

Project info main station underpass, Essen



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*Object: main station underpass, Essen*

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*Completion: 2009*

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*Client: Essener Verkehrs-AG*

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*Planning and realisation: TL-Vertrieb GmbH & Co.KG*

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*LED technology: Insta Elektro GmbH, Lüdenscheid*

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*Photo: Photoprop, Wuppertal*

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## Project info Main station underpass, Essen

### Subway in Essen main station shines in a new light

On 11 August 2008 the pedestrian underpass between Willy-Brandt-Platz and the underground rails in the Essen main station were closed. Not a bitter loss according to Hermann Dumke, chief real-estate manager of the Essener Verkehrs-AG (EVAG), the Essen transport company: »The underpass has long been far away from coming up to modern demands regarding attractiveness and security.« For this reason people avoided the tunnel anyway and made a detour through the railway station. With the modernization of the complete area around the Essen main station – under the motto »light« – the underpass was also renovated completely.

»We want people to look forward to coming to Essen, and this requires an environment in which everybody can feel safe and comfortable,« says Dr. Horst Zierold (CEO of the Essen transport company EVAG). And they did it. Since 1 July 2009 it is worthwhile making a short detour in direction of the underground, for the newly designed subway welcomes the visitors with a brighter and more friendly atmosphere than ever. The old floor tiles have been replaced by a new shiny granite floor. The visible concrete ceilings have a colourful coating and the walls are covered with a profilated-glass construction. The masterpiece, however, is a shining spectacle, being one of the biggest light installations in underground stations worldwide.

It was realised with maintenance-friendly and energy-saving LED-technology from Insta Elektro GmbH in Lüdenscheid. On a length of more than 80 metres about 3000 LEDLUX® plane LX shine behind a continuous glass wall. The square RGB LED lamp is particularly suitable to homogeneously backlight large transparent surfaces. The prismatic glass used after having undergone various mock-up tests even multiplies this effect and could be mounted easily thanks to U-profiles used in industrial and shed construction. The LED lamps with grid dimensions of 20 x 20 cm were fastened on aluminium frames in a distance of 10 cm. As you can walk behind the wall over its full length, maintenance of the modules is easy. The differentiated animation of the installation is controlled by instalight DMX, a light management system from Insta. Transducers pass on nearly 10,000 digital messages simultaneously via 65 DMX-LEDTRIX® Gateways to the LEDLUX® plane LX. One transducer controls six DMX-LEDTRIX® Gateways, each of which individually controls 45 LEDLUX® plane LX. The 11 Insta transducers communicate via an IP-Backbone system which enables synchronous control. The system is linked to the local building system control to call up the programmed light scenes is effected via the instalight® Light management system KNX. Individual components or the complete installation, including advice and pre-programmed modules can be ordered with Insta or an Insta representation ([www.insta.de](http://www.insta.de)). Currently about 20 light scenes are programmed.

Yet Essen is only one example for a successful installation of LED-technology. Also in Krefeld and Lingen the existing underpasses could be enhanced and given a more appealing design – with little work and very low follow-up costs – a very important point with regard to the limited budget funds of the towns. The dark »fearful room« changes into a friendly subway pedestrians use without reservations.

So in the subway of the railway station Krefeld-Oppum two coloured luminous walls of 7.5 m length each were installed, built of 30 x 30 cm large glass bricks. In each glass brick RGB-LED of Insta are installed. It goes without saying that this system, which was developed by the architect Daniel Brand and his company »Licht und Glas«, is vandalism-proof and maintenance-friendly.

#### LEDLUX® plane LX

LEDLUX® plane LX is an LED lamp in RGB version with integrated LEDTRIX® node (bus coupling) for use in the instalight® LEDTRIX system. To be used as wall and ceiling illumination or special effect lighting.



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## Project info

In Lingen a completely different concept was chosen, also using LED technology from Insta and thus contributing to an attractive environment. With the new construction of a generously proportioned, handicapped accessible pedestrian and bicycle subway, linking the areas on both sides of the rail, the town centre of Lingen is to be enhanced by a new design. A luminous LED wall and light points in the ground have a guiding function in the concept and set architectural accents.

Those were also important for the Essen underpass. The basic idea of EVAG's own planning office was to optically shorten the extreme length of the subway by movement. Due to the old-fashioned cut of the shops and the obsolete building situation the underpass was not very economical before which has clearly been improved by its increased constructional attractiveness. The newly designed pedestrian subway now offers the passenger a larger variety of shops. »On well 2,000 square metres sales area, the customer can quickly make a few purchases or have a bite to eat on his way to the underground«, says Dumke.

Four large shops opened their doors directly after the renovation: the bakery Kamps, Galeria Kaufhof (sweets), Mayersche bookshop and the chemist's shop Rossmann. The tenants expect a lucrative business, for every day about 70,000 EVAG passengers change train at the main station.

Now the EVAG does not only meet the latest fire protection regulations and the demands on air-conditioning and ventilation technology. Additionally, in contrast to conventional street and subway lighting the LED-technology offers the charm of unusual lighting effects and barely spoken the operation costs are also convincing: Compared to a fluorescent tube, LED light – at identical luminosity – consumes less energy. Furthermore, maintenance work is reduced to a minimum, since LED luminaires and control have an extremely long service life. This is a great plus for LED lighting, for the aesthete as well as for the financial planner. »The renovation will pay for itself by letting out the shops. This investment will not stretch the ÖPNV budget in the long run«, says Dumke.

By end of 2009 the complete renovation is to be completed. Right in time to welcome visitors from all over the world – after all, Essen will be Capital of Culture in 2010.