5G HEART

5G-HEART.ORG

5G-HEART NETWORK ARCHITECTURE AND SLICING FOR VERTICAL TRIALS

@ 5G-HEART 4th Webinar, 19th Nov. 2021

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5G HEALTH AQUACULTURE AND TRANSPORT VALIDATION TRIALS

Introduction of 5G-HEART

5G-HEART Network Architecture and Slicing for vertical trials

- ❑ Introduction
- ❑ Test Facility 1: 5G-VINNI, Andres Gonzalez, Telenor (Norway)
- ❑ Test Facility 2: 5GENESIS, George Xilouris, NCSRD (Greece)
- ❑ Test Facility 3: 5G-EVE, Christina Lessi, OTE (Greece)
- ❑ Test Facility 4: 5GTN, Jarno Pinola, VTT (Finland)
- ❑ Test Facility 5: 5Groningen, Iñaki Martín Soroa, TNO (Netherlands)
- ❑ Wrap-up and Closing

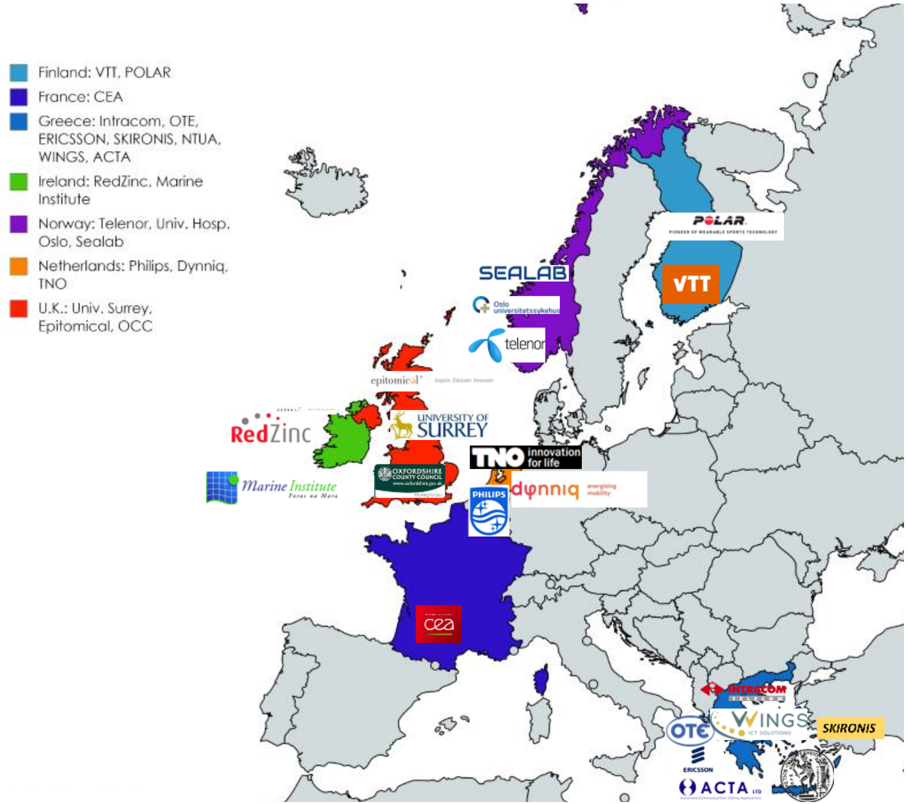
Introduction of 5G-HEART

: 5G HEalth AquacultuRe and Transport validation trials

- Project call: ICT-19-2019: Advanced 5G validation trials across multiple vertical industries
- Project duration: 36 months (June 2019 – May 2022) + 6 Months
- The consortium budget : 14.3 MEur from EC
- Project team: 22 partners
- Project website: 5gheart.org
- Project number: (5G-HEART), Grant agreement no. 857034

5G-HEART partners

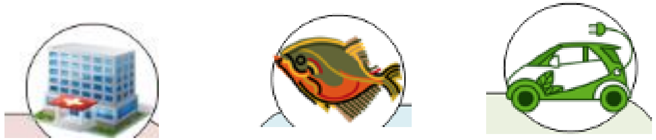
Partner Type	Partner	From
Research	VTT	FI
	Marine Institute	IE
	OUS	NO
	TNO	NL
	UOS	UK
	NTUA	EL
	CEA	FR
LE	Telenor	NO
	Intracom	EL
	OTE	EL
	Ericsson	EL
	Philips	NL
	Dynniq	NL
	Polar	FI
SME	Skironis	EL
	SEALAB	NO
	WINGS	EL
	RedZinc	IE
	ACTA	EL
	Epitomical	UK
Other	OCC	UK



5G-HEART Ecosystem

5G HEalth AquacultuRe and Transport validation trials (5G-HEART)

Healthcare | Aquaculture | Transport



5G-VINNI

5Genesis

5G EVE

5GTN

5GRONINGEN

5G-HEART

Healthcare

Use Cases	Contributors
H1: Remote interventional support eMBB URLLC H2: Pillcam eMBB URLLC H3: Vital-sign patches with advanced geo-localization mMTC	5G-VINNI **Oslo**, 5GTN Oulu, 5GRONINGEN Groningen 5Genesis Surrey — Concurrency Testing **Telenor**, Philips, OUS, RedZinc, VTT, UOS, TNO, CEA

Aquaculture

Use Cases	Contributors
A1: Remote monitoring of water and fish quality eMBB URLLC mMTC	5G EVE **Athens**, 5G-VINNI Oslo **WINGS**, Skironis, Marine Institute, SEALAB, Telenor, OTE, Ericsson, ACTA, Intracom, NTUA

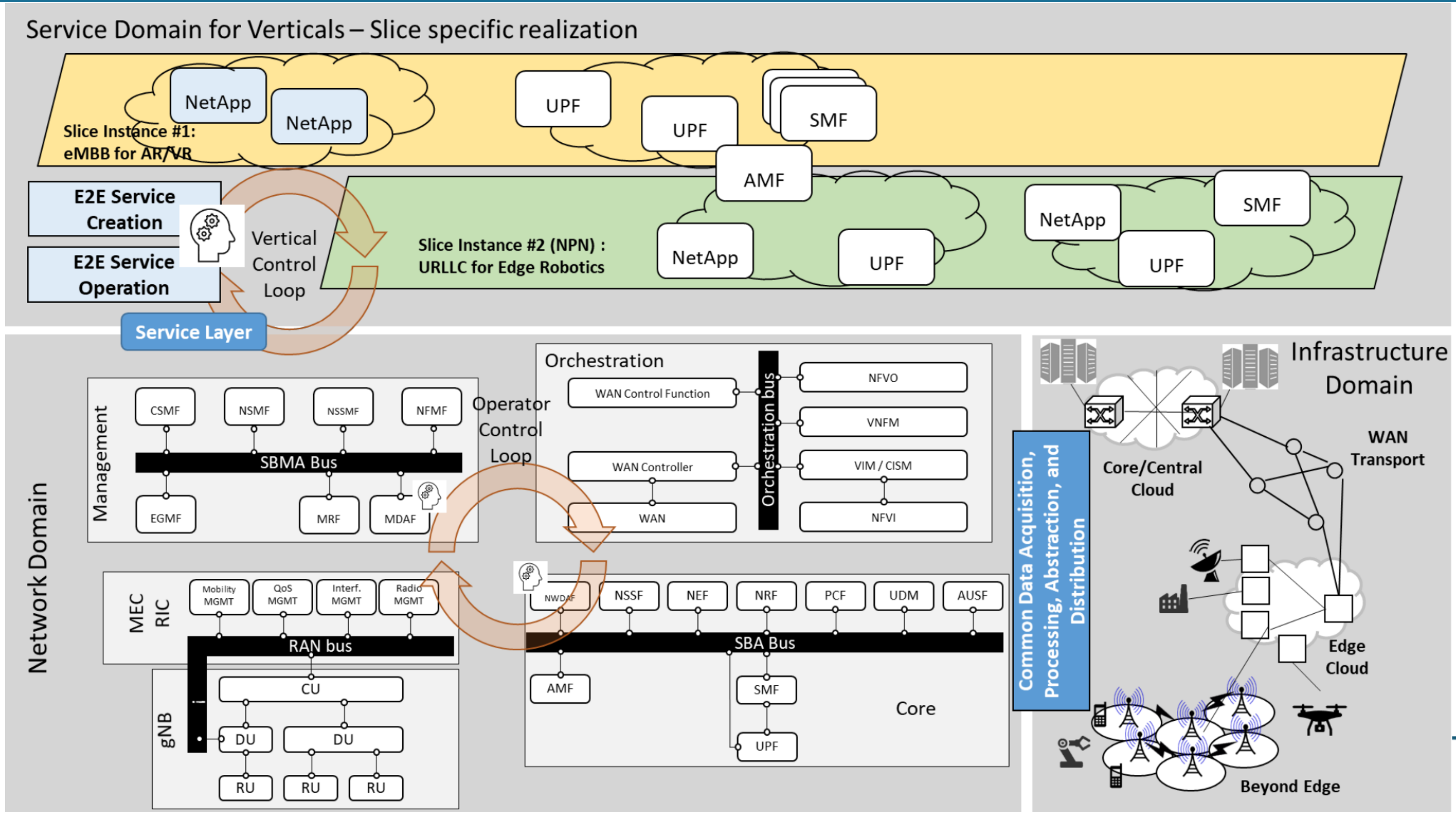
Transport

Use Cases	Partners
T1: Platooning eMBB URLLC T2: Autonomous/assited driving URLLC T3: Remote driving eMBB URLLC T4: Remote diagnosis mMTC	5Genesis **Surrey** — Concurrency Testing, 5GTN Oulu, 5GRONINGEN Groningen **UOS**, Dynniq, Epitomical, OCC, Polar, VTT, TNO, NTUA, CEA

5G-HEART facilities

Pilot site	Oslo-Kongsberg-Trondheim, NO	Surrey, UK	Athens, GR	Oulu, FI	Groningen, NL
Verticals	Healthcare Aquaculture	Transport Healthcare	Aquaculture	Healthcare Transport	Healthcare Transport
Test facility	ICT-17 5G-VINNI	ICT-17 5Genesis	ICT-17 5G-EVE	National 5GTN	National 5Groningen
5G-HEART use cases	H1, H2, H3, A1	T1, T2, T3, T4, H3	A1	H1, T2	H1, T2
Use case categories	eMBB URLLC mMTC	eMBB URLLC mMTC	eMBB URLLC mMTC	eMBB URLLC	eMBB URLLC
Involved partners	Telenor	UOS	OTE Ericsson WINGS	VTT	TNO

Reference Architecture



Key characteristics

	5G-VINNI	5GENESIS	5G-EVE	5Groningen	5GTN
Charac-teristics	Norway site	UK site	Greek site	Netherland site	Finland site
	5G NSA & SA	4G LTE, 5G NSA & SA	4G LTE, 5G NSA	4G LTE, 5G NSA & SA	4G LTE, 5G NSA & SA
	3.6 GHz and 24.5-27.25 GHz	NB-IoT (Rel.15), LoRa, Wi-Fi	the centralized cloud RAN	Den Haag: 4G & 5G SA Groningen: 5G NSA/SA	700 MHz, 2.1/2.6/3.5 GHz
	multiple slice types (for NSA&SA)	multiple slice types (for SA)	One slice	multiple slice types (for NSA&SA)	multiple slice types (for NSA&SA)
Health-care	eMBB/uRLLC, mMTC, uRLLC	-	eMBB/mMTC/uRLLC	eMBB	eMBB
Trans-port	-	eMBB/uRLLC, mMTC, uRLLC	-	uRLLC, mMTC	uRLLC
Aqua-culture	eMBB/mMTC, eMBB	-	eMBB/uRLLC, mMTC	-	-

THANK YOU
FOR YOUR ATTENTION

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