Recommendation 8:
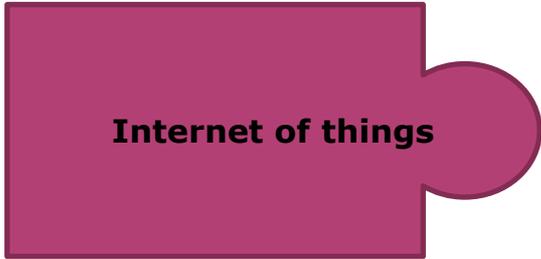
Internet of things

Inclusive well-being and health

Using '*internet of things*' to meet the societal need '*Inclusive well-being and health*'

Actual solutions and services:

There are several applications of the IoT technology in the area of Health, the latter pertaining to providing assistance to people or enabling automated medication and maintenance of medical devices.

According to Dimitrov, "devices and mobile apps are now increasingly used and integrated with telemedicine and telehealth via the medical Internet of Things (mIoT)".

Potential applications of the IoT technology in the domain of health care include i. Remote health monitoring; ii. Emergency notification systems / contacting the hospital in case of emergencies; iii. Telemedicine; iv. Early detection of and warning about patients at risk.

SWOT Analysis	
Strengths	Weaknesses
• **Advanced connectivity of devices, systems and services beyond machine-to-machine communications.** • **Advanced levels of automation, control and monitoring (avoiding human intervention).** • **Availability of more information and better decision making.** • **Higher Efficiency, Safety and Comfort.** • **Covering a variety of protocols, domains, and applications.** • **Enabling advanced applications Shorter reaction times.** • **Context awareness.**	• Compatibility/interoperability issues – platform fragmentation and lack of a common standard. • Complexity – more opportunities of failure/failures may have serious consequences. • Single point of vulnerability of multiple systems. • Batteries dependency. • Fewer requirements in human resources – rise of unemployment. • Creating dependence of daily life upon technology.
Opportunities	Threats
• **Better Human-Machine integration for public services** • **Empowering Big Data** • **Generation of dynamic and distributed information.**	• Physical safety in case of private and confidential information being accessed by unauthorized intruders. • Privacy and security issues. • Issues around the ownership of data and how the latter is used.

Inclusive well-being and health:

The pursuit of well-bring, provision of a primary health care services, realignment between work, personal and community life and a stable work-life balance across all age groups and gender. Some instances of this need include providing basic health care services and personalized services for disabled and physically impaired, child care, maintaining the quality of life (work-life balance, cultural and free time), and reducing the stark economic and social isolation of elderly people. 10 of our informants mentioned this as a priority need. Their comments and concerns embrace issues such as "more appropriate medical care", "improved access to primary health institutions", "social cohesion", and "lack of solidarity and rise of selflessness".

Internet of Things:

The Internet of Things (IoT) stands for the internetworking of physical devices, vehicles (also referred to as "connected devices" or "smart devices"), buildings and other items – embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data*. IoT allows objects to be sensed and/or controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit. When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, smart homes, intelligent transportation and smart cities**.

* Gartner IT Glossary – Internet of Things, http://www.gartner.com/it-glossary/internet-of-things/
** Wikipedia – Internet of things, https://en.wikipedia.org/wiki/Internet_of_things