



CONSTRUCTION LIGHTING

SMART INDUSTRY – INTELLIGENT MOBILE CONSTRUCTION LIGHTING

Mobile lighting at construction sites, especially on expressways, pose a great risk to the workers, if these lights are shifted by unobservant road users. Sensors and a communication mesh provide additional safety.

The lamps and warning beacons for road construction have sensors for detecting strong movement impulses (impact) as well as for location detection. The lamps are interconnected via a mesh network and report any change in location within a centimeter range. This eliminates the need for regular checks along the site to ensure that all luminaires are still in the right position. The interconnection of the luminaires can be realized with a Wirepas Massive Routing Mesh, or WE-ProWare Flooding Mesh by Würth Elektronik.

Benefits

Smart lamps form a mesh and control their own position

- ✓ Luminaires equipped with GNSS and acceleration sensors report any change in location.
- ✓ Further advantages are the constant control of all functions, such as battery charge level, set brightness, or even environmental factors, e.g. temperature and humidity.



Central Master Gateway

The Central Master Gateway is equipped with WSEN-HIDS, WSEN-ITDS sensors, Thetis-I and Adrastea-I module.

Technologies in this application

CELLULAR & POSITIONING

Adrastea-I
Communication from Master Gateway at construction site to central server and getting location through GNSS Service.

we-online.com/Adrastea-I **page: 100**

LORAWAN®

Daphnis-I
Connection of dozens or hundreds of devices over long distance.

we-online.com/Daphnis-I **page: 140**

PROPRIETARY

Triton
Use a remote control connected wirelessly to the lamps and adjust settings.

we-online.com/Triton **page: 152**

More ideas

HUMIDITY & TEMPERATURE

WSEN-HIDS **page: 36**

ACCELERATION

WSEN-ITDS **page: 28**

MESH

Thetis-I **page: 172**

CONNECTION

WR-CRD NanoSIM Card Connector

CONNECTION

WR-UMRF SMA to UMRF

ANTENNA

WE-MCA **page: 79**

CONTAINER TRACKING

SMART INDUSTRY - CONTAINER TRACKING

Even during the pandemic, there were more than 150 Million containers shipped during 2021. It has never been as important to know, where your containers are, as it is at the moment! Due to shortages of materials, the bottle necks on asian harbors and during an pandemic, it is crucial to be aware of what happens with your products and where they are.

With Mesh communication every device can be used as wireless router and can act as a repeater for other nodes. With WE sensors it's possible to monitor the environmental conditions of your parts just in time, any time.


A network out of thousands of nodes, i.e. containers, increases the scale of the whole network and following the distance to bridge. A Mesh offers a so called Positioning engine which is helpful to locate containers even inhouse.

Benefits

- ✓ Monitor the conditions with environmental sensors
- ✓ Build up a mesh Network

Technologies in this application


MESH



Thetis-I
Building a huge network of sensor nodes with a robust wireless Mesh.

we-online.com/Thetis-I page: 172

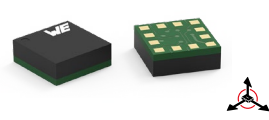
LORAWAN®



Daphnis-I
Connecting hundreds of devices to a gateway.

we-online.com/Daphnis-I page: 140

ACCELERATION



WSEN-ITDS
Sensing Acceleration and impacts to have the information available when a container starts moving or in case a huge damage to the load has occurred.

we-online.com/WSEN-ITDS page: 28

More ideas

HUMIDITY & TEMPERATURE



WSEN-HIDS page: 36

CELLULAR & POSITIONING



Adrastea-I page: 100

CONNECTION



WR-CRD NanoSIM Card Connector

CONNECTION

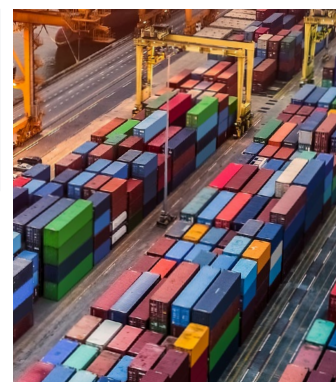


WR-UMRF SMA to UMRF

ANTENNA



WE-MCA page: 79



AUTOMATED GUIDED VEHICLES

SMART INDUSTRY – AUTOMATED GUIDED VEHICLES

Automatic Guided Vehicles (AGV) or Autonomous Mobile Robots (AMR) are vitally important for flexible intralogistics concepts. While GNSS can be used for navigation outdoors, robots in factories and warehouses need different orientation techniques.

Key factors for the navigation of AMRs are wireless communication and acceleration sensors for inertial navigation. Würth Electronic does not only offer sensor and radio modules but also supports various communication protocols. Orientation via anchor point antennas distributed on the factory or warehouse floor as well as transmission of orders and status updates can be realized, e.g. with Bluetooth, Wirepas Massive Routing Mesh, or WE-ProWare Flooding Mesh.

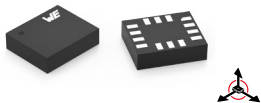
Benefits

Autonomous Mobile Robots – autonomous but well connected

- ✓ Communication with intralogistics vehicles can be realized over a variety of protocols - even proprietary solutions might prove to be a good solution.
- ✓ With wireless communication, all kinds of information can be shared, e.g. battery charge status, transport weight, or condition of wear parts.

Technologies in this application

MOTION / GYROSCOPE



WSEN-ISDS

Measuring the orientation of the vehicle. Can be used to enhance the navigation.

we-online.com/WSEN-ISDS

page: 30

PROPRIETARY



Tarvos-III

Sub-GHz radio communication in industrial environment offers reliability.

we-online.com/Tarvos-III

page: 150

More ideas

BLUETOOTH®



Proteus-III



page: 115

MESH



Thetis-I



page: 172

