Title:	OpenAirInterface Cloud-RAN testbed	Space for laboratory logotype Resolution: 400 × 125
Responsible person:	Florian Kaltenberger	
Institution:	EURECOM	
Short description:	The evolution of radio communication networks will soon include by so-called “CloudRAN” or CRAN technologies which refer to centralized radio-access infrastructure deployed in data-centers. OpenAirInterface is an open source initiative that provides Rel-8/Rel-10 3GPP compliant reference implementation of eNodeB, UE, RRH and EPC that runs on general purpose computing platform (Intel/ARM) and is thus one possible platform for CRAN deployments. Eurecom is currently deploying a CRAN testbed at its premises at Eurecom.	
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Website (if any):	www.openairinterface.org	
Equipment:	The deployment will consist of an indoor network with 20 remote radio units (RRU) on level -3 and -4 of the EURECOM building and one outdoor RRU on the roof of the building. The RRUs will use Band 38 (2.5 GHz) time-division duplex (TDD) for which EURECOM has been granted a license from the French regulatory body (ARCEP) for both indoor and short-range outdoor experiments (1km radio around our building). The CRAN fabric further comprises a set of commodity Intel-architecture servers (e.g. Dell PowerEdge R630) which will execute the OpenAirInterface (OAI) RAN software packages (openairinterface5g) and other similar servers for Core Network and application software primarily developed by EURECOM (openairCN, MEC, SDN, etc.), by industrial partners such as Nokia Bell Labs (LTEBOX) and by other open-source initiatives (e.g. ONOS, Open-source MANO, etc.).	
Aims:	The testbed can be used to experiment on all layers of the radio network and the core network. Some examples are experimenation with different network slicing algorithms, network function virtualization, distributed MIMO, etc.	
Availability:	The OpenAirInterface software is freely avaiable from www.openairinterface.org. The tesbed itself is under construction and will be available in mid 2017.	
Annex:		

Place in IRACON RESEARCH MATRIX

	EWG-IoT	EWG-LT	EWG-RA
Working group			x

	Antennas & Propagation	PHY	MAC	NET
eHealth		x	x	x
Factory of the Future		x	x	x

Connected Cars		x	x	x
Energy Management		x	x	x
Mobile Broadband		x	x	x