

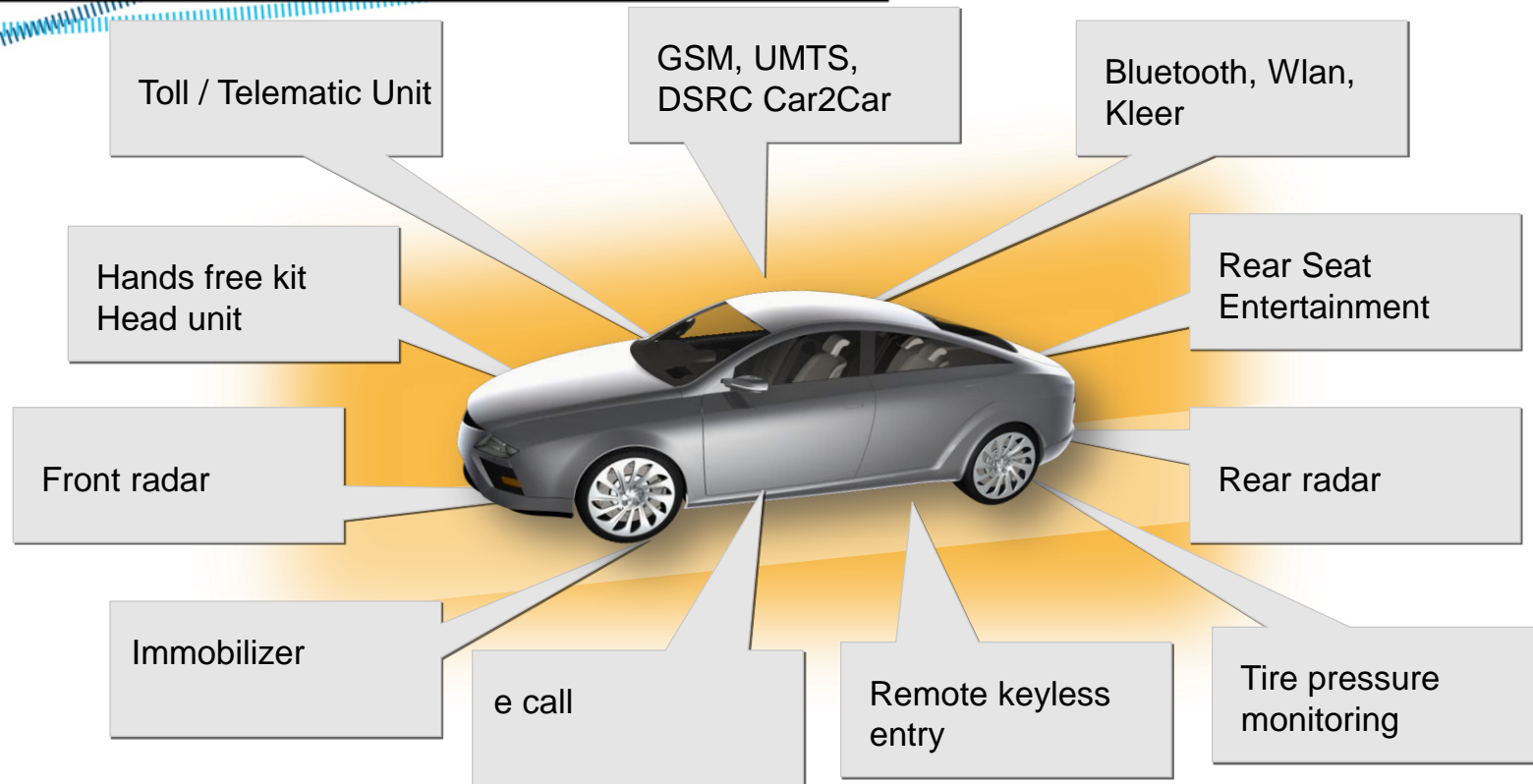


HOW TO MASTER REGULATORY ISSUES
—OVERVIEW ABOUT
CERTIFICATION REGIMES
—COUNTRY SPECIFIC REQUIREMENTS

HISTORY

- Immobilisers and remote keyless entry systems have been the first wireless applications in automotive (introduction 1990s). By that time, each of the EU countries required national approval (e.g. Radiocommunications Agency in the UK)
- national approvals in the EU have been replaced. Introduction of the EU R&TTE directive in 2000. First Bluetooth hands free applications
- Worldwide radio regulations became mandatory for radio components since these application have been introduced worldwide
- More and more automotive wireless applications for security, safety, diagnostic, telematics, entertainment and even cable replacement
- Although there are ongoing harmonization activities, it is still mandatory to consider the certification requirements in each of the target markets

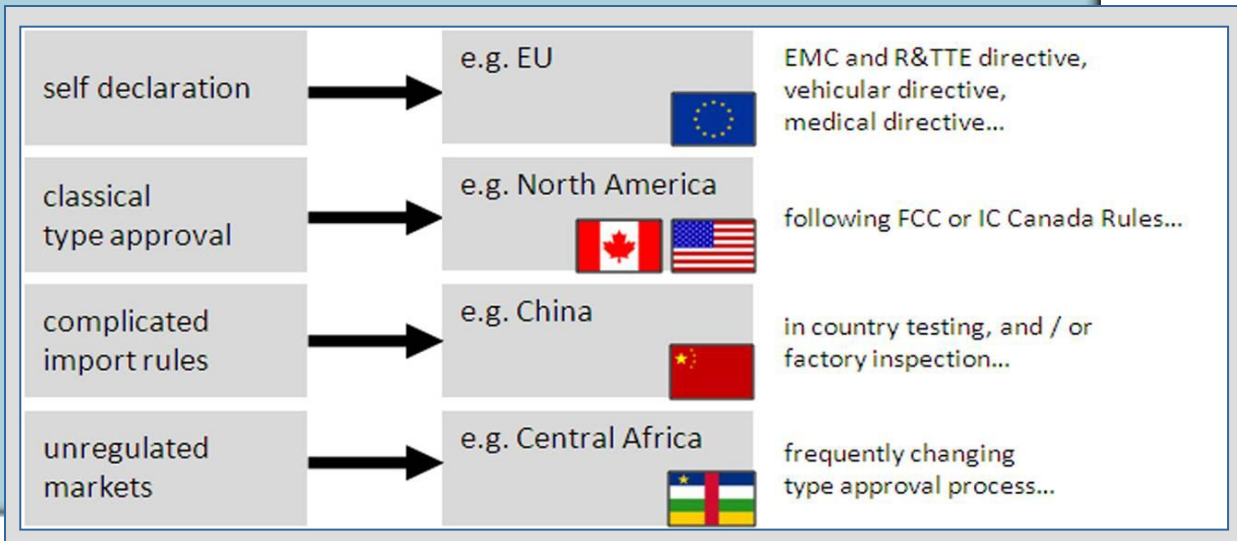
AUTOMOTIVE WIRELESS APPLICATIONS



OVERVIEW

- Focus of this presentation
TYPE APPROVAL FOR PRODUCTS WITH WIRELESS CONNECTIVITY
not product certification with private regimes
- Around 200 countries in the world have different requirements for product certification and type approval
- Type Approval in many countries is a challenge

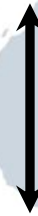
- The following approaches exist:



INTEREST GROUPS & REGULATORS


interest groups
define **certification** requirements

regulators of countries or regions define
type approval / regulatory requirements



standardization groups define technology standards and test specifications
for wireless technologies, e.g. GSM, GPRS, EDGE, 3GSM, LTE, Bluetooth®, WLAN, ...

TYPE APPROVAL CHALLENGES

- What do Saint Lucia, Ghana, Armenia and Fiji have in common?
> They have their own national radio certification process.
- What do Argentina, Ukraine, Malaysia require for radio certification?
> In-country testing in local laboratories.
- Certification in many countries is a logistical challenge.
Have you ever sent a parcel to Turkmenistan?
> No? be sure, it will not work the usual way!
- Which country's radio certificate contains this logo? 
> It is Brunei.



VARIETY OF GLOBAL TYPE APPROVALS

A CONFIRMATION FROM THE RELEVANT AUTHORITIES

- Depends on law in target market
- Comes in the shape of
 - a type approval certificate
 - a letter of registration
 - an exemption from licensing
 - a legal reference
 - a conformance report

Example: CE-marking

- Indicates that product complies to R&TTE
- R&TTE directive (1999/5/ES) covers the whole EU / EFTA market
- Requirements are Health and Safety, EMC, effective Use of Radio Spectrum

SELF DECLARATION

- EU / EFTA
- Australia, New Zealand

CLASSICAL TYPE APPROVAL

- Most countries worldwide e.g.
- All Americas
- Asia, Caribbean
- North and South Africa, Gulf Coast Countries

COMPLICATED IMPORT RULES

- GUS countries excl. Russia, Ukraine, China

UNREGULATED MARKETS

- Central Africa
- Haiti, North Korea
- Afghanistan, Iraq, etc.



방송통신위원회



SELF DECLARATION

- Manufacturer and/or person placing the product on the market has the full responsibility
- No involvement of type approval bodies required > no certificates
- Manufacturer's company policy and quality management lead to different interpretations of applicable regulations and standards
- Knowledge and education of involved persons is essential, otherwise external consultancy required
- Typical example:
EU new approach directives
R&TTE directive 1999/5/EC in the radio/telecom area

SELF DECLARATION EU-R&TTE DIRECTIVE

R&TTE DIRECTIVE (1999/5/EC) of the EU

- currently the most relevant SELF DECLARATION REGIME
- covers the whole EU/EFTA market



ESSENTIAL REQUIREMENTS OF THE R&TTE DIRECTIVE

- ART. 3.1A): HEALTH AND SAFETY
the protection of the health and the safety of the user and any other person, including the objectives with respect to safety requirements contained in Directive 73/23/EEC, but with no voltage limit applying
- ART. 3.1B): ELECTROMAGNETIC COMPATIBILITY
the protection requirements with respect to electromagnetic compatibility contained in Directive 89/336/EEC)
- ART. 3.2: EFFECTIVE USE OF THE RADIO SPECTRUM

R&TTE



CLASSICAL TYPE APPROVAL

RADIO REGULATION AUTHORITY or ASSIGNED PRIVATE CERTIFICATION BODY

- assesses documentation and test reports
- finally issues a certificate

Recognition of international standards - EU/US
or
national testing requirements

- Less flexibility than self declaration
- Re-certification even for minor product changes requires involvement of local authorities
- Find the right balance to cover changes on globally certified products

CLASSICAL TYPE APPROVAL US FCC/TCB CERTIFICATION

- The only regulatory body in the USA for telecommunication approvals is the FCC (FEDERAL COMMUNICATIONS COMMISSION)
- Applications can also be submitted via TCBs. However, the TCB finally submits certificates to the FCC webpage



- Marking with FCC ID for radio products
- The FCC certification covers radio, EMC and SAR aspects
- Electrical safety is not a regulatory requirement however safety certification is a market requirement

COMPLICATED IMPORT RULES ^{1/2}

- In-transparent regulations
sometimes no standards / details about processes available
- High costs compared to the marked volume
and limitation of validity of the approval

- Market barriers like
 - long duration of the whole certification process
 - slow international harmonization activities
- Problematic requirements like
 - factory inspection
- Export/customs problems
 - even with samples submitted for testing

COMPLICATED IMPORT RULES

GUS 2/2

- Implementation of regulations similar to former SU, but separate process in each of the countries
- Certification costs can be 5 to 10 k Euro or even higher – unreasonably high
- Certificate is only valid for 1 year except if factory inspection is being performed



How to deal with certification in these markets?

Close cooperation

between manufacturer and local importer

is required

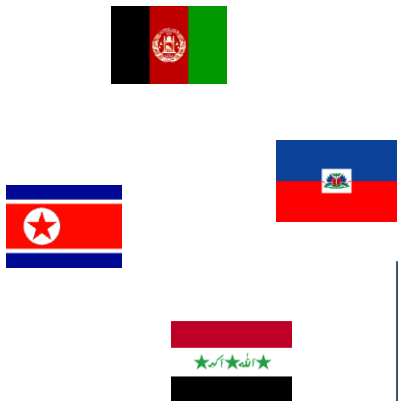
UNREGULATED MARKETS

Countries with major economical or political problems

Central Africa, Haiti, North Korea, Afghanistan, Iraq, etc.



- How to deal with countries where NO CERTIFICATION is possible?
- How to deal with countries where TECHNICAL ISSUES ARE NOT THE ISSUE?



Customs clearance

- major issue and
- requires involvement of the local importer



ADDITIONAL REQUIREMENTS IN-COUNTRY TESTING

National standards usually are

- paste-and-copy from international standards
- or a subset of the requirements
 - small deviations are possible
 - e.g. difference in limits and test methods

WHEN PASSING THE EU/US STANDARDS

- the risk for failing national standards is low
- EU/US results
 - should be compared with national standards before start of national testing

CERTIFICATION SCHEDULE AND CRITICALITY 1/3

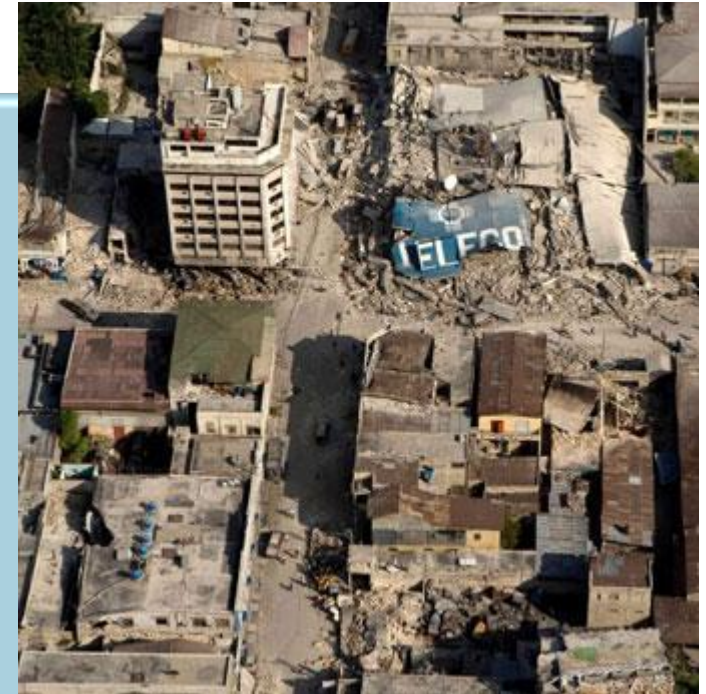
Countries with major problems (war, natural disasters, etc.)

Typical issues

- No response by local authority
- Change in organizations
- Current cases

Central Africa, Haiti, Afghanistan, Iraq

- Improvement activities
 - visit countries as far as possible
 - be involved in re-establishment of regulations
 - e.g. Kosovo, etc.



Countries with political issues or related personal interest

Typical issues

- Due to political issues nobody wants to sign a contract
- People involved want to travel - factory inspections -

Embargos

Current cases

Belarus, Armenia, Kyrgyzstan, Turkmenistan, Uzbekistan, Kazakhstan, Zimbabwe, etc.

- Improvement activities
- visit countries
- arrange workshops for regulators e.g. Kazakhstan, Azerbaijan, Armenia, Kyrgyzstan



Countries where people have a different mentality

- Day 1:`yes, you will receive the certificate by tomorrow!`
- Day 2:`yes, you will receive the certificate by tomorrow!`
- Day N:`yes, you will receive the certificate by tomorrow!`
- Current cases
Central & South America, Africa
- Improvement activities
 - visit countries
 - establish good relation ships
 - e.g. St. Kitts & Nevis as above, ongoing...



COST SAVING STRATEGIES

COSTS

- **Fixed costs**
Approval fees, test fees
(usually fixed by the designated authorities)
- **Variable costs**
Local partners (the cheapest is not always the best choice).
Especially in time critical projects it is important to have the right partners.
- **Project management**

COST SAVERS

1. Synergies for many countries
2. Certification strategy / risk management (e.g. variant handling)
3. Modular certification approach (e.g. included radio components)
4. Process optimization

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