

Services

Our Services

Build up an efficient
and sustainable operation

CONSULTING
& PILOT

BUILT UP
& MIGRATION

OPERATION
& MAINTENANCE



Our Services

We utilize our experiences and know-how in the road user charging area in providing services aimed to **design, build up, operate, maintain, finance, and innovate** a reliable, efficient, and user-friendly tolling experience. These services facilitate traffic management, revenue generation, and infrastructure maintenance, contributing to the sustainable and effective mobility and transportation.

We are experts for the electronic toll collection (ETC) for multilane free flow (MLFF) traffic and have solutions for stakeholders involved in the toll collection and safety **from the state to the municipality levels**. We have in our portfolio solutions for all currently used technologies for ETC and knowing pros and cons of each technology we can help to design, build up, finance, and operate the **ETC solutions tailored to fit client's needs and specific targets**.

SCAN ME



More information:
qrfy.com/p/services



Services:

01 Consulting & Pilot

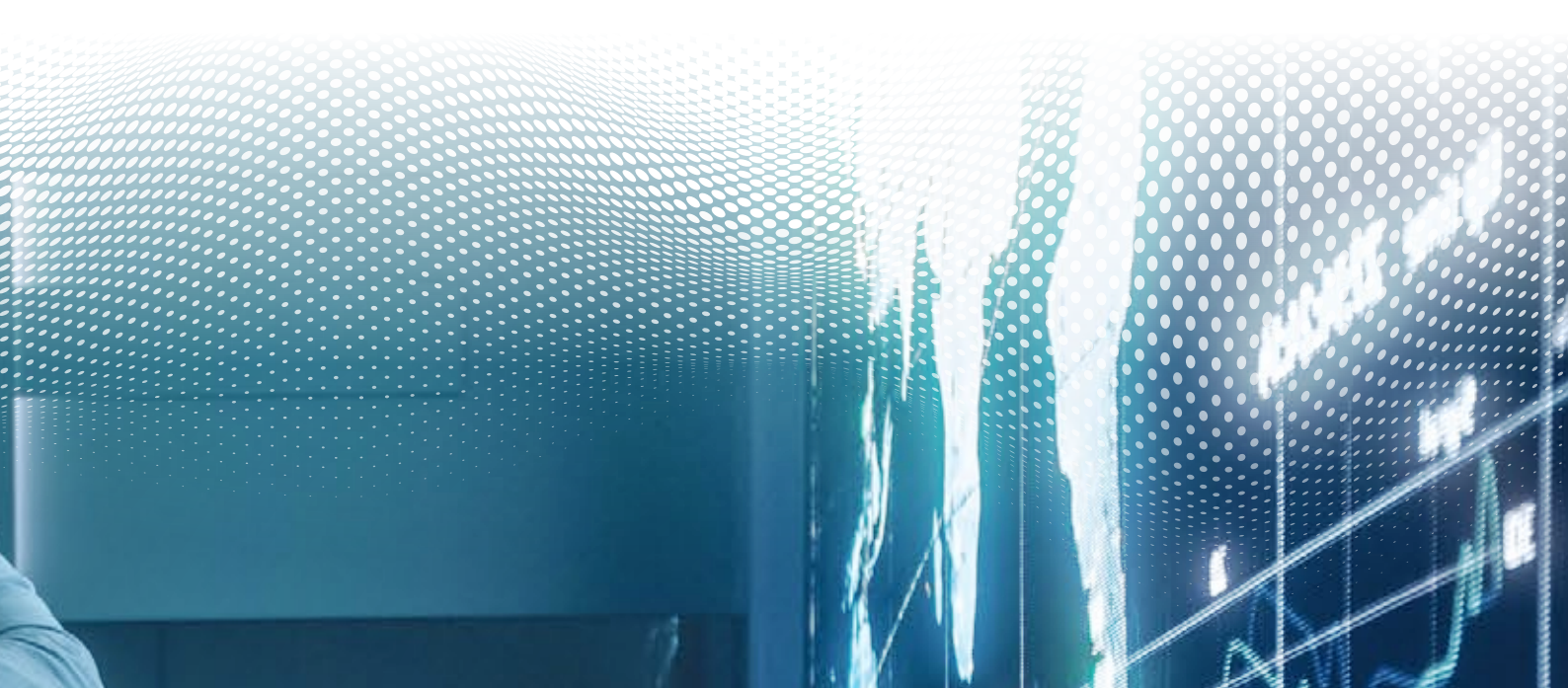
A key factor for building and operating an efficient ETC or ITS system that fulfils the purpose for which it was established is the careful preparation and design of a solution that takes account of all aspects and specifics of the intended system, its stakeholders and environment.

02 Built up & Migration

Revolve around the inception-to-support deployment of a comprehensive solution, drawing on our extensive experiences and expertise in the field. This encompasses the entire process, from its initial establishment to full operational deployment and the subsequent transition into the support phase.

03 Operation & Maintenance

We have extensive experience with the operation and maintenance of ETC systems and are capable to provide the business and technological operation of an ETC and ITS systems both as a whole and in parts.



01

Consulting & Pilot Services

A critical element in the successful development and operation of an efficient tolling or ITS system is the careful planning and design of a solution that comprehensively considers all facets and unique characteristics of the intended system, its stakeholders and the surrounding environment. Our team of experts use their knowledge and experience to provide consultancy services at each key stage in the development of a tolling or ITS system.

Our consulting services cover processes and procedures from gathering requirements, business and architecture design, interface definition, systems management, and solution development for the purpose of developing large-scale complex systems.



Requirement analysis and definition

Requirements analysis is a critical phase in the design and development of tolling and ITS systems. It is a systematic process of gathering, documenting and analysing legislation and information about what the intended tolling or ITS system needs to achieve, what features it should have and what constraints and limitations it should respect. The primary objective of requirements analysis is to define and understand the needs and expectations of stakeholders, including road authorities, road users and other stakeholders such as public and governmental institutions.

Business and enterprise architecture design

The design of the business and enterprise architecture is based on defined requirements and takes into account the needs and specifics of the environment in and for which the system is being designed. Enterprise architecture may involve combining products from multiple vendors to produce an efficient system. Our aim is to produce a

robust business and enterprise architecture design for a tolling or ITS system that meets the customer's objectives, complies with regulatory requirements and provides a positive user experience while efficiently collecting tolls and managing the transport infrastructure.

Pilot project

As the technology for the tolling and ITS system is unique and the system finally chosen will affect a large number of road users for a long time, we are offering to provide a pilot project to enable stakeholders to evaluate the benefits of our system at minimal cost. The aim of the pilot project is to demonstrate the flexibility of the tolling and ITS system and the speed at which it can be set up before deciding on the future technology.

Definition of operational strategy

The objective of defining the operational strategy is to establish a clear and comprehensive plan for how the system will be operated and managed to achieve its objectives

efficiently and effectively. This operational strategy serves as a roadmap for the day-to-day operation of the tolling system and covers various aspects, including human resources, revenue and cost management, reporting and analysis, as well as strategy for customer services, enforcement, etc.

Definition of SLA parameters and methodology

Service Level Agreements (SLAs) are essential to ensure the reliable and effective operation of a tolling and ITS system. They provide a framework for service quality, accountability, problem resolution and continuous improvement, ultimately leading to a better user experience and successful achievement of the system's objectives. Our experts will define the SLAs that measure the parameters that are critical to the specific implementation of a tolling or ITS system, and define a methodology that ensures reliable and efficient measurement and evaluation of the SLA parameters.

Definition of test strategy

The test strategy is a comprehensive plan outlining how tests will be carried out to ensure the quality, reliability and performance of the system. It provides a structured approach to verifying that the tolling and ITS system meets its requirements, functions as intended, performs reliably under different conditions, and complies with relevant standards and regulations. A well-defined testing strategy helps to reduce the risk of defects and problems occurring in production, thereby increasing the quality of the system and the overall success of the project.

Testing areas:

- Individual testing of system components
- Individual functional testing of processes
- E2E testing
- Integration testing
- Performance testing
- Penetration testing

02

Built up & Migration Services

Fast and cost-efficient implementation of the tolling and ITS system is possible to achieve in case of having the know-how and the broad experience from successful implementation and efficient operation of a toll collection systems. We offer the experience starting from legislation, complex setup of the solution and guaranties for the delivery including financing and successful and efficient operation.

Our build-up and migration services cover the entire lifecycle of a comprehensive solution deployment, leveraging our extensive experience and expertise in this area. This process extends from initial setup through to full operational deployment and subsequent transition into the support phase.



- **Operational organization build-up and business processes set up**

Establishing the organizational structure and defining the core business processes required for the tolling system's smooth operation.

- **Complex construction of road site constructions**

Managing the construction of the road site infrastructure elements like gantries, and sensor installations, which are vital for toll collection.

- **System build-up**

Building and configuring the tolling system's hardware and software components to ensure they function seamlessly.

- **Replacement of the legacy tolling systems without affecting toll collection**

Safely replacing older tolling systems with new technology to avoid disruptions in toll collection.

- **System integration**

Ensuring that the tolling system seamlessly connects and communicates with various other systems and services, including payment gateways, government registers, enforcement systems, telematics, and accounting systems.

- **Complex test campaigns**

Conducting thorough and comprehensive testing to verify the system's functionality and reliability under various scenarios.

- **Trainings**

Providing training programs to educate personnel on how to use and operate the tolling system effectively.

- **Transition and migration among systems**

Managing the process of transitioning from legacy systems to the new tolling system, including data migration and system cutover.

An important part of the transition is the migration of data from the legacy systems. We can cover the entire migration, from identifying the data to be migrated, through defining and setting up the migration procedures, to performing the migration and evaluating the migrated data.

- **Launch of operation**

Overseeing the official launch and commencement of tolling system operations to begin collecting tolls and providing services.

Complex construction of road site constructions

The construction of site infrastructure can be critical to the successful implementation of a tolling and ITS system. We can provide the complete construction of the site infrastructure as a service, or only participate in certain phases of the construction.

The acquisition involves a comprehensive assessment of a site's physical characteristics, boundaries, topography, environmental conditions and existing power and data infrastructure. This step is critical in gathering accurate and detailed information about the site to ensure that potential risks, opportunities and constraints are identified before finalising the acquisition.

Preparation of the construction documentation, which consists of a set of detailed technical plans, specifications, and documentation that outline the design, configuration, and implementation requirements for the road site construction and technology. These documents provide comprehensive guidance to engineers, contractors, and relevant stakeholders involved in the construction and installation of the tolling and/or enforcement technology.

The preparation of permit application documents involves a series of steps to compile and submit the necessary documentation required to obtain a permit. The permit application documents ensure that construction and development activities are carried out in a safe, regulated manner in accordance with local laws and regulations.

The construction phase is a critical stage in the implementation of the project, guided by the detailed construction documents that have been prepared during the earlier design phase. This phase involves the physical execution of the project, translating the concepts, specifications, and plans outlined in the construction documents into tangible structures and systems.

The handover and as-built documentation of road site technology involves the transfer of responsibility, control and operational knowledge of the implemented technology from the project team to the personnel responsible for its ongoing management and operation. This process ensures a smooth transition and effective use of the technology.

Financing

In addition to the complex technology supply, our experience in financing major European projects enables us to secure financing for the entire project, as well as for the operation of the tolling and ITS systems themselves, during the period in which the investment is recouped by the road authority.



03

Operation & Maintenance Services

We have many years of experience in the operation and maintenance of tolling and ITS systems and are able to provide **full or partial business and technical operations**. We can **operate all services and components** of tolling and ITS systems, including toll collection, customer services, enforcement services, OBU distribution and maintenance, IT administration and operations (monitoring centre, technical support and maintenance).



Business operation

Front-office services focus on customers and CRM business processes. **Customer services** include the registration of vehicle owners and vehicles, including exempt vehicles; the management of on-board units and other equipment associated with toll vehicles; the receipt and resolution of claims, enquiries, complaints and suggestions; and the provision of information on toll rates, the toll road network, the status of toll accounts, invoices and other accounting documents, and the status of complaints.

Sale and communication channels:

- Web portal
- Mobile app
- Points of sale
- Self-service kiosks
- Call center

Back-office services include a range of administrative and operational functions that support the efficient and effective operation of the tolling system. These services are typically performed behind the scenes and are critical for managing various aspects of toll collection, customer support, financial transactions and system maintenance. Key back-office services include transaction processing, toll calculation, billing and invoicing, payment processing, account management, fraud prevention, reporting and analysis.

The **enforcement back-office** is responsible for managing and monitoring the enforcement of tolling

rules and ensuring compliance by road users. It includes various administrative, monitoring and enforcement activities to identify and address non-compliance and issue evidence for penalties or fines. The main functions and responsibilities of the enforcement back-office are manual data processing and incident management.

Technology and IT Operation

The main objective of **IT Operations** is to ensure that the IT infrastructure and systems are available, secure and optimised to meet the needs of the toll business. This includes tasks such as deploying and configuring hardware and software, managing access controls and permissions, monitoring performance and capacity, troubleshooting and implementing security measures.

Key IT services

- Service desk and technical support
- Infrastructure management
- Applications deployment and support
- Security management
- Data management

The technology of a tolling and ITS system includes, besides the IT infrastructure, the **roadside constructions and the roadside, mobile and portable equipment.**

The operation and maintenance of this technology involves the ongoing processes, activities and efforts required to operate, manage and maintain a wide range of systems, facilities, equipment and infrastructure. This includes both day-to-day operational tasks and long-term maintenance activities aimed at ensuring the continued functionality, efficiency, safety and longevity of assets.

Effective operations and maintenance practices are critical to ensuring the reliability, safety and overall performance of assets throughout their lifecycle. By combining well-managed operational activities with **proactive and responsive maintenance strategies**, disruptions can be minimised, asset utilisation

optimised and long-term sustainability achieved.

We also have the expertise, experience and complex technology solutions to propose further enhancements and innovations to the system and to develop, deliver and operate additional solutions and new services.

Data analysis and data science

The tolling and ITS system is a valuable source of data, not only about the collection of tolls, but especially about the engineering data that can be collected and analysed from various areas using the latest technology:

- Real-time monitoring of the road network
- Providing data for traffic engineering
- Identification of traffic rule violations
- Traffic monitoring

Data analysis also generates reports and performs data analysis to gain insight into system performance, revenue trends, user behaviour, and operational efficiency.

PROFESSIONAL EXPERIENCE AND COMPETENCIES

In the implementation of its projects SkyToll obtained extensive professional experience, which can be applied for the successful execution of the project of electronic toll collection as a compensation for damage caused to the federal roads by vehicles having the permissible weight exceeding 3.5 tons.



Complex solution provider:

SkyToll designed the complex service of electronic toll collection, built and integrated system domains and service organization, defined efficient operational processes and operates the complex service of electronic toll collection in Slovakia.



Strong experience and successful implementation:

Fast and cost efficient implementation of the electronic toll collection system is possible to achieve in case of having the know-how and the broad experience from successful implementation and efficient operation of a toll collection system. SkyToll offers the experience starting from legislation, complex setup of the solution and guaranties for the delivery including financing and successful and efficient operation.



Commercial and technological operation:

SkyToll operates all of the services and components including toll collection, customer services, enforcement services, OBU distribution and maintenance, IT administration and operation (monitoring centre, technological support and maintenance).



Optimized operational processes:

The Back-office, the Points of Sale and the Call Center are designed to meet the customers' needs and expectations of customers. All the services covering customer registration, customer data changes, the OBU handover to the customer and its collection from the customer, receiving payments, providing information, receiving of claims are under one roof and ready for communication in several languages, thus being extremely convenient for transit transport drivers.



Expert consulting and project financing:

Besides the complex technological delivery, SkyToll is able, based on its experience with financing of the big European projects, to secure financing for the whole project as well as for the toll system operation itself during the period of repayment of the investment by the government.



Research, development and innovation:

Thanks to the complex technological platform SkyToll has also the competence to provide the suggestions for further enhancement of the system and for development, delivery and operation of additional solutions and new services.



In-house product portfolio for delivering E2E solution:

SkyToll as a solution provider creates the effective end-to-end solution based on the components from its own portfolio. Already today it utilises the unique combination of technologies that represent the basis for the information traffic systems of the future. The application thereof erases the boundary between the present and the future.



Beneficial cooperation:

SkyToll is a strong partner with experience from implementation and management of real projects. In its design for provision of an integrated service for the Russian ETC project, SkyToll offers long-term partnership and cooperation, consultation and support for ongoing optimisation of the whole service of electronic toll collection as well as for implementation of development requirements for the system or the business.

Contacts

E: info@skytoll.com

W: www.skytoll.com

SKYTOLL, a. s.
Slovak Republic

SKYTOLL PTE. LTD.
Singapore

SKYTOLL PRIVATE LIMITED
India