

5th conference

Transport Solutions:
from Research to Deployment
Innovate Mobility, Mobilise Innovation!
Paris - La Défense CNIT, 14 - 17 April 2014

Inturri, Giuseppe*, University of Catania, Italy, COST TU1103
Fontaine, Laetitia, STRMTG Grenoble, France, COST TU1103

Introduction

The main objective of the Action is to improve tram and LRT safety, through a better management of their insertion in urban spaces.

We focus on fully guided urban LRT systems, which share public space with road/ bike/ pedestrian traffic and on accidents and near-misses.

We don't include accidents caused by track or signalling or rolling stock problems.

34 organizations from 15 countries



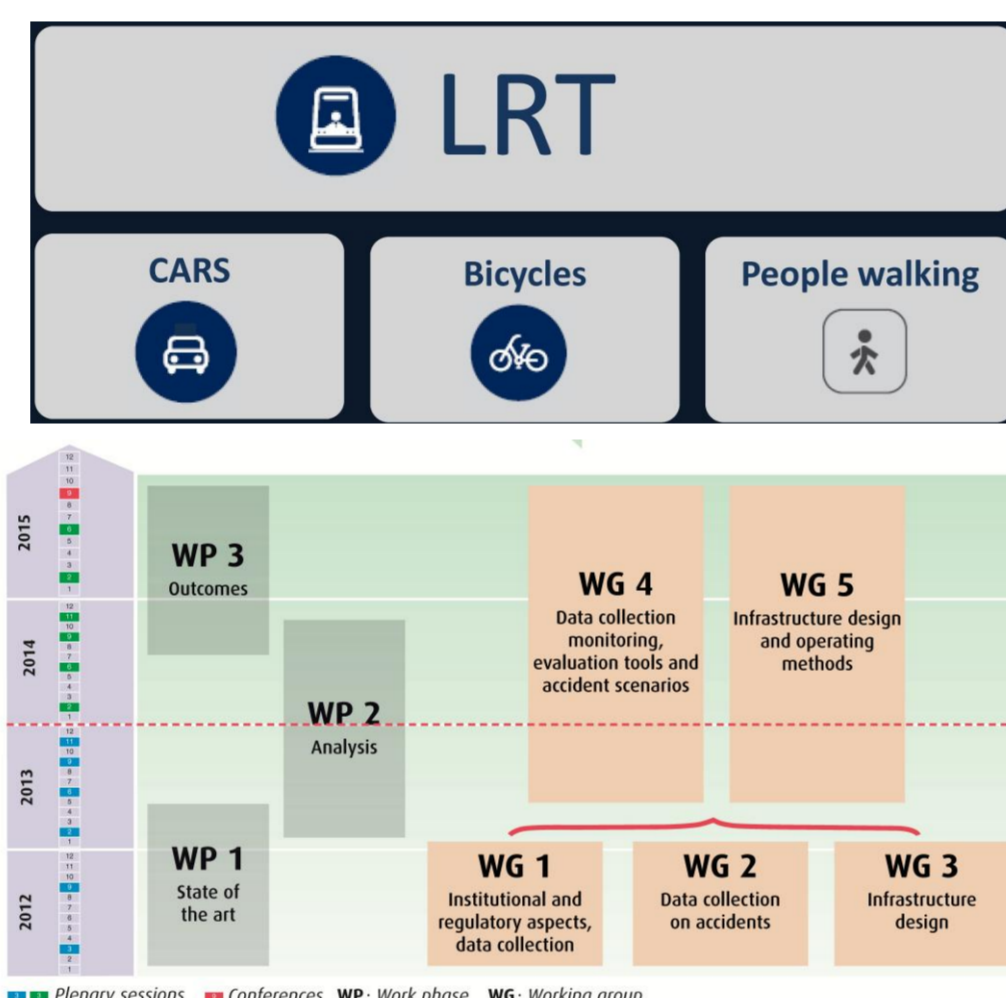
Coexistence of old and modern tram systems

Method

WP1 Information on the state of the art and contexts in participating countries

WP2 Discussion, debates, study visits, best practices analyses

WP3 Recommendations for a safest insertion of tram in urban spaces, through guidelines based on analyzing risks, objectives and possible solutions



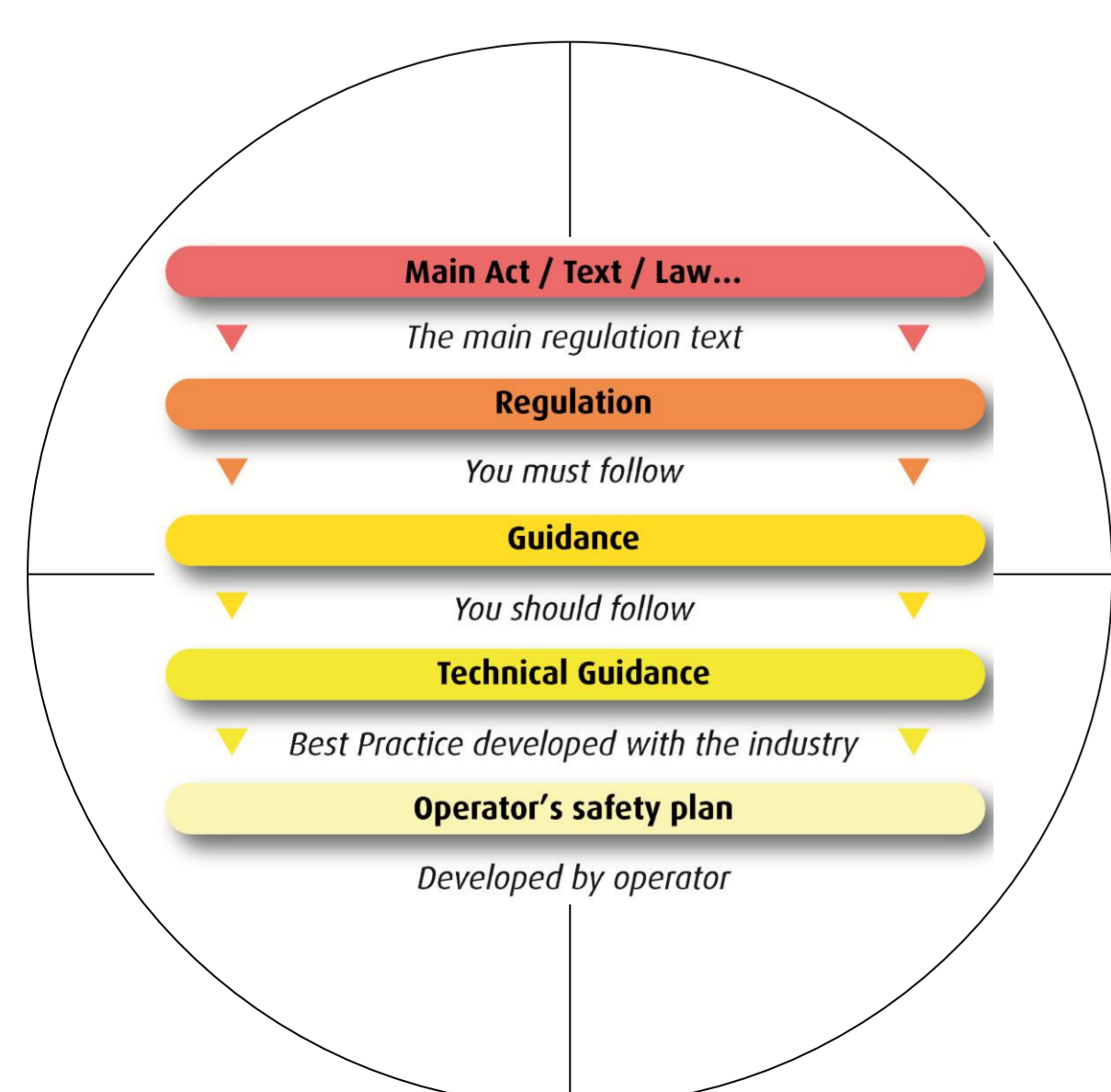
Organization and planning

WG1: Institutional and regulatory aspects

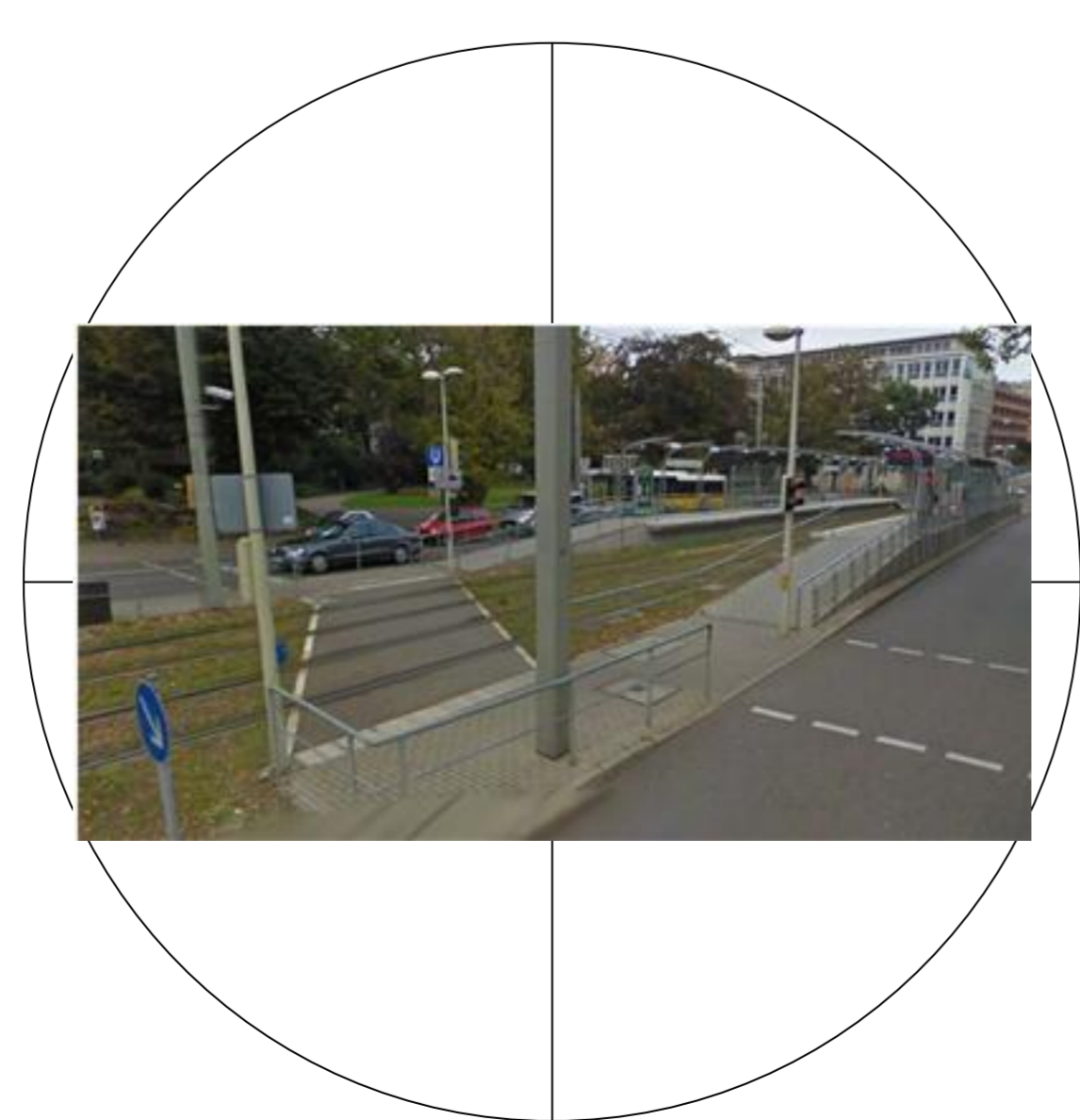
A wide range in the level of regulation and standardization for LRT systems among the countries.

Data collected:

- Glossary of common used terms
- **A global view per country**
- **A list of LRT regulations per country**
- A bibliography on related studies



Regulatory issues



Z crossing - Stuttgart

WG2: Data collection on accidents



Bordeaux

Overview of organisational options in terms of gathering and use of data on accidents. Near missed ones through emergency braking, and other tools like CCTV.

A European wide harmonisation would probably be very difficult to achieve.

Anyway there are **some lessons to be learnt** which could reduce risks on new systems.

WG3: Infrastructure design



Porto

Tram systems in each country must face similar kinds of risky situations, and there are specific design solutions that may be generally considered as safe or dangerous.

An analysis of **more than 100 good and bad practices** in relation to safety when interacting with other street users (pedestrians, cyclists and road vehicle users) is now available.

Conclusions

There is not a code that collects all the laws concerning the tramway sector, rather an interpretation of railway and road norms. Design norms are national, operational norms are local.

Only few examples of national database on accidents exist.

Safety approach is mostly reactive, based on the investigation of individual accidents and relevant corrective measures. Some countries require the introduction of a Safety Management System, to proactively take decisions to keep safety indicators to prefixed target levels.

Main references

1. COST TU1103, WP1 Report, <http://www.tram-urban-safety.eu>
2. EC (2011). Mandate for programming and standardisation addressed to the European standardisation bodies in the field of urban rail.
3. UR (2011). Fundamental Requirements for urban rail systems, design, construction, manufacture, operations and maintenance. Railway Safety Statistical Report 2011

* Contact : ginturri@dica.unict.it

We acknowledge European Cooperation in Science and Technology (COST) for funding this Action and all participating countries and members for their fruitful exchanges and production.