



The TruckClienter – Procontrol’s Truck Loading Queue Management System – helps in the effective, controlled and transparent service of trucks waiting for loading or unloading. Drivers receive the information via displays when and to which gate they are called for loading; sounders/ speakers and light signals may be optionally added. This method saves time for storekeepers at instructing trucks to the given gate.

The TruckClienter is a version of Procontrol’s queue management system, designed especially for the logistics and the queue management of trucks, for external usage. It also makes early check-in and the pre-scheduled arrival of carriers possible.

The ProxerNet system software saves data in MS SQL database, in a traceable, retrievable way. Reports and statistics can be made and exported.

Procontrol’s truck loading queue management system is a tailor-made, unique solution, designed individually for each and every partner as a particular combination of the system elements.

Functions

- Receiving haulers, suppliers, teamsters; registration and taking delivery of the cargo
- Registered entry and exit
- Controlling and leading trucks with the displays of the QMS
- Following and controlling the cargo
- Scheduling and measuring loading and unloading
- Arrival time and timeframe of loading may be booked
- Distinct level of access rights can be set in the software, like administrator, team leader, etc.
- Possibility to build national and international networks with the integration of systems at distinct locations
- Can be integrated into existing ERP system, access system or alarm system
- Creating reports, statistics



Applications

- factories, production plants
- logistics centres, wrapping factories
- customs warehouses, stores, depots
- forwarding agents, carriers, delivery firms
- other establishments with parking lots and the need of QMS for lorries, trucks and/or cars.
- yard management for distribution centres
- access control of lorries, trucks, vans, wagons, cars, railway carriages
- monitoring and controlling traffic of the site



Main advantages of the TruckClienter QMS

- Quick and efficient control of the truck traffic on site
- It facilitates the job of drivers and forwarding agents
- Transparent, sustainable and efficient logistic processes
- Decreasing the possibilities of human err or omission
- Decreasing reaction time
- Increasing client satisfaction
- Preventing extensive waiting time for trucks keeping the parking place (JIT)
- QMS can be combined with parking system, providing a new source of income

- QMS can be combined with discount system
- Pass, season ticket system can be created
- TruckClienter can be integrated with scale managements: weight check is requested at entry and exit; actual load weight is compared to the registered load for theft prevention
- The TruckClienter system can be integrated with the employees' access control and attendance control system
- Minimizing the transfer and waiting time
- Following the „Just in Time” production and stock management policy, thus it helps cut costs and improve investing efficiency
- Statistics can be exported for further optimization; the traffic and workload of the premise can be planned, examined and rationalized, e.g. where is the leeway to the expected standards.
- Statistics per employees can be used for improvement
- It can be integrated with existing PC-based IT systems, or it can operate on its own.
- With ClienterWin program packet the system may collect and analyse client traffic data (realisation on low cost)



The complete system builds up from Procontrol-developed and produced hardware and software elements. Procontrol, as developer and producer, may take over the job of configuring according to unique demands. Consequently, the system can be tailor-made according to the Client's needs.

References:

Nestlé Hungária - Szerencs

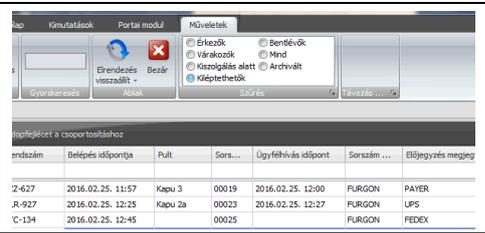
Continental Teves - Veszprém

Mahart Container Center - Budapest

System components

Arrival and registration

There are divers methods of the arrival and registration.

	<p>Only pre-registered conveyors may enter the premise.</p> <p>The ticket received and printed at pre-registration has a barcode, which must be shown at the barcode reader placed at the entry barrier. Barrier opens when reading authorized barcode.</p>																												
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	<p>At an outdoor terminal or kiosk, the drivers can check in and enter their data. Data required may be:</p> <ul style="list-style-type: none"> Driver's name, licence plate, firm, reason of entry, driving licence number Bill of delivery, weight of load, number of pallets ID number of CRM or EV documents in the customs office <p>Required data may include: number of freight-bill, passport or ID card, etc.</p> <p>Kiosk may also communicate loading directions registered in the warehouse.</p>																												

Alaphelyezéssel

Beküldetés

Alap

Rendszám a jármű elején Rendszám a jármű hátulján Bruttó súly

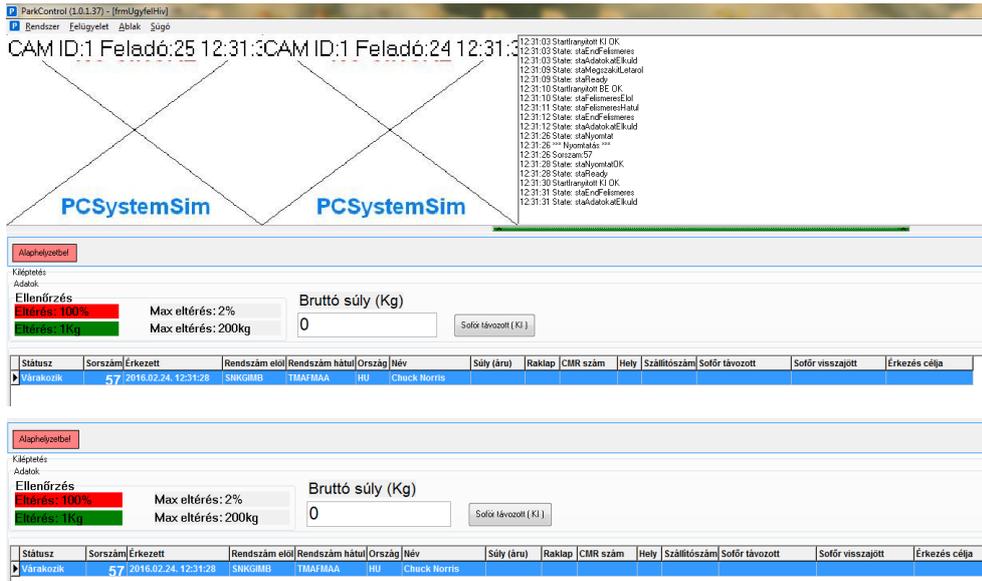
Részletes adatok

Az áru iránya

Be **Ki**

Szöveg: Egyéb: Az érkezési célja:

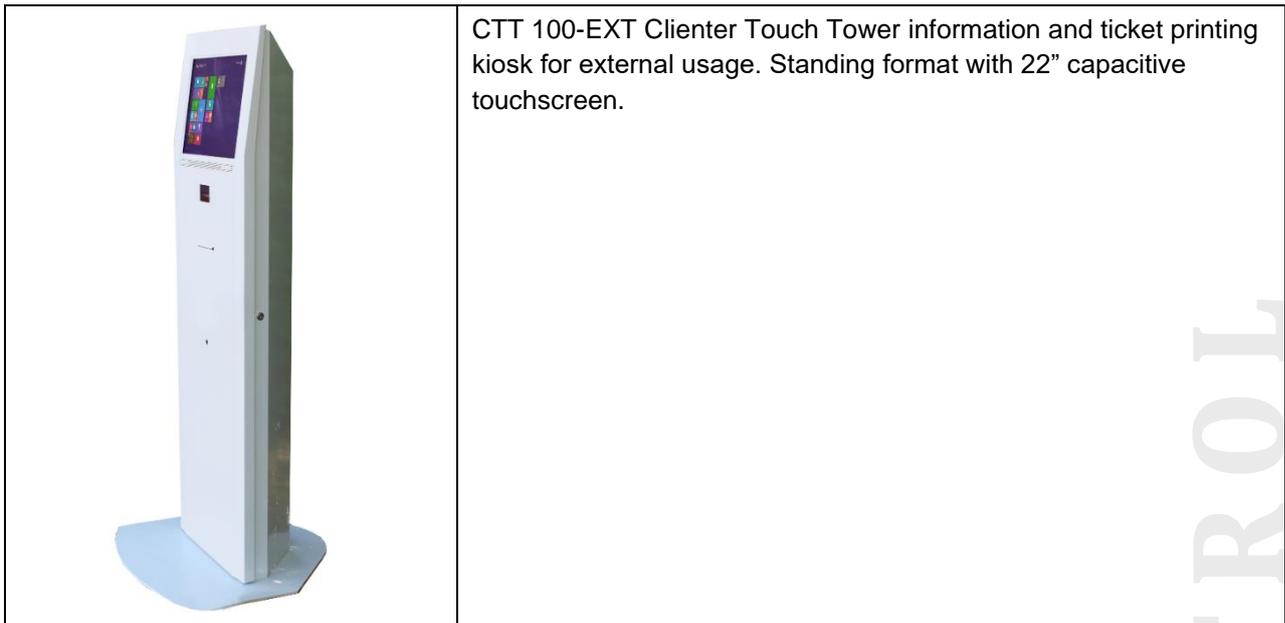
Neve: Ország: Személyi ig. / ülésvél száma:



The screenshot displays the Procontrol TruckClienter software interface. At the top, there are system logs with timestamps and status messages. Below the logs, there are two 'PCSystemSim' labels. The main interface features a 'Képletés' (Configuration) section with 'Ellenőrzés' (Check) options, including 'Elérés: 100%' (Access: 100%) and 'Max eltérés: 2%' (Max deviation: 2%). A 'Bruttó súly (Kg)' (Gross weight (Kg)) field is set to 0. Below this is a table with columns for 'Státusz', 'Sorszám', 'Érkezett', 'Rendszám elöl', 'Rendszám hátul', 'Ország', 'Név', 'Súly (áru)', 'Raklap', 'CMR szám', 'Hely', 'Szállítószám', 'Sofőr távozott', 'Sofőr visszatért', and 'Érkezés célja'. The table contains one entry for a truck with status 'Várakozik' (Waiting), number '57', arrival time '2016.02.24. 12:31:28', and driver 'Chuck Norris'.

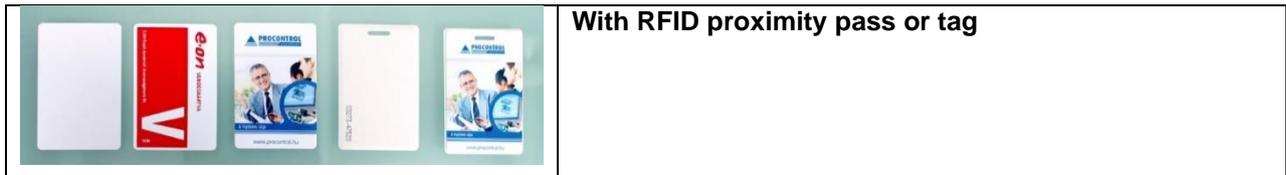
Issuing tickets, serial numbers (optional)

	<p>Ticket printer and information machine – placed at the barrier, easy to handle, can be accessed from a truck as well (elevated)</p>
	<p>Ticket issuer with thermal printer, connected to the administrator's PC.</p>



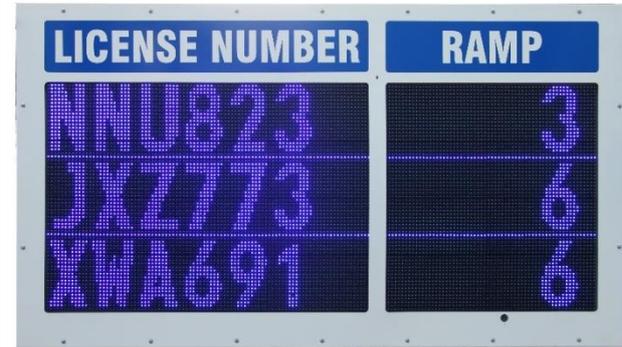
Vehicle recognition and entry

 <table border="1" data-bbox="478 996 662 1232"> <tr><td>car line</td><td>61</td><td>41</td><td>41.0</td><td>61</td><td>41</td><td>0.0</td></tr> <tr><td>char height</td><td>15</td><td>15</td><td>15.5</td><td>15</td><td>17</td><td>0.7</td></tr> <tr><td>plate slope</td><td>2</td><td>2</td><td>2.0</td><td>2</td><td>2</td><td>0.0</td></tr> <tr><td>plate angle</td><td>-8</td><td>-5</td><td>-5.0</td><td>-5</td><td>-9</td><td>0.0</td></tr> <tr><td>plate left</td><td>185</td><td>185</td><td>185.0</td><td>185</td><td>185</td><td>0.0</td></tr> <tr><td>plate top</td><td>114</td><td>114</td><td>114.0</td><td>114</td><td>114</td><td>0.0</td></tr> <tr><td>plate right</td><td>273</td><td>273</td><td>273.0</td><td>273</td><td>273</td><td>0.0</td></tr> <tr><td>plate bottom</td><td>132</td><td>132</td><td>132.0</td><td>132</td><td>132</td><td>0.0</td></tr> <tr><td>char count</td><td>6</td><td>6</td><td>6.0</td><td>6</td><td>6</td><td>0.0</td></tr> </table>	car line	61	41	41.0	61	41	0.0	char height	15	15	15.5	15	17	0.7	plate slope	2	2	2.0	2	2	0.0	plate angle	-8	-5	-5.0	-5	-9	0.0	plate left	185	185	185.0	185	185	0.0	plate top	114	114	114.0	114	114	0.0	plate right	273	273	273.0	273	273	0.0	plate bottom	132	132	132.0	132	132	0.0	char count	6	6	6.0	6	6	0.0	<p>License plate recognition system (optional) scans, detects and performs the character recognition on the license plate number, supported by a camera system, suitable for proper license plate recognition day and night. It automatically forwards the license plate data and pictures for data storage and processing. This way the arrival and exit time of the truck is registered, plus the truck can be called by license plate number.</p>
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	<p>Gatekeeper, security guard opens the barrier by pushing the button and registers the truck and driver manually in the software</p>																																																															
	<p>By ticket with barcode</p> <ul style="list-style-type: none"> • ticket printed by the gatekeeper • ticket received from the ticketing machine • ticket received (and printed) at pre-registration 																																																															



With RFID proximity pass or tag

Calling trucks – possible solutions and tools, which can be combined

	<p>Displays suitable for presenting licence numbers and text messages (MDP, XMDP, XXMDP)</p> <p>Large led matrix display is placed in a central spot, with one or more rows, depending on the number of the ramps. It shows the licence plate number (alphanumeric characters can be entered too), and optionally the number of the ramp.</p>
	<p>Giant led matrix displays</p> <p>In three or more rows, it displays the licence plate numbers and the ramp numbers, divided and rimmed by a metal frame with fixed labels.</p> <p>In the ProxerNet software Clienter module, the gatekeeper enters the licence plate number of the truck, and the storeman adds the number of the ramp.</p> <p>On the photo: CMDP-1600-640 alphanumeric led matrix display, 1600x640mm display surface, here programmed for three rows, for displaying text messages, licence plate numbers, ramp numbers, with Wi-Fi connection, controller. At external design with heating and cooling.</p> <p>LED matrix displays are available in a variety of sizes, according to the readability of the data content required in the customer's project from the required distance. See below for some typical types.</p>

CMDP-1600-640

  	<p>Displays suitable for showing serial numbers (GDP, XGDP, XXGDP)</p> <p>Numeric displays, placed in a central spot, with one or more rows.</p> <p>Digits can be 10, 20 or 40 cm high. Display with 7 digits may show the number of the ramp as well.</p> <p>Displays can be installed centrally – showing the serial number and the ramp number, and/or at the ramps to present the serial number of the truck called last. The administrator may recall numbers of those who did not show up.</p> <p>Displays are readable in sunlight and at night as well; and can be ordered in distinct colours.</p> <p>Luminous power can be set automatically from the software with the help of photometric. The volume can be reduced for night, so it does not disturb the neighbours.</p> <p>Displays can be ordered for external or internal usage.</p>
	<p>Text message sender (SMS) system to inform drivers</p> <p>The ProxerNet system software can be integrated with texting device, which sends information to the phone number registered at entry.</p> <p>The kit includes 1 GSM SMS sender unit, without SIM card.</p>
	<p>Pager to inform drivers</p>



CMDP1600-320-P10-RGB



CMDP1600-640-P5-RGB



CMDP 1600-1280-P10-RGB



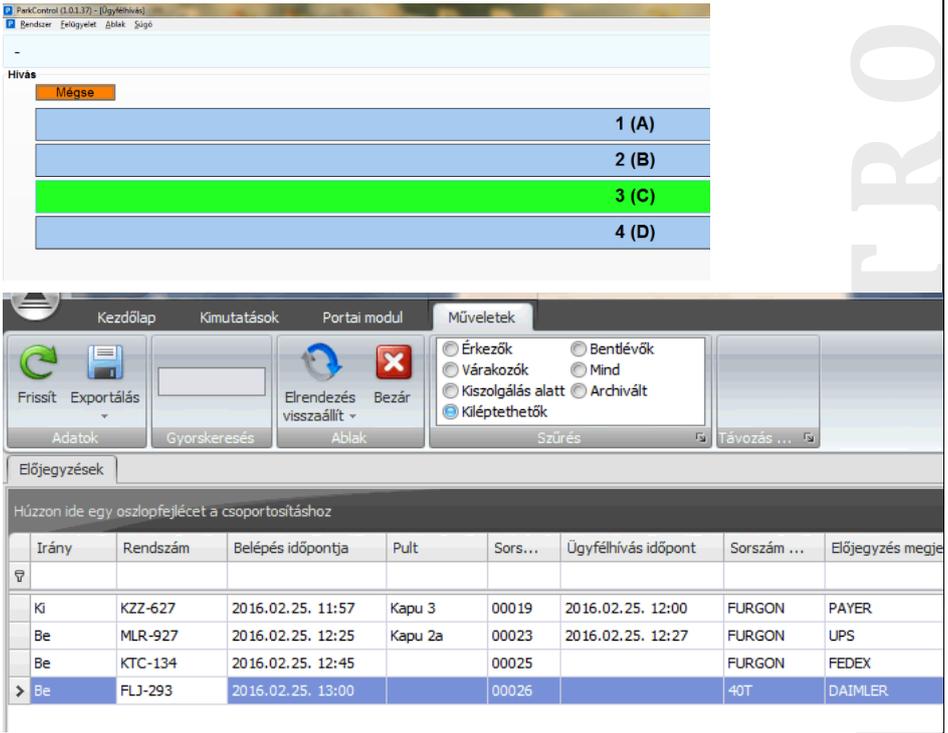
PROCONTROL ELECTRONICS LTD

Gatekeeper's, storeman's, warehouse manager's terminal for calling trucks

The administrator can send trucks to ramps, redirect, delay and recall them via the terminal.

A software running on a PC may work as terminal, or it can be a specific desktop device with display and buttons.

It serves for the registration of the licence plate numbers according to the load-bill, way-bill, and calling the registered vehicles in the required order.

	<p>Control panel software for administrators (ProxerNet client)</p>  <p>The screenshot shows a software window titled 'ProxerNet (1.0.1.17) - [Ügyfélhívás]'. It features a 'Hívás' (Call) section with a list of calls: 1 (A), 2 (B), 3 (C) (highlighted in green), and 4 (D). Below this is a control panel with buttons for 'Frissít' (Refresh), 'Exportálás' (Export), 'Gyorskeresés' (Quick search), 'Elrendezés visszaállít' (Reset sorting), and 'Bezár' (Close). There are also radio buttons for 'Érkezők' (Arrivals), 'Várakozók' (Waiting), 'Kiszolgálás alatt' (In service), and 'Kiléptethetők' (Can be released). A table below shows a list of calls with columns: Irány, Rendszám, Belépés időpontja, Pult, Sors..., Ügyfélhívás időpont, Sorszám..., and Előjegyzés megje.</p> <table border="1"> <thead> <tr> <th>Irány</th> <th>Rendszám</th> <th>Belépés időpontja</th> <th>Pult</th> <th>Sors...</th> <th>Ügyfélhívás időpont</th> <th>Sorszám ...</th> <th>Előjegyzés megje</th> </tr> </thead> <tbody> <tr> <td>Ki</td> <td>KZZ-627</td> <td>2016.02.25. 11:57</td> <td>Kapu 3</td> <td>00019</td> <td>2016.02.25. 12:00</td> <td>FURGON</td> <td>PAYER</td> </tr> <tr> <td>Be</td> <td>MLR-927</td> <td>2016.02.25. 12:25</td> <td>Kapu 2a</td> <td>00023</td> <td>2016.02.25. 12:27</td> <td>FURGON</td> <td>UPS</td> </tr> <tr> <td>Be</td> <td>KTC-134</td> <td>2016.02.25. 12:45</td> <td></td> <td>00025</td> <td></td> <td>FURGON</td> <td>FEDEX</td> </tr> <tr> <td>Be</td> <td>FLJ-293</td> <td>2016.02.25. 13:00</td> <td></td> <td>00026</td> <td></td> <td>40T</td> <td>DAIMLER</td> </tr> </tbody> </table>	Irány	Rendszám	Belépés időpontja	Pult	Sors...	Ügyfélhívás időpont	Sorszám ...	Előjegyzés megje	Ki	KZZ-627	2016.02.25. 11:57	Kapu 3	00019	2016.02.25. 12:00	FURGON	PAYER	Be	MLR-927	2016.02.25. 12:25	Kapu 2a	00023	2016.02.25. 12:27	FURGON	UPS	Be	KTC-134	2016.02.25. 12:45		00025		FURGON	FEDEX	Be	FLJ-293	2016.02.25. 13:00		00026		40T	DAIMLER
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	<p>Administrator call terminal, with touch push button, alphanumeric display. It can be placed on a table, or it can be portable, with a USB or Wi-Fi wireless data connection. (ClientTablet10)</p>																																								
	<p>Truck call terminal, data entry interface, desk terminal with LCD LED monitor, keyboard and mouse. MiniPC, with Wi-Fi or Ethernet connection. (Gatekeeper 22")</p>																																								
	<p>LED TV monitor, display for storemen</p>																																								

Sounders, speakers (optional)

	<p>Playing recorded text (serial numbers)</p> <p>ClienterVoice software module + IPGong or RFGong sounders</p> <p>Recorded voice message is displayed, like: Truck number 123 please go to Ramp 3.</p> <p>The announced text works with playing recorded human voice samples; these can be modified and refreshed centrally and automatically.</p>
	<p>Live call, serial numbers announced via microphone</p> <p>Trucks are called via live message. Loudspeakers can be IPSpeakers, connected to Internet or local IP network, controlled via a computer.</p> <p>Microphone is connected to the PC.</p>

The ProxerNet software

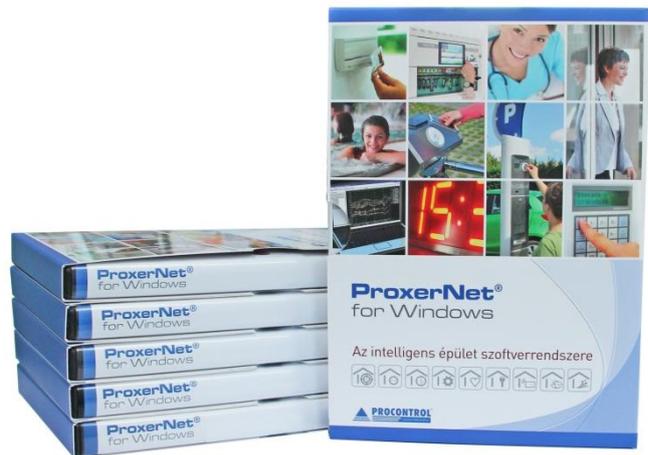
The ProxerNet software's ParkControl module is capable for controlling the information flow of a complete truck parking and client caller system.

The centre of the system is a Microsoft SQL Server 2008 R2 service program installed on a server PC. The program controlling the devices (HWServer) via Ethernet network connects to the database server. The software of the workstations is in direct connection with the SQL server, but not with the hardware tools.

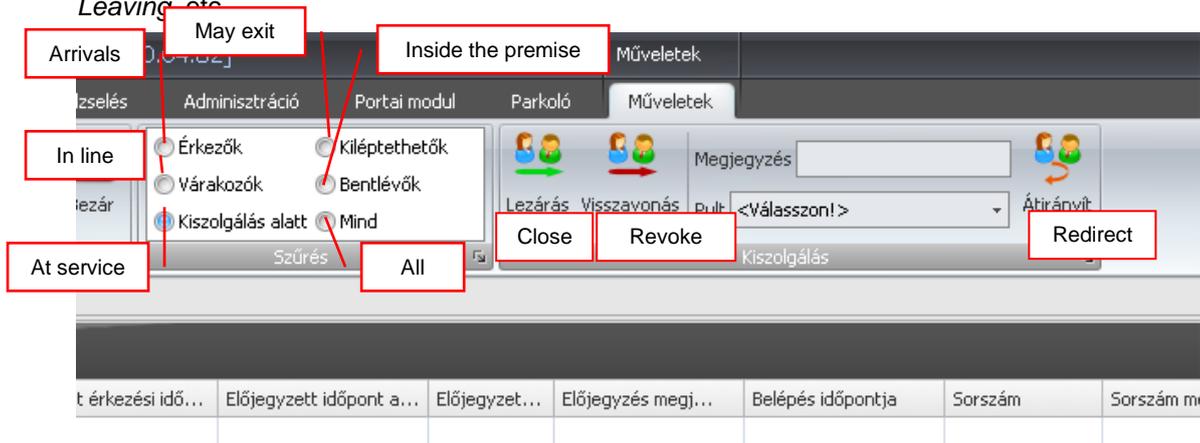
The system can be managed via the interface of the ProxerNet program. Event logs can be checked and parameters set from here as well. The ProxerNet is licenced per user or workstation.

ProxerNet is an advanced modular smart building management system developed by Procontrol Ltd., containing the following modules (available combined or separately):

- Access control with visitor management, authority management
- Time and attendance
- Parking lot management and billing, pay parking
- Key- and value storage system
- Cabinet lock management
- Queue management, ticketing
- Production Management



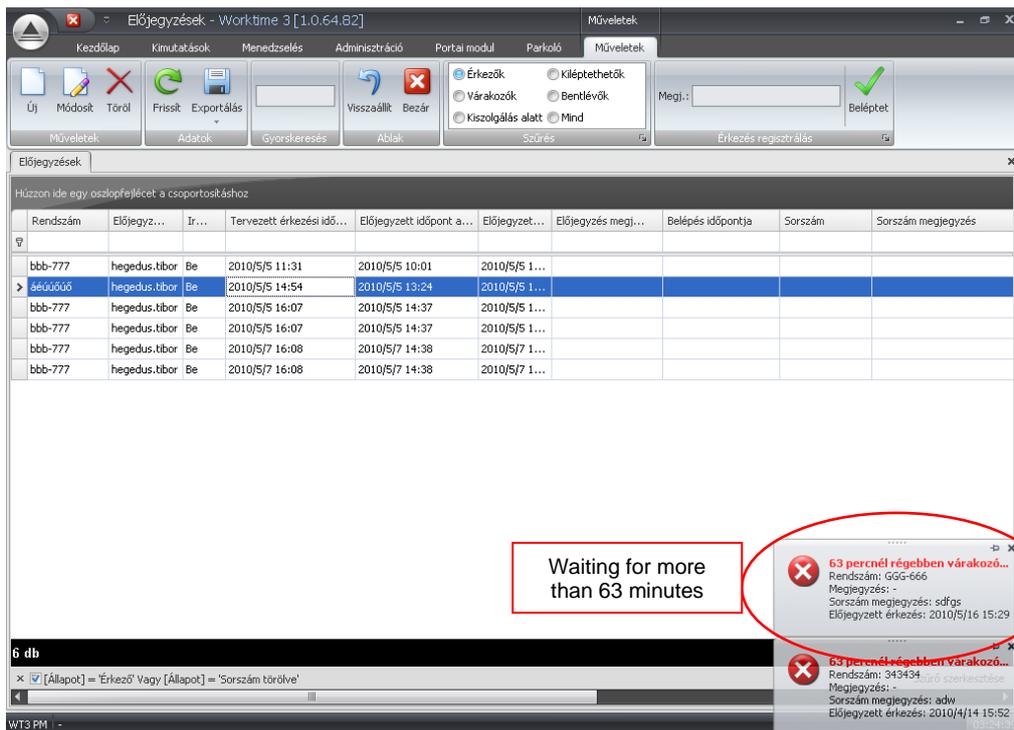
The (already registered) trucks arriving at the premise go through distinct statuses while they are there. The automatism of the system and the administrators of the ProxerNet software lead them through these statuses, which can be: *Arrived, Waiting, Approved Entry, Approved Leaving, etc.*



The screenshot shows the ProxerNet software interface with several red boxes highlighting specific elements:

- Arrivals**: Points to the 'Érkezők' (Arrivals) status.
- May exit**: Points to the 'Kiléptethetők' (May exit) status.
- Inside the premise**: Points to the 'Kiszolgálás alatt' (At service) status.
- In line**: Points to the 'Várakozók' (Waiting) status.
- At service**: Points to the 'Kiszolgálás alatt' (At service) status.
- Close**: Points to the 'Lezárás' (Close) button.
- Revoke**: Points to the 'Visszavonás' (Revoke) button.
- Redirect**: Points to the 'Átirányít' (Redirect) button.

The interface also shows a menu bar with 'Adminisztráció', 'Portai modul', and 'Parkoló'. Below the menu, there are radio buttons for 'Érkezők', 'Kiléptethetők', 'Várakozók', 'Bentlévők', 'Kiszolgálás alatt', and 'Mind'. There are also buttons for 'Szűrés' (Filter) and 'All'. At the bottom, there is a table with columns for arrival time, waiting time, and entry time.



LogiSoft Porta software module: for the manual registration of the data of the trucks to the central database. The gatekeeper, receptionist, guard enters who arrived, where, why, etc. into the given fields.

Scale-management / theft-prevention

The TruckClienter system can be integrated with scale management. Weight is checked at entry and at exit as well, and results are compared to the registered weight of the cargo.

The system alerts when needed (it counts expected value, limit values and maximum difference).

The ProxerNet module receives the signal from the scale via series Ethernet adapter.

When a truck drives on the scale the program may give a sound signal if set.

Pay Parking system (optional)

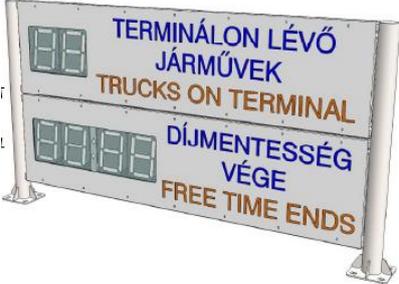


Combined with Procontrol's ProxerPark pay parking system the parking fee of the vehicles entering can be managed.

The system operates with paying machines, and no personnel is needed continuously.

The system does not open the barrier at exit till the parking fee is not paid.

To operate pay parking system along with truck calling system, more solutions exist.

	<p>Defined number of parking places can be kept for pay parking by the administrator, or the system may “know” the occupancy from the reservations and cargo calendar.</p> <p>A vehicle, the loading procedure of which has been finished, may be turned into paying status if it stays.</p>
	<p>Portable checking unit (optional)</p> <p>Information boards – info displayed from real time database information</p>
	

Barriers



At the entry and exit barriers, inductive loops, infra barriers, traffic control system can be installed. Drivers are made to register before entering the premise online or at the keeper’s lodge, watch-box or at the external kiosk, terminal and get their serial number.

Barriers are also needed at applying pay parking solutions.

IT

Server PC (optional) – a PC with Windows OS for controlling Clienter system and storing data. Server can be placed in server room, IT centre; at smaller systems, a desktop computer can be assigned for such task.

Data connection

Cabled connection can be built among the elements of the system (RS485 with CAT5/6 UTP, or Ethernet)

Wireless connection is also a solution between the system elements:

RFP-RFM radio module, even 500m range, 868 MHz, can be built in digital displays, clocks

RSC-ER-RFM radio / Ethernet converter, 868 MHz, extra-long range (even 300m in open space), wireless data transfer, radio communication unit for the data connection of the display and the computer.

Case studies, system samples, operation process

Case Study 1 – TruckClienter with devices issuing and displays for showing serial numbers

- The driver requests a serial number at the ticket machine (option)
- The ticketing terminal prints and issues the ticket, showing at least the time of arrival and the serial number. The ProxerNet software registers these pieces of information and forwards it to the target workstations. (option)
- **As the administrator, storeman is ready for calling the truck, they send a signal to the system/ display via the control panel – basic function**
- **The number of the truck appears on the display(s), optionally with the number of the ramp – basic function**
- Calling may happen with additional voice signal (ClienterVoice). Administrators, storemen may call in the trucks in the desired order, not just according to arrival time. (option)
- The truck stands to the gate and fulfils the loading tasks.
- When the administrator/ storeman is ready for the next client, they sign it on the terminal (control panel). The system deletes the serial number, plate number of the previous truck and displays the number of the upcoming truck. (option)
- The ProxerNet software stores the processes, serial numbers and the taken services. Statistics, lists can be made from the data with the help of the statistics program module. (option)

The process depicted above can be altered according to unique demands. Procontrol is ready to help in designing and implementing further ideas, suggestions, needs.

Case Study 2 – TruckClienter combined with pay parking system

In the central building of the premise there is the office and checkpoint where the trucks are registered. There is a free parking lot in front of the main building, behind the building there is the loading station, where the effective loading happens.

The problem: the trucks used not only the free parking zone, but also the loading zone for parking. This hindered the loading process.

The solution: the company decided to introduce a pay parking system in the loading zone. Those drivers who use the loading zone for parking after the free period, are to pay a penalty fee.

The operation of the system

The drivers are directed by barriers, traffic lamps, informative numeric displays at the entry and exit points.

The planned order of the truck traffic

1. Entry
 - a. Check-point – the cargo is surveyed here
 - b. Checking datasheet. The traffic control office issues it from the corporate governance system. On the datasheet, there are the licence plate number and the free parking time.
 - i. Free parking lot, where the trucks are to wait before loading.
 - ii. Printing parking ticket for the loading zone (licence plate number and free parking period from the system)

- Entry to the loading zone
2. Exit
- a. Inside the free parking period or after paying the fee the barrier opens automatically and the traffic lamp turns green according to the licence plate
 - b. Red lamp at paying request
 - i. Driver has to go to the paying machine (identification with QR code, bar code or licence number)
 - ii. After paying the fee the vehicle gets green light and may leave the premise

Case Study 3 – TruckClienter with serial number and licence plate number display

The data of trucks arriving are registered on a PC, from where they are transferred to the station office. There the administrators decide on the order, that which truck goes to which gate.

There are four gates in the premise, and only licence plate number is to be displayed, and a note for the storemen.

At Gate No.1 there is a display with more rows, where all licence plate numbers belonging to the gates appear in one. This can be read from 100-150m.

The same type of display is at the gatekeeper's for the trucks waiting outside.

The software is used in the traffic control office, but on more PCs. The administrators see the content on the displays in the program, and they can change the order from any workstations.

The data registered at the gatekeeper's are sent to the office via Ethernet network.

Simple system variation – Call according to licence plate number, display on alphanumeric display

The trucks waiting in a parking lot outside the premise are called by licence plate number. This way the process gets faster, the waiting time gets shorter.

On the display, the complete licence plate number or any text message can be shown. (In case there are many foreign licence plates or there is a high traffic or many displays are needed due to the arrangement of the premise, using serial number displays might be easier and more economic.)

After check-in, the drivers may return to their vehicles, the display will inform them when they are called in. Displays are extra bright, readable even in direct sunshine. Luminous power can be set manually or automatically.

If requested, the displays are installed with sounder or loudspeaker.

System variation combined with licence plate recognition

Trucks are identified by licence plate number and RFID card by the licence plate recognition program. At the gatekeeper's lodge and the transit points cameras are installed, the picture is shown at the gatekeeper's.

Passing at the entry and exit and at the barriers of the bridge scale is possible only for vehicles with registered licence plate numbers.

The gatekeeper or security guard registers the vehicles and their data and licence plate number in the system. The trucks receive a three digits long serial number and an RFID card. The cars receive only RFID card they can use for entry and exit.

The trucks wait in the parking lot, and called via the TruckClienter system. In the parking lot there is a numeric display with sounder. The display is designed for external usage and visible from 100 meters. Trucks are called in by the software's clienter module in a desired order. When the serial number of the truck appears on the screen and the sounder goes off, the truck may enter at the barrier, using the RFID card and the automatic licence plate recognition system.

At the bridge scale, barriers are installed for the trucks. At both ends the trucks are checked by RFID card and licence plate number. On the information terminals, the data of the vehicle are depicted. The drivers approve data by tapping/ pushing a button. The information terminals have built in entryphone in case the drivers would need any assistance. At the end of the bridge scale, traffic lamps are placed as well.

The quotation includes one more barrier at the guest parking lot for cars only. Cars may pass with the RFID cars.

System may be expanded with bicycle entrance and pedestrian entrance.

All barriers include infra sensors to prevent the arms' closing on the vehicles. Existing entry cards may be used in this system.

The system is controlled by the ProxerNet software, which has easy to handle surface and available in foreign languages.

