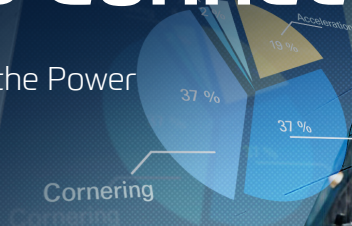


ZF Bus Connect



Connecting You to the Power
of Vehicle Data



SPEED



LIVEVIEW

Model



Climate

OUTDOOR

34.00

17:01 PM

OUTDOOR

OUTDOOR

ZF Bus Connect

Let Data Drive Your Decisions

All bus operations from manufacturing and fleet management to servicing can be complex and challenging. That's why we developed ZF Bus Connect, digital solution that transforms data into insights. A solution for cost reduction, improved safety and increased uptime.

ZF Bus Connect for manufacturers, bus fleets and service providers

For bus manufacturers, ZF Bus Connect means seamless transition to e-mobility. Fleet managers gain valuable insights into fleet performance, enabling them to boost uptime, cut operating costs, and enhance safety and comfort of both passengers and drivers. In the era of software-defined and electric vehicles, coupled with a declining number of technicians, workshops are facing new challenges. Our diagnostic solutions not only save time but also guarantee compliance with service contracts.



Check out the ZF Bus Connect video

 zfbusconnect.com

Vision

**We shape a world
of seamless and efficient
bus operation**

Mission

For a sustainable future:

We empower bus operators, manufacturers and workshops to optimize fleet performance, uptime and safety based on connectivity, data analytics and vehicle knowledge.

Our Solutions to Your Challenges



ZF Bus Connect Manufacturer

- € Save millions of EUR for development costs
- € Improve warranty management with data-driven decisions
- € Comply with electric bus regulations and receive critical data in real time



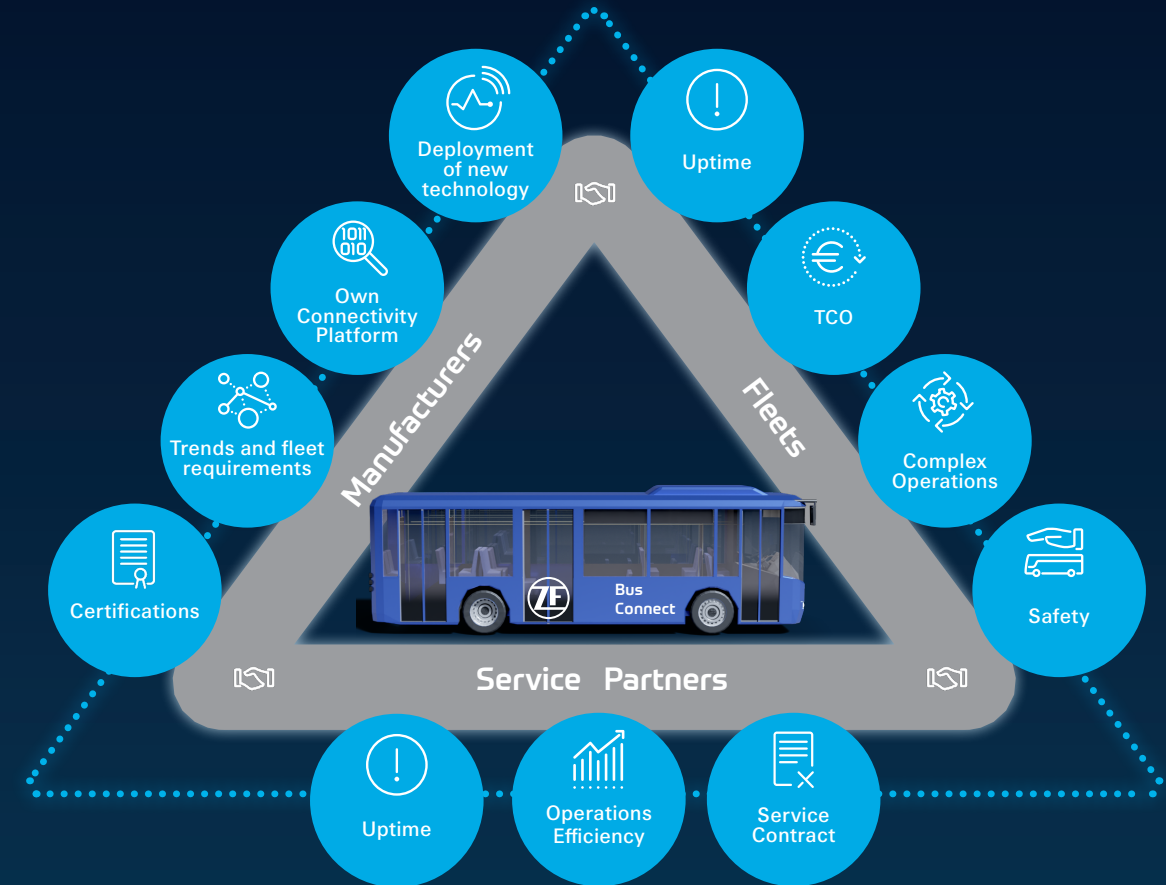
ZF Bus Connect Fleet

- € Reduce fuel consumption by 3%
- € Cut down hazardous driving events by more than 50%
- € Increase passenger comfort and safety

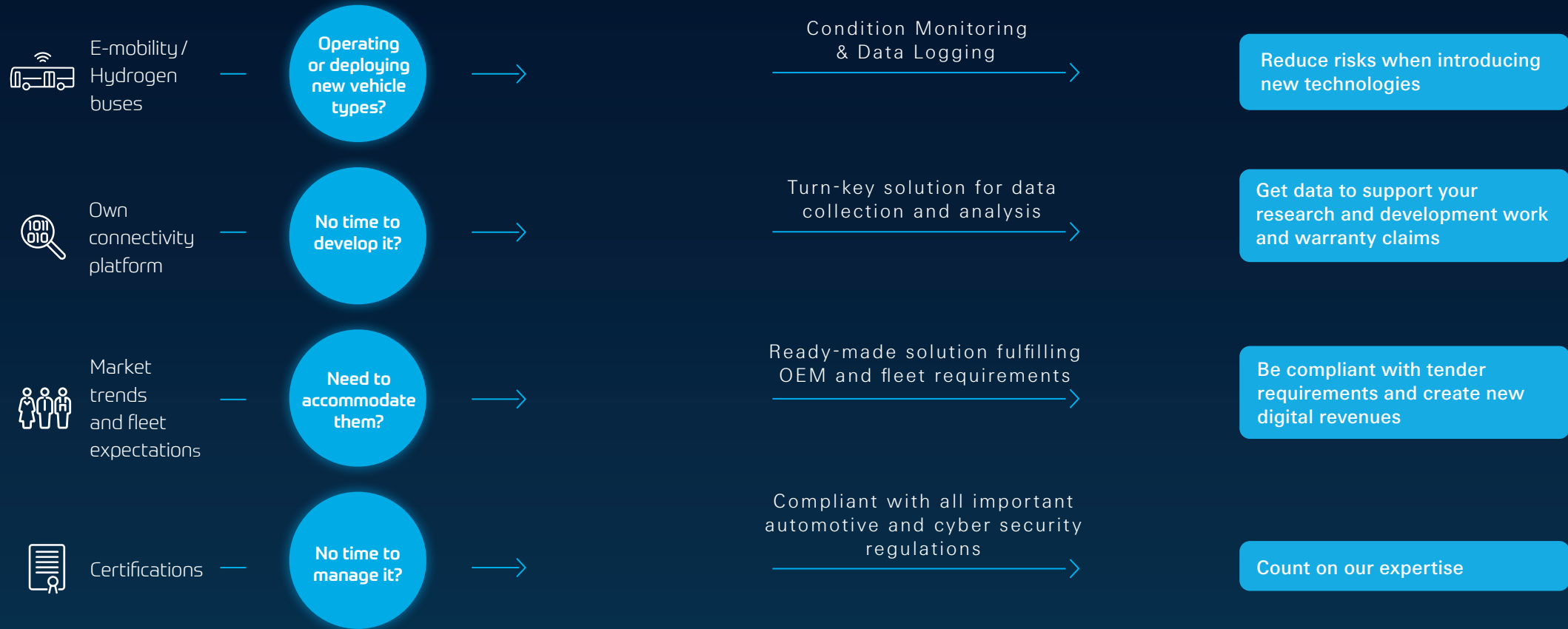


ZF Bus Connect Service

- € Avoid gearbox breakdown and save up to 12.000 EUR per incident
- € Increase efficiency in managing repairs



Manufacturer challenges



Karsan Reference



“From our perspective, ZF Bus Connect is a great connectivity solution helping both – manufacturers and fleets. It is key for us to deploy new vehicles for safe operation, especially electric or hydrogen buses. This is where ZF Bus Connect supports us in data logging, diagnostics and condition monitoring. So we are aware if any trouble occurs or might occur.

On top of that ZF helps us to comply with local fleet tenders.”

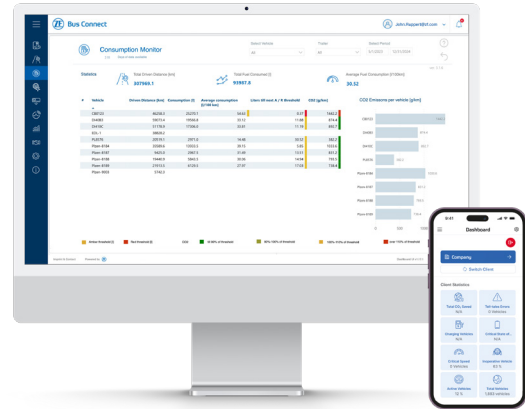
Kubilay Dinçer,
After Sales And Spare Parts Director, Karsan

Key Benefits

- Deployment of new vehicles in a secure way
- Data logging
- Condition monitoring

ZF Bus Connect Manufacturer Package

Customizable features for unique business challenges



ZF Bus Connect Manufacturer

- Advanced data logging
 - Warranty/claim assessment
 - R&D
 - Enable Predictive and proactive service and maintenance
- New revenue streams and business models
- Market standards and compliance
- Secure by design

Operations

Reduce TCO by increasing operations efficiency

	Live View	✓	Real-time monitoring of fleets, vehicles and driving routes
	E-logbook	✓	Driving history and replay of routes
	Consumption Monitor	✓	Overview of fuel and energy consumption

Uptime

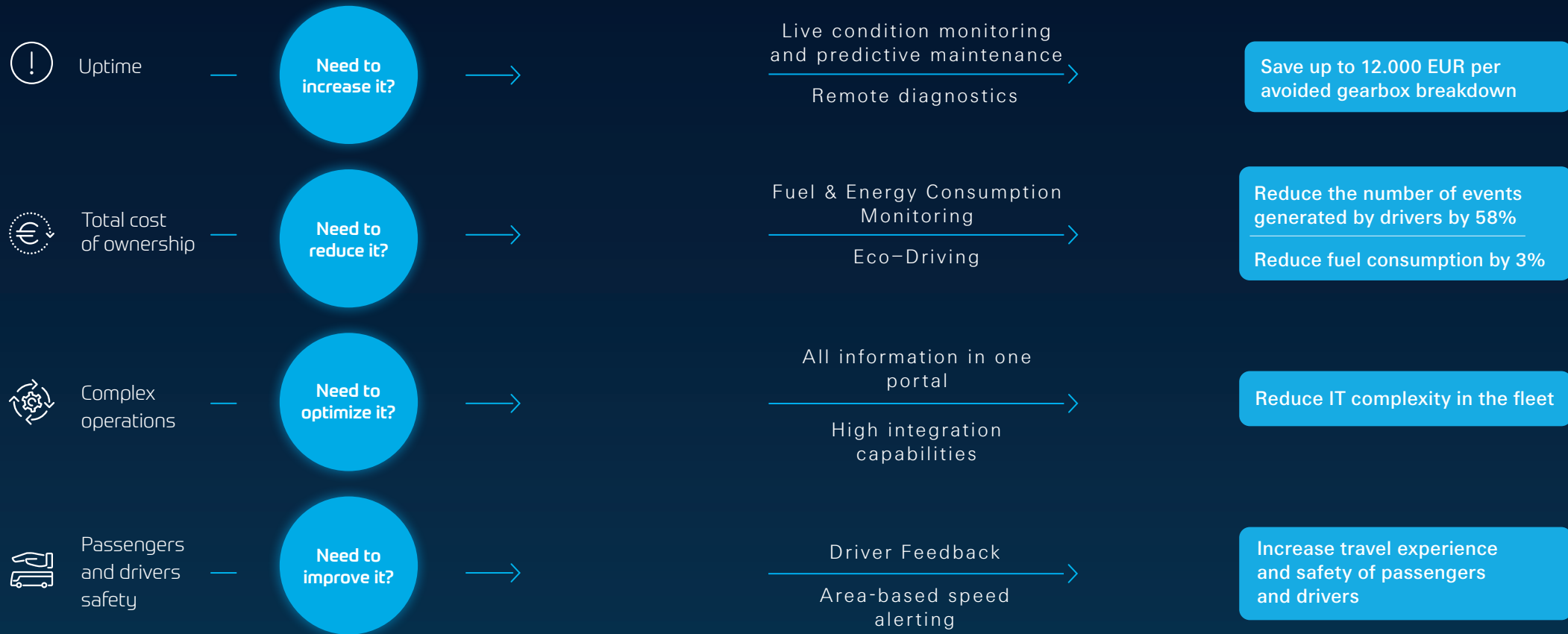
Increase vehicle uptime and reduce maintenance costs

	Vehicle Inspector	✓	Diagnostics-CAN signals in live and more
	ZF Health Check	✓	Monitoring critical vehicle metrics and proactive maintenance
	Remote Vehicle Connection	✓	Live and remote connection to VCUs for service technicians
	Custom Analytics	✓	Customized reports implemented for a specific customer
	Data Logger	✓	Continuous & event-based data logging and storage



Fleet and Service Package available to your fleet customers and workshops upon request.

Fleet challenges



ZVB Reference



“The ZF Bus Connect system helped us to increase the comfort for our passengers. For Example, the way our drivers now drive into corners is totally different. The corner events dropped by more than 50%. On top of that we also saved fuel.”

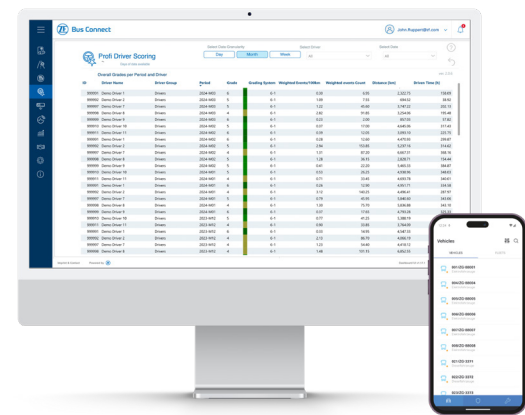
Walter Ulrich,
Head of Operations and Deputy Company
Manager, ZVB

Key Benefits

- Passenger comfort increase
- Safety improvement
- Fuel consumption reduction

ZF Bus Connect Fleet Package

Advanced connectivity solution for fleet management



ZF Bus Connect Fleet

- Real-time fleet control and management
- Advanced monitoring of driver's behavior
- Improvement of uptime
- TCO management
- Increased reliability of business operations
- ITCS integrations

Operations

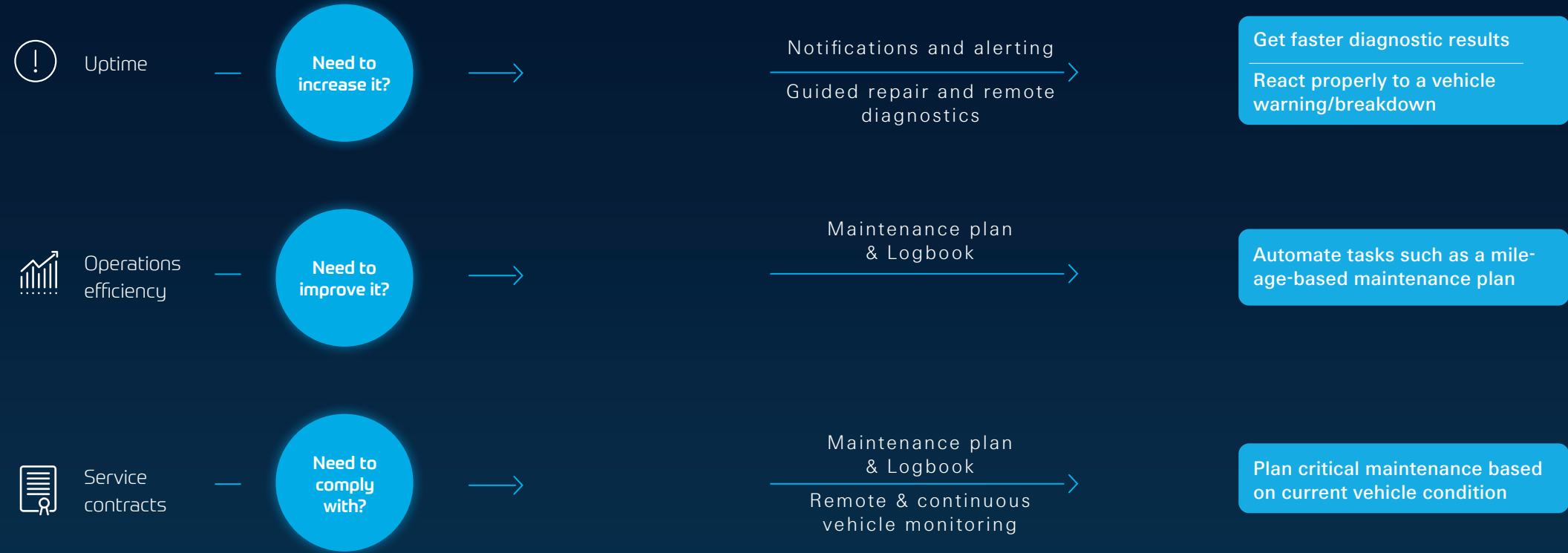
Reduce TCO by increasing operations efficiency

	Live View	✓	Real-time monitoring of fleets, vehicles and driving routes
	E-logbook	✓	Driving history and replay of routes
	Consumption Monitor	✓	Overview of fuel and energy consumption
	ProfiDriver	✓	Real-time feedback to the driver and unique grading system of drivers' driving style
	Digitacho Download	✓	Download of driver card and mass memory files (DDD) to ensure working time compliance



Fleets can optionally select Service package upon request.

Workshop challenges



A man with grey hair, wearing a teal t-shirt, is working on a machine in a workshop. He is looking down at his work. The workshop is filled with various tools and equipment. A water bottle is visible on a table in the foreground.

Technidro Reference

“We have chosen ZF Bus Connect to support our maintenance operations, with the target of reducing vehicle downtime through remote diagnostics. Thanks to ZF Bus Connect, we can monitor vehicle status and parameters 24/7, improving our maintenance services by receiving alerts that allow us to act proactively and reduce breakdowns and downtime.

ZF BC has allowed us to improve our maintenance operations and provide a better service to our customers.”

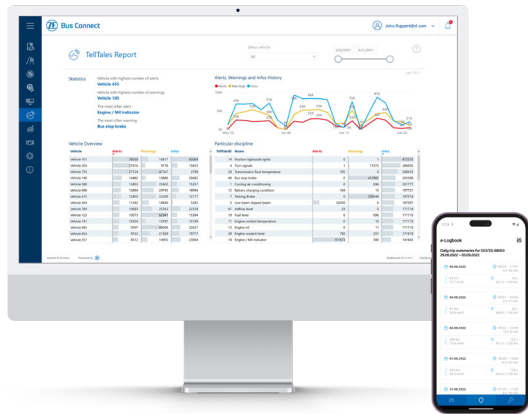
Marco Doria,
Vice President, Technidro, ZF Service
Partner

Key Benefits

- Vehicle downtime reduction
- 24/7 vehicle monitoring
- Improvement of maintenance operations

ZF Bus Connect Service Package

Toolkit to improve your service and maintenance



ZF Bus Connect Service

- Vehicle health monitoring
- Comprehensive data analytics
- Configurable user interface, thresholds and alerts
- Process optimization
 - Spare parts supply
 - Resources/service partners
 - Less paperwork/digitalization

Operations

Reduce TCO by increasing operations efficiency

	Live View	✓	Real-time monitoring of fleets, vehicles and driving routes
	E-logbook	✓	Driving history and replay of routes

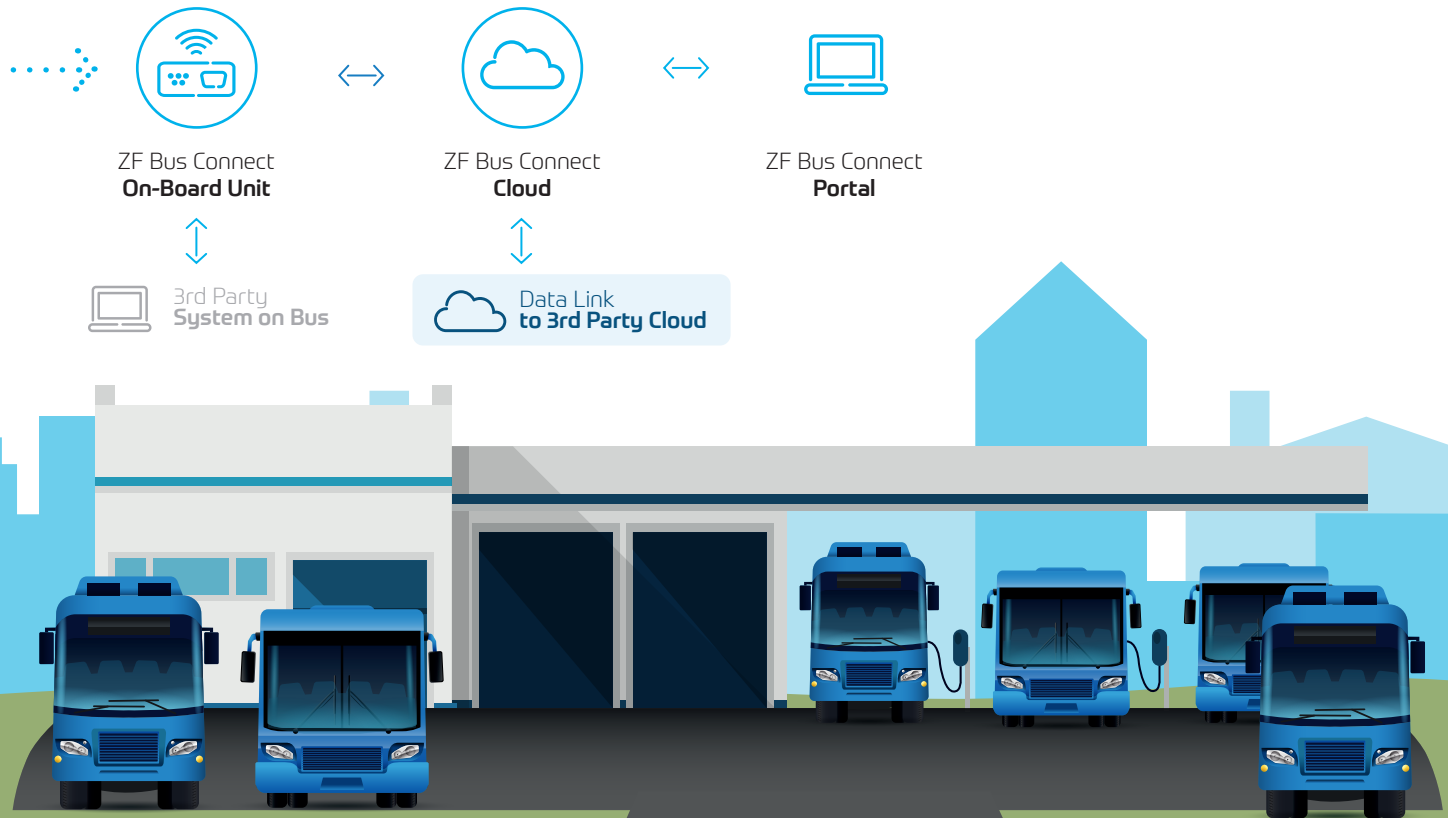
Uptime

Increase vehicle uptime and reduce maintenance costs

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Architecture for Seamless Integration

Embrace Flexibility with Data Link to 3rd Party Cloud Services



IT Ecosystem in Bus Operations

Seamless Integration & Data Exchange

ZF Bus Connect

Fleet Management
(Portal & Onboard Unit)

Remote Maintenance
& Diagnostics



Your ITCS - our Partner Solutions

Dispatching / Automated
Vehicle Location

Resource Planning
(Vehicle & Driver)

Ticketing

Passenger Information
Systems

Entertainment

CCTV

ZF Health Check for ZF Systems

ZF Health Check monitors critical vehicle metrics, enables proactive maintenance planning and minimizes breakdown risks

Features

- Continuous remote readout of ZF system's data
- Condition monitoring and predictive maintenance
- Alerting on ZF system's health status
- Remote support possible

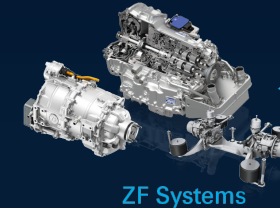
Benefits

- Proactive optimization of driveline performance and fuel economy
- Predictable planning of service & spare parts
- Prompt remote diagnosis and supply of spare parts
- Increased uptime
- Cost and time savings

Services

Reactive
Offline

Proactive
Connected



Cloud Storage
& Processing

Up to 12.000
EUR savings
per avoided
gearbox
breakdown



Health Check Alerts
and Reports

Hardware Family

Smart hardware, simple process



Driver Feedback Device

- Device for notifying the driver when threshold values are exceeded
- Leads to >50% reduction in hazardous driving events
- The driver is warned by four LED lights and an acoustic signal
- Possibility to display the notification on a tablet
- Monitored tresholds: engine overrevving, overspeeding, idling and harsh braking/acceleration



VCU Pro

With the VCU Pro Onboard Unit, ZF offers a new generation of progressive and robust telematics hardware.

VCU Pro Onboard Unit

Dimensions (l × w × h)	200 mm × 122 mm × 40 mm
Operating temperature	-40 °C to +75 °C
Power supply	9 to 36 V DC
Internal memory	4 GB Flash
Sensors	3D accelerometer, 3D gyroscope
GNSS	uBlox NEO-M8L with Dead Reckoning
Onboard Unit	Progressiv and robust
Interfaces	4 CAN Interfaces, 4 analog inputs, 4 digital outputs
Processors	2 independent processors ensure both –secure connection to the vehicle network and universal communication capability
Compatibility	Compatible with all popular commercial vehicle brands – ideal for mixed fleets





ZF Group

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