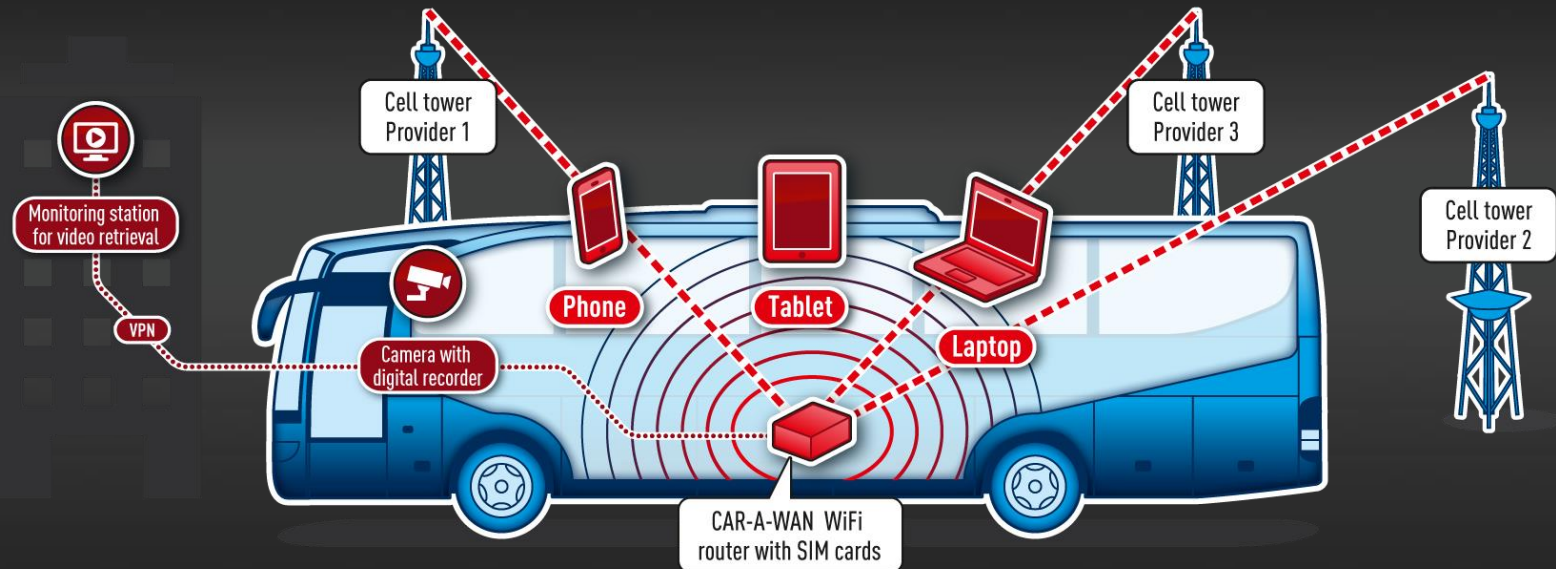




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Home of the CAR-A-WAN



## Florian Kempff IPmotion GmbH, Heuchelheim, GER

May 2021

"Green Transport in Germany and Denmark - Solutions for the Future of Mobility"



## What drives IPmotion?

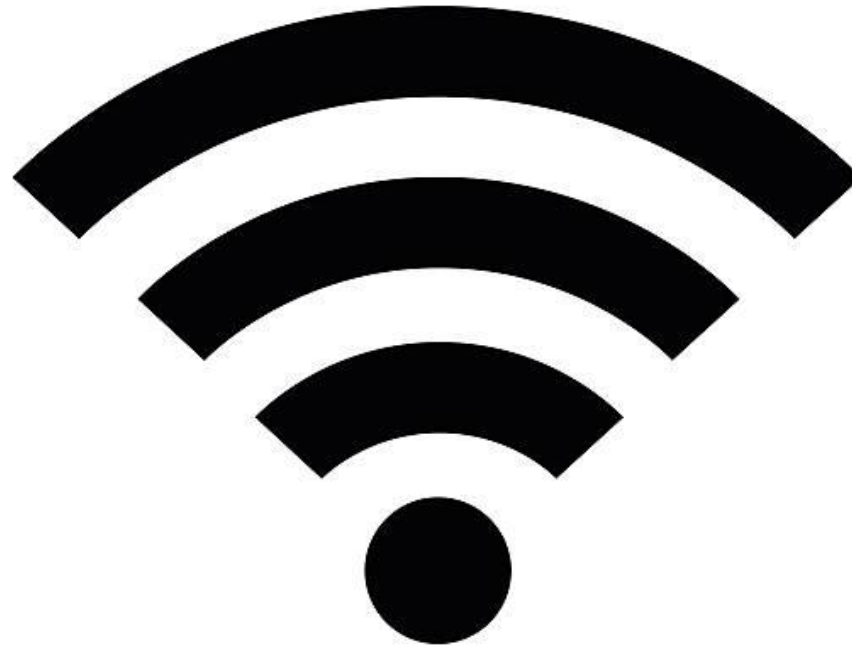
- ▶ Inventiveness and the ability to listen.
- ▶ We have been making mobile routers for 21 years.
- ▶ We manufacture our own router hardware and program our own fully remote maintainable operating system based on Linux.
- ▶ We avoid electrical waste by designing appliances to be modular and durable.
- ▶ Our customers are farmers, fire brigades, municipalities and transport companies, whom we advise and digitize.
- ▶ We prefer long-lasting customer relationships.
- ▶ We enjoy our work because our customers see the success immediately, just like when they clean their windows.



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and ...





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## Main product for light vehicles



**SCANIA**

Daimler Buses  
**EvoBus**



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## Main product for heavy vehicles



**VELKOMMEN TIL  
GRATIS WI-FI**



Bruger du Midttrafiks gratis wi-fi, er det på egen risiko. Forbindelsen er ikke krypteret. Dine elektroniske adresseoplysninger bliver registreret efter logningsbekendtgørelsen.

**GÅ ONLINE >>**



**STADLER**



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## Device overview

The screenshots show the IPmotion web interface with the following components:

- ZUGÜBERSICHT (Overview):** Displays a map of the rail network with various lines and stations. A sidebar on the left shows navigation options: Zugübersicht and Inventar.
- INVENTARISIERUNG (Inventory):** A table listing train units with their status, serial number, train number, and carriage details.
- Device Details (Zug 172a):** A pop-up window showing detailed information for a specific train unit.
- Summary Statistics:** Located at the bottom of the overview screen, showing metrics like 'Züge: 35', 'Router: 34', 'Access Points: 131', and 'Tagesvolumen: 648GB'.

Status	Seriennummer	Zugnummer	Wagen	Bemerkung
▲	24583	156	1	Alarm seit 01.05.2018 14:32
▲	24594	158	9	Alarm seit 01.05.2018 06:14
▲	35732	314	5	Alarm seit 01.05.2018 10:57
●	36478	156	5	Ohne Fehler seit 16.04.2018
●	20483	156	9	Ohne Fehler seit 16.04.2018
●	20592	158	1	Ohne Fehler seit 16.04.2018
●	41456	158	5	Ohne Fehler seit 16.04.2018
●	35673	314	1	Ohne Fehler seit 16.04.2018
●	35674	314	9	Ohne Fehler seit 16.04.2018
●	45260	327	1	Ohne Fehler seit 16.04.2018
●	20194	327	5	Ohne Fehler seit 16.04.2018
●	23452	327	9	Ohne Fehler seit 16.04.2018
⚠	22400	303	1	Wartung, Job 4511/3
⚠	22401	304	5	Wartung, Job 4512/3

**Zug 172a Details:**

- Routernummer: 345123
- OS Version: 14.5.35a
- IP-Adresse: 172.45.31.56
- Letzer Status: active (14:37 Uhr)
- Nutzeranzahl: 184
- Bandbreite: 237,5 Mbit/s

**Summary Statistics:**

- Züge: 35
- Router: 34
- Access Points: 131
- Tagesvolumen: 648GB





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# Made easy: Router-Admin

[Dashboard](#)

[Routing](#)

[IP Configuration](#)

[Dial In Settings](#)

[DHCP Configuration](#)

[Dynamic Poweroff](#)

[Modem Settings](#)

[Port Redirections](#)

[Maintenance](#)

[Wireless Settings](#)

[Documentation](#)

## DASHBOARD

### STATUS MONITOR

System	Module 1	Module 2	Module 3
Firmware	1.00.02590-451		
OEM ID	none		
Platform ID	x86apu2		

### MODULE 1

Sim Card Slot:

IP Address:

Dial Status:

WAN Connect Type:

Network Operator Name:

Network Registration State:

### MAP



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# Electronic ticket with WLAN check in be out



Benutzername

\_\_\_\_\_

Passwort

\_\_\_\_\_

Login

Version: 1.0.4 N (80)



28.11.2016 - 18:05:23



ciboTIX-Status

-

Check-in

-

Dauer

-

WLAN-Status

Verbunden mit ciboTIX

Für Check-in klicken



28.11.2016 - 17:55:54



ciboTIX-Status

ciboTIX aktiv

Check-in

28.11.2016 - 17:28:29

Dauer

27 min, 22 sec

WLAN-Status

Verbunden mit ciboTIX





# Hardware

- ▶ System design with cell modems and Wi-Fi PCIe cards
- ▶ Intelligent routing WWAN (4G/4.5G/5G prep) / LAN / WLAN
- ▶ Data hub for CAN data, e-ticketing
- ▶ High isolation software virtualization platform
- ▶ Technical Platform
  - Very powerful: AMD G-Series, 1 GHZ system clock, 4 GB RAM
  - vibration- and shock-resistant, housing completely made of aluminium
  - Temperature insensitive, passive and active ventilation concept
  - quickly ready for use, 60 seconds
  - with low power consumption, 11W
  - long operating life and long-term availability, currently EoL of components for 2024
- ▶ Antenna connectors in N/(SMA)/FAKRA/QLS/(1.5-3.5), color coded



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## Contact



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FAX +49 641 350 999 90

Mobil +49 178 514 98 77



## Why do you use Martin Luther on the medal?

- ▶ In 1521 Martin Luther is summoned by the Emperor to the Diet of Worms. Luther does not recant "his books" and is taken to Wartburg Castle for safety by the Elector Frederick the Wise.
- ▶ Our company is located in Central Hesse. We sometimes feel like the reformer Martin Luther when we critically question everything.
- ▶ When we go for a walk in Central Hesse, there are hiking trails everywhere in memory of Martin Luther that point to his way to Worms.
- ▶ [Lutherweg in Hessen e.V. \(lutherweg1521.de\)](http://lutherweg1521.de)