Smart Transportation Alliance

SMARTI European Training Network

ESR 1 : "REJUCAPHALT Encapsulated rejuvenators for asphalt mixture"

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highways england

2018 STA Annual Conference

27 November 2018

ESR 1 - REJUCAPHALT

Ignacio Nilo Ruiz Riancho

BBC Sign in News Sport Weather iPlayer TV Radio

£420 million budget for potholes welcome but it is not enough

October 30, 2018

Mirror

ADVERTORIAL

Car accident claims caused by bad roads: Find out what you can do and who is to blame

British drivers spend £1.7 billion repairing damage to their vehicles as a result of potholes every single year, according to new figures released following the Governments new budget announcement

Customs organizations

May 24, 2016

Automated Comparison of X-ray Images for cargo Scanning (ACXIS)

March 24, 2016

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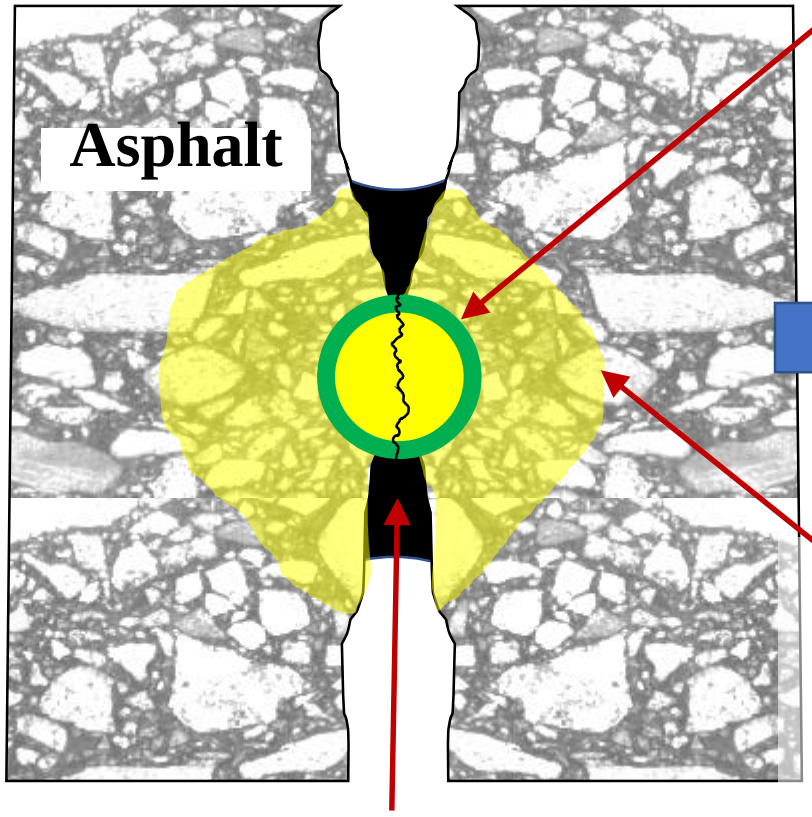
The SMARTI ETN project has received funding from the European Union's Horizon 2020 Programme under the Marie Skłodowska-Curie actions for research, technological development and demonstration, under grant n.721493.



Broken capsule

SELF - HEALING ASPHALT

Local reduction of bitumen viscosity

(This promotes the drainage of bitumen into the cracks)

Healing material

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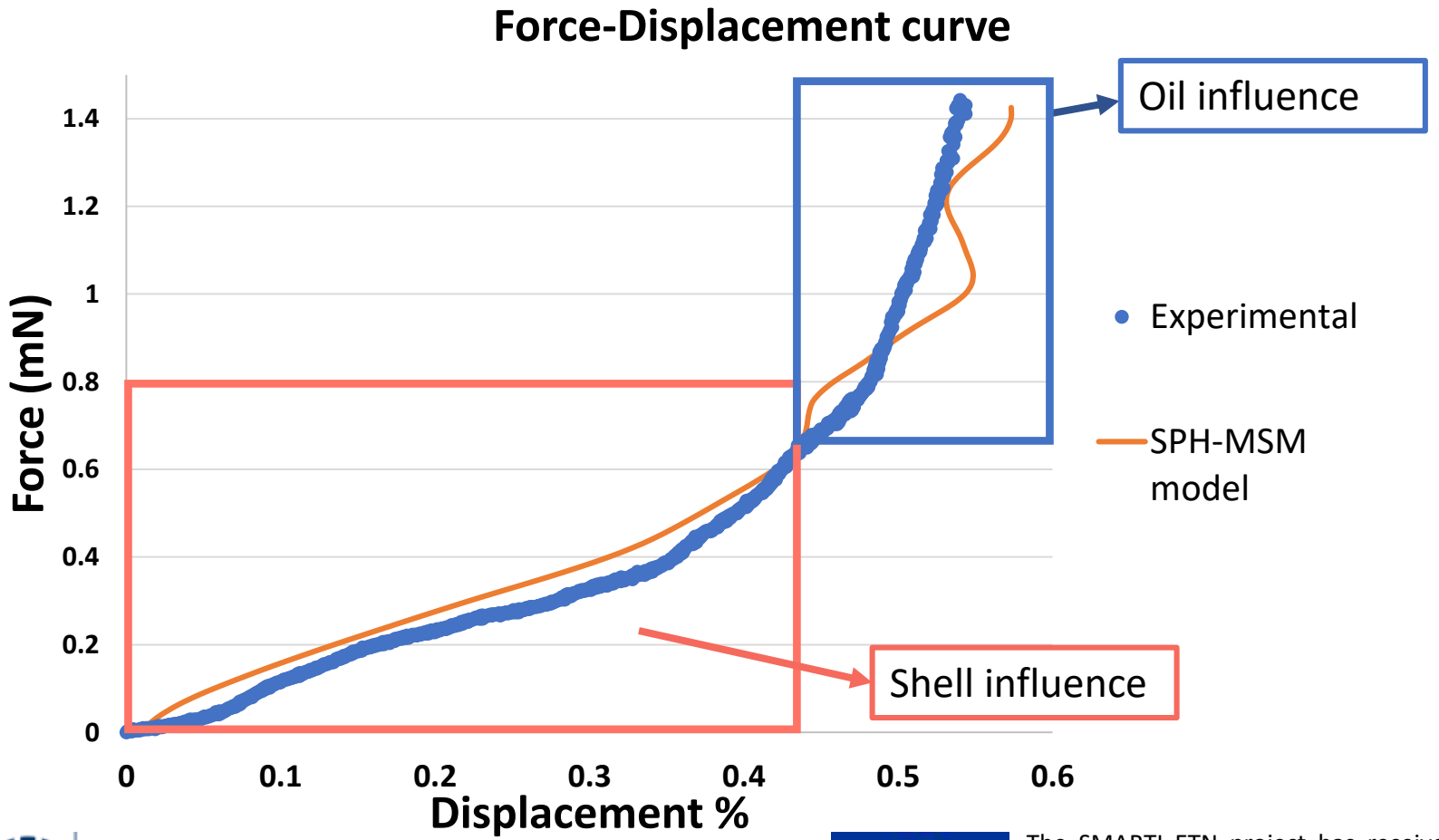

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ESR2: "Nano Asphalt"

Nanosensor technology for road pavements

Speaker:
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EIFFAGE

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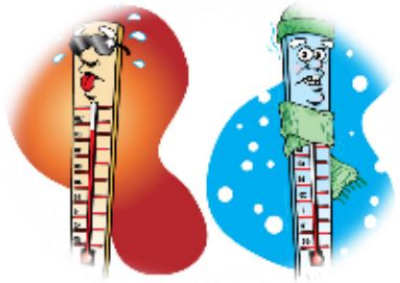
ESR2: “ Nano Asphalt ”

Nanosensor technology for road pavements

Smart Transportation Alliance

ESR2: “ Nano Asphalt ”

Nanosensor technology for road pavements



“The research presented in this presentation was carried out as part of the H2020-MSCA-ETN-2016. This project has received funding from the European Union’s H2020 Programme for research, technological development and demonstration under grant agreement number

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ESR3: "RA2ROAD"

Development of a pavement system able to capture the solar energy

Speaker:
Domenico Vizzari

Email: domenico.vizzari@ifsttar.fr

IFSTTAR

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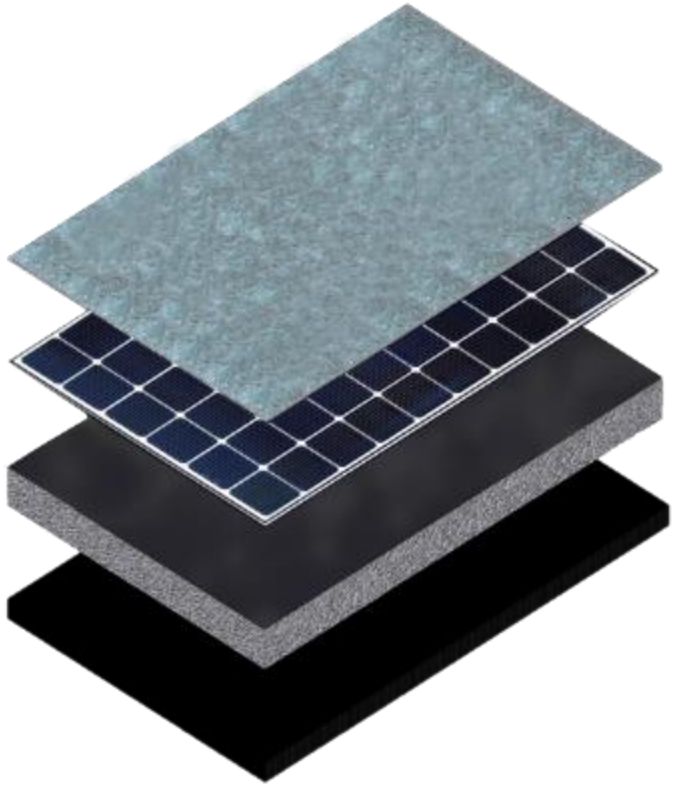
RA2ROAD

IFSTTAR

ESR3: Development of a pavement system able to capture the solar energy

The idea

Realize an hybrid system able to harvest energy from the sun



- Semi-transparent top layer
- Electrical layer
- Porous layer
- Base layer

Email: **domenico.vizzari@ifsttar.fr**

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RA2ROAD

IFSTTAR

ESR3: Development of a pavement system able to capture the solar energy

Mix design semi-transparent layer

Optical and mechanical performance

Aging effect

The SMARTI ETN project has received funding from the European Union's Horizon 2020 Programme under the Marie Skłodowska-Curie actions for research, technological development and demonstration, under grant n.721493

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ESR4: "RaCoMo"

Development of a railway system component, remote condition monitoring methodology and analysis tools to predict future system deterioration

Speaker:
Giulia Siino
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Giulia Siino
ESR4 - RaCoMo

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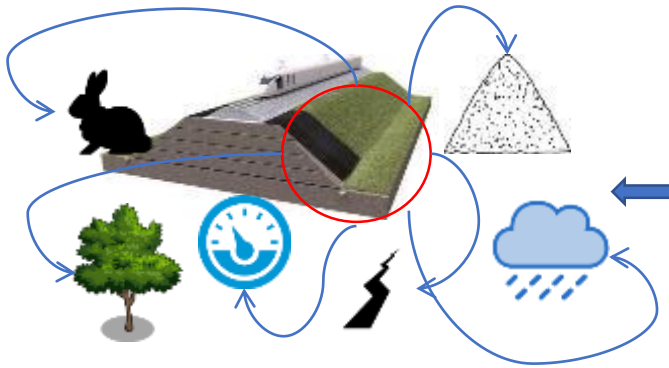
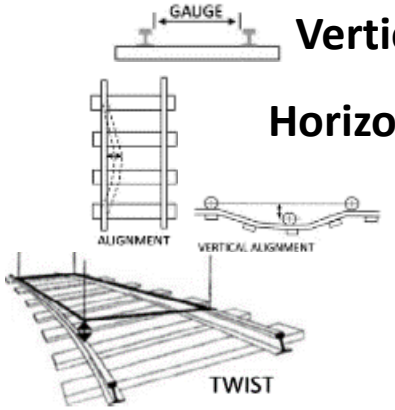
CAUSES

- Ageing
- Soil type
- Weather
- Ground water
- Traffic type
- …



SYMPTOMS

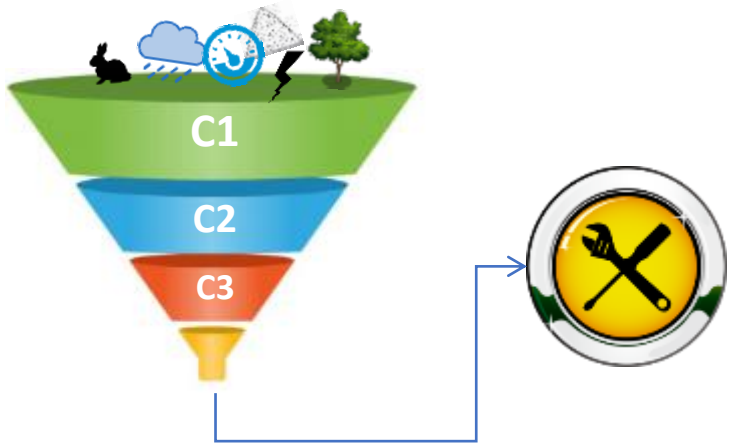


- Vertical alignment
- Horizontal alignment
- Twist
- Gauge

How to make it happen?

CONDITION

GOOD
SATISFACTORY
POOR
VERY POOR
MAXIMUM



ACTION

TAMPING
LINING
BALLAST INJECTION
STABILISATION
…

SHERI

SUSTAINABLE HARVESTING OF ENERGY FROM RAIL INFRASTRUCTURE (Rail Track and Station Building)

OUTPUTS TILL NOW | Three Patents Files + Twelve Research Manuscript

Energy FEAR

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#EnergyFEAR

This research is part from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. [721493] - SMARTI ETN (Sustainable Multi-Functional Automated Resilient Transport Infrastructures) Project: SHERI (Sustainable Harvesting of Energy from Rail Infrastructure) Project.

The Project is divided to

SMARTI
European Training Network

S H E R I

RAIL TRACK &SLEEPER

RAIL BRIDGES & TUNNELS

RAIL SIGNAL TOWERS

RAIL STATION DUCTS

RAIL SWITCH

RAILWAY STATION






Portable dual tracking system using one drive to solar energy applications

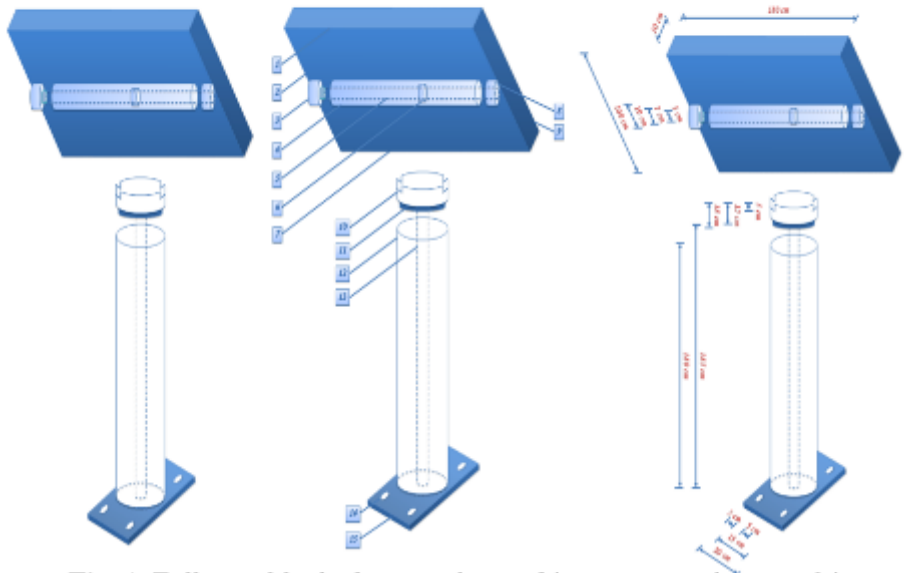

Fig. 1. Full portable dual-axes solar tracking system using one drive

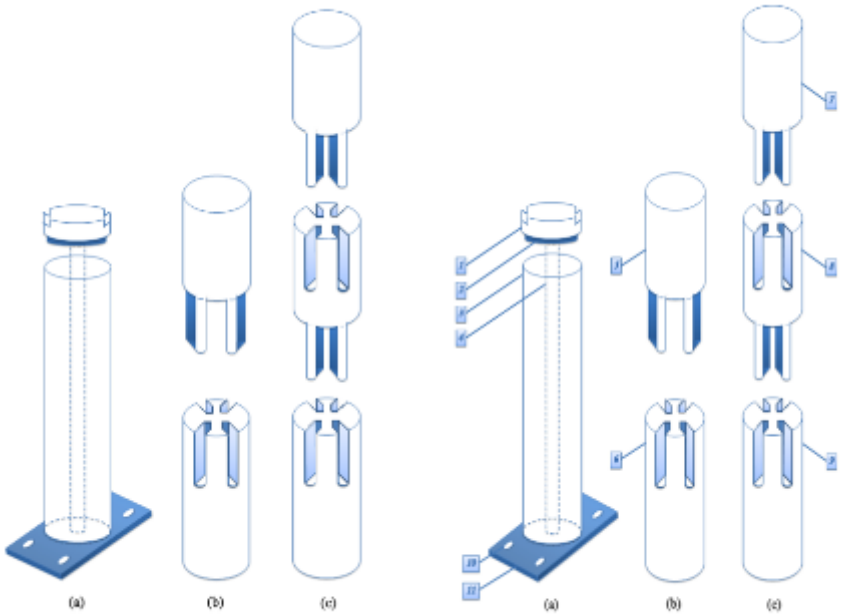

Fig. 2. Portable solar tracking support structure

Adjustable frame to photovoltaic module and other outside applications

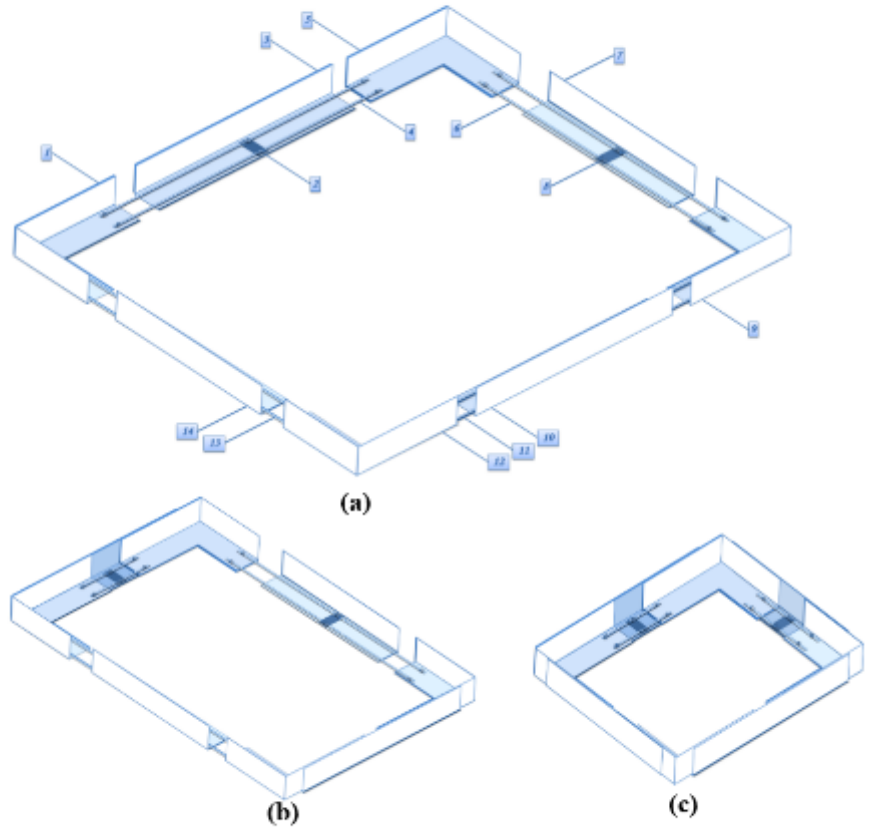

Fig. 3. Adjustable photovoltaic frame components part
(a) First case, (b) Second case, (c) Third case

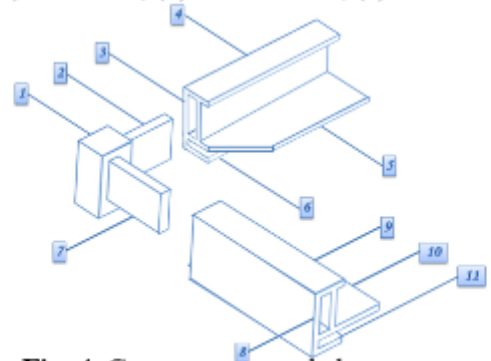

Fig. 4. Corner cross-angle bar components part