

OSM-MR#10 Hackfest How to engage with OSM Silvia Almagia (ETSI)





Who are we?



## Large and Diverse Community





### +140 OSM Members and Participants



#### Members

Organisation name	URL
Amazon	www.aws.amazon.com
AQSACOM S.A.S.	www.aqsacom.com
AsiaInfo Technologies Inc	www.asiainfo.com
Bell Mobility	www.bell.ca
BT plc	www.bt.com
CableLabs	www.cablelabs.com
Canonical Group Limited	www.canonical.com
CNIT	www.cnit.it
CNRS	www.cnrs.fr/midi-pyrenees
CTTC	www.cttc.es
EGM	www.eglobalmark.com
Empirix Inc.	www.empirix.com
EURECOM	www.eurecom.fr
FBK	www.fbk.eu/
Fraunhofer FOKUS	www.fokus.fraunhofer.de/e
Fujitsu Limited	www.fujitsu.com
Fundacio i2CAT	www.i2cat.net
iconectiv	www.iconectiv.com
ICS	www.surrey.ac.uk
Infoblox	www.infoblox.com
Intel Corporation (UK) Ltd	www.intel.com
Keysight Technologies UK Ltd	
	www.keysight.com
King's College London (KCL)	kcl.ac.uk
Mavenir	www.mavenir.com
MeadowCom	www.meadowcom.com
NCSR Demokritos	www.demokritos.gr
Netscout Systems Inc.	www.netscout.com
ng4T	www.ng4t.com
Oracle Corporation	www.oracle.com
PT PORTUGAL SGPS SA	www.telecom.pt
Red Hat Limited	www.redhat.com
RIFT.io	www.riftio.com/
Sandvine Incorporated	www.sandvine.com
Spirent Communications	www.spirent.com
TELEFONICA S.A.	www.telefonica.com/en/
TELENOR ASA	www.telenor.com
T-Mobile USA	www.t-mobile.com
TNO	www.tno.nl/
Ubiwhere Lda (UW)	www.ubiwhere.com
University of Oulu	www.oulu.fi/english/
UPV/EHU	www.ehu.eus
Verizon UK Ltd	www.verizonwireless.com/
ViaviSolutions Deutsch, GmbH	
VMware Bulgaria EOOD	www.vmware.com
Whitestack LLC	www.whitestack.com
Wipro Limited	www.wintestack.com
xFlow Research Inc.	www.wipro.com www.xflowreasearch.com
ZTE Corporation	www.zte.com.cn

#### **Participants**

Organisation name	URL
A10 Networks	www.a10networks.com
Accedian Networks Inc	www.accedian.com
Accenture	www.accenture.com
Adlink Technologies	www.adlinktech.com
Altran Innovacion S.L.	www.altran.com/es/en/
Ampliphae	www.ampliphae.com/
Aptira	www.aptira.com
Arctos Labs Scandinavia AB	www.arctoslabs.com
Aricent Group	www.aricent.com
Astellia	www.astellia.com
ATOS Spain SA Unipersonal	www.atos.net
Atrinet	www.atrinet.com
Benu Networks Inc.	www.benunetworks.com
Big Switch Networks inc	www.bigswitch.com
Calsoft Private Limited	www.calsoftinc.com
CASE	www.case.edu.pk
Citrix Systems Inc	www.citrix.com
Comarch	www.comarch.com
Comptel Oy	www.comptel.com
CPLANE NETWORKS, Inc	www.cplanenetworks.com
DataArt Solutions Inc.	www.dataart.com/
Datatronics S.A.	www.datatronics.es/?lang=er
Dell Computer SA	www.dell.es/en-us
DELL Inc.	www.dell.com
Dialogic Corporation	www.dialogic.com
EANTC	www.eantc.de
Ecode Networks	www.ecodenetworks.com
Enafritech	www.enafritech.com
Entel Peru S.A	www.entel.pe
EnterpriseWeb LLC	www.enterpriseweb.com
everis Spain SLU	www.everis.com
EveryUP Srl	www.everyup.it/en
Flextronics International GmbH	www.flextronics.com
Hillstone Networks Corporation	www.hillstonenet.com
hSenid Mobile Solutions	www.hsenidmobile.com
ICCS	www.iccs.gr
IMDEA	www.5tonic.org
Indra Sistemas S.A.	www.indracompany.com/en/
Instituto de Telecomunicacoes	www.it.pt
Iricent	www.iricent.com
Keynetic Technologies	www.keynetic.tech
KT Corp.	www.kt.com
Lab. Investig. Desarollo Tolu	idtolu.com

Lambda Tech Ltd	www.lambda-tek.com/
Lancaster University	www.lancaster.ac.uk
Layer123	www.layer123.com
Mantica Solutions, S.L.	www.mantica-solutions.com
Martel Innovate GmbH	www.martel-innovate.com
Metaswitch Networks Ltd	www.metaswitch.com/
Mobileum Inc	www.mobileum.com
Modio Computing	www.modio.io
Mujico (Pty) Ltd	www.mujico.co.za
MYCOM OSI	www.mycom-osi.com
N-able Pvt Ltd	www.n-able.biz/
NetCracker Technology Corp.	www.netcracker.com
NetNumber Inc.	www.netnumber.com
Netrounds	www.netrounds.com
NextWorks	www.nextworks.it
NFWare	www.nfware.com
NOS Technology	www.nos.pt
Optare Solutions	www.optaresolutions.com
PacketFront Software AB	www.pfsw.com/
Pajarito Technologies LLC	www.pajarotitech.com
Pensa Inc	www.pensa.ai
Prodapt North America Inc.	www.prodapt.com
Radcom Ltd	www.radcom.com
Radware Ltd	www.radware.com
Sigma Systems Canada Inc.	www.sigma-systems.com
Sigscale Global Inc.	www.sigscale.com/
Simula Metropolitan Center	www.simula.no
SK Telecom	www.sktelecom.com
STC	www.stc.com.sa
STC Solutions	stcs.com.sa
Strikr Systems LLP	www.strikr.in
Tata Consultancy Services	www.tcs.com
Tata Elxsi Limited	www.tataelxsi.com
Tech Mahindra Ltd	www.techmahindra.com
TeckNexus	www.tecknexus.com
Telcaria Ideas SL	www.telcaria.com
Telecom Foresight Consulting	www.telecomforesight.com
Telenity	www.telenity.com
Thinkpalm Technologies Pvt Ltd	
Ubitech Ltd	www.ubitech.eu
Ulak Haberlesme A.S	www.ulakhaberlesme.com.tr
Uniberg	www.uniberg.com
University Carlos IIIde Madrid	www.uc3m.com
University College London	www.ucl.ac.uk
University of Bristol	www.bristol.ac.uk
University of Paderborn	www.upb.de
University of Patras	www.upatras.gr
University of Thessaly	www.upatras.gr www.uth.gr
Vidéotron	www.utn.gr www.videotron.com
Wind River	www.videotron.com www.windriver.com
Wireless Laboratories LLC	www.wire-labs.com
Yotta Communications AB	www.yottacommunications.com

www.lambda-tek.com/

Lambda Tech Ltd

## Hosted by ETSI but ... open to all



#### Get involved as an ETSI Member

To take part in the development of OSM and participate to the meetings, ETSI Members need to sign the OSM Membership Agreement and CCLA. In doing this, they agree to the OSM operating rules which in some cases are different from those in ETSI's Technical Working Procedures. Check if your company is an ETSI Member.

#### Get involved as an OSM Participant

Organizations who are not members of ETSI may also participate in OSM, attend meetings and help to develop OSM by making technical contributions. They are not applicable for leadership (LG) positions and must pay a participation fee to attend OSM meetings. To get involved as a Participant, please sign the OSM Participant Agreement and the CCLA.

### Developers and Users

Individual developers and end users are welcome to contribute code and feedback to OSM,

they just need to create an individual contributor or user account.

# https://osm.etsi.org/about/how-to-join

## So.. how do I join?



- I work for (or study at) an <u>OSM Member or Participant</u>
  - Request an EOL account: <a href="https://portal.etsi.org/CreateAccount">https://portal.etsi.org/CreateAccount</a>
  - Manage your ML subscriptions at: <a href="https://portal.etsi.org/osm">https://portal.etsi.org/osm</a>
- I work for (or study at) an <u>ETSI Member</u> who is not part of OSM yet
  - Ask your employer (or university) to sign the <u>OSM Member Agreement and CCLA</u>
- My company (or university) is not an ETSI member or an OSM participant yet
  - Ask your employer (or university) to sign the <u>OSM Participant Agreement and the CCLA</u>.
  - → No fee for joining or participating remotely as OSM Member or Participant!
  - → All your colleagues (or mate students / professors) will benefit of full access to OSM resources
  - → All the code contributions from your organisation will be accounted and you may become eligible for MDL or TSC positions
- None of the above .. or I just prefer to join as an individual
  - Create your individual user or contributor account at <a href="https://osm.etsi.org/register">https://osm.etsi.org/register</a>
- I still don't know where to start...
  - Send us an email at <u>OSMsupport@etsi.org</u> and we'll figure it out with you :)



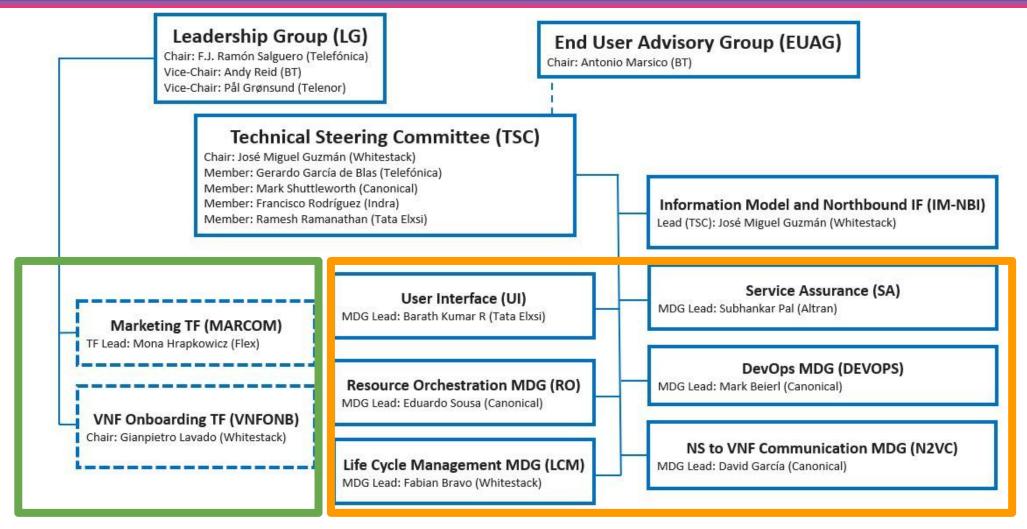


### How we work



## How is the project organised





**Task Forces** 

**Module Development Groups (MDGs)** 

### OSM Working Procedures



- ETSI OSM LG (OSM Chair & Vice-Chairs), EUAG Chair, TF Chairs
  - Are elected by OSM Members for a mandate of 2 years
- TF Task Forces are created by the LG (eventually on TSC request)
  - Can be temporary or permanent
- OSM TSC (5 seats) is renewed after every OSM Release
  - Code contributions are tracked life in <a href="https://osm.etsi.org/gitstats/">https://osm.etsi.org/gitstats/</a>
  - Top ranking organisations for the code contributed during the last 3 releases are invited to present a candidate to join the TSC.
  - TSC Chair is elected by the TSC for a mandate of 2 years
- MDGs are created (and MDLs elected) by the TSC
  - Requires at least 3 Committers (Reviewers)
- MDLs can promote regular Contributors to Committers (Reviewers)
- Anyone is welcome to join OSM as Contributor or User

### How we coordinate



### Slack!!

- <u>Slack Invite Link</u> open to all contributors and users
   Mailing Lists
- OSM\_TECH@list.etsi.org for Technical Topics
   Regular conf-calls with OSM Members and Participants
- TECH Call every Thursday at 2PM UTC General Technical topics, new features, bugs, ...
- DevOps Call alternate Wednesdays at 2PM UTC DevOps and CI/CD topics
- SA Call alternate Fridays at 2PM UTC Service Assurance, Monitoring and Policy Management
- MARCOM Call alternate Wednesday at 4PM CET OSM Marketing and Communication topics

Also, the LG, EUAG, TSC and MDLs meet regularly to set the project road map and objectives

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## Quarterly meetings



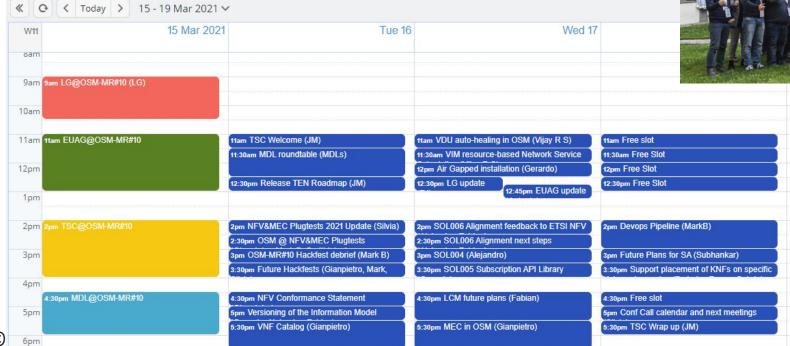
1 week long meetings, used to be f2f (now on-line)

2 Plenaries / year - at Release time - June / December

• 2 Mid-Release meetings / year - March / September

Next week OSM Mid-Release TEN meeting OSM-MR#10

#### OSM-MR#10 Remote







## **Available Resources**

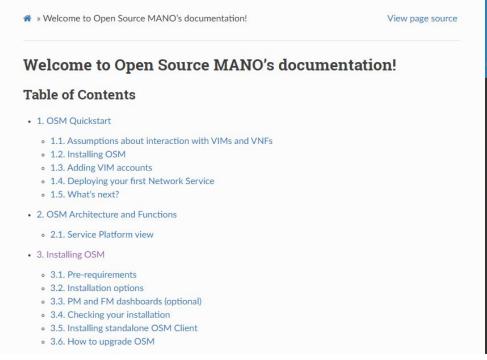


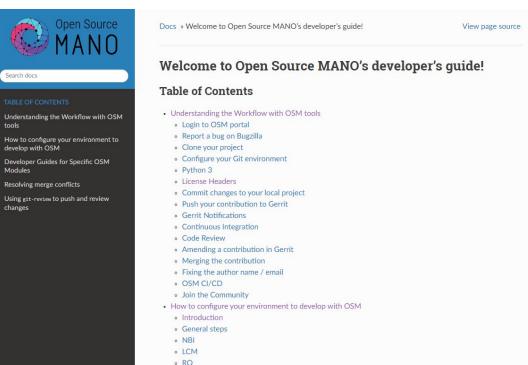
### Documentation



- User Guide: <a href="https://osm.etsi.org/docs/user-guide/">https://osm.etsi.org/docs/user-guide/</a>
- Developer HowTo: <a href="https://osm.etsi.org/docs/developer-guide/">https://osm.etsi.org/docs/developer-guide/</a>
- VNF On-boarding Guidelines: <a href="https://osm.etsi.org/docs/vnf-onboarding-guidelines/">https://osm.etsi.org/docs/vnf-onboarding-guidelines/</a>







## Release Notes, White Papers and Videos



Release Notes and White Papers:
 <a href="https://osm.etsi.org/wikipub/index.php/Release notes and whitepapers">https://osm.etsi.org/wikipub/index.php/Release notes and whitepapers</a>

OSM Events: Workshops, Hackfests, Webinars:

https://osm.etsi.org/wikipub/index.php/OSM workshops and events

OSM YouTube Channel:

http://www.youtube.com/c/OpenSourceMANO

### I need community help with OSM. What should I do?



- Search the docs
   <a href="https://osm.etsi.org/docs">https://osm.etsi.org/docs</a>
- Ask in Slack (try to find an appropriate channel or post in #general)
   Slack Invite Link
- Send an email to the TECH mailing list OSM TECH@list.etsi.org

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How can I help / engage?



### There are multiple ways to engage and contribute



#### As an OSM Contributor

- Writing code Bug Fixes / New Features
- Writing & Running tests
- Writing documentation
- Helping in <u>DevOps</u>
- Answering questions on the <u>TECH ML</u>
- Helping to prepare / run a Hackfest
- Participating with OSM to an <u>ETSI Plugtests</u>
- Helping to <u>on-board new VNFs</u>
- Providing HW or a Remote OSM Lab

#### As an OSM User

- Reporting bugs (requires individual user account)
- Answering questions on <u>Slack</u>
- Joining an OSM Hackfest
- Promoting @OpenSourceMANO in social media
- Creating <u>new videos</u>
- Giving a <u>talk</u>
- Writing a <u>blog post</u>
- Creating an <u>OSM Proof of Concept</u>
- Getting listed in the <u>OSM Ecosystem</u>

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### How to contribute a new feature



- WHAT Describe the use case, what you want to enable end-to-end
  - Create a feature request in Gerrit (use the Feature Template)
- WHY Come to a TECH call to present it and defend its need
- HOW Once in the backlog, work with the community on its design
- Work with the community on the implementation (code)
  - Present regular updates / demos in TECH
- Provide tests and documentation

```
# (Add your title here)

## Proposers

Proposers

## Type

Feature

## Target MDG/TF
```



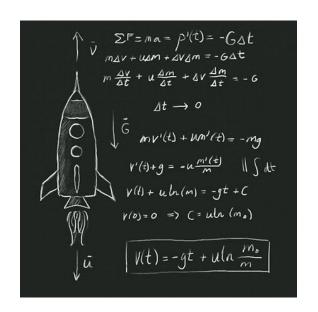
## OSM Proofs of Concept



#### **OSM PoCs**

- OSM PoC#1 DevOps in Service Chains & 5G Network Slices
  - o PoC Team Members: Netrounds, Telenor, Intel, RIFT.io, Arctos Labs
- OSM PoC#2 OSM with VMware Integrated Openstack in MEC architectures
  - PoC Team Members: VMware, RIFT.io, Fortinet, DataArt
- OSM PoC#3 Heimdall Hybrid Web: Orchestrating enterprise web 5G vertical scenario
  - PoC Team Members: IT Aveiro, Universidade de Aveiro, Universidade Federal do Rio Grande, Wavecom
- OSM PoC#4 Charmed Open5GCore Deployment with OSM Rel FIVE
  - PoC Team Members: Canonical, TNO
- OSM PoC#5 Placement of Workloads in Distributed Cloud Networks
  - o PoC Team Members: Arctos Labs, Netrounds, Wind River, Telenor
- OSM PoC#6 5G Network Slice Orchestration with OSM
  - PoC Team Members: Telefonica, Telenor, Intel, Mavenir, Oracle, Ixia, Indra, Altran, Tech Mahindra, Red Hat
- . OSM PoC#7 Orchestrating the 5G Orchestra
  - PoC Team Members: University of Bristol, Digital Catapult, King's College London
- OSM PoC#8 1st Multi-vendor NFV Showcase
  - PoC Team Members: Fortinet, Mobileum, ng4t, Open Air Interface Software Alliance, Whitestack
- OSM PoC#9 Open WAN control for multi-site service orchestration with OSM & DPB
  - PoC Team Members: School of Computing & Communications, Lancaster University
- OSM PoC#10 Automated Deployment of an IP Telephony Service on UAVs using OSM
  - PoC Team Members: Universidad Carlos III de Madrid (UC3M), IMDEA
- OSM PoC#11 OSM PoC 11 Deployment of Al-Agents in OSM
  - PoC Team Members: Atos
- OSM PoC#12 Distributed Monitoring in OSM
  - PoC Team Members: Tata Elxsi

- To prove / share an idea before submitting a feature request
- How to Submit a PoC Proposal https://osm.etsi.org/wikipub/index.php/OSM\_PoC\_Framework
- Minimum Criteria:
  - At least one member shall be OSM member or participant.
  - Core OSM components shall be used.
  - The PoC shall be presented to the OSM community.



## OSM Ecosystem





**4** OSM Distributors



**28** NF Providers



**7** VIM Providers



4 OSS/BSS Solution Providers



**13** Consulting & Integration Providers



**25** Research Initiatives



**3** Training Providers



Sort of OSM "yellow pages"

- Useful to find professional help with OSM
- Anyone working with OSM can request to be listed
- OSM Ecosystem Members receive a badge that they can use in their comm material
- OSM Ecosystem Members are invited to present their work at regular OSM Ecosystem Days

Would you like to see your research project listed here? Please send an email to OSMSupport@etsi.org @ with the following information:

Subject: OSM Ecosystem - Research

- · Project name:
- · Logo:
- · URL:
- Short description:
- · Project Partners:
- Twitter handler (optional): @



# Questions?

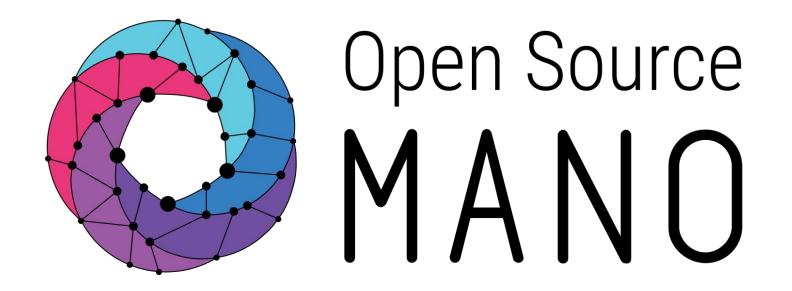


## Wrapping up the Hackfest ...



- A satisfaction survey has been circulated:
  - Please take 2 minutes to reply and leave us comments, your feedback is precious!
- Huge thanks to our community members leading the sessions and troubleshooting in the shadow!!
  - .. and to YOU brave participants who bore with us through the week
  - certificates of participation will be sent to all of you!
- And again .. if you liked the OSM experience this week..
  - Stay with us!





Find us at:

osm.etsi.org osm.etsi.org/wikipub

