




TURNING  
INTO REALITY

# Accreditation of Tests Labs and Certification of Telecom Products – CPqD Experience

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for the Americas Region  
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## Agenda

- Who we are
- CPqD Laboratories
- Services
- How to Accredite Laboratories
- Environmental Management Guidelines
- Conclusion




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- CPqD Laboratories**
- CPqD is a nationally and internationally acknowledged telecommunication technology center, with a state-of-the-art laboratory infrastructure capable of performing all certification, development, and product conformance tests.
  - CPqD labs, evaluated by Anatel and accredited by Cgcre – Inmetro's main accreditation body –, have the resources to perform virtually all existing certification tests.

CPQD



CPQ

Our team



Pos graduates	461
Graduates	574
Medium level	261
Total	1.296

CPQ



## Mark accreditation of laboratories CPqD Foundation

- **Calibration Laboratory**
- 1998: first calibration laboratory in Brazil to be accredited in the greatness Optics
- 2002 to 2004: initial accreditation of calibration laboratory for quantities of time and frequency and radio frequency



## Mark accreditation of laboratories CPqD Foundation

- Laboratory tests

2000: first test accredited (strategy used to "learn" and meet the accreditation process;

2002: extension of 22 tests on optical cables and mechanical characterization

2004: Extension in the areas of radio, antennas, WDM, electromagnetic compatibility, electrical protection, and SAR (the only accredited laboratory in Brazil), totaling 201 trials!

2006: extension of the testing laboratory battery (increasing the mark of 700 tests accredited in the areas of optical fiber cables and accessories, antennas, switches and terminals, radio systems, electromagnetic compatibility, mechanical characterization, electrical protection)




### Mark accreditation of laboratories CPqD Foundation

- 2008: special audit in the new premises of the Laboratory of Electromagnetic Compatibility for emission and immunity tests (conducted and radiated) relating to electric and magnetic fields,
- 2011: Extension of accreditation in a new class of tests (chemical testing) that meet the requirements of the National Environment Council (CONAMA) and the European Community (RoHS standard).
- 2012: Extension of electromagnetic compatibility tests in the areas of automotive, electro, appliances, industrial and legal metrology.




### Mark accreditation of laboratories CPqD Foundation

- CPqD is an organization that holds the widest scope of accredited testing by Inmetro.
- Our laboratory infrastructure is geared to meet the telecommunications, electricity and health, for certification, development and improvement of products.
- Today surpassing 750 tests accredited by the body, bringing the reliability and security market



## Calibration Laboratory

- **CPqD performs calibration of instruments:**
  - Measuring time and frequency,
  - High frequency and Telecom;
  - optical Communications



## Laboratory Tests

- The laboratories have adequate infrastructure to perform the services and have an integrated management system, based on standards ISO 9001, ISO 14001 and ISO / IEC 17025 accreditation with the Cgcre.




## Test Laboratories

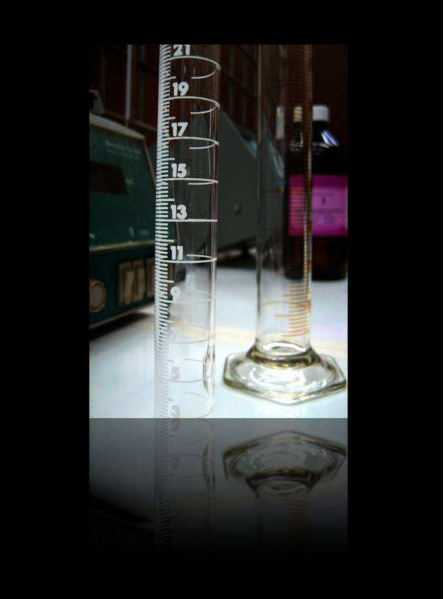
- The CPQD test lab infrastructure is Cgcre accredited, and is more than adequate to execute provided services. The labs feature an integrated management system based on the NBR ISO 9001, NBR ISO 14001 and NBR ISO/IEC 17025 standards.

Tests run by the labs include:


- Acoustic
- Optical Cable Fiber Fault Analysis
- Antennas
- Physical-Chemical Characterization
- Corrosion
- Climate
- EMI/EMC (Electromagnetic Compatibility)
- Radiofrequency Equipment and Mobile Terminals
- Switching Equipment and Terminals
- Fibers and Optical Cables
- Electrical Protection
- Copper Networks
- SAR (Specific Absorption Rate)
- Vibration




## LABS SERVICES



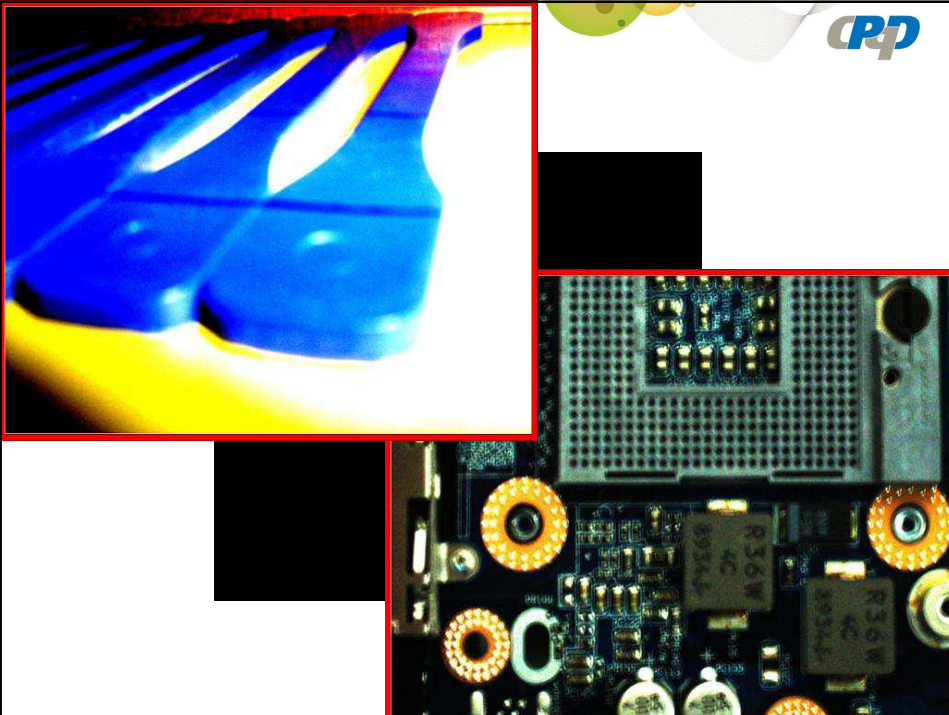
- Certification Tests
- Characterization Tests
- Development Tests
- Calibration Equipments




## LABORATORY INFRASTRUCTURE

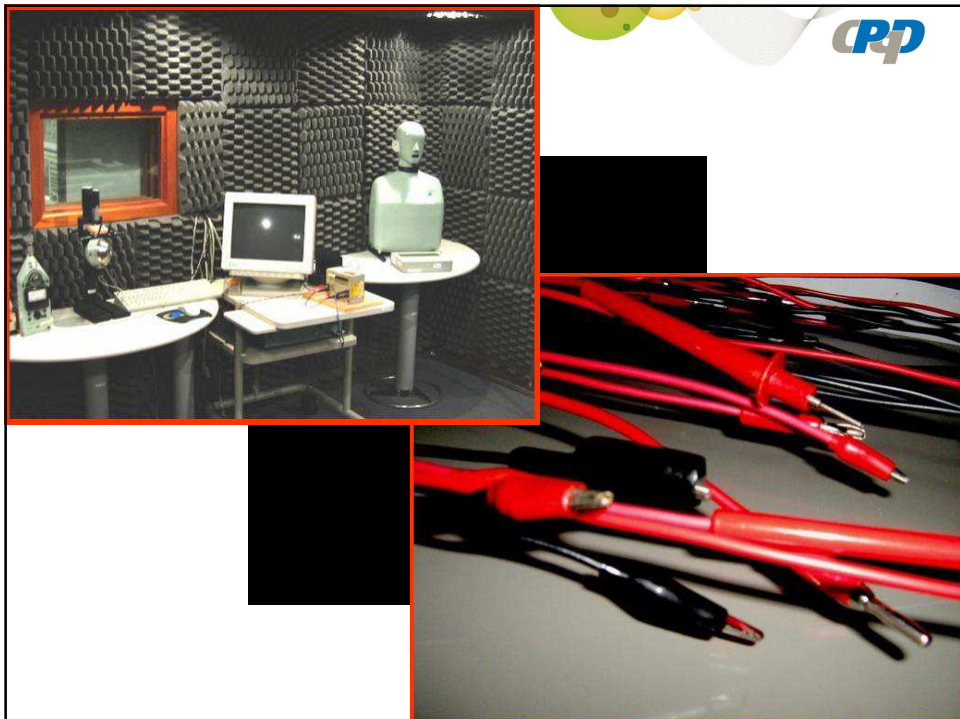
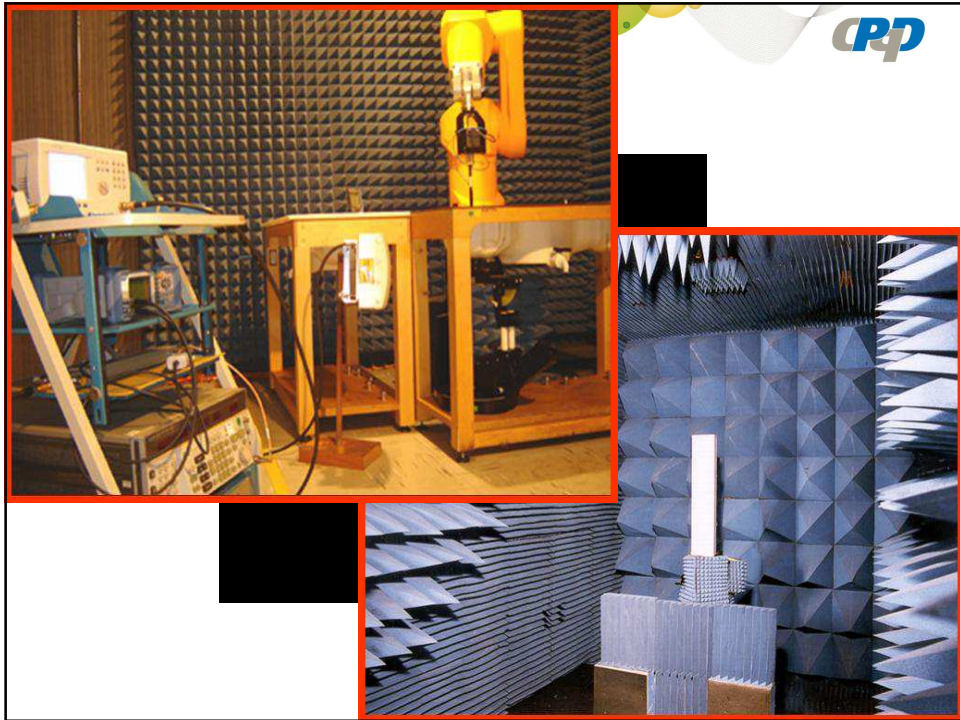


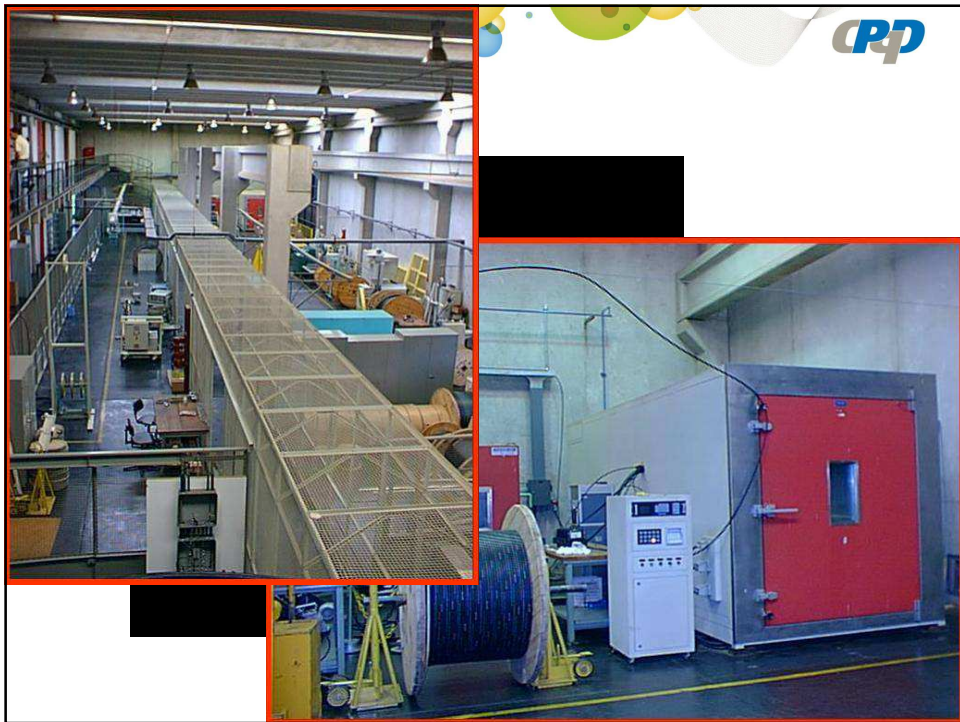
- SUPPORT LABS**
- WIRELESS**
- EQUIPMENTS AND TERMINALS**
- OPTICAL NETWORK**
- ENERGY SYSTEMS**
- METALLIC NETWORK**
- MATERIALS**
- METROLOGY**



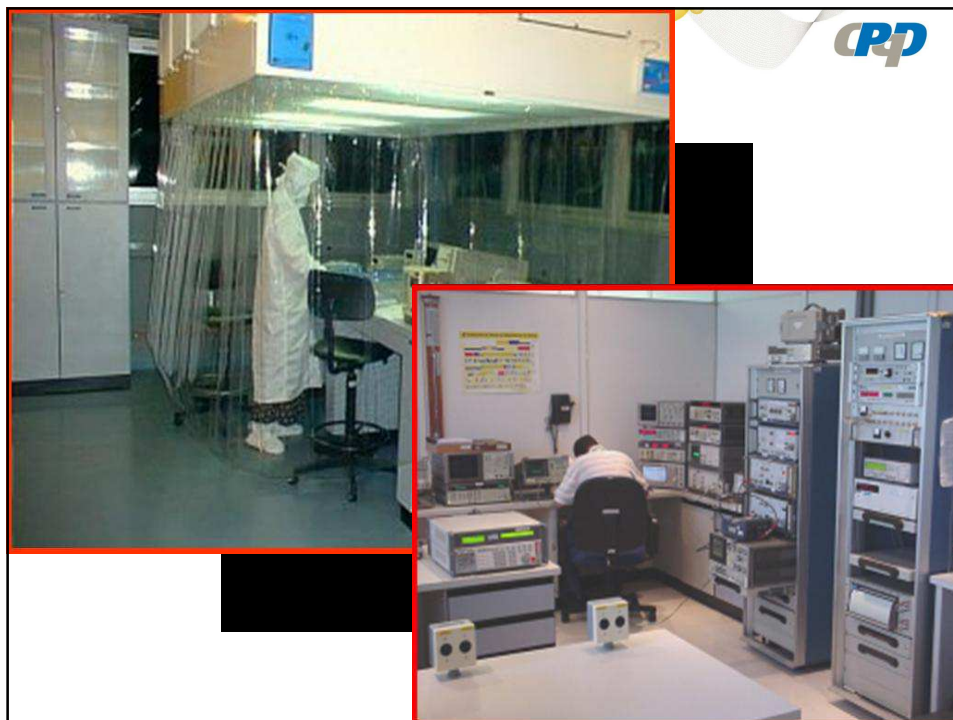






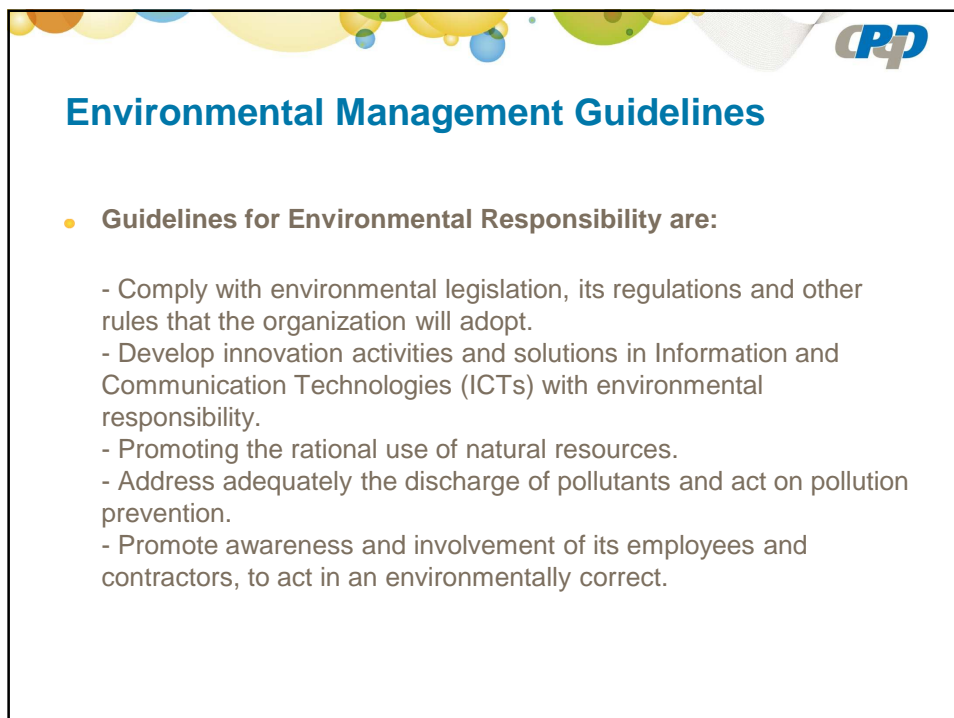
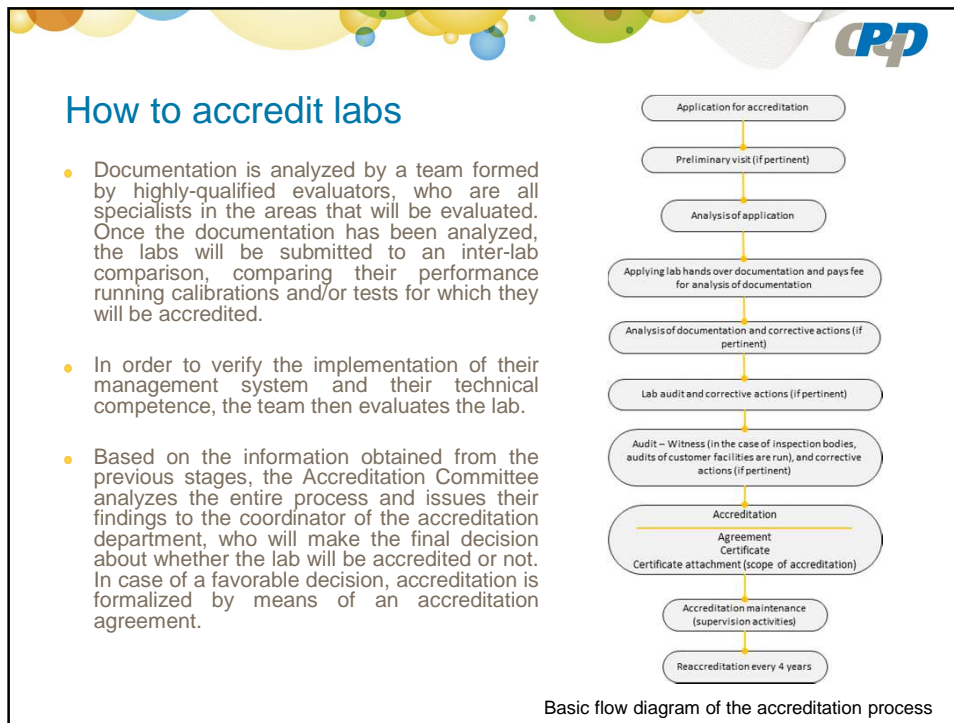






## How to accredit laboratories - INMETRO

- At the site of Inmetro, [www.inmetro.gov.br](http://www.inmetro.gov.br), basic documents are available for laboratory accreditation relevant to each type of accreditation offered: laboratory calibration and testing as required by the NBR ISO / IEC 17025, clinical laboratories or a testing laboratory in accordance with Good laboratory Practices (GLP).






### Accreditation CONAMA Resolution

- The Laboratory for Testing and Materials Characterization of the contributing authors recently received investments in equipment that will offer a more effective technology support to automotive and electronics industries with respect to the control of the composition of toxic metals in their products, in compliance with requirements of the National Environment Council (CONAMA) and the European Community (RoHS standard).




### Accreditation CONAMA Resolution

- CPqD laboratory equipped with energy dispersive spectrometer X-ray, enabling him to carry out chemical analysis, qualitative and quantitative composition of solid materials or liquids (metals, polymers, etc.) present in electronics, in circuit boards printed, and even packaging used by the market.



**Conclusion:**

- The tests accreditation by Inmetro adds security and reliability for the conformity assessment of telecommunications products
- the use of certified products ensures the quality of telecom services
- The implementation of laboratories in the country creates jobs, technical and economic development.
- CPQD is able to offer to countries in the Americas region 750 tests accredited by inmetro
- Conformity Assessment and Interoperability are essential for telecommunications growth in Americas region.
- Countries must have your own infrastructure for testing and measurement for conformity assessment and interoperability.
- The Brazilian government encourages the implementation of laboratories in the country (Res. 242)



**Thank You!**

[www.cpqd.com](http://www.cpqd.com)