

ASECAP
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Olympia Odos Leaps Forward in Energy Efficiency

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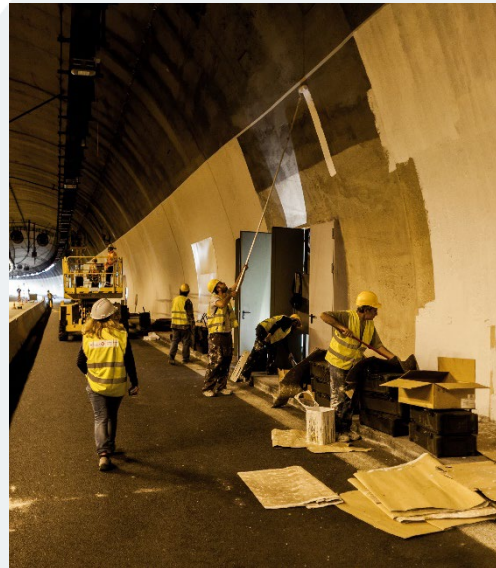


Over-contractual commitments

1. Environment
2. Culture
3. **Innovation is in our DNA**



Upgrading of the existing tunnels with LED lighting

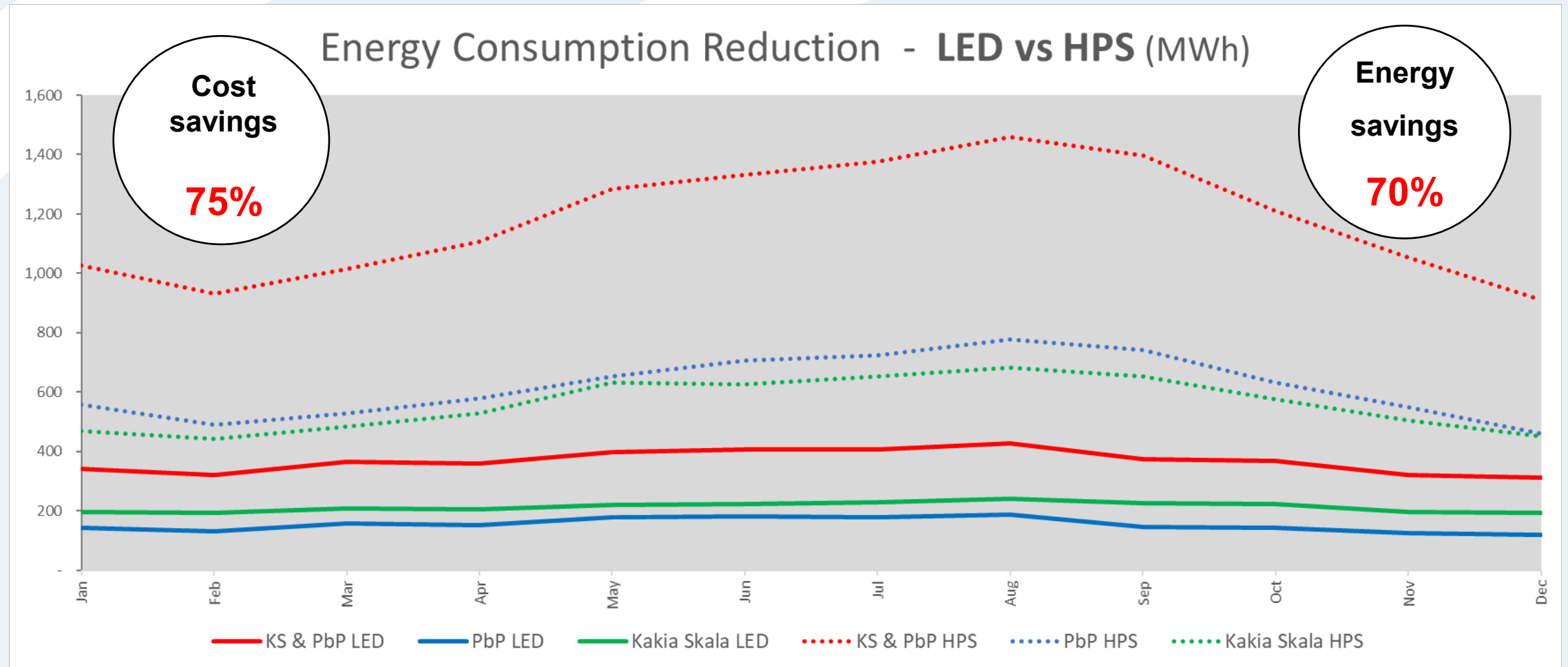


Tunnels

 **Kakia Skala**

 **Patra by Pass (PbP)**

Upgrading of the existing tunnels with LED lighting



Upgrading of the existing tunnels with LED lighting



Reduction of carbon footprint around **4,000 tCO₂** (~60%)

Upgrading of the existing tunnels with LED lighting

- ✓ Recycling of 132.5 t metal
- ✓ Recycling of 2,2 t light lamps
- ✓ Improved vision quality for the driver
- ✓ Improved traveling experience
- ✓ Realistic simulation of daylight



Reduction of lighting intensity in LC and C&C



Lane Covers
and Cut & Covers length < 200m

Night lighting during the day

-52% energy consumption

234 tCO₂ savings

Upgrading & Optimisation of Photometers



> 20% energy reduction



«Green» **MSS** & EV Charging



availability of
DC Fast Charging EV chargers

buildings with energy classification **B+**



A. «Green» **MSS**



MSS Psathopyrgos (bi-directional)

- ✓ 1st green **MSS** in Greece
- ✓ building energy classification **B+**
- ✓ total **CO₂** emissions 157kg/year/m²
- ✓ **46%** reduction in energy consumption

MSS Velo (bi-directional)

- ✓ building (only TSB) energy classification **+B**

B. EV Charging

Fast Charging

type DC 50 kW

- MSS Psathopyrgos
- MSS Velo
- MSS Megara



MSS Psathopyrgos →
Natural Gas fuel station

«Water from the Air»

Supply of fresh, clean and potable water

Produced by the air humidity



Cooler (operation with solar energy)

Pilot application in a WC area

«Water from the Air»

- ✓ Zero CO₂ emissions
- ✓ Totally autonomous system



- ✓ Without waste



**ΠΙΣΤΟΠΟΙΗΤΙΚΟ
ΕΓΓΥΗΣΕΩΝ ΠΡΟΕΛΕΥΣΗΣ**

Ο προμηθευτής Volterra πιστοποιεί ότι ο καταναλωτής



κατανάλωσε **4503MWh**

από 100% Ανανεώσιμες Πηγές Ενέργειας για το παρακάτω διάστημα:

Επωνυμία Καταναλωτή:	ΟΛΥΜΠΙΑ ΟΔΟΣ Α.Ε.
ΑΦΜ Καταναλωτή:	998380326
Τύπος Παροχής:	ΜΕΣΗ ΤΑΣΗ & ΧΑΜΗΛΗ ΤΑΣΗ
Περίοδος Κατανάλωσης:	1/11/2019 - 31/12/2019
Πλήθος Εγγυήσεων Προέλευσης*:	4503 ΕΠ
Τεχνολογία Παραγωγής:	Αιολικός Σταθμός
Έργο:	Α/Π Κουρομάντρι, Ναυπακτία
Ισχύς Έργου:	8MW
Φορέας έργου:	Volterra K-R ΑΕ

*1 ΕΠ ισοδυναμεί με κατανάλωση ενέργειας 1 MWh

Energy Source Guarantee Certificate

- ✓ for **100%** of the electricity consumption of the Motorway
- ✓ 100% Renewable Sources of Energy



Αμαρουσίου-Χαλανδρίου 16, 15125, Μαρούσι

Μέλος του Ομίλου



Motorway Operation



Procurement of 2 **electric** vans

Fuel Emission Reduction

Traffic Prediction application in our web-site

Frontal Toll Stations

Elefsina

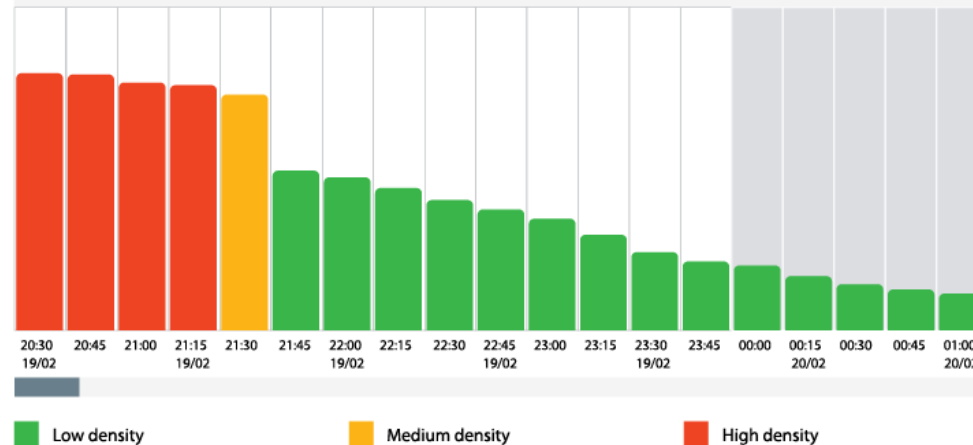
Isthmos

Elefsina Toll Station Isthmos Toll Station

Elefsina traffic prediction

to Patras

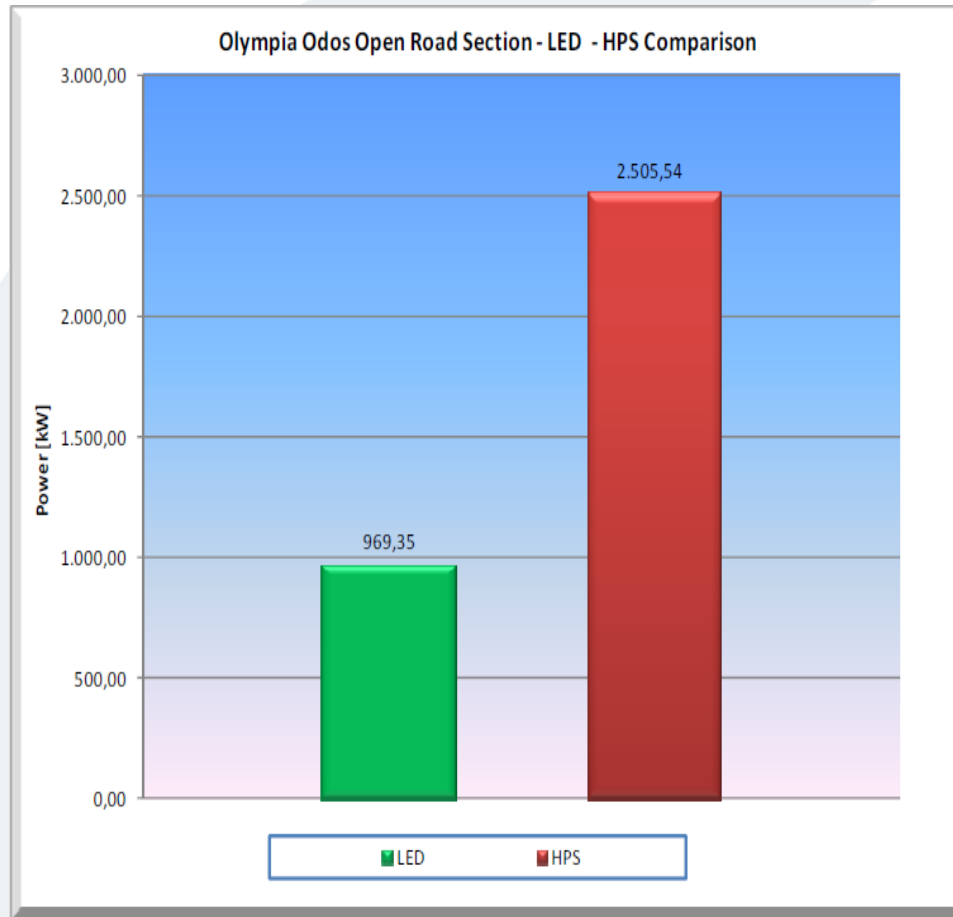
to Athens



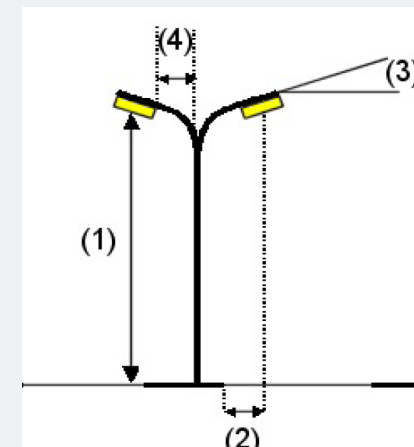
Actual Traffic
per type of payment

Incentives in the making

Replacement of HPS lighting with LED in the Open Road



- ✓ **50%** reduction due to LED technology
- ✓ up to **75%** by implementing adaptive lighting
- ✓ Reduction of carbon footprint by **690,000 tCO₂**



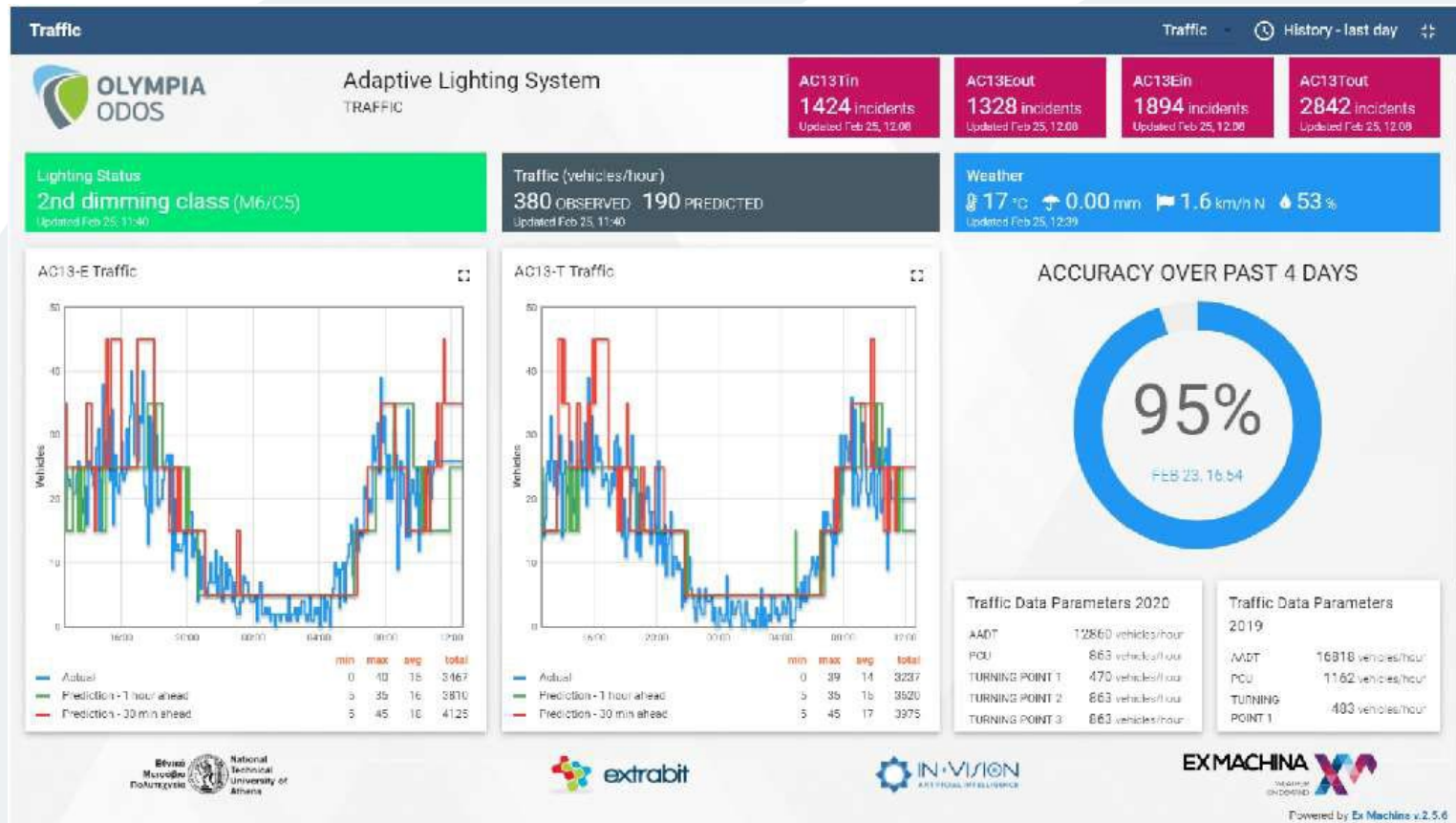
Incentives in the making

Adaptive Lighting

traffic data + prediction algorithm (30' - 60')



Environmental Awards Winner



Reduction of lighting level
with zero / low traffic

Detection of unsafe traffic
conditions / extreme weather

AI + cameras + WiFi + 4G +
+ meteo station + cloud

Collaborators: NTUA, ExMachina, InVision AI, Extrabit

Incentives in the making

Energy consumption optimization in the buildings of the Motorway

Operation Buildings of the Motorway



Operation and Maintenance Centres
Technical Bases
Toll Administration Buildings
Customer Service Centres

Incentives in the making

Upgrading of the MSS buildings energy classification to **B+**

Travelers Service Buildings

MSS Megara (bi-dir) end of **2022**

MSS Akrata (bi-dir) beginning of **2022**

SSTPA — MSS Akrata (dir Patras) beginning of **2022**

Fuel Stations

MSS Megara (bi-dir) end of **2021**

MSS Akrata (bi-dir) mid- **2022**

MSS Velo (bi-dir) end of **2021**

Incentives in the making

Installation of new EV Fast Charging points

MSS Akrata (by-dir) beginning of **2022**

MSS Aigio (by-dir) end of **2021**



Installation of Natural Gas Fuel

MSS Megara (by dir) end of **2021**

Looking forward ... 1/2

✓ Exploitation of **Photovoltaic System Technology**:

1. actual green energy production
2. reduction of energy cost

Challenges



- ✓ Expansion of the program “**Water from the Air**” in other locations along the Motorway

Looking forward ... 2/2

- ✓ Olympia Odos a “**fully LED**” Motorway



- ✓ Further development of the traffic prediction program for the reduction of queues at the Toll Stations and the consequent **air pollution and fuel consumption reduction**



And this is only the beginning ...

Thank you !



Ευρωπαϊκή Ένωση
Ευρωπαϊκό Ταμείο
Προσέλασμιότητας

Επιχειρησιακό Πρόγραμμα
Ενίσχυση της Προσέλασμιότητας
Επενδύοντας στο μέλλον σας

Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



ΕΣΠΑ
2007-2013
Πρόγραμμα για τη ανάπτυξη

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