

Wireless Sensor Networks

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Abstract – We summarize next our keynote talk as Distinguished Lecturer of IEEE Instrumentation and Measurement Society at the 22nd IMEKO TC4 Symposium and 20th International Workshop on ADC Modelling and Testing.

Keywords – Distributed measuring systems, sensors, wireless networks

I. SUMMARY

Wireless sensor networks (WSNs) can be considered as a form of distributed measuring systems aiming at having a large number of measuring points wireless connected covering a more or less wide space region.

After a short reference to what a WSN is about (Fig. 1), the talk starts by an introduction to WSNs that includes an historical overview and the presentation of some indicators, such as the one shown in Fig.2, that show the recent trend of the WSNs market.

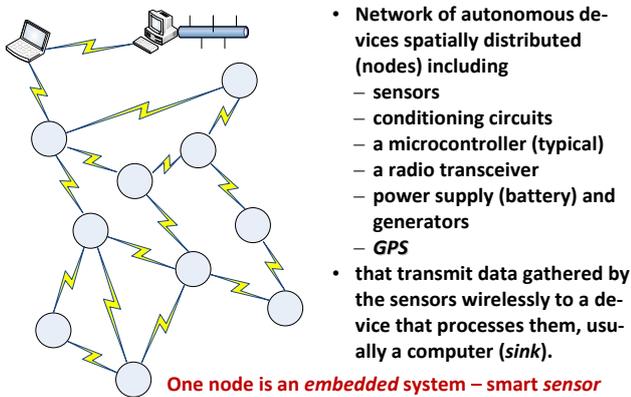


Fig. 1. Wireless Sensor Network

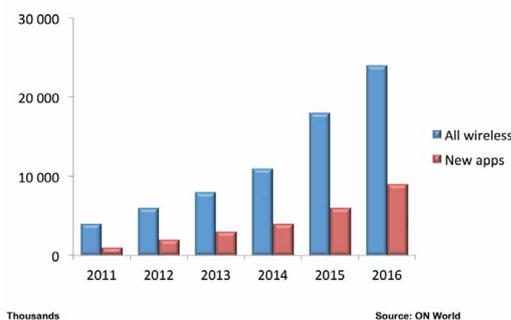
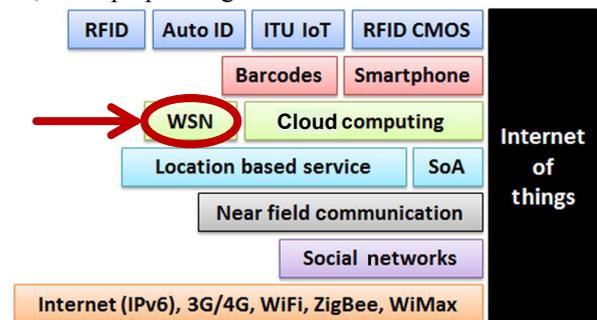


Fig. 2. Global installed industrial wireless sensing points

WSN is a technological domain involving several scientific areas and dependent on the development of technologies naturally detailed in the talk.

The real and potential applications of WSNs are countless. Examples are presented, and author’s personal experience in the implementation of particular solutions is used to introduce the challenges and limitations still faced by WSNs, both at the hardware and software levels.

The talk ends with a conclusion that includes remarks summarizing the main points of the talk, a reference to the foreseen importance of WSNs as input source of data to the Internet of Things (IoT) (Fig. 3) and thus to Big Data, and pinpointing some WSNs manufactures and



useful reading.

Fig. 3. WSNs and IoT [4]

II. ACKNOWLEDGMENT

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READING AND REFERENCES

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