

## HP Brazil RFID CoE - Center of Excellence

### TEST CENTER DESCRIPTION:

The RFID Center of Excellence is prepared to aid customers to visualize in their businesses possible RFID applications as well as to observe those applications in real market conditions by means of technical researches, configuration of different products, and validation or development of tools for interfacing the systems with an environment appropriately equipped to reproduce an industrial area reality, and carry out tests and simulations before any implementation.

- Accelerate the development of RFID technology by doing applied research and providing technical services;
- To develop key-technologies to meet industrial needs, generating competence to the productive environment, helping companies to improve and strength its competitiveness in the market;
- To disseminate knowledge and encourage research in the RFID area;

### SERVICES/SOLUTIONS:

Research to promote RFID technology – The RFID CoE contributes in a decisive way coordinating efforts to network research centers, universities, and suppliers discuss new issues and challenges of the technology, specifically to promote technological advances in RFID and its applications.

Consulting on RFID Business Case Development – Despite the fact that the RFID technology is simple, its application in different situations demand specific solutions for subjects such as radiofrequency band, reach, range, interference, barriers to the radio waves, hardware and software compatibility, sources of energy and standardized code structures. The RFID CoE offers personalized solutions in order to fulfill the most different needs of the market.

RFID Education and Training – The RFID CoE has developed four training modules about this technology, as a way of sharing the acquired knowledge and the best practices developed internally: RFID Case Studies & ROI for RFID; RFID Implementation; RFID Middleware; RFID CoE Certification Exam and IoT.

- **RFID Case Studies & ROI for RFID:** in one day, offers to its participants a strategic orientation so they can manage the challenges of using RFID technology in a productive way, helping them to manage and make decisions during its adoption. With a many sided content it covers themes related to the application of RFID in the industry and in retail, in Brazil and in the world, showing how it is possible to obtain a competitive edge and ROI with RFID.
- **RFID Implementation:** is targeted to engineers and technical professionals involved in processes related to the development, implementation, and operation of RFID. During four days it provides the ideal grounds to professionals that require the technical knowledge in this specific area, enabling them to implement and use the technology in day-by-day operations. Through theory and hands-on lessons the

training enables experiencing the theoretical concepts, and focuses the technical aspects, the physical effects, and the criteria required to successfully apply RFID.

- **RFID Middleware:** aimed at professionals requiring understanding architectures, standards, and platforms are appropriate to develop RFID applications. Lasting 16 hours the course provides perfect balance between theory and hand-on practice, with session involving the development of an application using an open-source deployment of RFID middleware. By the end of the course the professionals will be able to compare functionalities of different vendors of middleware solutions, both from open and paid for source, and they will be able to make decisions about tools that may be used in their processes and in the reality of their companies.
- **RFID Professional Certification:** The RFID Professional Certification is a three-day course (24 hours of instruction) which is completed by an examination specially developed by a community of professors and experts in the radio frequency identification field, in order to demonstrate and certify the knowledge of participants and their level of expertise to work in real-life RFID implementation projects. The RFID Professional Certification also serves as an instrument for organizations to recognize professionals who have the necessary skills in the RFID field when they need to hire specialized professionals. The course and examination for the RFID Professional Certification were carefully developed, including the most recent technology developments. Its content is reviewed periodically, to ensure that the knowledge acquired by participants is in sync with the most recent market initiatives. To obtain the RFID Professional Certification, participants must achieve 70% in the final exam. The certification is valid for a period of 3 years and, after that, a new certification must be obtained, with participants being able to take the course as retraining or just the examination.
- **Business in the Internet of Things:** It aims to spread an innovative and practical vision on the IoT between Brazilian businessmen, consultants and managers of public and private organizations, to be ready to face the scenario changes and understand the enabling technologies of the New World of Business, with everything connected (one day – 8 hours).

**RFID Journal Live! Brasil** – The annual event show what is happening in the RFID world. The participants will learn about the advantages of RFID technology that makes all the difference in the market, and understand how to introduce it productively in their companies. During the event, RFID world's experts provide special, didactic, and interactive lectures, presenting and discussing successful RFID case studies. This helps the audience to identify and understand the current challenges of the RFID technology. HP is diamond Sponsor.

- **Relationship:** The event gathers eminent entrepreneurs, executives, and technicians from different industries. It is an excellent opportunity for networking, as well as to increase and consolidate relationships and partnerships.
- **RFID Show:** The RFID Show is a space exclusive to booth, where the sponsor will be able to exhibit different forms of application of the RFID technology, its potentials, and benefits. In this space the participants will also have the opportunity of networking and interacting with future business partners in their RFID initiatives, as well as exchange experiences with RFID experts, who will demonstrate all their expertise in that field. It is a live demonstration of the RFID technology.
- **Introduction to RFID for Business Innovation:** Offered during the event it is the module created especially for those seeking a general and didactic summary about radiofrequency identification. Professors and experts covered themes related to the application of the technology and its development, focusing also on innovation that are molding the future of the identification automation industry. This valuable introductory model provided the ideal grounds to professionals that need not only the technical

knowledge, but also to understand the value of RFID in order to explore all benefits of this technology. In this meeting teachers and experts will cover themes related to the application of the technology, its operation, and the main innovations RFID provides in the several segments where it can be applied.

**RFID CoE Test Center:** The RFID Center of Excellence offers a wide range of products and services in RFID, in order to fulfill the most different needs of the market. It is totally qualified to accomplish dock door portal tests, conveyor portal tests, tag readability tests, stress of systems tests and tag optimum positioning tests under real-world conditions.

- **Dynamic: Dock Door Portal Test** - for Case, Pallet and Item consistent performance for the reading of RFID tags that will pass through the portals.
- **Dynamic: Conveyor Portal Test** - for Case, Pallet and Item Level consistent performance for the reading of RFID tags as they pass through the Conveyor Portals in actual supply chain implementations.
- **RFID CoE Static Test** - for Applied Tag Performance in static test scenarios to find the best application of a particular tag, or tag comparisons, on its respective item, case or pallet.
- **RFID Site Surveys** - The detailed methodology focuses on RF(ID) signal coverage, equipment placement, and infrastructure analysis, addressing advanced issues that may have negative impact on the project deployment and scalability.
- **RFID Hardware Certification Test** – Regulatory conformance testing for telecommunications product certification from ANATEL - Brazil's Federal Telecommunications Agency, equivalent of FCC USA. The certificate of homologation issued by Anatel represents the Brazilian government's approval for the sale of product for the Brazilian market.
- **Tag Performance Parameters and Test Methods** - measure parameters of Tags that can be used to evaluate and compare various suppliers and product lines within a supplier.
- **Tags Benchmarking** - Procedure for benchmark testing using the Voyantic system. This procedure is applicable for the testing of UHF passive RFID tags. This test method can be used to compare RFID tags in the same case, or same tags in different locations.
- **EPCIS and Cloud Services** – RFID CoE Has procedures standardized to develop RFID software integrated with EPCIC and Cloud. This process is designed to ensure the quality, robustness and compliance with the requirements of the created solutions.
- **Computational Simulation**: define sequences and routine to realize computational simulation of RF devices in accordance with projects requirements. RFID CoE has the capability to develop RFID Antennas and Tags.
- **Development and Solution** - To establish a methodology for developing for how to conduct a research & development solutions for tracking items using RFID technology. The RFID Lab CoE according to the experience gained since its inception in 2005, performs research and innovation projects, development of passive devices like RFID tags and readers in the UHF band, certification

tests approved by EPC global since 2008 and implementations of technology in manufacturing environments using software developed by the team.

- Field Strength Analysis - cover the measurement points, instruments, setup and recording of data for the Laboratorial and Field Analysis Procedure.

## INDUSTRY VERTICALS SERVED:

- Retail
- Transportation
- Consumer Goods
- Logistics
- Government
- Healthcare
- Finance
- RFID Vendors

## AWARDS/KEY ACHIEVEMENTS:

- 2014 XVI GS1 Brazil Automation Awards Category Education - professional certification RFID.
- 2014 XVI GS1 Brazil Automation Awards Category EPC RFID – Project Cloud RFID.
- IEEE RFID Journal Brazil 2014 (International Conference Scientific articles)
- 2013 IEEE International Conference (Scientific articles)
- ID World 2013 Rio de Janeiro Award in the Project asset tracking category: Smart Waste.
- 2012 XVI GS1 Brazil Automation Awards Category Best Solution Providers.
- 2011 Brazil intelligent Award for best implementation in the supply chain for the team RFID CoE / HP.
- 2008 PM 50 Award Winners by Progressive Manufacturing - Innovation Mastery
- The Best RFID Implementation of 2007 by RFID Journal Awards
- TOP 25 Brazilian Innovation Project by Monitor Group
- 2nd place 2007 Technology Excellence by Supply-Chain Council Excellence Award
- TOP 100 Best IT Projects of 2007 by InfoWorld 100 Innovation Award of Excellence
- APICS 2007 Corporate Awards

## REFERENCES:

- Flextronics International
- HP Imaging and Printing Manufacturing Operations

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