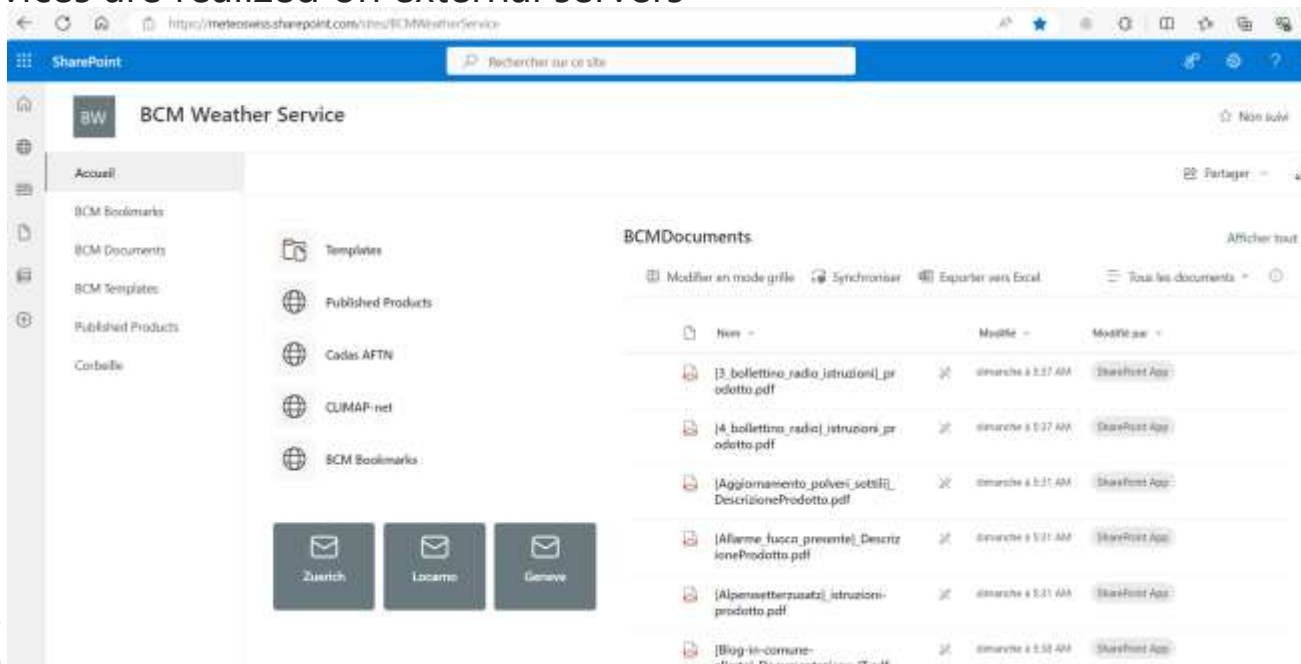
- **Emergency Laptops are** charged, have monthly maintenance, in bags containing chargers and documentation, which is reviewed and maintained
- **Emergency Telephony**
Each forecasting center has emergency mobile phones to ensure communication in case of telephony system failures.





On emergency laptops

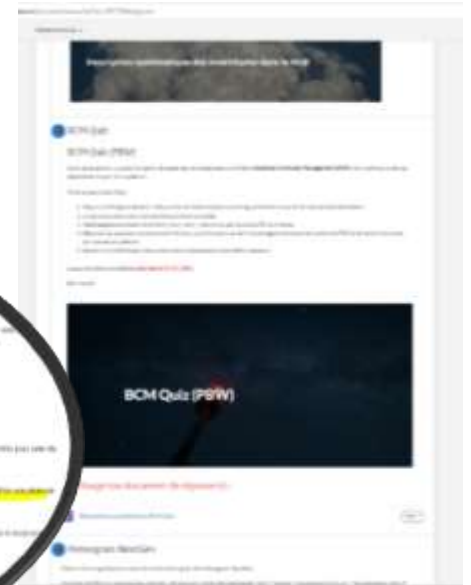
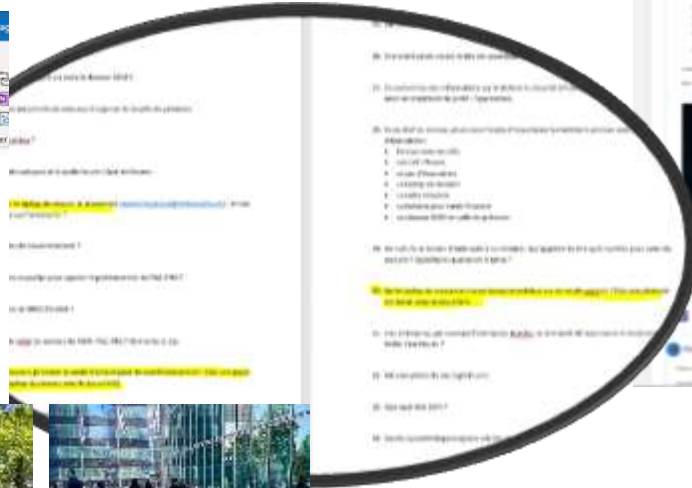
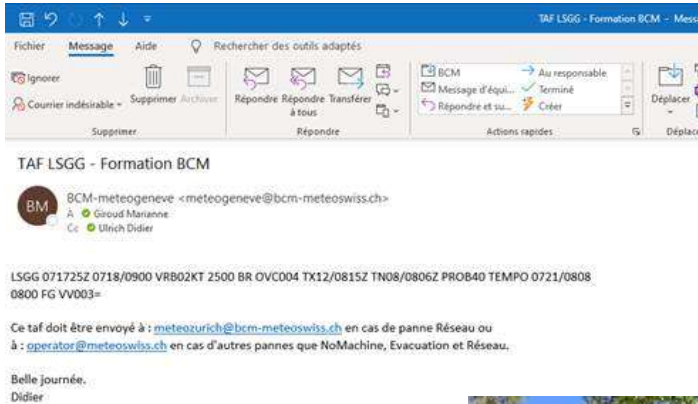
- In the event of a computing center failure, weather data can be obtained via partner networks and external sources.
- E-Mail services are realized on external servers





BCM @PB training

- Each year 1-3 exercices with emergency laptop, evacuation





Questions?





Emergency Organisation (EO) MET

Markus Aebischer
Head of Key Account Management and Distribution



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Crisis management & - communication @ MeteoSwiss

What happens when things don't work?



Crises management

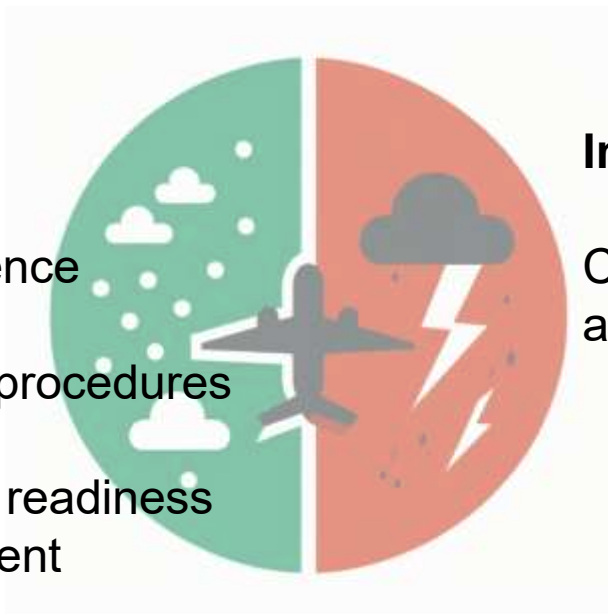




MeteoSwiss crisis management

Prevention:

- Ensure crisis resilience
- Define emergency procedures
- Ensure operational readiness of crises management organisation



Intervention:

- Crises organisation in action

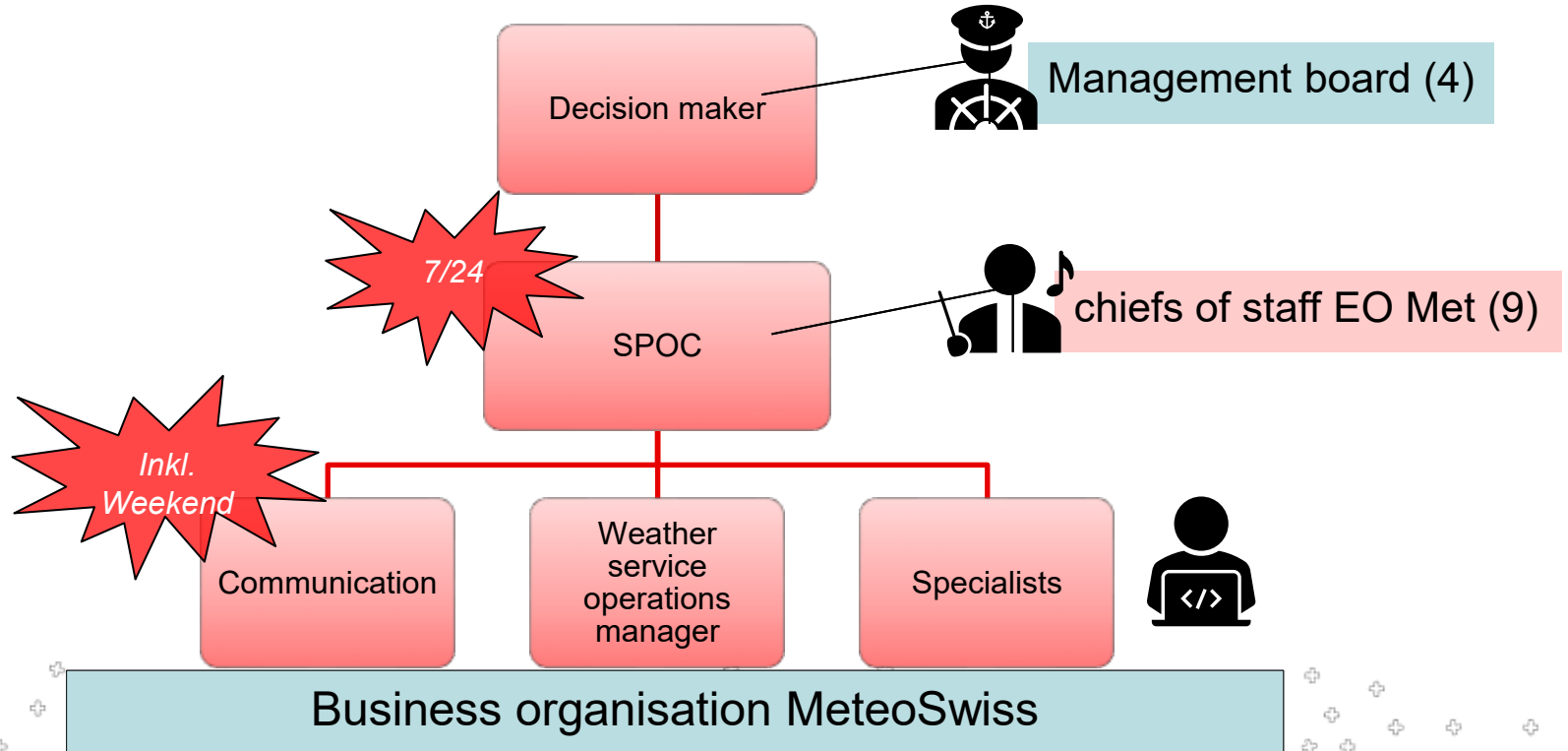


Reasons for crises organisation in action

- Technical breakdown
- Cyber attack
- Failure of a building/infrastructure
- Shortage of human resources
- Communication crises
- Extreme meteorological events
- ...



Crises management organisation (EO Met)





Readiness level

- 1 = normal situation
 - operational mode
 - manageable problems and incidents
- 2 = mission preparation
 - mission possible, scope not yet clear
- 3 = in action
 - start report
 - decision needed





EO Met in action





Activation of EO Met

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Meteorologie und
Klimatologie MeteoSchweiz
InfoNet

Alles durchsuchen

Startseite Organisation Projekte Arbeitshilfen Blogs

Fachliches Strategisches

Bei Notfällen
Notfall-Nummern
Notfall: Wie vorgehen

Aktueller Systemstatus
Es liegen keine Meldungen vor.

MeteoSchweiz Event - Save the Date - Événement
MétéoSuisse - Save the Date - Evento di MeteoSvizzera -
Save the Date

Mehr...

Von Caraballo Adelina - 22.11.2024 10:35
Kommentare: 3



Crises communication





Crisis communication; examples

MeteoSwiss Technical Problem Notification

There is currently a large-scale technical problem. **It is not possible to provide information about affected systems or products.**

Our specialists are working intensively to rectify the situation. **We ask for your patience and thank you for your understanding.**
We will keep you informed about the current disruption. **You will receive further information in approximately 45 minutes.**

Please do not reply to this email.

MeteoSwiss Technical Problem Notification

We apologize for any inconvenience. There is currently a technical malfunction and the provision of **the following aviation weather products is temporarily down: METAR, TAF.**

Kind regards
Our specialists are working intensively to rectify the situation. We ask for your patience and thank you for your understanding.
We will keep you informed about the current disruption. You will receive further information in approximately 45 minutes.

OSC (Operation Service Center)
Federal Department of Home Affairs FDHA
Please do not reply to this email. During office hours, please contact fwinfo@meteoswiss.ch with any further concerns.

Federal Office of Meteor

We apologize for any inconvenience.

Operation Center 1 | P.O.
Phone: +41 58 460 99 00
Kind regards

operator@meteoswiss.ch

OSC (Operation Service Center)
Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Operation Center 1 | P.O. Box | CH-8058 Zurich-Airport

Phone: +41 58 460 99 00

operator@meteoswiss.ch

MeteoSwiss





Crisis communication; examples MET

MeteoSwiss Technical Problem Notification

The technical malfunction could not be resolved yet. The provision of the following aviation weather products is still interrupted: METAR, TAF.

Our specialists are working intensively to rectify the situation. We ask for your patience and thank you for your understanding. We will keep you informed about the current disruption. You will receive further information in approximately 45 minutes.

Please do not reply to this email. During office hours, please contact fwinfo@meteoswiss.ch with any further concerns.

We apologize for any inconvenience.

Kind regards

OSC (Operation Service Center)
Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology M

Operation Center 1 | P.O. Box | CH-8058 Zurich-Air
Phone: +41 58 460 99 00
operator@meteoswiss.ch

MeteoSwiss Technical Problem Notification: Resolved

The technical problem has been resolved.

Please contact fwinfo@meteoswiss.ch during office hours if you have any further questions:

We apologize for any inconvenience caused.

Kind regards

OSC (Operation Service Center)
Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Operation Center 1 | P.O. Box | CH-8058 Zurich-Airport
Phone: +41 58 460 99 00
operator@meteoswiss.ch

MeteoSwiss



Want to be informed?

Please contact fwinfo@meteoswiss.ch



Crisis communication; example NOTAM

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun Svizra

Seit 1. September 2024

Federal Department of the
Environment, Transport, Energy and Communications DETEC
Federal Office of Civil Aviation FOCA
Swiss Air Navigation Services

NOTAM Form

Version - Juni 2024

Save as PDF
Print PDF

ORIGINATOR	1	Luzvia-Extensio, MeteoSwiss
PHONE (S/MNL)	2	+41 (0) 50 400 34 30 / luzvia.extensio@meteoswiss.ch
DATE AND TIME OF ISSUE	3	05J
NOTAM TO BE REPLACED	4	
NOTAM TO BE CANCELLED	5	
LOCATION (Item A) (ICAO location indicator)	6	LSZH
COORDINATE (ICAO/UN3164)	7	
RADIUS OF INFLUENCE (NM OR NM)	8	
VALID FROM (Item B) Date / Time group (UTC)	9	20240607/09 2200
VALID UNTIL (Item C) Date / Time group (UTC)	10	20240607/20 0200
IS THIS NOTAM A/P Publication always initiated?		<input type="checkbox"/> A <input checked="" type="checkbox"/> P
TIME SCHEDULE (DAILY HOUR) Optional (UTC) / Item D)	11	0200-0200
TEXT (Item E) Language according to ICAO Doc 8126	12	DUO TO NETWORK SERVICES MAINTENANCE 0200-0200: POSS INTRP TO AUTO METAR TRANSMISSION
LOWER LIMIT (Item F) SIG. FL, FT AGL, AMSL	13	
UPPER LIMIT (Item G) SIG. FL, FT AGL, AMSL	14	
REASON FOR REQUEST CONTACT REASON PISA	15	NO NETWORK SERVICES MAINTENANCE, REPLACEMENT OF FIREWALL INFRASTRUCTURE, PHASE 2

(A0797/24 NOTAMN

Q) LSAS/QFMLT/IV/BO/A/000/999/4727N00833E005

A) LSZH B) 2411282230 C) 2411290200

E) POSS INTRP OF AUTO METAR TRANSMISSION DUE TO NETWORK SER MAINT.)



Conclusion

- Be prepared, even for the unforeseen
- Communicate quickly and as precisely as possible



- Thank you – questions?



Questions?





Guest Presentation Swiss Air Rescue Rega

Mario Agustoni

Deputy Nominated Person Flight
Operation

MET-Matters

Any time ✓

Anywhere ✓

Any weather ✗



Mario Agustoni

Dpty Nominated Person Flight Operation

The Circle, 12 December 2024

Topics

- ARIOS and RNP AR Operation
- The Problem
- Practicable example
- Application
- Actual and Future solutions

CAT.OP.MPA.245 Meteorological conditions – all aircraft

(b) On IFR flights, the commander, shall only continue towards the planned destination aerodrome when the latest information available indicates that, at the expected time of arrival, the meteorological conditions at the destination, or at least one destination alternate aerodrome, are at or above the applicable operating minima

(c) On VFR flights, the commander, shall only commence the flight when appropriate meteorological reports and/or forecasts indicate that the meteorological conditions along the part of the route to be flown under VFR will, at the appropriate time, be at or above the VFR limits.

Actual Situation



- Approximately 600 rescue missions for people in medical distress cannot be carried out due to adverse weather conditions such as low visibility, snow or ice
- The design-criteria used to develop the instrument procedures are not suitable to narrow valleys and mountainous locations and are not dedicated to helicopter capabilities
- No helicopter is capable of operating with an RNP AR 0.1 precision, but only down to RNP AR 0.3
- Light-Helicopter used for Rescue operation are not suitable for Anti-icing equipment



Definition and differences in RNP

- **RNP (Required Navigation Performance)**

specifies a level of navigation accuracy and enables aircraft to fly along pre-determined, precise paths. Standard RNP in helicopter typically requires a 0.3 nautical miles of performance. Apply in Enroute, Approach and Departure instrument procedures.

- **RNP AR (Required Navigation Performance Authorization Required)**

offers **even tighter lateral and vertical navigation accuracy** and includes advanced features like **radius-to-fix turns** and **curved path approaches and departure**. This level of RNP allows for intricate maneuvers in complex terrain, such as narrow valleys or mountainous regions. In RNP AR, the aircraft can navigate in areas with very little room for deviation, allowing for approaches and departures that would be impossible with standard RNP due to space constraints or obstacles. Performance down to 0.1 Nautical Miles is possible.



▼ Menü öffnen

5'370m

2'685m

Secondary Area

RNP 0.3

~8000ft

Secondary Area

Primary Area

1110m

740m

RNP AR 0.1

~4000ft

370m

Les Granges (Salvan)

Dorénaz

Vernayaz



Project



Challenge

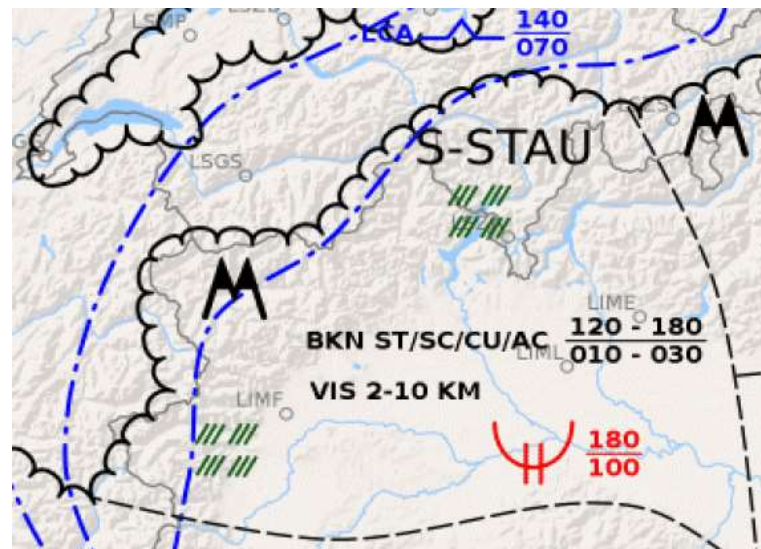
Icing forecast and aeronautical weather in remote area

- Current aviation icing forecasts are often generic, worst-case scenario and do not reflect reality; they are geolocated over very large areas, less detail on vertical development. They indicate that within a defined area, icing can be expected. However, our needs are much more precise
- In remote areas where no airports are present, aeronautical weather data is nonexistent, and available webcams are often not usable at night.
- Icing prediction models become always better but have not yet reached a level suitable for operational use, while consensus on the classification of icing conditions remains unresolved, with different classifications used within Europa.
- Rega invested significant financial resources to improve the availability of weather information to ensure compliance with regulations as well as to meet operational needs

Practicable example

Dangers valid 06:00 - 12:00 UTC:

Alpine passes partly in clouds. Over the Alps locally moderate foehn turbulence between FL070 and FL140, gradually reaching down into the Alpine valleys around noon. North of the Alps reduced visibility of 3-6 km under the high fog. **The south side of the Alps and in the Engadin moderate icing between FL100 and FL160**. In the lowlands of the south side of the Alps with light rain reduced visibility of around 2-5 km in places.



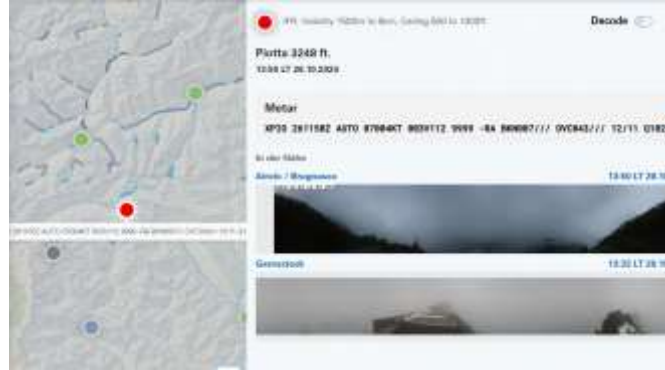
AVIATION WEATHER FORECASTS

SWC-ALPS

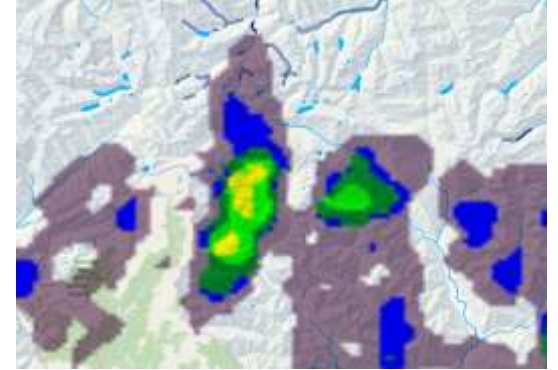
Practicable example



Webcam

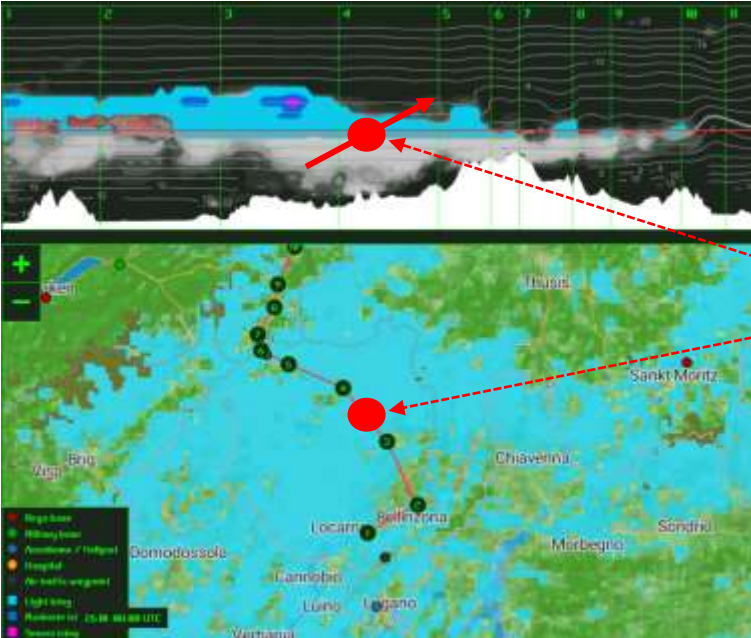


METAR/TAF



WX-Radar

Practicable example



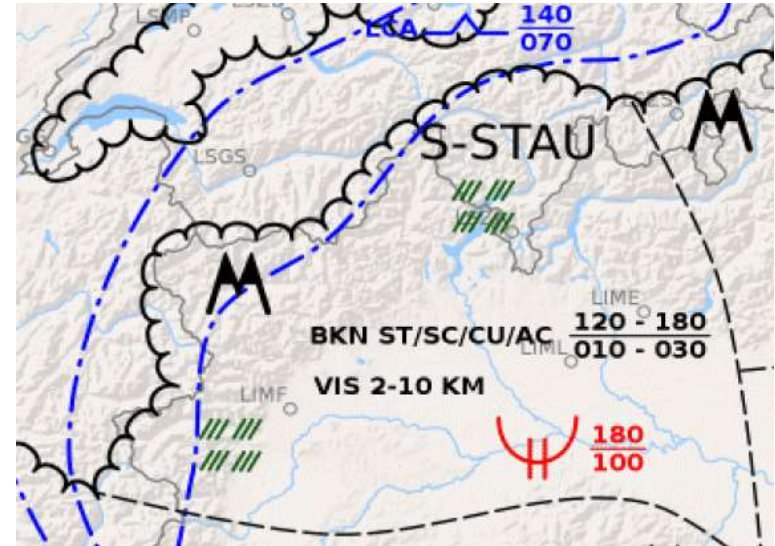
Rega ICING-TOOL



Practicable example

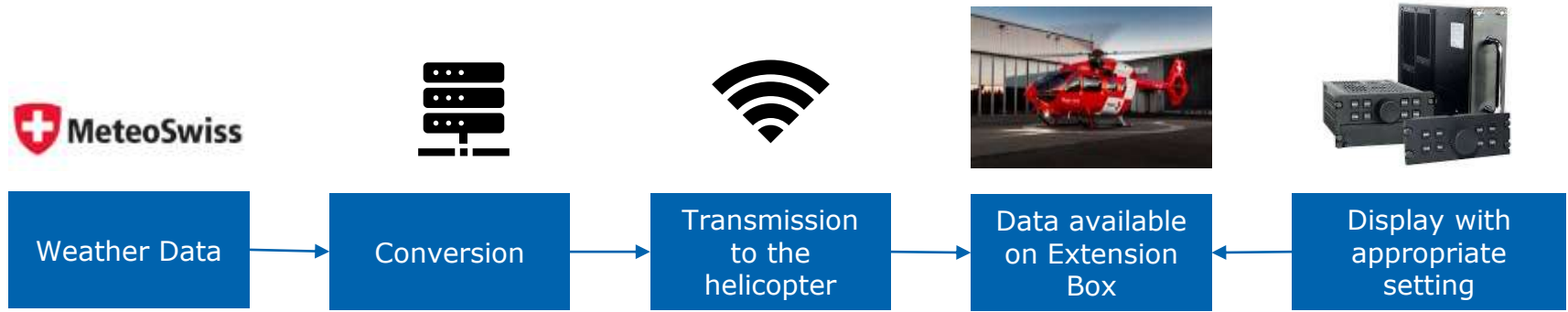
Dangers valid 06:00 - 12:00 UTC:

Alpine passes partly in clouds. Over the Alps locally moderate foehn turbulence between FL070 and FL140, gradually reaching down into the Alpine valleys around noon. North of the Alps reduced visibility of 3-6 km under the high fog. **The south side of the Alps and in the Engadin moderate icing between FL100 and FL160**. In the lowlands of the south side of the Alps with light rain reduced visibility of around 2-5 km in places.



Application

Cockpit



Push new Data every 5 min



Application

Cockpit



MeteoSwiss in Cockpit



On Board WX-Radar

Application FOSA

MeteoSwiss

Klimanormwerte Interlaken
Mittelwerte 1981-2010

Höhe ÜNN: 517 m
 Geogr. Koordin.: 46°11'N / 7°21'E
 EM-Nr.: 202020/110003
 Name: Interlaken-Alpenort

Monat	Jan	Feb	Mar	Apr	Mai	Jun	Juli	Aug	Sep	Okt	Nov	Dez	Jahr
Mitteltemp [°C]	-0.3	0.9	4.9	8.7	13.2	16.3	18.4	17.7	14.0	9.6	4.0	0.9	9.0
Maximumtemp [°C]	3.1	5.1	10.1	14.1	18.8	21.9	24.4	23.5	19.3	14.4	7.7	3.8	13.9
Minimumtemp [°C]	-3.6	-3.0	0.3	3.4	7.9	11.1	13.2	12.8	9.5	5.6	0.6	-2.2	4.6
Niederschlag [mm]	65	54	57	62	62	64	62	59	54	50	45	42	60

Legende beachten am Schluss des Dokuments

Temperatur [°C] -0.3 0.9 4.9 8.7 13.2 16.3 18.4 17.7 14.0 9.6 4.0 0.9 9.0
 Maximumtemp [°C] 3.1 5.1 10.1 14.1 18.8 21.9 24.4 23.5 19.3 14.4 7.7 3.8 13.9
 Minimumtemp [°C] -3.6 -3.0 0.3 3.4 7.9 11.1 13.2 12.8 9.5 5.6 0.6 -2.2 4.6
 ==> Eistage (ganztags <0 °C) [Tage] 6.5 3.8 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.9 4.5 16.0
 Frosttage [Tage] 24.9 21.7 13.2 3.0 0.0 0.0 0.0 0.0 0.0 1.2 12.0 22.1 96.1
 Sommertage [Tage] 0.0 0.0 0.0 0.2 2.9 9.2 15.4 12.3 2.3 0.0 0.0 0.0 42.3
 ==> Hitzetage (Max. >=30 °C) [Tage] 0.0 0.0 0.0 0.0 0.1 1.0 2.8 1.7 0.0 0.0 0.0 0.0 0.6

Legende beachten am Schluss des Dokuments

Luftdruck red. Meer [hPa] 1022 1020 1018 1014 1015 1016 1016 1016 1016 1017 1018 1019 1020 1018
 Windgeschw. [m/s] 1.6 1.7 1.9 2.1 2.0 1.9 1.9 1.6 1.6 1.5 1.5 1.5 1.7 1.8
 Wind 10 m/s [Tage] 0.7 0.6 0.7 1.8 1.1 0.9 1.2 0.5 0.7 0.5 0.5 0.5 0.7 0.9

Legende beachten am Schluss des Dokuments

Luftdruck red. Meer [hPa] 1022 1020 1018 1014 1015 1016 1016 1016 1016 1017 1018 1019 1020 1018
 Windgeschw. [m/s] 1.6 1.7 1.9 2.1 2.0 1.9 1.9 1.6 1.6 1.5 1.5 1.5 1.7 1.8
 Wind 10 m/s [Tage] 0.7 0.6 0.7 1.8 1.1 0.9 1.2 0.5 0.7 0.5 0.5 0.5 0.7 0.9

MeteoSwiss

Legende beachten am Schluss des Dokuments

Monat	Jan	Feb	Mar	Apr	Mai	Jun	Juli	Aug	Sep	Okt	Nov	Dez	Jahr
Mitteltemp [°C]	-0.3	0.9	4.9	8.7	13.2	16.3	18.4	17.7	14.0	9.6	4.0	0.9	9.0
Maximumtemp [°C]	3.1	5.1	10.1	14.1	18.8	21.9	24.4	23.5	19.3	14.4	7.7	3.8	13.9
Minimumtemp [°C]	-3.6	-3.0	0.3	3.4	7.9	11.1	13.2	12.8	9.5	5.6	0.6	-2.2	4.6
Niederschlag [mm]	65	54	57	62	62	64	62	59	54	50	45	42	60

Legende beachten am Schluss des Dokuments

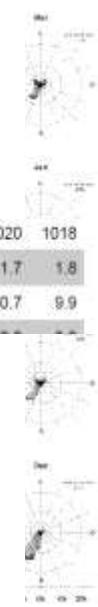
Temperatur [°C] -0.3 0.9 4.9 8.7 13.2 16.3 18.4 17.7 14.0 9.6 4.0 0.9 9.0
 Maximumtemp [°C] 3.1 5.1 10.1 14.1 18.8 21.9 24.4 23.5 19.3 14.4 7.7 3.8 13.9
 Minimumtemp [°C] -3.6 -3.0 0.3 3.4 7.9 11.1 13.2 12.8 9.5 5.6 0.6 -2.2 4.6
 ==> Eistage (ganztags <0 °C) [Tage] 6.5 3.8 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.9 4.5 16.0
 Frosttage [Tage] 24.9 21.7 13.2 3.0 0.0 0.0 0.0 0.0 0.0 1.2 12.0 22.1 96.1
 Sommertage [Tage] 0.0 0.0 0.0 0.2 2.9 9.2 15.4 12.3 2.3 0.0 0.0 0.0 42.3
 ==> Hitzetage (Max. >=30 °C) [Tage] 0.0 0.0 0.0 0.0 0.1 1.0 2.8 1.7 0.0 0.0 0.0 0.0 0.6

Legende beachten am Schluss des Dokuments

Luftdruck red. Meer [hPa] 1022 1020 1018 1014 1015 1016 1016 1016 1016 1017 1018 1019 1020 1018
 Windgeschw. [m/s] 1.6 1.7 1.9 2.1 2.0 1.9 1.9 1.6 1.6 1.5 1.5 1.5 1.7 1.8
 Wind 10 m/s [Tage] 0.7 0.6 0.7 1.8 1.1 0.9 1.2 0.5 0.7 0.5 0.5 0.5 0.7 0.9

Legende beachten am Schluss des Dokuments

Luftdruck red. Meer [hPa] 1022 1020 1018 1014 1015 1016 1016 1016 1016 1017 1018 1019 1020 1018
 Windgeschw. [m/s] 1.6 1.7 1.9 2.1 2.0 1.9 1.9 1.6 1.6 1.5 1.5 1.5 1.7 1.8
 Wind 10 m/s [Tage] 0.7 0.6 0.7 1.8 1.1 0.9 1.2 0.5 0.7 0.5 0.5 0.5 0.7 0.9



Application FOSA

FOSA

- The Flight Operation Safety Assessment document is the foundational document that contains all the necessary guidelines for obtaining operational approval from the authorities.
- Chapter 12 is dedicated to Meteorological conditions.
- Data are provided from MeteoSwiss

12 Operating conditions

A valid approval for RNP AR procedures is issued to the pilot (PICW) for ILS/RN operations on the LSHK Regional Terminal (LSHK) on the runway to be used for RNP AR procedures. The operations are limited to conditions with RNP AR meeting the RNP AR procedure.

The following conditions, including weather data and performance data from the aircraft, must be observed in the RNP AR mode.

The operational range of RNP AR operations is 10°C to 30°C.

The range of RNP AR operations is limited to the performance is 10 to 20%.

The safety of RNP AR operations is ensured by the RNP AR procedure. The safety of RNP AR operations is ensured by the RNP AR procedure.

12.1 Tailwind conditions



12.1.1 Tailwind conditions

The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts.

¹ Based on the RNP AR procedure, the maximum tailwind is 10 kts.

12.1.2 Tailwind conditions

The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts. The maximum tailwind for RNP AR operations is limited to 10 kts.

12.2 Wind conditions

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

Wind direction	Wind speed (kts)	Wind speed (m/s)
0-90	0-10	0-5
90-180	0-10	0-5
180-270	0-10	0-5
270-360	0-10	0-5

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

12.3 Meteorological conditions: Extreme temperature effects of barometric altitude

The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C.

¹ Based on the RNP AR procedure, the maximum temperature is 30°C.

The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C.

Temperature (°C)	Temperature (°F)
10	50
20	68
30	86

The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C.

The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C. The maximum temperature for RNP AR operations is limited to 30°C.

Altitude (ft)	Altitude (m)
0	0
1000	305
2000	610

12.4 Automated Weather Observing System (AWOS)

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

¹ Based on the RNP AR procedure, the maximum wind is 20 kts.

The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts. The maximum wind for RNP AR operations is limited to 20 kts.

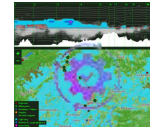
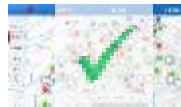


¹ Based on the RNP AR procedure, the maximum wind is 20 kts.

Actual and future Solutions

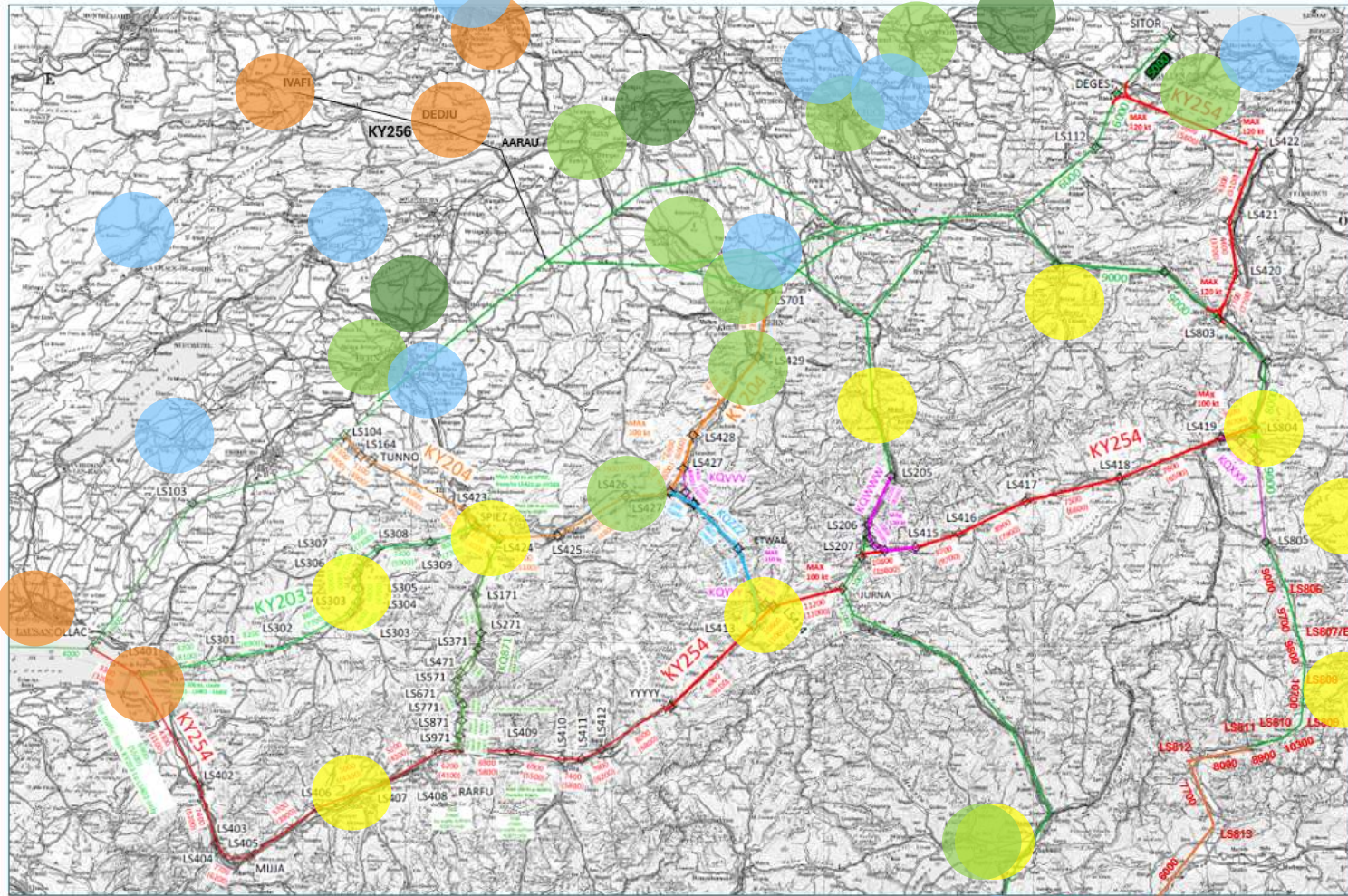
In Switzerland, air rescue operations face significant challenges. Low visibility, especially in mountainous regions, makes interventions difficult. Safe access to remote areas, particularly when adverse weather conditions like fog, snow or ice formation are present.

- Our current and future helicopters are not certified for flight in icing conditions. For this reason, icing forecasts at different altitudes and locations must be much more precise and dynamic, almost like a precipitation forecast
- RNP AR procedure and lowering of the actual minimum enroute altitude to reduce the exposure to icing condition and extend the availability
- Extend the “no-ice” envelop of the rotorcraft flight manual into a “restricted-icing” envelop



Anyweather ✘

Anyweather ✔



Collaborations and Future

- The ARIOS project is the result of collaboration among ambitious partners with strong visions and motivations
- Our expectation is that our partners, like MeteoSwiss, recognize the needs and potential, and be motivated to make progress even where there is no immediate return on investment. Any one of us might need rescue at some point, and counting on good weather alone is risky
- As you have seen, the chain for a professional air rescue operation relies on many links, each of which is vital, and we will still need reliable and secure weather information





Conclusion by ChatGPT

- Which is the best app for aviators?

1. MeteoSwiss:

The app from the Swiss meteorological office provides precise details on conditions like ice, fog, and visibility. It's particularly useful for those needing accurate, frequently updated local data, ideal for critical flight conditions



- Tell me the world-renowned Air Rescue organization?

One of the most renowned and respected air rescue organizations in the world is **REGA** (Swiss Air Rescue), based in Switzerland. REGA is famous for its operational excellence, cutting-edge technology, and ability to operate in extreme weather conditions and mountainous terrain. With helicopters and jets equipped with the latest technology, REGA can carry out complex missions in high-altitude areas, even in low visibility and adverse weather condition



Conclusion

- In conclusion, ARIOS represents a significant advancement for air rescue operations in Switzerland, enabling crews to operate safely even in extreme weather conditions. With future developments, we aim to expand these capabilities and improve emergency response efforts across the country
- In this context, continuous, high-quality collaboration is essential, and we must think ahead, pushing the boundaries of research to support future needs and innovations



Thank you very much for
your attention

Mario.Agustoni@rega.ch





Questions?



An aerial photograph showing a Swiss military aircraft in flight over a vast mountain range. The aircraft is white with red accents and a red cross on its tail. In the foreground, the wing of another aircraft is visible, also featuring a red cross. The landscape below consists of rugged mountains and a valley with a river and some buildings. The sky is blue with scattered white clouds.

Functional System MET

Kaspar Bucher-Studer
Senior Expert Aeronautical Meteorology
MET Regulation and Compliance Management



Interview mit Daniel Aufdenblatten, Pilot und CEO Air Zermatt

«Regulationen bedrohen uns»

Per Anfang 2024 hat der Zermatter Daniel Aufdenblatten die Aufgabe als CEO der Air Zermatt von Gerold Biner übernommen. Im Interview sagt der neue Chef der traditionsreichen Heliunternehmung, wie er die Luftrettung im Wallis aufgestellt sieht und warnt, dass die wichtigen Arbeiten der Heli-Operator immer weitergehend durch gesetzliche Vorgaben ohne Realitätsbezug erschwert werden.

EASA-Regelwerk wird zur existenziellen Bedrohung für Helifirmen



Dringend: Reform der EASA

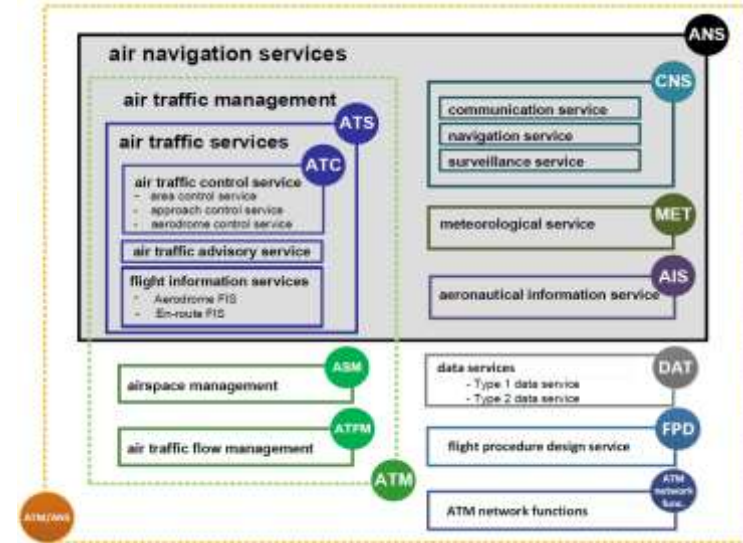
«Bei allem was wir tun, steht die Flugsicherheit im Zentrum», heisst es auf der Website der europäischen Luftfahrtbehörde EASA. «Ziel verfehlt», tönt es aus der Schweizer Helikopterindustrie. Schlimmer noch, die Kollateralschäden der EASA-Regelungen sind enorm und bedrohen die Branche in ihrer Existenz. Warum, das erklärt Martin Stucki, Vorstandsmitglied der Swiss Helicopter Association (SHA) und Delegierter der SHA in der European Helicopter Association (EHA). Er ist selber Helikopterpilot und CEO der Linth Air Services.





Regulation (EU) 2017/373

- Lays down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions
- Specifies general requirements regarding certification, management and organisational setup (Annex III – Part-ATM/ANS.OR)
- Specifies specific requirements for MET service providers (Annex V – Part-MET) → Europe-specific transposition of ICAO Annex 3
- Specifies requirements for service providers concerning personnel training and competence assessment (Annex XIII – Part-PERS) → ATSEP





Functional system

Regulation (EU) 2017/373 – ANNEX I, Part-DEFINITIONS

'functional system' means a combination of procedures, human resources and equipment, including hardware and software, organised to perform a function within the context of ATM/ANS and other ATM network functions;





Challenge

- With the introduction of Regulation (EU) 2017/373, the initial concept of the functional system for ATM was extended to all areas of ATM/ANS and formulated more openly.
- An interpretation and an applicable concept of the term had to be found.
- Initial interpretations in Europe ranged from 'MET has no FS' to 'everything is FS'... so, in other words, 'all in'.



International co-operation

- A small group of representatives from the MET Alliance (ET-AMR) and the Changes Task Force mandated by the FABEC NSA Committee (NSAC) developed a functional system model for aeronautical meteorological service providers (FS MET) over a period of three years.
- The FS MET concept was published in a paper in 2023 and has since been used by several countries, including Switzerland, as the basis for the national implementation.



Key message

Unlike most air navigation service providers, **national meteorological and hydrological services** (NMHS) were generally established to serve the public and provide **basic meteorological data and information**, including the operation of the necessary infrastructure.

For various reasons, many NMHSs were given the **additional task** of providing **aeronautical meteorological services**, building on the basic meteorological provisions already existing.

National Meteorological and Hydrological Services (NMHS)

Aeronautical Meteorological (MET) Services



Different tasks

National Meteorological and Hydrological Services (NMHS) include e.g.:

- surface and upper-air observations,
- automated aircraft observations and air-reports,
- weather radar observations,
- meteorological satellite data but also
- processed data and information such as the output of numerical weather prediction models

The Function of an Aeronautical Meteorological (MET) Services is:

- to compile the already existing origination and processing of basic meteorological data and information in an aviation customer-specific manner,
- to provide it regularly or event-driven,
- to code it,
- to post-process it if necessary,
- to exchange it and,
- only in for aeronautical purposes specially required and justified cases, to fill existing gaps in data origination.



FS MET relevance



How to ensure **MET service quality**?



How to focus on the **relevant areas** for safety and quality?



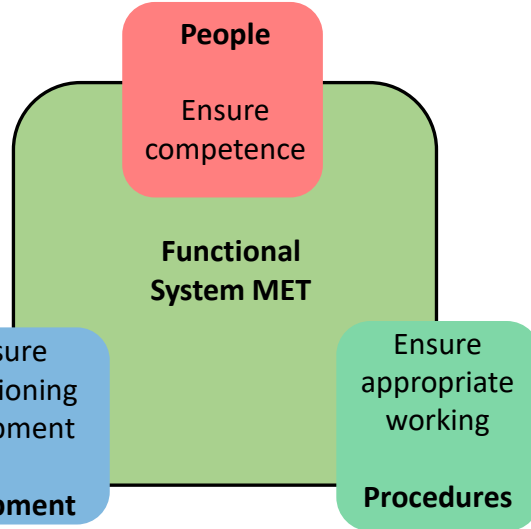
How to ensure **cost efficiency** in MET provision?



Cost allocation principles



Interaction MET service provider and competent authority (CA)



Change Management



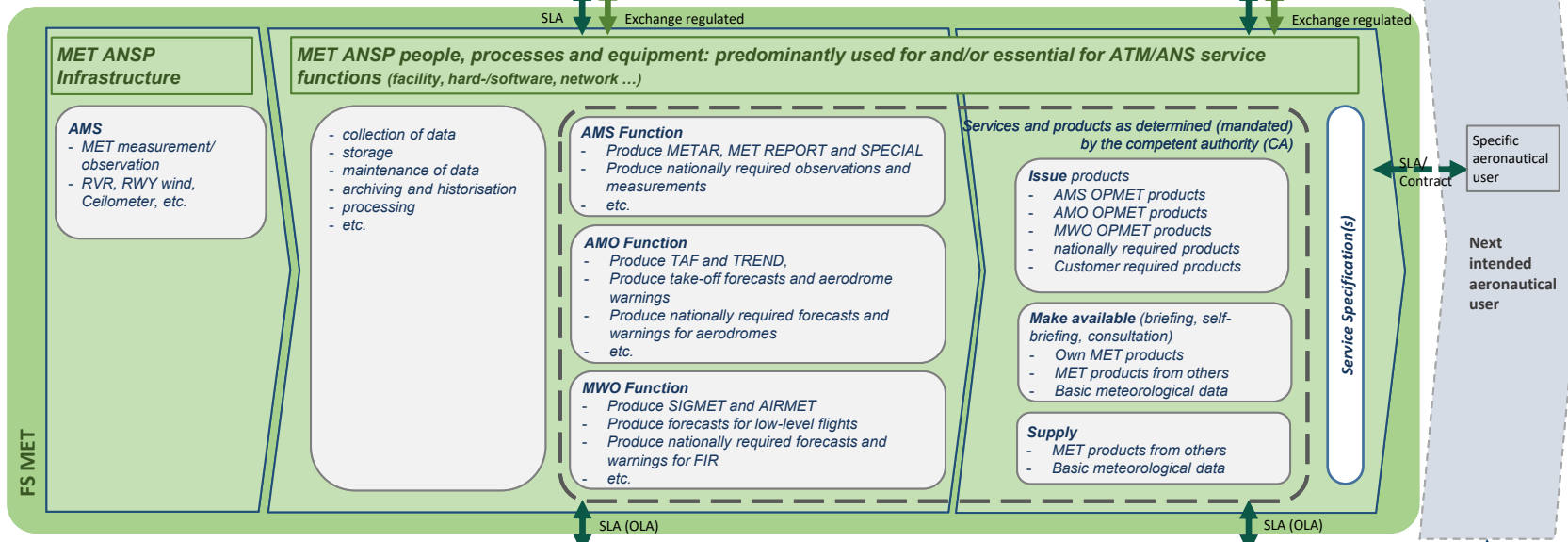
ATSEP competence



Performance monitoring

...a combination of **procedures, human resources** and **equipment** organised to **perform the function(s)** of the service provision

MET services and Infrastructure - other MET ANSP (WAFC Data, VA Advisories, TC Advisories, SWX Advisories, OPMET Data ...; AFS, AFTN/AMHS, SADIS, WIFS, SWIM ...)



Basic meteorological systems and data by NMHSs, international consortia ... [e.g. EUMETSAT, ECMWF ...]

- synoptic observations
- upper-air observations
- aircraft-based observations
- Wx-radar and satellite systems
- lightning detection
- remote sensing systems
- NWP Model
- value added data
- etc.

- collection of data
- storage
- maintenance of data
- archiving and historisation
- processing
- etc.

- international mandated products and services
- national mandated products and services
- products and services according to client requirements.

- essential meteorological data (WMO 40)
- raw data
- value added data
- public services
- commercial services
- client specific services
- etc.

Basic infrastructure (facility, hard-/software, com, network, etc.)

External services (External telecom network provisions, GTS, power and water supply, etc.)



Questions?





Wish Box 2025





Coffee break until 15:20





Guest Presentation The Gordon Bennett Cup

Kurt Frieden

Pilot, Deputy Head of Training Swiss
Ballooning Academy SBAV

Daniel Gerstgrasser

Meteorologist

An aerial photograph showing a vast, undulating landscape covered in a dense, textured layer of vegetation or low-lying plants. The terrain is illuminated by the warm, golden light of a setting or rising sun, which is visible on the horizon to the right. The sky is a clear, pale blue, and the overall scene conveys a sense of vastness and natural beauty.

Coupe Aéronautique Gordon Bennett

FAI World Long Distance Gas Balloon Championship



Kurt Frieden

1992 Heissluftballonpilot
1994 Gasballonpilot
1996 Fahrlehrer Ballon
2022 Prüfungsexperte Ballon

3 facher Schweizer Meister Heissluftballon
4 facher Weltmeister Gasballon
6 facher Vize Weltmeister
2022 Sportmannschaft des Jahres Thurgau

3'300 h Heissluftballon
2'800 h Gasballon

88 h Längste Fahrt
3500 km weiteste Fahrt
150 km/h schnellste Geschwindigkeit



Flugplanung

Meteo

Bodenteam

Flugplanung

Flugsicherung

Pilot

Pilot

Bodenteam

Coupe Aéronautique Gordon Bennett

Wird heute als Weltmeisterschaft ausgetragen.

Die Regeln sind einfach

- alle Ballone mit 1050m³
- max. 3 Teams pro Mitgliedsland der FAI
- Pilot und Copilot mit Staatsangehörigkeit des Mitgliedsland
- direkte Strecke (Start – Landung) wird gemessen
- Siegerland hat das Recht das übernächste Rennen auszutragen

Der Preis Wanderpokal mit Ruhm und Ehre

Bisher 11 Austragungen in der Schweiz

1909 Zürich, 1922 Genf, 1932 Basel, 1984 Zürich
1985 Genf, 1995 Wil, 2009 Genf und 2012 Toggenburg
2017 Gruyère, 2018 Bern, 2022 St.Gallen

118 Jahre Gordon Bennett Rennen mit 67 Austragungen





Heissluftballon 4`000 m³



Gasballon 1`000 m³

Tragkraft Gasballon

Tragkraft auf Meereshöhe = 1`140 kg

Gewicht Ballon:

Hülle	130 kg
Korb	40 kg
Korbring	6 kg
Schlepptau	12 kg
Piloten	170 kg
Ausrüstung	140 kg

Total Rüstmasse 498 kg

Restliche Tragkraft = Ballast 642 kg

Wasserballast 30 kg
60 Sandsäcke à 10 kg 600 kg

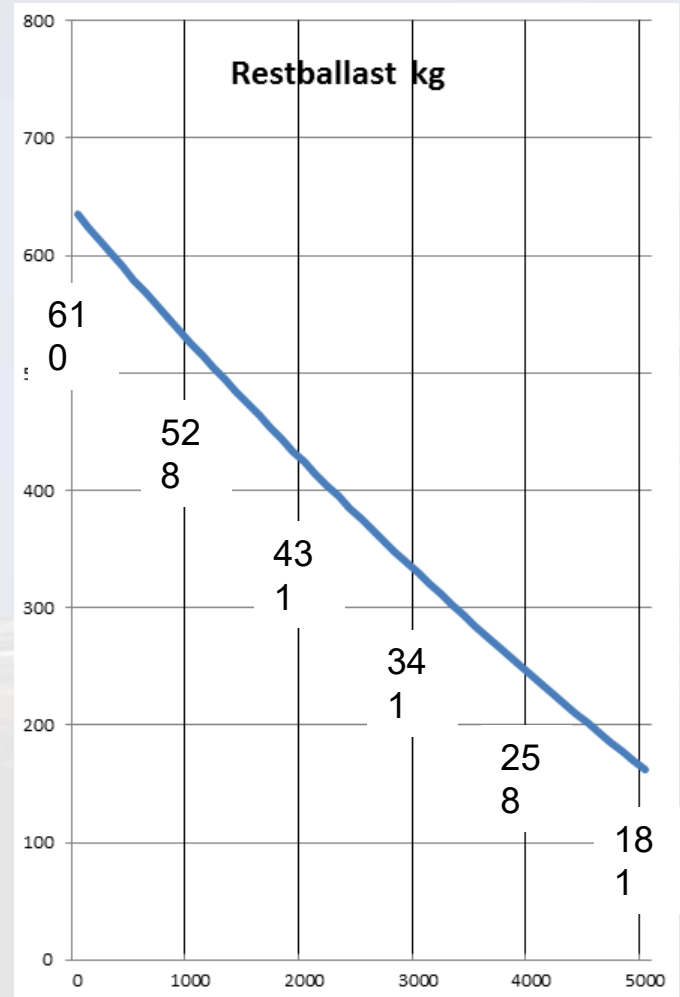


Ballastverbrauch pro 100m Steighöhe

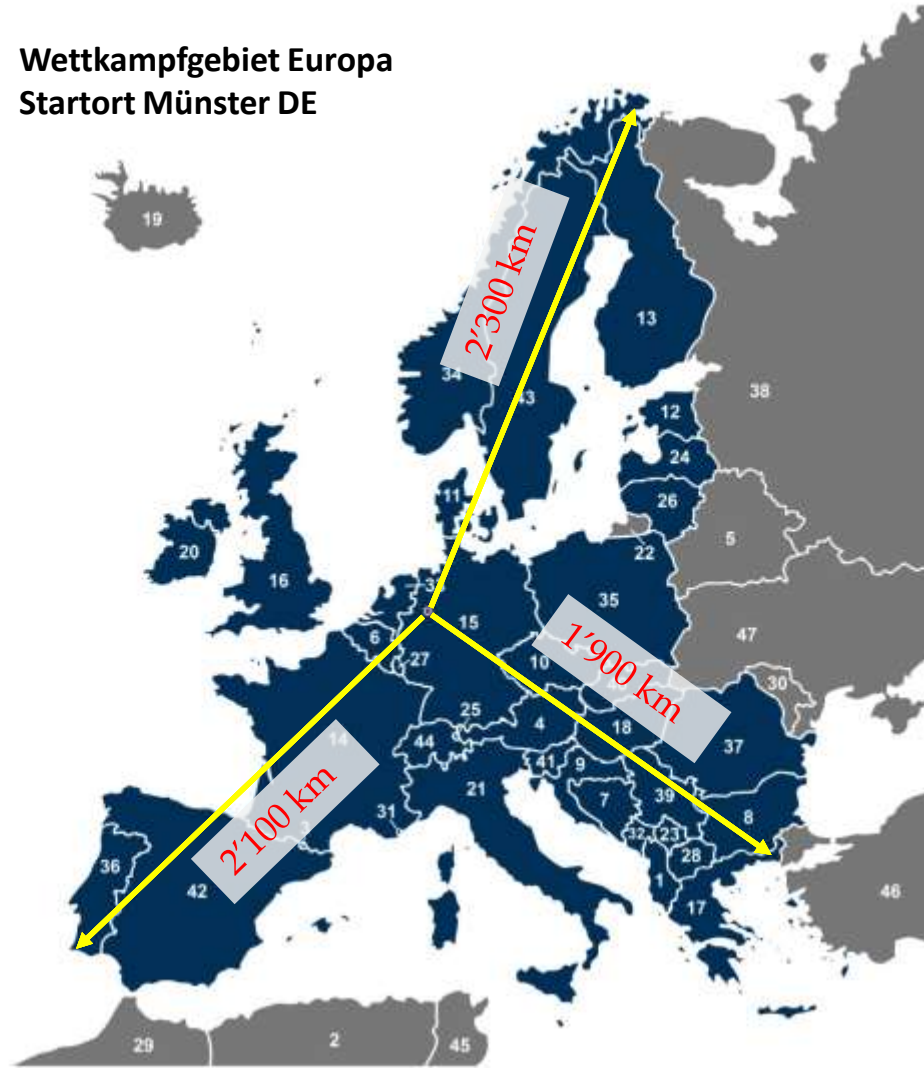
Bis 1000 m.ü.M	11 kg	= 110 kg / 1000m
Bis 2300 m.ü.M	10 kg	= 100kg / 1000m
Bis 3800 m.ü.M	9 kg	= 90 kg / 1000m
Bis 5300 m.ü.M	8 kg	= 80 kg / 1000m
Bis 7000 m.ü.M	7 kg	= 70 kg / 1000m

Ballastverbrauch pro Nacht wegen Abkühlung

1. Nacht Start Abkühlung am Boden
2. Nacht 70 – 100 kg je nach Fahrthöhe
3. Nacht 60 – 80 kg
4. Nacht 50 – 70 kg



Wettkampfgebiet Europa
Startort Münster DE



Trajektorien

- ▣ ...beschreiben den Weg eines Luftpakets in der Atmosphäre
 - Rückwärtstrajektorien („Woher kommt das Luftpaket?“)
 - Vorwärtstrajektorie („Wohin bewegt sich das Luftpaket?“)
- ▣ ...erlauben einen raschen Vergleich der Windfelder der verschiedenen Modelle
- ▣ Spezialfall Ballon:
 - Berechnungen für fixe Höhen
 - Höhenwechsel nicht beliebig (ineffizient wegen Ballastverbrauch!)
 - Fahrhöhe im Idealfall von Tag zu Tag höher

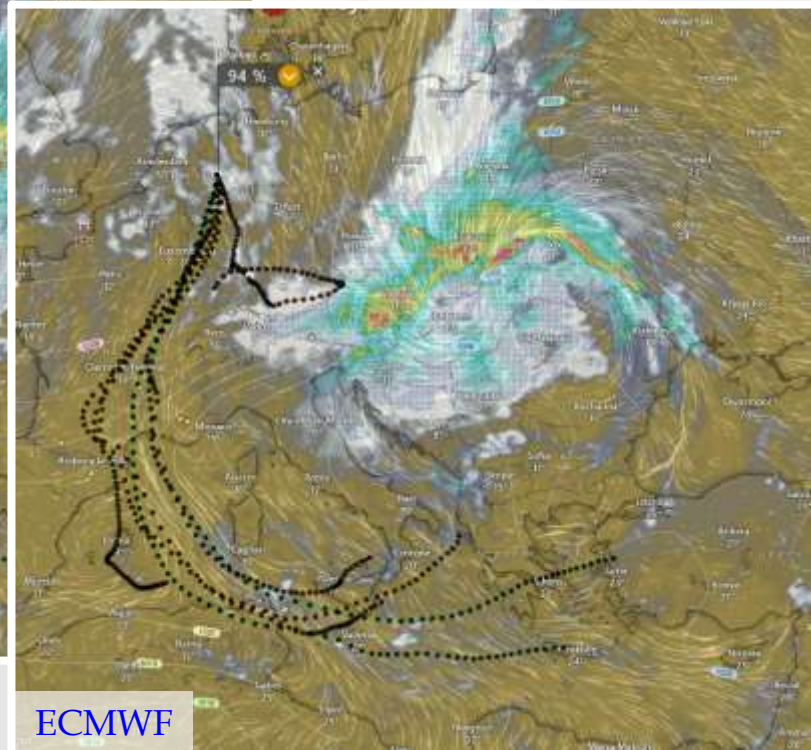
Trajektorien



GFS

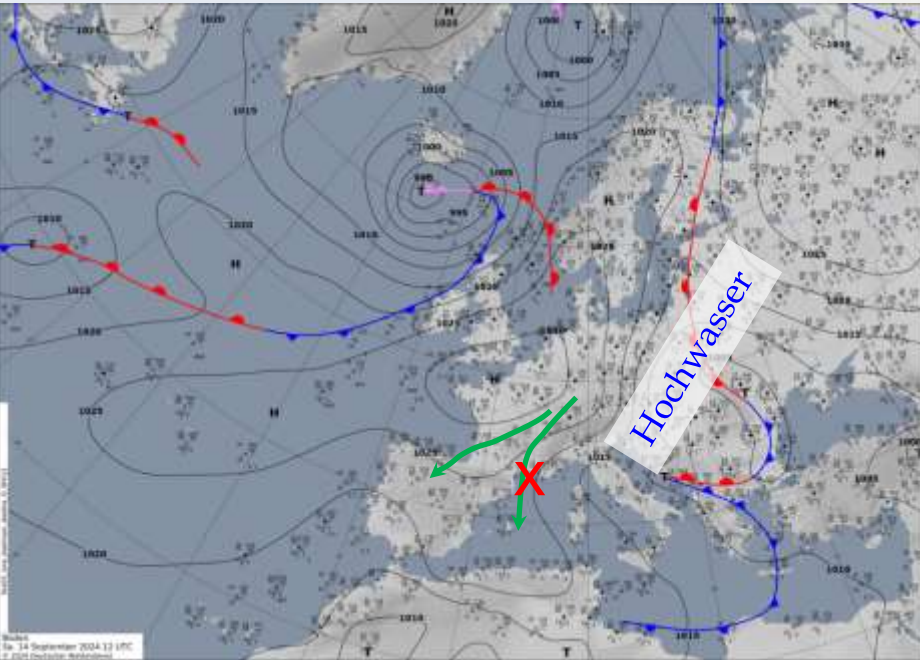


ICON-EU

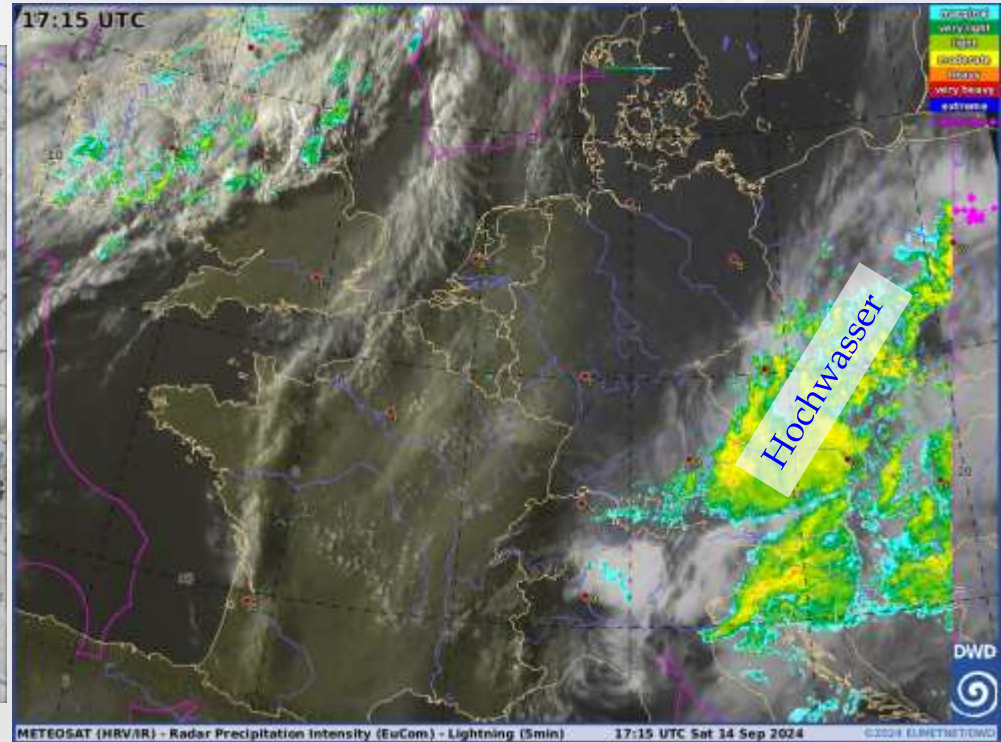


ECMWF

Meteo zum Start (Sa., 14.9.2024)



Meteo-Info.de
14. September 2024 12 UTC
© 2024 Deutsche Wetterdienst



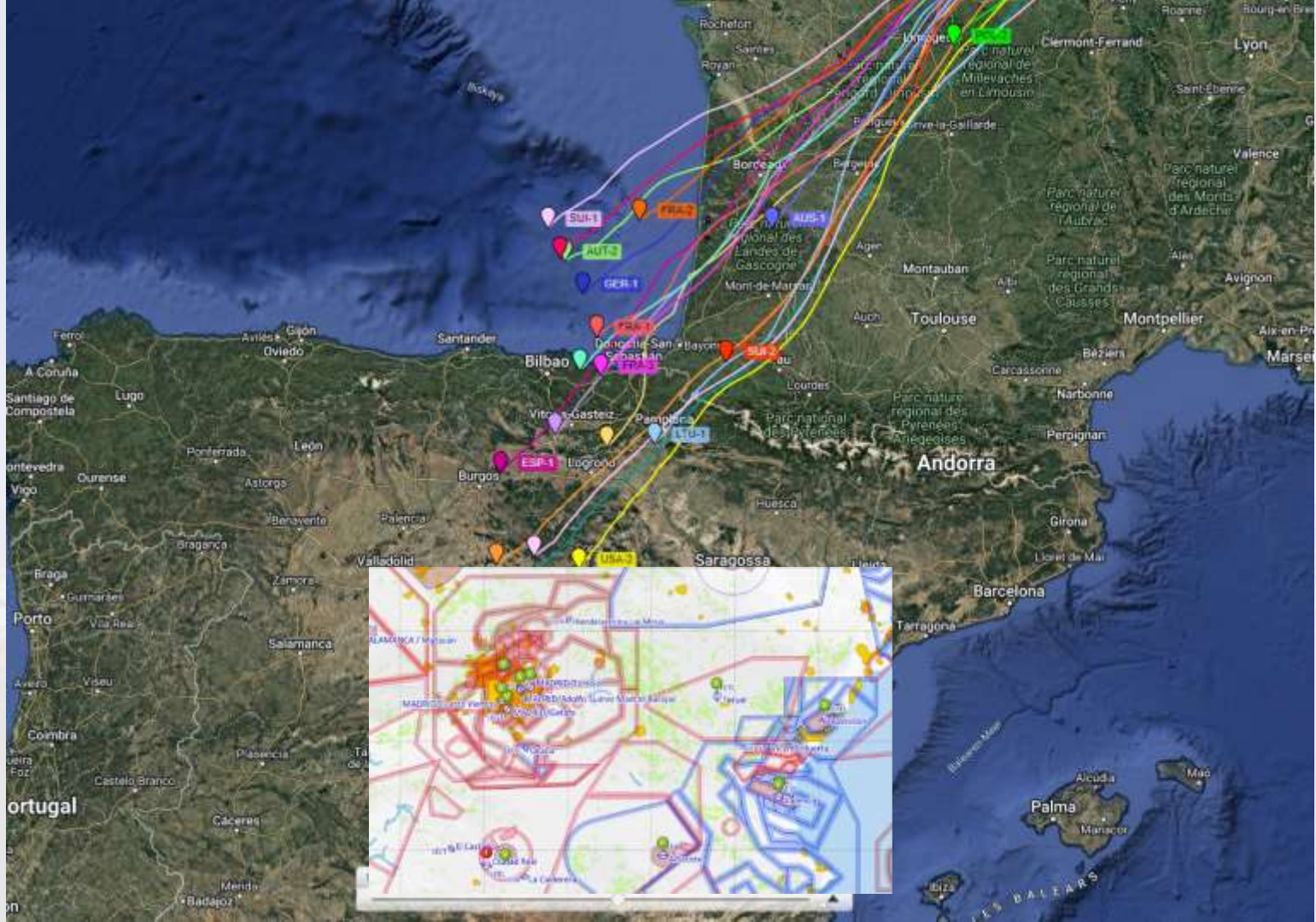
METEOSAT (HRV/IR) - Radar Precipitation Intensity (EuCom) - Lightning (5min) 17:15 UTC Sat 14 Sep 2024 © 2024 EUMETNET/DWD

**Flughafen Köln/Bonn
mit Starts und Landungen**









Golden

2024

2024

2024

2024

2024

2024

2024

2024

2024

2024

2024

2024

2024

9h über der Biskaya



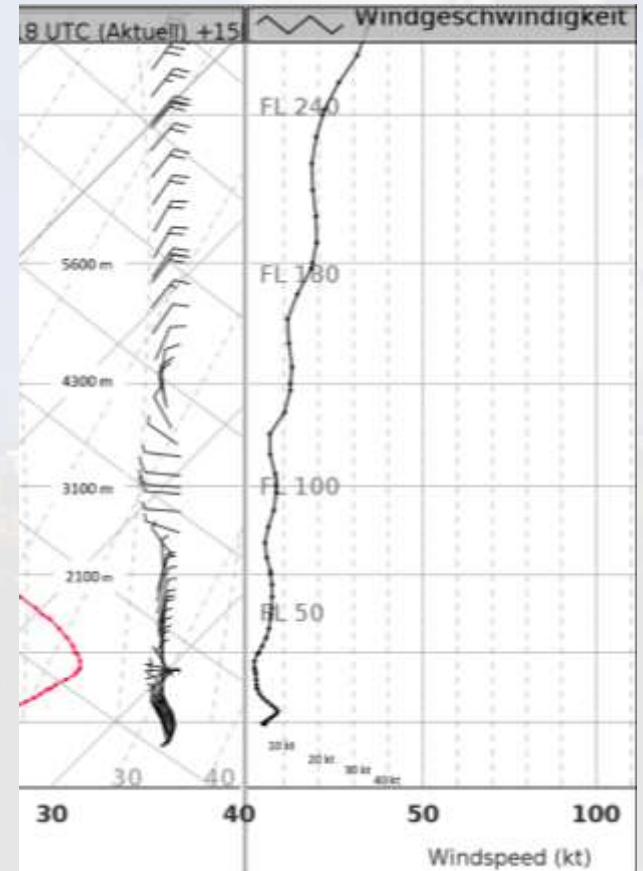
Sauerstoff ab 3'500 m.ü.M



3. Nacht über Portugal



Planung Abstieg und Anfahrt übers Meer



Landeort



Golden
474









Questions?



An aerial photograph of a Swiss Alps landscape. In the foreground, the wing of a dark blue aircraft is visible, featuring a prominent red circle with a white cross. In the upper right, a small white propeller airplane with red accents and a Swiss cross on its tail is flying. The background shows rolling brown mountains, a valley with a winding road, and a blue lake under a blue sky with scattered white clouds.

MeteoSwiss News

Markus Aebischer

Head of Key Account Management and Distribution

Sebastian Meier

Project leader

Open Government Data (OGD)



Schedule and scope

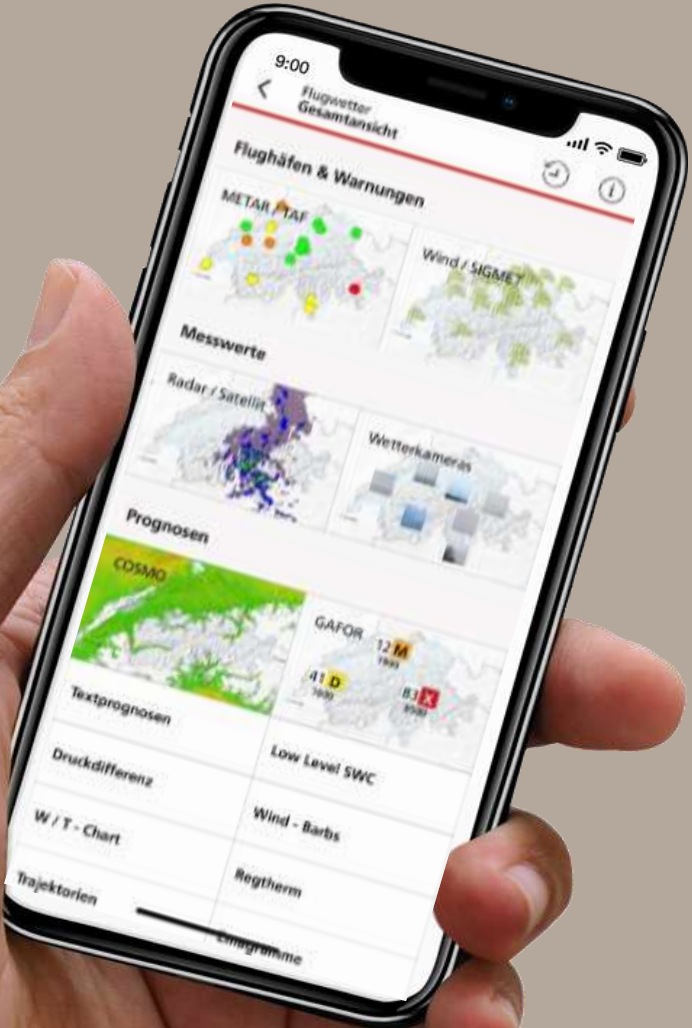
- Available as of April 2025
→ Continuously updated open data documentation (GitHub)
- Download as pre-processed files, later via customised queries
- Data:
 - Ground-based and atmosphere measurements
 - Climate Data
 - Radar Data
 - Forecast Data



Conditions and possibilities

- No guaranteed availability and support
- For key customers:
 - Direct delivery (push) will continue to be offered
 - If you are interested: please contact us

App 3.0



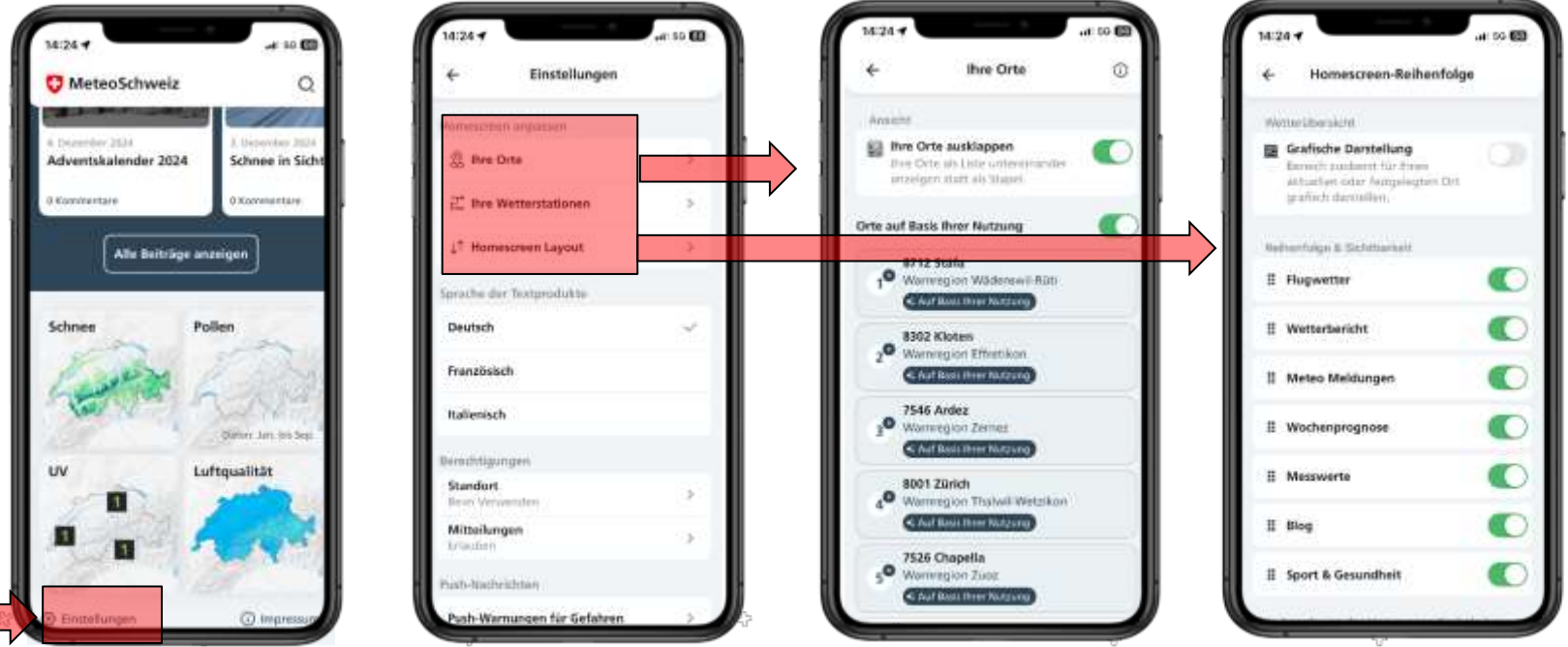


Homescreeen: individually customisable



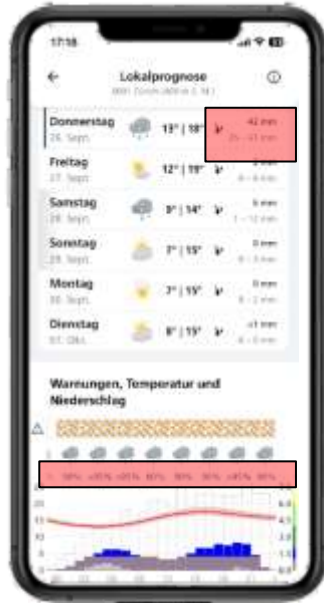


Homescreen: individually customisable



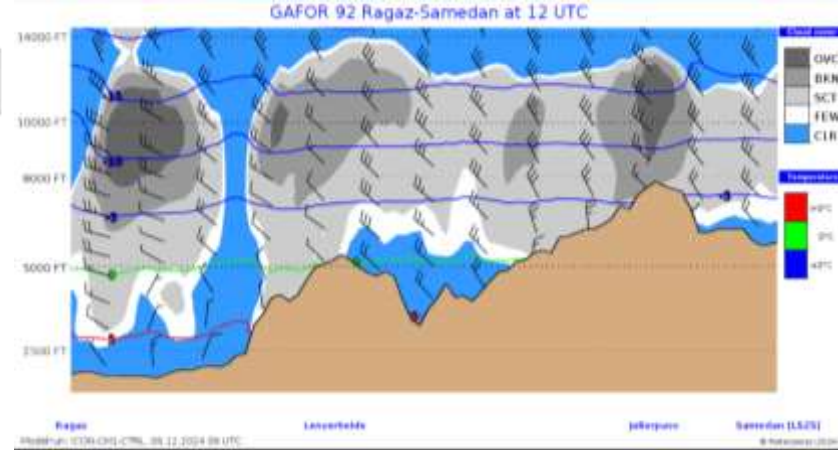
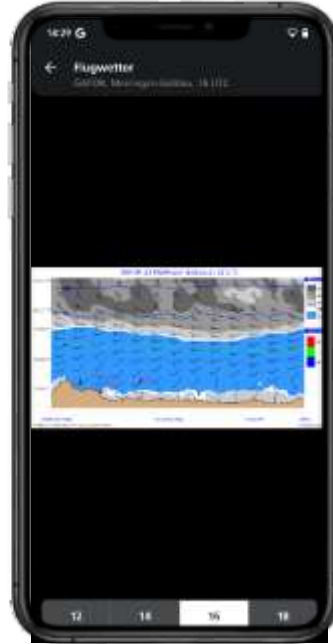
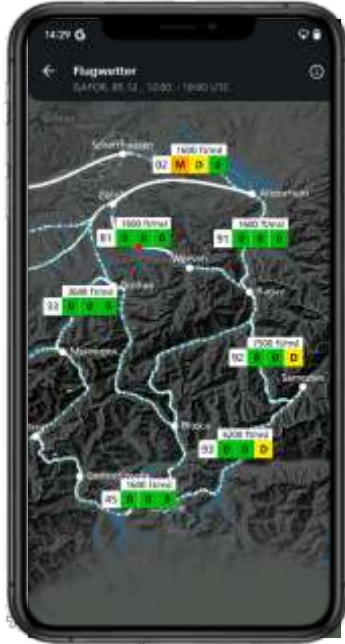


More parameters, more probabilities



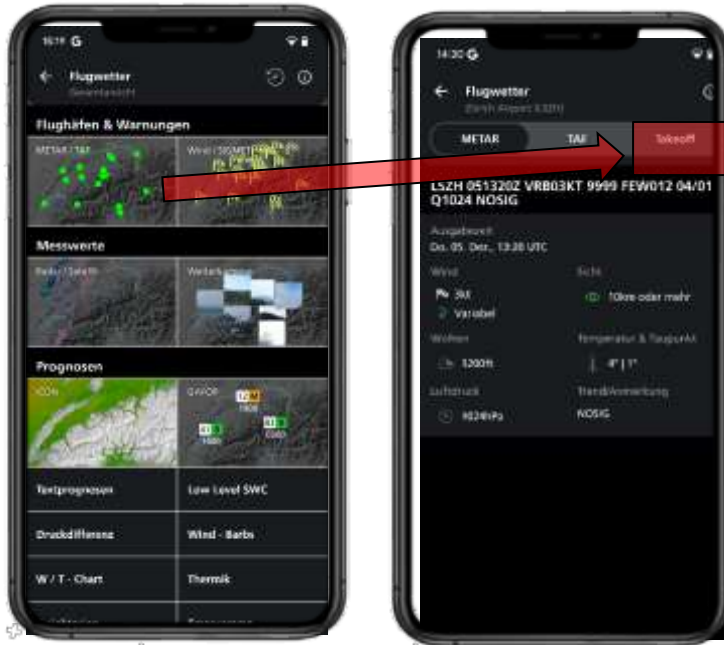


Coming soon: Cross Sections GAFOR

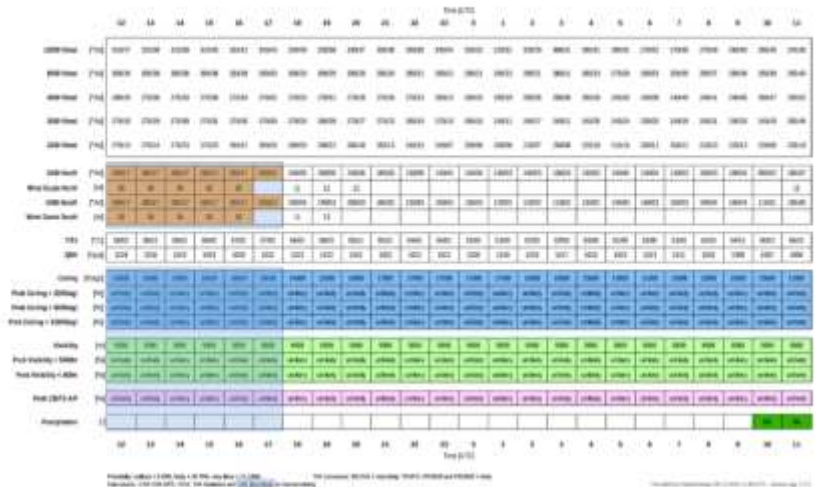
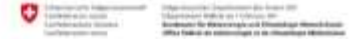




Coming soon; Takeoff forecast

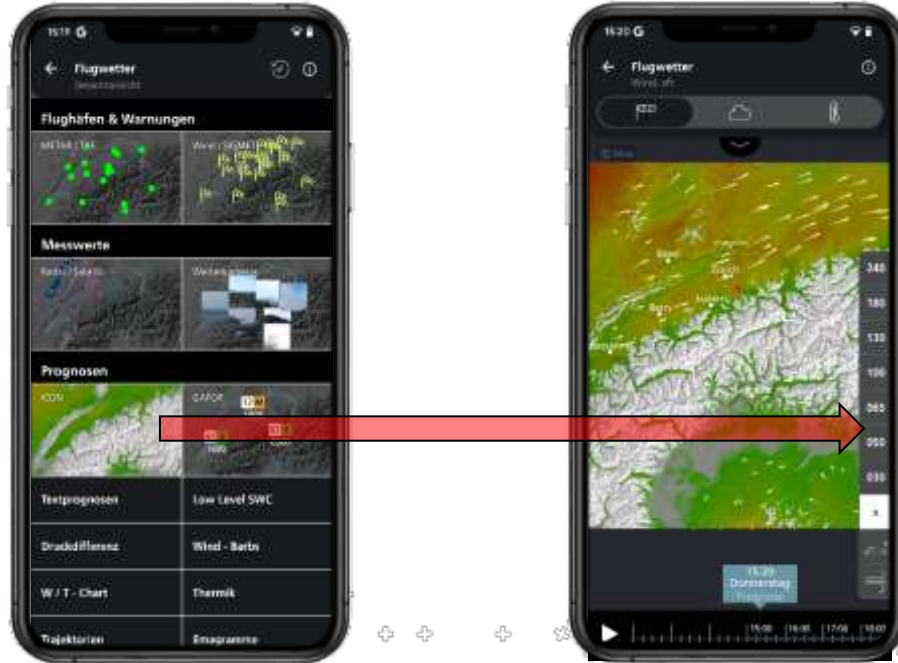


Meteogramm Airport Zürich, 06.12.2024 12 - 11 UTC





Coming soon: Wind 800m above ground and 2000m above sea level (FL065)





Coming soon: precipitation probabilities

Preview





Coming soon: climate services

Preview







Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

Automation of aeronautical weather observation

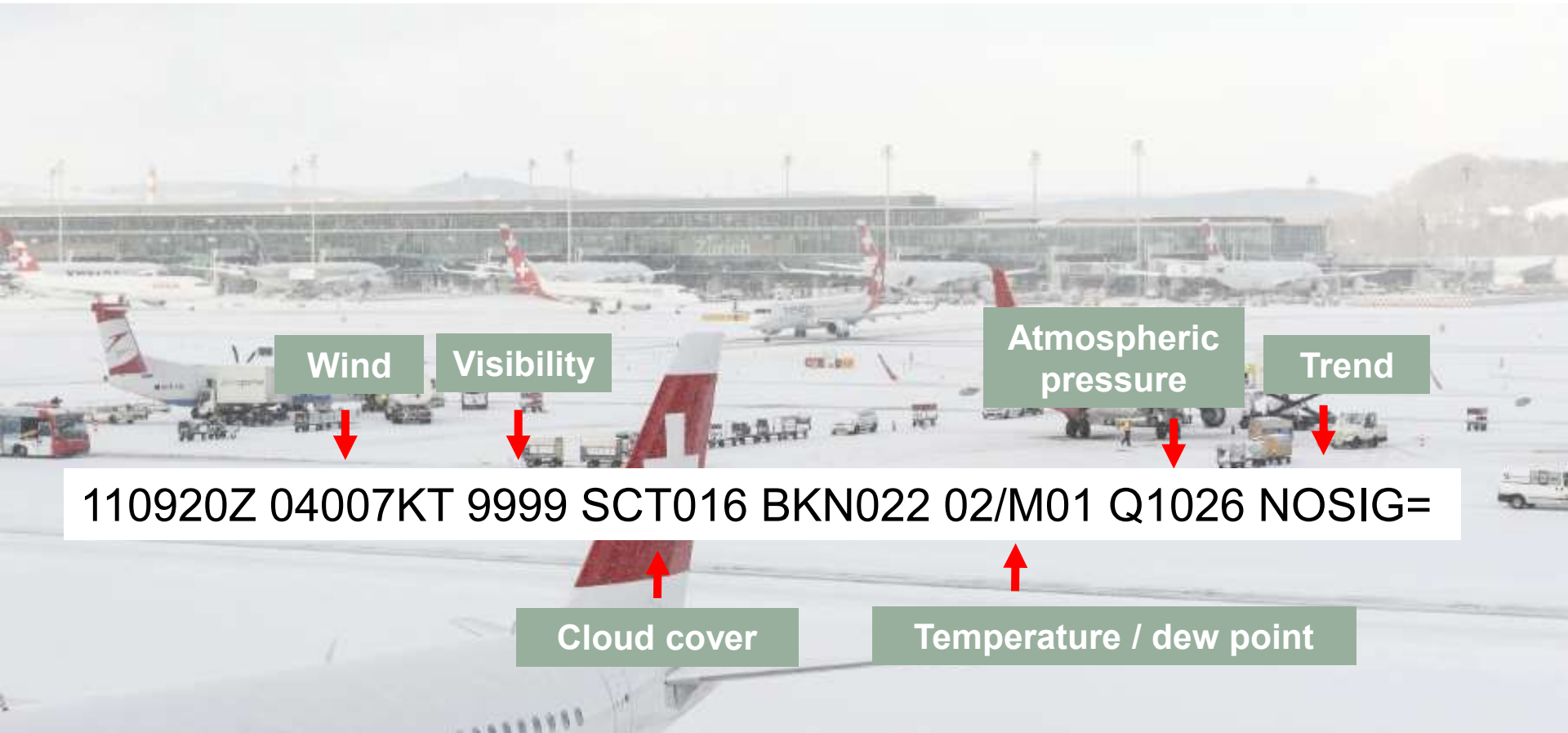
Program AMAROC

Sebastian Meier
12.12.2024





What is a METAR?



Wind

Visibility

Atmospheric
pressure

Trend

110920Z 04007KT 9999 SCT016 BKN022 02/M01 Q1026 NOSIG=

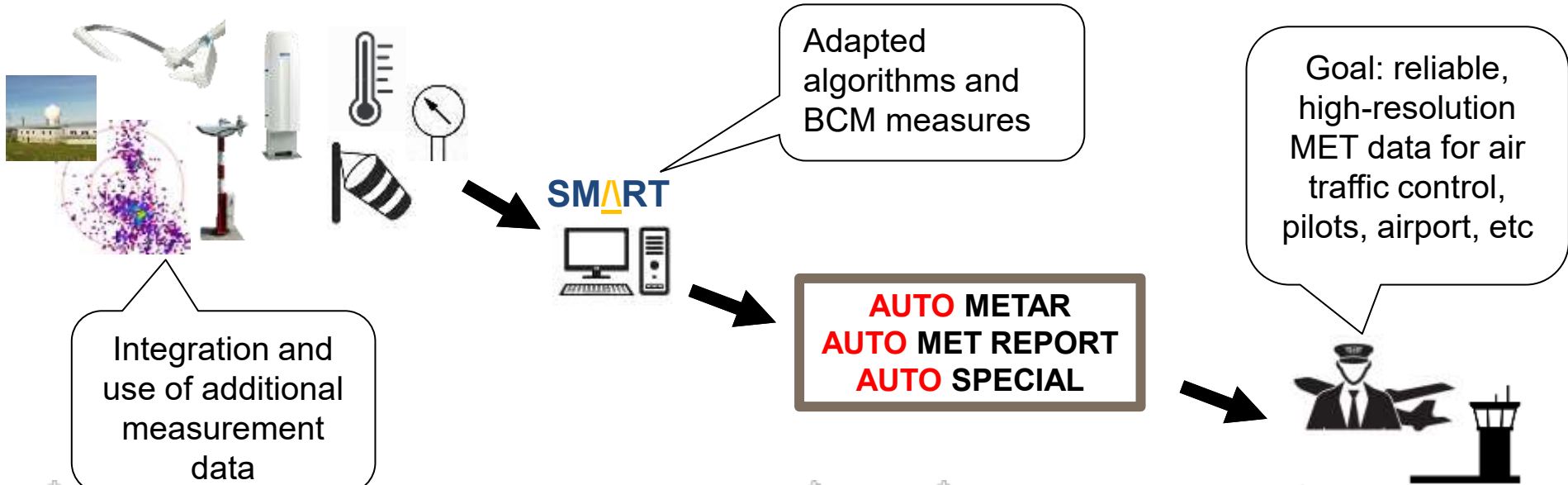
Cloud cover

Temperature / dew point



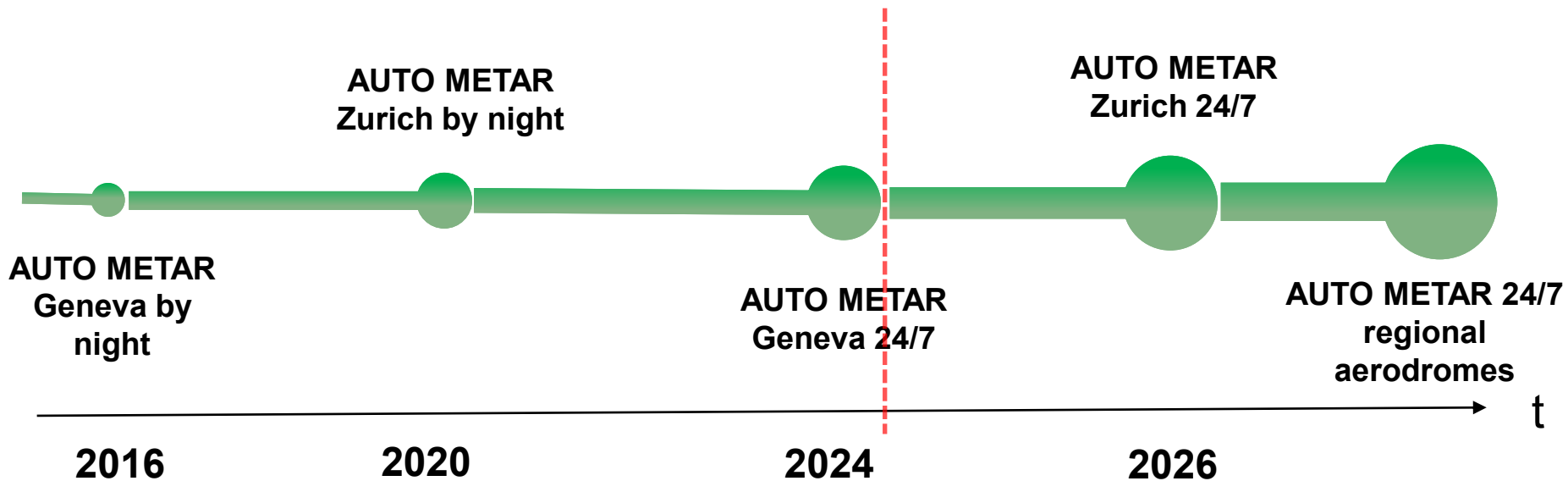
AMAROC – AUTO METAR around to clock

from a semi-automatic to a fully automatic measuring system





Program AMAROC



2016

2020

2024

2026

t



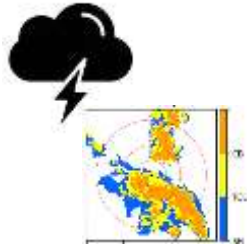
Current status: AUTO METAR Geneva



New algorithms for cloud cover, cloud height and precipitation



Extended use of ceilometer data



Integration of radar and lightning data to detect thunderstorms



Adapted business organization including processes and tools



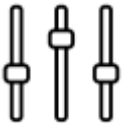
Current status: AUTO METAR Geneva



Go Live took place as planned on **1.5.2024**



System runs **technically stable** and according to specifications



Adjustments for specific weather situations in close cooperation with Skyguide ongoing



Outlook

- **Closing work** for the **AUTO METAR Geneva** project
- **Kick-off** and collection of requirements for the **AUTO METAR Zurich** project
- **Installation of weather cameras** in LSZH
- Development and application of **new algorithms** and **adaptation of procedures**
- **Go-live at Zurich Airport** according to current planning **in the 2nd half of 2026**



Finance - MET costs

Lukas Schumacher
Head of Finance and Logistics





MET costs 2024

- Cost ceiling for civil aviation, defined by FOCA, CHF 14.5 million per year
- Valid for the entire reference period 3 (2020 – 2024)



Financial development 2022 – 2024 and financial outlook 2025

Kosten Flugwetter Zivilluftfahrt (in Mio. CHF)	2022	2023	2024 Erw.	2025 RP4
Voranschlag	14.51	14.51	14.51	16.03 (tbd!)
IST	10.85 *	13.71	<i>noch offen</i>	-
Abweichung	- 3.66	- 0.8	-	-

* incl. reimbursement 2020-22 (CHF 2.85 million)



Reference Period 4 (RP4) 2025-2029

- Determined MET costs for **en route** services decrease in absolute terms within RP4
- Determined MET costs for **terminal** services increase in absolute terms within RP4; main reasons:
 - Development of advanced **aerodrome meteorological services** according to EU Regulation CP 1 (Commission Implementing Regulation (EU) 2021/116)
 - Implementation of a **Dedicated Forecaster** service at Zurich airport based on customer requirements
 - Improved real time wind measurements and forecasts for terminal meteorological services in support of the **LORD** initiative at Zurich airport based on customer requirements



Open items

- As in Reference Period 3, cost for the following meteorological basic infrastructure («core costs») are, for the time being, not included in the determined cost base for RP4:
 - Weather radars
 - Numerical weather prediction (incl. HPC costs)
 - Automatic ground measuring stations and additional measurements not specifically installed for aeronautical meteorological purposes
 - Radiosounding infrastructure
- The Federal Government was informed by end of August 2024 on this issue
- Work for fixing the necessary legal basis currently under discussion



Outlook 2025

- User Consultation Skyguide/BAZL for RP4 in July 2024 (Geneva)
- MET cost estimates (costs for en route MET services only) for the Reference Period 4 (RP4; 2025 – 2029) submitted to Skyguide/FOCA in autumn 2024
- Strong cost-cutting pressure at federal level since the beginning of the year in some cases critical for MeteoSwiss



Questions?





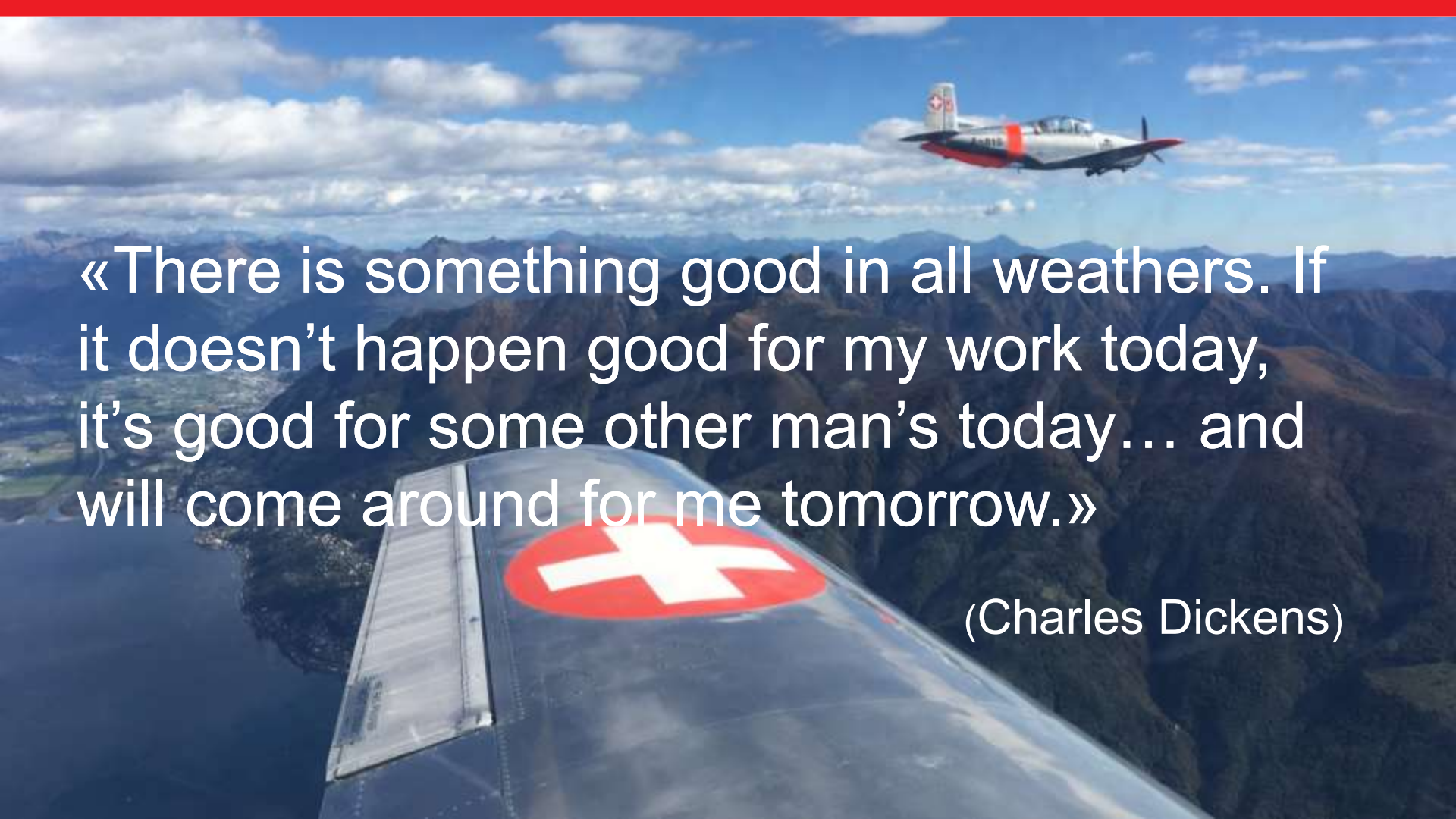
Wish Box 2025





Survey Event 2024



An aerial photograph showing a Swiss Air Force aircraft in flight over a mountainous landscape. The aircraft is white with red accents and a red cross on its tail. The foreground shows the wing of another aircraft with a red cross. The background features a valley with a river and mountains under a blue sky with scattered clouds.

«There is something good in all weathers. If it doesn't happen good for my work today, it's good for some other man's today... and will come around for me tomorrow.»

(Charles Dickens)



Save the date: 11. Dezember 2025





Goodbye, see you next year!





Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Meteorology and Climatology MeteoSwiss

MeteoSwiss

Operation Center 1
CH-8058 Zurich-Airport
T +41 58 460 91 11
www.meteoswiss.ch

MeteoSvizzera

Via ai Monti 146
CH-6605 Locarno-Monti
T +41 58 460 92 22
www.meteosvizzera.ch

MétéoSuisse

7bis, av. de la Paix
CH-1211 Genève 2
T +41 58 460 98 88
www.meteosuisse.ch

MétéoSuisse

Chemin de l'Aérologie
CH-1530 Payerne
T +41 58 460 94 44
www.meteosuisse.ch

MeteoSwiss