



Tnl
beyondfuture



- south africa zibi environment
- brazil tnl brasil
- canada tnl canada
- united arab emirates tnl abu dhabi
- spain tnl equipamientos ambientales s.l.
- portugal tnl sa



TNL, is a company with global technological innovation, with headquarters in Porto, in Europe. TNL is a global leader in the area of buried containers for waste, with more than 500 staff around the world, serving clients in 20 countries. TNL offers a huge range of infrastructure and consultancy services: a broad portfolio of equipment for waste, management solutions and systems. Using its experience in business consulting, technology and R&D, TNL helps customers around the world to become “more intelligent” while the planet becomes greener. They achieve this by cooperating actively with organisations and governments to construct systems to improve waste management, refuse collection and equipment for depositing waste in modern cities. TNL is a centre of innovation and it invests more than € 1 million per year in R&D, holding more patents than any other company in the same sector. TNL was behind the development of the itwaste technology, a new concept in waste management. TNL has been a pioneer in commercial modelling for the 21st Century, it is an integrated global company with a highly qualified team managed with a set of common values.



We are concerned with your city, and this can be seen in the way we plan and work on each detail of our products, because the design of the architectural landscape depends on the shape of equipment, such as street furniture.

All our solutions are planned with consistency, considering form without neglecting function, for perfect harmony. When we plan our products we are concerned with:

Accessibility:

The main function of street furniture is to provide the public with the installations they need, and our products reflect perfectly the balance between form and function. Function goes hand in hand with aesthetics, without adding any extra costs to the product, but certainly adding value (quality, reliability, efficiency, integration).

Safety:

Safety is another of the clear basic requirements throughout the project process for our products. During the design phase we carry out various studies on ergonomics, modus operandi, textures, colours and other aspects.

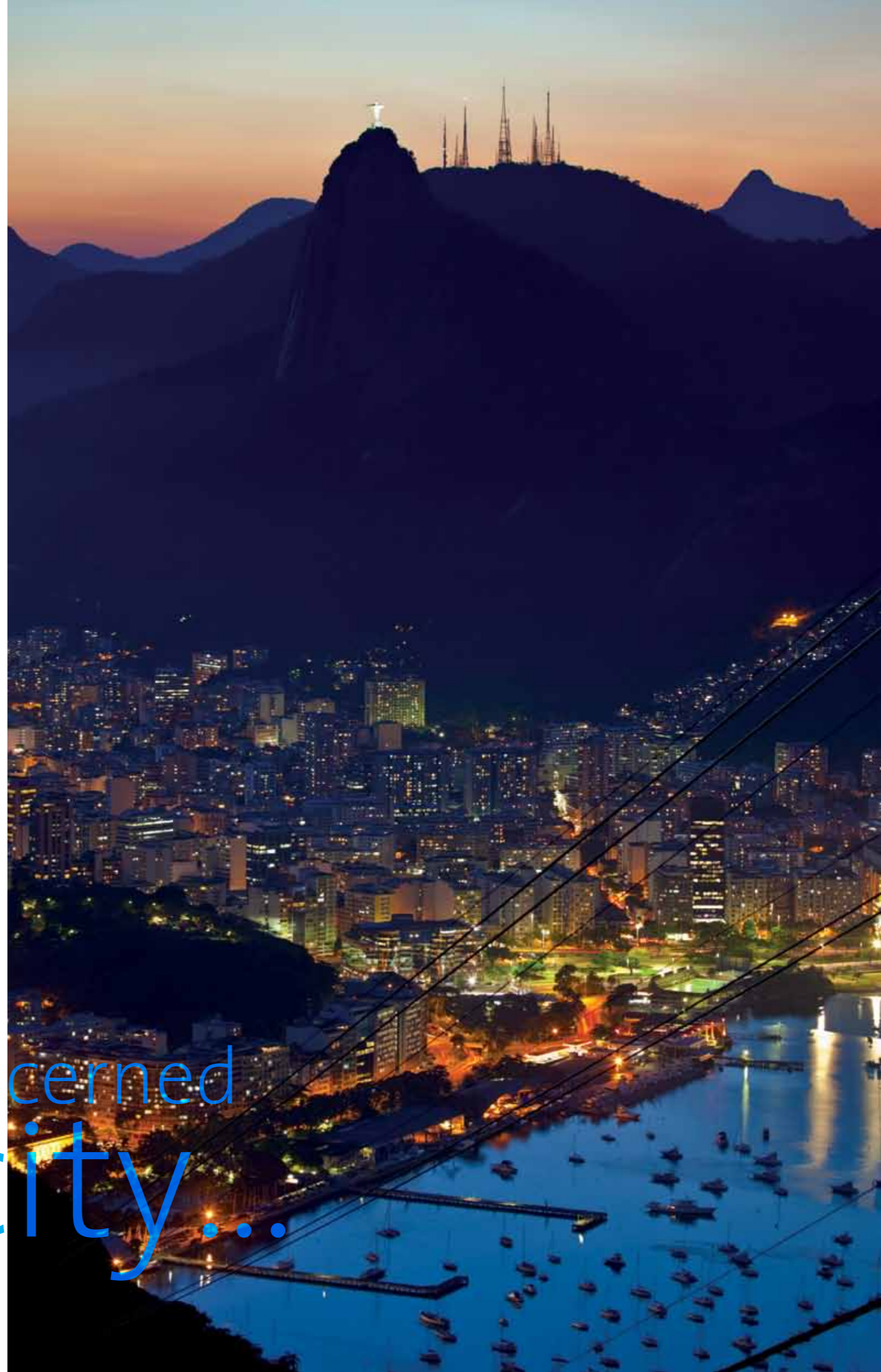
Functionality:

Functionality and the service life of our products are also taken into consideration. We also consider the correct dimensioning of the different elements, construction and materials used in production before we start production. It is essential to plan equipment taking into account possible vandalism or incorrect use, to minimise the effects of these and to prolong the useful life of our products.

Universality:

Finally we must mention the criterion of universality, as this type of product is a public good, and it must have the conformity to make it suitable for use in all cities all citizens. This is a criterion considered by TNL when we supply or develop all our products, to make high-quality equipment that is reliable and makes a significant contribution to the aesthetic improvement of the urban environment.

we are concerned
with your city...



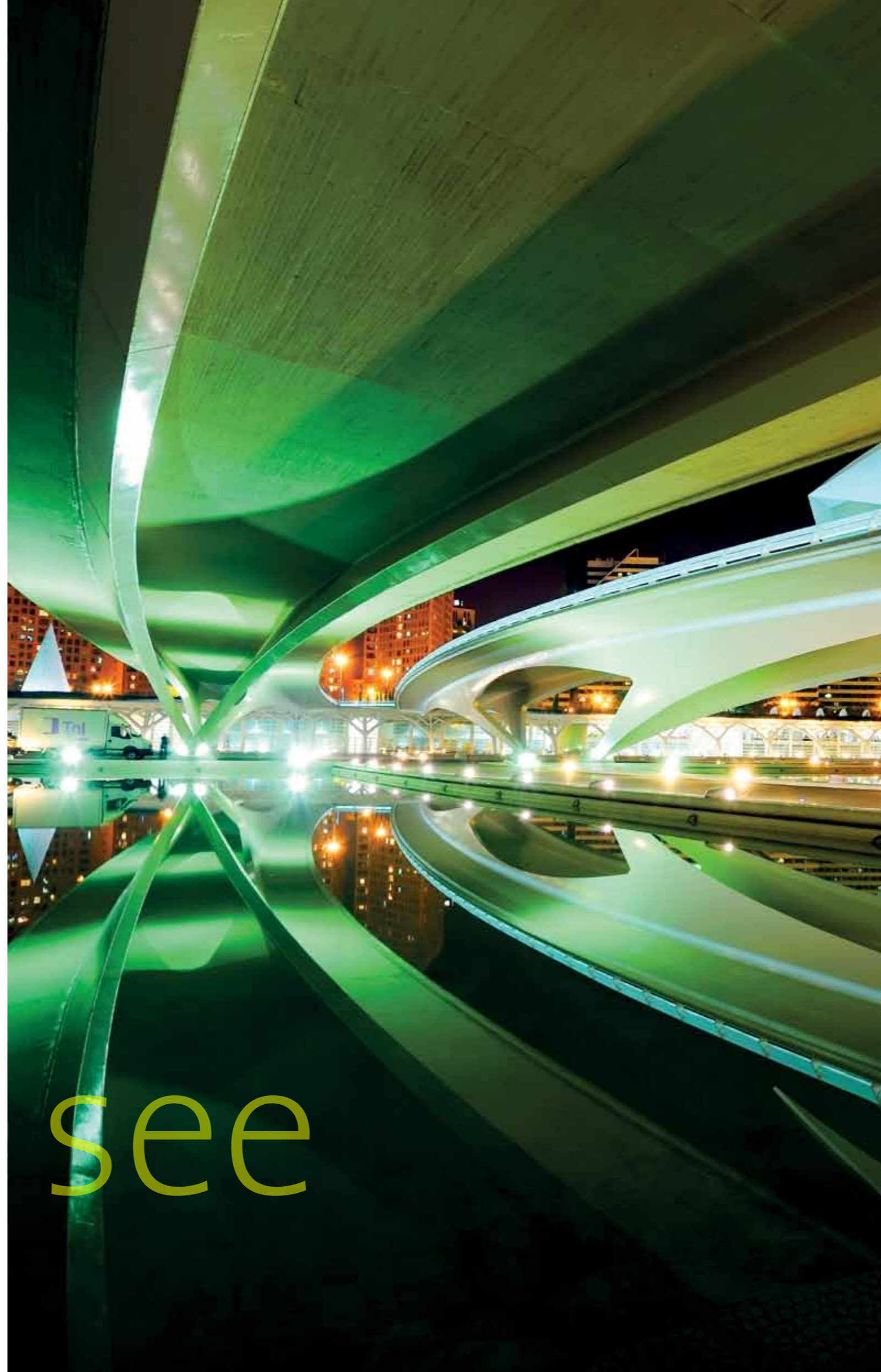


A high-quality product must match its aims, and it must meet or exceed the client's requirements.

TNI has highly qualified staff and technical resources that make a continuous contribution to an efficient increase in quality in services, productivity, profitability and protection of the environment. TNI staffs are a source of value, and help to achieve the company goals. They are committed to quality, trust and competence.

Our organisational system is made up of stages that are well structured and coordinated. Our quality and production procedures respect strict quality control processes. Our system of coordination between primary materials, production and deliveries has substantially reduced transport costs, meaning reduced delivery times for complementary services and economic solutions for cities around the world.

quality that you can
feel and see





There is TNL equipment in over 300 cities around the world, including:

Abu Dhabi - UAE
Madrid, Barcelona - Spain
Lisbon and Oporto - Portugal
Dublin - Ireland
Toronto - Canada
São Paulo - Brazil
Johannesburg - South Africa

Major global events

Euro Fifa 2004 - Portugal
World Cup Fifa 2010 - South Africa
World Cup Fifa 2014 - Brazil
Olympic Games 2016 - Rio de Janeiro, Brazil

Public programmes

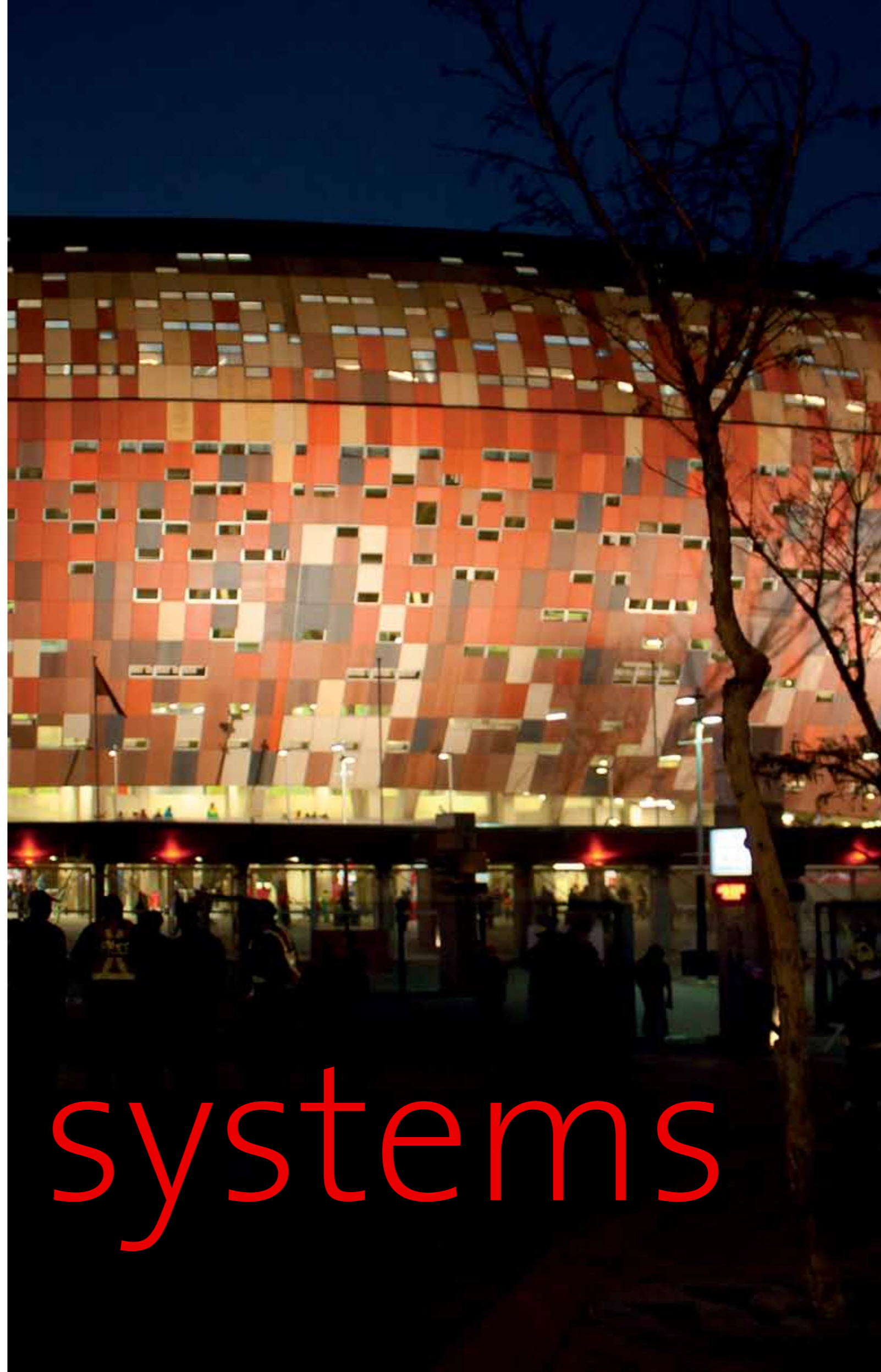
Municipal environmental programmes 2006 - Johannesburg, South Africa
Favelas Health program 2010 - Brazil
Polis Programme (urban regeneration more than 30 cities) - Portugal

itwaste

Abu-Dhabi 2009 - UAE
Malaga - 2009 - Spain

a global standard for

container systems





Environmental awareness

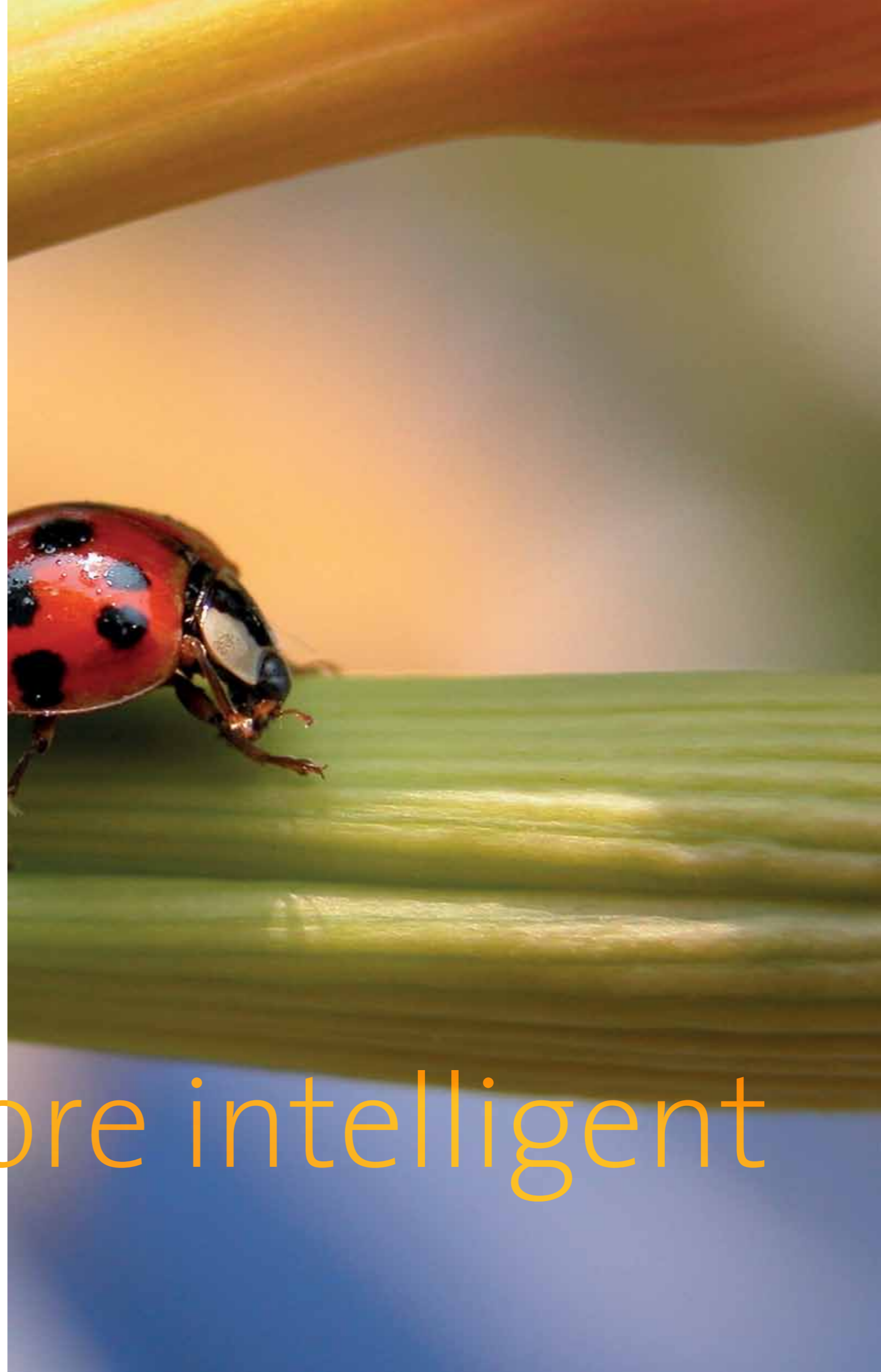
One of the main themes of this century is the socio-environmental role of organizations. Since it was founded, TNL has embraced this commitment as a question of social responsibility. COMPANY – CLIENT – NATURE: it is not enough just to know what to produce and for who; it is also essential to know how to produce. This is why TNL has implemented a set of policies, programs and administrative and operational practices holistically across all phases of the life cycle of a product, to meet the needs of the client through responsible and sustainable management of the planet's resources, both renewable and non-renewable, while obtaining economic benefits without compromising on the needs of future generations.

Environmental awareness must start from "within" the organization and spread "out".

Implementing digital documentation and communication allows TNL to make a significant reduction in paper use of around 60%. This result comes from changes to processes and the internal workflows of the company. Digital format has become an excellent method of promoting TNL products. Implementation of route management to optimize fuel use in the system for sale, transportation, installation and maintenance of equipment resulted in a cost reduction estimated at 30 - 40%, while the planet "becomes more green". TNL has a strong company culture of sustainable development, which has helped the company to improve its capacity to innovate, learn, to handle uncertainty better and spot new opportunities.

" Our Common Future"

helping to make the planet
better and more intelligent





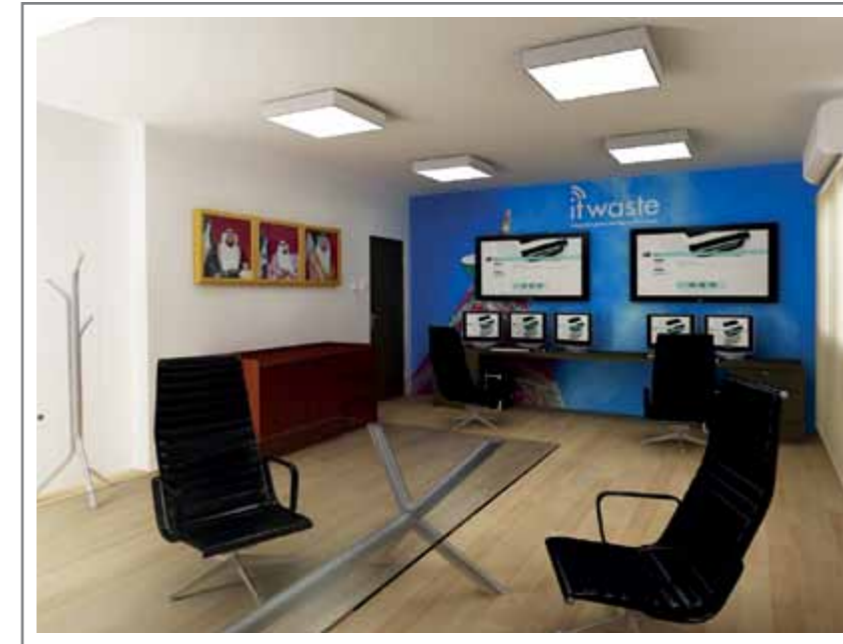
 **itwaste**[®]

Integrated waste
management solution



Integrated waste management solution

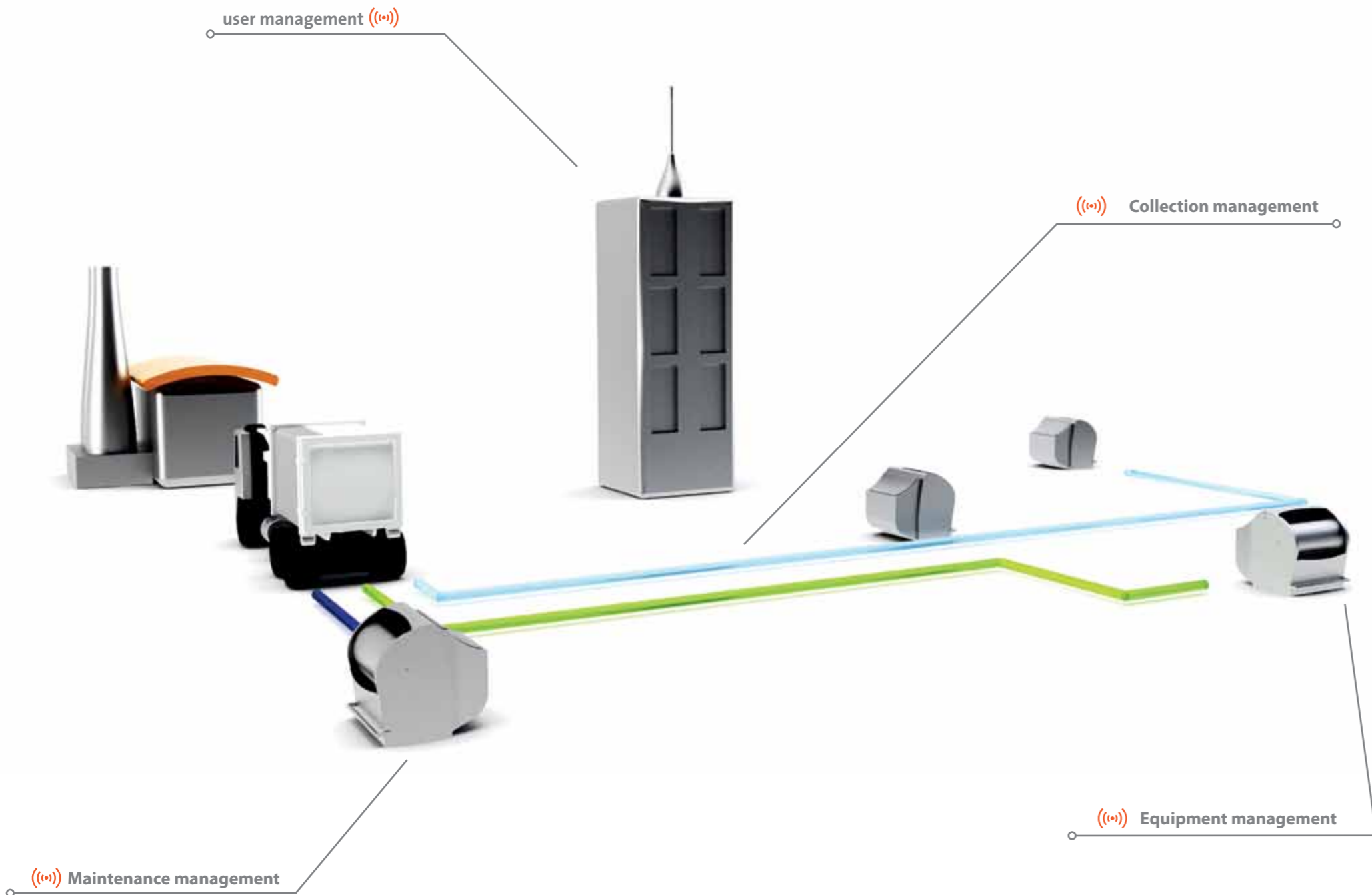
The **itwaste** software enables us to have integrated management of urban waste. Its modular capacity makes it possible to integrate various options, making this system a powerful tool for management and control.














- electronic management and/or monitoring
- integrated management and supervision
- access control level for each user
- interaction with external applications
- management of integrated applications
- allowing you to add new functions
- ...

Online

The itwaste is an online system that makes it possible to consult updated information in various modules at any moment, providing the analytical capacity to support the decision to apply methods for cost reduction while improving service significantly.



- itwaste -graphical interface 
- wireless communication 
- identification by radio frequency 
- user identification 
- alert identification 
- locked equipment 
- open equipment 
- positioning 
- remote control 
- fire detection 
- compactor position control 



equipment management

This module allows complete control of the equipment and gathering of detailed information.

Equipment Control	open/close
Top bin control	open/close
Compactor position	fill in status
Data	visual and and gps
Proprietary	detailed information



user management

User management allows creation of new users and identifies use with full reports by user, date and period.

Management	edit user
Report	user login
Security	block user access



collection management

The collection management module allows us to obtain historical data on collection from each piece of equipment, as well as statistics on the fill level, and even collection prevention alarms.

History	date of collection, time of inactivity send
Alarms	emails for collection
Statistics	filling time, response time



maintenance management

This tool ensures that maintenance is carried out correctly, when necessary, as it monitors the system in real time, avoiding the need for human intervention.

Alerts	maintenance alert emails
History	incidents and response time
Breakdowns	date and time



RFID card



remote control

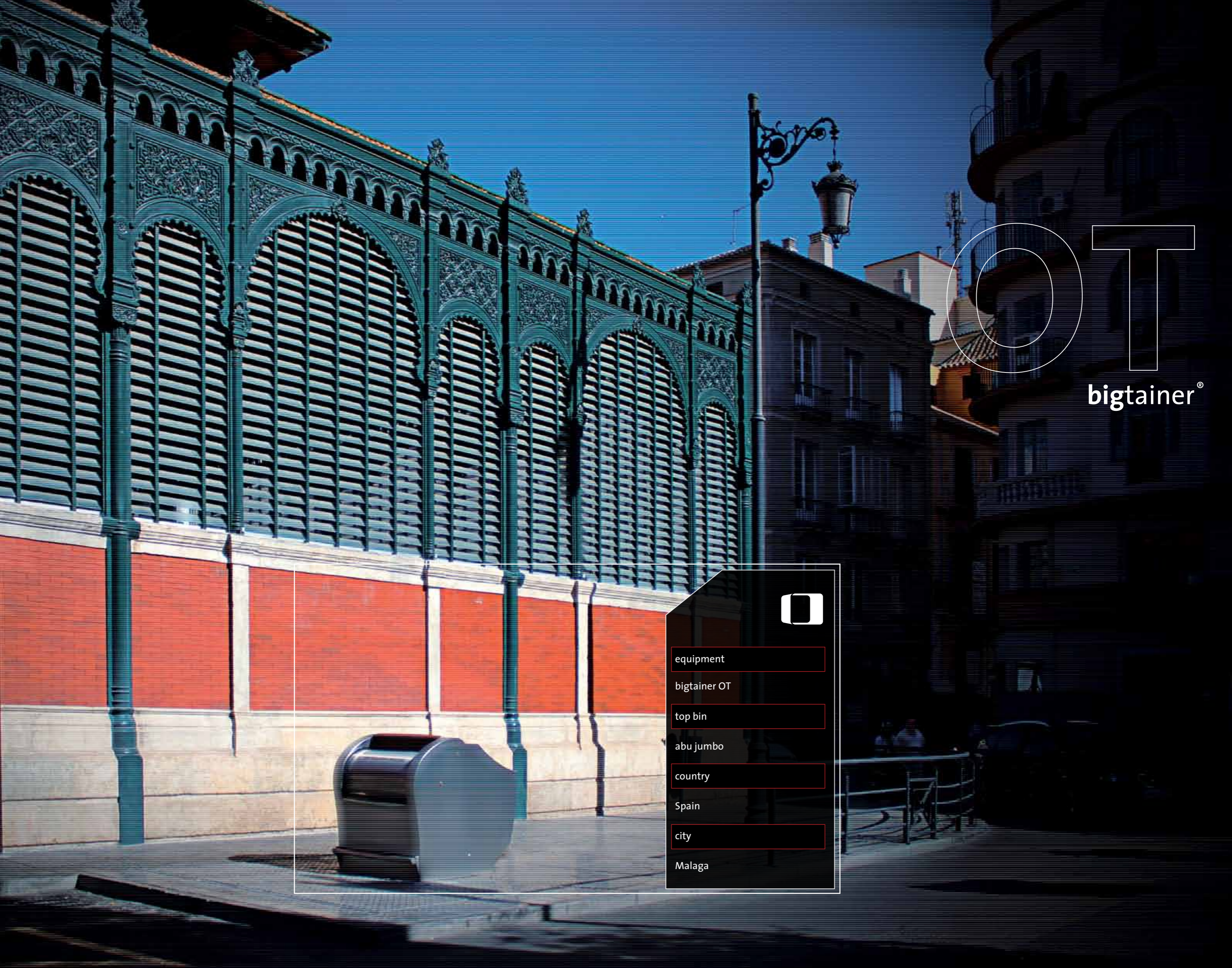


human interface





bigtainer[®]



OT
bigtainer®



equipment
bigtainer OT
top bin
abu jumbo
country
Spain
city
Malaga



The Bigtainer OT is the system that has the largest capacity and is most technologically advanced. The compactor is used for temporary storage of waste and it is raised to street level for collection.

main characteristics



- RFID
- GPRS
- RF
- MODBUS
- PLC control
- LPI



- CPC
- Hydraulic protection system
- Protective grille
- Optical and acoustic signaling
- Access areas blocked
- Switch cabinet
- Safety sensors



- SOS
- MSS
- Automatic opening of back door
- Low energy consumption
- Ampliroll® system
- Remote control





top bin

- Options** Abu Jumbo (1)/ Icube (2)
- Material** Steel or stainless steel
- Use** Two access areas (1)
- Drum** Volume limitation with pedal activation (1)

The top bin acts as the interface between the user and the machine, highlighting its importance in terms of visibility, accessibility and public safety, making it the most distinctive element of the Bigtainer. Small, but with a large capacity, mainly constructed from metal to ensure robustness and durability.

- Back door** Restricted use with RFID identification
- Signage** Position light
- Optional** Odour control system



compactor

- Weight** OT 20/ OT25
- Material** Hardox/Domex/Weldox/S235JR/S355JR2G3
- Action** Hydraulic cylinders
- Energy required** 5,5kW, 380V-400V AC three-phase
- Compacting rate** 4:1 (Adjustable)

The heart of the Bigtainer. The compactor, specially designed for the Bigtainer OT, is a durable and tough piece of equipment. It is totally automated and planned with high safety standards. Available in 16 m3 and 20 m3.

- Action** Automatic by sonar
- Cycle time** 38 seconds (approx)
- Collection interface** Ampliroll
- Control** Microprocessor control



platform

- Weight** 6800kg
- Material** Steel with anticorrosive treatment
- Action** Hydraulic cylinders
- Movement** Elevating platform and rotation 21°

The 6.8 tonne platform is a hydraulic system, constructed from galvanised steel. The system has an elevating platform and a cover that can rotate 21° on the back axle to facilitate collection of the container. The Bigtainer OT is an excellent system for buried waste containers.

- Stabilisation** Shear system for stabilising
- Integration** Deep box in the upper lid to allow paving
- Operation** Hydraulic



power unit

- Weight** 400kg
- Energy** 15kW, 380V-400V AC three-phase
- Capacity** 180L de hydraulic oil
- Control** Remote control activated
- Management** Microprocessor control

The power unit is a PLC, the automated power unit that makes it possible to connect the motor to lift the entire electronic system and operate the Bigtainer OT. The unit was planned for the maximum possible energy efficiency.

- Power unit** Nominal flow up to 40 L/min
- Max. Pressure** 210 bar
- Distribution** Electrical valves



platform and compactor storage



top bin - abu jumbo



elevating platform



compactor collection



back door for large volumes



identification alarm

radio frequency identification



user identification



positioning level



itwaste - graphical interface

wireless communication



remote control



- SOS - Sequential system opening.
- CPC - Compactor position control.
- MSS - Mechanical stabilization system.
- Hydraulic circuit protection system.
- Anti corrosive treatment, structure.
- Protective barriers around the equipment.
- Reflective safety signs.
- Optical and acoustic signaling.
- Extra elastomers produced in EPDM.
- Remotecontrol - It is possible to activate all the equipment in the city with just one command without causing interference.
- All the equipment is designed for quick and easy installation, facilitating maintenance and collection operations.
- Ampliroll system.



technical specifications



platform

	OT20	OT25
Mechanical Stabilisation	S	S
Hydraulic Stabilisation	S	S
Stainless Steel tube	S	S
Safety valve	S	S
Protective grille	O	O
Replaceable pillars	S	S
Rotatingcover	S	S
Dense cover seal	S	S
Pavement allowed	S	S
Anti-corrosion protection	S	S
epoxy ink	O	O
Compactor guide	S	S
Visual/acoustic signalling	O	O
Compactor location control	S	S
Safety blocker	S	S
Fire detector	O	O
Reflective signs	S	S
Weight (kg)	6800	8000
Maximum load supported (kg)	28000	32000
Construction material	S235JR/S355JR	S235JR/S355JR
Anti-corrosion protection	S	S
Maximum permitted load cover (kg)	2000	2000
Pavement box (mm)	60	60
Opening angle of the cover (°)	21	21
Cylinder supports	4	4
Cover cylinders	2	2
Hydraulic tube	AISI 304	AISI 304
Flow Divider	6.3cc	6.3cc
Safety valves	6	6
Location sensors	2 S/ Contact	2 S/ Contact
Length (m)	6	7
Width (m)	3	3
Height (m)	3.2	3.2
Open height (m)	5	6

[S] - Standard · [O] - Optional

compactor

	OT20	OT25
Modern box	S	S
Transportcover	O	O
Container-compactor connection	O	O
High capacity hopper	S	S
Sonar activation	S	S
Bolts function	S	S
Pressure sensors	O	O
Communication interface	O	O
Weight (kg)	4000	5000
Load capacity (kg)	15000	20000
Nominal volume (m3)	20	25
Compacting force (kN)	340	340
Electrical energy required (kW)	5,5	5,5
Compacting rate	4:1	4:1
Cyclotime (sec)	38	38
Collection system	Ampliroll	Ampliroll
Automatic activation system	Sonar	Sonar

top bin

	abu jumbo	icube
Weight (kg)	300	300
Construction material	steel or stainless steel	steel or stainless steel
Metal plate thickness	4mm	4mm
Drumvolume (L)	200	-
Back door dimensions (mm)	700x700	1200x1200
LED interface	Brilliant three colour	Brilliant three colour
Electro-mechanical blockers	IP 67 extra function	IP 67 extra function
Handles	10mm Acrylic	Polymer
Back door activator	Gas cylinder	Gas cylinder

power unit

	OT20/ OT25
Weight (kg)	400
Electrical energy required (kW)	15
Tank volume (L)	200
Maximum pressure (bar)	210
Nominal flow (L/min)	40
Wireless communication	GPRS
Action	Remote control



sidetainer®



equipment

sidetainer

top bin

oportto

country

Ireland

city

Dublin



The Sidetainer has capacity for 1 or 2 containers (3200/4000 L). These can be collected on the surface. The platform has sufficient space for the lorry to manoeuvre the container. This system is compatible with side-loading vehicles for waste collection, constructed in accordance with the standard EN 1501-2.



main characteristics



- RFID
- GPRS
- RF
- MODBUS
- PLC control



- Hydraulic protection system
- Switch cabinet
- Access area blocking
- Optical and acoustic signaling
- Safety signs



- MSS
- Hydraulic cylinders
- Adjustable paving height
- Adjustable inclination
- Lateral collection



top bin

- Options** Dhabi/ Oporto/ London / Athens
- Material** Steel or Stainless Steel
- Used** Two access areas (except optional rear door Oporto)
- Drum** Volume limitation with pedal activation

The top bin acts as the interface between the user and the machine, highlighting its importance in terms of visibility, accessibility and public safety, making it the most distinctive element of the Sidetainer. Small, but with a large capacity, mainly constructed from metal to ensure robustness and durability.

- Back door** Restricted use with RFID or activator button
- Signage** Status light and / or sign
- Optional** Odour control system



side bin

- Weight** Approx. 150kg (polymer) and 300kg (steel)
- Material** PEHD polymers or galvanised stainless steel
- Collection** Lateral load EN 12574
- Use** Developed for underground or ground level

The Side container was developed in accordance with the standard, EN 12574 and it is compatible with collection lorries made in accordance with the standard EN1501-2

- Capacity** 3200l and 4000l (a)

(a) For other capabilities or measures, consult TNL



platform

- Weight** 1640kg (SD1) / 2000kg (SD2)
- Containers** 1 or 2 containers
- Action** Hydraulic cylinders
- Movement** Elevation of platform and lid rotation

The platform and the hydraulic system are constructed from galvanised steel. The system has an elevating platform and a cover with the capacity to turn 90o on the back axle facilitating collection of the container. The Sidetainer is the state of the art for equipment in buried containers.

- Stabilisation** Shear system for stabilisation
- Integration** Deep box in cover to allow paving



power unit

- Weight** 150kg
- Energy** 7.5kW, 380V-400V AC three-phase
- Capacity** 50L
- Control** Remote control or with activator button

The hydraulic unit is the unit for transformation of energy, creating hydraulic energy from the electric energy, generating the force necessary to lift the equipment to the surface.

- Max. Pressure** 210 bar
- Nominal Flow** Up to 20L/min



SD

elevating platform



container lifting



remote control



emptying container



back door for large volumes



identification by radio frequency

user identification



Level positioning

- Safety valve.
- Adjustable structure to inclinations.
- Platform calculated to support a light vehicle.
- The maximum opening of the platform is 90°.
- Capacity for containers up to 4000 L.
- Anti corrosive treatment, structure.
- Lid lowered 6cm to allow different types of paving as a finish.
- Various types of top bin available.
- Refuse vehicles compatible with lateral loading.



itwaste - graphical interface



wireless communication



remote control



technical specifications

SD

platform

	SD1	SD2
Number of containers	1	2
Mechanical stabilisation	S	S
Hydraulic tubes stainless steel	S	S
Safety valves	S	S
Rotating lid	S	S
Cover seal	S	S
Paving allowed	S	S
Anti-corrosion protection	S	S
Epoxy ink	O	O
Container jerk	S	S
Visual - acoustic signalling	O	O
Safety blocker	S	S
Fire detector	O	O
Reflective signs	S	S
Weight (kg)	1640	2000
Maximum load supported (kg)	3000	6000
Construction material	S235JR/S355JR	S235JR/S355JR
Maximum supported load cover (kg)	1300	1300
Paving box (mm)	60	60
Cover opening angle(o)	90	90
Support cylinders	2 Cylinders	2 Cylinders
Hydraulic tube	AISI 304	AISI 304
Flow divider	-	-
Safety valves	2	2
Length (m)	3,2	5,5
Width (m)	2,3	2,3
Height (m)	2,6	2,6
Open height (m)	2,6	2,6

container

	PEHD	STEEL
Interface EN 12574	S	S
Container cover	O	O
Pedal	O	O
Galvanised	-	S
Polymer	S	-
Wheels	S	S
Structure reinforcement	S	-
Signs	O	O
Weight (kg)	150	300
Load capacity (kg)	3200	3200
Nominal volume (m ³)	3,2	3,2
Surface action	Pedal	Pedal
Surface covering	Topcover	TopcoverEN
Interface	EN 12574	12574
Compatible lorry	EN 1501-2	EN 1501-2

top bin

	dhabi/ oporto/ london/ athens
Deposit Drum	S
Back deposit door	O/ S (Oporto)
Pedal for opening drum	O
LED status	O
RFID Access Control	O
Electro-mechanical blocking	O
Odour Control	O
Construction Material	Steel or Stainless Steel
Drum volume (L)	Variable
Back door dimensions (mm)	Variable
LED Interface	Three colour brilliant
Electro-mechanical blocking	IP 67
Handles	PEHD/Aluminium/ Polymer
Back door activator	Manual
Finishes	Stainless steel or electrostatic paint

power unit

	SD1/ SD2	SD1/ SD2
Sequential Opening	S	Weight (kg) 150
CPU	O	Electric energy required (kW) 7,5
Wireless Communication	O	Tank Volume (L) 50
Pressure Sensor	O	Maximum Pressure (bar) 210
Oil Level Sensor	O	Nominal Flow (l/min) 20
Remote Control	O	Wireless Communication GPRS
Phase Detector	O	Action Remote Control
Gentle start-up	O	
Submersible Pump	O	



ecotainer[®]

BX
ecotainer®



equipment

ecotainer

top bin

oporto

country

Portugal

city

Oporto

BX ecotainer®

The Ecotainer can store up to 4 buried containers (800/1000/1100L) and bring them to the surface for collection. The platform can transport the underground container to the surface for rear collection by refuse vehicles.



main characteristics

itwaste®

- RFID
- GPRS
- RF
- MODBUS
- PLC control

△ safety

- Hydraulic protection system
- Switch cabinet
- Access area blocking
- Optical and acoustic signaling

⊗ functioning

- MSS
- Hydraulic cylinders
- Adjustable paving height
- Adjustable inclination
- Truck kit
- Collection by rear loading



top bin

- Options** Dhabi/ Oporto/ London / Athens
- Material** Steel or stainless steel
- Use** Two access areas (except optional rear door Oporto)
- Drum** Volume limitation with pedal activation

The top bin acts as the interface between the user and the machine, highlighting its importance in terms of public visibility, making it the most distinctive element of the Ecotainer localisation. Robust, small, but with a large capacity, mainly constructed from metal to ensure design and durability.

- Back door** Restricted use with RFID or code
- Signage** Status light and / or sign (Dhabi)
- Optional** Odour control system



rear container

- Weight** Approx. 58kg
- Material** PEHD polymer thickness 8mm
- Collection** Rear loading EN 840

The rear tank was developed in accordance with the standard EN 840 and it is compatible with collection lorries constructed in accordance with the standard EN1501-1.

- Capacity** 800/ 1000/ 1100l (a)

(a) For other capabilities or measures, consult TNL



platform

- Weight** Variable
- Containers** Up to 4 containers
- Action** Hidraulic cylinders
- Movement** Platform elevation

The platform is a hydraulic system made from hot galvanised steel. This system has an elevating platform to bring the container to the surface, allowing it to be removed manually and unloaded in the back of a waste collection lorry.

- Stabilisation** Shear system for stabilisation
- Integration** Deep box in top cover to allow paving
- Containers** EN 840 to 1100L (a)

(a) For other capabilities or measures, consult TNL



power unit

- Power unit** Autonomous hydraulic unit or lorry kit
- Weight** 120kg (hydraulic)
- Energy** 5.5kW, 380V-400V AC three-phase (hydraulic)
- Capacity** 50L (hydraulic)

The power unit is the transformer unit, creating hydraulic energy from electric energy, generating the power necessary to lift the equipment to the surface. The Ecotainer can be activated using hydraulic energy supplied by the lorry.

- Control** Remote control or turret (hydraulic)
- Truck Kit** Installed on the collection truck



BX

ecotainer b4 with autonomous centre



ecoteiner B2 top bin oporto



ecotainer structure



truck kit



quick hitch valve



user identification



radio frequency identification



- Safety valve.
- Adjustable structure to inclinations.
- Platform calculated to support a light vehicle.
- Capacity for containers up to 1100 L.
- Anti corrosive treatment, structure.
- Lid lowered 6cm to allow different types of paving as a finish.
- Various types of top bin available.
- Containers compatible with rear loading.



itwaste - graphical interface



wireless communication



remote control



technical specification

BX

platform

B1/ B2/ B3/ B4

Mechanical stabilisation	S
Hydraulic tubes stainless steel	S
Safety valves	S
Cover seal	S
Paving allowed	S
Anti-corrosion protection	S
Epoxy ink	O
Visual – acoustic signalling	O
Safety blocker	S
Fire detector	O
Reflective signs	S
Weight (kg)	600/ 850/ 1350/ 1700
Construction material	S235JR/S355JR
Number of containers	1/ 2/ 3/ 4
Maximum supported load cover (kg)	800
Paving box (mm)	60
Support cylinders	2 Cylinder
Hydraulic tube	AISI 304
Flow divider	-
Safety valves	2
Length (m)	1,6/ 2,7/ 3,9/ 5,1
Width (m)	1,6
Height (m)	2,3
Open height (m)	2,8

power unit

B1/ B2/ B3/ B4

Weight (kg)	120
Electric energy required (kW)	5,5
Tank Volume (L)	50
Maximum Pressure (bar)	210
Nominal Flow (L/min)	15
Wireless Communication	GPRS
Lorry kit	Distribution
Lorry kit activation	Manual

rear container

	800L	1000L	1100L
Interface EN 840	S	S	S
Container cover	S	S	S
Pedal	O	O	O
Polymer	S	S	S
Wheels	S	S	S
Signs	O	O	O
Capacity	800L	1000L	1100L
Weight (kg)	45	52	58
Load capacity (kg)	800	1000	1100
Nominal volume (m ³)	0,8	1,0	1,1
Surface activation	Pedal	Pedal	Pedal
Surface covering	Lid	Lid	Lid
Interface	EN 840	EN 840	EN 840
Compatible lorry	EN 1501-1	EN 1501-1	EN 1501-1

- For other capabilities or measures, consult TNL

top bin

dhabi/ oporto/ london/ athens

Deposit drum	S
Back deposit door	O / S (Oporto)
Pedal for opening drum	O
LED status	O
RFID access control	O
Electro mechanical blocking	O
Odour control	O
Construction material	Steel or Stainless Steel
Drum volume (L)	Variable
Back door dimensions (mm)	Variable
LED Interface	Three colour brilliant
Electro mechanical blocking	IP 67
Handles	PEHD/Aluminium/ Polymer
Back door activator	Manual
Finishes	Stainless steel or electrostatic paint

[S] - Standard · [O] - Optional



citytainer®



citytainer®

CT



equipment

citytainer

top bin

oporto

country

Portugal

city

Valença



The Citytainer consists of a single metal platform that can house from 1 to 4 containers (this is the ideal configuration for recycling), from 3000 to 5000L. The platform is below the surface of the public thoroughfare, the cover allows the same finish as the surrounding area where it is installed. The containers are compatible with standard cranes that are in accordance with the standard EN 13071-1. The Citytainer complies with the standard EN 13071-2.

main characteristics



- RFID
- GPRS
- RF
- MODBUS
- CLP Control



- Hydraulic protection system
- Switch cabinet
- Access area blocking
- Optical and acoustic signaling



- MSS
- Hydraulic cylinders
- Adjustable paving height
- Adjustable inclination
- Truck kit
- Collection by rear loading





top bin

- Options** Dhabi/ Oporto/ London / Athens
- Material** Steel or stainless steel
- Deposit** Two access areas (except optional rear door Oporto)
- Drum** Volume limitation with pedal activation

- Back door** Restricted use with RFID or code
- Signage** Status light and/or sign (Dhabi)
- Optional** Odour control system

The top bin is the only element available to the user, so it is the interface between the user and the equipment, and it is the most distinctive element in the entire set, easy to use, hygienic, robust, small but with a high capacity.



container

- Weight** 150kg (3000L), 200kg (5000L)
- Material** PEHD polymer thickness 8mm
- Collection** Crane EN 13071-1
- Use** Double Hook, Single Hook or Rear Loading

- Capacity** 2000, 3000, 4000 e 5000l (a)

The crane container was developed in accordance with the standard EN 13071-1 and can be collected by lorries with a standard crane with a single or double hook, and it can control the speed of opening of the back of the container.

(a) For other capabilities or measures, consult TNL



platform

- Weight** 600kg (SM1), 850kg (SM2), 1000kg (SM3), 1250kg (SM4)
- Containers** Up to 4 containers
- Action** Hydraulic cylinders
- Movement** 90° lid rotation

- Stabilisation** Mechanics

The platform is a hydraulic system constructed from hot galvanised steel. This system has an elevating platform, which places the container on the surface so it can be removed manually and unloaded in the back of the waste collection lorry.



power unit

- Power unit** Autonomous hydraulic unit or lorry kit
- Weight** 120kg (hydraulic)
- Energy** 5.5kW, 380V-400V AC three-phase (hydraulic)
- Capacity** 50L (hydraulic)

- Control** Remote control or turret (hydraulic)
- Truck Kit** Installed in the collection truck

The power unit is the unit for transformation, which creates hydraulic energy from electrical energy, to generate the power needed to lift the equipment to the surface. The Eco-tainer can be activated using the hydraulic energy supplied by the lorry.



CT

top bin dhabi



top bin athens



container 3m³



citytainer SM2 open



waste collection



radio frequency identification



user identification



- Safety valve.
- Adjustable structure to inclinations.
- Platform calculated to support a light vehicle.
- Capacity for containers up to 5000L.
- Structure made entirely from galvanised steel.
- Anti corrosive treatment, structure.
- Lid lowered 6cm to allow different types of paving as a finish.
- Various types of top bin available.
- Compatibility with container crane and tipping.



itwaste - graphical interface



wireless communication



remote control



technical specification

CT

platform

SM1/ SM2/ SM3/ SM4

Hydraulic tubes stainless steel	S
Safety valves	S
Cover seal	S
Paving allowed	S
Anti-corrosion protection	S
Epoxy ink	O
Visual - acoustic signalling	O
Safety blocker	O
Fire detector	O
Reflective signs	S
Weight (kg)	600/ 850/ 1000/ 1250
Construction material	S235JR/S355JR
Number of containers	1/ 2/ 3/ 4
Maximum supported load cover (kg)	600
Paving box (mm)	60
Support cylinders	1/ 1/ 2/ 3
Hydraulic tube	AISI 304
Flow divider	-
Safety valves	1/ 1/ 2/ 2
Length (m)	2,4/ 3,9/ 5,6/ 7,1 (3M ³ /5M ³)
Width (m)	2,0/ 2,0/ 2,0/ 2,0 (3M ³ /5M ³)
Height (m)	2,2/ 2,2/ 2,2/ 2,2 (3M ³); 3,2/3,2/3,2/3,2 (5M ³)

container

2M³ 3M³ 4M³ 5M³

Single ring	S	S	S	S
Double ring	O	O	O	O
Volteio	O	O	O	O
Kinschoffer	S	S	S	S
Steel reinforcements	S	S	S	S
Polymer	2000L	3000L	4000L	5000L
Weight (kg)	125	150	175	200
Capacity	1500	2000	2500	3000
Nominal volume (m ³)	2	3	4	5
Construction standard (crane)	EN 13071-1	EN 13071-1	EN 13071-1	EN 13071-1

top bin

dhabi/ oporto/ london/ athens

Deposit drum	S
Back deposit door	O / S (Oporto)
Pedal for opening drum	O
LED Status	O
RFID Access Control	O
Electro mechanical blocking	O
Odour control	O
Construction material	Steel or Stainless steel
Drum volume (L)	Variable
Back door dimensions (mm)	Variable
LED's Interface	Three-colour bright
Electro-mechanical blocking	IP 67
Handles	PEHD/Aluminium/ Polymer
Back door activator	Manual
Finishes	Aço inox ou pintura electrostática

power unit

SM1/ SM2/ SM3/ SM4

Lorry kit	O
Power Unit APU	O
CPU	O
Wireless Communication	O
Pressure Sensor	O
Oil Level Sensor	O
Remote Control	O
Phase Detector	O
Soft Start	O
Submersible Pump	O
Weight (kg)	120
Electric energy required (kW)	5,5
Tank Volume (L)	50
Maximum Pressure (bar)	210
Nominal Flow (L/min)	15
Wireless Communications	GPRS
Lorry kit	Distribution valve
Lorry Kit activation	Manual

[S] - Standard · [O] - Optional



abu jumbo | dhabi | oporto | london | athens | icube

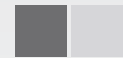


abu
jumbo

The Abu Jumbo top bin is a specific product for the Big-tainer, and it is integrated in a modern line of equipment with a cutting-edge design. Its design aims for total integration, blending in completely with the urban environment. This top bin is the most flexible of the entire equipment range for depositing urban waste, with two depositing areas and high security access. The rear door is used or the RFID system, enabling identification of the users and all the operations they carry out.



abu jumbo

Weight	280 kg
Material	Steel with anti corrosion treatment or stainless steel
Finishing	Electrostatic paint Brushed stainless steel
Use	Deposit drum and back door
Dimensions	1000 x 1250 x 1370 mm
Drum	110L
Signalling	Front LED and real signs, security and itwaste use
Optional	itwaste
Colors	

other colors contact TNL

This top bin is the most distinguished product in this range, as it is principally made from stainless steel or steel with corrosion protection. The body is made from sheet steel with a thickness of 3/4mm to ensure the necessary robustness and rigidity for correct functioning. There are two zones for depositing waste in the system, the front drum and the high-capacity rear door. The rear door is made using a user identification system (RFID) for authorised personnel. There are currently two LEDs, on the front and the other below the rear door, to inform the user of the current status of the 2 access zones.



abu jumbo | **dhabi** | oporto | london | athens | icube



dhabi

The top bin is the interface between the user and the machine, which highlights its importance as the only element of the equipment that is visible to the public, making it the most distinguished element of the equipment. Robust, small, but with a large capacity. It can be integrated in very different urban environments. It can be made of stainless steel or steel with corrosion protection and finished with paint. It is possible to have two different depositing areas. The drum is differentiating element, as it enables easy depositing of waste and guarantees that the task is safe. The area with the highest depositing capacity (back door) is intended only for identified/authorised users.



dhabi

Weight	100/160 kg
Material	Steel with anti corrosion treatment or stainless steel
Finishing	Electrostatic paint Brushed stainless steel
Handling	Deposit drum/ Back door *
Drum	100L
Dimensions	795 x 603 x 1135 / 795 x 1113 x 1135 mm
Sign	LED for signalling, safety and use
Optional	itwaste * Back door
Colors	

other colors contact TNL

Dhabi is an ergonomic top bin, created, registered and patented by TNL, with minimalist lines that meet the needs of integration in various urban environments, making the smallest possible visual impact.

All the materials used were planned taking into account the urban environment of the equipment, because this is the most exposed part of it, and special care was taken with it. The materials chosen are all resistant to acts of vandalism and environmental hazards, such as vehicle impacts, graffiti etc. As an integral part of all the developments of TNL, the ergonomic system has two levels of security for the user (citizen). The top bin has a system for opening and closing the drum in such a way as to avoid it staying open after waste has been deposited.



abu jumbo | dhabi | **oporto** | london | athens | icube

oporto


The Oporto top bin is the result of a partnership between TNL and the architects Siza Vieira and Souto Moura, classic pure lines, meeting the need for integration to different urban environments, causing the smallest visual impact possible. The top bin serves as an interface between the user and the machine, highlighting its importance in terms of public safety/ accessibility/ visibility, making it the most distinctive element of the equipment. Small, but with a large capacity, it is mostly made from metal to ensure robustness and durability. Access is guaranteed, either using the drum, for normal users, or the commercial door for authorised users. The depositing drum normally remains closed and should only be opened by the user at the moment of inserting a bag of refuse. At an anthropometric level it was planned to cause no restrictions to users with reduced motor skills. The sack is placed in the interior of the depositing drum, which closes automatically, allowing the sack of waste to be stored in the container. The entire set has a water diversion system to minimise the amount that enters the interior of the equipment, which has been carefully developed so as not to detract from the correct functioning of the equipment or the look.

Industrial property | Community model or design
no 000 412 622-1

Authors | Álvaro Siza Vieira and Souto Moura



oport

Weight	100kg
Material	Steel with anti corrosion treatment or stainless steel
Finishing	Electrostatic paint Sanded finish stainless steel
Use	Deposit drum and back door
Dimensions	750 x 490 x 1050 mm
Drum	100L
Signalling	Security and use
Optional	itwaste
Colors	

other colors contact TNL

Drum | In the Oporto top bin the drum is produced by shaping metal and welding stainless steel with a polished interior finish and exterior with electrostatic paint the colour of the top bin in the painted version. The drum has a rubber impact point that softens the impact and dissipates the sound when it is closed.

Handle | This is an integrated part of the drum, made of stainless steel and easy to use. The top face shows the sign identifying the waste to be deposited.

Body | The main element of the structure of the top bin, made from sheet steel obtained by metal shaping and soldering, with corrosion protection and a finish with electrostatic paint, with the option of stainless steel with a sanded finish.

Back door | With access restricted by mechanical means, planned for large producers (e.g. restaurants) to deposit waste. The dimensions are around 720 mm high by 400 mm wide. It is made of sheet steel, which is metal shaped and soldered, and the material has the same finish as the body.

Sign | This is placed on the handle of the drum and the commercial door to describe the waste to be deposited.



abu jumbo | dhabi | oporto | **london** | athens | icube




london

The top bin is the interface between the user and the machine, which highlights its importance as the only element of the equipment that is visible to the public, making it the most distinguished element of the equipment. Robust, small, but with a large capacity. It is an element that does not disrupt the landscape. It can be made of stainless steel or steel with corrosion protection and finished with paint. It is possible to have two different depositing areas. The drum is differentiating element, as it enables easy depositing of waste and guarantees that the task is safe. The commercial door is intended only for identified / authorised users. At an anthropometric level it was planned to cause no restrictions to users with reduced motor skills. The sack is placed in the interior of the depositing drum, which closes automatically, allowing the sack of waste to be stored in the container. The entire set has a water diversion system to minimise the amount that enters the interior of the equipment, which has been carefully developed so as not to detract from the correct functioning of the equipment or the look.



london

Weight	80kg
Material	Steel with anti corrosion treatment or stainless steel
Finishing	Electrostatic paint Brushed stainless steel
Use	Deposit drum/ Back door *
Dimensions	710 x 440 x 1050 mm
Drum	80L
Signalling	Security and use
Optional	itwaste * Back door
Colors	

other colors contact TNL

Drum | The drum is produced by shaping metal and welding stainless steel with a polished. The drum has a rubber impact point that softens the impact and dissipates the sound when it is closed.

Handle | This is screwed to the drum with the lateral fixing elements, which are plastic and the central element is aluminium.

Body | The main element of the structure of the top bin, made from sheet steel obtained by metal shaping and soldering, with corrosion protection and a finish with electrostatic paint, with the option of stainless steel with a sanded finish.

Commercial door | With access restricted by mechanical or electro-mechanical means, planned for large producers (e.g. restaurants) to deposit waste. The dimensions are around 720 mm high by 400 mm wide. It is made of sheet steel, which is metal shaped and soldered, and the material has the same finish as the body.

Sign | This is placed on the body under the drum and on the commercial door with a description of the waste to be deposited.



abu jumbo | dhabi | oporto | london | **athens** | icube

domésticos | **organic material**
waste


athens

The top bin is the interface between the user and the machine, which highlights its importance as the only element of the equipment that is visible to the public, making it the most distinguished element of the equipment. Robust, small, but with a large capacity. It is an element that does not disrupt the landscape. It is made of steel with corrosion protection and finished with paint. It is possible to have two different depositing areas. The drum is differentiating element, as it enables easy depositing of waste and guarantees that the task is safe. The commercial door is intended only for identified / authorised users. At an anthropometric level it was planned to cause no restrictions to users with reduced motor skills. The sack is placed in the interior of the depositing drum, which closes automatically, allowing the sack of waste to be stored in the container. The entire set has a water diversion system to minimise the amount that enters the interior of the equipment, which has been carefully developed so as not to detract from the correct functioning of the equipment or the look.

Industrial property – Community model or design
no 000 412 622-3



athens

Weight	65 kg
Material	Steel with anti corrosion treatment
Finishing	Electrostatic paint
Use	Deposit drum/ Back door *
Dimensions	710 x 440 x 1000 mm
Drum	100L
Signalling	Safety and use
Optional	itwaste Back door *
Colors	

other colors contact TNL

Drum | The drum is produced by shaping metal and welding stainless steel with a polished interior finish and sanded or painted exterior finish. The drum has a rubber impact point that softens the impact and dissipates the sound when it is closed.

Handle | This is screwed to the drum with the lateral fixing elements, which are plastic and the central element is aluminium.

Body | The main element of the structure of the top bin, made from sheet steel obtained by metal shaping and soldering, with corrosion protection and a finish with electrostatic paint.

Commercial door | With access restricted by mechanical or electro-mechanical means, planned for large producers (e.g. restaurants) to deposit waste. The dimensions are around 720 mm high by 400 mm wide. It is made of sheet steel, which is metal shaped and soldered, and it has the same material and finish as the body.

Sign | This is placed on the body under the drum and the commercial door to describe the waste to be deposited.



abu jumbo | dhabi | oporto | london | athens | **icube**


icube



The iCube is a top bin only for Bigtainer, it is the element that serves as the interface between the user and the machine, highlighting its importance, being the only item of the equipment visible to the public, which makes it the most distinguishing element of the equipment. Robust, with large capacity. It is able to be integrated in the most diverse urban environments. In its construction can be used the stainless steel or steel with corrosion protection and paint finishing. Its lid is a distinguishing feature that allows an easy direct deposition of large waste volumes. It is intended only for identified/authorized users (RFID).



icube

Weight	300kg
Material	Steel with anti corrosion treatment or stainless Steel
Finishing	Electrostatic paint Brushed stainless steel
Use	Lid
Dimension	1450x1300x850 mm
Lid dimension	1200x1200 mm
Signalling	Rear led and security and handling signs
Optional	itwaste
Colors	

other colors contact TNL

The iCube is a top bin developed by TNL for situations where the waste production is considerably high, for example, golf courses, race tracks, shopping centers or airports. In this sense, its dimensions were designed to allow the direct deposition of large volumes. Its minimalist lines give the iCube unique integration and functionality characteristics. The iCube is mostly built in stainless steel or as an option in steel with corrosion protection. These materials associated to its correct dimensions minimise damages resulting from vandalism and environmental stressors. It ensures the necessary strength and rigidity for its proper operation. The lid's opening is made solely through an identification system for authorized users (RFID). The existence of sign lights in LED informs the user about the system's availability. The deposition nozzle is sized to enable a practical leakage of waste from different types of containers, such as the 2 wheels MGB or cleaning trolley.



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