

# GNSS Consulting Company Presentation



# What we offer

**We specialize in identifying and implementing accurate satellite positioning solutions for electronic tolling and for road telematics. Since being founded in 2017, GNSS Consulting provides expertise to the [EU Agency for the Space Program \(EUSPA\)](#) in the evaluation of**

**projects using solutions beyond state-of-the-art. We also support technology companies in the preparation of bids for public tenders for the deployment of GNSS-based solutions in electronic tolling and provide advisory services to road authorities and toll chargers in the design, implementation and operation of satellite-based tolling systems.**



# Our References



<https://www.euspa.europa.eu/>



[www.sthaarconsulting.com](http://www.sthaarconsulting.com)



<https://bpjt.pu.go.id/>



<https://www.egis-group.com/projects>

Evaluation and review of Horizon Europe proposals and projects that deploy of Galileo and European GNSS beyond state-of-the-art.

Preparation of a 70-page study on the international experience of GNSS-based tolling and technology options for a satellite-based Distance Tax in India.

Technical evaluation of the new GNSS-based tolling solution that replaces all toll plazas on the national motorways for the Indonesian Toll Road Authority.

Analysis of the deployment of GNSS-based technologies in the national electronic tolling system in Poland.

# Our References

## SCANFLEET

<https://scanfleet.hu/>

Support in the development of a platform for European Electronic Toll Services with international partners.



[www.skytoll.com](http://www.skytoll.com)

Support of the proposal preparation in the bid for “Toll Collect”, the German GNSS-based national tolling system.



<https://toll-charge.hu/>

Evaluation of On Board Units having integrated GNSS, 5.8 GHz DSRC microwave, and GSM/GPRS modules.



[www.api.bg/index.php/en](http://www.api.bg/index.php/en)

Presentation of European experiences in the use of GNSS technologies for nationwide tolling schemes to the Bulgarian Road Infrastructure Agency.

# CEO Dipl.-Ing. Norbert Schindler



Dipl.-Ing. Norbert Schindler has 18 years of experience in the design, development and operation of satellite-based solutions for tolling systems across various countries in Europe. He has published more than 25 articles and papers on the subject of GNSS-based tolling, many of which have been peer-reviewed at international conferences. He is the author of a comprehensive overview of standards and implementations in GNSS-based tolling published by the Institution of Engineering and Technology of London, in its ground-breaking book on Road Pricing.

- Advisor to the European Commission in the selection of the most innovative projects using European GNSS beyond state-of-the-art and in monitoring ongoing projects using the most advanced features of Galileo for satellite-based road telematics applications.
- More than 30 years of experience in Software Development, Artificial Intelligence Application Development, Telecommunications Technologies, Electronic Tolling, Smart Mobility and Intelligent Transportation Systems (ITS) in the Private Sector.
- M.S. (Dipl.-Ing.) Computer Science & Artificial Intelligence, Technical University of Vienna.
- B.S. Mathematics & Computer Science, Carnegie Mellon University, Pittsburgh.

## SIEMENS

- Sales activities in Hungary for a new GNSS-based platform for the HU-GO tolling system
- Sales activities in Russia for the nationwide electronic tolling system, successfully lobbying for the use of GLONASS as a core technology
- Founder and leader of a consortium for the technical and commercial response to the tender in Poland for nationwide electronic truck tolling
- Bid Manager for the electronic truck tolling tender in the Czech Republic
- Bid Manager for the “Lorry Road User Charging” tender in the U.K.
- Publication and presentation of innovative GNSS-based tolling solutions at international congresses in Europe, Asia and North America





## **The Future of Road User Charging with Apps**

“Smartphones are beginning to play a role in toll charging through the use of geo-location data and the data connectivity of the mobile phone network infrastructure.”

“Indonesia’s new satellite-based tolling system replaces all toll plazas with smartphones and GNSS-based OBUs.”



## **TOLL INSIGHT Tolling Industry Discussions**

“In the coming years, the cost of satellite-based OBUs will not differ much from that of conventional microwave tags. GNSS-based solutions can have a clear advantage.”



## **Future Trends in Tolling and Road User Charging**

“Asia is moving forward with GNSS-based tolling solutions. It will be fascinating to watch these countries take the international lead in tolling innovation.”



2020 “[EETS & Fleet Management: A Fleeting Moment](#)”  
*Thinking Highways* (H3B Media), Vol. 15, pp. 4-7.



2020 “[Mobility as a Service: MaaS Observation](#)”  
*Thinking Highways* (H3B Media), Vol. 15, pp. 16-19.



2019 “[Tolling: Über EETS](#)”  
*Thinking Highways* (H3B Media), Vol. 14, article 13.



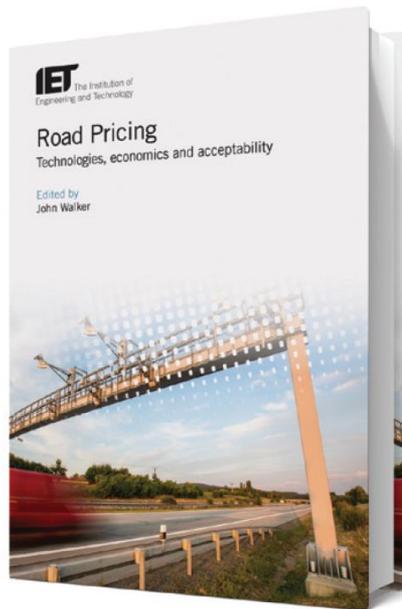
2019 “[Tolling: Eastern Europe Roundup](#)”  
*Thinking Highways* (H3B Media), Vol. 14, article 18.



2018 “[Satellite Parking: Birth of an Idea](#)”  
*Thinking Highways* (H3B Media) Vol 13, pp. 40-41.

# Book on Road Pricing

The 40-page Chapter “[GNSS-based tolling: standards and implementations](#)” is a comprehensive contribution by Norbert Schindler and Erich Erker in the ground-breaking book on the state-of-the-art of Road User Charging around the world: ***Road Pricing: Technologies, economics and acceptability*** (Institution of Engineering and Technology), London, pp. 403-443, 2018.



“Road pricing is increasingly being used in both developed and developing countries ... to compensate for falling revenues from fuel duty, to improve the efficiency of the existing transport infrastructure, to curb carbon emissions ... and to fund new transport projects. This book looks at examples around the world, the technologies implemented, how the pricing regimes have worked out and how successful the systems have been.”

Editor: Dr. John Walker

ISBN: 978-1-78561-205-3

<https://www.theiet.org/resources/books/transport/rdpri.cfm>

# Contact Information



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**Position yourself on the road  
with our expertise**

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