

5G experimentation environment for 3<sup>rd</sup> party media services



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### AppArt S.A.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101016714.



# GMedia HUB AppArt Overview





SME, founded in 2012, located in Agia Paraskevi, Athens, Greece



89% of the employees are Software Engineers and Software Developers

Current Participation in Funded Projects:

- 6G-PATH (HE)
- SUNRISE-6G (HE)
- FIDAL (HE)
- 5GMediaHUB (H2020)
- 5G-DATA (Business Innovation Greece)
- MedDietAgent (EREVNO-DIMOURGO-KAINOTOMO)



- Main focus on the development of turn-key Software Solutions for Telecoms, Energy, Banking, eHealth (Large Enterprises and Public Sector).
- Commercial projects in well known customers in Greece and Albania (e.g.Vodafone, OTE, DEDDIE, DEI).
- 6 ongoing R&D projects and 7 concluded so far, under Greek, EU and Norwegian funded Programmes.
- SME Member of 6G-IA

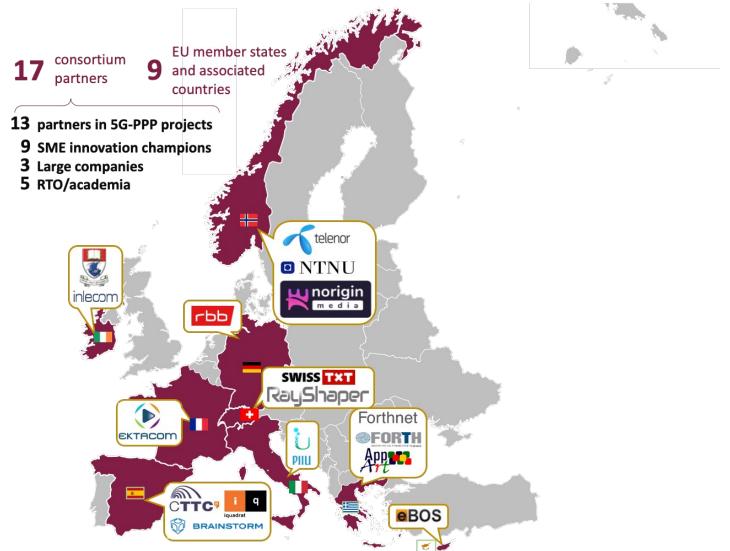








- **Grant Agreement:** 101016714
- Duration: 39 months
- **Starting date:** 01/01/2021
- Total max budget: 7 494 838.75 Euros



## **GMedia HUB** Aim, Motivation and overall Architecture





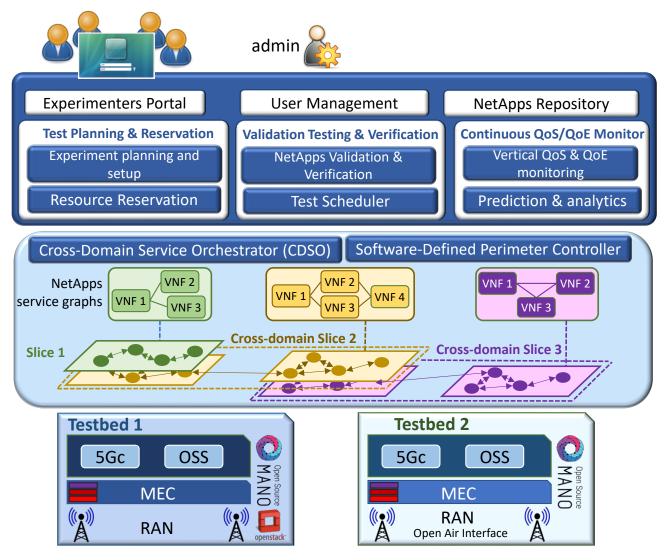
Applications developers, respectively, through an integrated, open and fully featured Experimentation Facility.

Federation of existing 5G facilities

Offer Media Verticals and Network Applications

Simplify 5G experimentation for SMEs

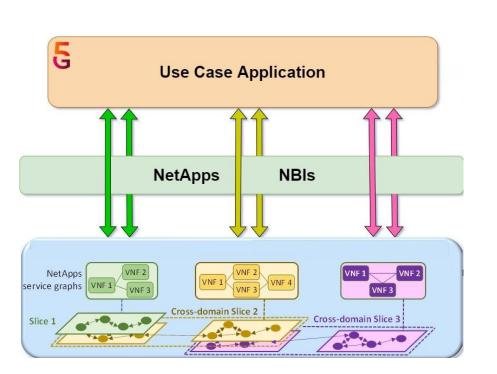
Bringing together Media and 5G communities

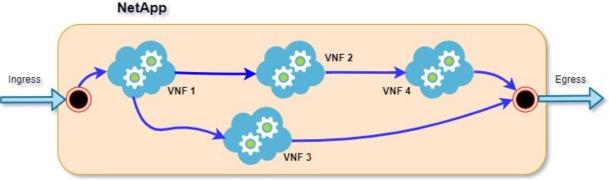


## **Emedia HUB** Network Applications ("NetApps") concept



 NetApps: Chains of VNFs, offering reusable functionality (e.g., video streaming)

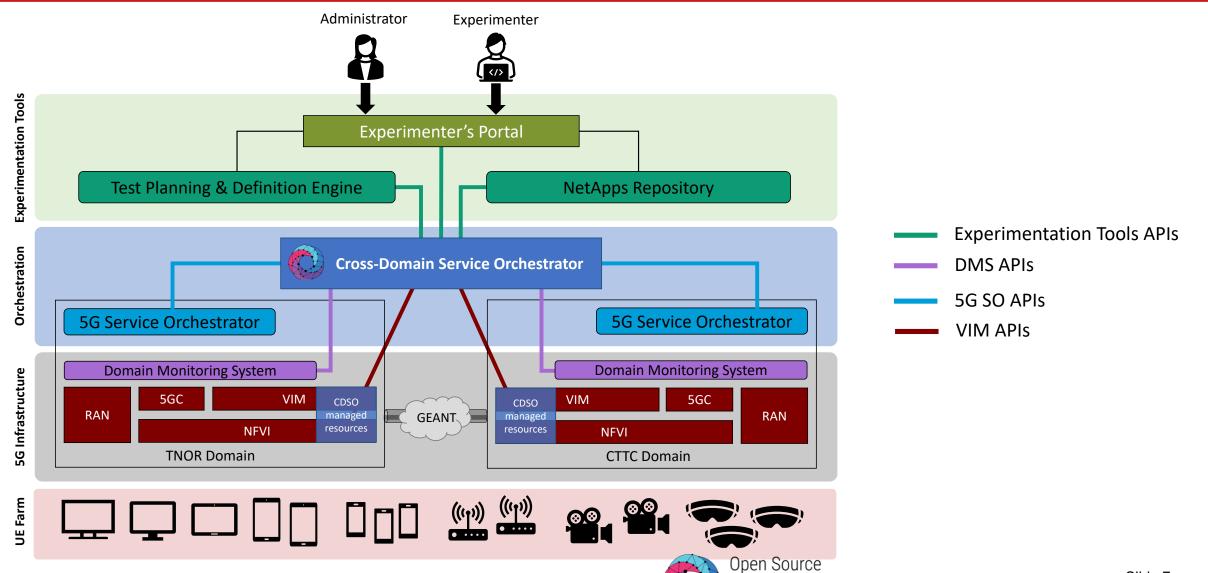




- NetApps are instantiated within Network Slice Subnet Instances (in line with 3GPP 5G management standards)
- NBIs: connecting OTT Apps to NetApps via ingress / egress points to the VNF chain (e.g., video streaming APIs)
- 5GMediaHUB delivers SoTA Media NetApps for Broadcasting and UGC, Distribution, 360 VR, Interactive 8k content

### **GMedia HUE** Cross-Domain Orchestration for Network Applications





#### **GMedia HUB** Experimentation Tools



#### 5GMediaHUB Experimentation tools

- Tenant Web Portal and UMM implemented and deployed at https://5gmediahub.ebostechnologies.com
- Implementation and deployment of the NetApps repository
- Resource Reservation engine implemented with Kubespray controller and Ansible
- Validation and Verification engine implemented with Jenkins and Robot framework.

«	⊠ A 5G Media Hub - Home			
5Media HUB				
2	NetApp Description	VM		×
5GHUB	NetApp ID 1	Co	tact	
MAIN MENU	NetApp Name VM	Da	e 09/22/2022	
🔒 Home				
Modules ~	NetApp Execution DemoNetAppExecutionId_30022			×
Messages				
Notifications	ul_bitrate		dl_bitrate	
保 Graph				
Location		0.40.330.73; ip: 10.40.330.73 so: tr.1 <sup>120</sup> 11.0 <sup>10</sup> 11	00000000000000000000000000000000000000	μ + ip: 10.40.330.23; ip: 10.40.330.23   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ   μ μ

#### **GMedia HUB** Business Models and commercialization



### Validate Value Provided

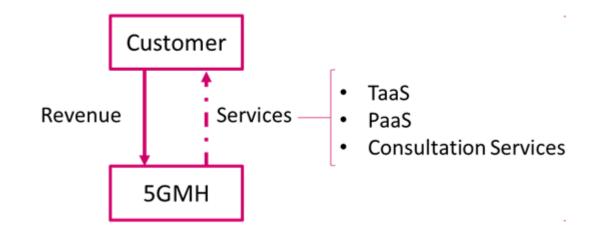
Opportunity for application developers to access 5G infrastructure and network management skills, to experiment and optimise their apps

Accelerate the testing and validation of 5G enablement services (NetApps)

Provide experimentation tools that Reduce time to market, minimise uncertainty, and help quickly assess application performance

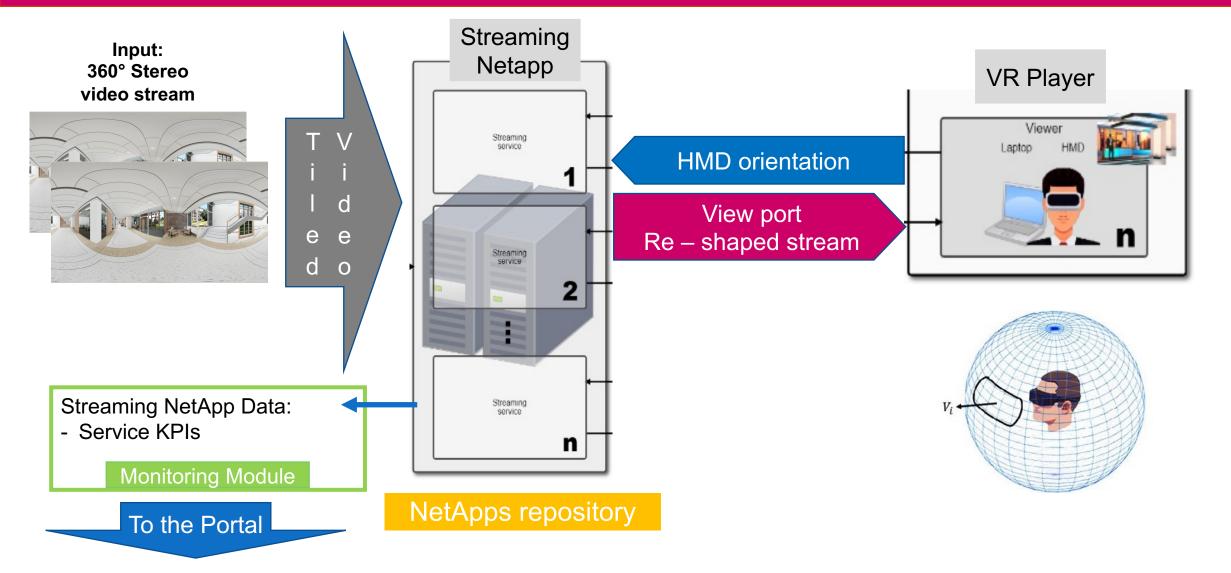
### Core Business Models

- Testing-as-a-Service (TaaS)
- 5G Platform-as-a-Service (PaaS)
- Consultation Services



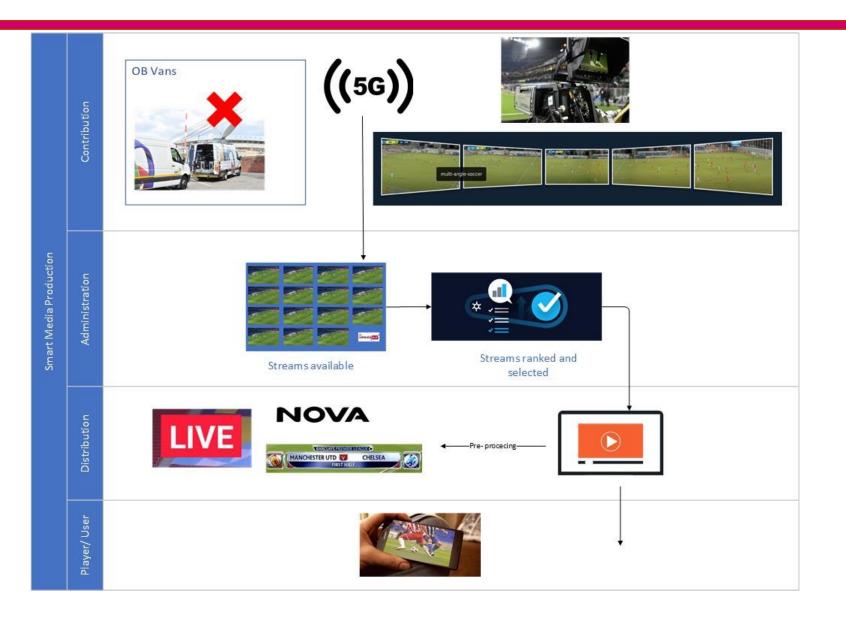
### **GMedia HUB** 5GMedia HUB Showcasing: 360 VR





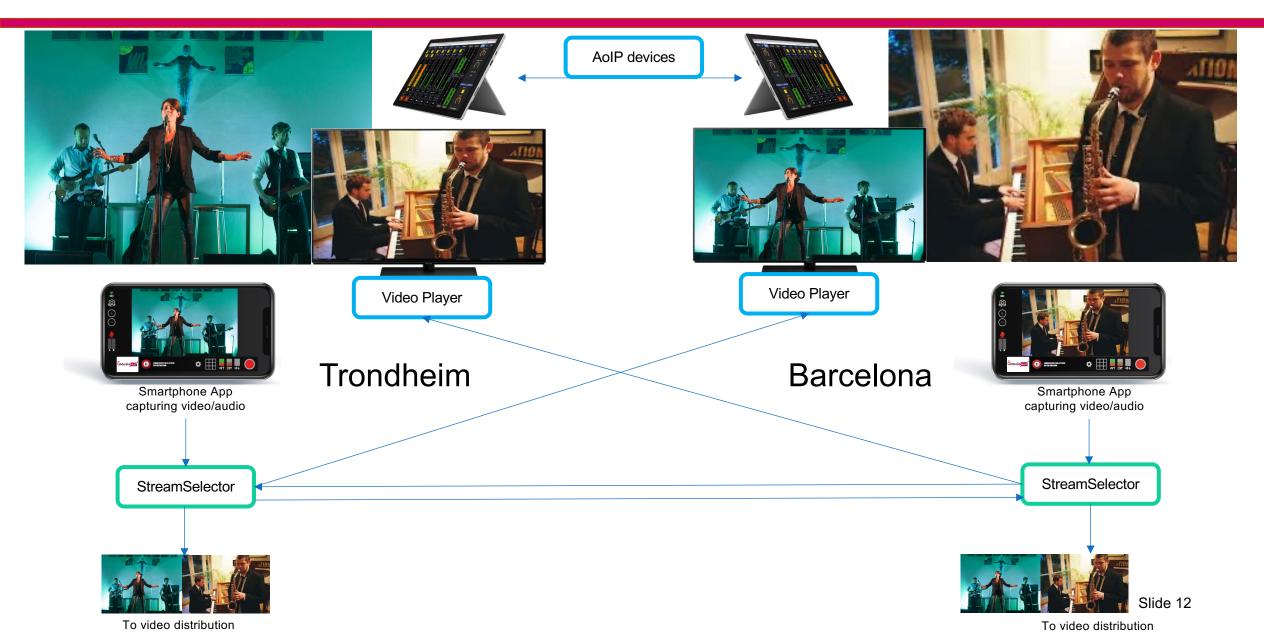
### **GMediaHUE** 5GMediaHUB Showcasing: Remote Broadcasting





### **GMediaHUB Showcasing: Media Co-Creation**









- Linear narrative shown on firstscreen, as encoded video stream with marked frames
- Each marked frame triggers action on **second screen**, where user interacts with the narrative via an application



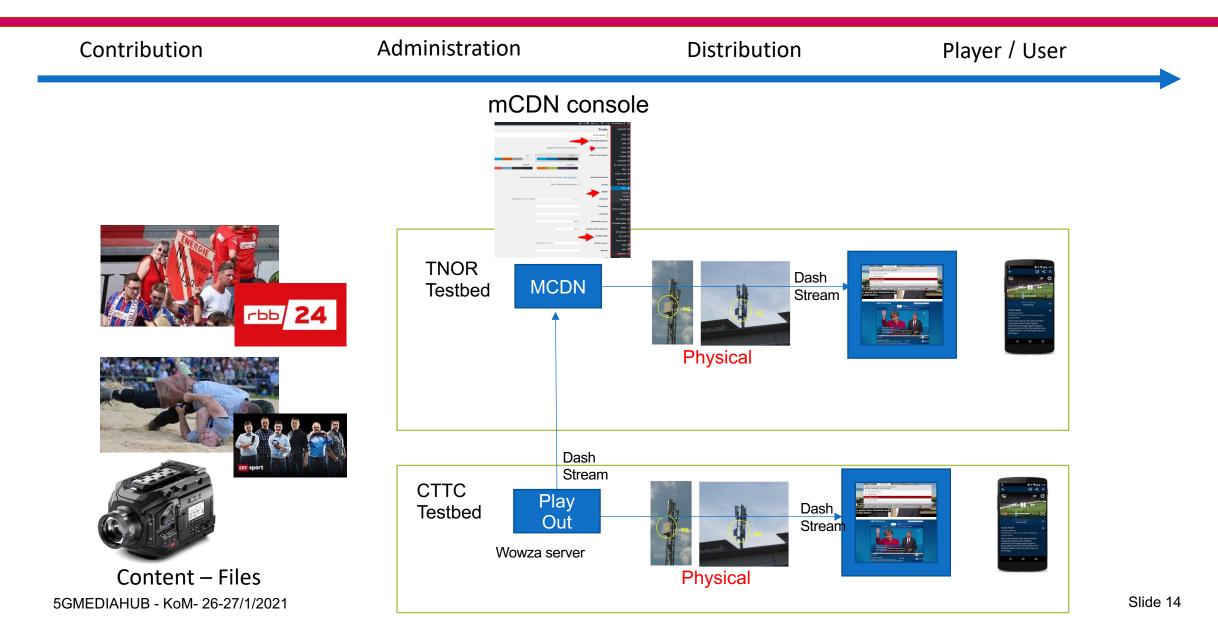
Linear storyline





## **GMedia Multi-CDN (MCDN) Distribution**







### Thank you for you attention!





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