



# 5G Initiative – “5G Roadmap” Working Group

## 5G as enabler for Medical IoT – 5GMIOT

Standards, policies and strategies for social technological alignment of 5G technology

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# Contribution “5GMIoT”

- Dr. Nigel Jefferies, WWRF
- Professor Christoph Thuemmler MD, PhD, Senior IEEE Member
- Strand focusing on additional 5G health domain requirements (WWRF White Paper) and the interdependencies of 5G - IOT
- 5G is clearly an enabler of the Medical Internet of Things (MIoT)
- Healthcare industry is the biggest and fastest growing industry in the world but has special requirements. Health budget in China, USA and Europe around 7.5 Trillion USD in 2020
  
- Impact Horizon
- Connection of sensor devices in hospitals will run via LPWA as hardwiring is too expensive (short-term)
- Smart pharmaceuticals will go to market within the next 3-5 years and radio access technology will not be Bluetooth (midterm)
- MIoT will account for 5 Billion new connections by 2030. Surgical and social robotics will require ultra low latency delivered through 5G and 6G (long term).

# Contribution "5GMIOT"

- **Specific Contribution/Thought/Idea**
- Cross-cutting, application oriented track supporting the health domain and the interdependency of 5G, IoT in the health vertical and Hospital@home
- Pharmaceutical and technological companies in healthcare are typically multi-nationals. Healthcare requirements are fairly identical all around the globe.
- Real world test beds scenarios in Europe, USA and China
- **Track contributions**
- The 5GMIOT track will contribute towards the Roadmap by providing a more detailed requirements analysis for services for the health domain
- Supporting IEEE medical technology standardization efforts with special focus on 5G (IEEE 802.15.6 – Body Area Networks)
- Consider the development of reference architecture in response to industry specific challenges (network slicing, cross domain orchestration and service aggregation on edge cloud level, governance, privacy)
- Interfacing between different industries and health vertical (hospitals, pharmaceutical industry, medical device manufacturers, health authorities)

# 5GMIOT

- Network requirements / specifications (Edge Cloud, cross domain orchestration, synchronization, network controlling, multi-tenancy)
- Partnering with distinguished industry partners
- Industry funded
- UK, Amsterdam, Shanghai, US
- Start 2017

# WWRF White Paper 2016

<http://www.wwrf.ch/files/wwrf/content/files/publications/outlook/Outlook17.pdf>

## OUTLOOK

Visions and research directions for the Wireless World

A New Generation of e-Health Systems  
Powered by 5G



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