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1. COMPANY INFORMATION

Key facts

The company CROSS has experience in development, delivery, installation and maintenance of top technological components for road traffic since 1994. As a technology company and being developer and manufacturer we mainly concentrate on our own products and unique solutions in the following fields:

- Intelligent Traffic Control
- Road Meteorology and Winter Maintenance Support
- Telematics
- Parking Systems
- Universal Payment Terminals

CROSS develops business activities within European Union, in other European countries and also in selected overseas territories.

We are a holder of the ISO 9001:2001, ISO 14001:2005 and OHSAS 18001 quality system certificates.

We have 3 branches and 55 employees.
2. CROSS MAIN ACTIVITIES BASIC DESCRIPTION

Intelligent Traffic Control

CROSS is a leading manufacturer and supplier traffic light controllers. More than 450 intersections are being controlled with CROSS hardware and software in Czech Republic and Slovakia. Using the latest technology and own know-how of dynamic control, coordination, preferential routes and public transport preference allows the cities to use all the advantages of the intelligent traffic control and to achieve the smoothest traffic flow that is possible under any given circumstance. The fact that CROSS Urban Traffic Control Center is one of the most flexible and user-friendly systems on the market is being proved on daily basis in each city that uses CROSS traffic control solutions.
Road Meteorology and Winter Maintenance Support

As one of the few companies in the world CROSS covers all aspects of this complex and expert field. Installation and operation of road weather stations CrossMet able to measure all necessary parameters influencing the road status in the winter is the very first step in building the complex and useful maintenance support system – the other steps are visualization and monitoring software METIS with Dispatcher’s Module with integrated decision support system and of course the world unique performance evaluation system Winter Maintenance Index.
Telematics

Traffic counters and analyzers CROSS ASD 3 and CROSS ASD 5 WIM are our key products in this section; the latter one includes high precision free low dynamic weighing system. Flexibility and reliability of our traffic counters make them ideal components for the most up-to-date telematics applications.
Parking Systems

Automatic parking system CrossPark fulfils all the requirements for modern barrier systems for everyday use bringing to its operators and users maximum comfort, reliability and ease-to-use under the most difficult conditions and heavy traffic. On the other hand it keeps the flexibility and possibility to accommodate its configuration and features according specific needs of the location and client’s needs.
Universal Payment Terminals

Answering the growing demand we have developed extremely universal and open-interface automatic cashier that is able to cooperate with diverse third-party software serving as cash and credit card payment device for broad range of applications such as selling bus or railway tickets, entrance tickets for sport or cultural establishments, cashier in automated shops and so on.
3. DIRECTOR’S STATEMENT

CROSS has become over the years one of the leading companies in the Czech Republic in the field of road traffic technology. Our mission is not only to keep our position but to stand in the front in the development of new and innovative technologies. All this would not be possible without having excellent team of people that give face to our everyday activities and that on everyday basis bring maximum effort and knowledge in order to offer our clients the best solution for their needs.

From the very beginning of the company, we develop, manufacture and deliver top technological components and systems for road traffic. All our products and services are strictly driven by our customers. CROSS activities cover full range of services starting with comprehensive project documentation, product development including preparing all required hardware and software “tailor-made” changes up to installation and complex support and service.

We have always considered our clients and customers as our partners who are on one hand the target of our attention but on the other hand who can influence the direction of the development of new products and solutions. I am personally proud that as a result of this close cooperation with our customers and partners CROSS is able to offer all the time something new, better and additional. The relationship between the company and customers is open and brings positive results for both sides.

Tomas Jurik
Co-owner and CEO
4. COMPANY HISTORY MILESTONES

1994 – Foundation of the company CROSS with development and manufacturing of traffic light controllers as core business

1994 – Certification of the first generation of the traffic light controller CROSS RS 1 and pilot installation of the first intersection controlled by CROSS technology

1995 – Start of the serial production of traffic light controllers

1995 – Start of exporting traffic light controllers to Slovakia

1996 – First 50 intersections are controlled by CROSS

1996 – CROSS becomes installation and service partner of HECTRONIC delivering on street parking solutions

1996 – CROSS becomes commercial, installation and service partner of VAISALA and starts delivering road meteorological stations for Czech road authorities. The same year start our deep involvement in winter maintenance support with all related products and services.

1997 – Establishment of CROSS branch office in Prague

1998 – Certification according the ISO 9001:2001 quality system

1999 – Launch of second generation of traffic light controller CROSS RS 2

2000 – Development of automatic traffic counter CROSS ASD 3

2001 – Development of automatic barrier as the first part of automatic parking system

2001 – Development of road weather station CrossMet

2003 – Start of production of automatic parking system CrossPark with entry and exit terminals

2004 – Development of fully automatic pay station for parking system

2004 – CROSS participates for the first time as exhibitor at the Amsterdam Intertraffic show with its own products.

2004 – CROSS starts exporting its products to EU countries

2005 – Development of the world unique Winter Maintenance Index system and start of
evaluating winter maintenance data for Czech road authorities

2006 – CROSS becomes one of key partners of KAPSCH in building and servicing the electronic toll collection system for all Czech highway network

2006 – Certification according the ISO 14001:2005 and OHSAS 18001 quality system certificates

2006 – Expanding export: complete parking systems CrossPark in operation in Croatia, Germany, Romania

2007 – Launch of third generation of traffic light controller CROSS RS 3

2007 – Development of weight-in-motion system ASD 5 WIM

2007 – Establishment of CROSS branch office for service in Velke Mezirici

2007 – Number of employees gets to 50

2008 – More than 480 controllers in operation
5. QUALITY MANAGEMENT SYSTEM CERTIFICATIONS

CERTIFICATE

IQNet and QQS hereby certify that the organization

CROSS Zlín, s.r.o.
Louky 397, 763 02 Zlín, Czech Republic

Branch
Praha, Jiřího z Podolí
Velké Meziříčí, Plískový 39, 594 27 Velké Meziříčí

for the following processes

- Development, manufacture, delivery, installation and service
- Traffic light controllers and traffic control systems
- Access control systems
- Intrusion alarm systems
- Intrusion alarm components
- Design and control of traffic signal systems

has implemented and maintains a Quality Management System which fulfills the requirements of the following standard

ISO 9001: 2000

Registration Number: CZ – 2049/2009

CROSS Zlín
Louky 397, 763 02 Zlín, Czech Republic
CERTIFICATE

IQNet and CQS hereby certify that the organization

CROSS Zlín, s.r.o.
Louny 397, 763 02 Zlín, Czech Republic
Branches:
Prague, John Deda 80, 186 00 Prague
Velke Nasezi, Piskory 39, 394 27 Velke Nasezi

for the following field of activities:
- Design, manufacture, delivery, installation and service
- Control system controllers and traffic control systems
- Road network information systems
- of signal systems

has implemented and maintains an

Environmental Management System

which fulfills the requirements of the following standard:

ISO 14001: 2004

Issued on: 2009-03-10
Validity date: 2012-03-19

Registration Number: CZ - 35/2009

Rene Wimmer
President of IQNet

Vladimir Fabril
President of CQS
CERTIFICATE

IQNet and CQS hereby certify that the organization

CROSS Zlín, s.r.o.
Louky 397, 763 02 Zlín, Czech Republic
Branches:
Praha, Jirouškova 85, 180 00 Praha
Všeň Mezíříčí, PÍšík 39, 596 27 Velké Mezíříčí

for the following field of activities:
- Development, manufacturing, delivery, installation and service:
  - of traffic light controllers and traffic control centres
  - of meteorological information systems
  - of fire alarm systems
  - of telematic equipments
- Delivery and service of traffic signalling systems
- Project design
- Realisation of road traffic infrastructure projects

has implemented and maintains a

Occupational Health and Safety

which fulfills the requirements of the following standard

OHSAS 18001:2007

Issued on: 2009-03-10
Validity date: 2012-03-10

Registration Number: CZ/26/2000

René Vagner
President of IQNet

Vladimír Pilát
President of CQS
6. CROSS COMPANY STRUCTURE

- Prague Branch
- Zlín Headquarters
- Velké Meziříčí Branch

**Director/CEO**
- Accountant Department
- Secretariat

**Executive Manager**
- Sales and Marketing Department
- Development Department
- Projection Department

**Sales Manager**
- Traffic Control
- Telematics systems
- Road Meteorology
- Parking and Automatic Payment Terminals
- Electronic Toll Collection
## Contacts

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>E-mail</th>
<th>Phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>Tomas Jurik</td>
<td><a href="mailto:jurik@cross.cz">jurik@cross.cz</a></td>
<td>+420 577 110 218</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 602 733 835</td>
</tr>
<tr>
<td>Secretariat</td>
<td>Iveta Holikova</td>
<td><a href="mailto:info@cross.cz">info@cross.cz</a></td>
<td>+420 577 110 211</td>
</tr>
<tr>
<td>Executive Manager</td>
<td>Karel Hostasa</td>
<td><a href="mailto:hostasa@cross.cz">hostasa@cross.cz</a></td>
<td>+420 577 110 229</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 724 585 750</td>
</tr>
<tr>
<td>Traffic Contro Manager</td>
<td>Tomas Slama</td>
<td><a href="mailto:slama@cross.cz">slama@cross.cz</a></td>
<td>+420 577 110 237</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 606 702 753</td>
</tr>
<tr>
<td>Telematics and Meteo Manager</td>
<td>Petr Sevcik</td>
<td><a href="mailto:sevcik@cross.cz">sevcik@cross.cz</a></td>
<td>+420 577 110 238</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 602 509 552</td>
</tr>
<tr>
<td>Parking and Automatic Payment Terminals</td>
<td>Jiri Siegl</td>
<td><a href="mailto:siegl@cross.cz">siegl@cross.cz</a></td>
<td>+420 577 110 212</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 606 728 666</td>
</tr>
<tr>
<td>Realization Manager</td>
<td>Josef Tykal</td>
<td><a href="mailto:tykal@cross.cz">tykal@cross.cz</a></td>
<td>+420 577 110 228</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 606 752 721</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>Tomas Pospisek</td>
<td><a href="mailto:pospisek@cross.cz">pospisek@cross.cz</a></td>
<td>+420 577 110 232</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 602 189 904</td>
</tr>
<tr>
<td>Sales Representative</td>
<td>Stanislav Vymazal</td>
<td><a href="mailto:vymazal@cross.cz">vymazal@cross.cz</a></td>
<td>+420 577 110 212</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+420 724 312 054</td>
</tr>
<tr>
<td>Sales Representative and Prague Branch</td>
<td>Jan Solc</td>
<td><a href="mailto:solc@cross.cz">solc@cross.cz</a></td>
<td>+420 257 290 461</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Development Manager</td>
<td>Pavel Cabak</td>
<td><a href="mailto:cabak@cross.cz">cabak@cross.cz</a></td>
<td>+420 577 110 220</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Projection Manager</td>
<td>David Dornak</td>
<td><a href="mailto:dornak@cross.cz">dornak@cross.cz</a></td>
<td>+420 577 110 215</td>
</tr>
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<td></td>
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1. PRODUCT OVERVIEW

CROSS develops and provides its own products and services in the following areas:

- Road meteorology and winter maintenance support
- Traffic Control
- Traffic counting and weight-in-motion systems
- Parking systems
- Payment terminals
2. ROAD METEOROLOGY AND WINTER MAINTENANCE SUPPORT

Road Weather Station CrossMet

- CrossMet: reliable and flexible Road Weather Station Automatic collection and transmission of meteorological data in road traffic for maintenance professionals
- Early warnings about dangerous situations on the road as frost or ice, mist, strong wind or wet surface
- Control of variable message signs
- Integral part of the complex weather information system
Road Weather Monitoring and Presentation system METIS

Year of introduction: 2003

- METIS complex SW developed by CROSS gives full overview of the updated weather situation on roads in real time
- All available weather information integrated in single application
- RWS, Met Office prognose, camera pictures, precipitation radar animation and many other features
- Technology independent
- Full customization possible

MDSS – Maintenance Decision Support System

Year of introduction: 2008

- System for precise short-term local forecast of road slipperiness
- Model predict: road status, road surface temperature and snow amount for next 24 hours with one hour step
- Maximally simplified deciding information about probable progress of weather and road conditions
Provide **synthesized and clear graphic presentation** about expecting behavior of road network using all available information sources (thermal maps, road technological data, expert information from maintenance stuff, geographical parameters.

Information is focused to the exactly restricted part of public road system.

Complex and precise but at the same time **extremely easy-to-use** even for the beginners in winter maintenance helping to correctly decide what part of road should be maintained.
Winter Maintenance Index (WMI)

Year of introduction: 2004

- **World unique system**
- Comprehensive analysis of winter maintenance performance on road network depending on real meteorological conditions
- Independent of climate, terrain, altitude, road length, technology …
- Definition of regional/national **winter maintenance standards** and optimalization of finance allocation
- Fast correction of inadequate behavior of contractors
- Noticeable **cost savings** and optimalization of maintenance
- Adequate quality of winter maintenance with lowest cost
3. TRAFFIC CONTROL

Traffic Light Controller CROSS RS 3

Year of introduction: 2007 (first generation CROSS RS 1 was introduced in 1995)

- Compliant with latest EU standards
- **Dynamic control** based on data from traffic detectors
- **Dynamic coordination** with floating length of internal cycle
- Connection to an area controlling system
- Local control of functions
- Public transport priority
- Top technology enabling better traffic flow
Urban Traffic Control Center CROSS UTC

Year of introduction: 2002

- **Real-time monitoring** of traffic lights status
- Possibility of setting of routes for vehicles with **right of way** at isolated crossroads and at coordinated routes
- Connection of up to **256 controllers**
- Possibility of **distributed control centers** with use of different access rights
- **Open software** enabling addition of various custom-made functions
Traffic Light Controller Setup SW CROSS LTC

Year of introduction: 2001

- **Real-time monitoring** of traffic controller’s state by **bar diagram**
- Real-time **monitoring** of traffic controller’s **hardware** (detectors, signaling devices)
- Traffic controller’s **time schedule setting**
- Traffic controller’s date and time setting
- **Event record** download
- Traffic detector **data download**
- Traffic controller’s SMS monitoring
4. TRAFFIC COUNTING AND WEIGHT-IN-MOTION SYSTEMS

Automatic Traffic Counter CROSS ASD 3

Year of introduction: 2000

- Vehicle counting and classifying
- Principle of inductive loops
- Data stored in the ASD3 memory and transferred for further processing
- Vehicle classification in 8 categories (standard) or user defined
- Speed measurement: 10 km/h up to 255 km/h
- Drive direction recognition
- Vehicle distance measurement
- Traffic congestion detection
- Maximum reliability and precision

Weight In Motion CROSS ASD 5 WIM

Year of introduction: 2007

- Counting and classifying PLUS high accuracy dynamic weighing
- Induction loops and piezoelectric sensors
- Total vehicle weight, axle load and load on individual wheels
- EUR1318 standard for classification of vehicles categories or user defined
- Automatic license plate recognition (optional)
- On-line connection to remote work station
- Open interface for communication with superior systems
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5. PARKING SYSTEMS

Parking System CrossPark

Year of introduction: 2000

- Technology based on proven barcode principle
- Rugged and weatherproof construction
- **High reliability** at maximum load
- Wide options of components combination
- Special security measures to prevent misuse
- Flexible and user-friendly software
- **Cash security**
- Car park **entry and exit control**
- **Automatic operation**
- Resident **contactless card** use
- Payment accounting and summarization
- **Unattended operation** with automatic pay station
- Car park **occupancy monitoring**
- Navigation to available parking spaces
- Flexible and user-friendly software with customization possibilities
6. PAYMENT TERMINALS

Universal payment terminal CROSS

- Universal payment terminal - self service cash collecting machine
- Open interface, prepared for cooperation with third-party software from any field
- Payment with coins, banknotes and credit cards, returning coins, banknote
- EUR, other currencies possible
- Touch screen
- Very high-quality machinery and top cash handling components
- Anti-vandal, outside use
- Use as ticket issuing machine for various applications (e.g. toll collection; in ticket selling for railways and bus transport companies etc.)