

MobiWin® Winter

Management System for Road Maintenance Services



B&M Systemutveckling AB

Why Fleet management for road maintenance ?

Reducing cost

Support operational activities

Less administration



MobiWin®



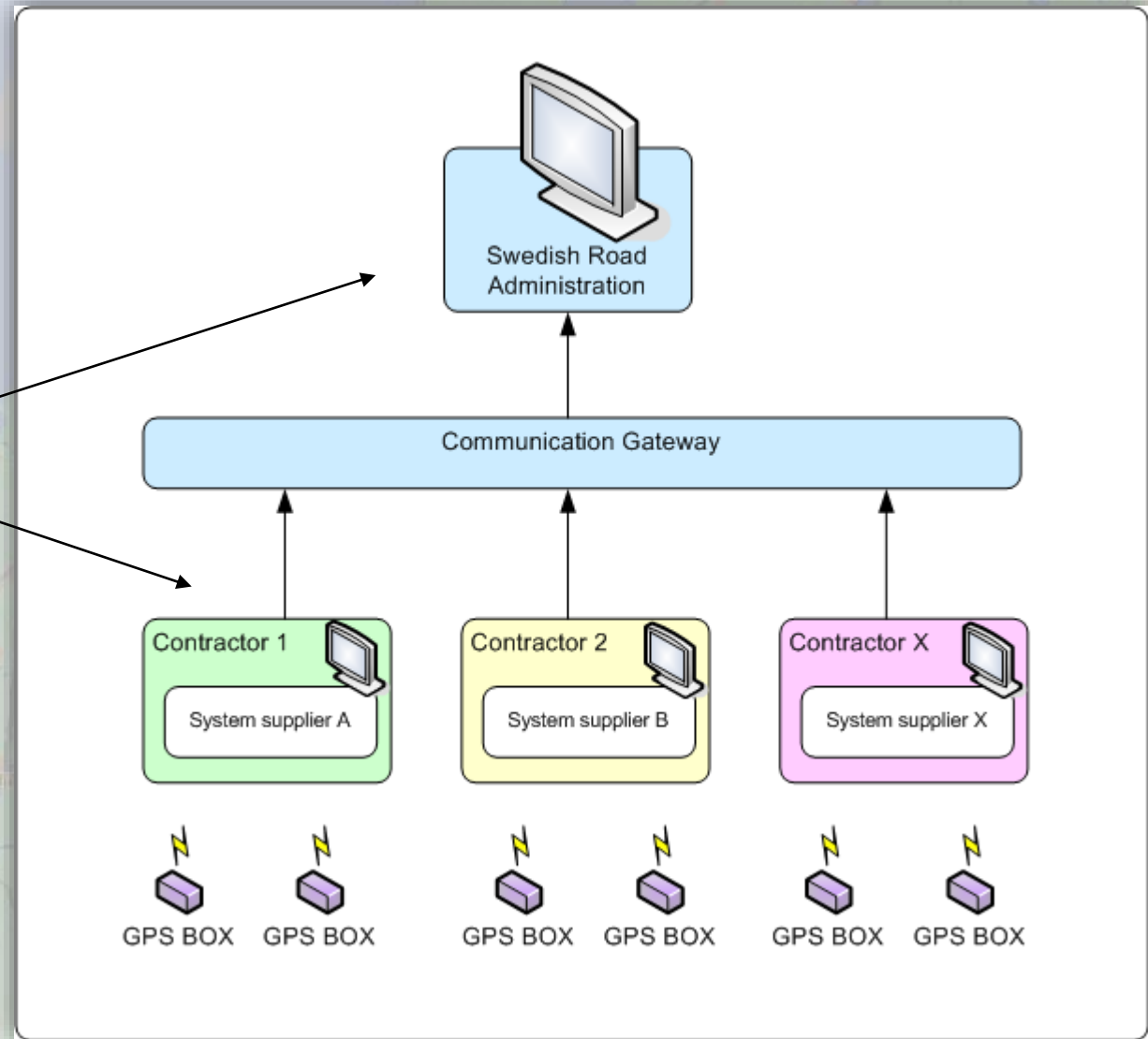


MobiWin®

Example of applications

- **Basic AVL service** (Automatic Vehicle Location)
- **Quality Assurance** (actions carried out, on routes)
- **Economy, GPS based invoicing** (time, km, material)
- **Field Service/ Road Inspections, work order management**
- **Extended management services** (call out, navigation)
- **Citizen interaction**
- **Route optimization**
- **Dynamic mode of work** (based on route forecasts)
- **Real-time reporting to customer** (data feed)

MobiWin®
Winter



Support operational activities

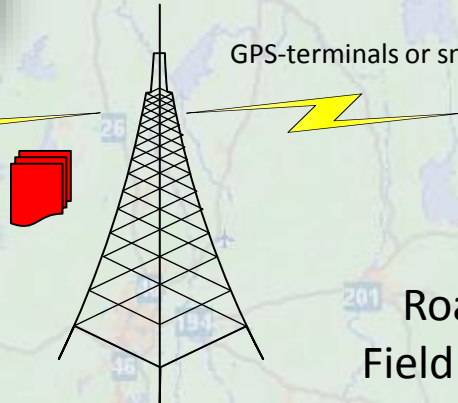
Real-time management

Supervisor/manager

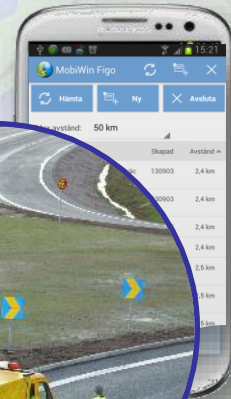


Secure mobile communication

GPS-terminals or smartphones



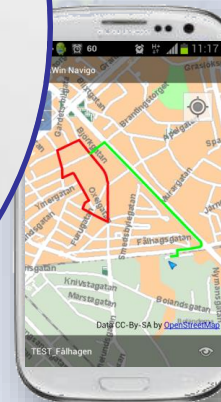
Road inspectors & Field Service Engineers



Weather Stations

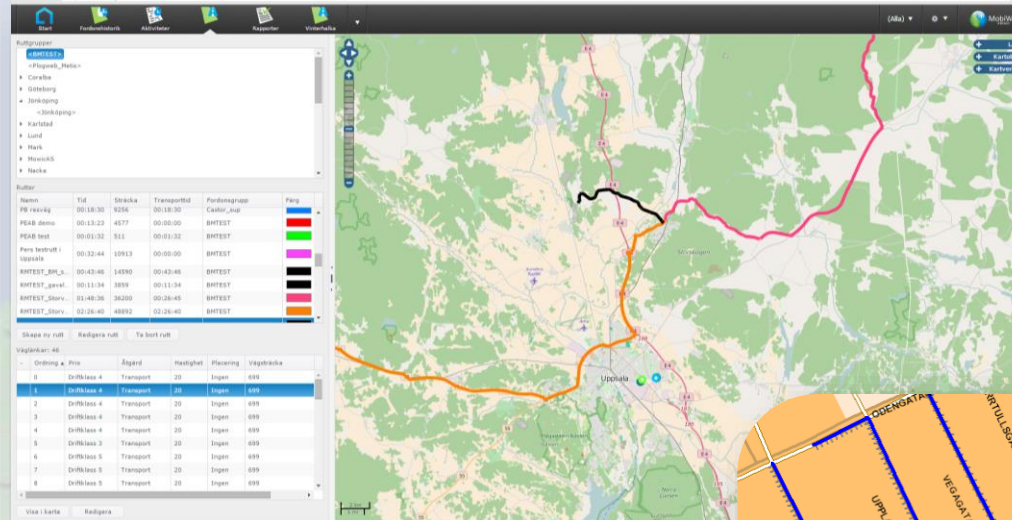


Winter activities



Reducing cost

Plan: Routes, hotspots, road priorities etc

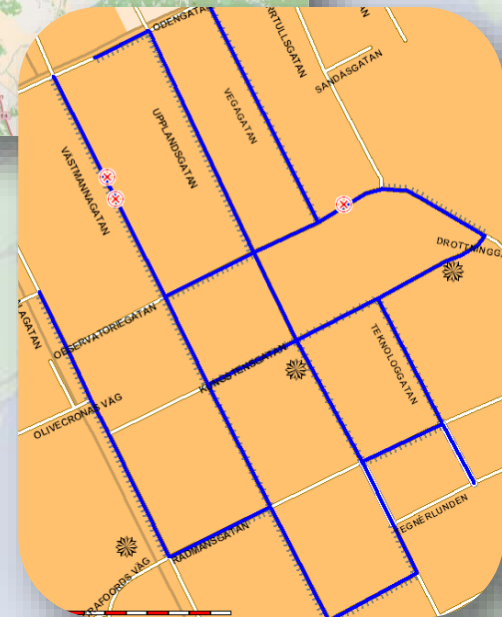


Id	Titel	Sträcka	Transporttid	Fordonsgrupp	Färg
1	FB reaväg	00:18:30	9256	00:18:30	Castor_kup
2	PEAR demo	00:13:23	4577	00:00:00	BHTEST
3	PEAR test	00:09:32	911	00:09:32	BHTEST
4	Hovs testströ	00:32:44	10913	00:00:00	BHTEST
5	BHTEST_EPLA	00:43:46	14590	00:43:46	BHTEST
6	BHTEST_gavel	00:11:34	899	00:11:34	BHTEST
7	BHTEST_slavn	01:48:26	26220	00:26:40	BHTEST
8	BHTEST_slavn	02:26:40	48892	02:26:40	BHTEST

Skapa nr	Radgata nr	Ta bort rutt
Vägarbän: 46		
0	DvR/class 4	Transport 30 Ingen 699
1	DvR/class 4	Transport 30 Ingen 699
2	DvR/class 4	Transport 30 Ingen 699
3	DvR/class 4	Transport 30 Ingen 699
4	DvR/class 3	Transport 20 Ingen 699
5	DvR/class 3	Transport 20 Ingen 699
6	DvR/class 3	Transport 20 Ingen 699
7	DvR/class 3	Transport 20 Ingen 699
8	DvR/class 3	Transport 20 Ingen 699

Tools

- Plan/optimize Routes and Work zones.
- Calculate time and resources needed
- Calculate cost
- Create driver instructions



Support operational activities

Less administrations

Field Service, deviation management, citizen interaction

Client

Follow the case in real-time on the web
MobiWin WebClient™



Contractor

Quality check with GPS data.
Digital work order to subcontractor

MobiWin Primo™ eBoda



Citizen/ Clients/ others

Error report via public web site
MobiWin WebReporter™



Subcontractor

Acknowledge work order and returns a "finished" report with photo.

Field service

Deviation / Error

Support operational activities

Less administrations

Road Inspector functionality

The Road Inspector runs the MobiWin Figo™ app in a GPS equipped tablet or a smart phone. Create, receive, fetch and navigate to action points



Typ	Skapad
Besiktning\Vägutrustning\Balkräcken	130903
Besiktning\Vägutrustning\Vägmärken	130903
Besiktning\Belagd väg\Friktion	130903
Besiktning\Belagd väg\Stödkanten	130903
Besiktning\Vägutrustning\Vägmärken	130903
Besiktning\Vägutrustning\Vägmärken	130903
Besiktning\Sidoområde\Rent vägområde	130903
Besiktning\Vägutrustning\Vägmärken	130903
Besiktning\Belagd väg\Sprickor	130903

Ny åtgärds punkt

Max avstånd: 50 km

Typ: Funktionsbrist

Stöld

Tillägsarbete Ä.

Trafikskada

Skadegörelse

Inventering

Besiktning

VA

Typ: Funktionsbrist(Vinter/Snöröjning)

Beskrivning:

Snödjup:

Sikt längd:

Ojämnhet:

Bilder före: 1/1

Lägg till: [Camera] [Gallery]

Bilder efter:

Lägg till: [Camera] [Gallery]

[Skapa] [Skapa och åtgärda]

Road Inspector functionality

The supervisor Have all the information regarding the action points: finished, open and historical.



The screenshot shows the 'MobiWin Primo - Åtgärds' web application. The interface includes a navigation menu on the left with categories like 'Funktionsbriest', 'Stöld', 'Tilläggsarbete ATA', 'Trafikskada', 'Skadegörelse', 'Inventering', 'Besiktning', 'VIA', 'Åsa', 'Beläggning', 'Förbättringsförslag', 'Nya kartan', and 'Övrigt'. A central table lists action points with columns for 'Namn', 'Nummer', and 'Senaste position'. Below the table, there are search filters for 'Åtgärdsnummer' and 'Åtgärdsdatum'. At the bottom, a detailed table lists specific action points with columns for 'Id', 'Objekttyp', 'Väglinje', 'Skapad', 'Upprättare', 'Beskrivning', and 'Åtgärdad'.

Namn	Nummer	Senaste position
DW_castor	-	-
EA_castor	EA_castor	2013-10-05 15:10:03
JP_castor	JP_castor	-
JS_castor	JS_castor	2013-11-22 13:15:05
KF_castor	KF_castor	2013-11-23 12:27:03
MD_castor	MD_castor	-
NA_castor	NA_castor	-

Id	Objekttyp	Väglinje	Skapad	Upprättare	Beskrivning	Åtgärdad
189	Funktionsbriest/Vägutrustning/ID...		2013-11-06 09:28:16	PB_castor		-
190	Besiktning/Sidoanläggning/Uh...	veddesta	2013-11-06 09:57:22	PB_castor		-
191	Skadegörelse/Sidoanläggning/P...		2013-11-06 12:44:06	PB_castor	Felaktig skylt	-
192	Funktionsbriest/Vinter/Snörening		2013-11-12 09:19:37	Kontor	Test skapa ny punkt från Primo	-
193	Stöld/Vinter/Sandlådor		2013-11-12 13:51:57	JR_castor	stulen sandlådor utanför kristallen	-

The screenshot shows the 'MobiWin' documentation interface for a specific road action point. It includes a header with the 'MobiWin' logo and the title ' Dokumentation av åtgärd'. Below this, there is a section for 'Åtgärdsnummer' (4171) and 'Åtgärdsdatum' (2013-11-25). The interface also displays a map of the location and a list of 'Åtgärdsaktiviteter' (action activities) with their respective dates and descriptions.



MobiWin®

Less administrations

Reports and analyses

Vehicle history, Address history, Zone history, Route history, Financial, Depo, Customized reports ...

The screenshot displays the MobiWin software interface. On the left, a table lists vehicles and their activity status for February 18th at 15:01. The central map shows the location of the vehicles in a rural area. Overlaid on the interface are three report documents:

- Svevia Fakturaunderlag:** A document with a table of activities.

Idrottsid:	Reparationsid:
Kramfors	2008-12-01 00:00:00 - 2009-01-01 00:00:00
Martin Komstadus	Arbetsid:
- Saftrappport:** A summary report with the following data:

Vegetationsområde:	Arbetsid:	Parallell:
502	2008-03-17 00:00	2008-03-18 20:00
287	0	0
18	0	0
0	0	0
82	0	0
269	0	0
226	0	0
608	0	0
Totalt	84,2	0
- Dagrapport rutaktiviteter:** A report with a table of routes and activities.

Idrottsid:	Datum:	Start:	Slutt:	Sluttpunkt:	Förskrivningskod:
P11.1 DBD009	2008-12-02	15:53	23:59	Snöröjning	Plogning
P11.1 DBD009	2008-12-03	00:00	06:12	Snöröjning	Plogning
P11.1 DBD009	2008-12-03	09:26	13:38	Snöröjning	Överg Körning Plogning
P11.1 DBD009	2008-12-03	22:23	23:59	Överg	Körning
P11.1 DBD009	2008-12-04	00:00	05:05	Överg	Körning
P11.1 DBD009	2008-12-04	11:35	12:02	Överg	Körning
P11.1 DBD009	2008-12-04	11:35	13:16	Överg	Körning
P11.1 DBD009	2008-12-04	11:35	13:16	Överg	Körning

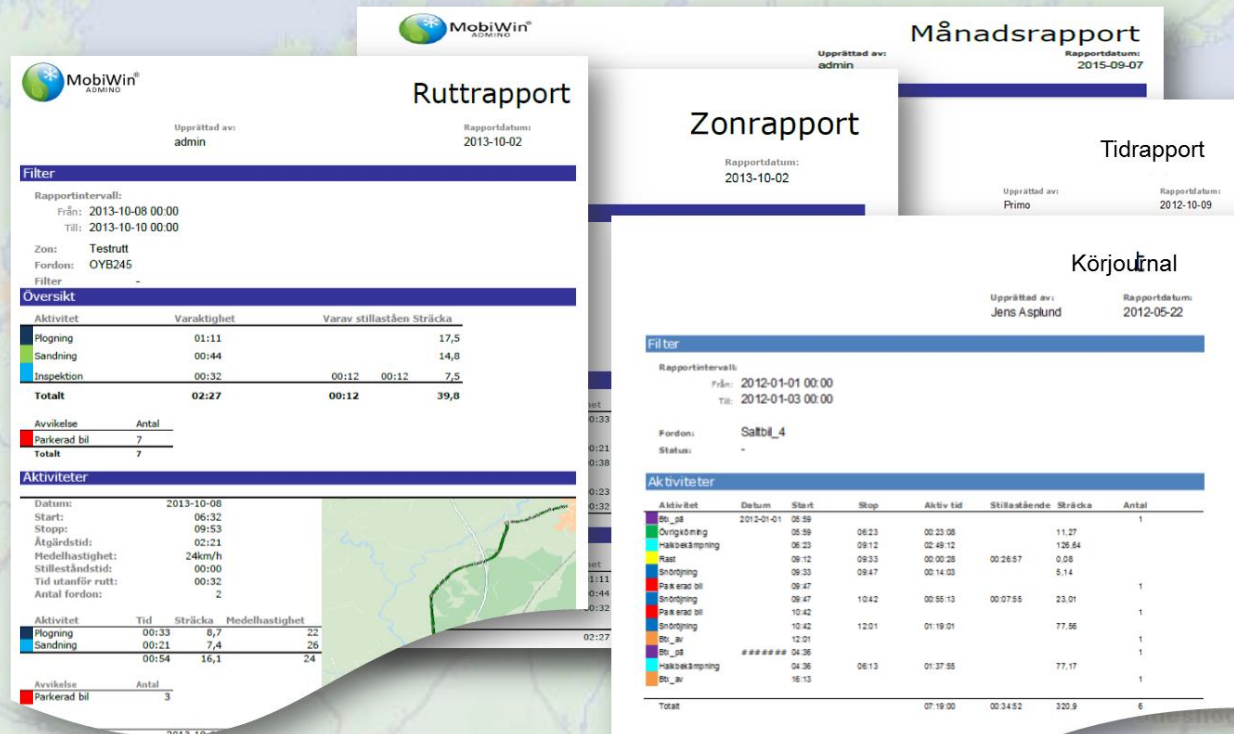


Less administrations

Quality Control- automatic reports

Full control of actions on road links, time, mileage and material consumed.

Automatic scheduled email reports



The image displays several overlapping screenshots of the MobiWin software interface, showing various reports and data tables.

Ruttrapport (Route Report):

- Upprättad av: admin
- Rapportdatum: 2013-10-02
- Filter: Rapportintervall: Från: 2013-10-08 00:00, Till: 2013-10-10 00:00; Zon: Testrutt; Fordon: OYB245
- Översikt table:

Aktivitet	Varaktighet	Varav stillastän	Sträcka
Plogning	01:11		17,5
Sandning	00:44		14,8
Inspektion	00:32	00:12 00:12	7,5
Totalt	02:27	00:12	39,8

- Avvikelse table:

Avvikelse	Antal
Parkerad bil	7
Totalt	7

- Aktiviteter table:

Aktivitet	Tid	Sträcka	Medelhastighet
Plogning	00:33	6,7	22
Sandning	00:21	7,4	26
	00:54	16,1	24

Zonrapport (Zone Report):

- Rapportdatum: 2013-10-02

Månadsrapport (Monthly Report):

- Upprättad av: admin
- Rapportdatum: 2015-09-07

Tidsrapport (Time Report):

- Upprättad av: Primo
- Rapportdatum: 2012-10-09

Körjournal (Logbook):

- Upprättad av: Jens Asplund
- Rapportdatum: 2012-05-22
- Filter: Rapportintervall: Från: 2012-01-01 00:00, Till: 2012-01-03 00:00; Fordon: Saltbil_4; Status: -
- Aktiviteter table:

Aktivitet	Datum	Start	Stop	Aktiv tid	Stillastående	Sträcka	Antal
St_bil	2012-01-01	05:59	06:23	00:23:08			1
Ovrigt ömning		06:59	08:23	02:48:12			11,27
Halvbesättning		08:23	09:12	00:00:28	00:26:57		136,64
Rast		09:12	09:33	00:00:28			0,05
Snöröjning		09:33	09:47	00:14:03			5,14
Parkerad bil		09:47	10:42	00:55:13	00:07:55		23,01
Snöröjning		09:47	10:42				1
Parkerad bil		10:42	12:01	01:19:01			77,56
Snöröjning		10:42	12:01				1
St_bil		12:01	04:36				1
St_bil		04:36	06:13	01:37:55			77,17
Halvbesättning		04:36	06:13				1
St_bil		16:13					1
Totalt				01:19:00	00:34:52	320,9	6

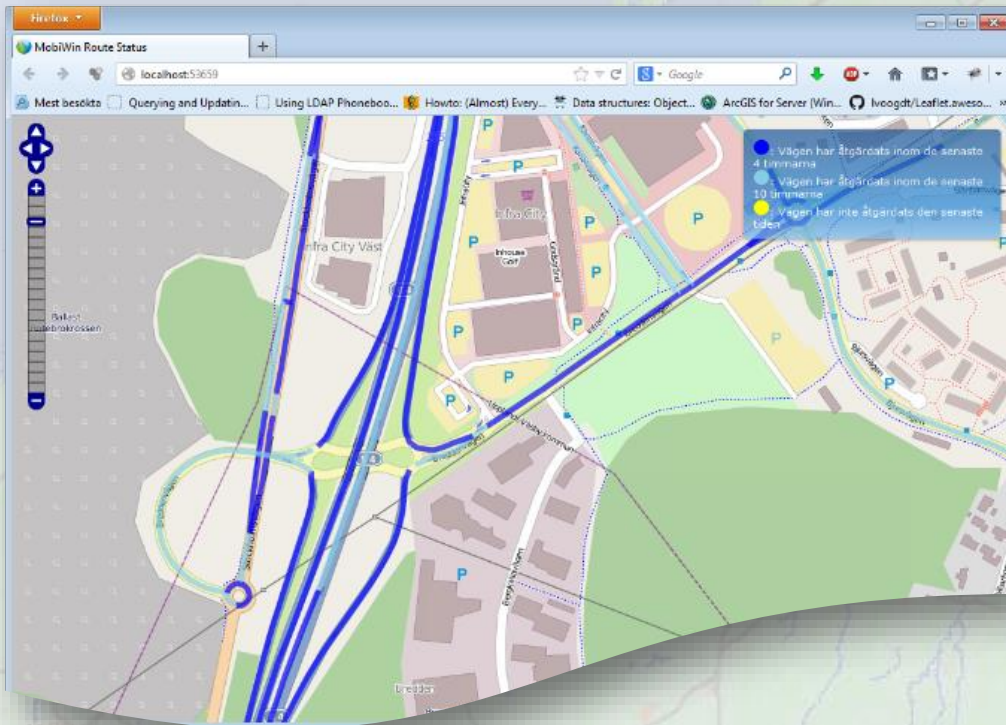
Less administrations

The Plough Web Web map for "public" use

Citizen

Follows road service activities in real time

MobiWin PlogWebben™



End of presentation



B&M Systemutveckling AB