

# How European Airports implement Next Generation KPI's

By Siete Hamminga, CEO Robin Radar Systems

ICAO / ACI Wildlife Strike  
Hazard Reduction Symposium

ICAO Headquarters, Montréal, 16-18 May 2017





Pilot report: minor blood stain on the left wing. No damage.

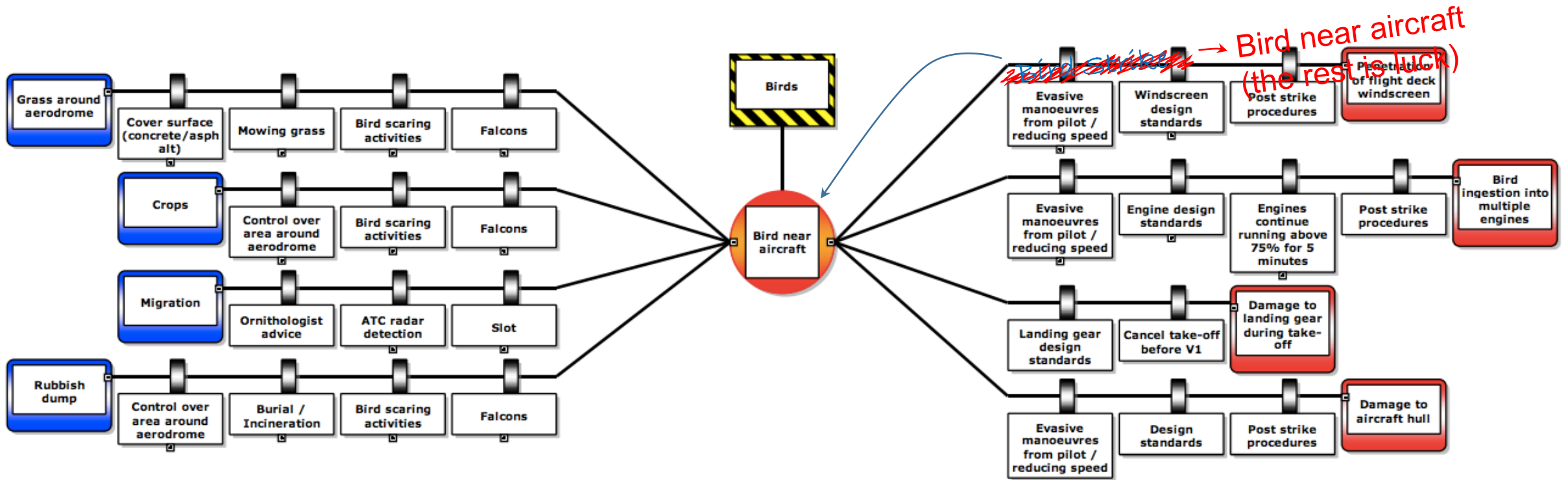
Small dead bird on the runway but no pilot report. (Other airports may not have counted this one.)

||||

6 instead of 5 last month = ~~increase of 20%. So we became 20% less effective!!~~

16 gulls, three of them in the engine, one on the nose. >> emergency landing

# “Bow tie” Risk Model







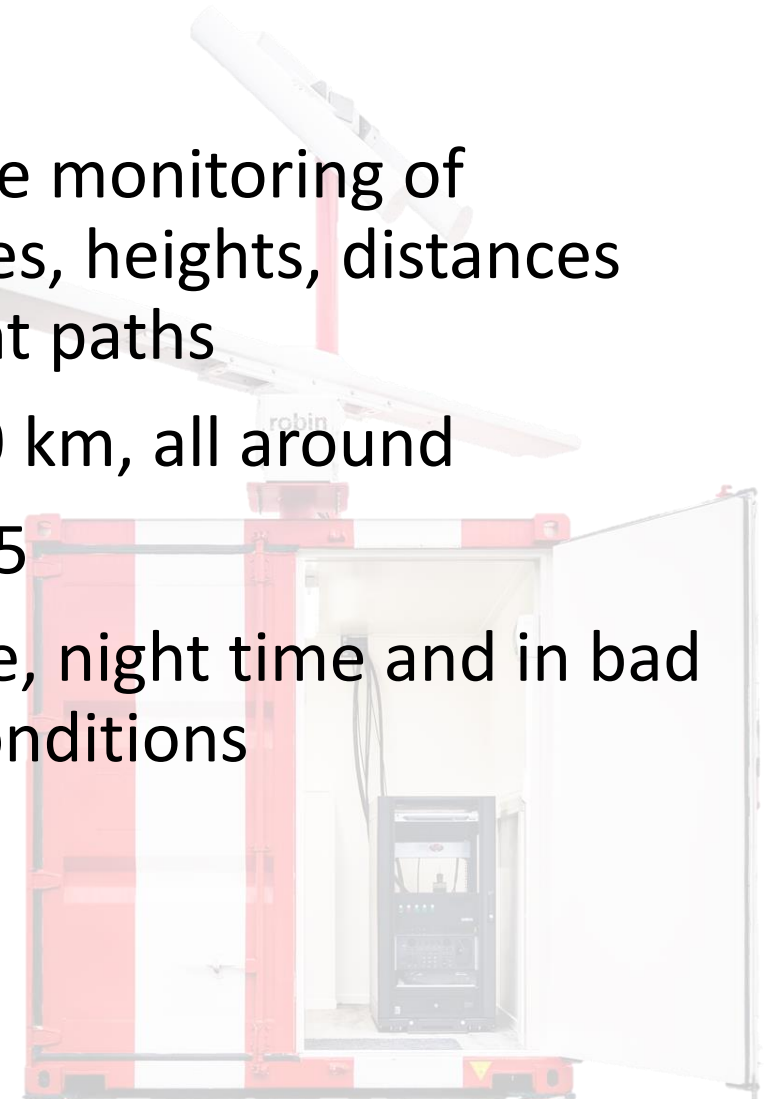
## FROM

- Individual expert interpretation of quantities, heights, distances, flight paths
- Range up to 1 km, directional
- Sample based
- Depending on visual conditions, day-time only

## TO

**...and;**

- Objective monitoring of quantities, heights, distances and flight paths
- Up to 10 km, all around
- 24/7/365
- Day-time, night time and in bad visual conditions





Live mode

robin  
radar systems

100% 13:27

EVENT REPLAY

BIRD ACTIVITY

BC INFORMATION

- Aircraft
- Flock
- Slow Target
- Medium bird
- Small bird
- Vehicle
- Vehicle slow
- Unknown



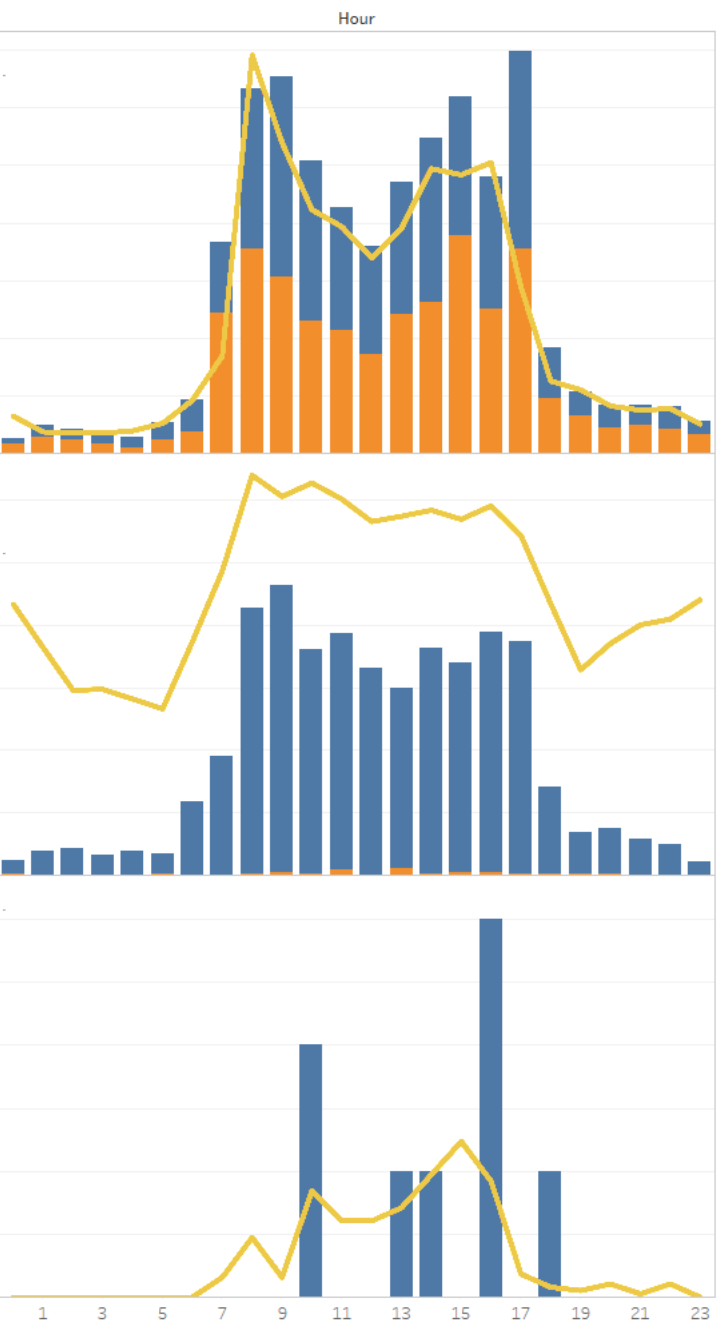
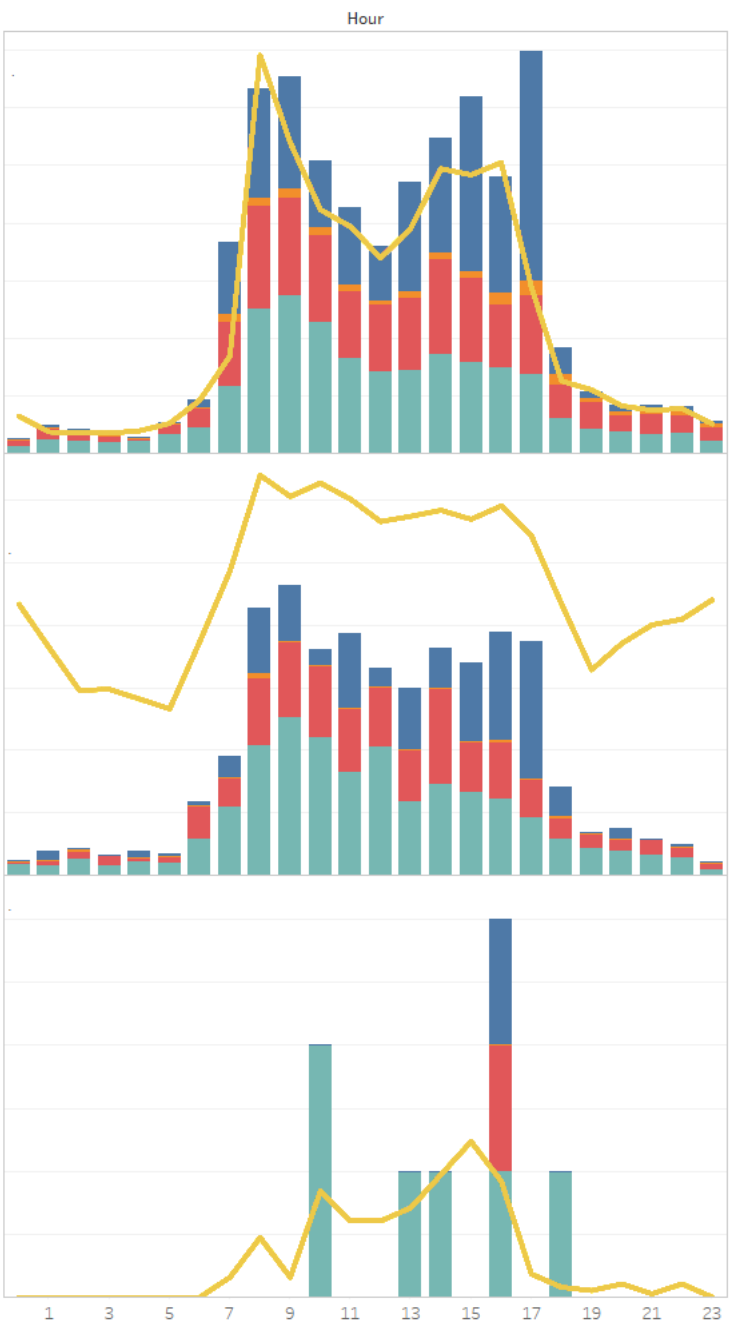
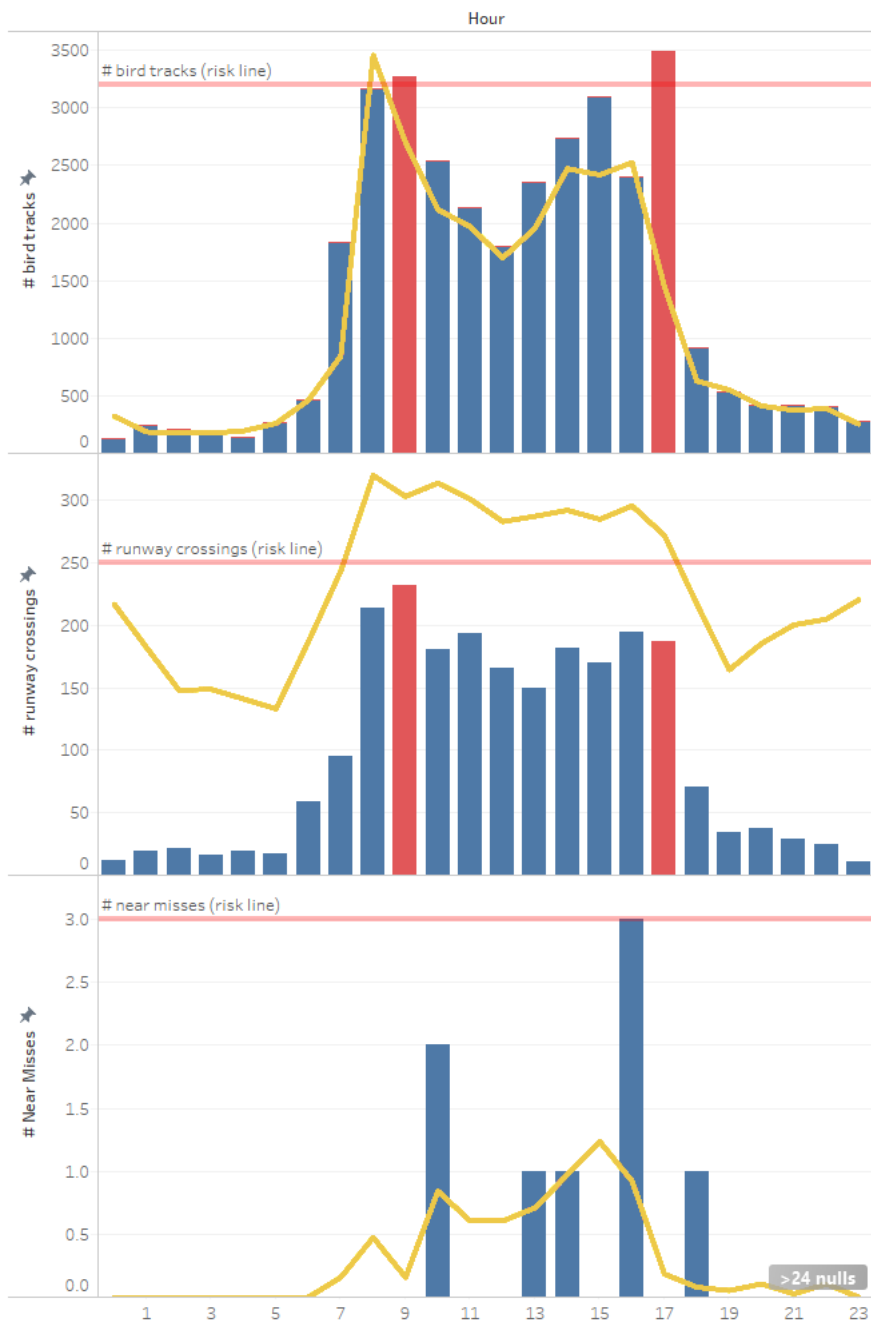
SONY

# Birds during the day

# Type of birds

# Origing of bird tracks

Date  
2/5/2017



Bird type  
All

Start date comparison  
1/1/2017

End date comparison  
2/7/2017

# bird tracks (risk line)  
3,200

# runway crossings (risk line)  
250

# near misses (risk line)  
3

Start Airport  
 At airport  
 Outside airport

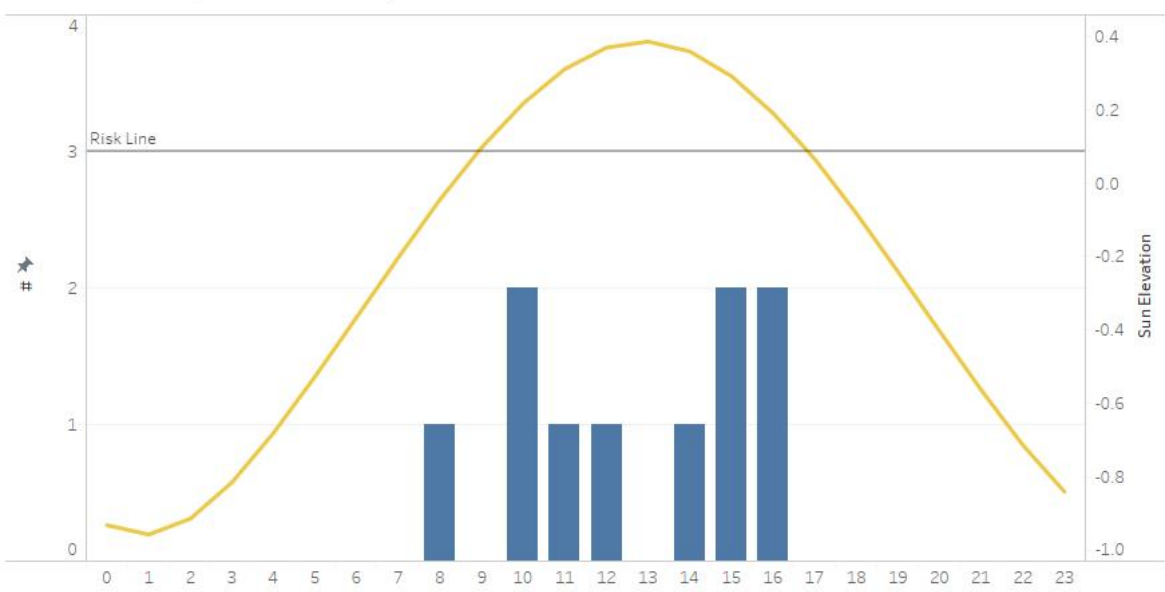
Classification  
 Flock  
 Large bird  
 Medium bird  
 Small bird

Risk  
 Above risk level  
 Below risk level

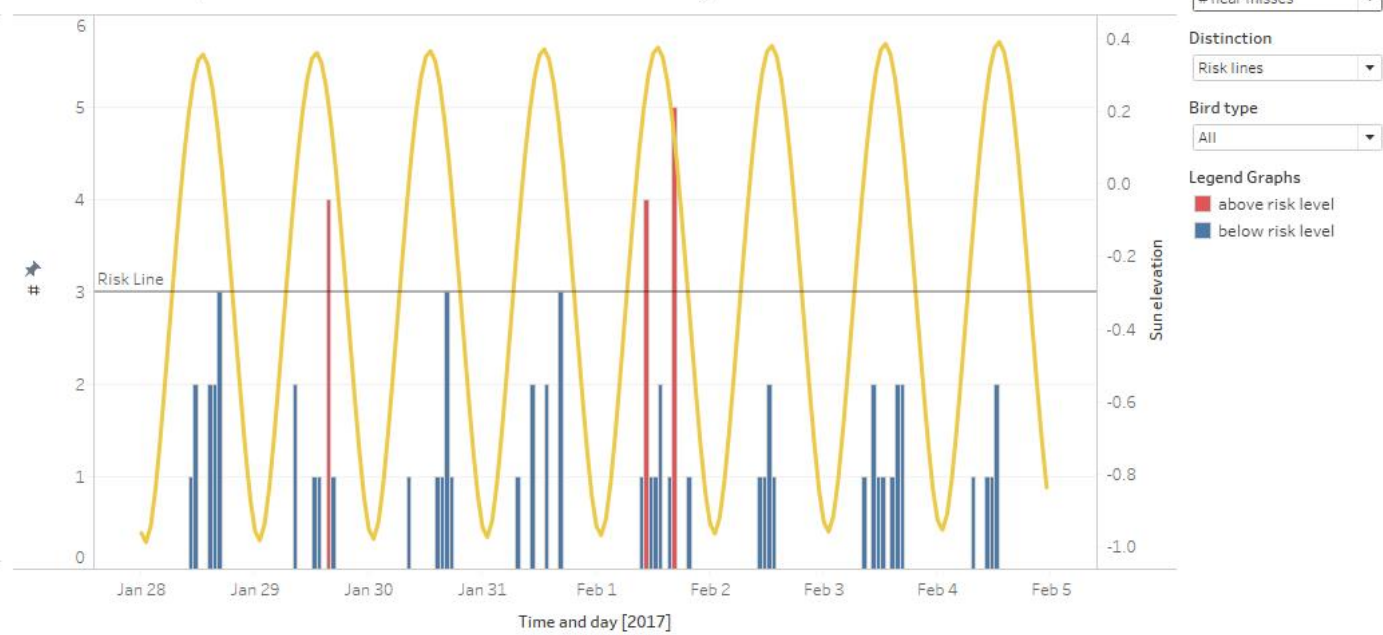




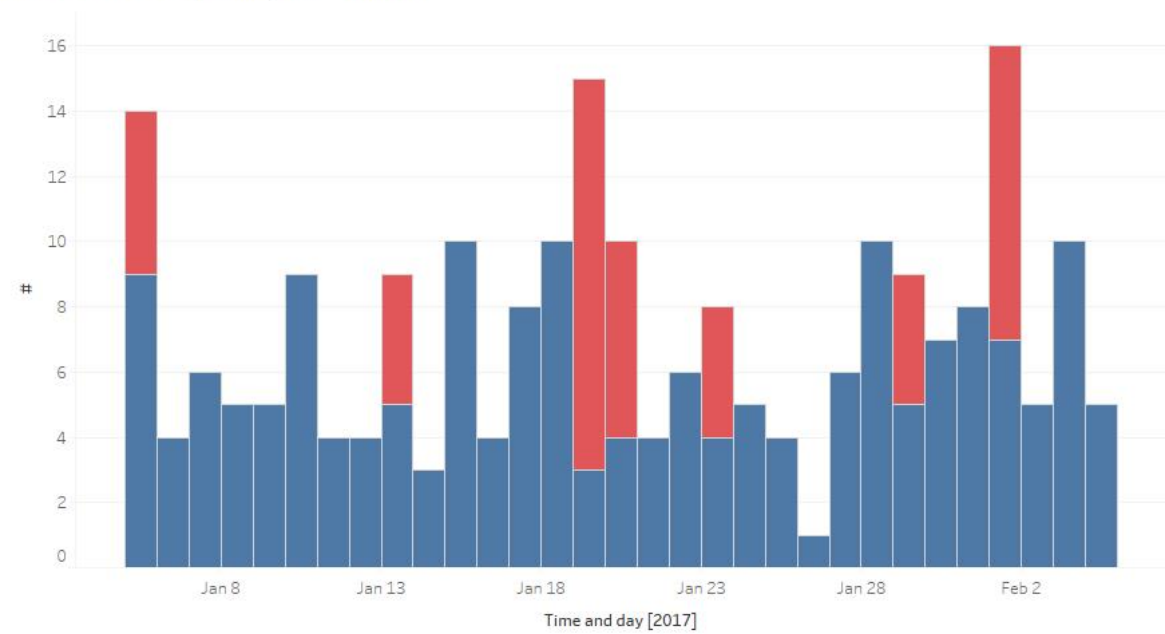
# near misses per hour last day



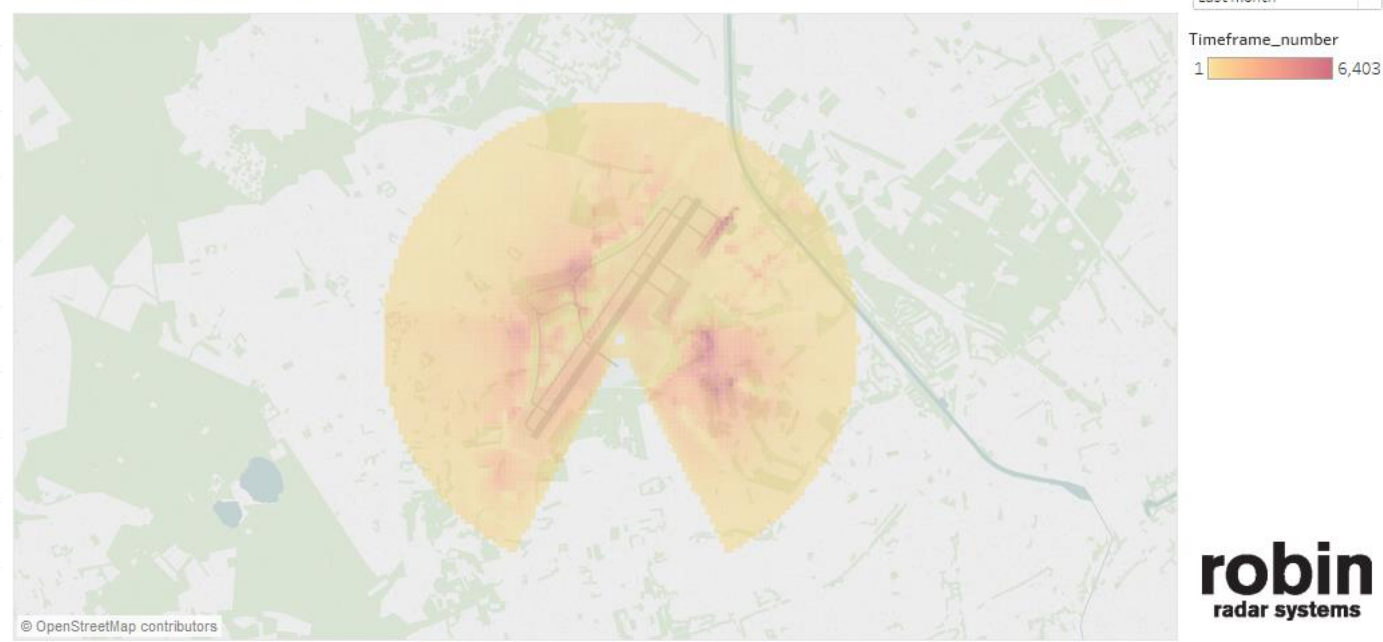
# near misses per hour and sun elevation last seven days



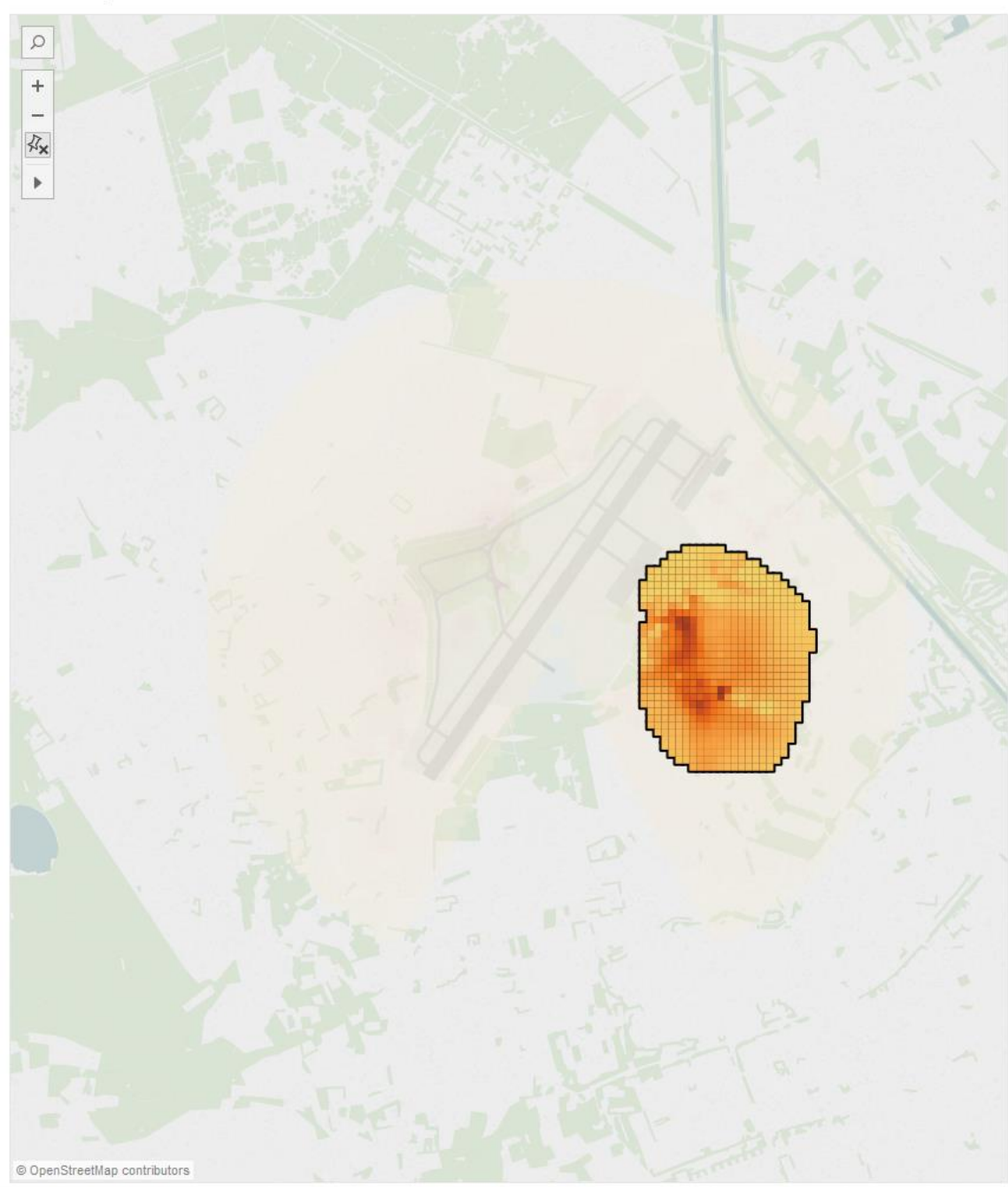
# near misses per day last month



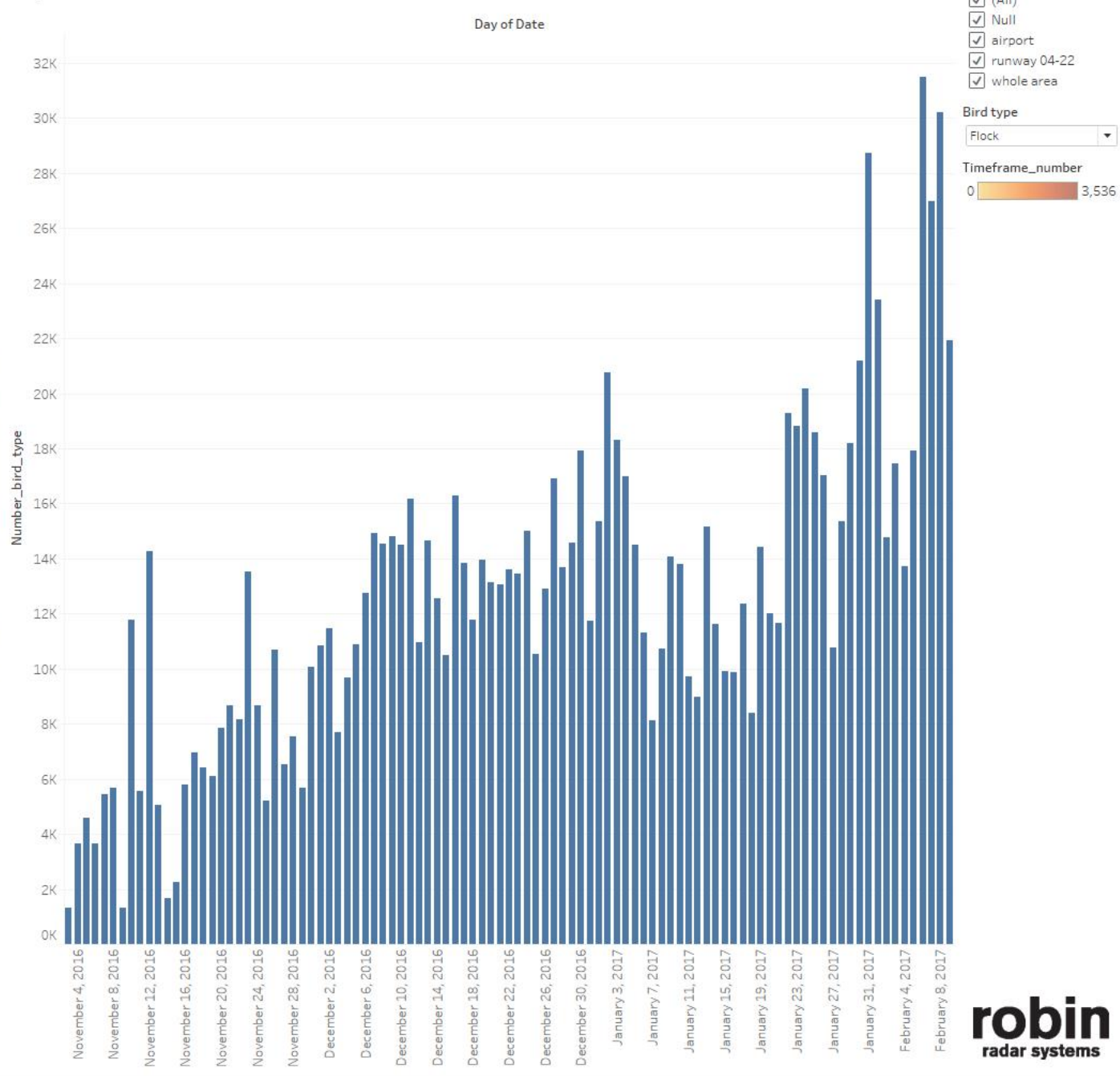
Heatmap of Area for All tracks



# Heatmap of Area for Flock tracks



# Map\_filter



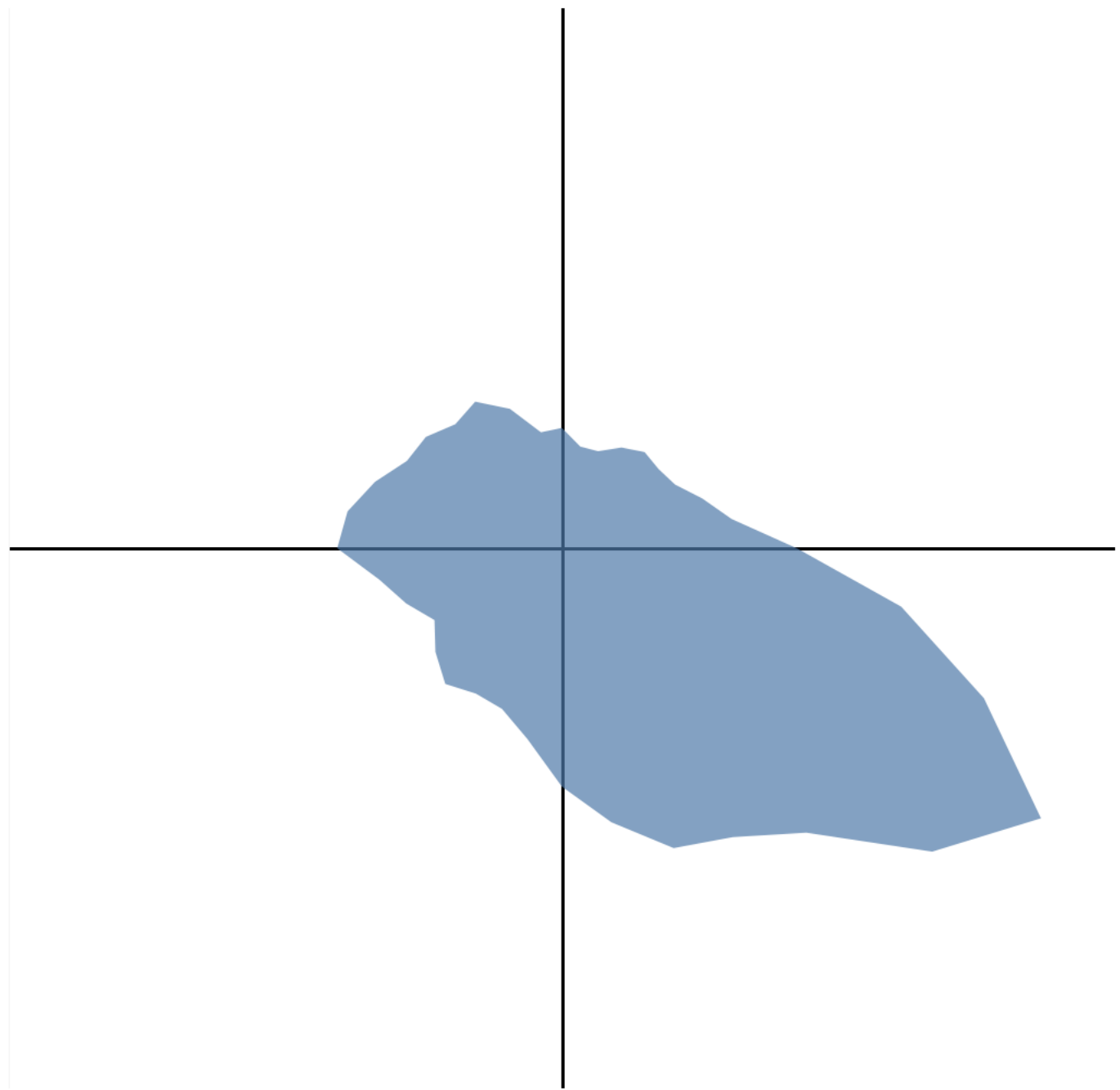


Hour of day

- (All)
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23

Bird type

Flock



# Airports in Europe start using next generation KPI's based on continuous bird radar monitoring







A decorative graphic featuring a central black circle containing the text "14 Sept. 2017". The circle is surrounded by several wavy, dashed lines in blue, green, yellow, and red, extending horizontally across the frame.

14 Sept.  
2017



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**robin**