



Technologies for Road Advanced Cooperative Knowledge Sharing Sensors

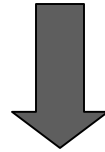
Project Overview

Contract n°:027329

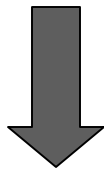


THE PROBLEM

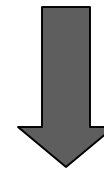
The improvement of safety and efficiency in transport is a priority that can not be solved with the use of stand-alone ITS systems



Co-operative Transport Systems are the most promising solution

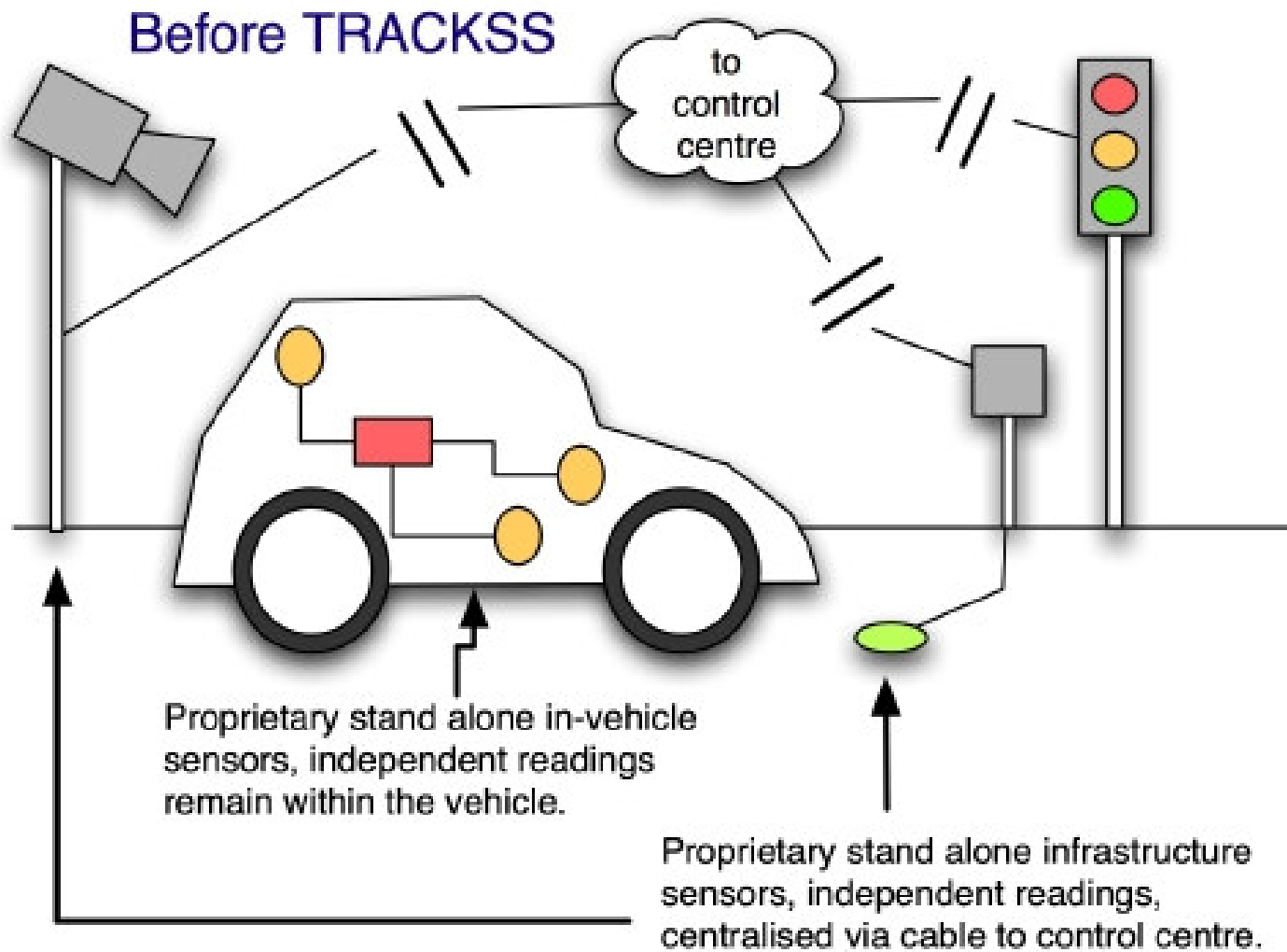


Smarter systems demand smarter sensors



Cooperative systems require cooperative sensors

BEFORE TRACKSS





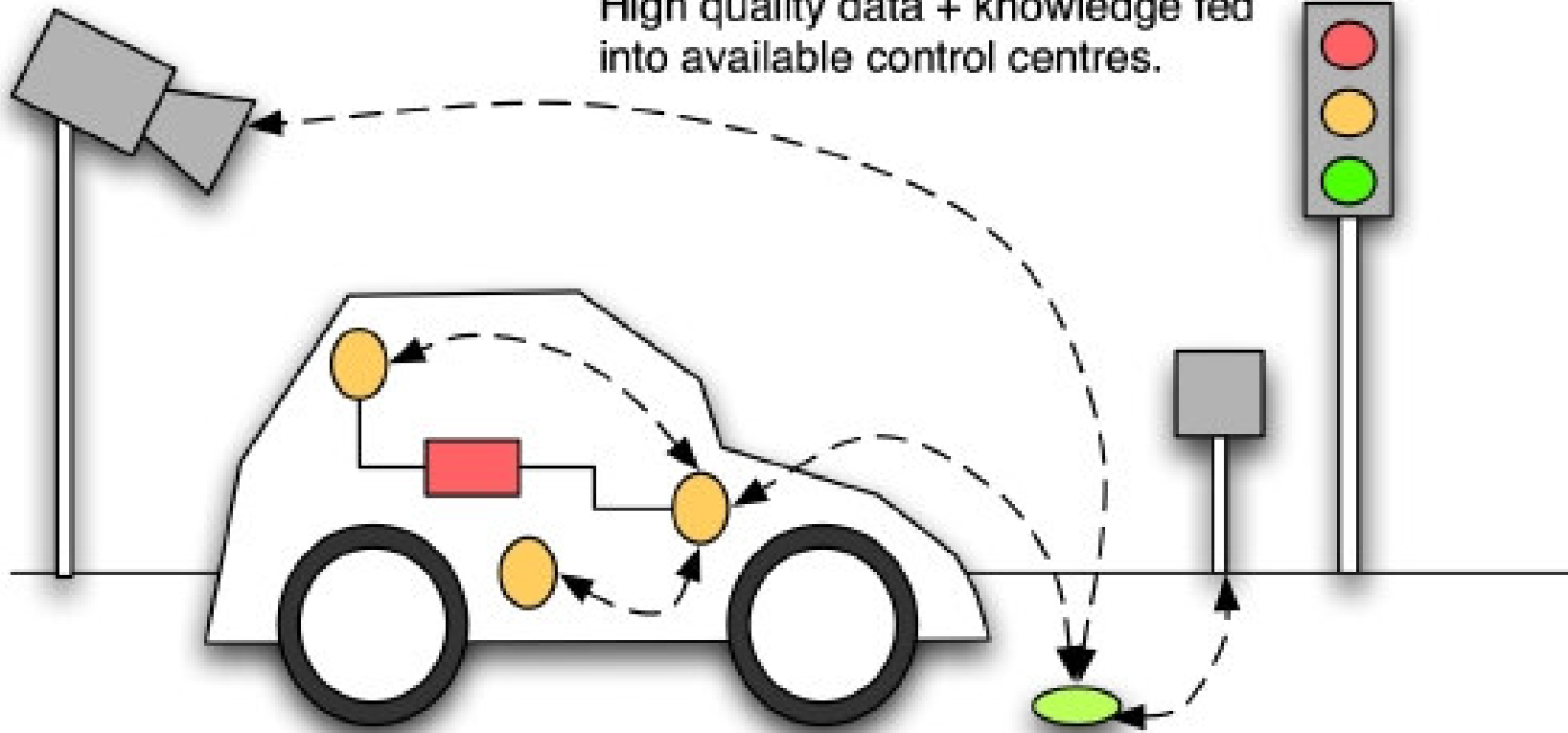
STRATEGIC OBJECTIVE

Development of new systems for cooperative sensing and predicting flow, infrastructure and environmental conditions surrounding traffic, with a view to improve road transport operations safety and efficiency

AFTER TRACKSS

After TRACKSS

High quality data + knowledge fed into available control centres.



Open, knowledge sharing sensors working together to get improved knowledge on the vehicle, the flow and the infrastructure.

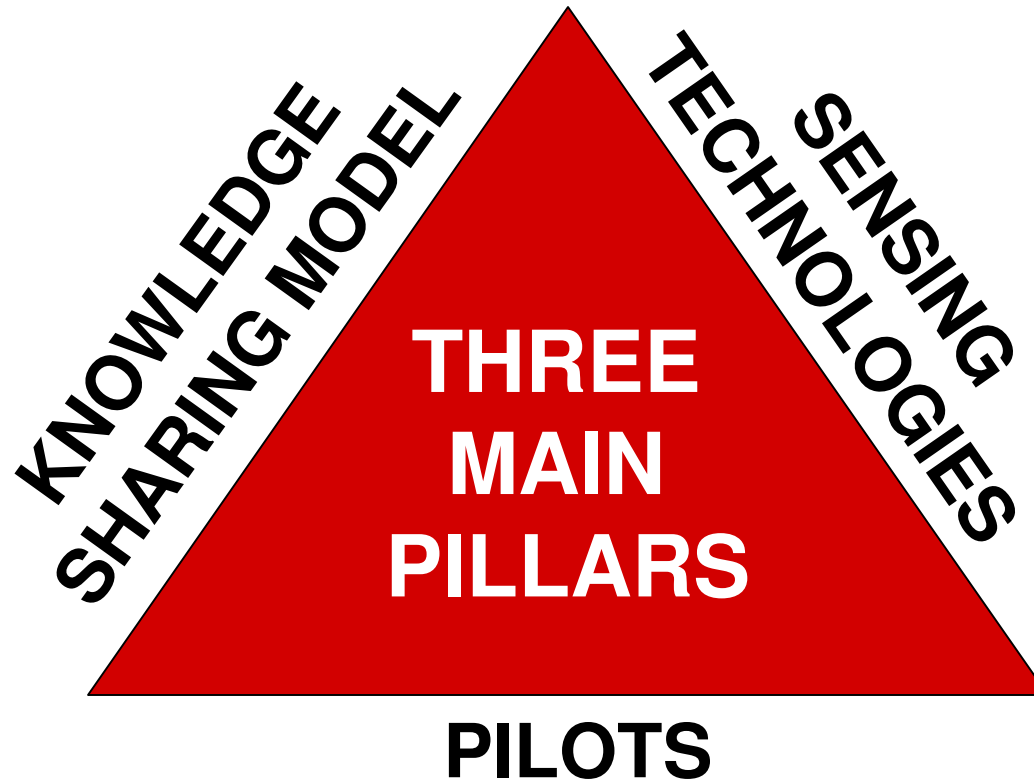
SPECIFIC OBJECTIVES

- 1) **Development and /or improvement of a number of **breakthrough sensing technologies**:**
 - I. **On-board vehicle sensors** including:
 - Advanced ice detection
 - High-dynamic high-resolution CMOS camera (sub-windowing technique)
 - mmWave pedestrian detectors
 - II. **External sensing technologies** such as:
 - Improved loops and laser scanners
 - Smart video cameras
 - Smart dust or remote sensing cameras in different spectral ranges
- 2) **Embedding **knowledge sharing capabilities** into the above sensing technologies enabling their optimal integration into the CTS environment**

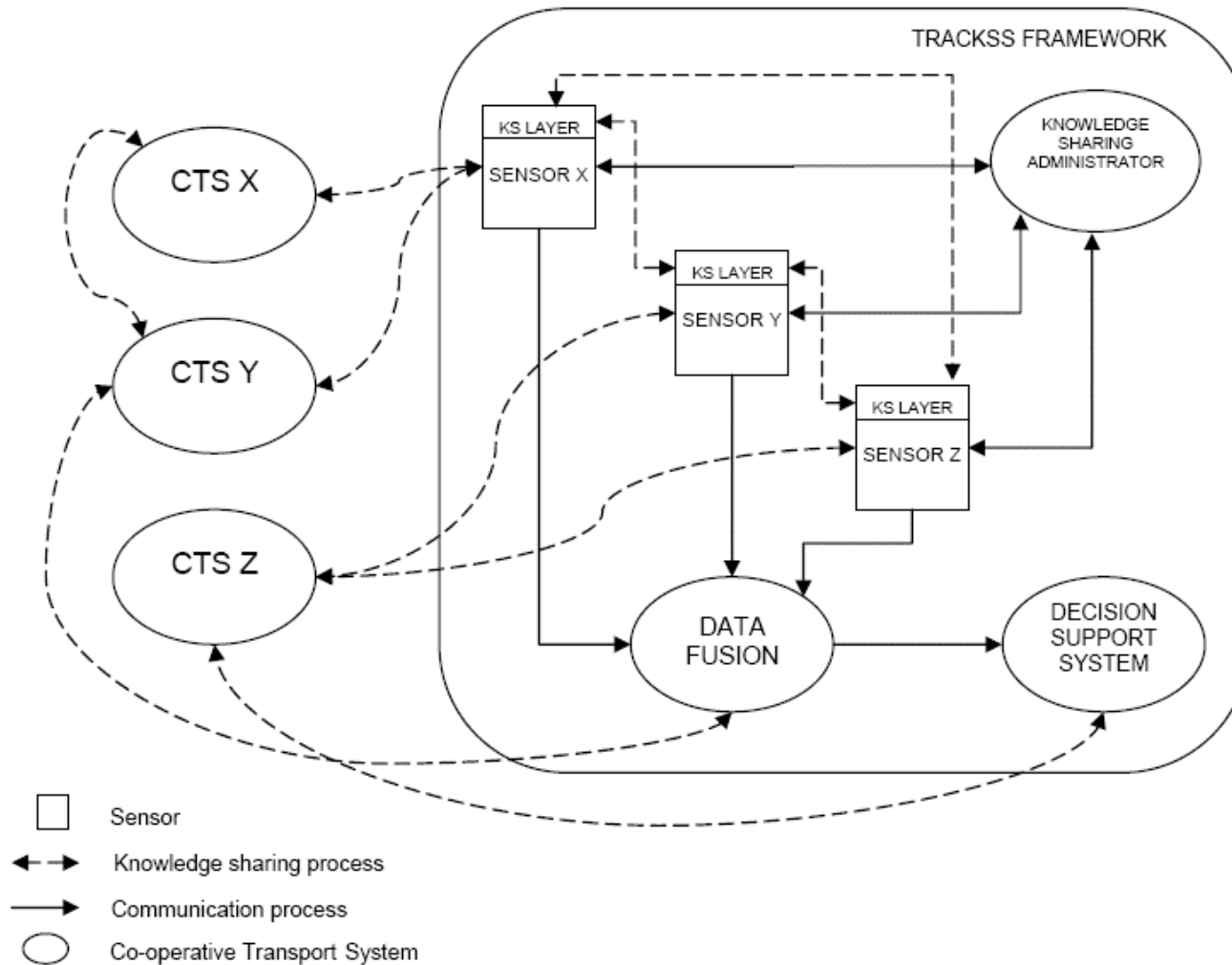
SPECIFIC OBJECTIVES

- 3) Enabling the **modular integration of the sensors** developed into the **CTS architecture** to be developed and adopted within e-Safety programme
- 4) Making use of the most advanced **data fusion and integration techniques** to get as much information as possible from the data collected by the different sensing technologies
- 5) Developing a **knowledge based DSS** to assess and predict the ambient conditions affecting the safety and efficiency of transport
- 6) **Validating the project results in three scenarios:**
 - i. A controlled environment
 - ii. A real intersection
 - iii. A section of real network

KEY ASPECTS

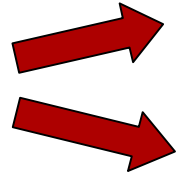


TRACKSS FRAMEWORK



TRACKSS FRAMEWORK

**CORE
of the
PROJECT**



Sensing Technologies

Knowledge Sharing Model (KSM)

- The KSM will be implemented as a layer whenever possible
- TRACKSS sensors will be self-contained elements to be used as building blocks
- The KSM sharing capabilities will allow the sensors to work in a cooperative way:
 - Improving the quality of measures
 - Detecting the inconsistent results
 - Increasing the accuracy



TRACKSS ARCHITECTURE

THANKS FOR YOUT TIME.

Any question?

<http://www.trackss.net/>

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