2016 Annual Conference & Innovation Awards

Brussels, Wednesday 3 February 2016
Thematic Session 2:
Bringing Smart Transportation Infrastructures into Reality
Case Studies

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Innovation for Sustainability

César Bartolomé
Spanish Institute for Cement and its Applications

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Roman road in Mérida (Spain)

Smart Sustainability

- Natural resources? YES
- Performance? YES
- Comfortable? YES
- Durability? YES
- Would it be sustainable today? NO

Sustainability = Innovation
How to Increase Infrastructures Sustainability?

• **What is Dynaport?** A research project aiming at developing a dynamic tool for the design and maintenance of ports.

• **Main concepts:**
  • LCA and LCCA
  • Performance indicators
  • Monitoring (sensors)
  • Real time data
  • Preventive maintenance
Smart Monitoring
Dynaport

Performance Indicators

Methodology

Monitoring

Sensors

Data Collection

Results
Less maintenance costs
Higher durability

Higher sustainability

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HOW TO ASSESS SUSTAINABILITY OF INFRASTRUCTURES?

**LCE4ROADS:** A research project aiming at developing a new, holistic and EU-harmonised Sustainability Certification System for roads, integrating by a Life Cycle Engineering (LCE) all the sustainability pillars and road phases.
Results:

- LCE4ROADS certification system guide and software tool.
- Implementation strategies to foster GPP
- Initial activities towards standardization.
Sustainable Bidding
Innovative Public Procurement

HOW TO PROMOTE SUSTAINABILITY OF INFRASTRUCTURES?

CURRENT BIDDING PROCEDURES

Short-term

Restriction to innovation

Mainly economic, not multicriteria
What is Innovative Public Procurement? A procurement procedure where the owner demands a product that is not in the market.

- Specific solution? NO
- Performance:
  - Thin overlay (10 cm)
  - Low noise (90 db(A))
  - Durability (20 years)
  - ADT heavy vehicles: 4,000

Deteriorated pavement in Huelva
Thank You for Your Attention

César Bartolomé