COSMOS

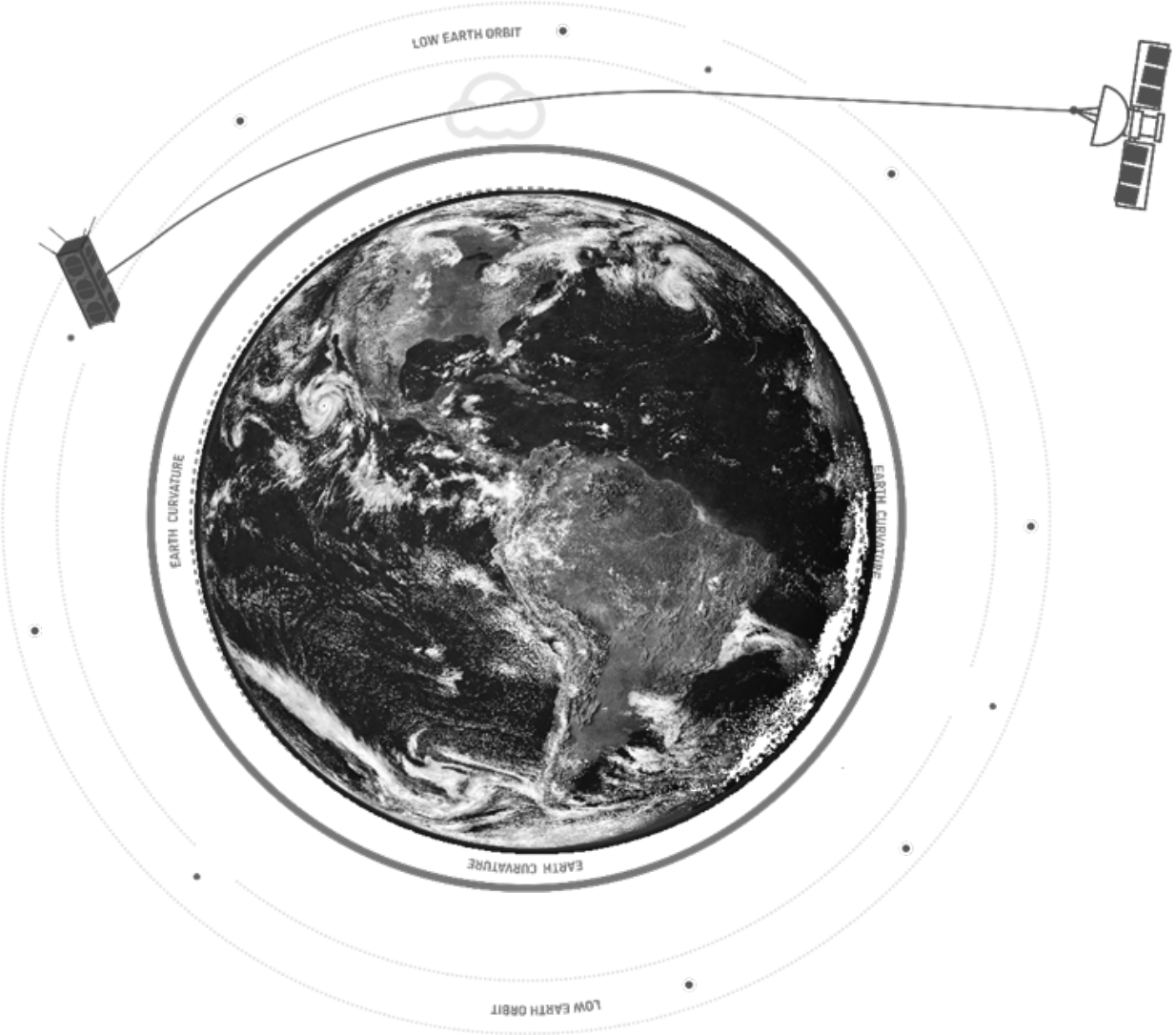
European Global Navigation Satellite Systems Agency

HORIZON 2020

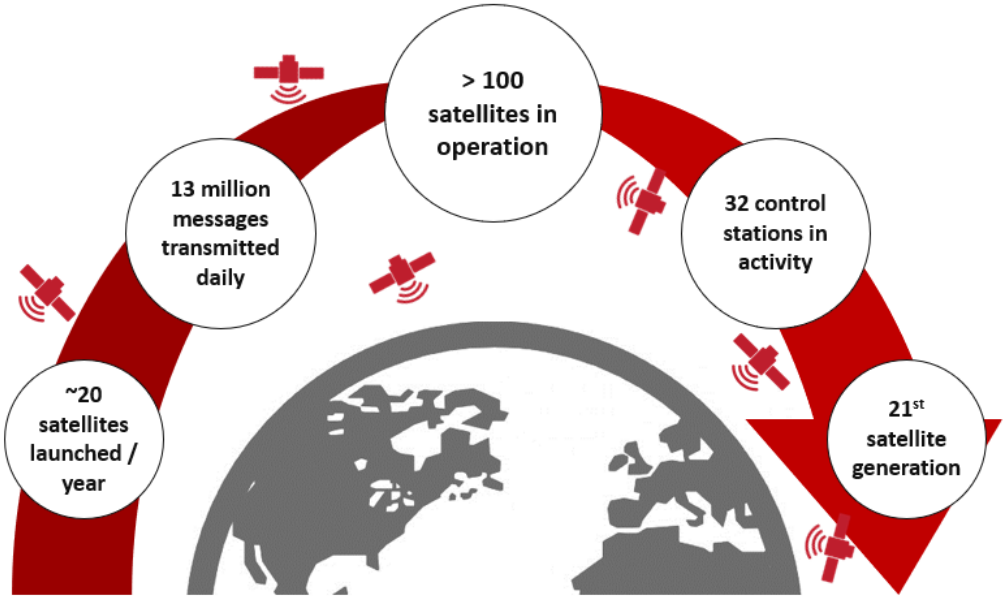
GNSS-Based Earth Observation
The next big wave of GNSS downstream applications

Dan Isaac
Spire Global
SME
Luxembourg
Spire Global Luxembourg, 33 Rue Sainte-Zithe, 2763 Luxembourg, +352 621285181

E-GNSS IS MORE THAN JUST POSITIONING, NAVIGATION AND TIMING

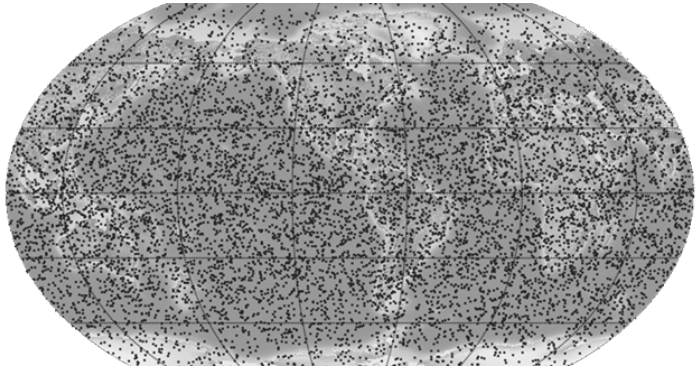


SPIRE COLLECTS THOUSANDS OF ATMOSPHERIC RADIO OCCULTATION PROFILES EVERY DAY

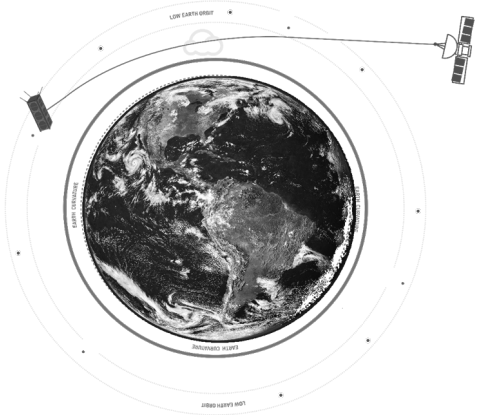


Geographic distribution of the WMO's 11.000 Global Surface Observation network

Geographic distribution of Spire's daily collected profiles



Spire's "LEMUR" satellite with RO payload (~500 Km - LEO)



GNSS Satellite (Galileo, GPS, Glonass, Beidou)

E-GNSS-BASED EARTH OBSERVATION CAN DIRECTLY CONTRIBUTE TO WEATHER PREDICTIONS AND DERIVED PRODUCTS AND SERVICES FOR MULTIPLE INDUSTRIES

MORE DATA MORE OFTEN
The constellation dramatically increases the number of radio occultations received

EXPONENTIALLY BETTER FORECASTS
More data points results in more precise and actionable weather models

REAL ECONOMIC BENEFITS
10% of all losses due to routine weather variation can be mitigated

FASTER REACTION TIME
Reaction time can be reduced before catastrophic weather events arrive

WE ARE CONVINCED THAT THE NEXT PILLAR OF E-GNSS DOWSTREAM APPLICATIONS IS EARTH OBSERVATION (PNT&EO)

WE ARE LOOKING FOR PARTNERS THAT CAN HELP US GROW THIS BEURO ECOSYSTEM