DYSTEN

GLOBAL LIGHT RAIL AWARDS 2018
★ WINNER ★
TECHNICAL INNOVATION OF THE YEAR 2018

GLOBAL LIGHT RAIL AWARDS 2018
★ WINNER ★
BEST CUSTOMER INITIATIVE 2018

Rail & Road Transport Awards
International Transport News
Best Railway Passenger Information Displays Manufacturer in Europe
2018

finalist of the competition
GOOD DESIGN
E-paper timetable
2018

DYSTEN

DYSTEN_POLAND

DYSTEN – A POLISH MANUFACTURER, A POLISH CAPITAL, HIGHLY APPRECIATED POLISH TECHNIC SOLUTION ALL OVER THE GLOBAL MARKETS. AN EXTENSIVE EXPERIENCE BUILT SINCE 1999 ENABLES TO MEET THE DEMANDS OF INDIVIDUAL CUSTOMERS AND FACE THE MOST CHALLENGING PROJECTS

EUROPE

ENGLAND_

_ESTONIA

FINLAND_

_GERMANY

NORWAY_

_POLAND

SLOVAKIA_

_SPAIN

UKRAINE_

ASIA

KUWAIT_

_QATAR

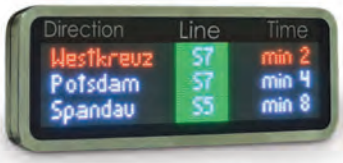
An ENGINEERING TEAM OF DYSTEN crafts a high tech electronic and electroacoustic solutions for transportation and audio industry. DYSTEN provides a wide range of services related to design, manufacture and project implementation of INTELLIGENT TRANSPORTATION SYSTEMS and SOUND SYSTEMS.

As a manufacturer of PASSENGER INFORMATION DISPLAYS we ensure the highest quality norms on the basis of our advanced quality control system for which the company has been granted an ISO certification. DYSTEN offers and implements innovative solutions that improve the quality of public communications and support the traffic engineering.

Our LED, LCD, TFT AND E-PAPER displays are widely used in public transport stops, passenger transport centres, tunnels, train platforms, stations and metro. Additionally, DYSTEN offers a local PASSENGER INFORMATION SYSTEM - DYSTEN TRAIN INFO.

PASSENGER INFORMATION LED RGB_DISPLAYS

LED RGB displays are an excellent choice among the passenger information displays due to their high brightness and life span. These devices allow to display any kind of content – any colour, type and size of font as well as a timetable form. They are controlled by HDMI or DVI signal which allows them to project colourful animations and films of all sorts. LED RGB boards are able to work in every weather condition.



PASSENGER INFORMATION LED AMBER_DISPLAYS

Passenger information displays based on LED technology have longer life span, high brightness and colour contrast. LED technology ensures an excellent readability regardless of the season, time of the day or the lighting level. LED displays are most commonly dedicated to the outdoor installations – transport stops, bus shelters, interchange stations and platforms. As a manufacturer of the electronic boars, DYSTEN implements projects in which the devices can be formed in any shape, size or design accordingly to customer's demands.

VARIABLE MESSAGE SIGNS_VMS_ZZT

Variable Message Signs are the key element to dynamic traffic management system. Depending on the situations on the road the displays inform, alert and guide drivers on the motorways and express roads. Variable Message Signs have a great impact on the safety on the roads, and they improve the traffic flow. As a manufacturer of VMS DYSTEN provides individual customised projects in accordance with the certification requirements. Variable Message Signs are a subject of certification and assessment by European norm PN-EN12966. The LED RGB signs allows to display a full range of colours.

- **remote** programming
- **any graphic symbol** including all characters from road signs
- **all fonts, all size** of fonts

Example of implemented projects	TRGB-4	TP4W1S-6	TP6W1S-6	TP8W1S-6	ZZT-P16/20
Technology	LED SMD, RGB, FULL COLOR	LED SMD, AMBER	LED SMD, AMBER	LED SMD, AMBER	LED RGB, or LED RGBY
Pixel pitch [mm]	4	4 | 6	4 | 6	4 | 6	P 16, P 20
Luminance [nits]	4 000	4 000	4 000	4 000	4 000
Number of rows	4 or any	4	6	8	customize
Active area [mm]	128 x 512	192 x 640 | 288 x 960	256 x 640 | 384 x 960	320 x 960 | 480 x 960	customize
Resolution [pix]	32 x 128	48 x 160	64 x 160	80 x 160	customize
IP protection	IP54 or IP55 or IP65	IP54 or IP65	IP54 or IP65	IP54 or IP65	IP66
Temperture [°C]	–25 up to +60	–25 up to +60	–25 up to +60	–25 up to +60	–40 up to +60
Life time [h]	100 000	100 000	100 000	100 000	100 000
Color of case	RAL	RAL	RAL	RAL	RAL
Controll system	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	LAN
Anti-vandalizm	✔	✔	✔	✔	✔
Brightness sensor	✔	✔	✔	✔	✔
Glass break sensor	✔	✔	✔	✔	✔
Case opening sensor	✔	✔	✔	✔	✔
Shock sensor	✔	✔	✔	✔	✔
Total size [mm]	600 x 230 x 190	customize	customize	customize	customize

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PASSENGER INFORMATION DISPLAYS_LCD WITH LED BACKLIGHT AND LCD TFT

These devices are used for presentation of passenger information in public transport stops, interchange stations, trolley and train platforms. They display information concerning the time of departure, a railway line number and the route. Thanks to selected LCD TFT matrices of high brightness they are an excellent choice for outdoor usage in locations with high level of solar activity. Case of the displays is made of stainless steel or aluminium, and they are equipped in system that helps to maintain the proper inside conditions. It also allows the device to operate in outdoor conditions – both in high and low temperature. A construction of the case provides an easy and safe access to electronic components during the process of servicing or maintaining of the displays. Remote diagnosis allows quick optimization of the device. Case design and its colour are individually compiled according to customer's expectations.

All displays manufactured by DYSTEN are featured by:

- High brightness from 500 to 3000 nits
- Easy integration with any system – open communication protocols
- Anti-reflex safety glass and sunstop layer
- Compliance with climate norm
- Sensors of: brightness, case opening, glass breaking, temperature and humidity

Example of implemented projects

	WZS 32	WZS 40	WZS 47	WGS7X2	WGS7X3	WPK3X1	WZ47P-TOTEM	WZ47P-KIOSK
Technology	TFT	TFT	TFT	LCD with backlight	LCD with backlight	LCD with backlight	TFT	TFT
Luminance [nits]	400 - 1 200	500 - 1 200	500 - 3 000	2 500	2 500	2 500	500 - 3 000	500 - 3 000
Number of rows	any	any	any	6	9	1 or 3	any	any
Resolution [pix]	1920 x 1080	1920 x 1080	1920 x 1080	96 x 64	96 x 64	96 x 64	1920 x 1080	1920 x 1080
IP protection	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65	IP54/IP55/IP65
Temperture [°C]	–25 up to +60	–25 do +60	–25 up to +60	–25 up to +60	–25 up to +60	–25 up to +60	–25 up to +60	–25 up to +60
Life time [h]	50 000	50 000	50 000	50 000	50 000	50 000	50 000	50 000
Color of case	RAL	RAL	RAL	RAL	RAL	RAL	RAL	RAL
Controll system	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT
Brightenes sensor	✔	✔	✔	✔	✔	✔	✔	✔
Glass break sensor	✔	✔	✔	✔	✔	✔	✔	✔
Case opening sensor	✔	✔	✔	✔	✔	✔	✔	✔
Total size [mm]	830 x 530 x 155	1047 x 660 x 155	1180 x 770 x 200	2474 x 1135 x 230	2474 x 1345 x 230	1100 x 500 x 230	850 x 2450 x 300	850 x 2450 x 300

LOW POWER E-PAPER_PASSANGER INFORMATION DISPLAY

As opposed to the image created on liquid-crystal displays, e-paper can display it unplugged. The image on the e-paper technology display looks the same, regardless of the angle of view and lighting. E-paper is characterized by very low power consumption, which is used only during the change of the content. The energy can be derived from renewable energy sources, e.g. through solar panels. E-paper presents the content 24h a day, 365 days a year. Content updating takes place via GSM network. A centralized network management of the e-paper facilitate the work of an operator and can take place automatically in time which has been determined or specified by an operator. E-paper display is thin and light so it can be installed everywhere using some elements of the urban infrastructure, e.g. on street lamps, walls, bus stops and pillars.

Example of implemented projects

Color of content	monochromatic
Size	13,3" 1600x1200 pix
Power consumption	0 W after change of content
Controll system	GSM, SERIAL PORT, LAN, Internet

finalist of the competition

GOOD DESIGN

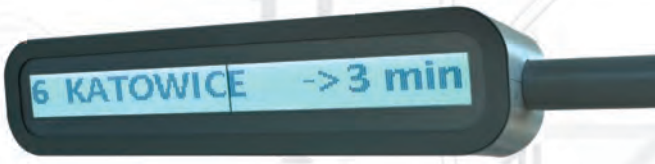
E-Paper timetable

2018

As an answer to the excessive energy consumption problem DYSTEN company has designed and created LOW POWER devices, giving the customers an alternative to the traditional solution.

LOW POWER LCD_PASSENGER INFORMATION DISPLAY

A LOW POWER LCD passenger information display uses technology which draws a small amount of energy. Thanks to battery power the device can be easily placed in any spot without the necessary connection to the power supply infrastructure. The monochrome LCD display shows the line number, destination stop and the actual arrival time of the vehicle. The presented content is readable regardless of weather conditions and lightning.



Example of implemented projects

	LP1X3	**LP1X2**
Panel	LCD low power	LCD low power
Number of rows	1	1
Resolution [pix]	315 x 20	210 x20
Total size [mm]	1100 x 170 x 190	780 x 170 x 190
IP protection	IP65	IP65

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SOS PANEL_TTS

A two-way communication panel, equipped with SOS button, INFO button, microphone and speaker. Button description is written in Braille which allows blind people to call for help. The device has an automatic function of volume adjustment to the background noise level - thanks to which a passing trn / tram / bus will not interrupt the conversation.

TTS_BUTTON

After pressing the button the timetable displayed at the passenger information board is automatically read.

Example of implemented projects	Panel	Button
Function	SOS & TTS	TTS
Total size [mm]	106 x 250	⌀ 85
Mounting options	pole, bus shelter	pole, bus shelter
IP protection	IP54	IP65

PARKING_INFORMATION PANEL

LED Parking Information Panel is an element of a parking monitoring system. Electronic information boards display a number of free parking lots and its location. A design of the board is created in accordance with the vision of a customer. LEDs have been used to produce an external Parking Information Panels. They guarantee an excellent visibility both during the day and in the night. The device is also able to work in any atmospheric condition.

DIRECTION BOARDS_VEHICLE DIRECTION BOARDS WITH PASSENGER INFORMATION

These boards present the line number of the vehicle of public transport and its direction. They are built with LED technology which is characterised by high brightness and an excellent contrast.

Example of implemented projects	PARKING INFORMATION PANEL RGB	DIRECTION BOARD - FRONT	DIRECTION BOARD - SIDE	DIRECTION BOARD - REAR	LCD
Technology	LED SMD RGB	LED SMD, RGB, AMBER	LED SMD, RGB, AMBER	LED SMD, RGB, AMBER	LCD, TTF
Pixel pitch [mm]	8	6, 8, 10	6, 8, 10	6, 8, 10	od 21,5"
Luminance [nits]	2 500	2 500	2 500	2 500	700, 1 000, 1 500
Resolution [pix]	32 x 64 / 32 x 32	from 16 x 112	from 16 x 80	from 16 x 16	1920 x 1080 FHD
IP protection	IP54	IP54	IP54	IP54	IP54
Temperture [°C]	–25 up to +50	–25 up to +50	–25 up to +50	–25 up to +50	–25 up to +50
Life time [h]	100 000	80 000	80 000	80 000	50 000
Color of case	RAL	RAL	RAL	RAL	RAL
Controll system	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT	DVI, HDMI, LAN, SERIAL PORT
Brightness sensor	✔	✔	✔	✔	✔
Glass break sensor	✔	✔	✔	✔	✔
Case opening sensor	✔	✔	✔	✔	✔
Total size [mm]	2000 x 1500 x 200	110 x 700 or 135 x 900 or 170 x 1200	110 x 500 or 135 x 700 or 170 x 900	110 x 110 or 135 x 135 or 170 x 170	from 21,5"

AUDIO_DYSTEN

ONE OF THE KEYS TO THE SUCCESS IS A SELECTION OF THE APPROPRIATE DEVICES, SUITED FOR THE PROFILE OF THE USER

DYSTEN individually tailors PA systems to the specific needs of the object. We offer the most modern and high-tech solutions by world acclaimed manufacturers. In the process of creation of the best possible sound system we are always maximizing its potential and at the same time not disturbing its architecture and aesthetics. Our experience in the fields of designing, integration and execution of PA installations allows us to seamlessly get through all stages of the project implementation.

Within the scope of our activities we perform the measurements in the field of acoustics and electro-acoustic of the halls and rooms..

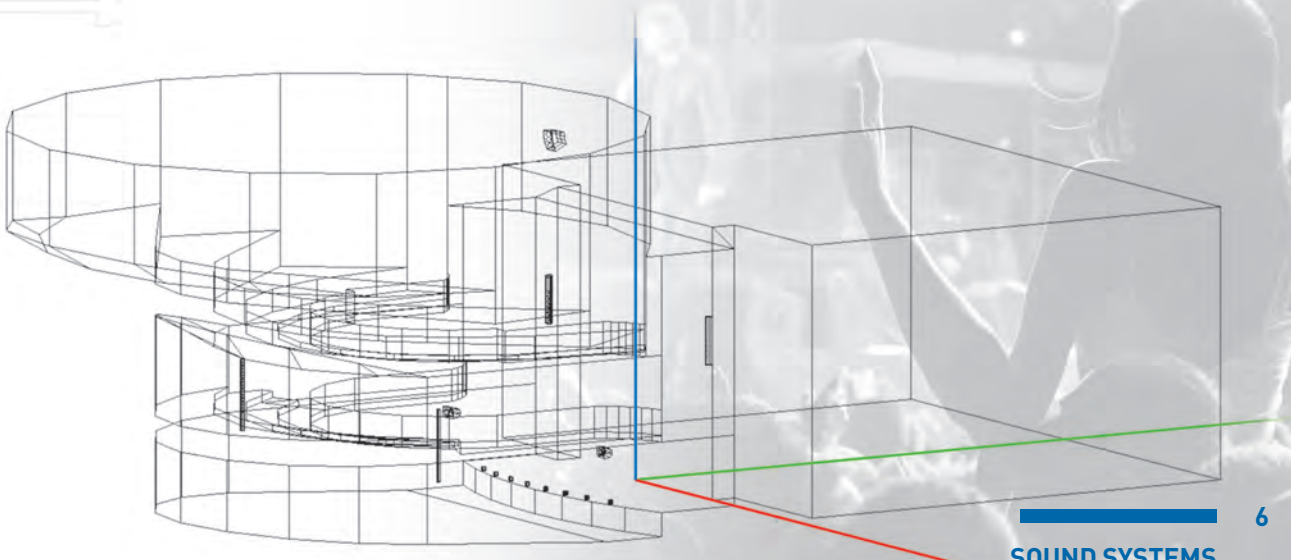
HOW DO_WE WORK?

- professional system layout design
- sound simulation in a virtual environment
- device selection
- precise set up
- staff training
- technical support throughout the life of the system

WHERE CAN YOU USE_OUR SYSTEMS?

- concert halls, theaters, opera houses, cultural centers, cinemas and music clubs
- sports halls, stadium, swimming pools
- train and bus stations
- houses of worship

OUR HIGHLY SPECIALIZED AND PASSIONATE STAFF IS PROVIDING OUR CLIENTS AND PARTNERS WITH REMARKABLE RESULTS OF COOPERATION WHICH ARE TO BE SEEN ON OUR WEBSITE



DYSTEN

Poland, 41-800 Zabrze
ul. Grunwaldzka 91
+48 (32) 376 12 60
biuro@dysten.pl
its@dysten.pl
audio@dysten.pl

www.dysten.pl

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