

## Fill Level monitoring

### Optimised bin monitoring and collection system for smarter cities

**Reduce costs by 30-40%.** Automatic monitoring of bins provides timely details of when they are full, permitting optimised route planning for collections - reducing collection times and transportation.

# Benefits of using the netBin system

Reduce both cost and collection times with dynamic routing based on reported fill levels. Automatic monitoring of bins provides timely warnings when they are full, permitting intelligent route planning for collections ensuring no visit is wasted and unsightly overflowing bins are a thing of the past.

netBin is not just about waste collection - the nPod sensors can be retrofitted to almost any container to monitor its status, whether you need to know how full it is or sending an alert if its on fire, moved or tipped over.

## Reduce Costs

- Reduce collection costs
- Remove poorly utilised bins
- Combat theft of bins and contents

*“Using netBin we reduced our collections by 80%”*

UK Council

*“After installing netBin sensors we reduced our complaints by 100%”*

Derby City Council

## Operate Efficiently

- Only empty bins that need emptying
- Optimised collection routes
- Reduce public complaints

*“Using netBin Analyser we can see that bins are over collected by 30%”*

UK Council

## Monitor and Report

- Analyse existing collection routes against actual fill levels
- Monitor staff and bin performance
- Gather evidence for new collection improvement schemes



## Why netBin is unique

We often get asked what makes netBin stand out from the rest. We love that questions and here is why:

### Company:

Established for over 20 years FarSite is a stable and reliable partner for your waste management system. netBin has been developed entirely in house with our expertise in hardware and software design shining through.

### Sensor:

Developed over more than 5 years the nPod boasts: adjustable angle dual ultrasonic fill sensors, Bluetooth local connectivity, extensive remote configuration, very large sensitive antenna and

large high capacity battery with unique power saving technology.

### Software:

Extremely easy to use platform with automatic route creation, route optimisation, forecasting and automatic system warnings and flexible open API for easy integration with 3rd party programs.

### Security:

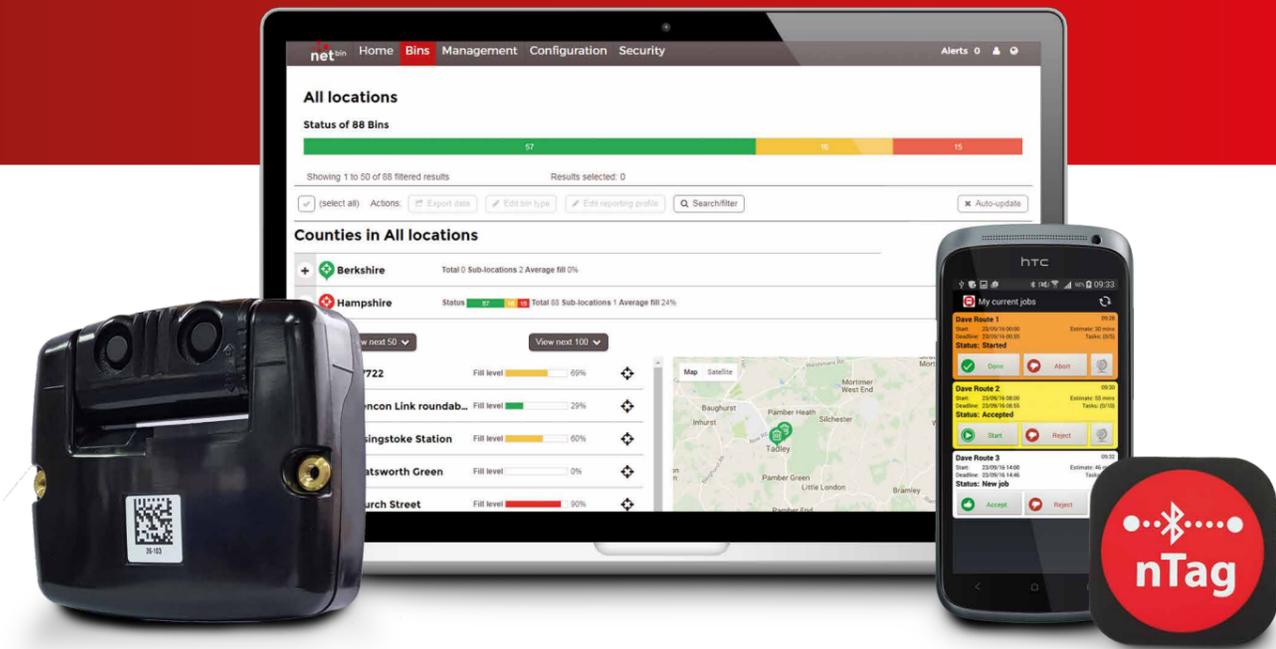
nLok brings access control systems to netBin allowing complete control and traceability of access to container areas fitted with nLok.

# Introducing the netBin Suite...

Efficient management of your bins has never been so easy! The netBin suite is full of refined and easy to use solutions to many of the waste and recycling management challenges we face every day. Deployed around the world with prestigious customers its a solution you can rely on.

*“netBin has transformed the way our customers manage their waste pick ups. Our netBin project has been so successful that it has been expanded three times and is being used in multiple waste types within the Government.”*

Greenovo, netBin Reseller



## Applications

The netBin Management System is suitable for a very wide range of applications in which containers are used. Typical applications include:

- Fill level measurement for litter bins including dual public recycle / waste bin
- Full or empty level detection for other solids and liquid containers
- Fill level detection for commercial waste bins, portable bins and clinical waste
- Fill level detection for compacter vessels, skips and large containers
- Fill level detection for Recycling Banks including Bottles, Textiles, Plastics, Cardboard and Metal
- Fire, theft and vandalism identified using nPod's array of sensors
- Empty level detection for fuel containers, products or salt bins





## nPod: Fill level sensor

Controlling access to containers is an important part of the netBin Management system. We developed our nLok solution which is a highly secure, innovative, authenticated and encrypted access control system and there are 1000s of nLok deployed.

- 135° Variable angle dual ultrasonic sensors (patent applied)
- Rugged thick walled, high impact ABS Polycarbonate
- Reliable GPRS, 3G, LTE Cat M1 and NB-IoT
- Provides Fill Level, temperature, tilt and device status
- Intelligent fill level processing
- IP66 & IK10



Developed and tested for over 5 years, we know our rugged intelligent nPod will stand up to the harshest environments for years to come and give class leading reliability.



Tested in multiple bin types through a range of temperatures the nPod consistently performs with accuracy.



The satin black finish helps the nPod remain inconspicuous to bin users. High security button head bolts increase the units resistance against vandalism and impacts.



## nTag: Automatic collection notifications

The nTag's clever design features enable automatic collection notifications to be reported in real-time to our bin management system when the cleaner empties the bins.

The discrete Bluetooth nTag fixes inside the bin and pairs with our INSPECTOR app reporting; location and duration cleaner is at the bin for.

- Reports bins collections in real-time automatically
- netBin HUB alerts Managers when bins have not been visited at the required frequency
- No training or maintenance of the nTag required
- Low cost solution for deployment across entire bin networks





## nLok: Access control system

The innovative design features throughout the nPod enables class leading flexibility when mounting the device in all manner of enclosures and difficult to monitor places.

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- **Compatible with electrically operated locks**
- **All bank access centrally logged with smartphone user details, unauthorised access attempts recorded**
- **Full kit Retrofittable to containers through our experienced resellers**



## HUB: Waste management platform

Our web based management platform is the brain of the system enabling fill level forecasting, automatic route creation, automatic bin event monitoring and analysis.

The HUB maintains comprehensive information on all containers being managed: their type, function, capacity, status, location and a history of events.

This information is stored in a database which is automatically updated as netBin sensors report changes to their status. The management application can generate alerts if, for example, a fire is detected or a bin overturned.

Bin monitoring frequency, temperature alarm thresholds, position update checks on mobile bins are all user configurable.



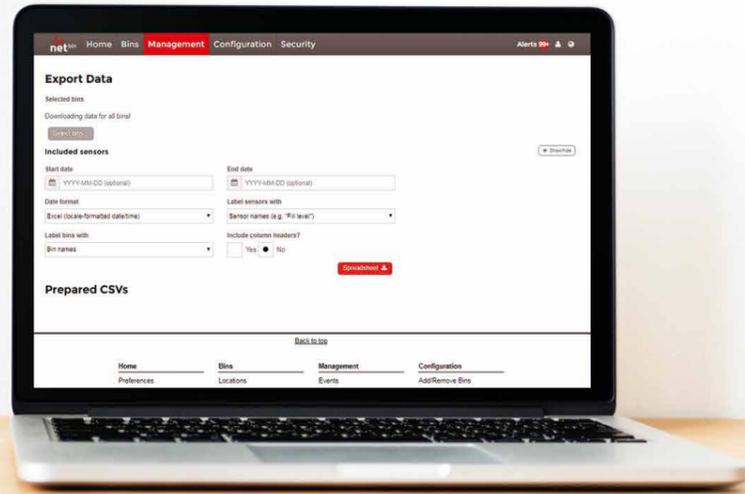
## COLLECT: Driver tasking

The COLLECT app is a driver tasking and reporting tool working in conjunction with the netBin HUB to optimise which bins actually require collection. While completing tasks the driver has the ability to report back comments and images to headquarters.

Information on suggested routes and estimated job duration are supplied. While completing jobs the driver has the ability to report back to headquarters. If for any reason a bin has a problem netBin COLLECT can notify the netBin HUB supplying photographs and notes allowing the network manager to determine what action to take.

- **Receives bin collection list from the HUB**
- **Collects data from the field including photos and driver notes**
- **Bin to bin navigation**





## ANALYSER: Reporting tool

Analyser is a free add-on to the comprehensive netBin suite and greatly expands the analysis that can be performed on the data collected by the system. The Excel based data analysis tool enables in-depth analysis and reporting from netBin's insightful historical data with just a few clicks.

- *Export all historical netBin data to give a history of bin behaviour*
- *Analyse and report in Excel format*
- *Detect trends by location groups or waste streams*

The analyser processes a CSV (Comma Separated Value) file which includes bin Fill Level data and produces a Microsoft Excel Spreadsheet showing performance statistics over the period requested with easy user customisation of the results.

## Getting Started

Just get in touch with our very experienced and friendly staff, they will check that netBin is a suitable solution for you and answer any questions you may have regarding the installation, operation, cost, timescales and maintenance of the netBin system.

After establishing outlines of the project we can arrange a live demo to illustrate some of netBin's best features currently in use in the field.

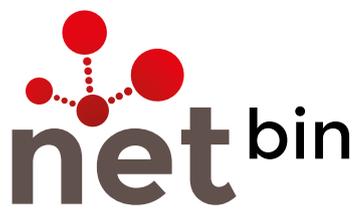
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