WEATHER PROOFING THE NETWORK
A COLLABORATIVE APPROACH
3 - 4 May 2018, EUROCONTROL HQ, Brussels
The En-route / ANSP perspective: convection across borders

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Presentation includes screenshots from AIP Austria, Department MET and Department ATM

My homework from NM

… the focus is on the take away from the user forum debate: "*collaboration at a network level is key to improving weather event management and resilience*".

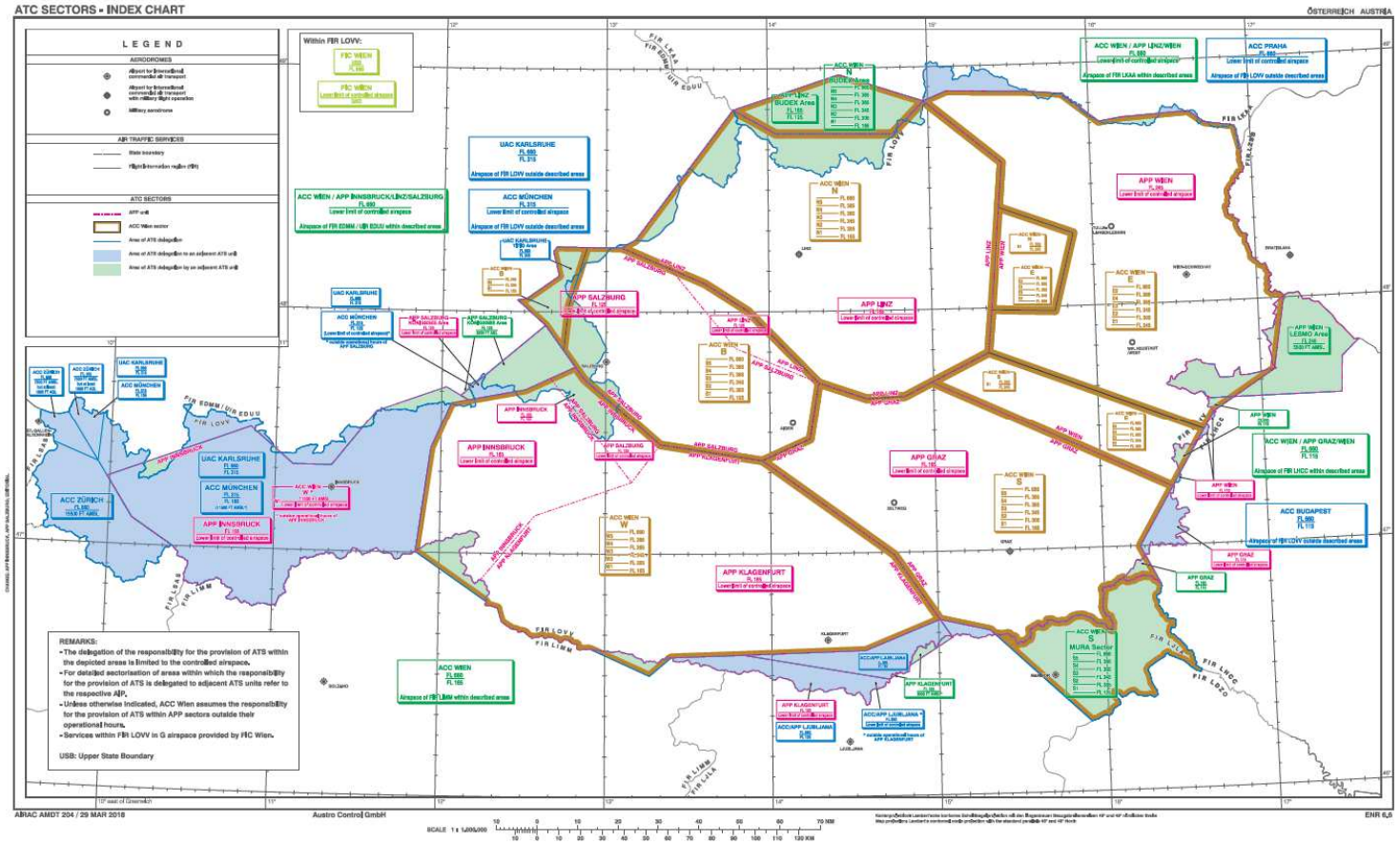
… we would appreciate if your presentation could emphasise:

- The state of things as you see them
- The improvements you would like to see
- What barriers you see to those improvements
- Suggestions for overcoming the barriers

The state of things as we see them

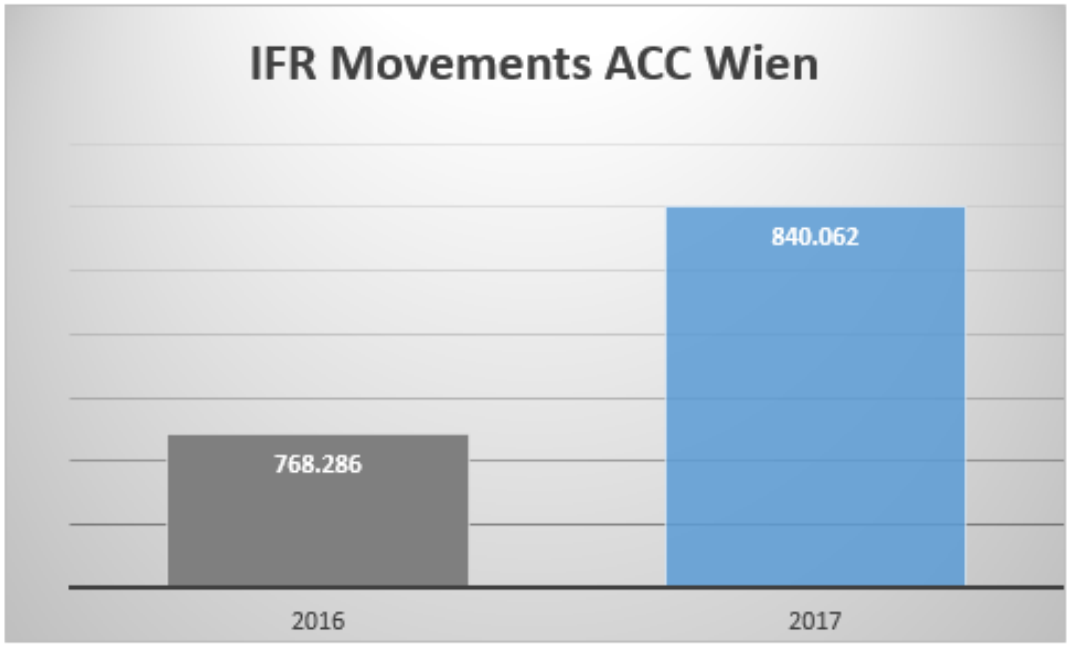
- Area of responsibility
- Traffic increase 2017 vs. 2016
- Weather delay increase 2017 vs. 2016
- Weather phemomena increase, exceptional weather phenomena
  - lateral extension
  - vertical extension
  - duration
  - type of convection
- Continous adjustment of procedures, coordination and tool
  - Planned coordination among some ANSPs of the Alpine region
  - Further development of the Significant Weather Bulletin (SigWX) by Austro Control MET Department

LOVV FIR, ACC Vienna sectorisation and ATS delegation
The horizontal view



ACC Vienna sectorisation
The vertical view

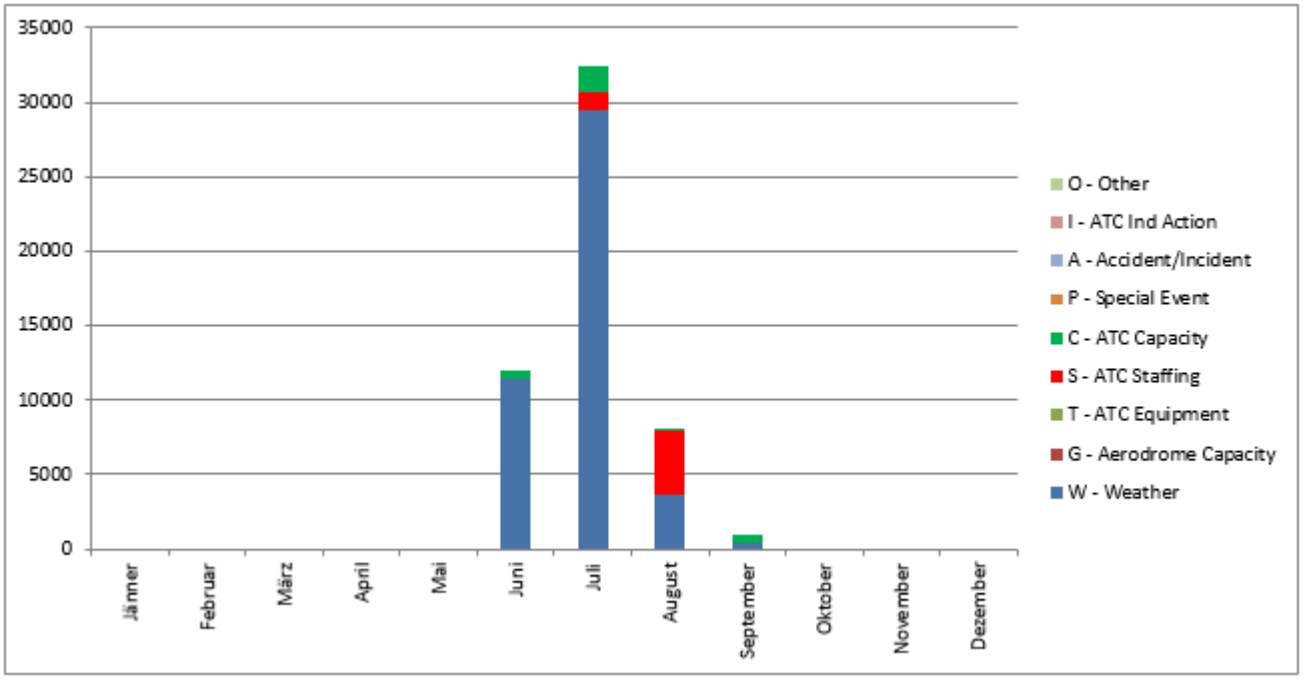
Traffic evolution ACC Wien 2016 vs. 2017



2016	Jänner	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember	Total
Movements	48.842	46.435	52.721	58.417	71.553	75.258	82.401	82.174	76.993	71.477	51.458	50.557	768.286
Delta %	1,1	5,3	0,1	-2,4	1,2	-0,9	-0,5	-0,9	0,8	2,2	1,2	2,3	0,6

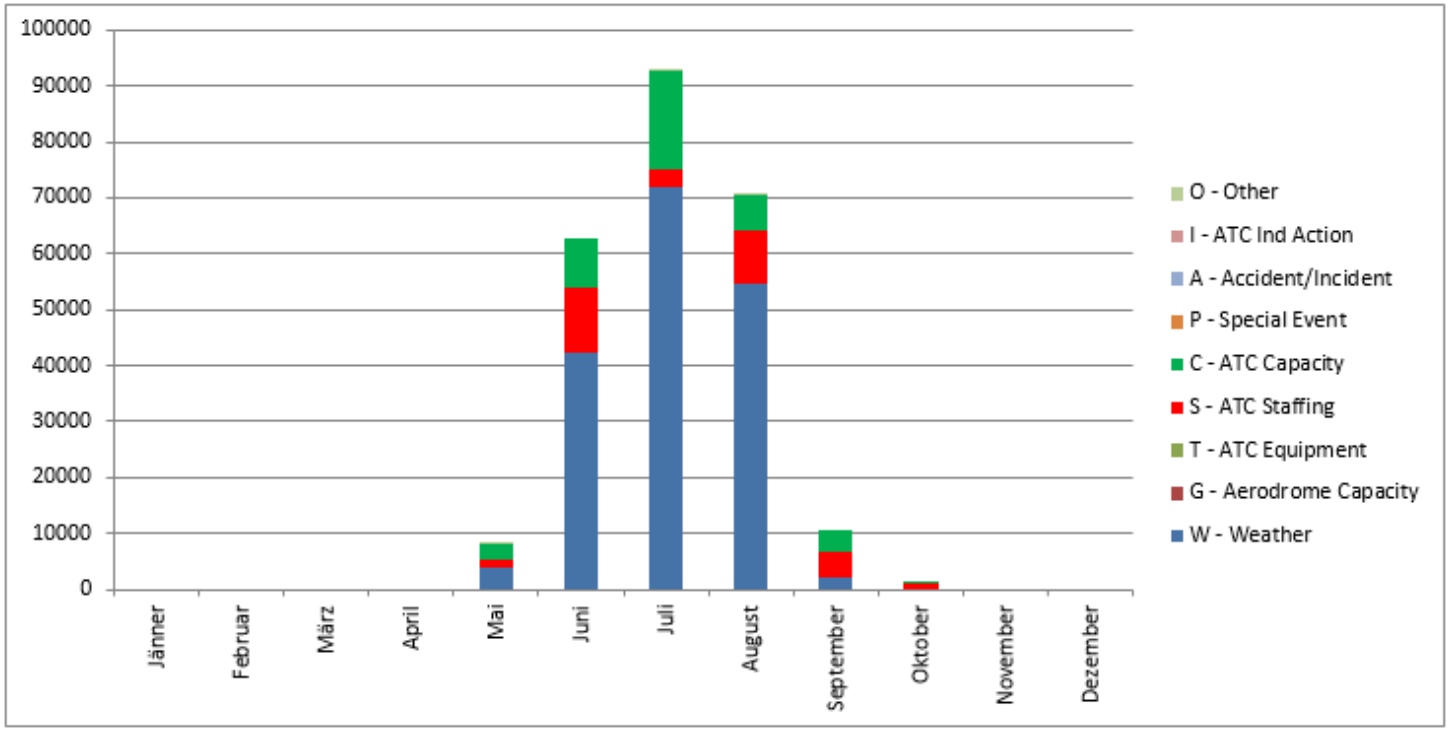
2017	Jänner	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember	Total
Movements	51.904	47.634	55.618	64.407	77.216	82.401	91.807	90.593	86.815	77.955	57.535	56.177	840.062
Delta %	6,3	2,6	5,5	10,3	7,9	9,5	11,4	10,2	12,8	9,1	11,8	11,1	9,3

Delay and delay causes ACC Wien 2016



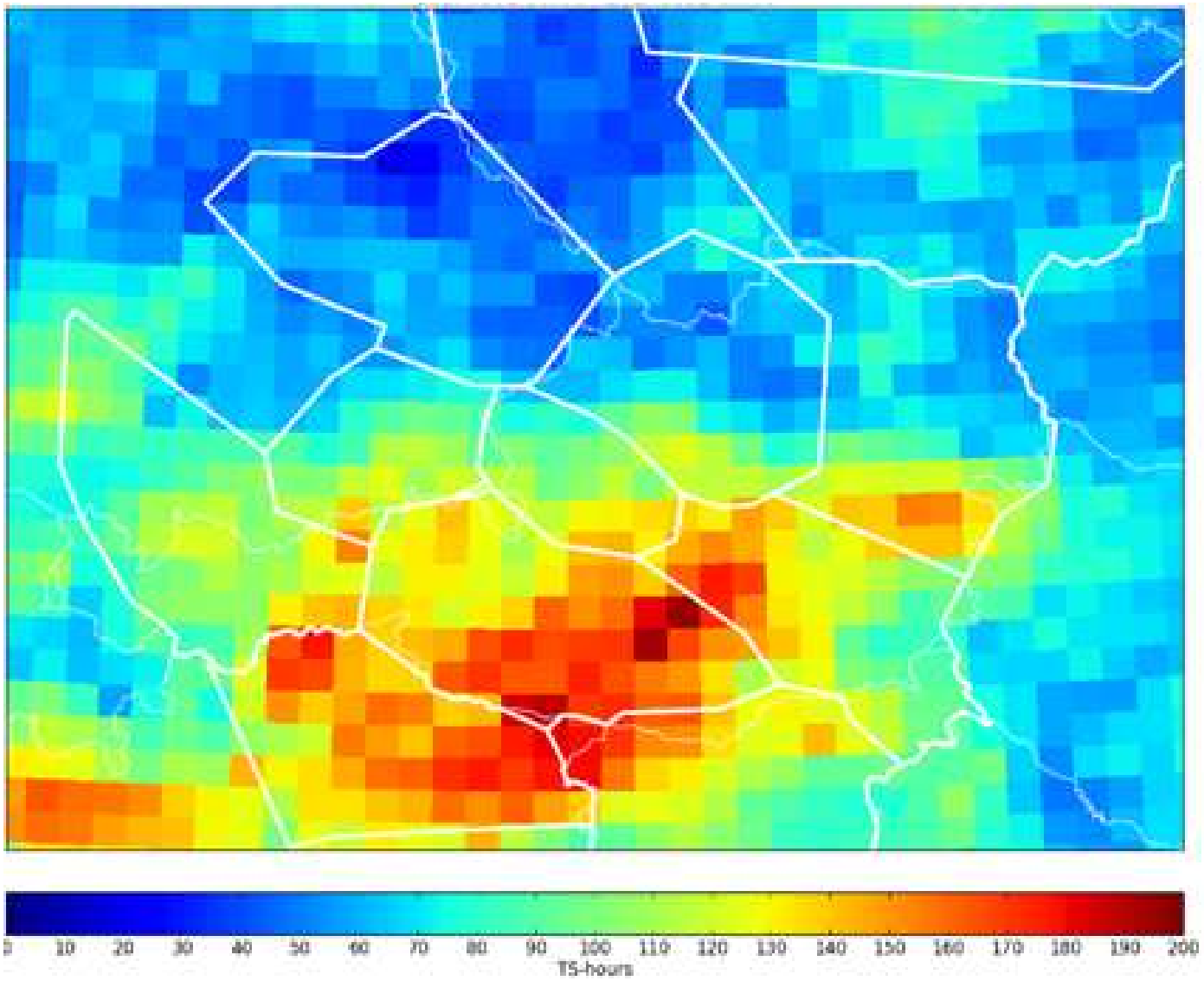
	Jänner	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember	Total	Prozent
W - Weather	0	0	0	0	0	11379	29512	3582	428	0	0	0	44901	84%
G - Aerodrome Capac	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
T - ATC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
S - ATC Staffing	0	0	0	0	0	0	1226	4299	0	0	0	0	5525	10%
C - ATC Capacity	0	0	0	0	0	553	1707	241	455	0	0	0	2956	6%
P - Special Event	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
A - Accident/Incident	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
I - ATC Ind Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
O - Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
Total	0	0	0	0	0	11932	32445	8122	883	0	0	0	53382	100%
													53382	

Delay and delay causes ACC Wien 2017



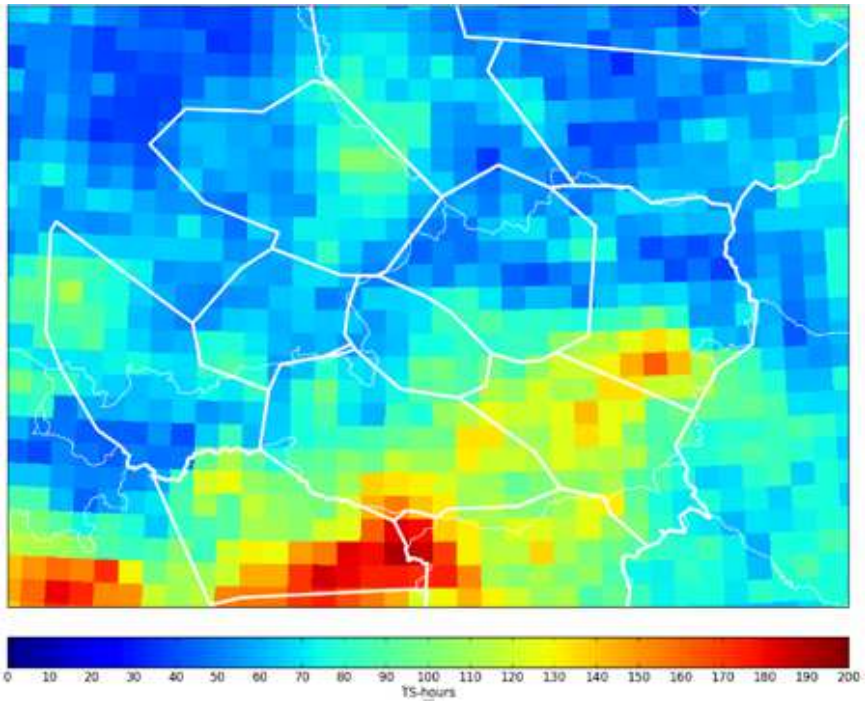
Delays ACC 2017	Jänner	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember	Total	Prozent
W - Weather	0	0	0	0	4004	42252	71985	54807	2199	0	0	0	175247	71%
G - Aerodrome Capaci	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
T - ATC Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
S - ATC Staffing	0	0	0	0	1179	11657	2939	9431	4376	1102	0	0	30684	12%
C - ATC Capacity	0	0	0	0	2868	8905	17750	6207	3989	101	0	0	39820	16%
P - Special Event	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
A - Accident/Incident	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
I - ATC Ind Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
O - Other	0	0	0	0	96	0	36	16	0	0	0	0	148	0%
Total	0	0	0	0	8147	62814	92710	70461	10564	1203	0	0	245899	

Thunderstormhours based on lightning activity May – August 2017

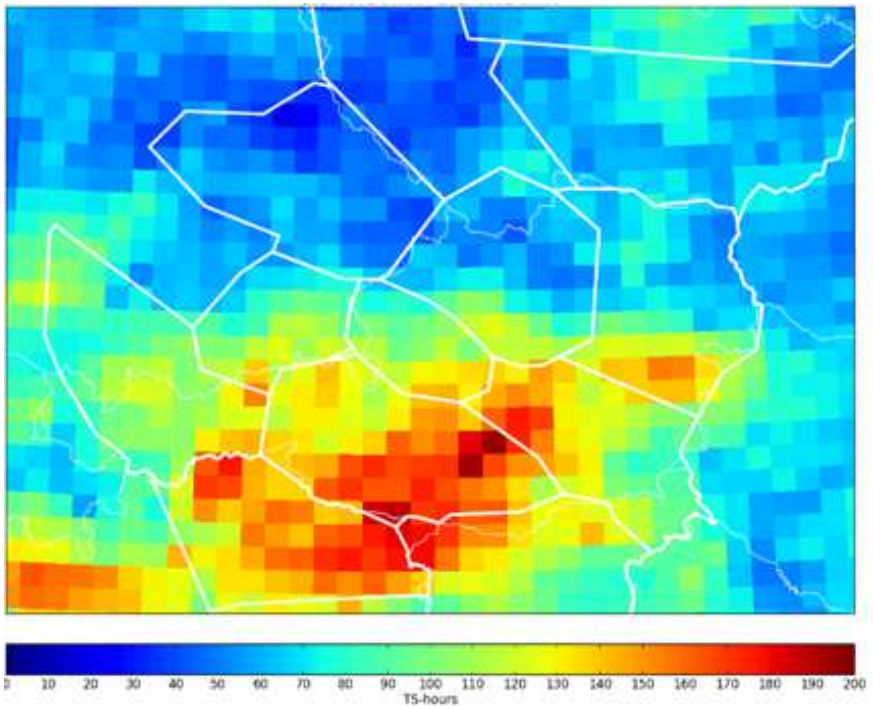


Thunderstormhours based on lightning activity May – August 2016 vs. May – August 2017

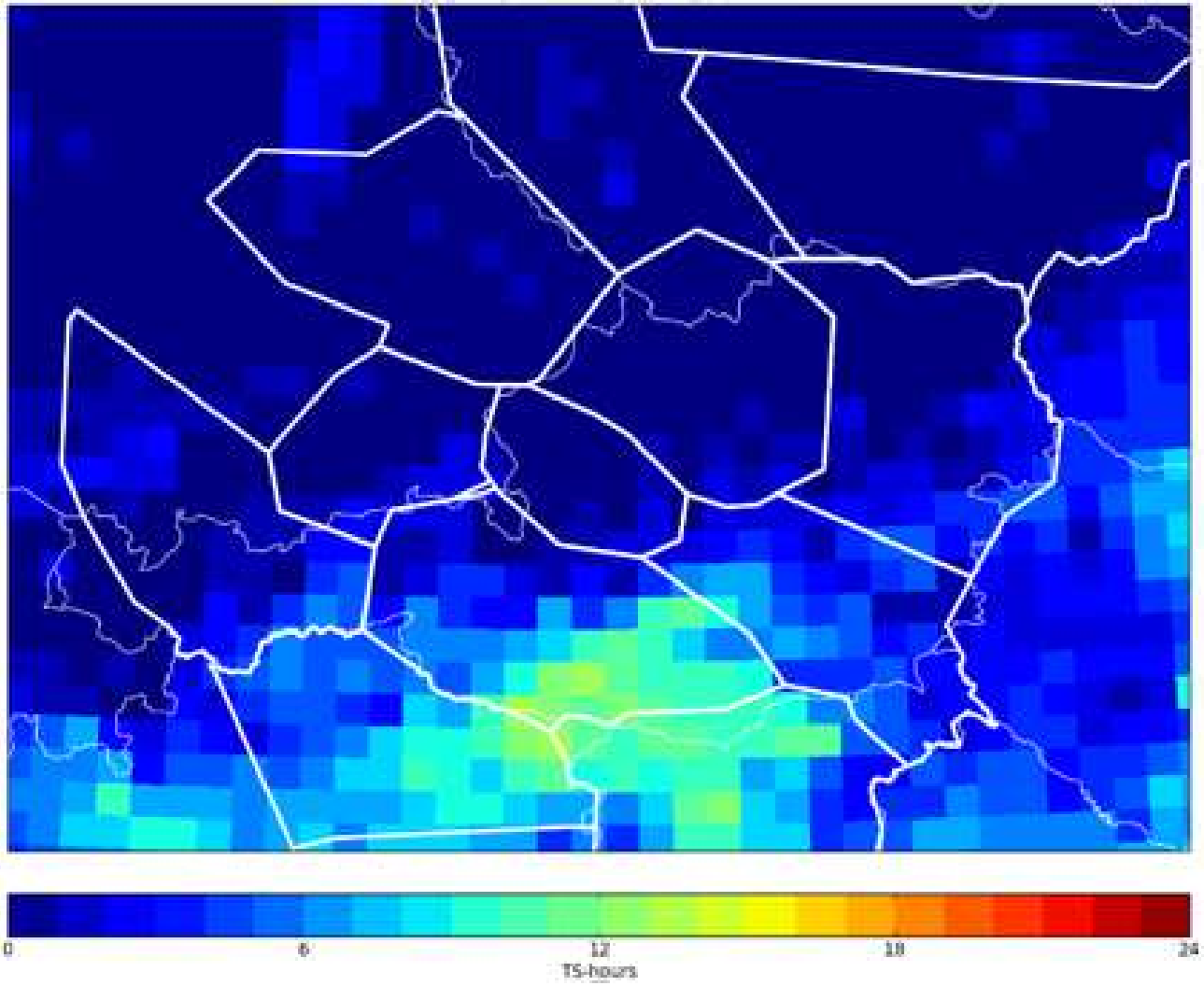
- 2016



- 2017



Thunderstormhours on 24th July 2017



Comparison of convection types 2016 vs. 2017

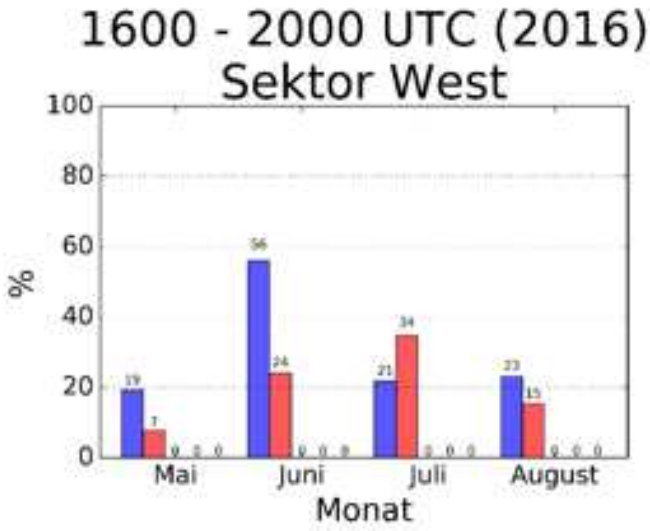
Single cells

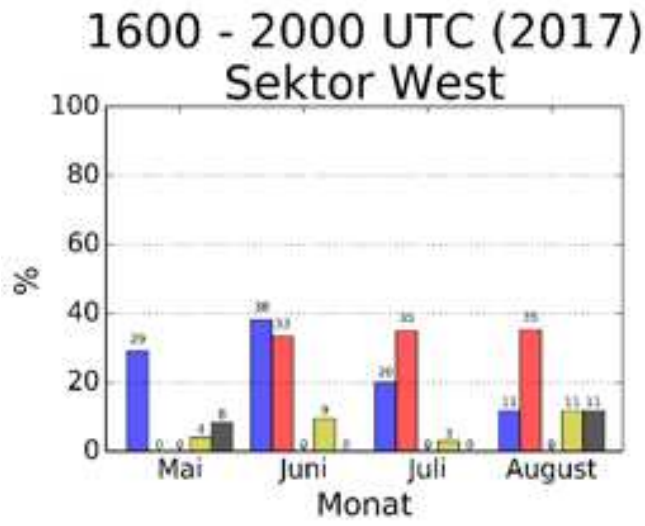
Multi cells

Super cells

Squall lines

MCS

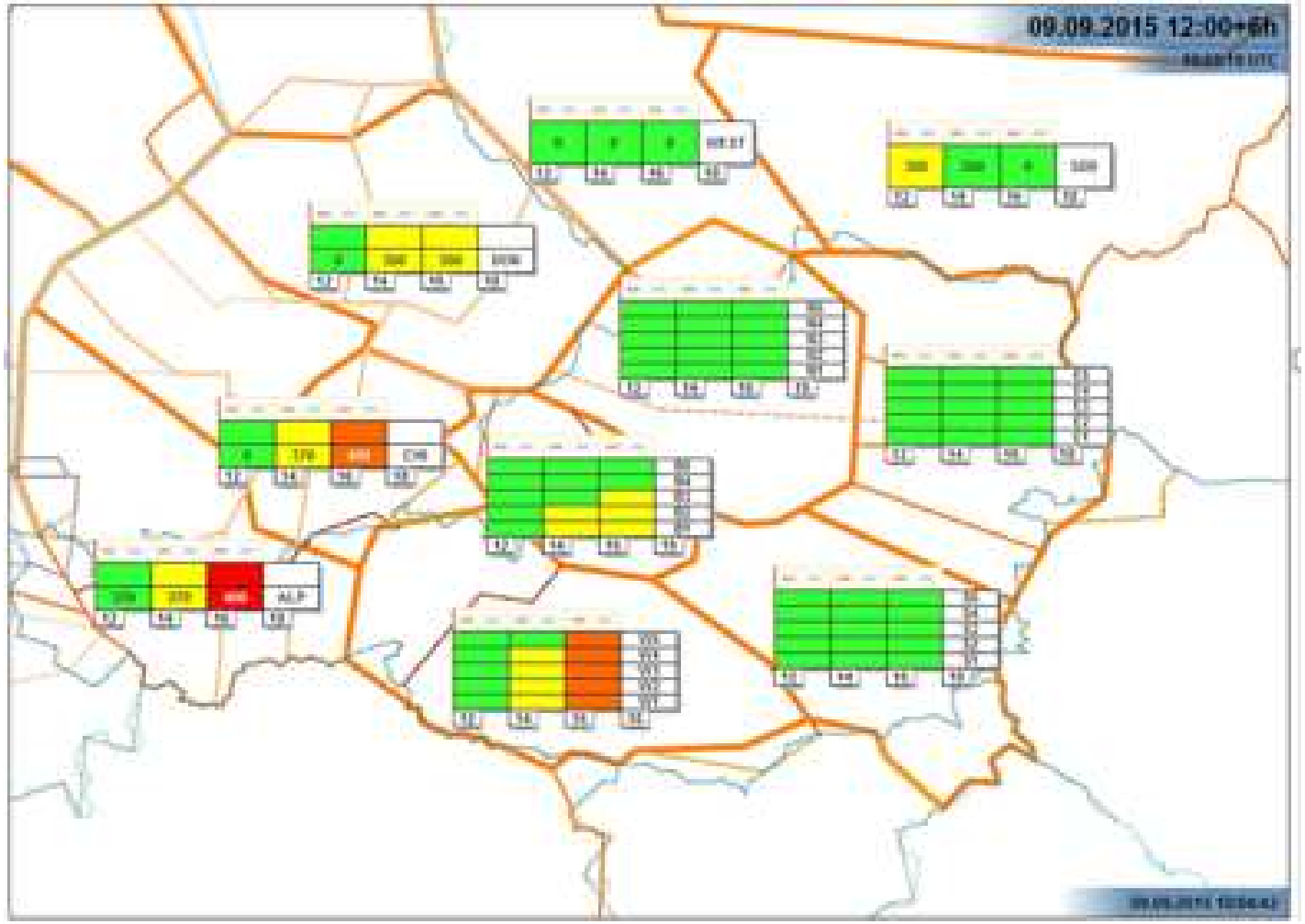




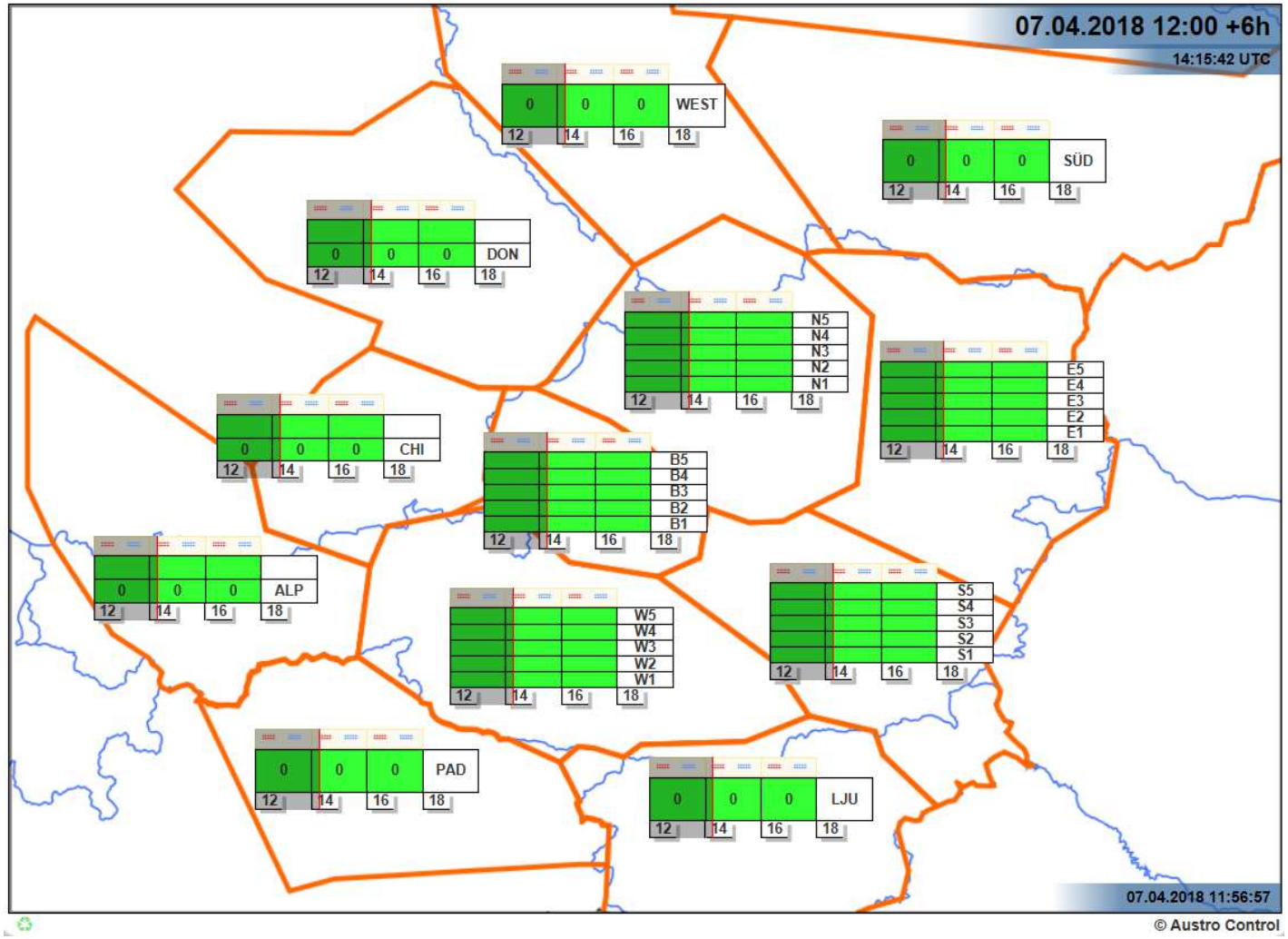
Planned coordination among ANSPs of the Alpine Region

- Planned tactical coordination activity during Summer 2018 between some adjacent units by the means of a telephone conference
- Preparation in progress
- Implementation not confirmed

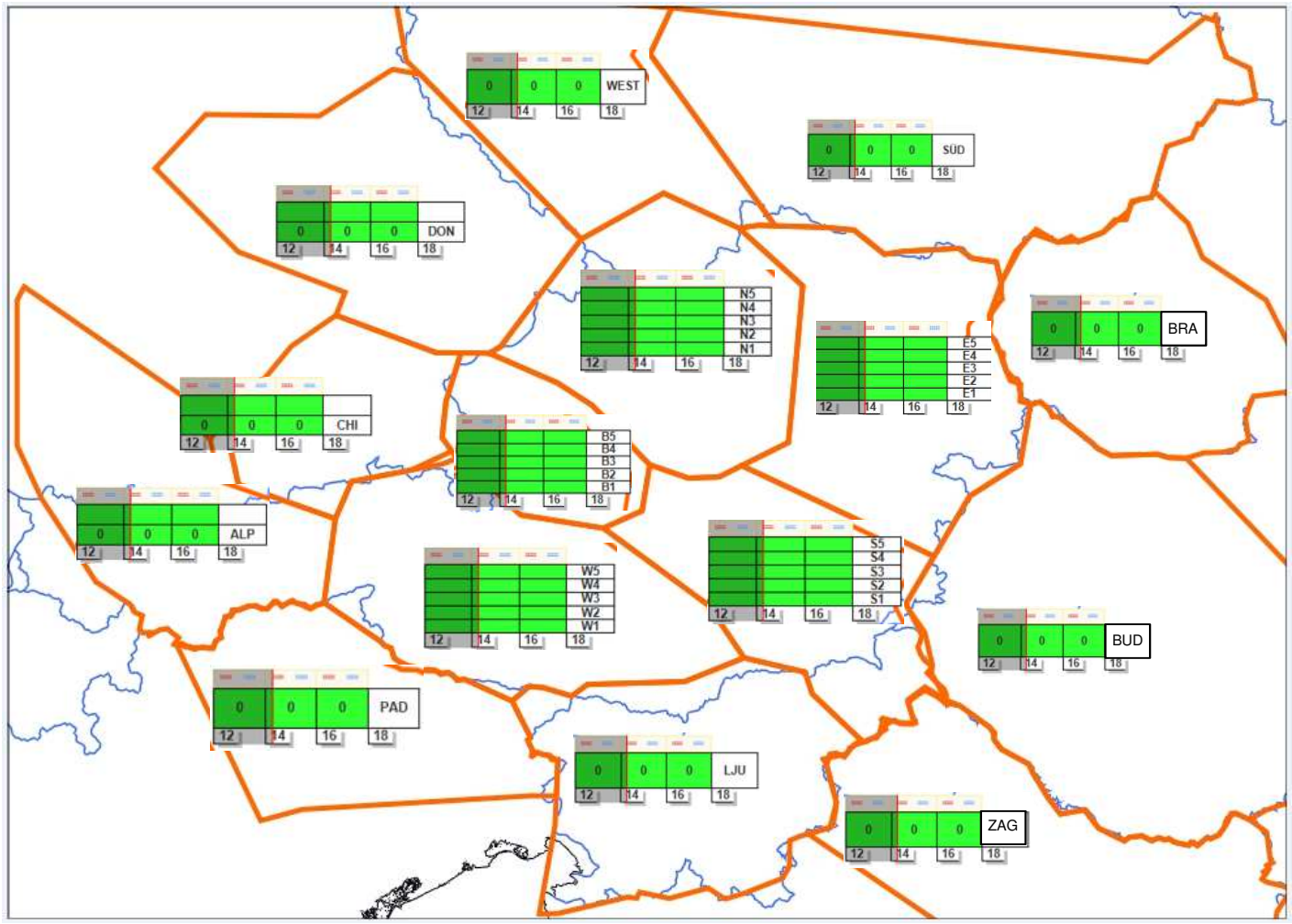
Further development of the SigWX-Bulletin by Austro Control MET Department
Status September 2015



Further development of the SigWX-Bulletin by Austro Control MET Department
Present status



Further development of the SigWX-Bulletin by Austro Control MET Department
Planned future status



The improvements we would like to see

- Increase of awareness by all involved stakeholders
- Reduction of overloads due to high amount of deviating traffic (not planned for this sector) experienced by ATCOs
- Reduction of overdeliveries due to “uncontrolled deviating traffic“
- Collaboration with adjacent FMPs/ACCs if weather or deviating traffic might effect both units in order to manage situations together
- Adaption of LoAs to reflect possible bilateral procedures during severe weather situations
- Review of the chapter 5.5.8 in the ATFCM Operations Manual (maybe to include best practices but also procedures that need to be adhered to)
- Weather delays of “supporting“ ACCs/FMPs to be attributed to a special “pot“ (Network?), similar to the delays created by supporting ACCs of the 4 ACCs NM initiative

What barriers we see to those improvements

- RP2 KPI Capacity
  - Delaytargets may not be met by ANSPs due to high number of ATFCM regulations with regulation reason “Weather“
  - Austrocontrol has analysed the number of weather delays of the years 2007 to 2017
  - The average annual WEATHER delay between 2007 and 2016 was 0,10 min/flight, for 2017 it was 0,21 whereas our RP2 delay target ist 0,20 min/flight for 2017 and 0,19 min/flight for the years 2018 and 2019
- RP3?

What barriers we see to those improvements

- Missing willingness of ACCs/FMPs to support affected ACCs/FMPs without offering them an incentive scheme (e.g.: delays to be attributed to a special “pot“, …)

- “File it, fly it“ does not work under all circumstances, especially during severe en-route weather situations, hence a good traffic prediction is almost impossible, hence a pre-cautionary capacity reduction may create “unnecessary delay“.

Suggestions for overcoming the barriers

- This Weather Forum (WEATHER PROOFING THE NETWORK A COLLABORATIVE APPROACH) can be the initiation of discussions and resulting proposals for the decision makers
- Actively participate in the break out sessions tomorrow to brainstorm and find potential solutions
- Discuss the topic inside your organisation, with your neighboring ACCs/FMPs, with your FAB partners and other potential coordination partners
- Decisions and solutions should follow the discussions

Thank you very much for your attention!

Questions?