

Standards based closed networks

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Tapio Rautava, UROS Ltd



#### Tapio Rautava

- Director, Strategic Partnerships at UROS
- 30+ years experience in the global wireless telecom and semiconductor industries
- Previously, positions at Spreadtrum Communications, Broadcom, Renesas Mobile and Nokia



## Agenda

- Introduction to UROS
- Use cases: IoT and 5G
- Summary and key takeaways







#### **Timeline**









2011	2012	2013	2014	2015	2016	2017	2018	2019
	3G MiFi 10 x Discrete SIM cards 2FF MNO/MVNO "Hide the complexity"			4G MiFi 3FF More MNOs/MVNOs		eSIM/eUICC 4FF	LEW-100 Other verti eSIM sma connectivi for IoT	

3GPP and GSMA standards



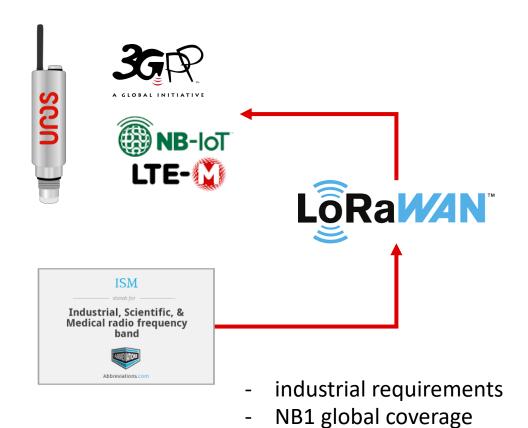
## Use cases:

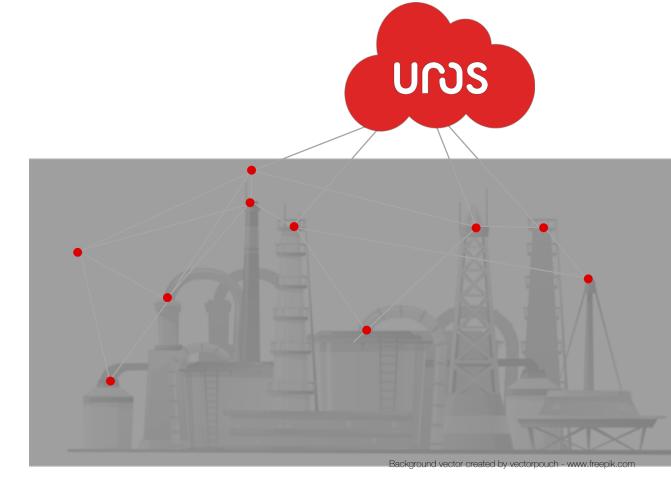
loT commerzialisation & 5G Demo



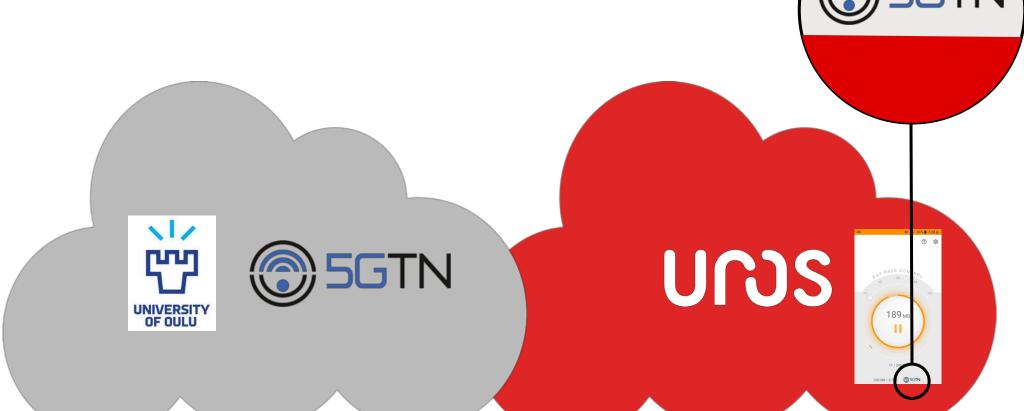


## loT use case





## 5G demo





#### Findings & Summary

1

- Need for "combined" wide and narrowband radios
- Battery run operations

2

Local mobile networks

3

UROS wants to co-op with academy and other industry actors in order to adapt and enhance its services to utilize 5G opportunities





# Key takeaways

Standards and regulation should support for establishment of micro-operator networks

OEMs:
device compatibility and interoperability

Continuous co-operation and communication between business & academia





# Future innovations made today

Tapio Rautava

Director, Strategic Partnerships

tapio.rautava@uros.com

