



Open Source & Open RAN 5G Networks:

Research, Test, Deployment.

From the Lab to
Beyond the Lab.





Today's agenda:

1. Welcome and introduction.
2. **Open Source in 5G**, the way to accelerate telecom innovation.
3. Demonstration of a simple & customizable **OAI 5G distribution**.
4. **From lab to field**: test and commercialize your **5G innovations** on a grand scale.
5. Conclusion.
6. **Q&A Session**.





Making
5G
available
to all.



Reminder

Why

Open source?



Quality of code.



Provides security.



Provides independence.





Why Open source in **Telecom?**

- ❑ Everybody implements the same thing. i.e. the **3GPP** specifications.
- ❑ Such a waste of energy at global scale with 1000's of developers redeveloping the same things
- ❑ Economically and rationally, **open source is the way to go** in Telecom





Why we chose

OAI?

**No Silos.
No Lock-in.
Ever.**

> **Expertise**

OAI is led by worldwide telecom experts and researchers.

> **Independent**

OAI is a fully independent and neutral non-profit;

> **Support**

Supported by **major telecom players** such as **Qualcomm, Sequans, Firecell, Fujitsu, Orange, NVIDIA, Canonical**, etc.

> **Sound & Fair**

OAI license is sound and fair, adapted to business practice in the telecom industry.

> **Real**

It's real, not just marketing:

- 3M lines of code
- 200+ contributors
- 22,000 research papers mention "5G and OAI"



Our **commitment** to



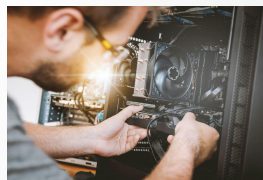
Firecell develops, packages, distributes
and supports **the world's first**
OAI distribution 5G core &
Radio Access Network
with integrated hardware.



For researchers, teachers, innovators to innovate - no need to spend time in "making things work"



For industrial companies willing to digitize their operations using Private 5G



With the objective to have a super easy to install and deploy and to, without hiding.



Open Source

is eating the world!

Let's confirm OAI as the dominant platform for wireless telecom

- At Firecell, we are committed to pushing the vast majority of the **5G development** to the open source.

We recommend you to contribute

- Directly to **OAI**.
- With the support of **Firecell's** Product.





Demo

**of a simple & and
customizable OAI
5G distribution.**



From **Lab to Field.**

Test and Commercialize Your
5G Innovations on a Grand Scale





Labkit

Open source 5G for indoor development & PoCs



For : R&D labs, universities,
innovation centers

Orion

Open source 5G for outdoor & large
indoor development & pilots



For : university campuses
Fab Labs, warehouses, factories



Labkit 40 Labkit 100

Open source
5G Network
for development & PoCs



5G Core + gNodeB + Network Management System
running on COTS hardware



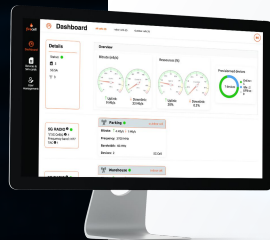
Choice of Software Defined Radio
according to the desired bandwidth
(40 / 100 MHz)



1 SIM Card
pre-provisioned



1 5G Smartphone
pre-configured for Labkit



5G Core + gNodeB + Network Management System
running on COTS hardware

Choice of O-RAN Radio Unit
according to the desired frequency band
(n48, n77, n78)

1 SIM Card
pre-provisioned

1 5G Smartphone
pre-configured for Labkit O-RAN

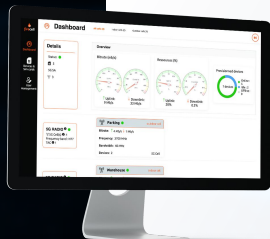


Labkit O-RAN

Open source
Open RAN



5G Network
for development & pilots



5G Core + gNodeB + Network Management System
running on COTS rack server

Orion 50 Orion 100

Open source

5G Network
for development & pilots



Choice of Radio Units
according to the desired bandwidth (40 / 100 MHz), frequency band (n48, n77, n78) and power (2W - 20W)

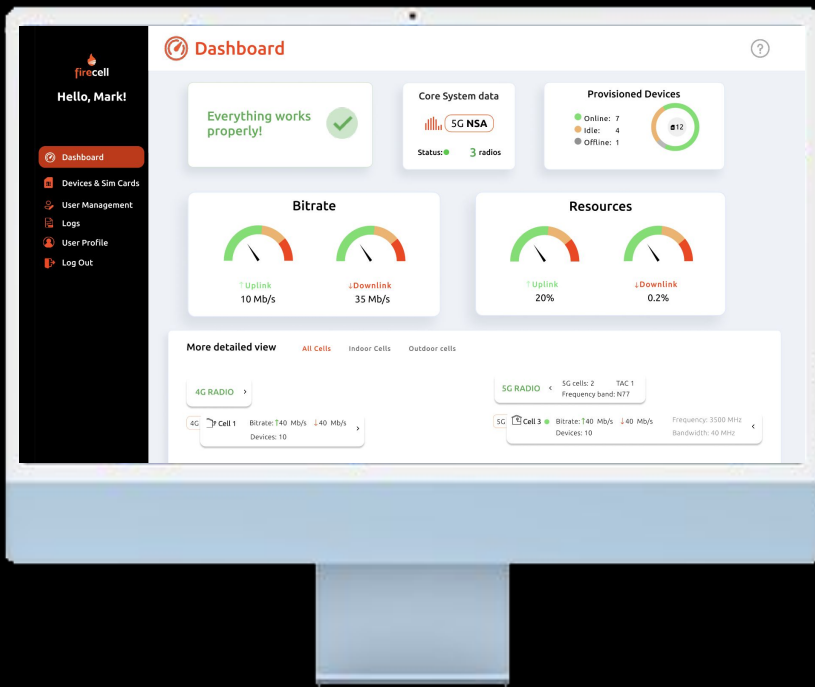
10 SIM Cards
pre-provisioned



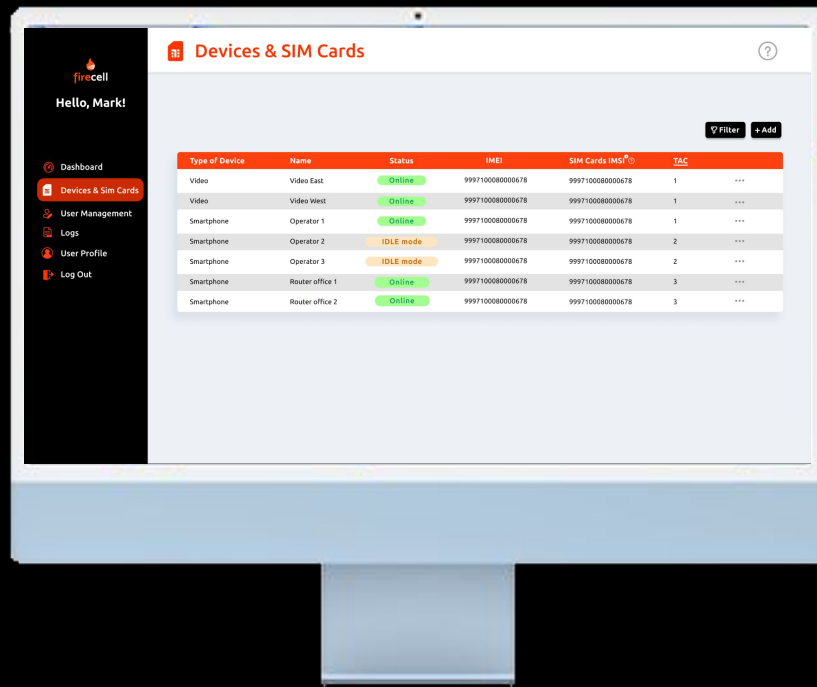
Choice of 5G User Equipment
pre-configured for Orion



Firecell Network Management System



Monitor your network's health



Add / discard new devices & SIMs

Labkit 5G in the lab and beyond



Mariam Kiran (She/Her) · 2nd
Group Lead for Quantum Networking and C...
2mo · 🌐

We will do another run of our very successful 5G demo. Come see a live 5G demo with edge to core connectivity. We show real time radiation detection using sensors, in the demo teaming up with [#AWS](#), [#Firecell](#) and [#Verizon](#):

DOE Booth Station 2(Booth #243): Wednesday 11/15, 12:00 – 1:00 PM MST
SCInet Theater (Booth #1275): Wednesday 11/15, 3:40 – 4:00 PM MST

[#supercomputing2023](#) [#denver](#) [#ieee](#) [#acm](#)
[#slingshot](#) [#firecell](#) [#ORNL](#) Anastasiia Butko, Ulla Saari, Ian Parnes [#doe](#)

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Comment



Repost



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Orion deployed at The Camp (Aix-en-Provence)



Firecell Private 5G running at Team Henri Fabre



Firecell Private 5G running at Stanley Robotics





Thank you.

Q&A

