



# GeoPal – Control de Tráfico M2M / Traffic Control M2M

*Making Field Operations World Class*

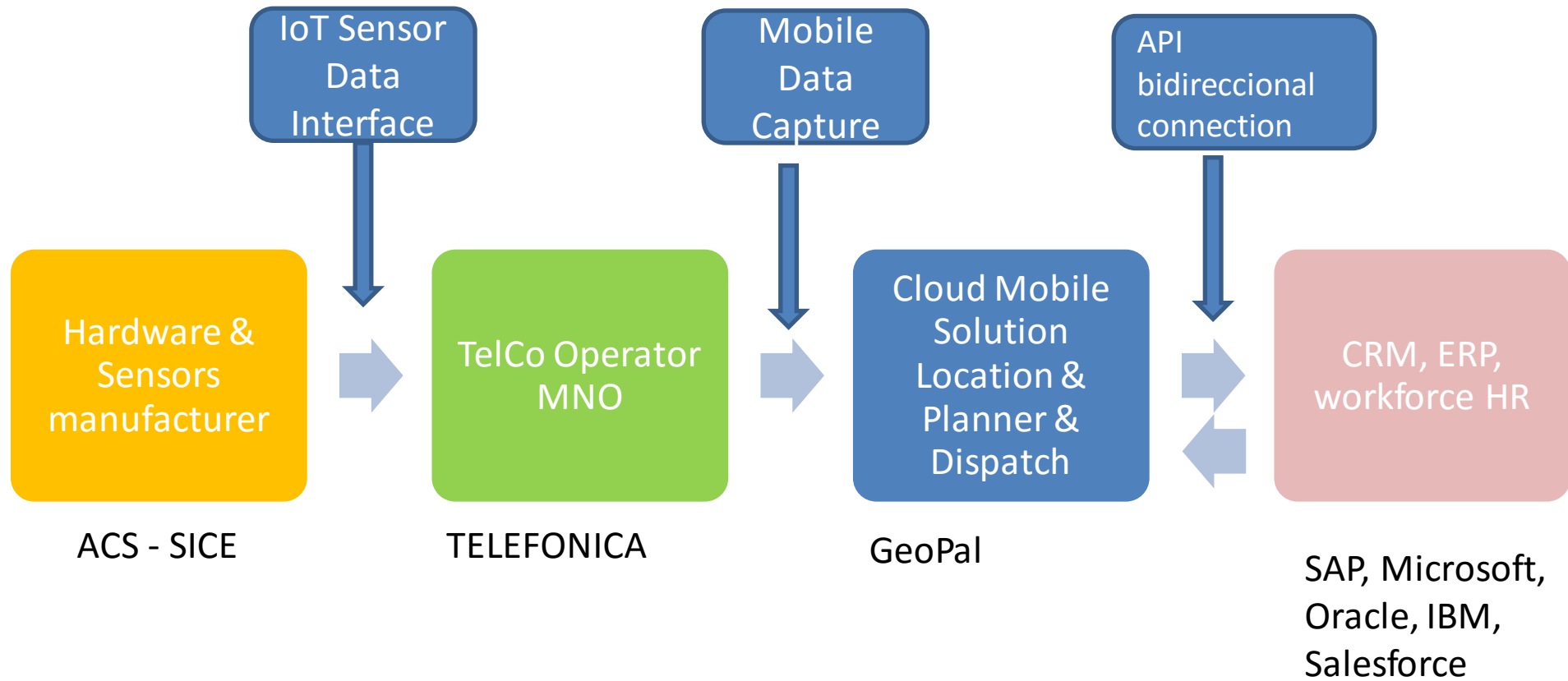
Job Scheduling  
and Dispatch

Customizable  
Mobile Forms

Mapping and  
Location

Reports and  
Accountability

# Traffic Control Value Chain Overall



Hardware &  
Sensors  
manufacturer

IoT Sensor  
Data  
Interface



22 Marzo 2011, Alcobendas. España. | Sistemas inteligentes de tráfico, Tráfico Urbano

## SICE comienza a producir el nuevo regulador de tráfico MFU3000

El nuevo regulador incorpora los últimos avances tecnológicos en materia de tráfico urbano.



El MFU3ACT000 incorpora los últimos avances tecnológicos tanto desde el punto de vista de la electrónica como del "firmware" y la Ingeniería de Tráfico Urbano.

En sus módulos electrónicos se encuentran varios micro controladores de última generación (Tecnología ARM) que garantizan una conectividad nativa total en cualquier entorno y capacidad de almacenamiento.

Los aspectos más relevantes a destacar respecto a los modelos anteriores son: su elevada conectividad, la agrupación de toda la funcionalidad de Ingeniería de Tráfico admitiendo distintos modos de

funcionamiento y, por último, la compatibilidad 100 por 100 tanto a nivel de hardware como de software con su antecesor, el MF4.

Sevilla va a ser la primera ciudad de España que instale masivamente este nuevo regulador, seguida de Lima y Trujillo, en Perú. Con estos datos, hacia el verano, nos encontraremos con un parque de alrededor de 300 de estos nuevos equipos instalados en distintos lugares de Perú y alrededor del centenar en la ciudad de Sevilla.



TelCo  
Operator  
MNO

TELEFONICA

Managed connectivity

Smart Device Services



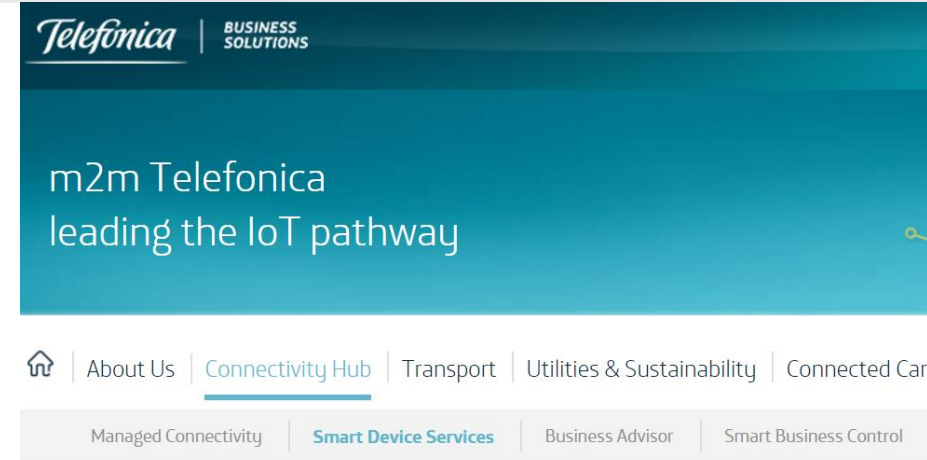
Telefonica | BUSINESS SOLUTIONS

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leading the IoT pathway

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Managed Connectivity | Smart Device Services | Business Advisor | Smart

CONNECTIVITY HUB | Managed Connectivity



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Managed Connectivity | **Smart Device Services** | Business Advisor | Smart Business Control

CONNECTIVITY HUB | Smart Device Services

# Traffic Control Value Chain GeoPal Cloud Platform & App GeoPal

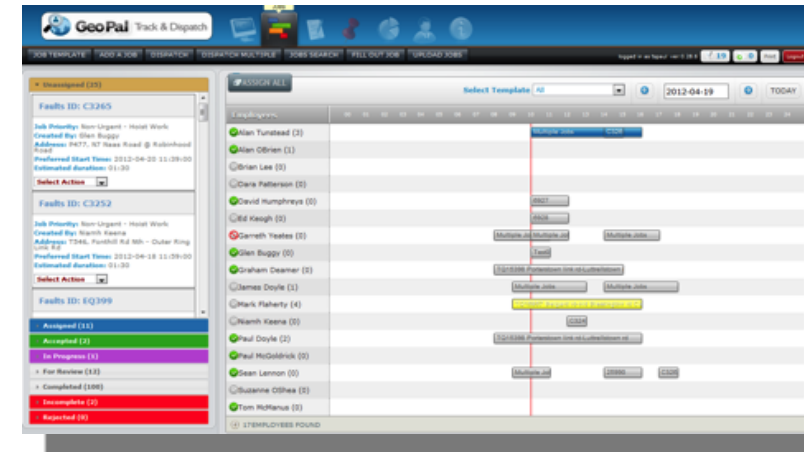
Cloud Mobile  
Solution Location &  
Planner & Dispatch

Filtering IoT alarms with  
Rules

Creating Jobs using the Rules

Visual Planner

Job Dispatching

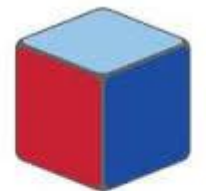


# Traffic Control Value Chain GeoPal API Connect Module

CRM, ERP,  
workforce HR



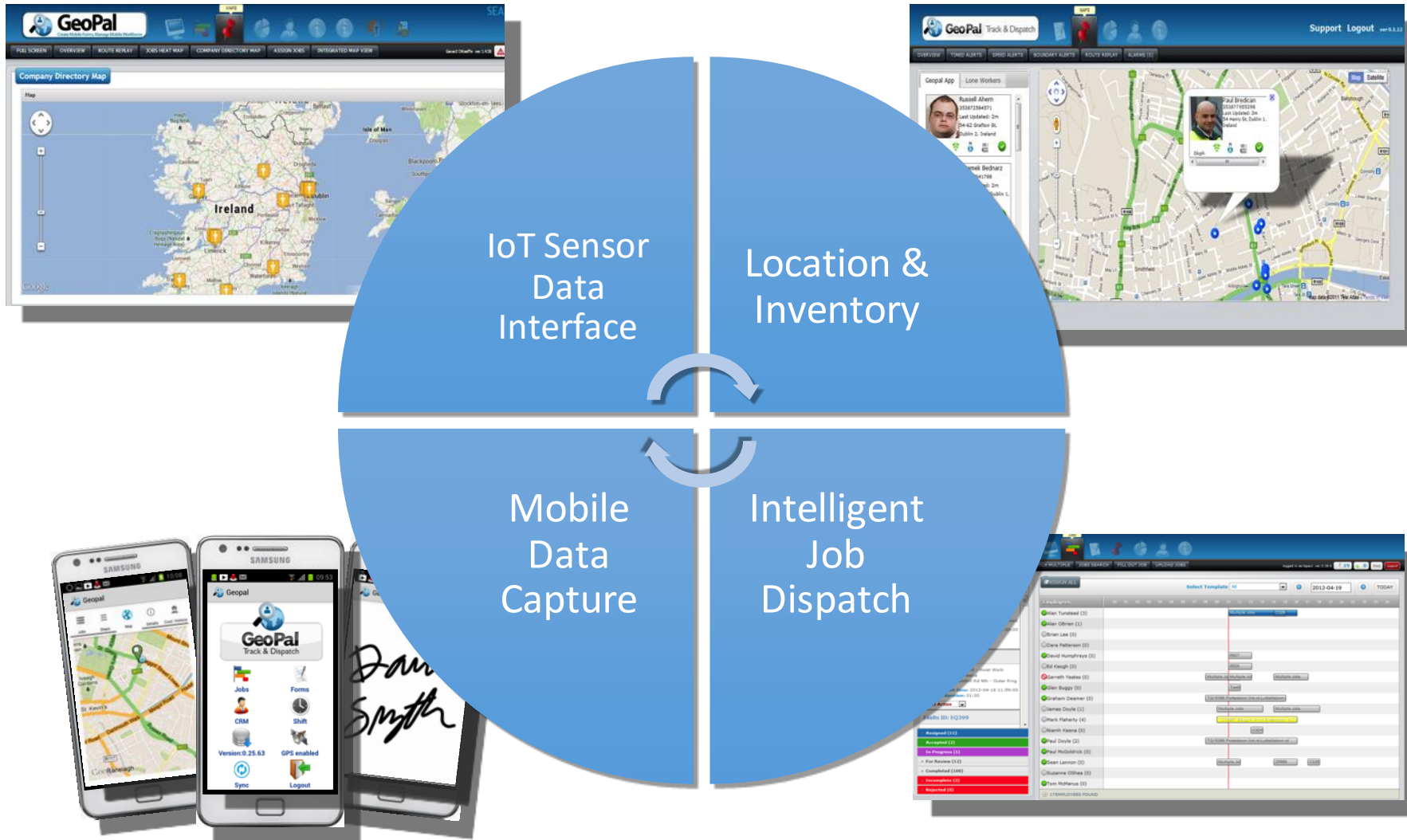
**NETSUITE**



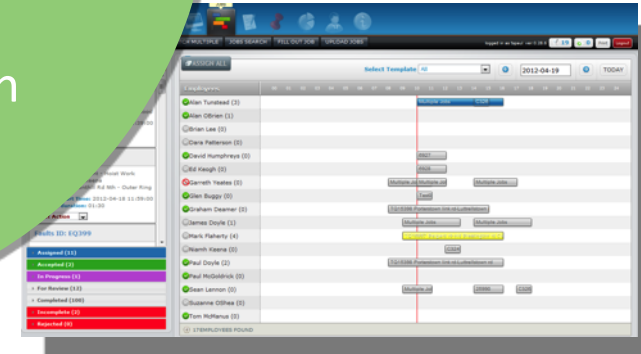
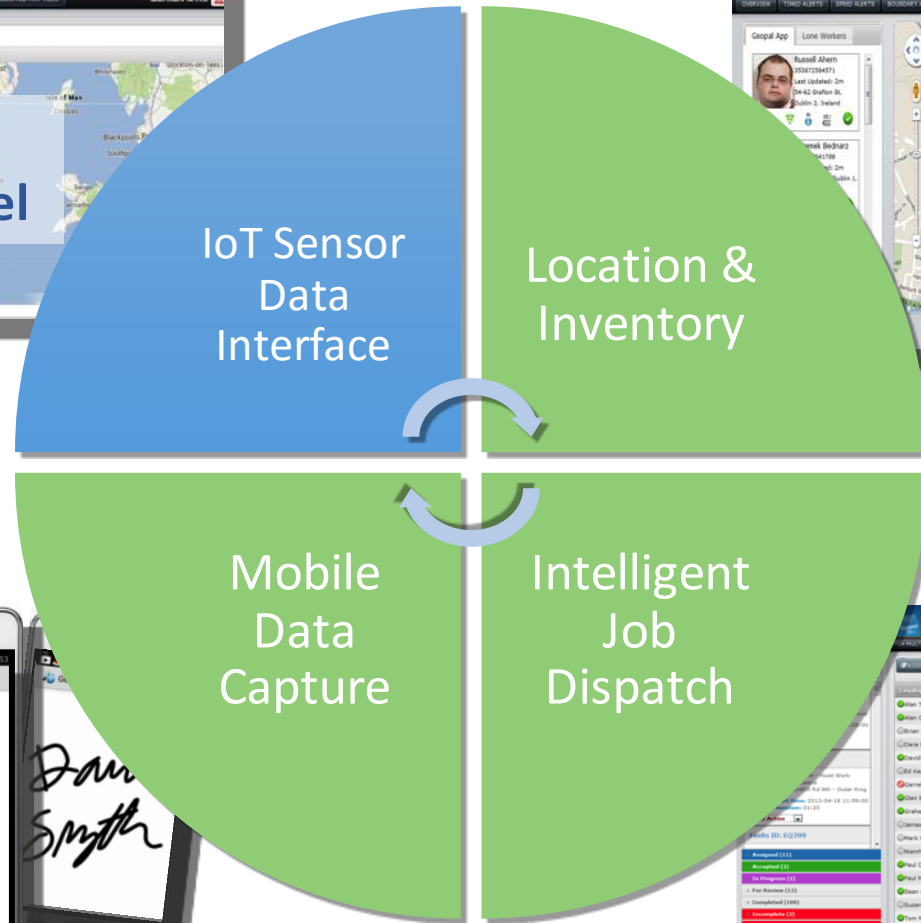
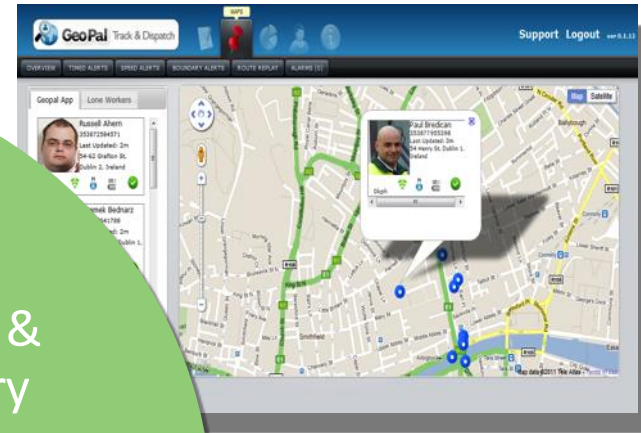
**SUGARCRM**

Integrate GeoPal with :

- Finance systems : Sage, Quickpay, Freshbooks, Xero, etc
- CRM : Microsoft Dynamics CRM, Salesforce, SugarCRM, Zoho, etc
- ERP : SAP Business 1, Microsoft Dynamics Nav, NetSuite, Sage, etc.



GeoPal takes Field Service Management to the next level





# GeoPal Enterprise Mobility Agile Platform



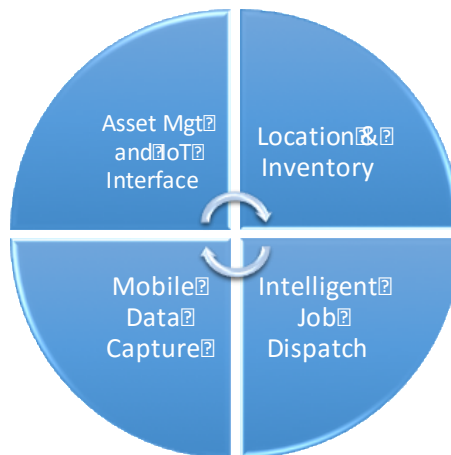
## GeoPal Mobile App Module



## GeoPal IoT /M2M Module



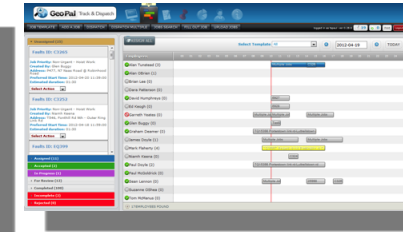
## GeoPal API Connect Module



## GeoPal Dashboard Module



## GeoPal Web Module



# Value Proposition of Proactive IoT /M2M and MWM



## Productivity



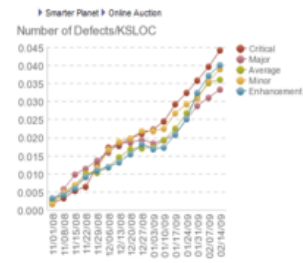
Operational savings of 30% through increased efficiency in deployments and decreasing false alarms.

## Efficiency



Reduce Admin costs by 50% by eliminating paperwork

## Asset Availability



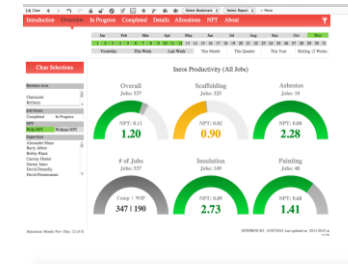
100% on-line asset status. Increase asset availability by 19% with proactive field service.

## Capture All Alarms



Improve reporting, and decision-making with 100% of alarms captured and access to all historical information.

## Intelligent Reporting



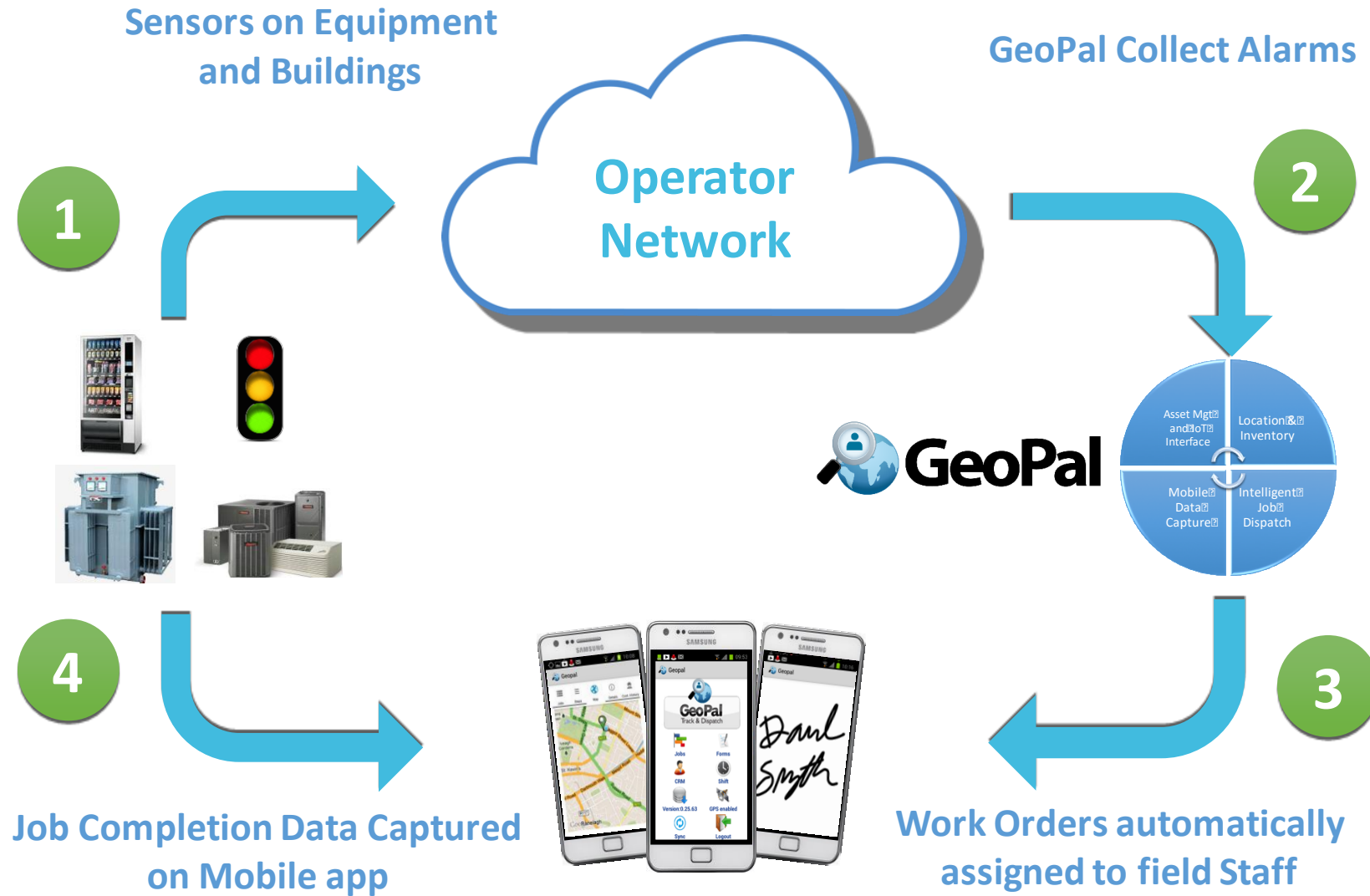
Comprehensive reporting with customizable reports delivers greater transparency on KPIs and SLAs

## Proof of Work Done



Reduced risk by speeding up response times and mitigate risks. 100% proof of all work done and compliance

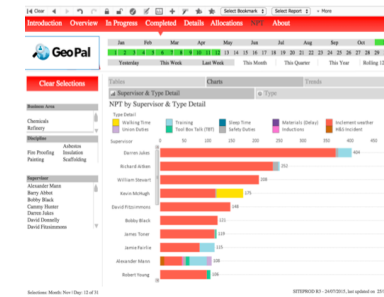
# GeoPal Intelligent Job Dispatch with Full Dash boards



## Full Dash Boards

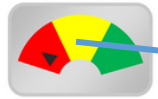


**5**



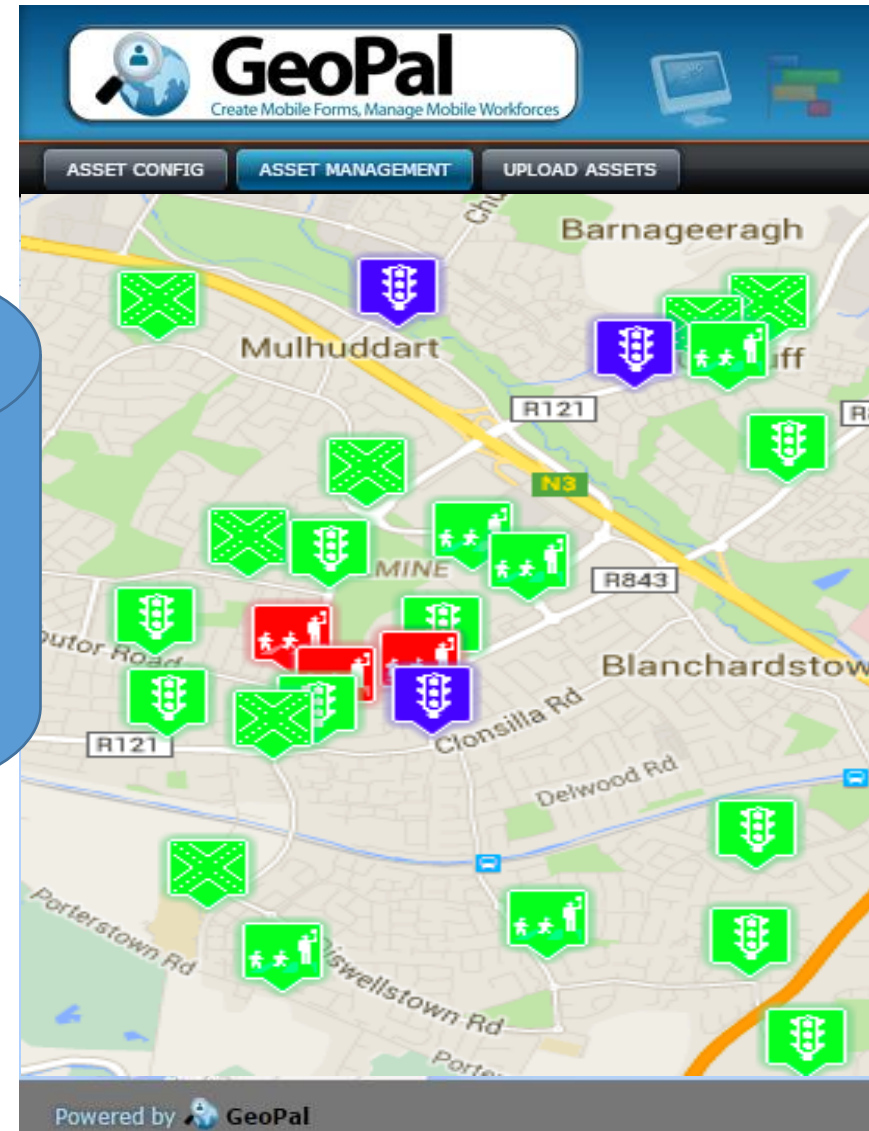
# IoT / M2M Sensor Data Interface

IoT Sensors



Telefonica Mobile Data Network

GeoPal IoT Alarms Rules Table



Visualisation of Asset Status on GeoPal.

Asset Status updated by IoT sensors in the field.

Asset Jobs dispatched based on Rules entered in Rules Table.

Can cater for thousands of alarms per hour

## IDTechEx

Best IoT Technology Development:

*The winner here was Geopal Solutions and the company's intelligent dispatch system that has so far received a very positive response from many customers. GeoPal's IoT-enabled mobility platform and intelligent job dispatch gives businesses with assets in the field the ability to eliminate expensive, reactive maintenance and leads a shift towards a proactive, preventative model of maintenance. With IoT sensors on assets, alarms are raised when assets go out of tolerance, but before they become faulty. These alarms can automatically trigger work orders that are sent to field technicians' mobile devices, maximising asset uptime.*

*Dublin City BID won a Merit Award in Downtown Leadership and Management at the 2013 IDA Awards.*

*The winning project uses GeoPal to improve the productivity of street ambassadors and office staff, and reducing the cost of providing their service to Dublin Town.*

*“GeoPal has resulted in a 30% time saving for the Ambassadors, so we have redirected that time to*



# Sample: Emergency Orders



This screen provides an overview of Emergency category work orders and their geographical location.

Dashboard Time Profiles Emergency Utilisation Scorecard Shifts Job Reports About

Filters

## Emergency Orders

01/04/2012  
  02/04/2012  
  03/04/2012  
  04/04/2012  
  05/04/2012  
  06/04/2012  
  07/04/2012

### Avg Time To Respond By Type

External Gas Escape	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	01:04:23
Priority Call	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	00:54:51
Emergency Gas Safe...	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	00:53:44

### Emergency Call Types

Emergency Gas Safety...	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	99
External Gas Escape	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	90
Priority Call	<div style="background-color: #4f81bd; width: 100%; height: 10px;"></div>	87

Avg Time To Respond by Shift

Open Emergency Call Age Profile

Order	Days Open		Order Type	Assigned To
2	6	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Larry Garcia
4	6	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Larry Garcia
52	6	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Vicente Atkinson
202	5	<div style="width: 100%; height: 10px; background-color: red;"></div>	Emergency Gas Safety C...	Larry Garcia
243	5	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Alton Quinn
271	5	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Dirk Glass
310	5	<div style="width: 100%; height: 10px; background-color: red;"></div>	Emergency Gas Safety C...	Clemente Cantrell
390	4	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Ted Gibson
426	4	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Domingo Sawyer
471	4	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Mohamed Holman
577	4	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Rufus Kaiser
651	3	<div style="width: 100%; height: 10px; background-color: red;"></div>	Emergency Gas Safety C...	Gerardo Andrade
686	3	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Morris Yarbrough
713	3	<div style="width: 100%; height: 10px; background-color: red;"></div>	Emergency Gas Safety C...	Michale Guy
733	3	<div style="width: 100%; height: 10px; background-color: red;"></div>	Priority Call	Florencio Bentley
767	3	<div style="width: 100%; height: 10px; background-color: red;"></div>	External Gas Escape	Dirk Glass
831	2	<div style="width: 100%; height: 10px; background-color: red;"></div>	Emergency Gas Safety C...	Marshall Cobb

# Sample 8 : Field Assets. Traffic Lights



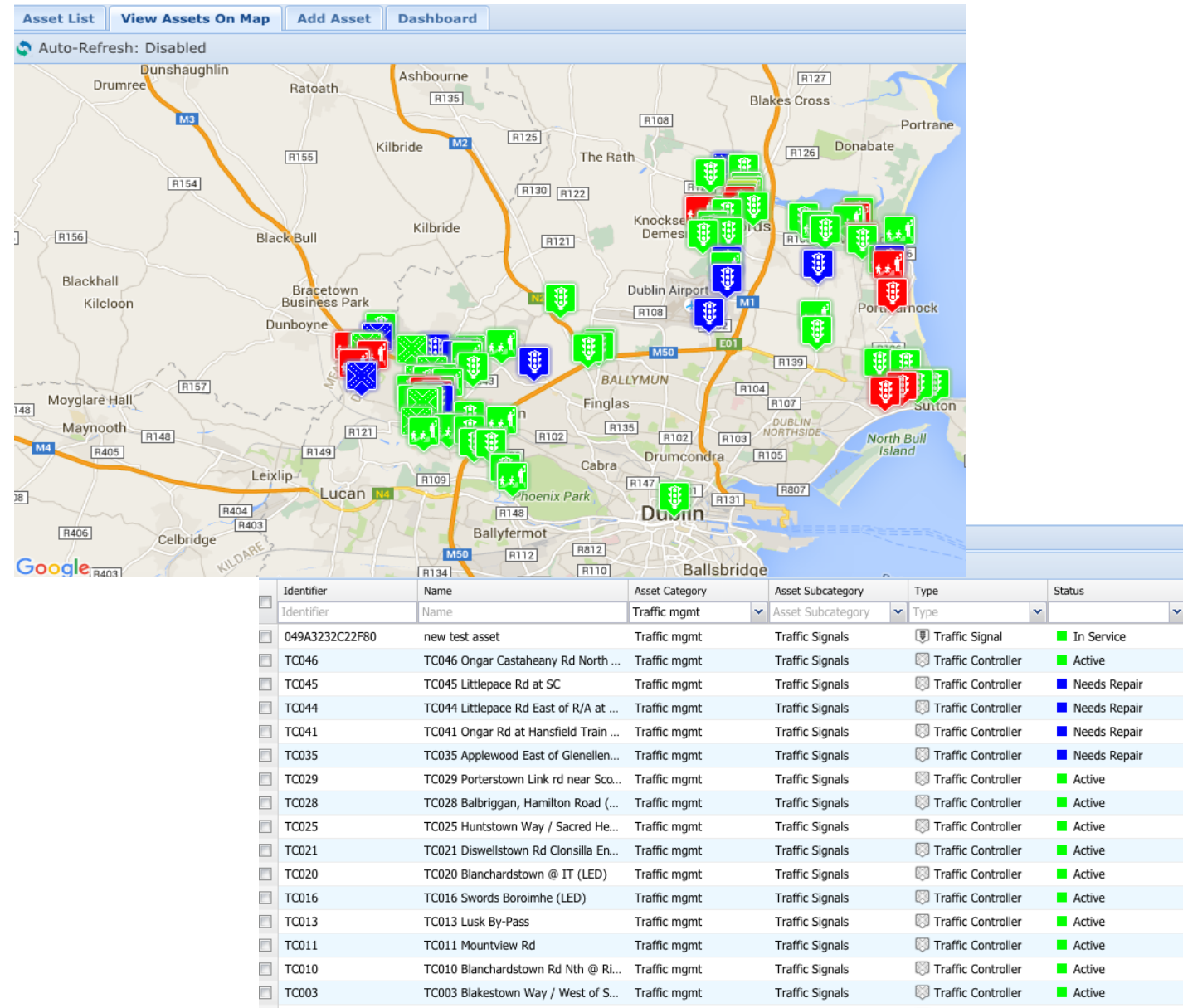
Visualisation of Asset Status on GeoPal.

Asset Status updated by IoT sensors in the field.

Asset Jobs dispatched based on Rules entered in Rules Table.

Track in Real Time:

- ✓ Asset Availability
- ✓ First Time Fix Rate
- ✓ Total Service Revenue
- ✓ Mean Time To Repair
- ✓ Mean Time Between Fails



# Move to a more Proactive and Preventative Maintenance Model

Job Scheduling  
and Dispatch

Customizable  
Mobile Forms

Mapping and  
Location

Reports and  
Accountability



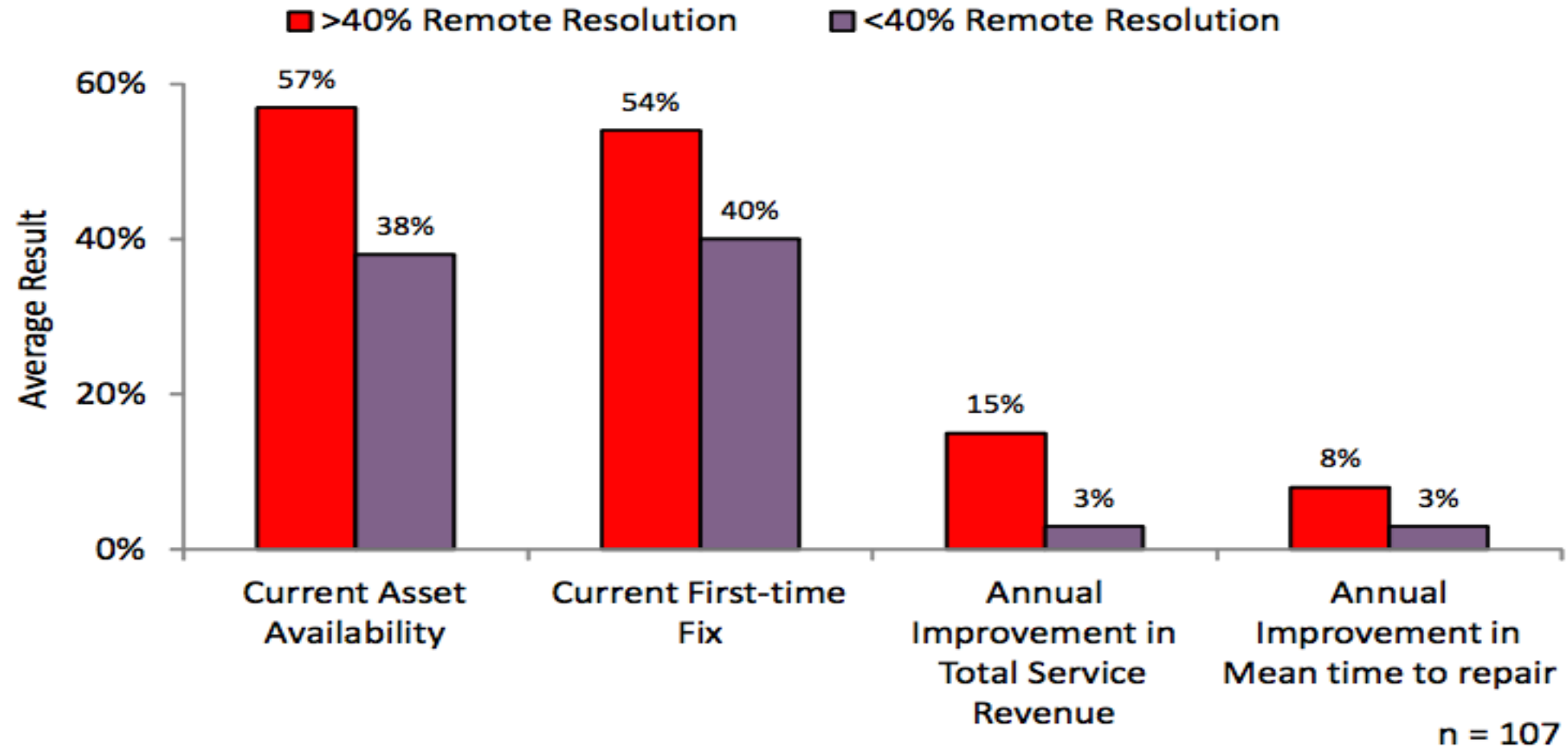
# Benefits of IoT/M2M Technology



Uses of Information Enabled via Machine / Remote Connectivity	Leaders	Followers
To alert service organization of asset failure / downtime	68%	54%
To monitor condition of asset and its parts	61%	48%
To monitor asset performance and output quality	61%	44%
To inform field technicians of failure and recommend resolution scenarios prior to dispatch	50%	44%
To monitor asset usage information	43%	35%
To provide customer with self-service information	43%	38%
To develop new revenue-specific service business models (pay per use, etc.)	36%	25%
To improve design of product	36%	27%
To improve security of asset	32%	21%
To ensure timely / accurate invoicing or billing	32%	16%

Source: Aberdeen Group, May 2013

# IoT / M2M Drives Efficiency



Source: Aberdeen Group, May 2013



## Field Workforce Management

Job Scheduling  
and Dispatch

Customizable  
Mobile Forms

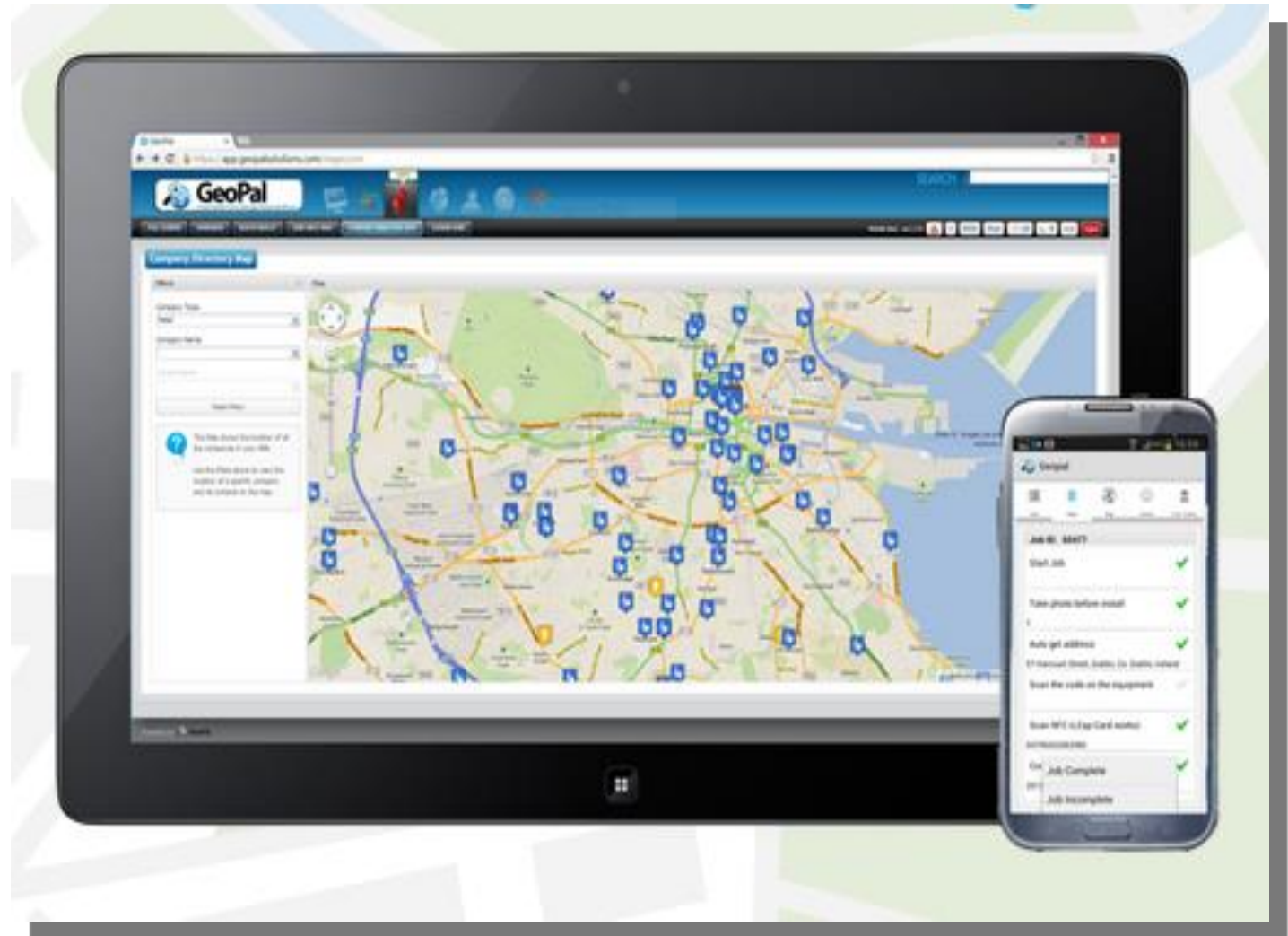
Mapping and  
Location

Reports and  
Accountability

# GeoPal Mobile Work Force Management Standard Features



- ✓ Mobile Data Capture
- ✓ Job Scheduling & Dispatch
- ✓ Location Tracking
- ✓ Time and Materials capture
- ✓ Health & Safety Compliance



# Mobile Data Capture

- Replace paper job reports with mobile forms.
- Capture job start and end times.
- Capture all parts/materials used on the job.
- Capture photos, signatures, barcodes, GPS coordinates, comments, sketches, etc.
- All job data sent to the office for immediate invoicing.



# Job location

Review Job

Edit Job

Download Files

Download 2 Excel

Download 2 Excel - Report Fields Only

Download 2 PDF

Download 2 PDF - Report Fields Only



Email as...

Print

**Info** ✕



Map data ©2015 Google Imagery ©2015, DigitalGlobe | Terms of Use | Report a map error

942136	001- Fingal Fault Template	Please confirm your Vehicle Ignition is Switched off and the Keys are removed	Yes	2015-05-05 15:55:28	Paul Doyle
942136	001- Fingal Fault Template	If No to the above give reason			
942136	001- Fingal Fault Template	Take photo if required see Knockdown/Modeling	 (from: mobile)	2015-05-05 16:14:07	Paul Doyle
		replaced 1 red koiphone optic		2015-05-05 16:08:48	Paul Doyle
		Yes		2015-05-05 16:09:00	Paul Doyle
		53.433077 -6.176915		2015-05-05 16:09:11	Paul Doyle
		 (from: mobile)		2015-05-05 16:09:14	Paul Doyle
		Yes		2015-05-05 16:10:16	Paul Doyle
		Notting or	No	2015-05-05 16:10:22	Paul Doyle
942136	001- Fingal Fault Template	IF TM is required please fill in Form 1)TM design Survey Sheet in forms section			
942136	001- Fingal Fault Template	Are the repairs completed ?	Yes	2015-05-05 16:10:27	Paul Doyle

# Job Scheduling and Dispatch



- Simple drag and drop assignment of jobs
- Different views available – planner, list, map view
- Colours indicate different jobs statuses – accepted, in progress, completed, etc.
- Worker receives all job details and workflow steps to be completed.

GeoPal  
Create Mobile Forms, Manage Mobile Workforces

SEARCH

JOB TEMPLATE ADD A JOB PLANNER DISPATCH MULTIPLE JOBS SEARCH FILL OUT JOB UPLOAD JOBS Gerard O'Keefe ver:1.15.980 ? SMS Map 5 Print Logout

No Filter Edit Add a Job Assign (0) Gantt View Grid View Map View 24 Hours Business Today Day 5 Day 7 Day Month 03/18/2015

Unassigned Jobs

Employee + Tue 03/03

Job Identifier: 90467  
Job Template: Household Waste Survey  
Address: THISTLE COTTAGE, CLOONSHANVILLE  
Company: Aeroflot Russian Airlines

Job Identifier: 90466  
Job Template: Household Waste Survey  
Address: CLOONSHANVILLE, FRENCHPARK, CO.  
Company: Aeroflot Russian Airlines

Job Identifier: 90465  
Job Template: Household Waste Survey  
Address: CLOONSHANVILLE, FRENCHPARK, CO.  
Company: Aeroflot Russian Airlines

Job Identifier: 90464  
Job Template: Household Waste Survey  
Address: CLOONSHANVILLE, FRENCHPARK, CO.  
Company: Aeroflot Russian Airlines

Job Identifier: 90463  
Job Template: Household Waste Survey  
Address: CLOONSHANVILLE, FRENCHPARK, CO.  
Company: Aeroflot Russian Airlines

Eoin Mc Gowan

Job Identifier: 822089  
Template: Vehicle Check (1)  
Address: 221b Baker Street, London, S  
Company: ACME

Job Identifier: 822092  
Job Template: Drain Maintenance  
Address: 221b Baker Street, London, S  
Company: ACME

Niamh ODriscoll

Job Identifier: 822047  
Template: Vehicle Check (1)  
Address: 221b Baker Street, L  
Company: ACME

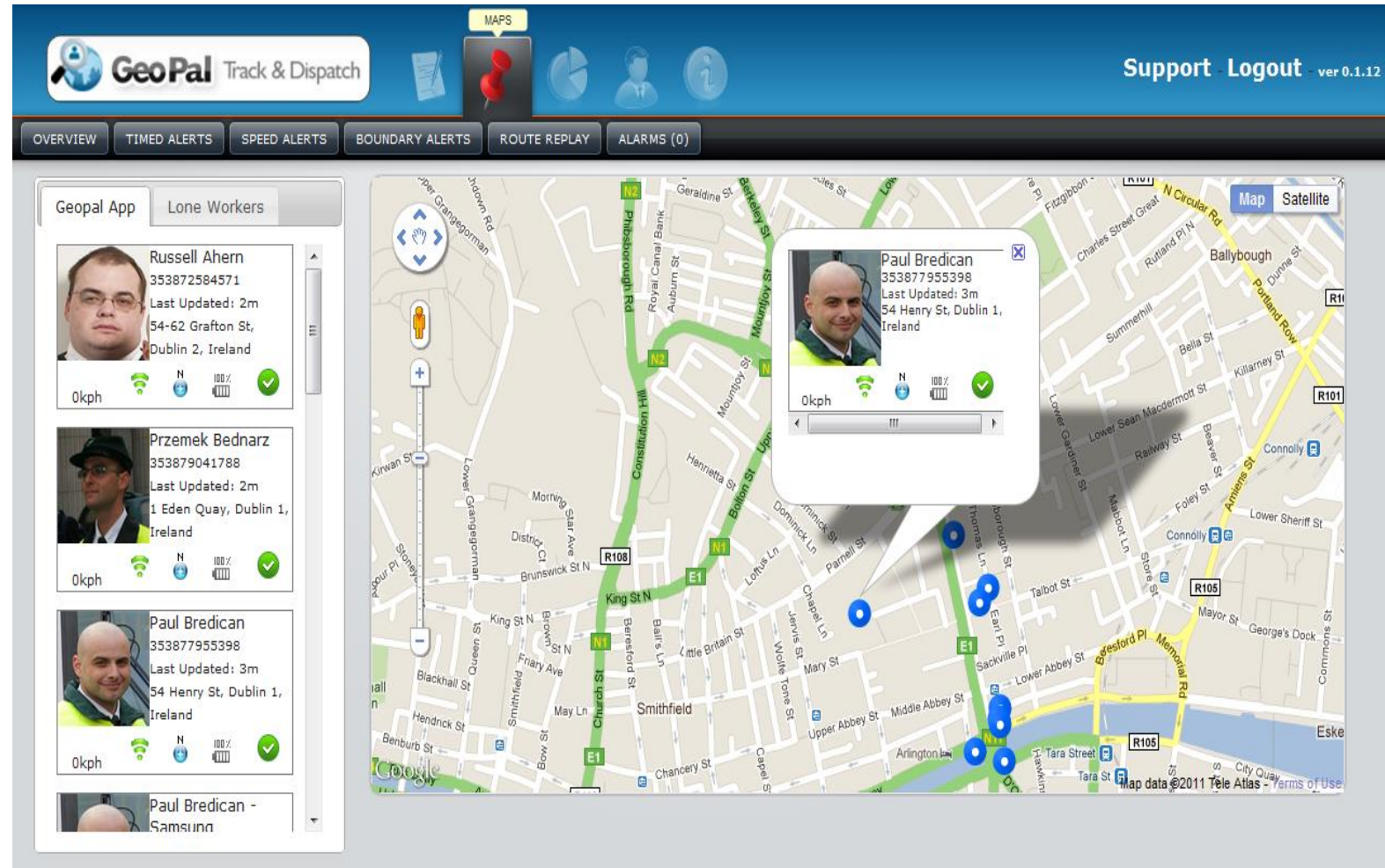
Cleaner One

Job Identifier: 822103  
Job Template: FM - Accomodation Maintenance  
Address: 12-13 Temple Lane South, D2, Ireland  
Company: ACME

Unassigned 43 Assigned 3 Rejected 0 Completed 0 Deleted 0 In Progress 1 Accepted 3  
Incomplete 0 Review 1 Archive 0 Linked 0 Cancelled 0 Pending 0 Planned 1

# Location Tracking

- View the real-time location of workers
- See the jobs they are working on and the status of each job
- Assigned jobs to the worker closest to the job location
- See if the worker is logged in to the mobile app.



The screenshot displays the GeoPal Track & Dispatch web interface. The top navigation bar includes the GeoPal logo, the text "Track & Dispatch", and a "MAPS" button. On the right side of the top bar, there are links for "Support" and "Logout" and the version number "ver 0.1.12". Below the top bar is a secondary navigation menu with buttons for "OVERVIEW", "TIMED ALERTS", "SPEED ALERTS", "BOUNDARY ALERTS", "ROUTE REPLAY", and "ALARMS (0)".

The main content area is divided into two sections. On the left, there is a sidebar titled "Geopal App" and "Lone Workers". It lists three workers with their profiles, contact information, and status indicators:

- Russell Ahern**: 353872584571, Last Updated: 2m, 54-62 Grafton St, Dublin 2, Ireland. Status: 0kph, signal strength N, battery 100%, and a green checkmark.
- Przemek Bednarz**: 353879041788, Last Updated: 2m, 1 Eden Quay, Dublin 1, Ireland. Status: 0kph, signal strength N, battery 100%, and a green checkmark.
- Paul Bredican**: 353877955398, Last Updated: 3m, 54 Henry St, Dublin 1, Ireland. Status: 0kph, signal strength N, battery 100%, and a green checkmark.

At the bottom of the sidebar, there is a partially visible entry for "Paul Bredican - Samsung".

The right section of the interface shows a map of a city street grid. A pop-up window is open over a location, displaying the profile of Paul Bredican, including his photo, name, phone number, last update time, address, and status indicators (0kph, signal strength N, battery 100%, and a green checkmark). The map also shows several blue location markers and a route highlighted in green.



# Time and Materials Capture



- On the mobile app the Worker clicks “start job” and “end job” to record time spent on job.
- Can also “pause job” and return later.
- On the mobile app the worker selects the parts & materials used on the job.
- Customer can add signature to confirm agreement.

