BEVER INNOVATIONS

FUEL

EOS TECHNOLOGY THAT CONNECTS

EVERYTHING IS CONNECTED NOWADAYS...

All around us, the number of smart and connected products is increasing. Physical devices and intelligent products have the ability to share data which can be collected and analysed. The connection of these devices is called the 'Internet of Things' (IoT). A recent published article from NACS stated that "the number of IoT connected devices is expected to nearly triple between now and 2020, from 20 billion to 50 billion."

This marked change is not only visible in retail and shops. Forecourt technology is making great steps and technologies are developing rapidly, with growing need for data communication and the requirement for analyzing these numbers.

THE BENEFITS OF CONNECTIVITY

The fuel retail market, like the industrial sector, will enable high ROI on IoT projects, thanks to more efficient business processes. Finding a way to monitor your investments, to use that data to increase efficiency, drive performance, enable innovation and keep fuel flowing, has always been a major challenge for the fuel retail industry – opportunities that were not put to use before. Driven by the 'Internet of Things', Bever Innovations always saw big possibilities with their intelligent LED lighting solutions – and the way to transform this intelligence into innovations that could change the market.

> "BY 2020
>
> market analysts expect the number of connected devices to range anywhere from 20 to 50 billion in total.
>
> Source: *Woods de Central Partners.* "

START WITH SMART CONNECTED LIGHTING

EOS Technology connects devices, equipment and processes to the Internet of Things in the simplest way. EOS improves your petrol station and environment and is very easy to install.
With EOS Technology, LED forecourt lighting solutions are entirely redesigned. The intuitive way of working makes it an experience for those who work with the technology.

But how does it work?

EOS Technology is integrated in the LED products and solutions from Bever Innovations and it can also be added to every other device in your network. It connects all devices on your forecourt.

Connect as many networks as you like because EOS technology can talk with any other connected systems; it is endlessly scalable. This opens up a world of possibilities.

EOS PRODUCTS & DEVICES

LED Under Canopy Illumination

The Luci Series equipped with EOS technology ensures your canopy is adequately lit. It provides a visually welcoming environment to customers that is approachable and gives a sense of safety. With EOS technology built into the LED product, a Luci Series fixture can be directly integrated in your EOS network. With EOS, the Luci Series luminaire not only operates as a light but at the same time uses the integrated light, motion and temperature sensors to generate relevant data at your forecourt.

LED Area Illumination

Luci Series Ambiente is designed especially for area lighting around your petrol station. Lighting the roads and parking facilities with Luci Series Ambiente immediately gives drivers the feeling of comfort and visibility. The integrated EOS technology connects Ambiente fixtures with other LED products and can be controlled and analysed with the use of the EOS Manager application. Because EOS products are connected, the Ambiente fixture for example can react to Luci Series LED Under Canopy light sensors.

EOS Bridge

Several bridges are available to integrate your own specific control or analysis product. With the use of an EOS bridge you can easily integrate other systems into the EOS network. Use sensors, or execute actions, from those systems within the EOS network

EASY PLUG & PLAY INSTALLATION

There is no need to worry about installation, cabling and configuring. EOS technology connects devices, equipment and processes in the simplest way: it's plug and play. It is very safe because all data is encrypted and only you decide who has access to your connected system.

No extra cables

Would you like to replace your current lighting with LED fixtures with EOS technology? No problem at all. There is no need to put in new cabling, because EOS will create its standalone and wireless network.

SMART OPERATION WITH EOS MANAGER APP

The EOS manager is an application available for Android through the Google Play Store. It helps you with installing, configuring and analysing all connected devices, in real time, 24/7.

It turns your mobile device into an intuitive way to communicate with all your connected EOS equipment. It allows you to fully analyse your forecourt, increase safety and to push energy savings to a higher level. Data and usage statistics can be easily extracted by one touch of a button.

ANDROID APP ON Google Play

Flexible

The EOS Manager can handle a very high level of detail about your data and the output can be configured to your specifications. Its flexibility ensures that a limitless number of luminaires and devices can be managed, expanded and modified. And because it is all wireless, there is no need to make any adjustments to your infrastructure.

Full control

You are fully in charge of managing the behaviour of your lighting and its performance within the network. After authorization, secure communication is set up in order to adapt the light output to your needs. The user interface allows you to control and program output levels for every device or group of lights. Depending on your specific needs, you can boost light levels to improve safety and visibility, or reduce light output to save energy. Furthermore you can define how EOS devices should interact with any external system through the EOS Bridge.

Safe and Secure

Your network is protected and safe, because all data is encrypted and only you decide who has access to your connected system.

"EOS Connected has made the forecourt information more detailed, and much easier to use. It works flexible because management processes are simplified and shown transparently."

EOS CONNECTED
BIG DATA MADE EASY

EOS Connected is an intuitive web-based management system for EOS devices and Bever innovations LED products, that gives information about your forecourt infrastructure in real-time. It allows you to have an overview of all sites with EOS devices, to monitor remotely and to have better insight into device operating conditions, such as temperature, average power consumption etc. It also allows you to efficiently plan maintenance and monitoring in advance.

The EOS LED lighting and its device infrastructure is represented by a flexible and detailed data model, a site floorplan for easy identification of device location, allowing configuration of devices to be optimized to a petrol stations' specific needs. Benefit from a complete analytical overview, which allows you to plan preventive maintenance and to analyse device behaviour over time. Available heatmaps also offer easy visualization of data such as devices presence in the network. This simple data visualization shows accurate charts and maps.

EOS Connected on screen expamples:

Petrol sites overview

EOS Connected shows you your petrol sites and gives you remote access to detailed site information.

Heatmap

In a heatmap you can choose to see the lanes with most PIR detections. These are the busiest lanes on your petrol site.

PREDICTIVE MAINTENANCE

The constant flow of data from connected EOS devices and networks enables the ability, to spot unforseen situations in your equipment in real time. Connected systems can provide a great amount of data to give more accurate predictive analysis, allowing you to
optimize decision making and use of connected (EOS) devices.

Combining the data of sensors throughout the process allows transparency. Filtering this data enables better decision making about maintenance, to optimize performance based on their role within the network. Together, these abilities can enable more informed, strategic decision making—the primary benefits of the predictive maintenance process.

John is a petrol station maintenance supervisor in charge of monitoring and maintaining operating devices on (remote) sites.

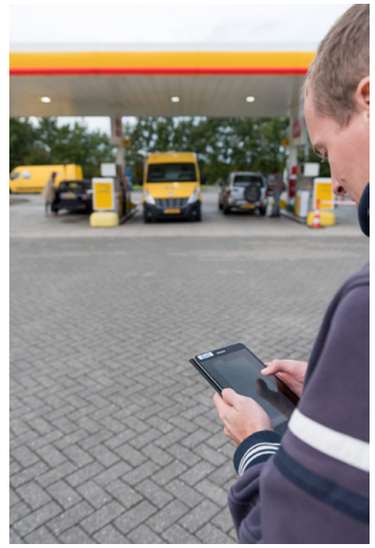
‘ INTELLIGENT LIGHTING INCREASES SAFETY AND CUSTOMER SATISFACTION’

Benefits:

Optimal visibility:
As soon as it gets dark, all area- and canopy luminaires automatically dim by 70% of their power, so that the petrol station is well lit - even from a distance - while the energy consumption is kept under control.

Intelligent connected lighting:
Customers are optimally and safely lit when approaching, arriving on or moving about on the forecourt, all due to the EOS connected LED luminaires on site automatically increasing in brightness where movement is detected.

Minimum energy consumption:
When sensors don’t detect any activity on the forecourt the lights can automatically dim back to 90% of their power if required. This is Deep Dim mode which ensures that energy consumption is kept to a minimum.



Project name: Shell de Gouwe - the Netherlands
Location: Schuddebeurs - the Netherlands.

New situation
LED products
6 x Luci Series EOS LED Under Canopy Illumination: 5700k, 125W
9 x Luci Series Ambiente LED Area Illumination: 5700k, 50W
EOS Bridge

Old Situation: 6 x 250 Watt Metal metal halide fittings

THE FORECOURT OF THE FUTURE..
IS ALREADY YOURS!

Be aware of your surroundings

Within each EOS luminaire integrated software and sensors work together using the ambient light and EOS intelligence to automatically understand and interact with the surroundings, each other and with EOS connected devices on your forecourt.

Sensors continuously detect and share data on ambient light, presence and light output. This data is automatically used to adjust the light output of the LED luminaires, making most of energy reductions and improving safety on site.

EXAMPLES HOW EOS WILL CONNECT YOUR FORECOURT

1. Sensors detect presence on the forecourt and Ambiente Area fixtures build up their light output. EOS connection enables Luci Series LED Under Canopy Illumination (2) to maximize their light output to enhance safety.
2. Luci Series downlight fittings turn up their output to welcome the customers.
3. Sensors in the canopy lighting can activate Shop Illumination to shine a brighter when customers approach the shop.
4. When a car leaves the forecourt canopy lighting (2) activates area illumination (4) so that customers are guided in the right direction to go safely on their journey.

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