



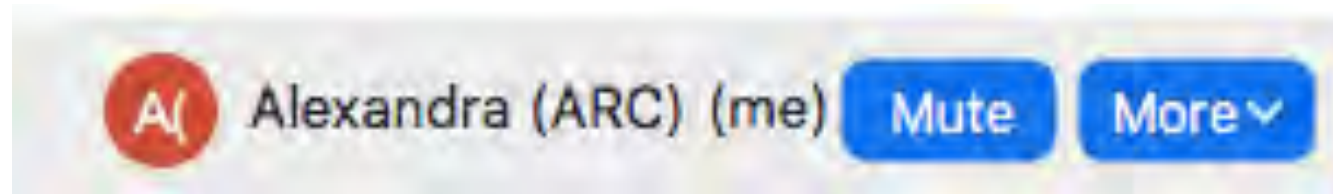
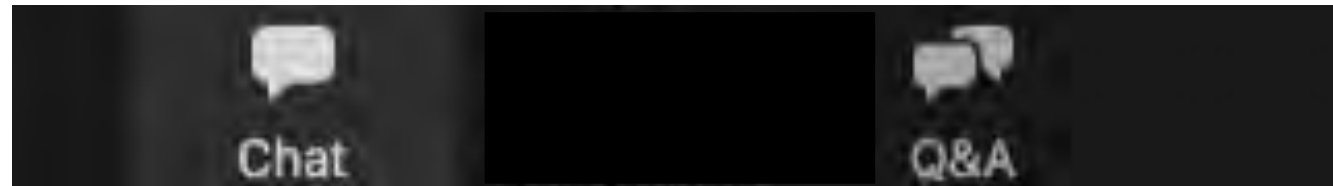
Aviation noise perception after COVID-19

webinar at 10:00 – 12:00,
Tue, June 30

organised by



Guide for participants



– Welcome Words

Leonidas Siozos-Rousoulis,
Project Officer, Innovation and Networks
Executive Agency

Laurent Leylekian, ANIMA Coordinator,
ONERA – The French Aerospace Lab

- **Overview of Previous, Current and Future Expectations**

Dr David Marsh, Business Intelligence and Statistics
Unit, EUROCONTROL

Current Trends in European Flights

Supporting
European
Aviation



Current trends in European Flights

ANIMA Webinar

David Marsh

Hd of Business Intelligence & Statistics

30 June 2020



Horizon 2020



NETWORK
MANAGER

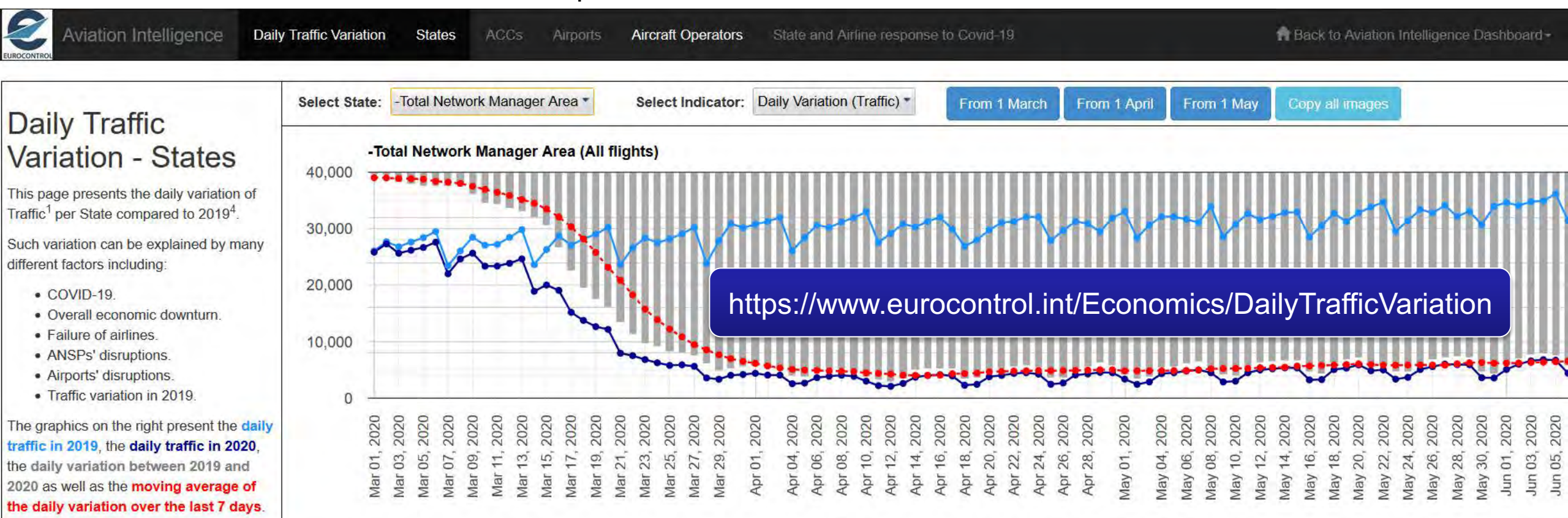


Monitoring & Communicating

www.eurocontrol.int/covid19

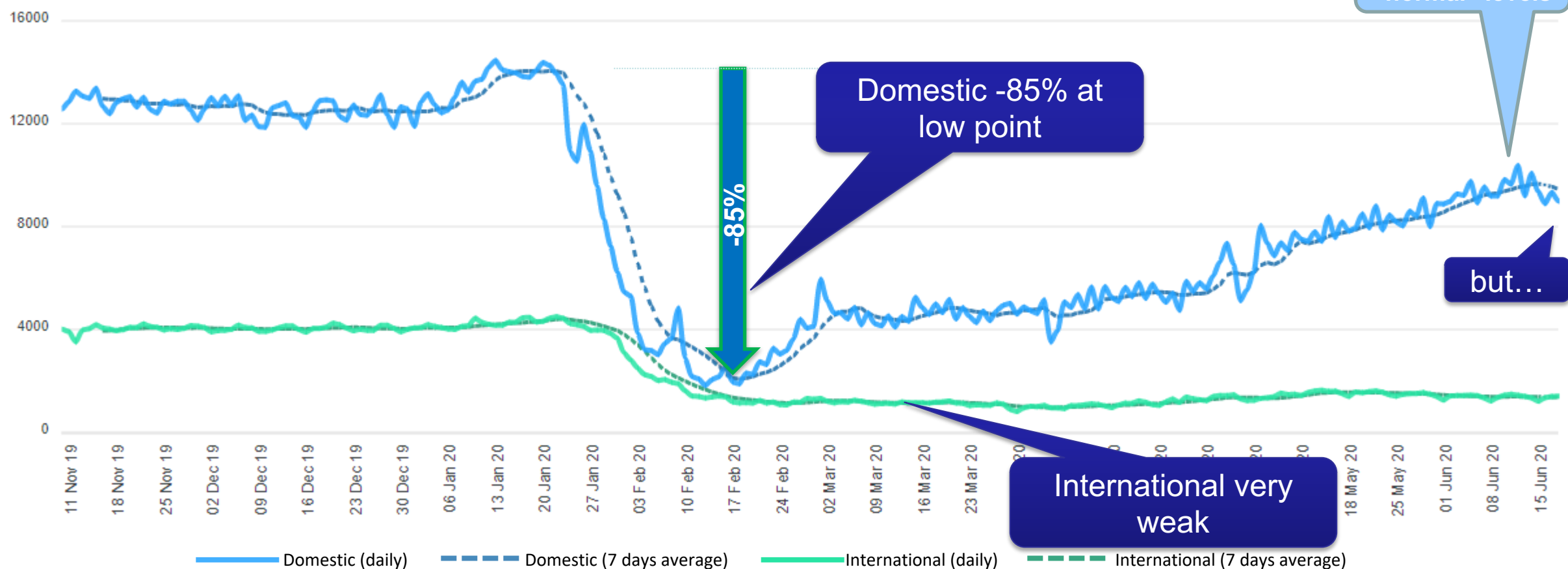
- Daily monitoring**

- Daily interactive dashboard (States, area control centres (ACCs), airports, aircraft operators)
- Review of State and airline responses to COVID-19.



Where it all started: flights in **China** dropped end January

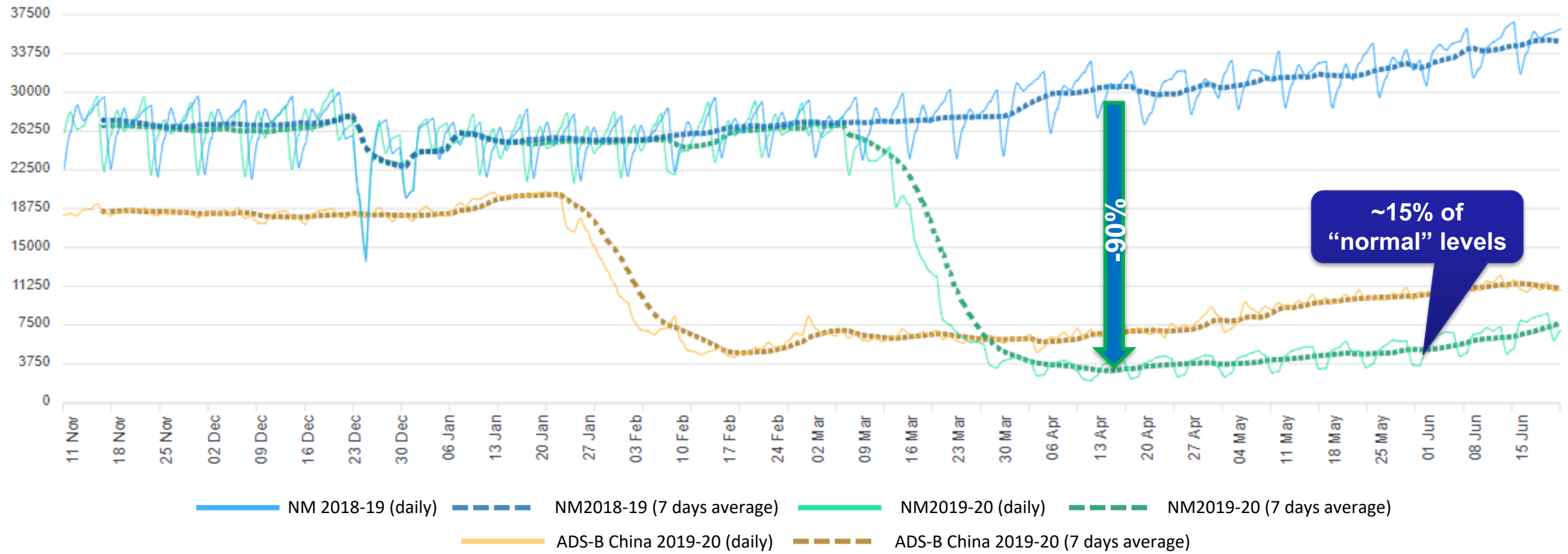
ADS-B monitored flights in China



ADS-B covers only a fraction of total traffic

Europe experienced the same with a ~1-month lag, but recorded a (deeper) 90% decline (early April).

NM Traffic vs ADS-B monitored flights in China



ADS-B covers only a fraction of total traffic

Connectivity during COVID-19



Top 100 very short-haul (<500km) routes

April 2019



April 2020



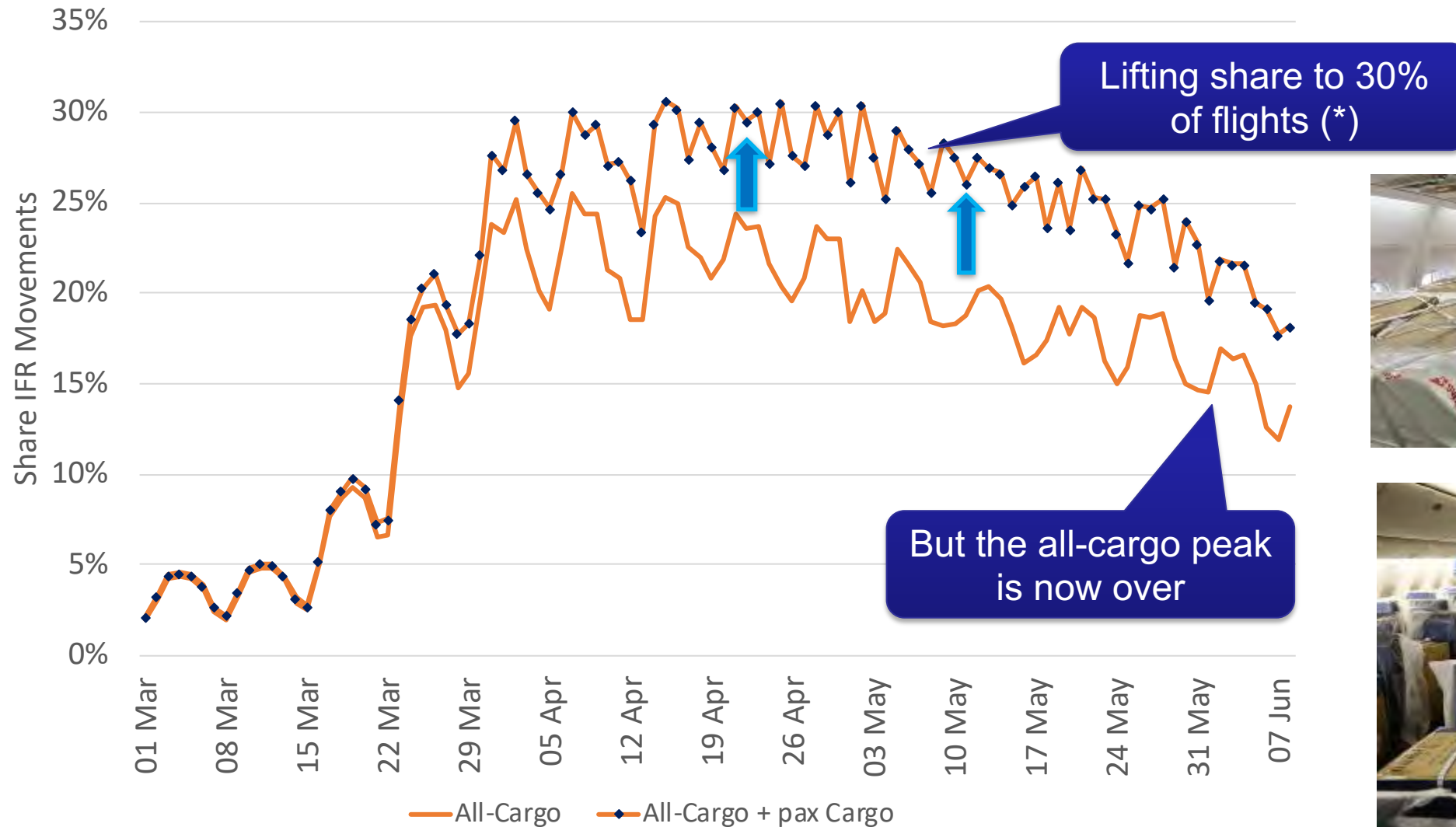
Flights/Week — 14-28 — 28-56 — >=56

Overall, all-cargo flights kept going while passenger scheduled traffic was grounded

- All-cargo flights remained stable (~2019 levels), peaking at 25% of all flights (usually 3%).
- Business aviation having a good June

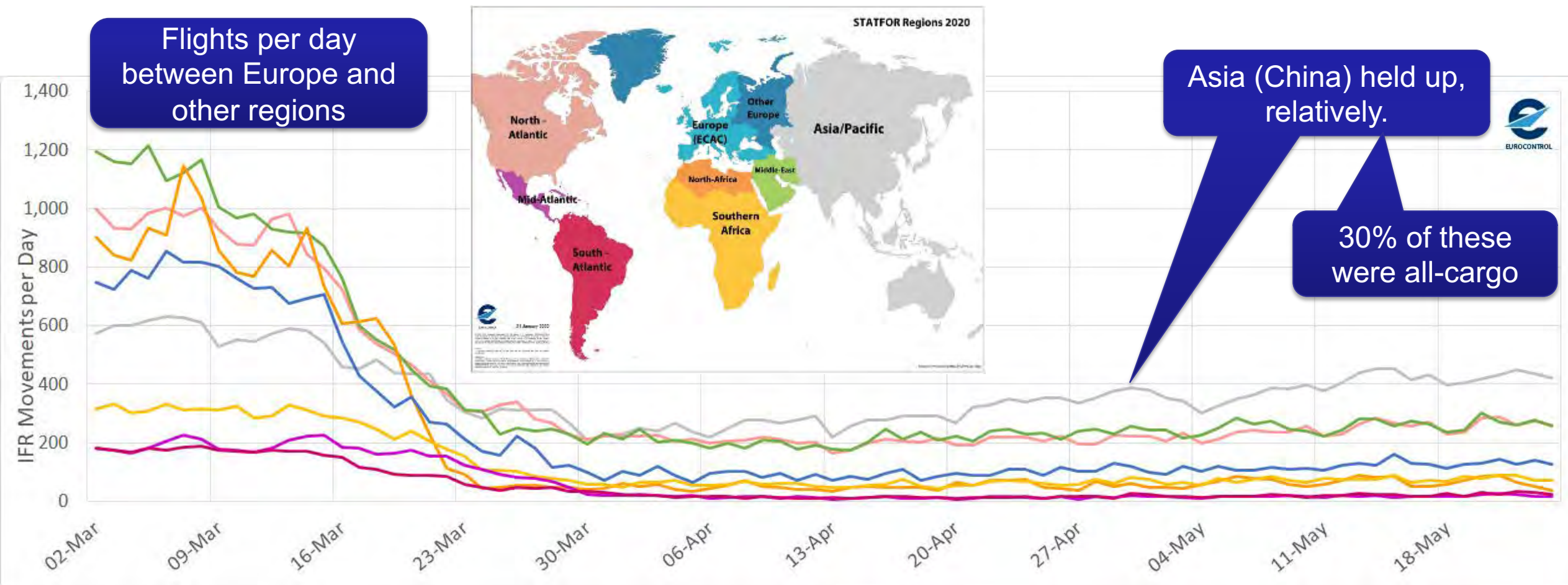


Using passenger aircraft to carry cargo

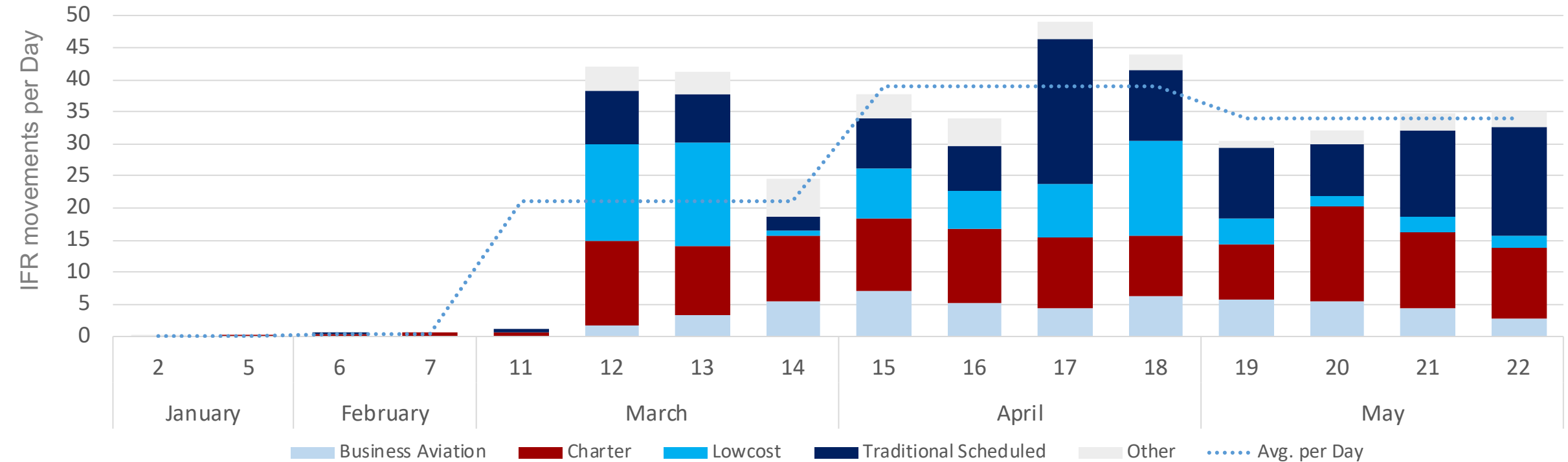


(*) Minimum estimation based on information from the flight plan remark field (explicit mention of 'CARGO' keyword).

European intercontinental traffic flows much reduced



Repatriation* flights amounted to ~40 daily flights in April



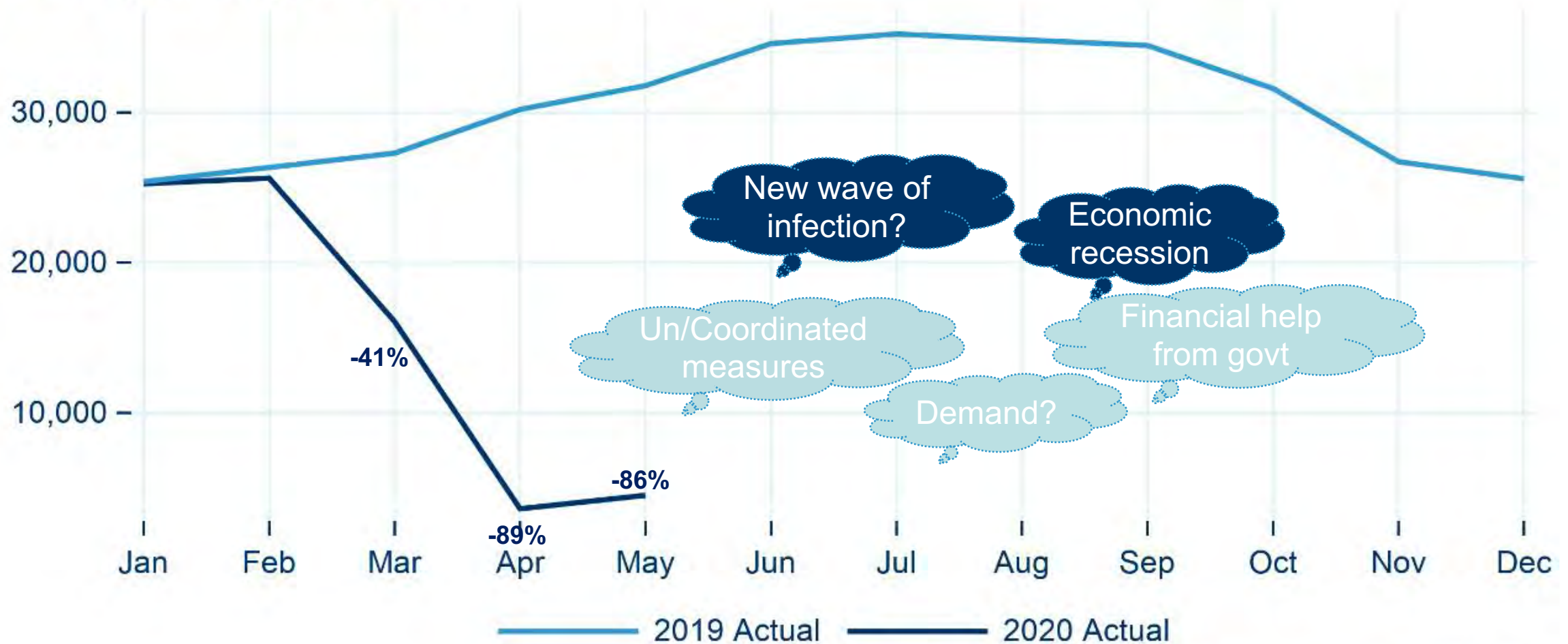
**Estimation based on information from the flight plan remark field, matching 'REPAT*', 'EVAC*', 'RESCUE',... keywords. This extract might include some repositioning flights (however, not necessarily all).*

- EU Civil Protection Mechanism acknowledges ~85,000 citizens repatriated so far



After the pandemic, defining possible paths for European aviation

IFR Flights/Day in ECAC



Coordinated/Uncoordinated measures scenarios (EUROCONTROL)

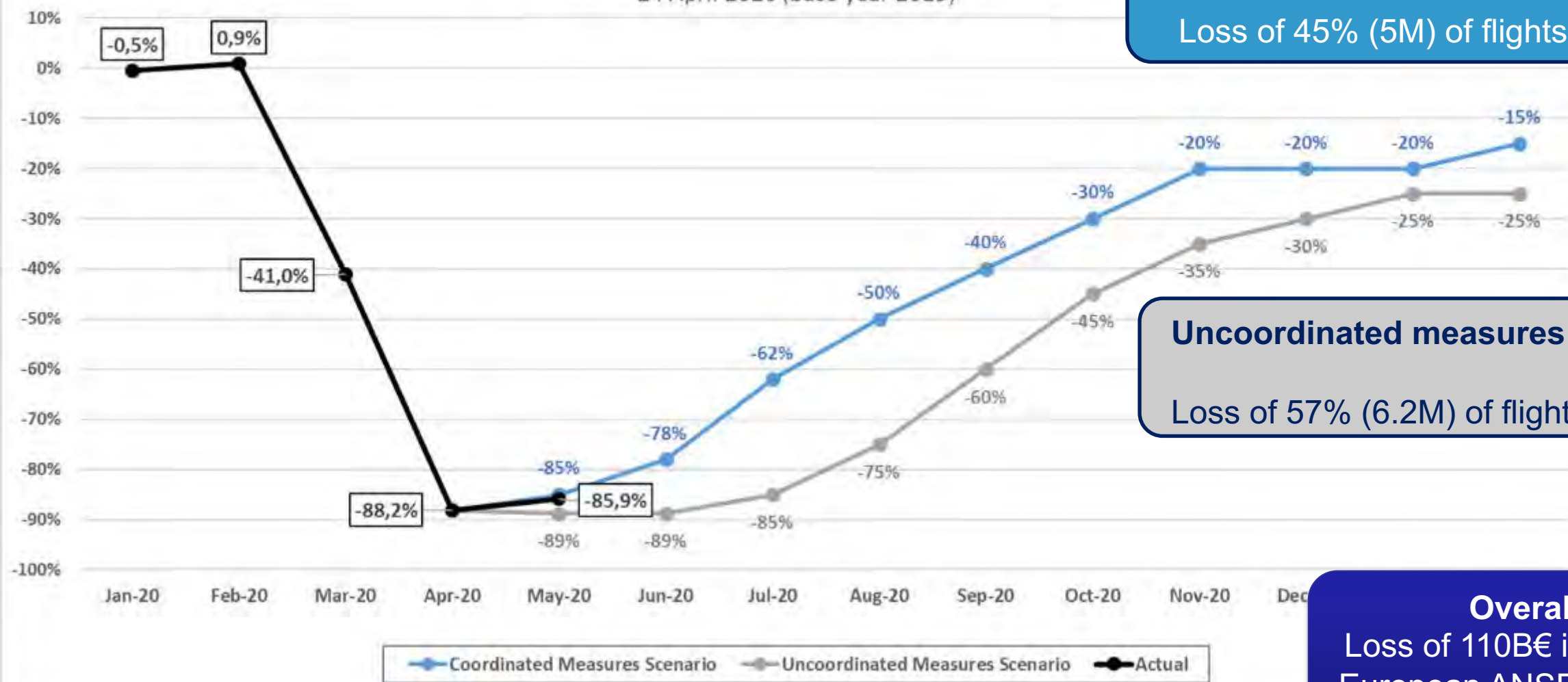
EUROCONTROL Draft Traffic Scenarios
24 April 2020 (base year 2019)

Coordinated measures scenario:

Loss of 45% (5M) of flights vs. 2019

Uncoordinated measures scenario:

Loss of 57% (6.2M) of flights vs. 2019



Overall:

Loss of 110B€ in 2020 for
European ANSPs, airports
and airlines

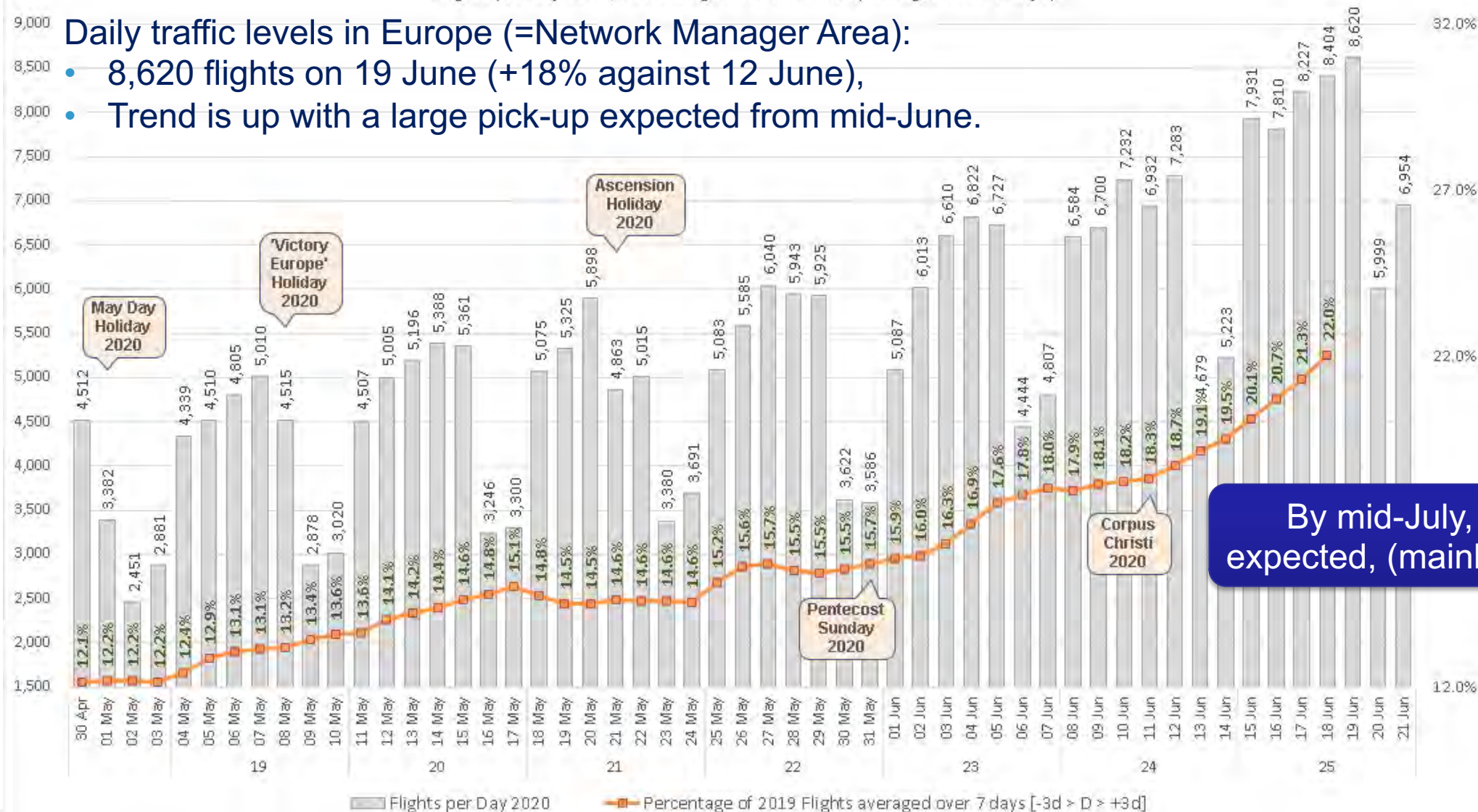
Where are we, now?

EUROCONTROL Network

Flights per day 2020, Percentage of 2019 Traffic (averaged over 7 days)

Daily traffic levels in Europe (=Network Manager Area):

- 8,620 flights on 19 June (+18% against 12 June),
- Trend is up with a large pick-up expected from mid-June.

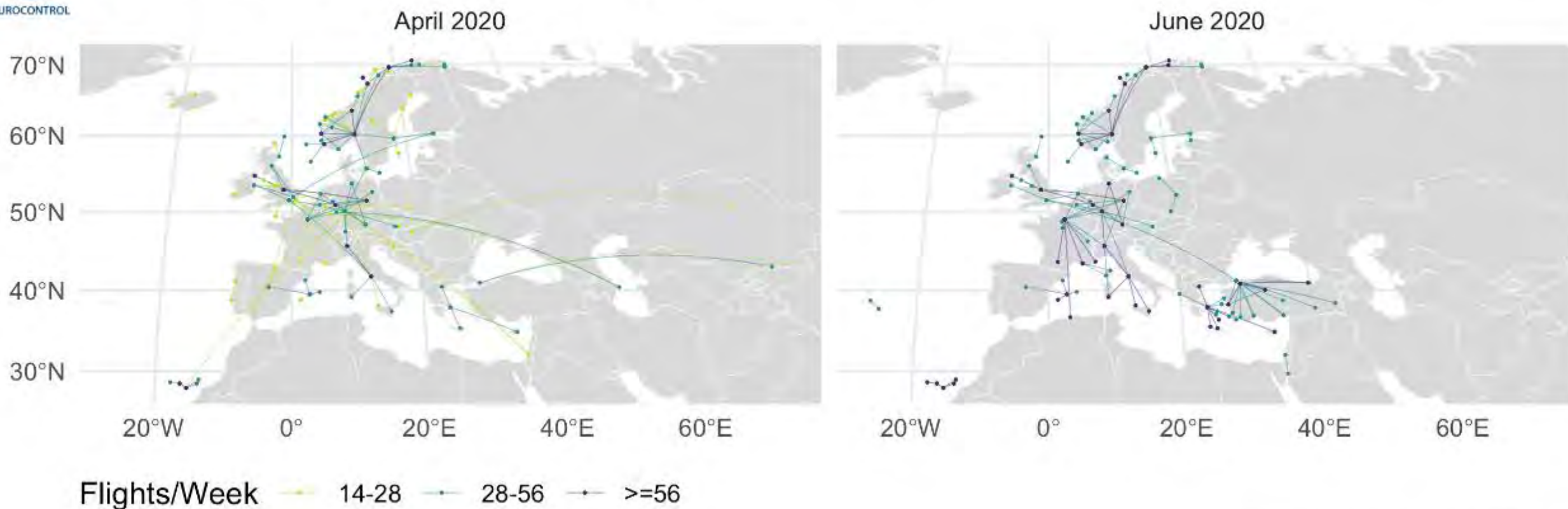


By mid-July, 13,000 flights expected, (mainly intra-European).

Recovery under way, but still quite local



Top 100 Short- and Medium-Haul Routes

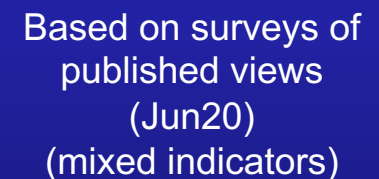


Distances < 4000km. Includes some helicopter flights.

June to 16th

-

Recovery to 2019 levels?



– New Range of Possibilities for Aircraft Noise Management: Reduced Traffic, Open Dialogue and Community Engagement

Moderated by Roalt Aalmoes, Netherlands Aerospace Centre

10:40 New range of possibilities for aircraft noise management: Reduced traffic, open dialogue and community engagement

Dirk Breedveld, Representative of the Rotterdam community around Rotterdam The Hague Airport – Community experience and expectations about the return of aviation noise

Roel van der Bolt, Municipality of Rotterdam – Expectations about the return of aviation noise

Desiree Breedveld & Steven van der Kleij, Representative of the Rotterdam The Hague Airport manager – Airport experience and expectations about the return of aviation noise

Paul Hooper, Professor, Chair in Environmental Management and Sustainability, MMU (Manchester Metropolitan University) & Roalt Aalmoes, R&D Engineer Environment & Virtual Community Noise Simulator, NLR (Netherlands Aerospace Centre) – Post COVID aviation recovery-messages from ANIMA



Dirk Breedveld, Representative of the Rotterdam Community around Rotterdam the Hague Airport

Community Experience and Expectations about the Return of Aviation Noise



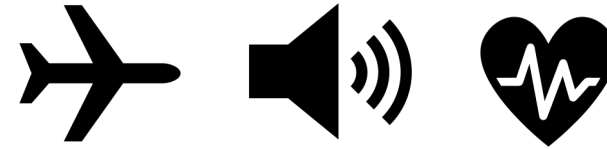
Aviation Noise Impact on Local Residents

Webinar: Aviation Noise Perception after COVID-19

30 June 2020

Dirk Breedveld

Representative of the Rotterdam community in the area of
Rotterdam The Hague Airport – Community experience and
expectations on aviation noise

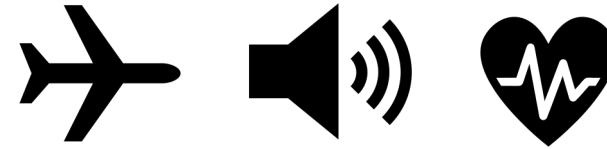


1. Location
Rotterdam The
Hague Airport
(RTHA)

2. Types of
Nuisance

3. Current
Situation RTHA

4. Chances and
opportunities



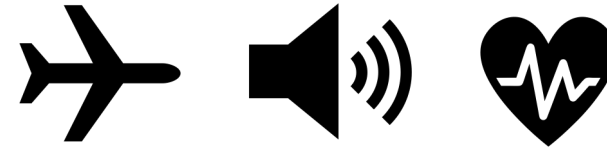
1. Location Rotterdam The Hague Airport (RTHA) – ‘planning blunder...’



Approx 600 meters from city limits

**200 to 300 meters
above the houses
70 – 80 dB(A)**

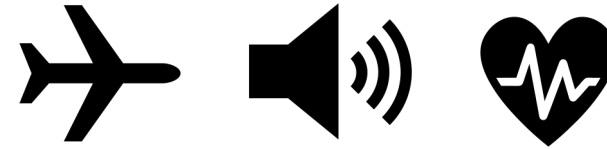




2. Nuisance Types.....1/2

Emissions e.g.:

- CO2: Global Warming;
- Nitrogen Oxides: Acidification and eutrophication;
- (Ultra) Fine Dust: Lung diseases, cardiovascular diseases e.g. research is in progress;



2. Nuisance Types.....2/2

Noise:

- Noise Disturbance:
 - Sleep Disturbance;
 - Fatigue;
 - High Blood Pressure;
 - Stress related diseases that lead to shorter life expectations and less years in good health
- Aware of nuisance: noise disturbance
- Unaware of nuisance: still the same proven health issues as mentioned above, because of brain and body stress response!!

Conclusion: changing noise perception doesn't prevent health risks due to noise nuisance!



3. Current Situation RTHA

- 10 years in discussion with stakeholders about nuisance limitation....
- Nuisance is only increasing.... 62.000+ complaints in 2019
- Causes, among other things:
 - Night flights;
 - More and more flights at the 'edges of the night'
 - Route deviations as a result of Schiphol traffic;
 - More and more airtraffic in the summer months;
 - More and more local residents are tired of all of it and have f.e. questions about the added value of budget flights especially on this unfortunate location;
 - Lden system is not suitable to decrease noise nuisance;

Rotterdam naar
topbestemmingen

Vliegen vanaf
Rotterdam Airport

Barcelona	€ 29
Pisa	€ 29
Brindisi	€ 49
Rome (Fiumicino)	€ 33
Toulon	€ 35

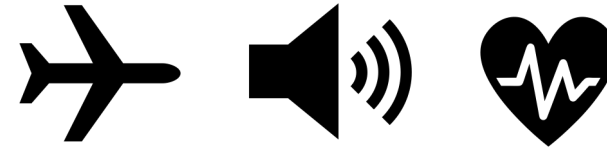
Vanaf-prijzen o.b.v. enkele reis

transavia



4. Chances and opportunities.....

- Most of these issues are in hand of politicians and (local) government....;
- Current prices lead to excess demand...tax measures are necessary to compensate social burdens (f.e. health and spatial planning burdens) and preventing excess demand;
- Decreasing nightflights and flights at the edges of the night;
- Route adaptations but not relocating nuisance;
- Back to the basics: business traffic and police and ambulance traffic;
- Don't expect too much from innovations.....



Questions (by Q&A box)

Roel van der Bolt, Municipality of Rotterdam

Expectations about the Return of Aviation Noise



Gemeente Rotterdam

ANIMA Webinar

June 30th '20

Roel van der Bolt – policy adviser

rj.vanderbolt@rotterdam.nl

+31 6 222 14 168



The city's subjects and interests



Nuisance (**noise**, airpollution, safety)

International connectivity

Employment and business

Urban planning effects (the possibility of prohibition to build)

Traveller's parking issues in the neighborhood

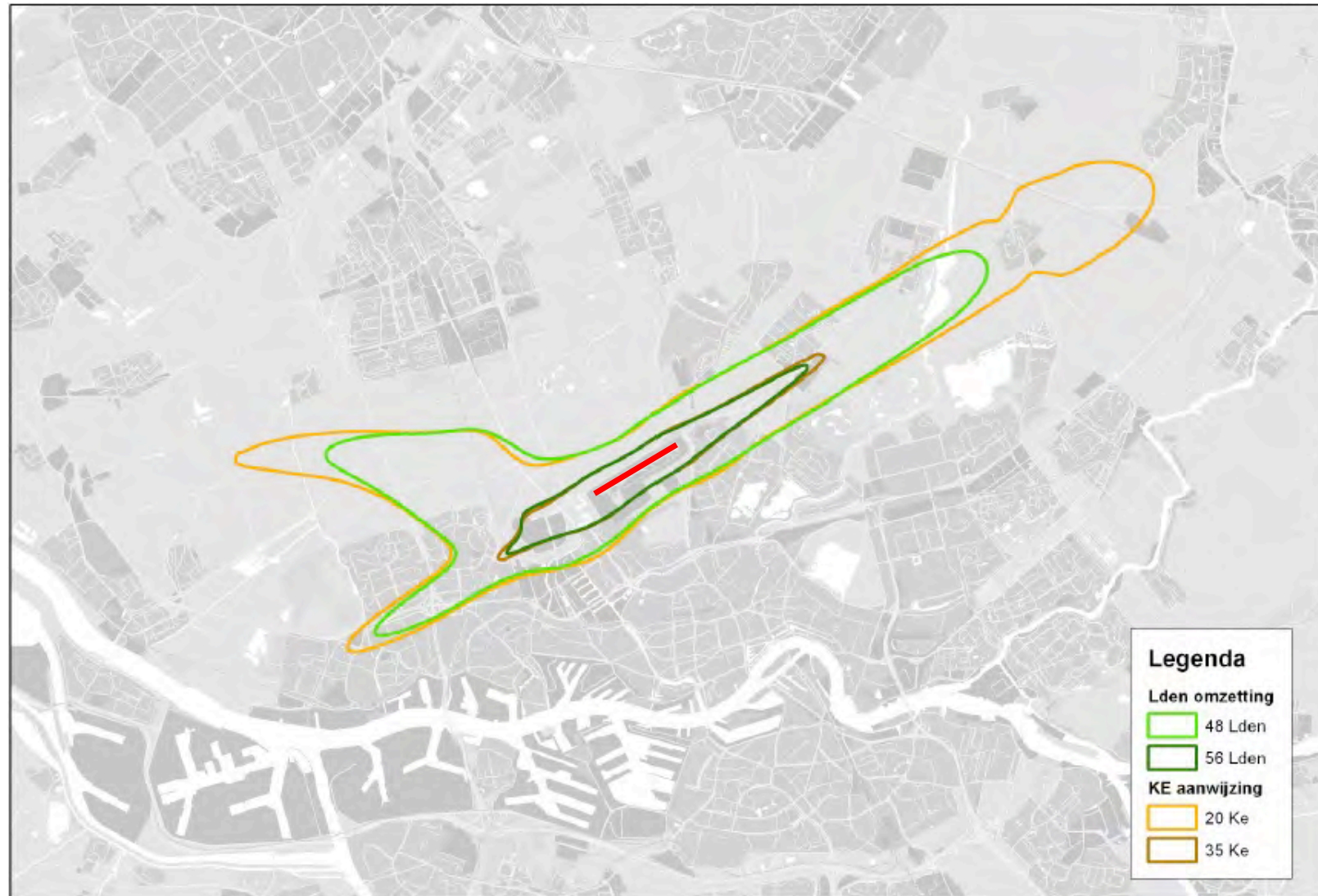
Innovation: foundation Rotterdam The Hague Innovation Airport

www.stichtingrhia.nl

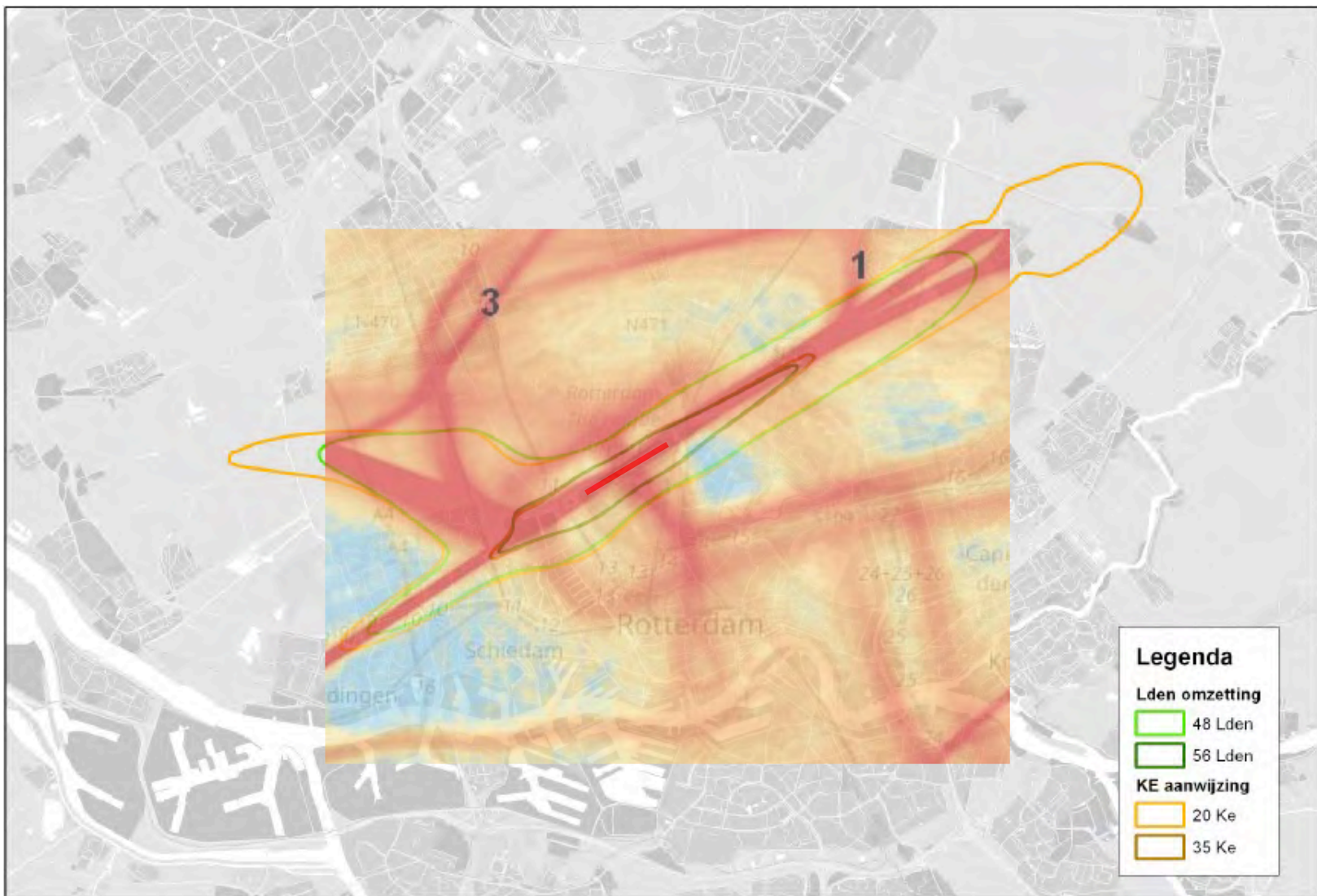
working on green development and a healthy and clean environment



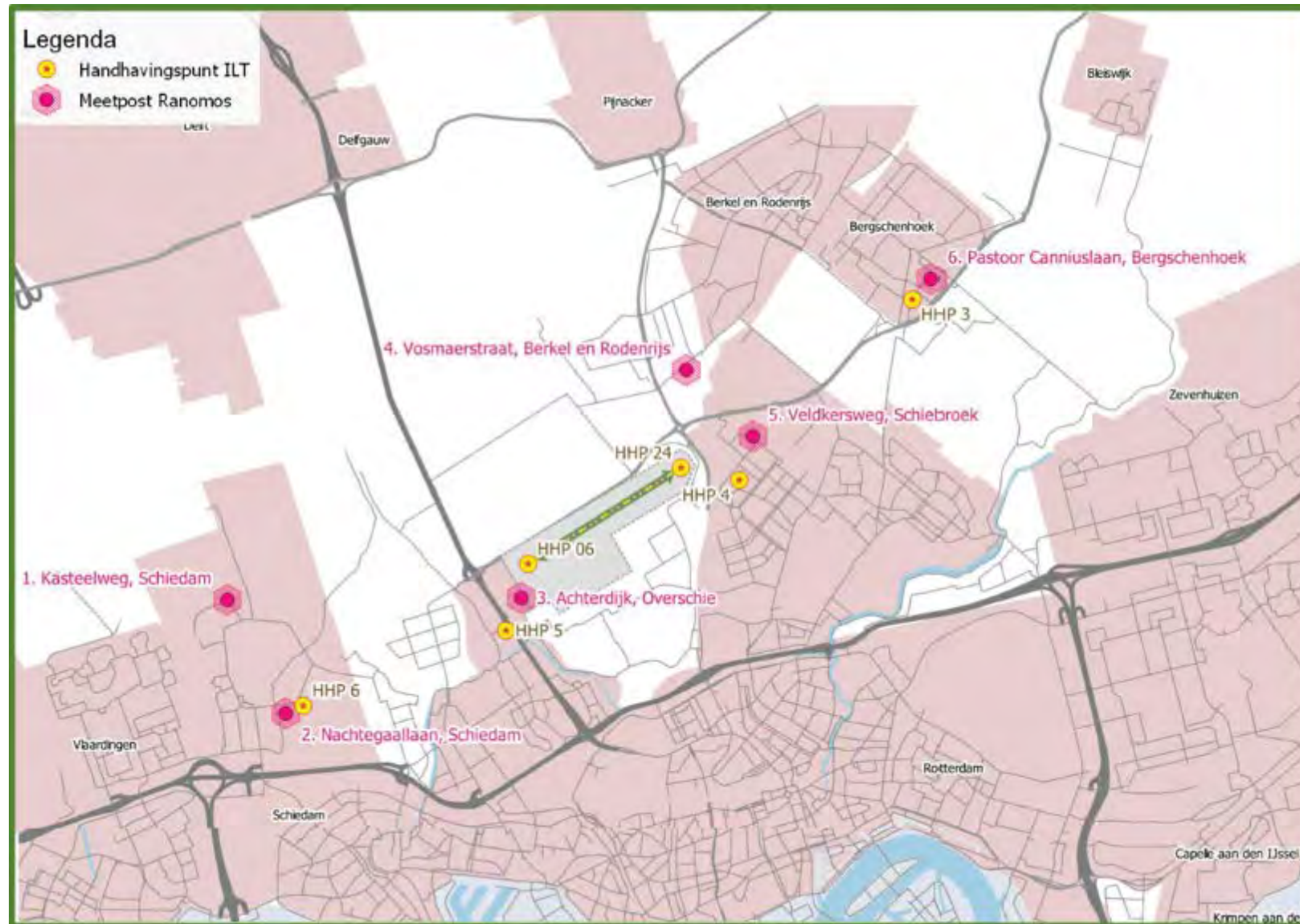
Noise area's



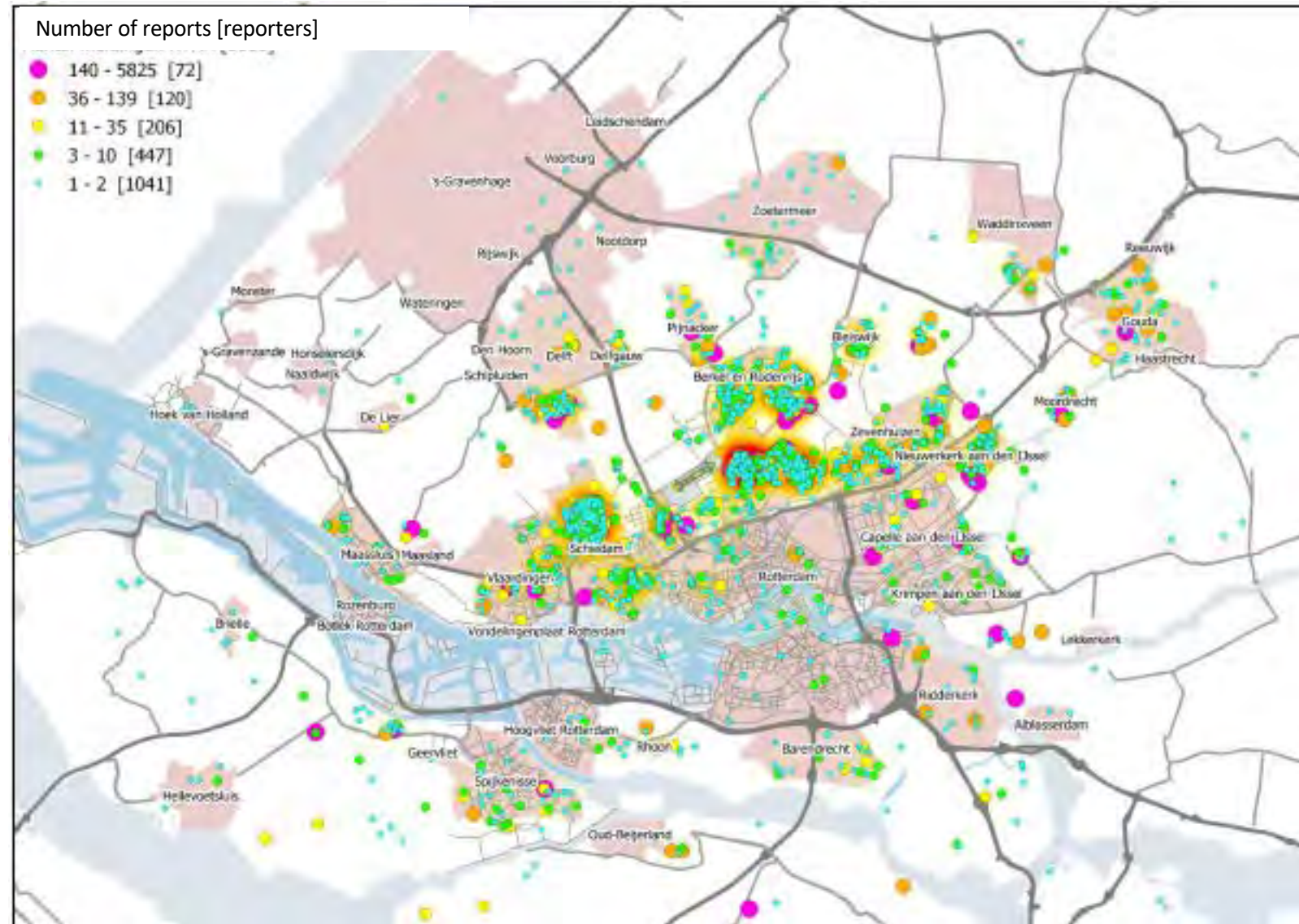
Flight routes



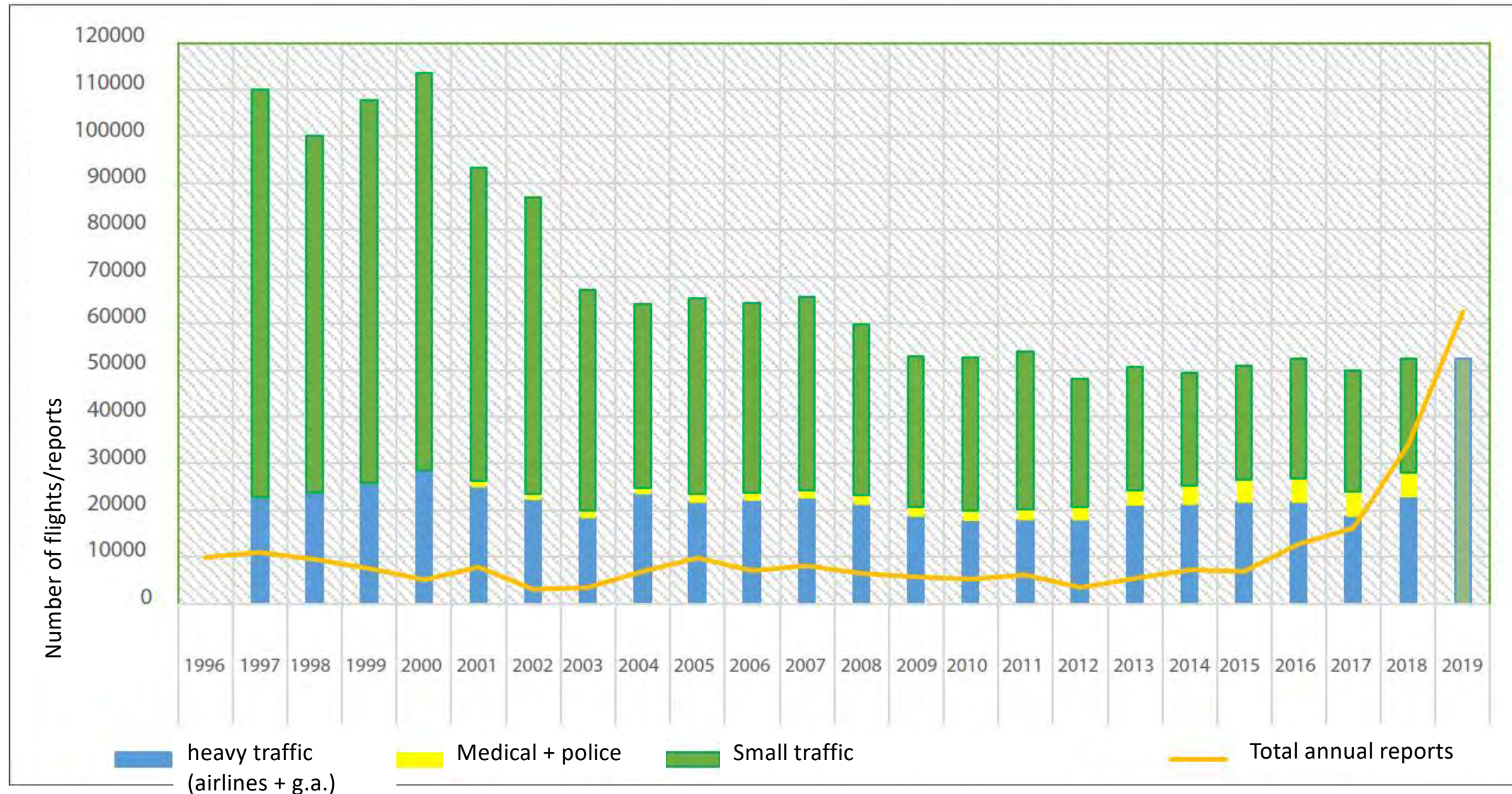
Measuring noise (red dots)



Annual noise reports localized



Amount of annual reports





Regular board between the cities of Rotterdam, Schiedam, Lansingerland and province of Zuid-Holland => common policy about use and impact of the airport

Regional Stakeholders Counsel: consultation about use and impact of the airport

Program to deploy measures for reducing noise and nuisance

Post-Covid expectations?



It's (too) early to tell?

Some citizens write us about the silence....

Reduce in reports march – may (but not proportional)

April -day: heavy traffic reduced by 95%, reports reduced by 96%

April -night: traffic reduced by 42%, reports reduced by 88% (!)

But also after years of big increases

Nov. – jan. : reports increase 21% instead of 200%

Desiree Breedveld & Steven van der Kleij, The Hague Airport, Rotterdam

Airport Experience and Expectations about the Return
of Aviation Noise

Rotterdam The Hague Airport

Post Covid-19 community relations



Airport Introduction

- Regional airport in South West Netherlands
 - distance to AMS 70 kms
 - distance to EIN 120 kms
- Size as well as nature of operation is determined
 - noise control zone
 - night regime (curfew on commercial operations 23-7)
- Two million passengers, 21.000 aircraft movements > 6 tons
 - Aircraft in use B737NG, A320neo, E190
 - causes peaks 7-8 and 22-23
 - summer / winter distinction
- Inhabitants in the metropolitan area Rotterdam The Hague
2,62 million
- Number of households in 48-56 Lden zone (noise affected)
27.500

RTHA and stakeholder management

- Operating in a divers stakeholder landscape
- A balancing act between different needs
- Thin line between national ambitions and local embedding
- Key position regarding economy, climate and mobility
- RTHA favors a mutual gains approach respecting both outspoken opinions and the silent majority

RTHA and its neighbours

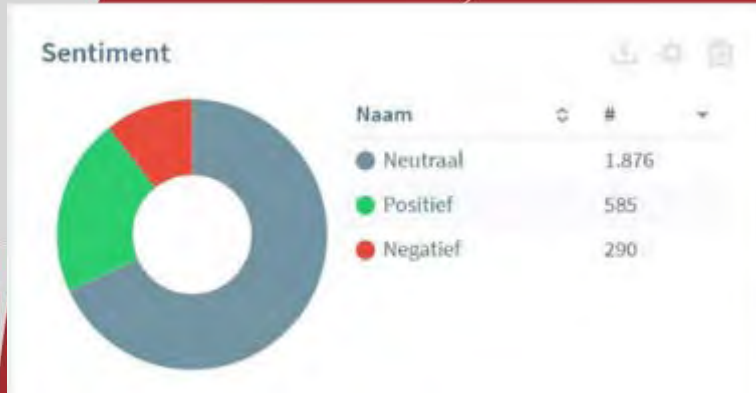
- Community relations as a strategical focus
- Locals are passengers, neighbours and employees
- Number of flights stable since 2013
- Number of reports + 1100% since 2013
- Community programme in place
 - direct communication (newsletters, social media, face to face events)
 - standard procedures to communicate abnormal flight patterns
 - regular updates in regional newspapers
 - educational programmes
 - sponsoring activities
- Educating stakeholders regarding roles/responsibilities in overall aviation

RTHA and Covid-19

- Shut down of commercial operations 22 March – 17 June
airport remained open 24/7
- Remaining: medical flights, business jets, diversion operations
- Unprecedented, no blue prints
- Close monitoring of community
- Pro-active and transparent communication is key
 - Social media posts on preparation
 - Newsletters (e-mail)
 - Regional media interviews and behind the scenes
 - Regional newspapers advertorials

Monitoring the community

Community sentiment on social media (Facebook, Instagram, LinkedIn, Twitter)



1 jan – 15 mar



16 mar – 17 jun



17 – 28 jun

Reports on aircraft noise (indicational):

2020	Daily reports	Daily departures
1 jan - 15 mar	80	16,4
16 mar - 17 jun	25	0
18 jun - present	90	3,5

RTHA and its neighbours post-covid

- The bigger political picture in The Netherlands
 - Aviation is a topic in the public debate
 - Draft whitepaper Aviation ('Luchtvaartnota') 2020-2050 issued in March
 - Discussion on opening of Lelystad Airport
- As expected, number of reports increasing after operational shutdown
- Invest in communication and stakeholder management staff since Q1
- Increase communication budgets further as of Q2
- Maintain pro-active communication, especially when operation changes
- **Concluding:** Dialogue is key under any circumstances



Paul Hooper, Professor, Chair in Environmental
Management and Sustainability, Manchester
Metropolitan University & Roalt Aalmoes, R&D
Engineer Environment & Virtual Community
Noise Simulator, Netherlands Aerospace Centre

Post-COVID Aviation Recovery Messages from ANIMA

Post COVID aviation recovery – messages from ANIMA

ANIMA Webinar – Aviation Noise Perception After COVID-19

30th June 2020

Prof Paul Hooper

Manchester Metropolitan University
CATE - Centre for Aviation, Transport
and the Environment
Manchester, UK

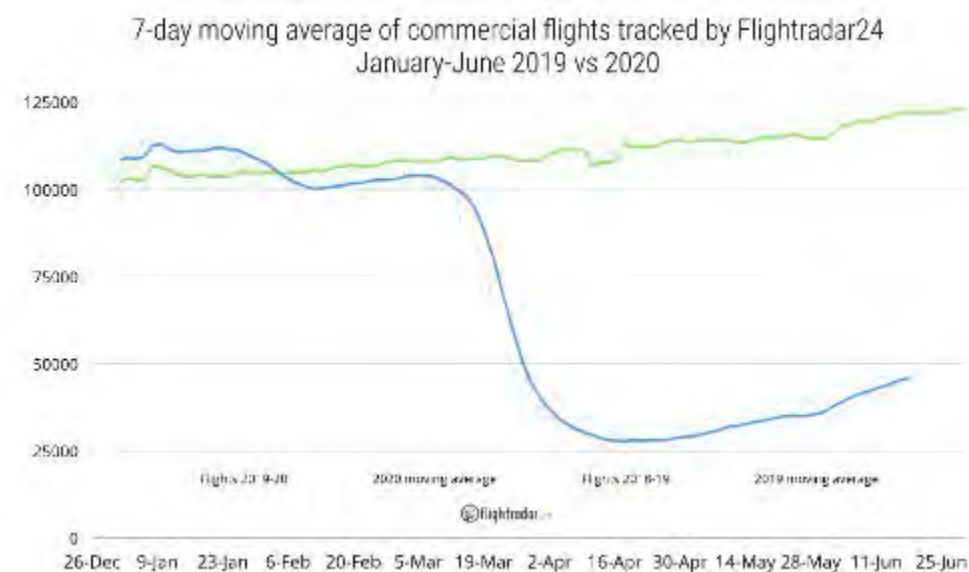
Roalt Aalmoes

NLR
Royal Netherlands Aerospace
Centre
Amsterdam, Netherlands

COVID-19 Impacts on Aviation

ATMs down by 80% overall

- Heathrow Pax ~5%, ATMs 10% pre-COVID levels
- But.... complaints only down by 20%!
- Schiphol – experiencing complaints from new people and locations! (Because people now work from home)



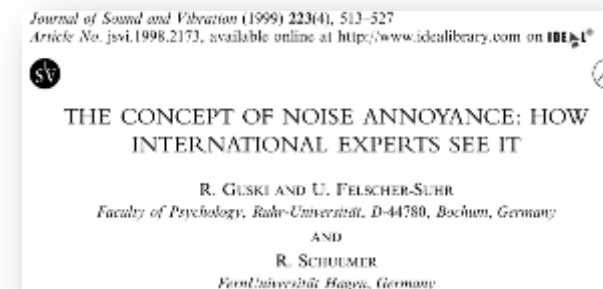
Why?

Annoyance isn't just about the sound!

What is annoyance?

Annoyance includes:

- an **often repeated disturbance** [...] combined with behavioral responses in order to minimize disturbances;
- an **emotional / attitudinal response** (anger about the exposure, fear, and negative evaluation of the noise source)
- **perceived capacity to cope** with noise (perceived control):
the distressful insight that one cannot do much against this unwanted situation

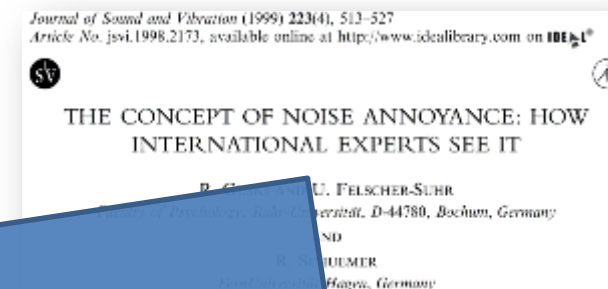


What is annoyance?

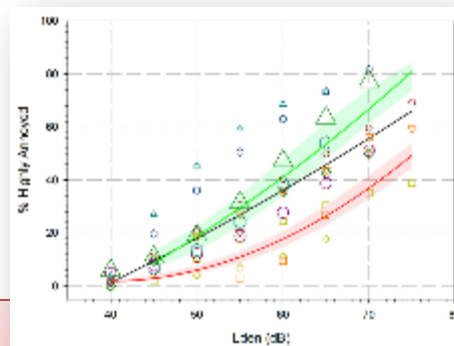
Annoyance includes:

- an often repeated disturbance [...] combined with behavioral responses in order to minimize disturbances;
- an emotional / attitudinal response (anger about the exposure, fear, and negative evaluation of the noise source);
- perceived inability to cope with noise (perceived control):

the distressful insight that one cannot do much against this unwanted situation



Contributors to noise annoyance



Acoustics:

Average sound level

L_{den} , L_{night} , $L_{Aeq,x}$ etc.

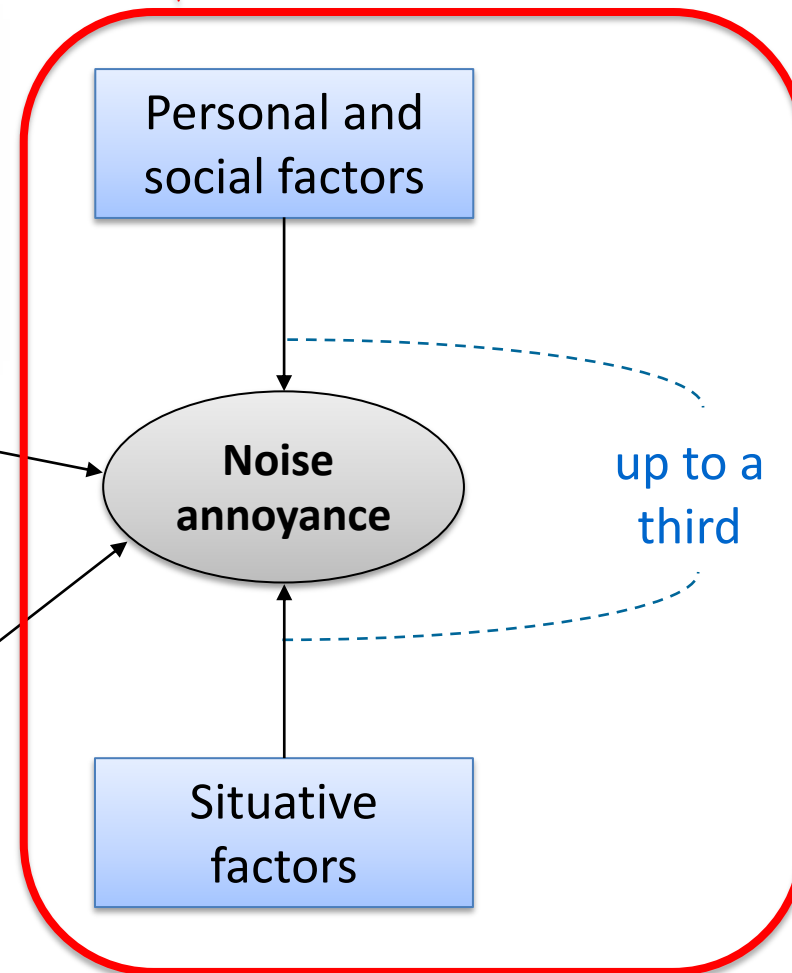
up to a third

Further acoustic metrics:

maximum sound level, number, emergence/intermittency, (lack of) respite, rise time, frequency, psychoacoustics, ...

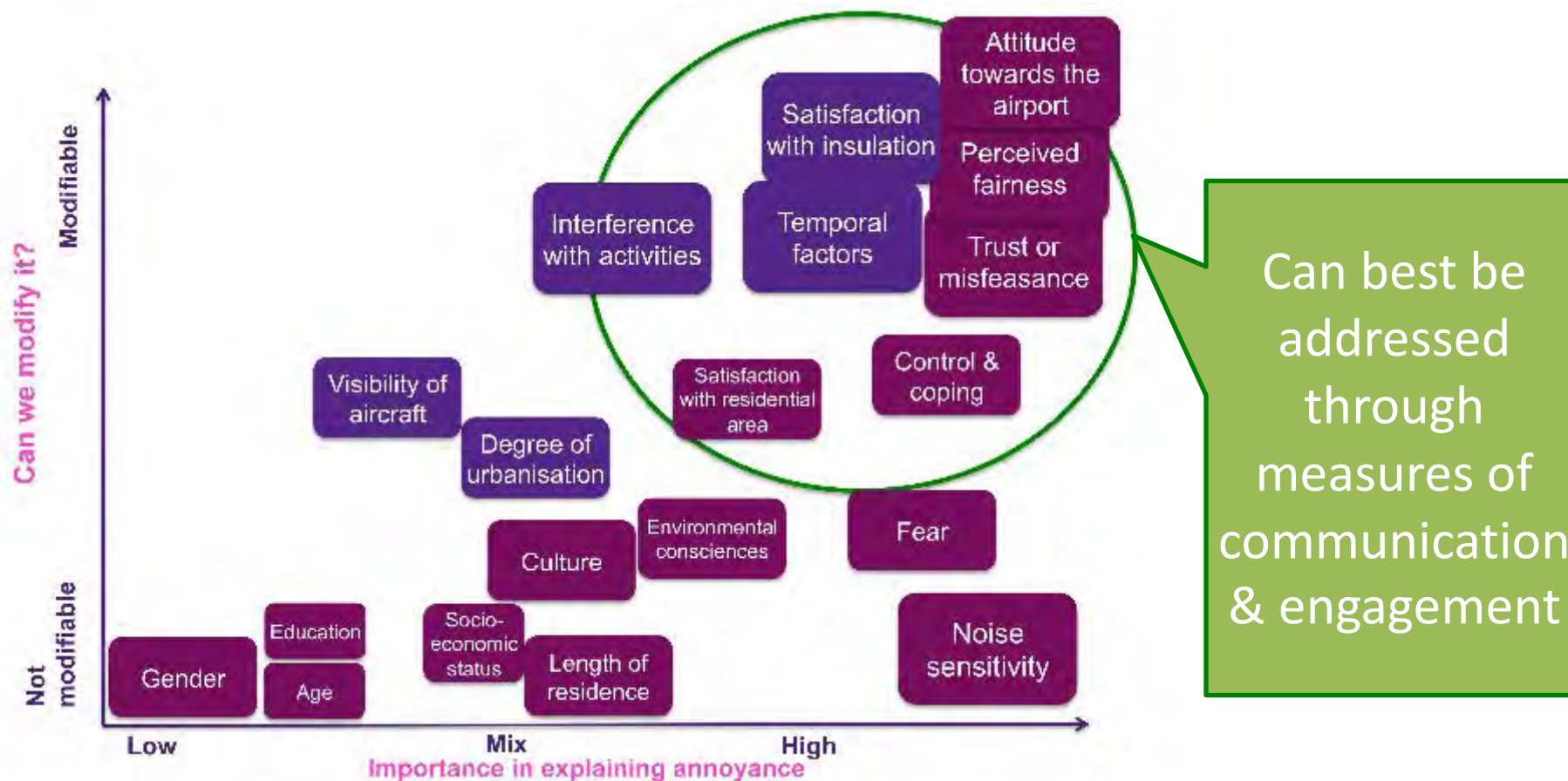
?

Non-acoustic factors



up to a third

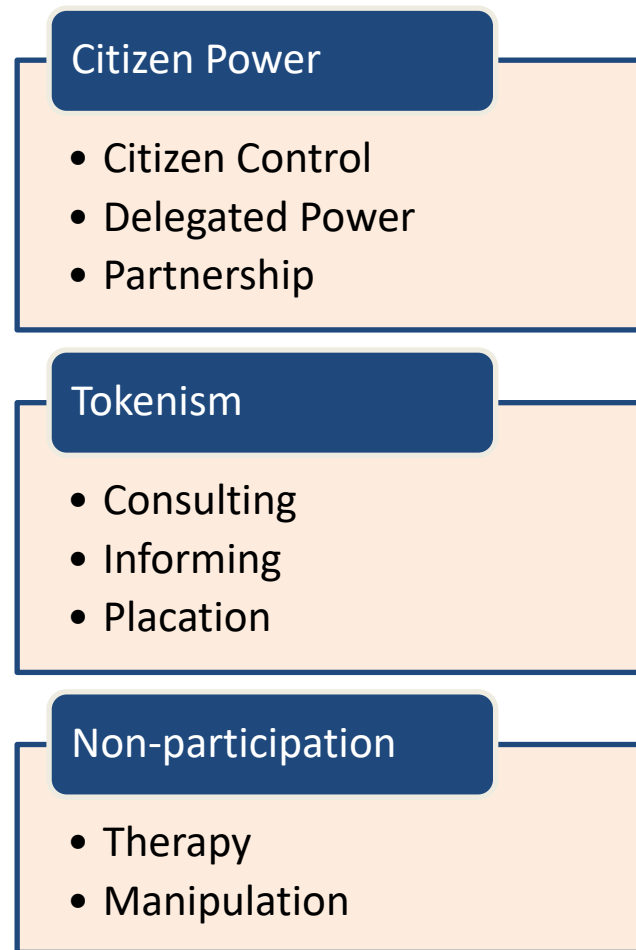
Categorisation of non-acoustical factors: Modifiability & importance



Sanchez et al. (2015)

Co-Creation & Collaboration

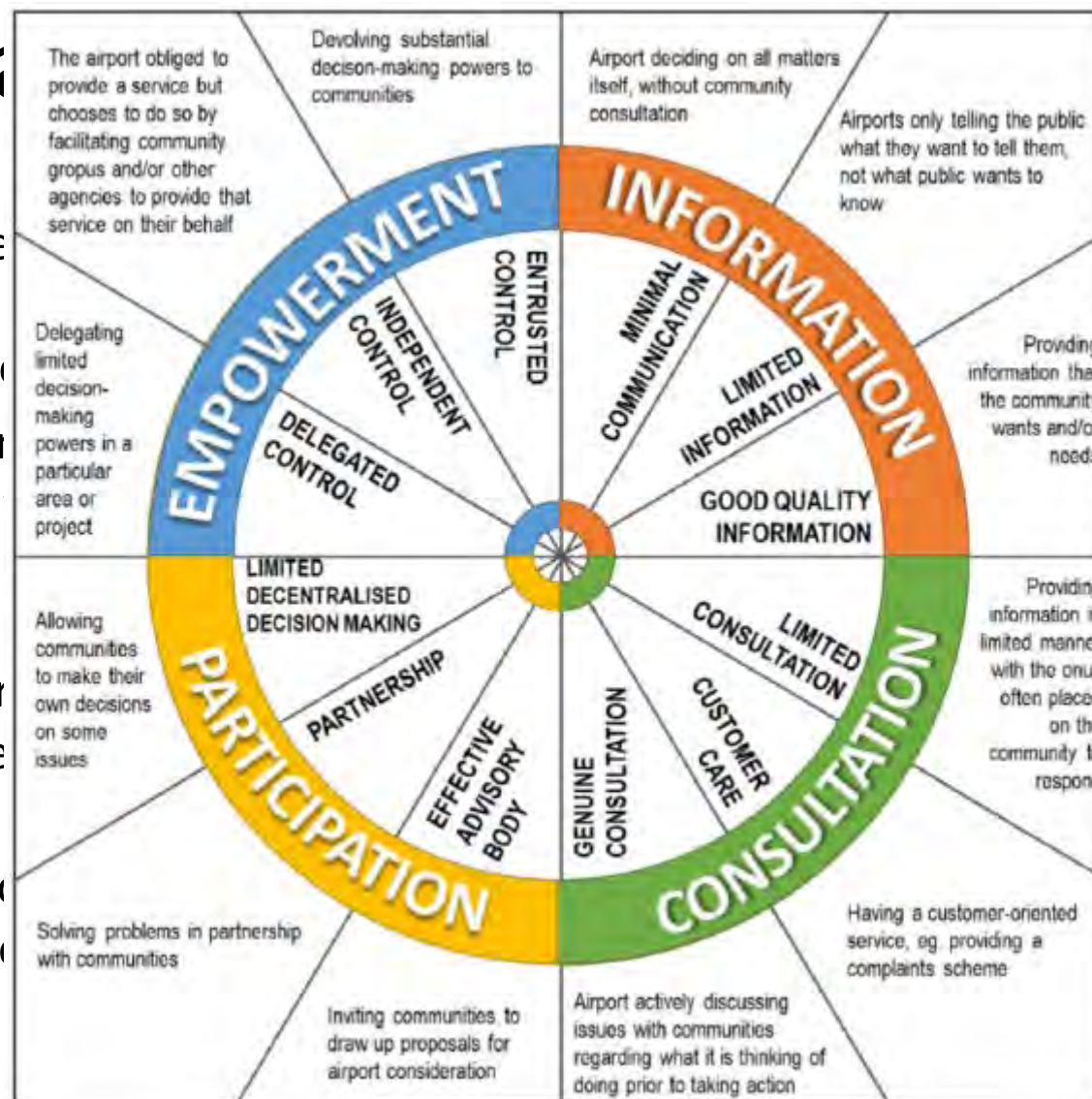
- THE key current trend in good communication (and research) is co-creation.
- This implies industry stakeholders working together and with their communities to develop a mutual understanding of local needs, experiences, expertise.
- This means, co-creating outcomes, methods and results.



- Citizen Control is desirable.
- But airports remain profit making firms, with strict legislative controls.
- How high is it feasible to go?

Co-Creation

- THE key current good community research) is co-creation
- This implies involving stakeholders together and communities mutual understanding local needs, expertise.
- This means, co-creation outcomes, more results.



Citizen Control is desirable.

But airports remain profit making firms, with strict legislative controls.

How high is it feasible to go?

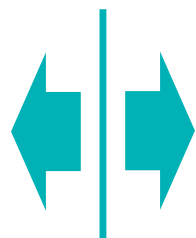
Conditions for ‘Ideal Speech’

Communication and engagement is more effective when:

- Led by an **independent voice**.
- Where **hierarchies are levelled**.
- Underpinned by a ‘**common language**’ that is comprehensible to all.

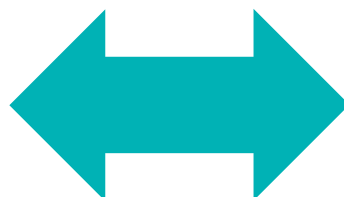
Fairness	Competence
Anyone may participate	Minimal standards for cognitive and lingual competence
Assert validity claims	Access the knowledge
Challenge validity claims	Consensually-approved translation scheme
Influence final determinations of validity	Most reliable methodological techniques available

Public Engagement with Science and Technology



Wide Scope

Qualitative
non-expert
can inform
and deliver
on outputs.



Two Way

Discussions
take place with
empathy and
based on
mutually
agreed
objectives.



Levelled hierarchies

Stakeholders
have valid
expertise to be
shared.
Consensus can
be reached.



Data owned by society

Available to
all and fully
transparent.

Not easy an easy task!

- Many airports are making valiant efforts to engage with their communities – if these are to be built on then there is need for *systematic evaluation* of these experiences such that practice can be enhanced over time



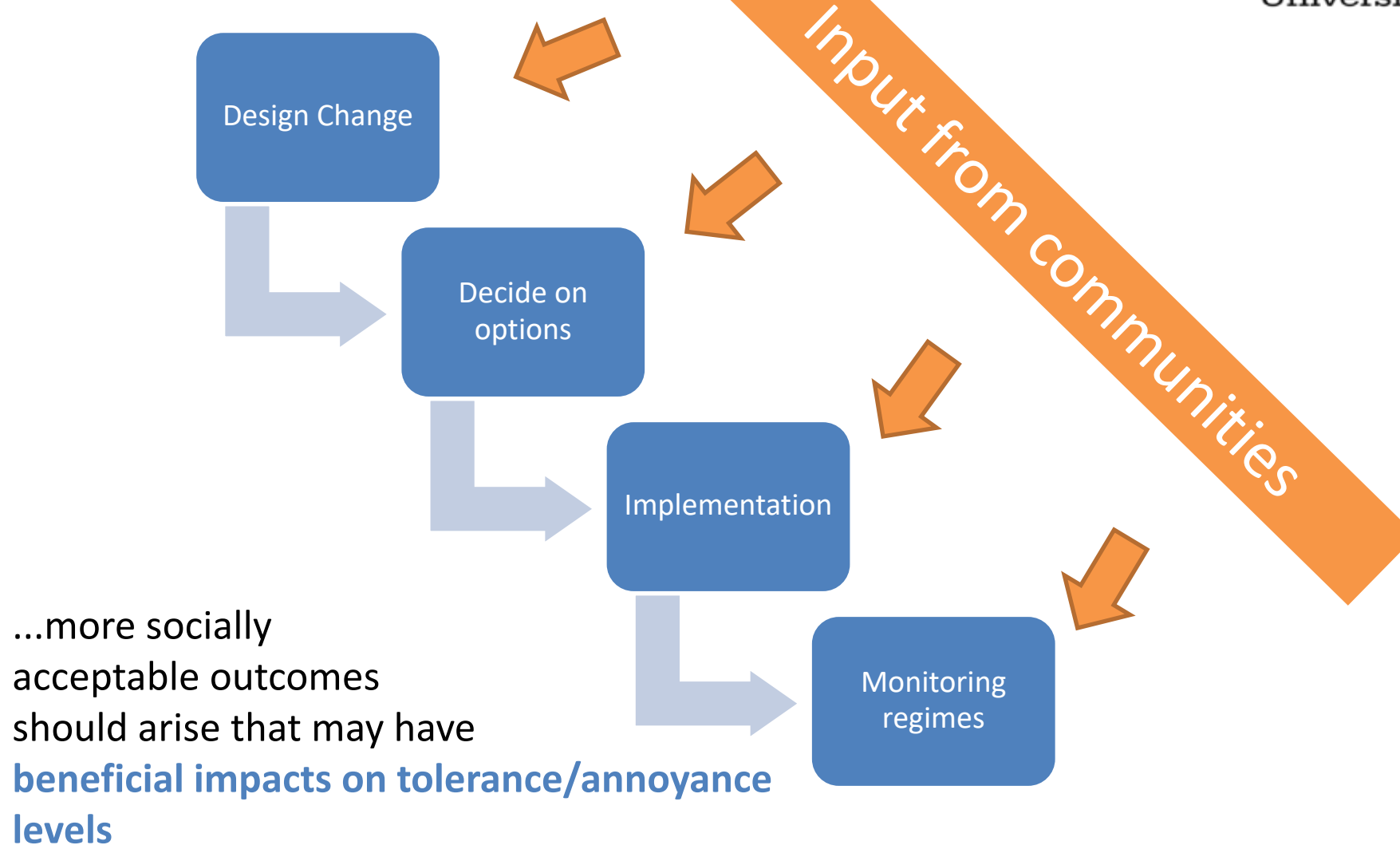
What we've learnt

- Communication needs to be:
 - Comprehensible
 - Meaningful
- Noise/annoyance can't be treated in isolation
- Requires a citizen centric dialogue over *acceptable* airport operation and development
- Aim should be to optimise societal outcomes

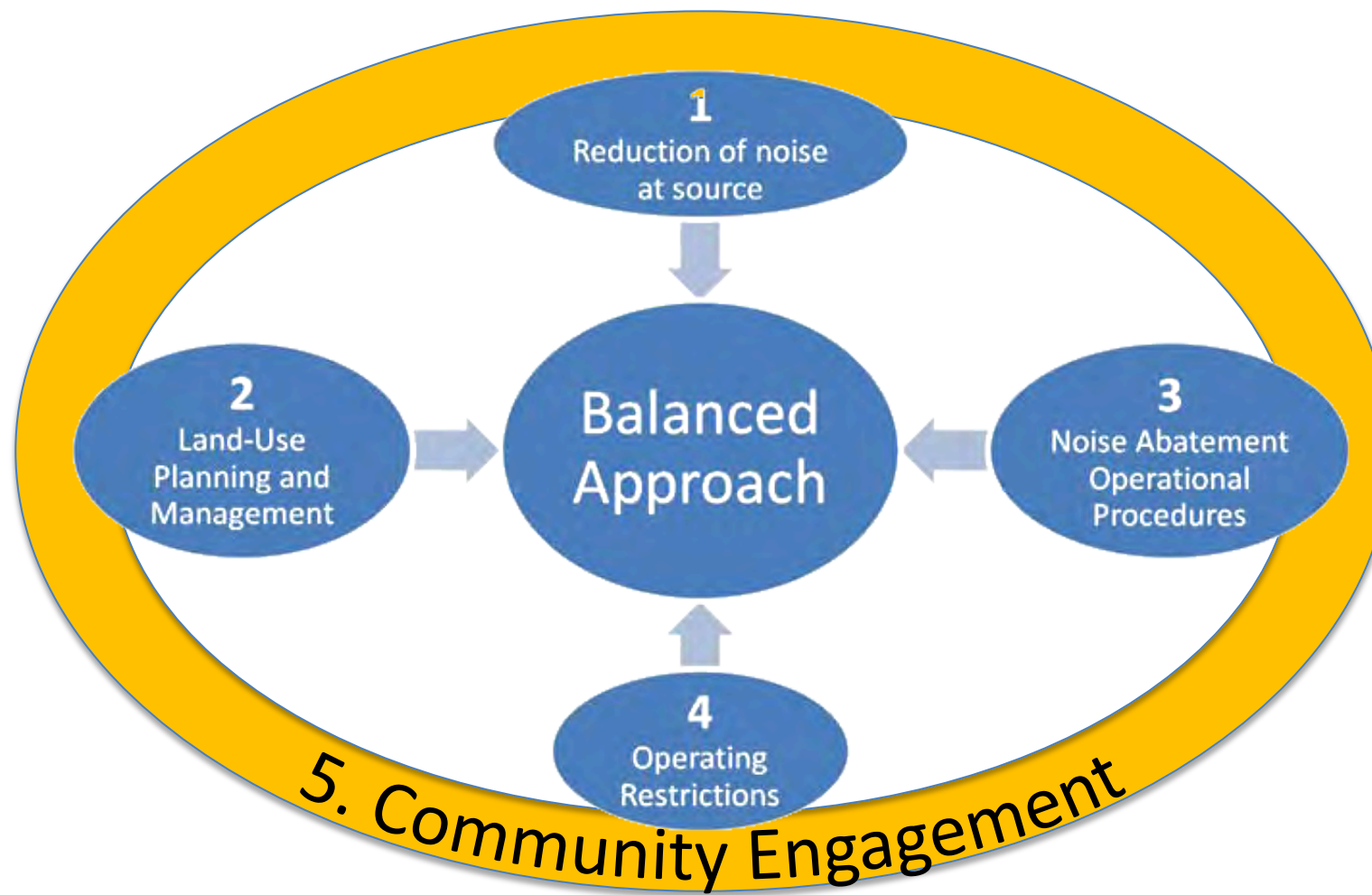


Is COVID recovery an opportunity to improve airport-community relationships?

Involve communities



5th Pillar to Balanced Approach



Example of engaging communities

Real Impact vs Calculated Noise

Personal attention ->
every person is different

Show commitment with community

In ANIMA also investigating:

- *Visual Impact*, and
- *Community Campaign*



Virtual Community Noise Simulator (VCNS)

Dimensions to Quality of Life



QoL Aspects		
Dimensions	Topics	Examples of Airport Actions/ Interventions
Health	Personal health	LAQ improvement campaigns, noise abatement
	Access to healthcare	-
Economic and physical safety	Economic safety	-
	Physical safety	Third-party risk control
Natural and living environment	Environmental conditions	LAQ monitoring Noise mitigation interventions Support for litter collection schemes
	Access to basic services, recreational/green areas	Investment in community sports facilities
	Access to basic services	Support for public transport services
Education	Educational attainment	Support for local schools
	Educational activity (formal and informal)	Staff volunteering in local educational institutions
	Population going on to tertiary education	Staff volunteering in local educational institutions
Main airport activities	Having a main activity	Hire locally
	Satisfaction	Offer on the job training, career opportunities
Material living conditions	Income	Sensible and transparent compensation for top management
	Material conditions	Insulation program to improve housing
Leisure and social relations	Availability	Sponsorship for local community groups
	Quality	-
	Access	-
Governance and basic rights	Attitude	Fair and transparent procedures
	Equality	-
	Active citizenship	-
Overall QoL	Life satisfaction	-
	Affects	-
	Purpose	-

Requires novel approaches

- Informed by better understanding of:
 - the ‘value’ of previous interventions
 - individual/community interaction with the soundscape
- Identify and monitor outcomes from interventions
 - Perceptions of fairness/Trust
 - Acceptability of outcomes
 - Attitudes
 - Perceived control
- Can COVID be conceived of as an unplanned intervention

Messages for post-COVID aviation recovery

- **Focus of communication and engagement**
 - Is there a greater willingness among stakeholders (including local communities) to engage in a wider discussion about the benefits and costs of aviation and how these should be managed to optimize societal benefits in recovery from COVID?
 - Can this provide the impetus for on-going engagement with a wide range of community representatives?
- What **issues need to be covered?**
 - Evidence suggests that noise management needs to be considered as part of a wider dialogue between airports and communities on QoL.
 - QoL priorities need to be co-created in a post-COVID world
- Developing a consensus view on what successful recovery looks like may **require collecting new data, using different techniques** to those traditionally employed in noise management interventions



Drawing: Mordillo; photo: R. Gusk

Thank you for your attention

Contact: Paul Hooper
p.d.hooper@mmu.ac.uk

Roalt Aalmoes
roalt.aalmoes@nlr.nl

— Q&A

Moderated by Roalt Aalmoes, Netherlands Aerospace Centre

– Future Outlook at European Level

Moderated by Laurent Leylekian, ANIMA Coordinator

11:25 Future Outlook at European level – moderated by Laurent Leylekian, ANIMA Coordinator

Philippe Lenne, Policy officer, DG MOVE

Michael Kyriakopoulos, Senior Research Policy and Programme Officer in the Aviation Unit of DG Research and Innovation



Philippe Lenne, Policy Officer, DG MOVE

Future Outlook at European Level



Future Outlook at European level

Webinar: Aviation Noise Perception after COVID-19

30 June 2020

Philippe Lenne
Policy officer

European
Commission



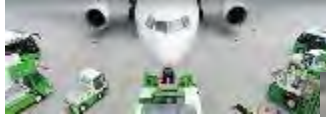
Horizon 2020

A long term perspective

- COVID19 situation had a considerable impact on the whole sector.
- The commission responsibility is to ensure a rapid recovery within the limit of what the Legislation allows.
- However, a long term perspective shall be maintained when it comes to sustainability of aviation.
- Short term environmental effects have been perceived (noise, local emissions) but long term Climate impact is not affected.
- It is important not to release efforts toward the developments of a more sustainable Aviation.



About noise and local air quality



Airports activities will be a strong focus in the future aviation strategy



Fleet renewal



REGULATION (EU) No 598/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 16 April 2014
on the establishment of rules and procedures with regard to the introduction of noise-related
operating restrictions at Union airports within a Balanced Approach and repealing Directive
2002/30/EC

EN

Official Journal of the European Communities

DIRECTIVE 2002/49/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 25 June 2002
relating to the assessment and management of environmental noise

**Keep monitoring
the application
of noise
legislation**



**Increase the industrialisation
of ATM solutions currently
available**

Michael Kyriakopoulos, Policy Officer,
DG for Research and Innovation, Clean
Planet – Low Emission Future Industries

— Q&A

Moderated by Laurent Leylekian, ANIMA Coordinator



Thank you!