

Designing and Monitoring Today, the Radio Access Networks of Tomorrow



Athens, October 2015

FERON Technologies



Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



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Scope

Feron Tech leverages and promotes the software defined radio technology
for designing, developing, measuring, analyzing, and optimizing
contemporary and future radio communication technologies and networks





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Agenda

- ▶ Activity Sector
- ▶ Target Markets
- ▶ Rationale
- ▶ xG Cell-Insight
- ▶ Feron Technologies Team
- ▶ What has been accomplished
- ▶ Contact Details





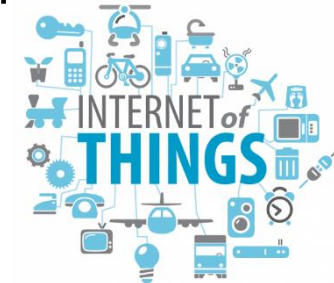
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Activity Sector

Information & Communication Technologies (ICT)

focusing in particular on:

- Mobile Communications and Networks (4G/LTE, WiFi, 4G+, 5G, Enterprise Networks)
- Analysis and Monitoring of Telecommunication Networks
- Localization – Indoor localization applications
- Software Development
- “Vertical” Markets: Machine-to-Machine communications, Intelligent Transportation Systems, First-Responders, Positioning, Remote Metering





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Target Markets

- ▶ **Global Telecom Sector:**
 - Network Operators
 - Vendors and Component Manufacturers
 - Research Institutes and Universities
 - Regulatory and supervision telecommunication authorities
 - Everyone with a project that requires custom and flexible radio solutions





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Rationale (1 / 2)

- ▶ **Technological Advances in the mobile Communications sector**
 - 4th Generation of mobile communications (LTE) – Operation and heavy expansion – frequent standard updates (one every 18 months)
 - 5th Generation of mobile communications – First pilot tests are foreseen in less than 5 years (Olympic Games 2020 – Tokyo)
- ▶ **Growing needs for developing, testing, evaluation and measurement platforms for NEW:**
 - Services,
 - Technologies,
 - Algorithms





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Rationale (2/2)

- ▶ **Factors leading to existing gap in international markets**
 - Availability of limited number of existing solutions with high cost
 - Telecom operators spend heavily for their networks' appraisal,
 - Hardware manufacturers avoid incorporation of new technologies, mainly because of high R&D costs,
 - Research institutes possess limited access to specialized infrastructure
 - Supervisory Authorities are unable to follow the expansion of new Radio-Networks

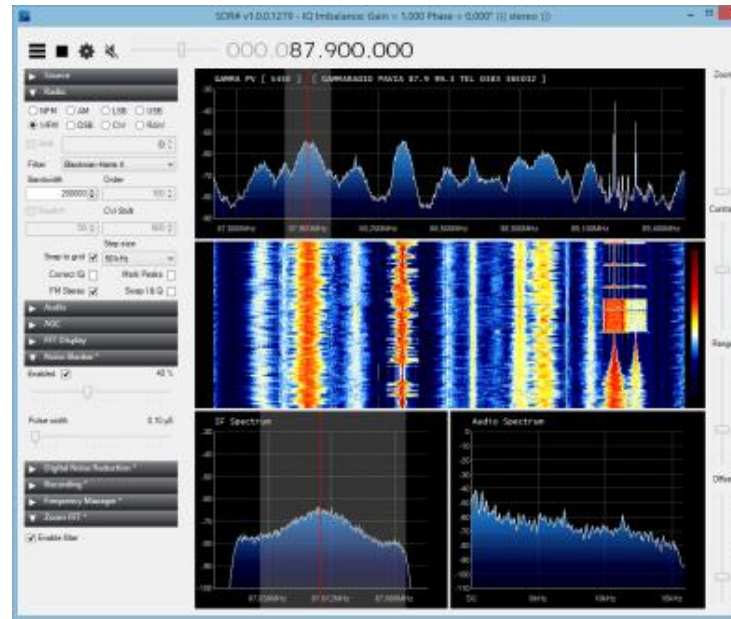


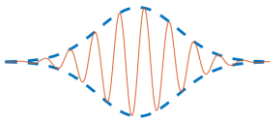


Feron Tech 1st Product: xG Cell-Insight

Technological Basis

- ▶ “xG Cell Insight”, is a **fully flexible 4G-LTE radio access monitoring system**, utilizing low-cost SDR hardware and software code running on general purpose computing equipment;
- ▶ It is based on the **SDR (SOFTWARE DEFINED RADIO) TECHNOLOGY**, which enables the development of end-to-end telecommunications platforms (i.e. comprising both the S/W application and the radio transmitting and receiving system), built entirely on S/W and general purpose H/W.

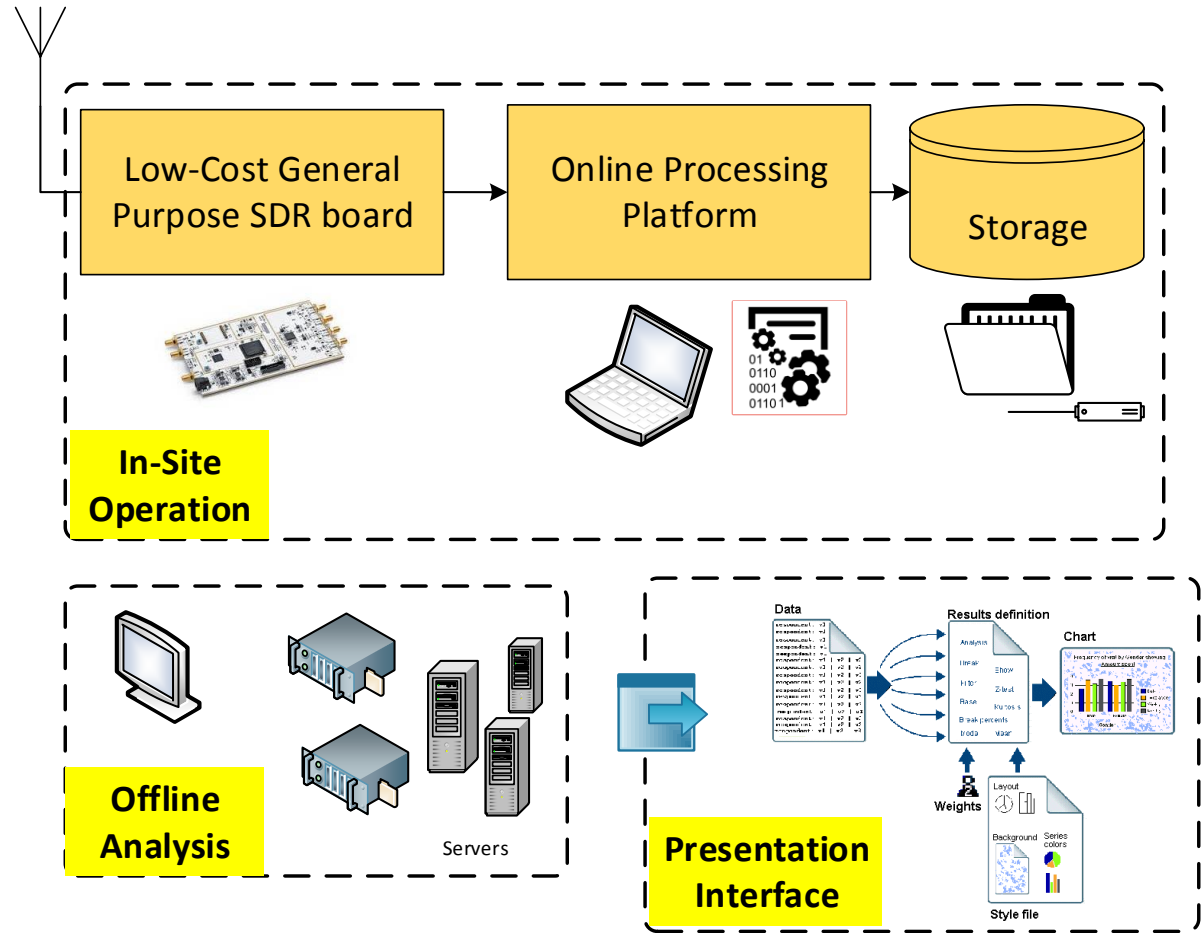
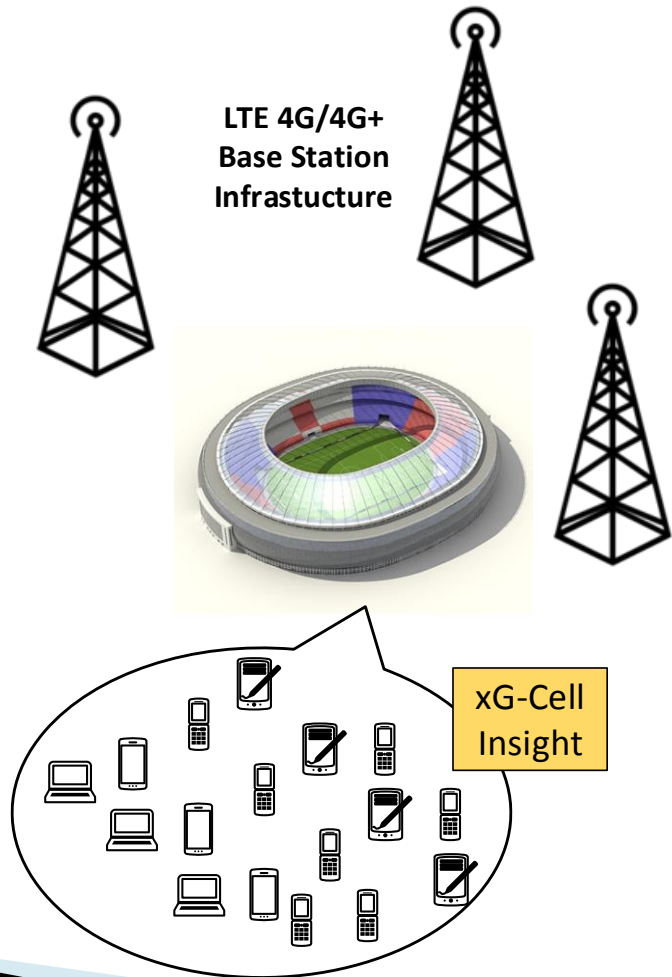




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xG Cell-Insight

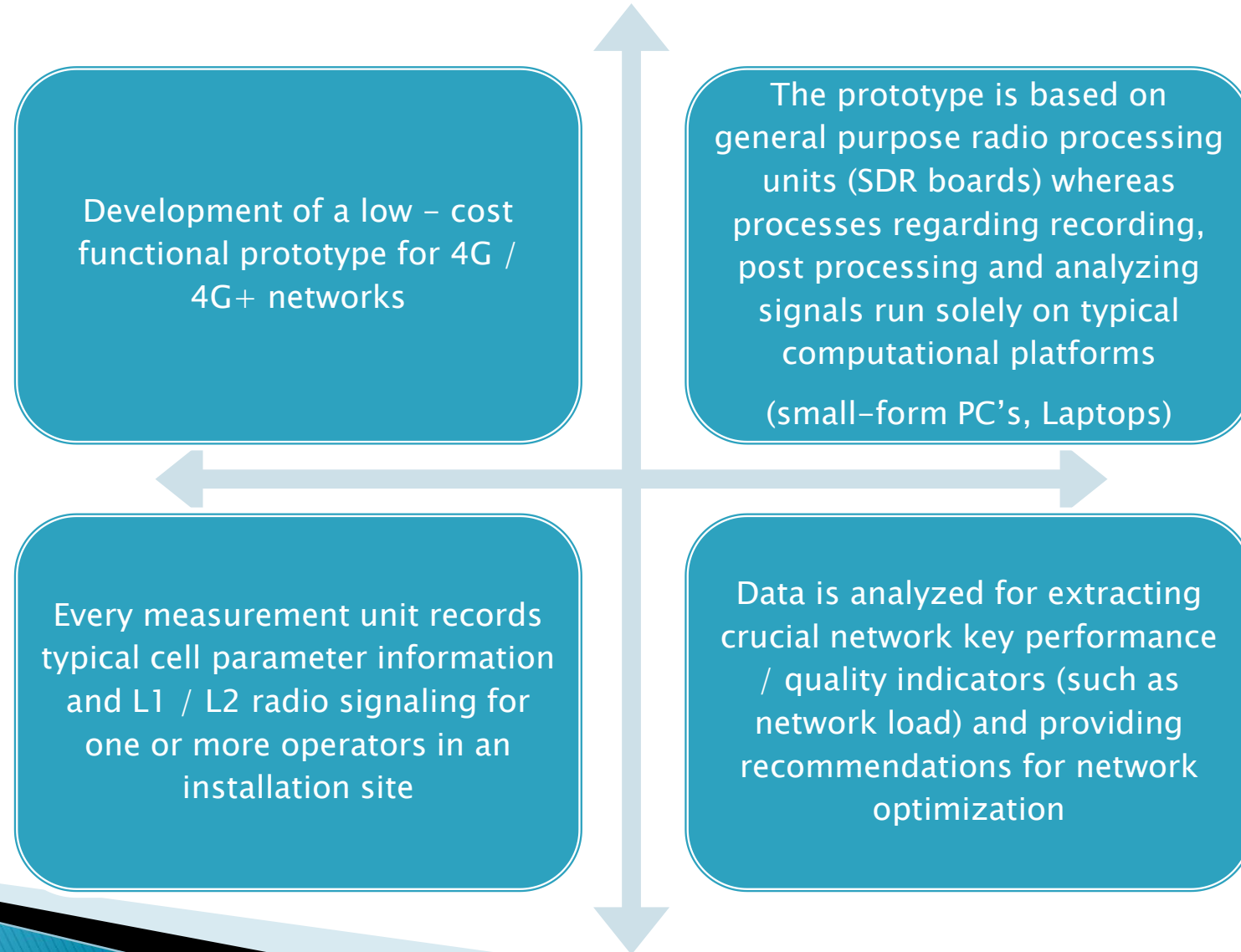
Functional Diagram





xG Cell-Insight

The Product





xG Cell-Insight

Advantages

- Potential for multiple communication systems and standards (LTE Releases, 5G) using the same hardware and appropriate software code.
- Ability to record and evaluate KPIs with maximum flexibility and adaptability according to each operator's requirements.
- Measure and Evaluate Competitor Networks and Propose Optimization Practices
- Competitive implementation cost:
 - H/W can be used for the development and implementation of multiple applications;
 - system core is built solely with S/W, which possesses significant advantages vis-à-vis conventional systems.





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Other side projects:

- ▶ Research and Development activities on Vehicular Communications:
 - Use of ETSI ITSG5 for car-2-car communications
 - Use of LTE in direct car-2-car connections
- ▶ Indoor Localization using Smartphones
 - Development of a complete indoor localization system using measurements obtained by Android Smartphones
- ▶ Development of ITU Ghn Simulator Engine
- ▶ Use of Single board computers for ad-hoc VoIP applications



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FERON Technologies Team

- **Michael CHRONOPOULOS.** Electrical and Computer Engineer (Dipl-Eng., MBA). Over 10 years of research and professional experience in managing complex IT projects.
- **Panos PSOROIDAS.** Economist (BSSc, MBA). Over 20 years of research and professional experience in Business Counselling and Project Management.
- **Dr. Antonios GOTSIS.** Electrical and Computer Engineer (Dipl-Eng., PhD). Over 10 years of research and professional experience in the fields of optimization for wireless communications networks and technologies.
- **Dr. Constantinos MALIATSOS.** Electrical and Computer Engineer (Dipl-Eng., PhD). Over 10 years of research and professional experience in the fields of signal processing for wireless communications networks and technologies.

To-date, the following have been accomplished:

- ▶ Set up of Entrepreneurial Team
- ▶ Shaping of Vision and Strategic Goals
- ▶ Participation in ANE Incubator (Athens)



Currently, Feron Technologies focuses on the following:

- ▶ Conclusion of the development of a functional prototype
- ▶ Elaboration of a Master Plan for company development
- ▶ Corporate Establishment
- ▶ Pre-seed investment financing



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