

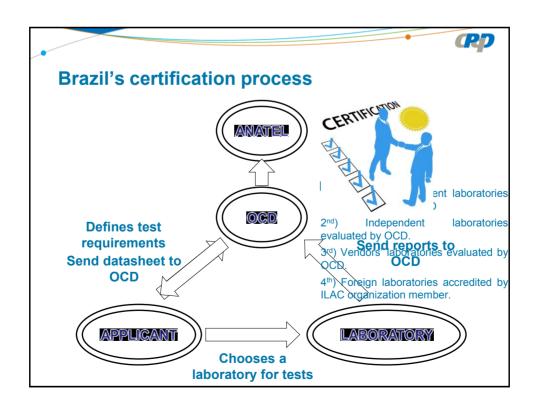


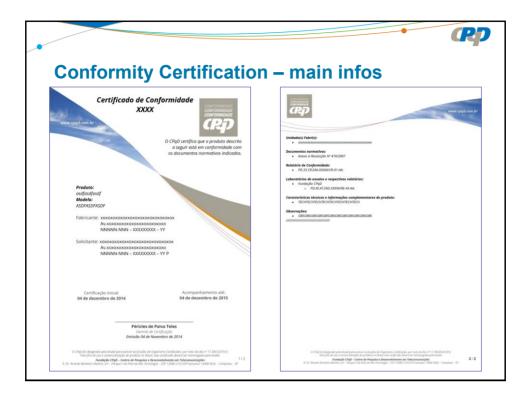




Brazil's certification process

- Resolution 242 (November, 2000) General rules for certification and approval of telecommunication products
- Mandatory for any telecommunication product. Defines all players, including the OCD.
- Resolution 323 (November, 2002) Standard for certification of telecommunication products
- · Defines the process of product certification.





Key points

- Minimum technical requirements for product qualification;
- Product classification divided in 3 categories:
- Cat I for end user application;
- Cat II for professional application and use of radio spectrum;
- Cat III for infrastructure application.
- · Safety concern for end user;
- Process defined by a Governmental agency, supported by private foundations/companies, working as certification bodies.





Benefits of certification process

- · Assure minimum quality and security for user;
- Maintenance of telecommunication structure;
- Knowledge development as a result of international experience + local research.



Structure required for a certification body

- Technical team with high background on current and state-of-art technologies;
- Combination of different profiles and experience levels (long-term experts & New engineers);
- Time-to-market allied with quality;
- Organization structure based on process mapping.



Brazilian Market Analysis

- . More than 3.800 process until Oct/14
- 2.100 new products certified this year
- · More than 4.700 process in 2013
- 3.100 new products in 2013



- · Over USD 22 Million dollars per year.
- · High competition among companies
- · Challenge on offering commodities

Latin America Certification overview - Argentina - CNC (Comisión Nacional de Comunicaciones) - Certification based on type approval













Final remarks

- · Certification process can bring benefits for all parts
- Industry: better competition, privileges for those who are legally established in Brazil
- · Society: security and quality of products
- Government: management of current technologies and products available. Network maintenance.



