


Workshop on New Frontiers in Internet of Things



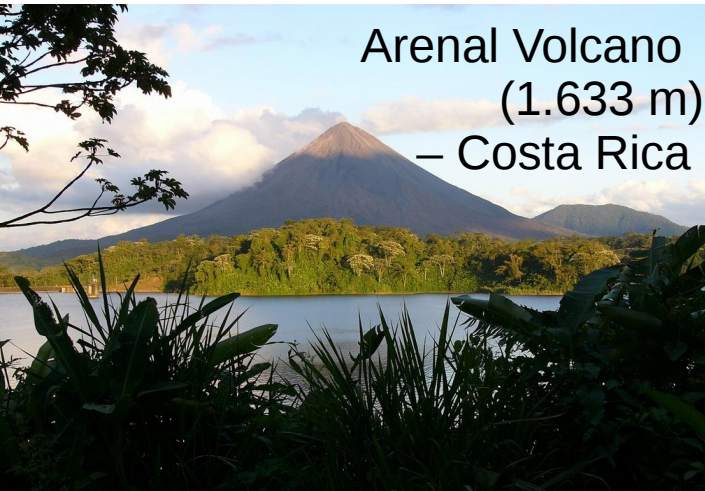
Active Volcano Monitoring
with
Wireless Sensor Network

ICTP

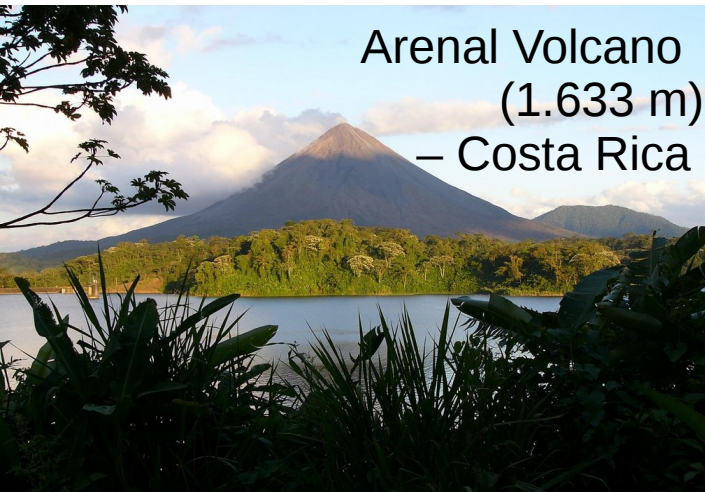
Trieste - Italy

March 11, 2016

Context



Context

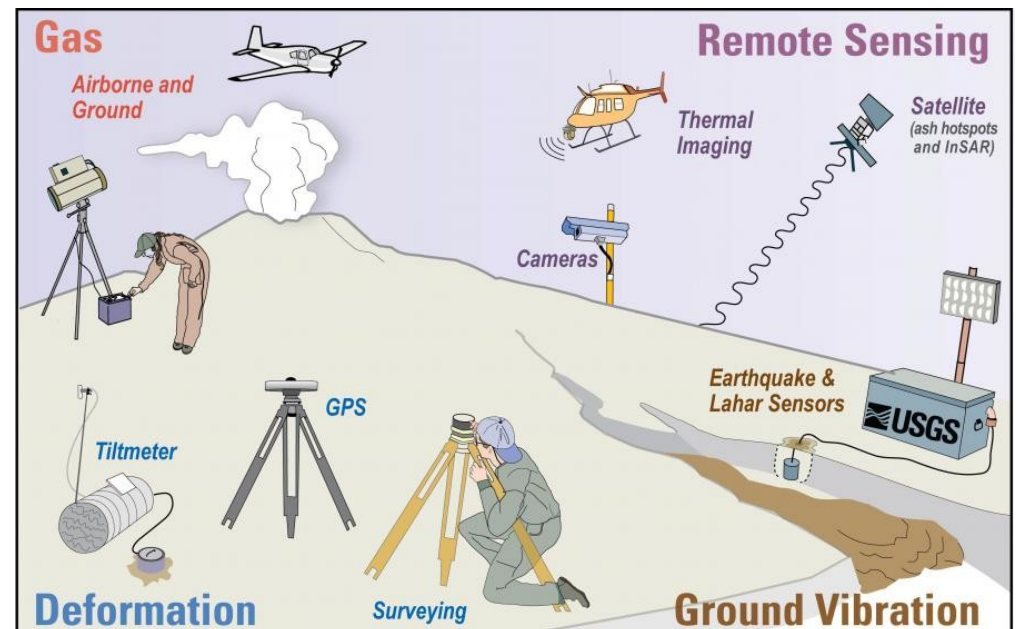


In the last years wireless sensor networks
(in several resource-limited nodes with wireless radios)
have been the focus of intense research



Problems

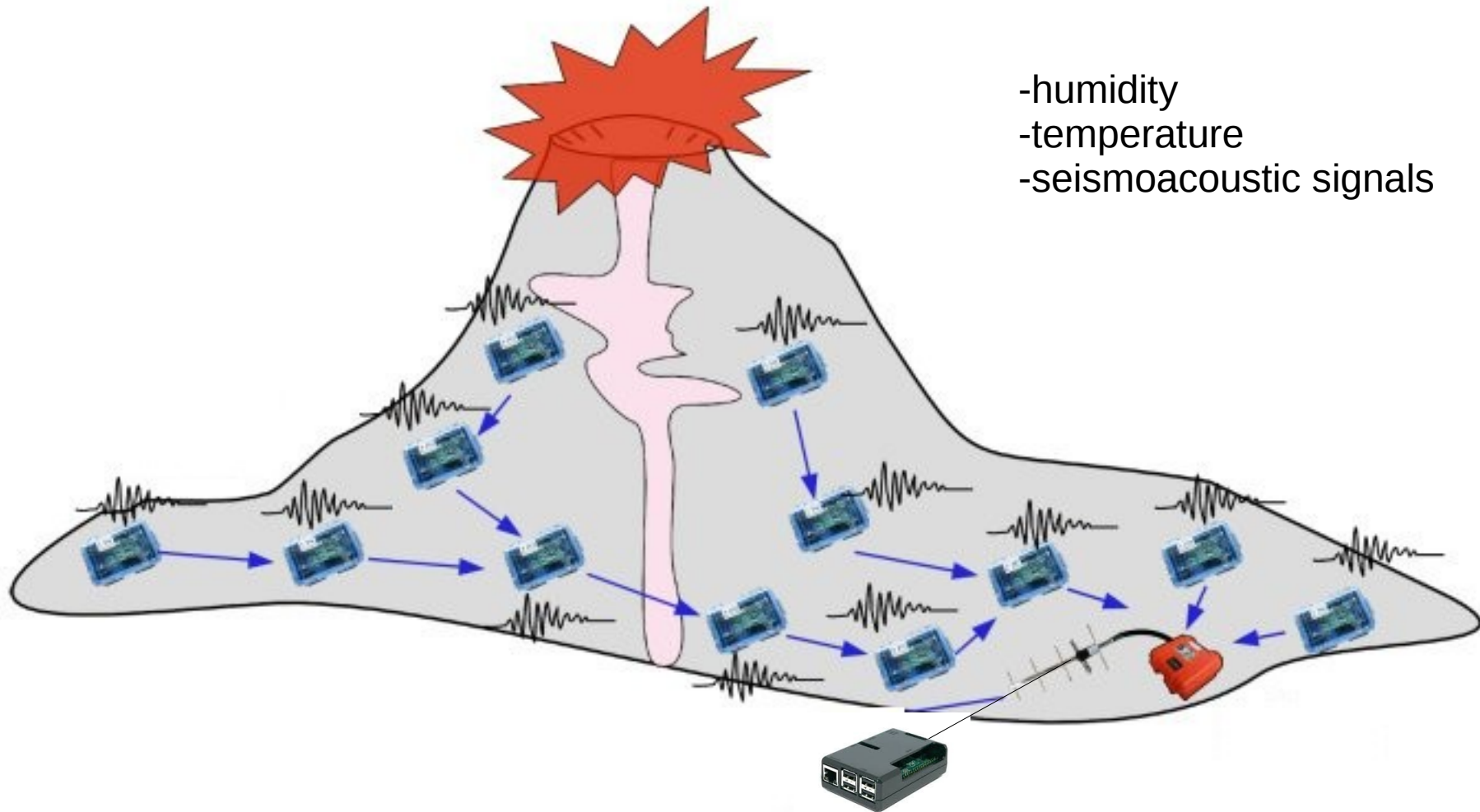
- The data-acquisition equipment that currently is working are really expensive.
- Typical volcanic data-collection stations are large, heavy, power-hungry. *
- The manual data-collection is dangerous for the people.



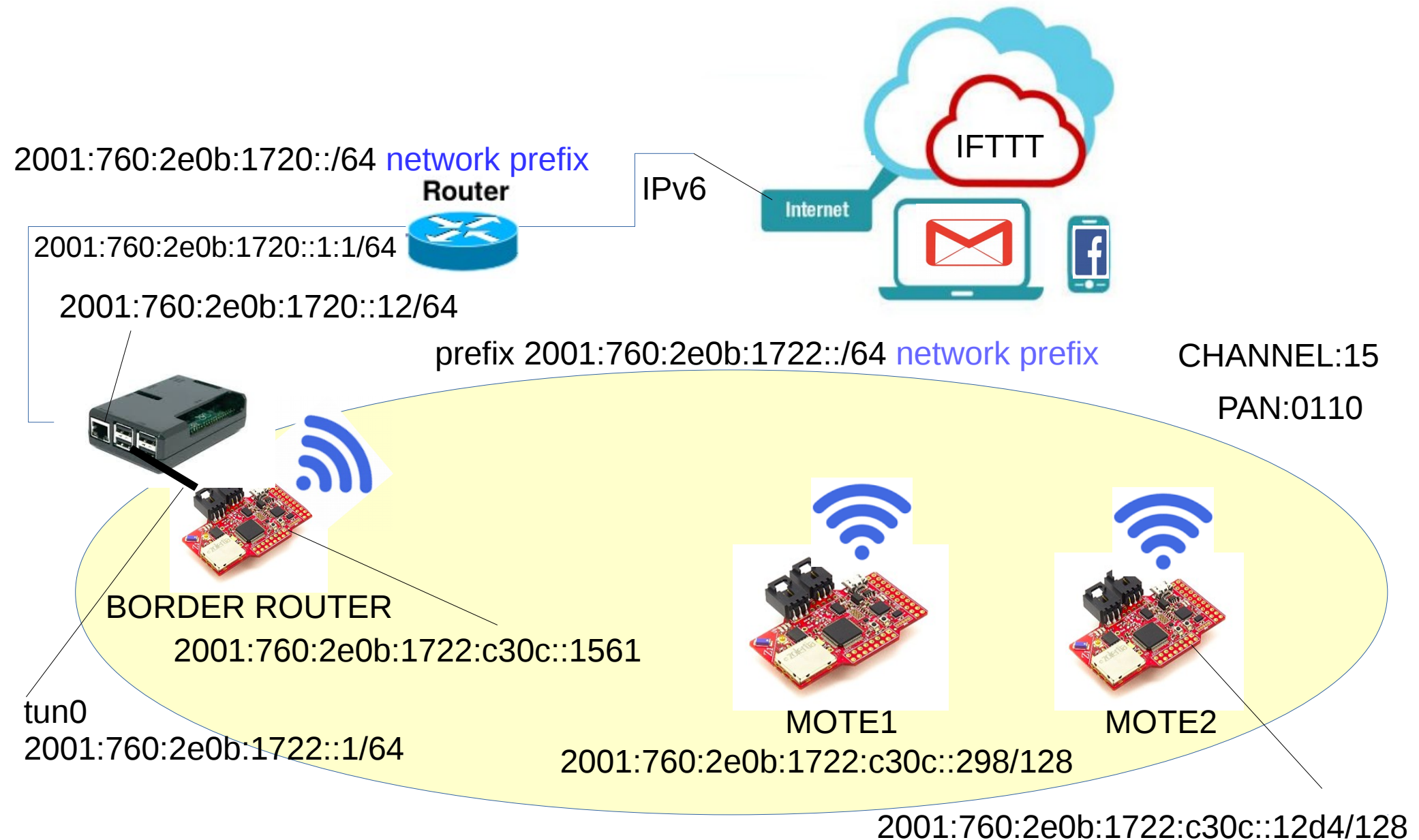
* <http://volcanoes.usgs.gov/vhp/monitoring.html>

Deployment

- Using tiny, small and low-power wireless sensor motes for geophysical studies



Architecture



Results

- Almost real-time notifications

Jacky Keemani
(Jacky Kimani)

Timeline About Friends 636 Photos More ▾

What did you study at Nairobi Trust? ✕

*** 1 Pending Item

Intro

Describe Who You Are

Peer Educator at Carolina for Kibera

Studied at kimalael

Lives in Nairobi, Kenya

From Nairobi, Kenya

Add Featured Photos

Status Photo / Video Life Event

What's on your mind?

Jacky Keemani
12 mins · 1FTTT · 1

The event named "volcanofb" occurred on the Maker Channel

Like Comment Share

Mc Lean Myrالدoh and JO John

Mc Lean Myrالدoh hyo ndo
Like · Reply · 10 mins

Jacky Keemani just a school test
Like · Reply · 1 · 6 mins

jacky kimani 2:42 PM (7 minutes ago)

What: volcano When: March 11, 2016 at 02:40PM Extra Data: 20224, 2816, 3038,

jacky kimani 2:42 PM (7 minutes ago)

Extra Data: 20224, 2817, 3035,

jacky kimani 2:42 PM (7 minutes ago)

What: volcano When: March 11, 2016 at 02:41PM Extra Data: 20224, 2952, 3035,

jacky kimani 2:42 PM (7 minutes ago)

Extra Data: 20224, 2953, 3036,

jacky kimani <jackykimani13@gmail.com> 2:42 PM (7 minutes ago) ☆ ↩

to me ▾

What: volcano
When: March 11, 2016 at 02:41PM
Extra Data: 20224, 2955, 3037,



Conclusions

- Geophysical studies of volcanic activity can be potentially benefit of the wireless sensor networks and IoT technology.

Thank you

