



Budućnost povezivanja

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Antonics reference

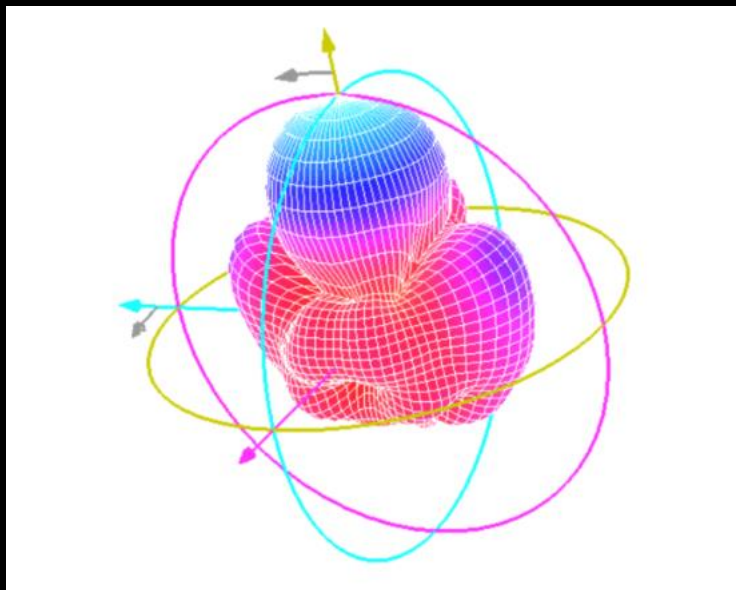
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Antonics-u

- ✔ Obiteljsko poduzeće osnovano 2007. u Veltenu kod Berlina
- ✔ Antene dizajnirane, razvijene i proizvedene u Veltenu
- ✔ Najveći vodeći njemački proizvođač inovativnih antenskih sustava za javni prijevoz
- ✔ Sastavljanje kabela od 2019. godine
- ✔ Vlastiti odjel za istraživanje i razvoj
- ✔ Antenska rješenja za javni prijevoz prilagođena korisnicima
- ✔ Besplatne konzultantske usluge



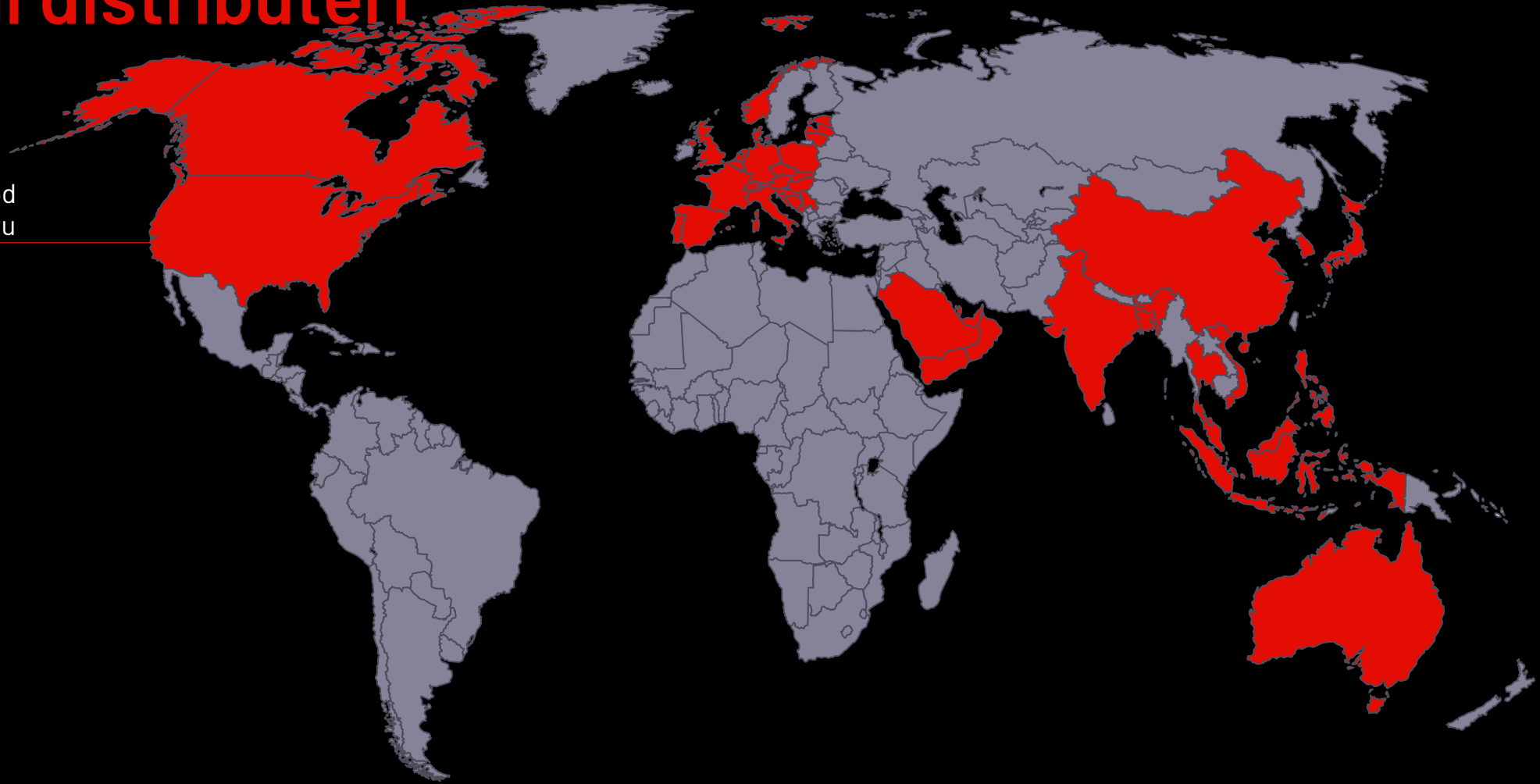
Made in
Germany.



Antonics

ovlašteni distributeri

Distribucija s više od
20 partnera u svijetu



Antonics načela



1. Inovativnost

- Izuzetno mala visina antena od samo 40 ili 60 mm
- Više-pojasne planarne antene s velikim pojačanjem i selektivnim sprežanjem
- Prilagodljive za posebne projekte
- Prikladne za vozila s plastičnim krovovima
- Interni odjel za istraživanje i razvoj



2. Preciznost

- 100% proizvedeno u Njemačkoj
- Ekstremno dug životni vijek – MTBF do 2000 godina
- 3D simulacija mikrovalnog polja, 3D konstrukcija, RF mjerenja
- Reference diljem svijeta u projektima s novom opremom i projektima retrofita
- Dizajn prilagođen korisniku



3. Isplativost

- OmPlecs Multiband tehnologija
- Do 13 konektora za svaki frekvencijski raspon u 1 anteni
- Nije potreban skupi razdjelnik ili kombinator
- GPS/GLONASS pojačalo uključeno u antenu
- Uključene konzultantske usluge



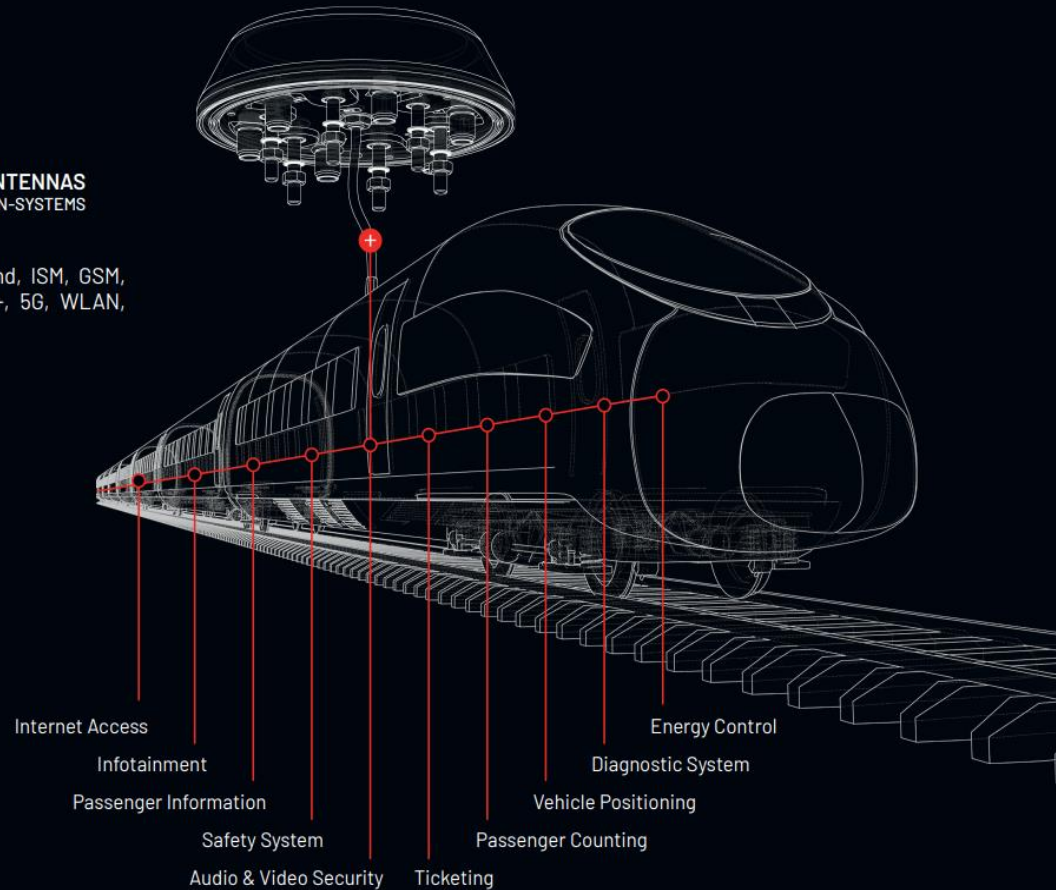
4. Certifikati

- High Voltage Test 25 kV AC DIN EN 50124 / DIN EN 50122-1
- High voltage Test 3 kV DC DIN EN 50124 / DIN EN 50122-2
- Temperature Test IEC 60068-2
- Cold up to -60° DIN EN 50155
- Dry heat up to +80° DIN EN 50155
- Damp heat, cyclic DIN EN 50155
- Mechanical Test DIN EN 50155
- Vibration Broad Band IEC 61373
- Shock, half sine IEC 61373
- Salt mist spray ISO 9227
- Protection ag. water ISO 20653
- High press. steam jets ISO 20653
- Flammability EN 45545-2, DIN 5510-2, NF F 16-102
- Railway approval EN 50155, EN 50124, EN 50122-1, IEC 60068-2, IEC 61373, ISO 922, ISO 20653

Višepojasne **antene**

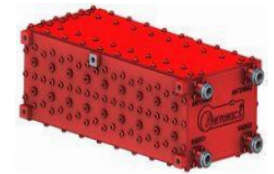
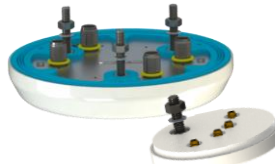
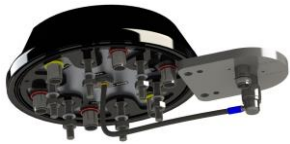
OmPlecs® Multiband-ANTENNAS
ONE ANTENNA FOR ALL TRAIN-SYSTEMS

+ 2m-Band, 70cm-Band, ISM, GSM,
GSM-R, UMTS, LTE+, 5G, WLAN,
Wifi-6E, GNSS



**Jedna višepojasna antena
za sve željezničke
radio sustave**

Antonics proizvodi



Vanjska antena za vlak

- Flat design: 40 mm / 60 mm
- Use of different communication systems:
 - 2 m-Band,
 - 70 cm-Band/trunked radio
 - TETRA/UIC
 - GSM-R
 - GSM 1800
 - UMTS
 - LTE
 - 2 x 2 LTE MIMO
 - 4 x 4 LTE MIMO
 - 4 x 4 5G MIMO
 - Wi-Fi 2.4
 - Wi-Fi 5.8 and GPS

Vanjska antena za bus

- Flat design: 40 mm / 60 mm
- Use of different communication systems:
 - 2 m-Band,
 - 70 cm-Band/trunked radio
 - TETRA/UIC
 - GSM-R
 - GSM 1800
 - UMTS
 - LTE
 - 2 x 2 LTE MIMO
 - 4 x 4 LTE MIMO
 - 4 x 4 5G MIMO
 - Wi-Fi 2.4
 - Wi-Fi 5.8 and GPS

Unutarnje antene

- Flat design: 23 mm / 40 mm / 60 mm
- Mutual use of different communication systems such as:
 - 2 m-Band
 - 70 cm-Band/trunked radio/TETRA/UIC
 - GSM-R
 - GSM 1800
 - UMTS
 - LTE
 - 2 x 2 LTE MIMO
 - 4 x 4 LTE MIMO

Infrastrukturne antene

- Flat design: 40 mm / 60 mm
- Use of different communication systems:
 - 2 m-Band,
 - 70 cm-Band/ trunked radio
 - TETRA/UIC
 - GSM-R
 - GSM 1800
 - UMTS
 - LTE
 - 2 x 2 LTE MIMO
 - 4 x 4 LTE MIMO
 - 4 x 4 5G MIMO
 - Wi-Fi 2.4
 - Wi-Fi 5.8 and GPS

Kablovi

OmProCab-5:

- Quad shielded low loss coaxial cable for mounting in trains and vehicles
- Special feature: combination of very good RF properties, the flexible inner conductor and the fire certification according to railway standard EN45545-2

The OmProCab-55:

- To use with bus antennas
- Very good RF characteristics, a flexible inner conductor and conformity with the ECE R118 directive for fire safety in buses

Zaštitni uređaji

- 4 - 6 RF-Ports
- TETRA 380 - 400
- TETRA 380 - 430
- TETRA 410 - 430
- TETRA 410 - 470
- GSM-R
- UMTS / GSM 1800 / GSM-R
- LTE / UMTS / GSM 1800 / GSM-R
- MIMO 2 x 2 LTE / UMTS / GSM
- MIMO 4 x 4 LTE / UMTS / GSM
- GPS / GLONASS / GALILEO / BeiDou L1
- DUAL GPS / GLONASS / GALILEO / BeiDou L1
- GPS / GLONASS / GALILEO / BeiDou L1 + L2
- WLAN / WIFI 2.4
- WLAN / WIFI 5.8
- WLAN / WIFI 2.4 / 5.8
- MIMO 2 x 2 WLAN / WIFI 2.4 / 5.8
- MIMO 3 x 3 WLAN / WIFI 2.4 / 5.8
- MIMO 4 x 4 WLAN / WIFI 2.4 / 5.8

Antonics reference



 RSVG	 VAG Nürnberg	 Erfurter Verkehrsbetriebe	 Verkehrsbetriebe Karlsruhe	 BOMBARDIER	 SIEMENS	 VOSSLOH	 STADLER
 Herne HCR	 Plauener Straßenbahn	 Netinera	 Bremer Straßenbahn	 ALSTOM	 CAF	 NIPPON SHARYO	 KONČAR
 Chemnitz Verkehrs-AG	 Holding Graz	 Wiener Linien	 Salzburg AG	 PESA	 NEWAG	 BUS & COACH VDL Bus & Coach	 MAN
 Stern & Haffner Verkehr	 Transports Publics Neuchâtelais	 Transports Publics Genevois	 Schweizerische Bundesbahnen	 EvoBus	 IVECO	 SOLARIS Bus & Coach	 Hyundai Rotem
 Polish Railways PKP	 ZTM Poznań	 ZTM Gdansk	 Koleje Mazowieckie	 H. Cegielski - Poznań	 Škoda Transportation as	 Hyundai Rotem	 ÜSTRA Hainover
 Belgian Railways SNCF	 Blackpool Transport	 Croydon Tramlink (South London)	 Supertram Sheffield	 Motorola	 DKS	 Dilax	 Rail und Road Protec
 RET Rotterdam	 Grand Avignon	 Metro Sofia	 Croatian Railways	 Picasso Systems	 ANNAX	 NetModule	 UniControls
 Bergen Light Rail Stern & Haffner Verkehr	 Metro Caracas	 Metrolin Toronto	 Taiwan Rolling Stock Company (Taipei City)	 Mermec Group	 Thales	 SESTO	 Elte GPS
 Tampa International Airport (Florida)	 EMTU Santos	 Greater Orlando Aviation Authority	 Supertram Sheffield Metro de Santiago Chile	 ENTE	 R&G	 NEO.NET	 NEC Corporation
 Boston Public Transport	 Singapore Rail Engineering (Singapore Metro)	 Calgary Transit	 Durban Transport	 TELTRONIC	 INDRA	 SEPSA Albatros	 DTI Group
 Ruhrbahn	 Trenitalia	 Aare Seeland mobil	 Trentino Trasporti Esercizio	 EKE Electronics	 Saira Electronics	 DRResearch	 SIGMA WIRELESS
 Qatar Railways	 Havelländische Eisenbahn	 Dubai Metro	 MTA New York City Subway	 Macro-System	 ATOS	 SVT Communication	 ArcelorMittal
 INIT	 GSP	 Trapeze	 ALMEX	 VIANOVA Technologies	 ICOMERA AB	 Havelländische Eisenbahn-AG	 EVAG
 T-Systems	 Siemens	 Funkwerk	 IVU Traffic Technologies	 Colibri	 Rheinbahn Düsseldorf	 Dortmunder Stadtwerke	 BOGESTRA
 Deutsche Bahn	 S-Bahn Berlin	 U-Bahn Berlin	 Hamburger Hochbahn	 Köln Verkehrsverbund	 Stadtwerke München	 MVG München	 BOGESTRA

Hvala!



ORBAN TEHNIKA d.o.o.
Kutnjački put 2
10000 Zagreb



info@orban-tehnika.hr



01 3874 111