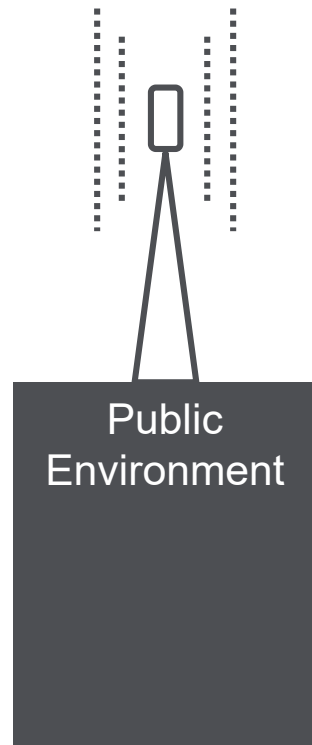


# Smart Respiratory Health Data

5G Momentum 12.12.2019

CEO Tuukka Eloranta, Medikro Oy



# Medikro - Your Primary Partner in Spirometry

- Focused in computer based spirometry with 40 years of expertise
  - Family owned private company founded in 1977
  - Company roots are in cardiopulmonary systems
- Products sold globally under **Medikro Brand** and through **Trusted OEM Partners**
  - End customers include leading hospitals, clinics and occupational health centres
  - Products include mobile, desktop, integrated and PC-based spirometers
- **Three million** spirometry tests accomplished annually
- **ISO13485:2016** Certified Quality System



# Respiratory diseases

*Source: Forum of International Respiratory Societies.  
The Global Impact of Respiratory Diseases - Second Ed.  
Sheffield, European Respiratory Society, 2017*

- 400 million people have asthma or chronic obstructive pulmonary disease (COPD)
  - Asthma is the most common chronic disease of childhood affecting 14% of all children globally. More than 30% of all pediatric hospital days are caused by asthma
  - COPD is the third leading cause of death worldwide with 3 million deaths annually
- Indoor smoke and microbes, outdoor pollution, and tobacco smoking are increasing asthma and COPD
  - 2 billion people are exposed to indoor toxic smoke
  - 1 billion people are exposed to tobacco smoke
  - 1 billion people inhale outdoor pollutant air
- Respiratory diseases account >10% of total healthcare spending in the EU
- Asthma and COPD are diagnosed and monitored with spirometry

# Healthcare is affected by global trends

- 1. Development of sensor, communication & AI technology**
  - smaller, smarter, cheaper and more mobile instruments
  - increasing role and amount of health data
- 2. Seek for better health and quality of life**
  - increasing patient self empowerment
  - increasing pull for self-test, self-care and self-treatment solutions
- 3. Pressure for healthcare cost management**
  - changes in the healthcare structure and reimbursement policies
  - increasing push for self-test, self-care and self-treatment solutions
  - integration of care pathways and health data
  - new opportunities for innovation driven businesses

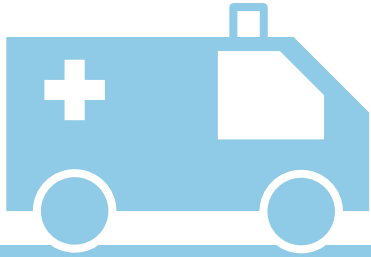
# In the future diagnostics is complemented by

1) On demand pre-diagnostic point-of-care testing



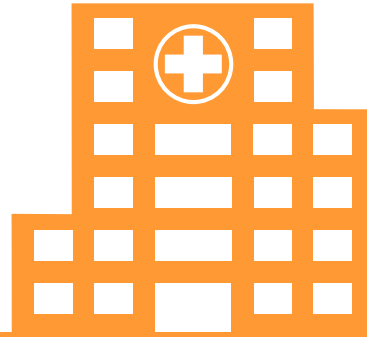
2) Continuous post-diagnostic disease monitoring





## Point-of-Care

- Location: variable test environment
- Time: on demand
- Operator: Healthcare Professional
- Device: portable, fast, connected
- Result validity: Reliable data through smart device and specialist support



## Diagnostics

- Location: dedicated laboratory environment
- Time: with doctor prescription
- Operator: Specialized Healthcare Professional
- Device: comprehensive, customizable
- Result validity: Reliable data through high quality device and specialized operator



## Monitoring

- Location: Variable real life environment
- Time: regularly, on demand
- Operator: Patient
- Device: portable, fast, easy to use, affordable, connected
- Result validity: Reliable data through smart device and intuitive user interface

# Smart Respiratory Health Data

