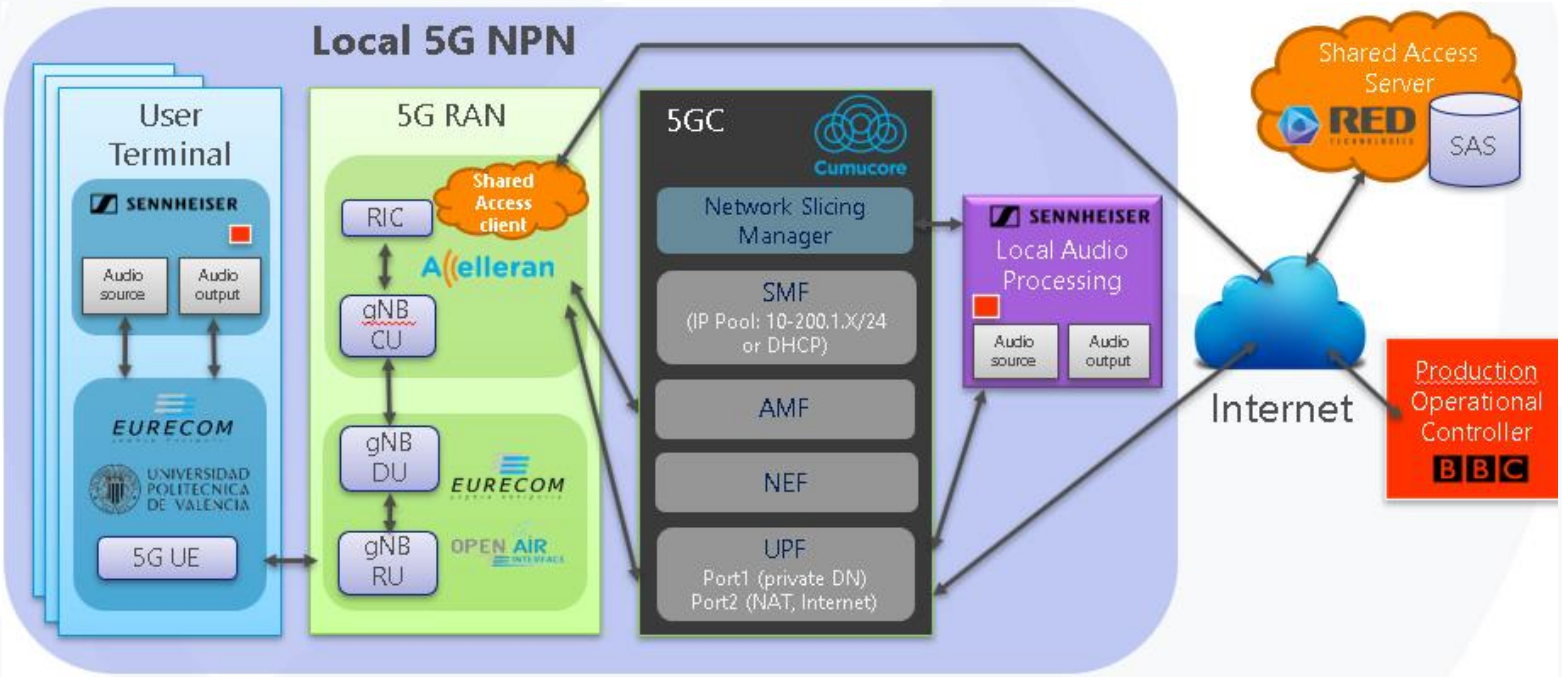
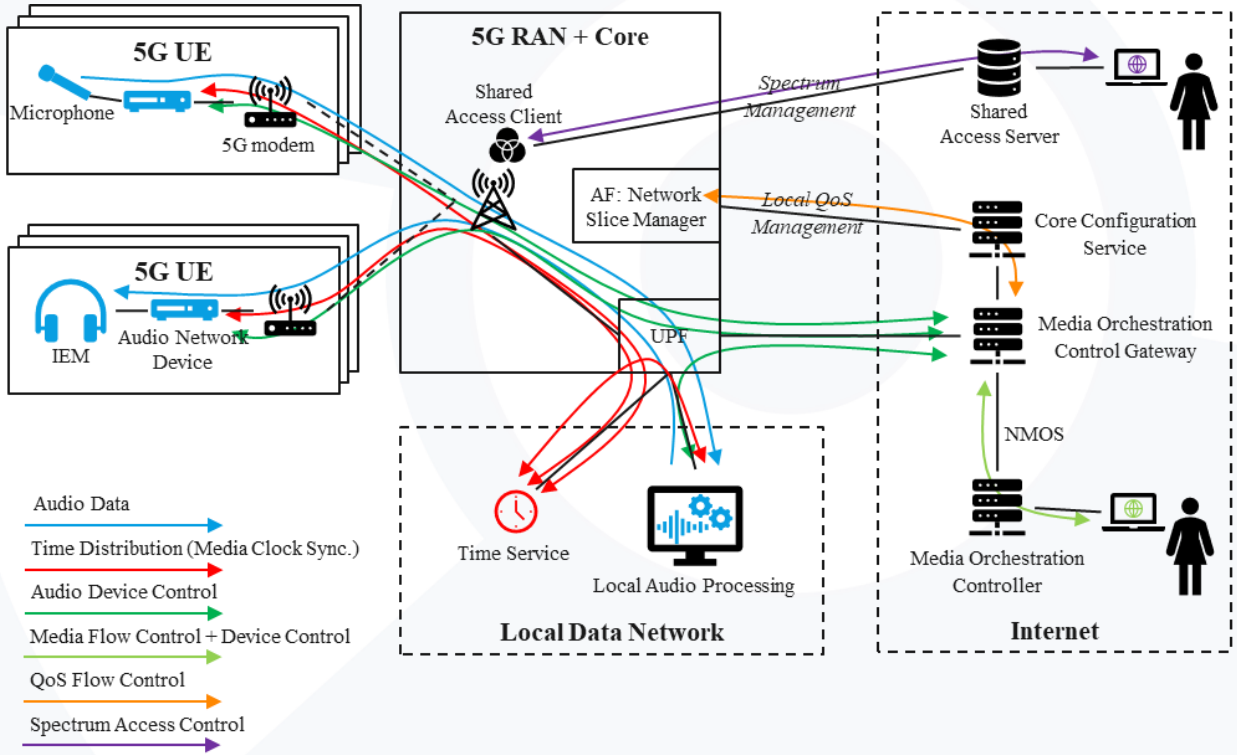
Spectrum sharing for Live Audio Production

ICT-42-2020
5G core technologies innovation

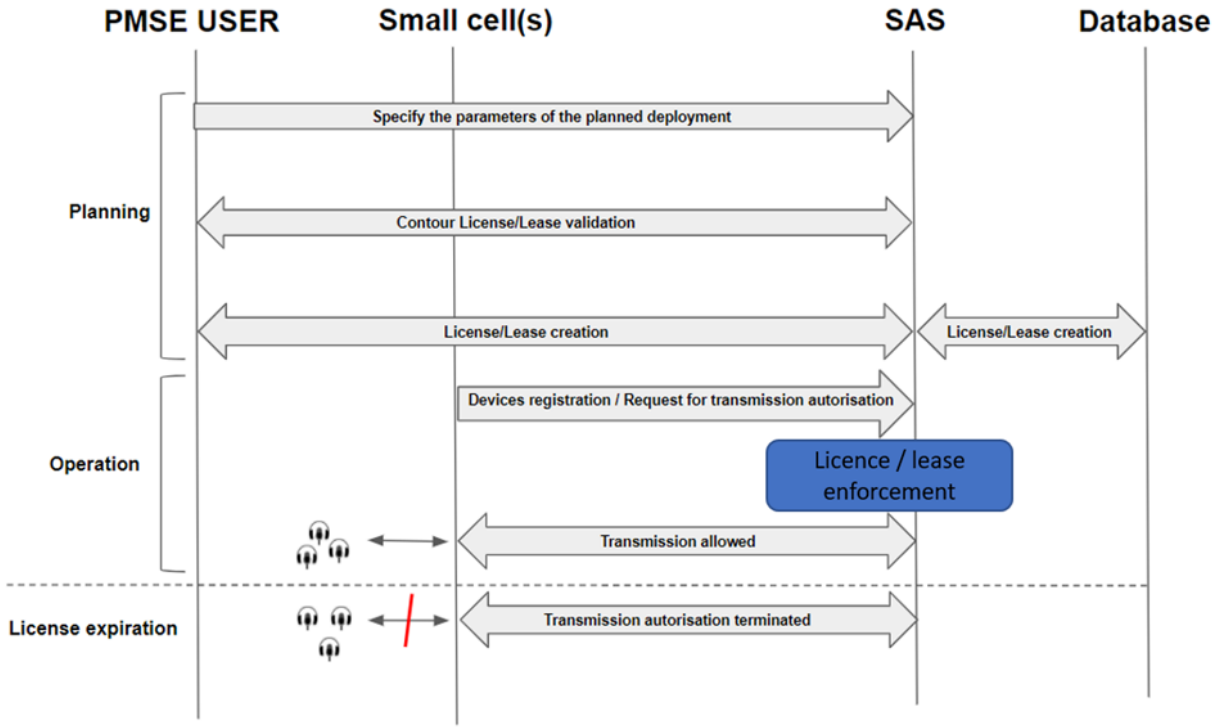
Live Audio Production architecture



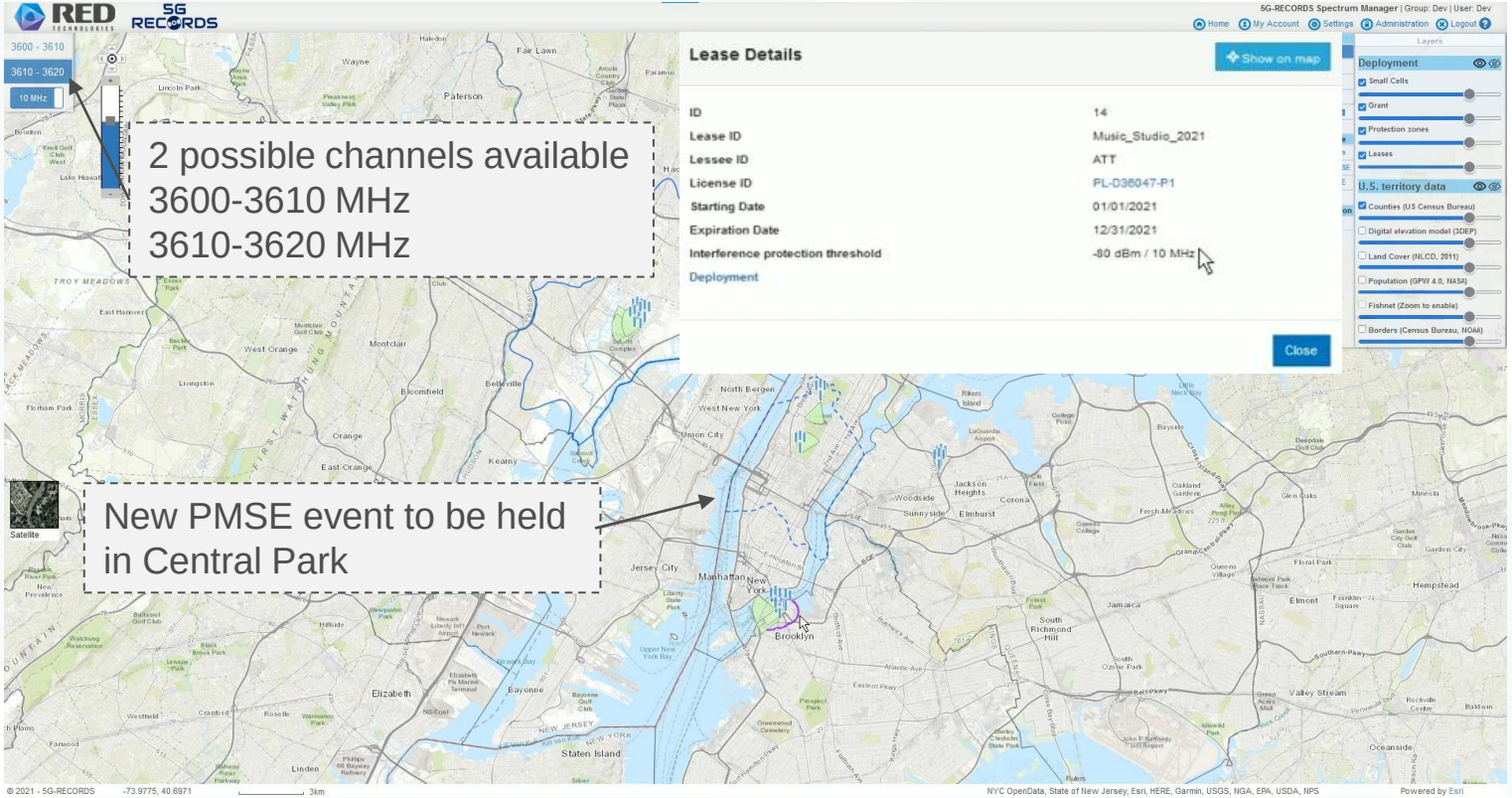
Live Audio Production flows



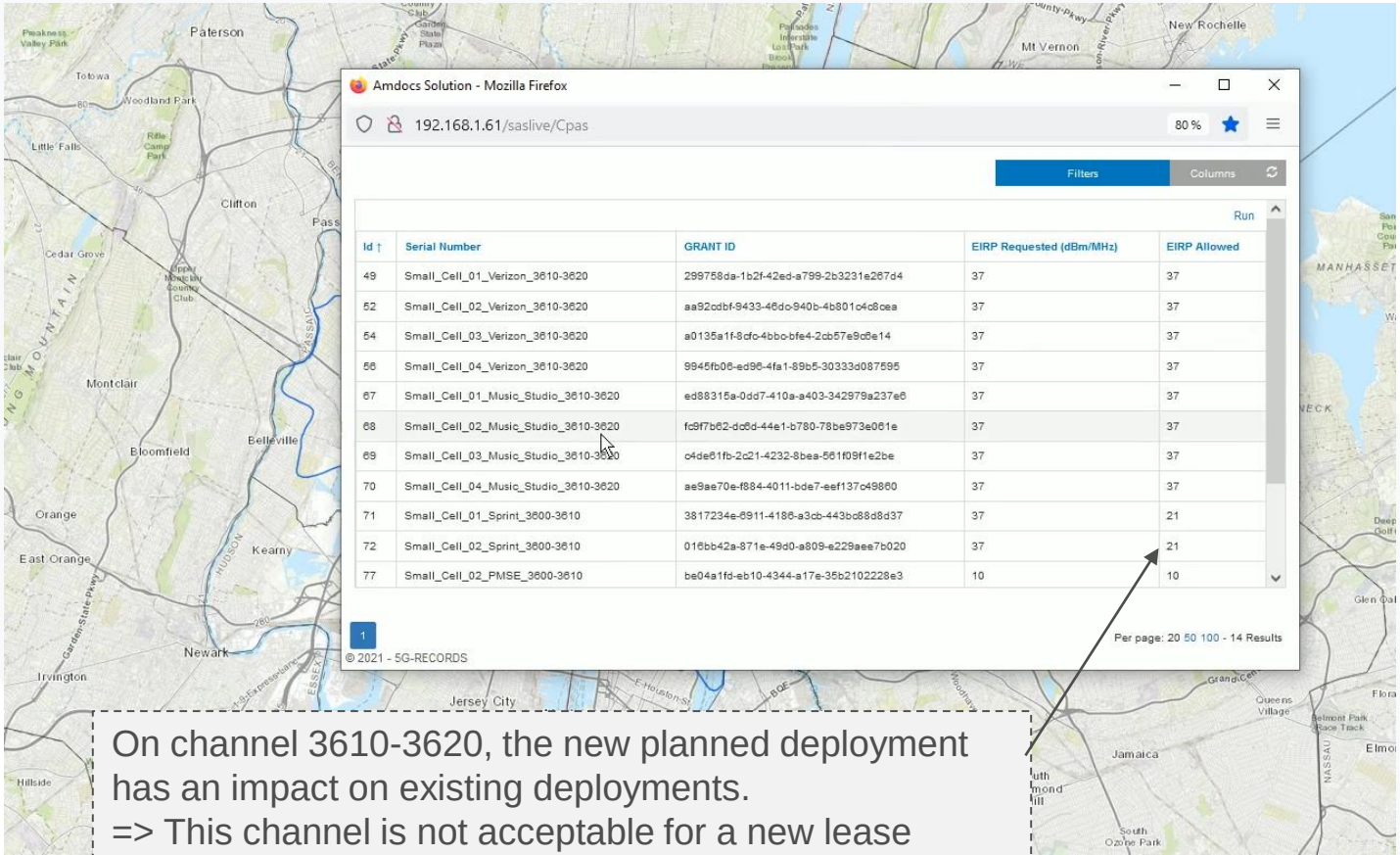
PMSE setup and operation



Example of PMSE setup (1/2)



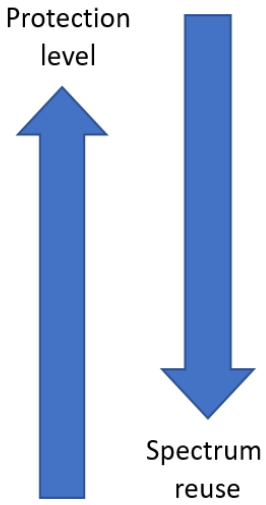
Example of PMSE setup (2/2)



On channel 3610-3620, the new planned deployment has an impact on existing deployments.
=> This channel is not acceptable for a new lease

Analysis on leases regulatory options

Types of Protection	Lease information	Spectrum Manager role
Guaranteed protection from interference **and guaranteed transmission power**	Contour + Interference protection threshold **within** the contour + Allowed Deployment	Determines the allowed transmission power at lease creation.
Guaranteed protection from interference (CBRS model)	Contour + Interference protection threshold **within** the contour	Adjusts the allowed transmission power at regular intervals (e.g., daily).
Moderate protection from interference	Contour + Interference limit **at** the contour	Adjusts the allowed transmission whenever a transmitter is deployed within the lease.
Manual coordination	Contour	Assistance during planning. Interference resolution.



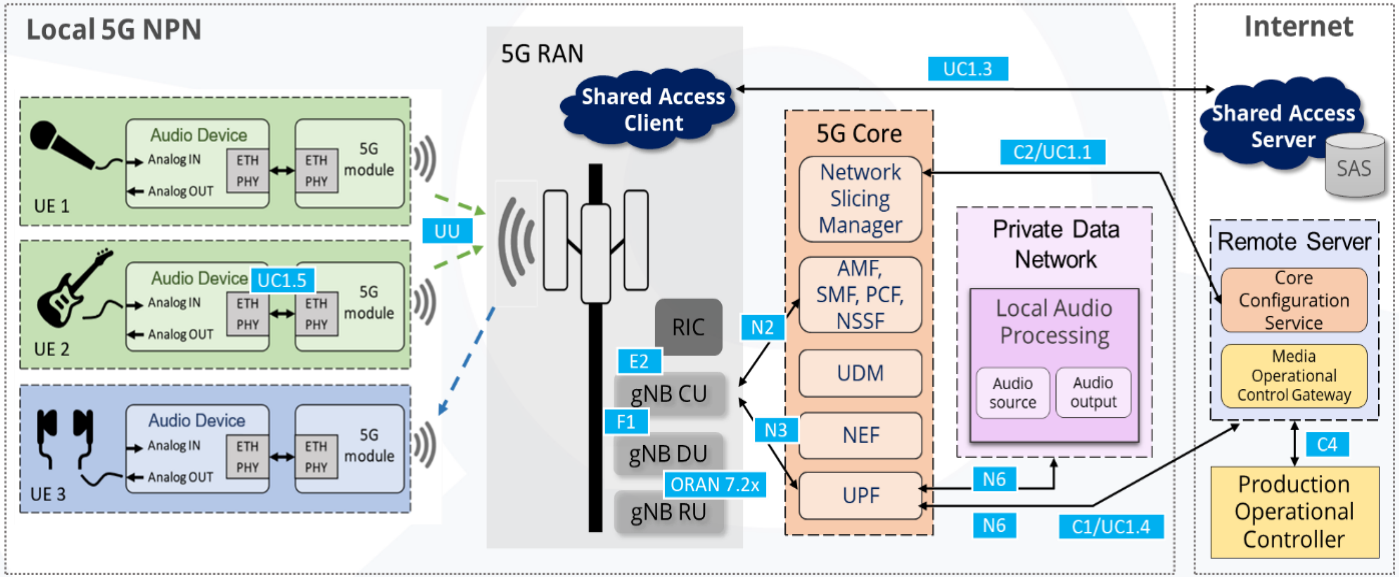
5G-RECORDS demos & publications

www.5g-records.eu/index.php/communication#videos

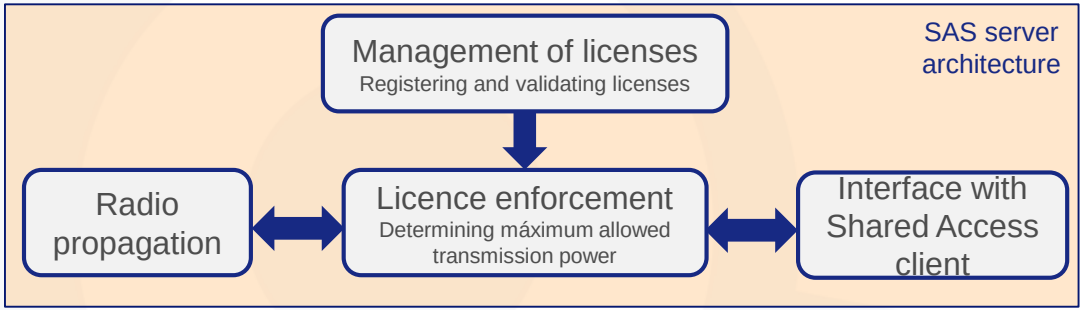
Date	Title and Information	Authors
Dec, 2020	5G-RECORDS Introduction video	BBC/UPV/TELEFÓNICA/NOKIA /ERICSSON/EURECOM/EBU/UPM
June, 2021	Use Case 1: Live audio production	SENNHEISER
July, 2021	Use Case 1: Spectrum sharing management technologies	RED TECHNOLOGIES
Oct, 2021	Use Case 3: Live inmersive content production	NOKIA/UPM/TELEFÓNICA
Dec, 2021	Use Case 3: Free Viewpoint Video - FVV-Live	UPM
Dec, 2021	Use Case 1: dRAX	ACCELLERAN
Dec, 2021	Use Case 2: 5G-enabled cellular bonding	LIVEU
Jan, 2022	Use Case 3: Edge Computing Platform	TELEFÓNICA

Backup slides

Components overview



Spectrum sharing component



Access to frequencies used by the PMSE devices in this use case is not based on exclusive licenses. Instead, **spectrum** can be **dynamically shared** over time, space and frequencies. This enables to optimize spectrum utilization.

In order to ensure a guaranteed quality of spectrum, a given user shall not be interfered more than a pre-defined threshold by other nearby users. The SAS server is responsible for determining the maximum allowed transmission power of each device.



Thank you