INTEGRATED IT SYSTEMS FOR BUS AND RAIL
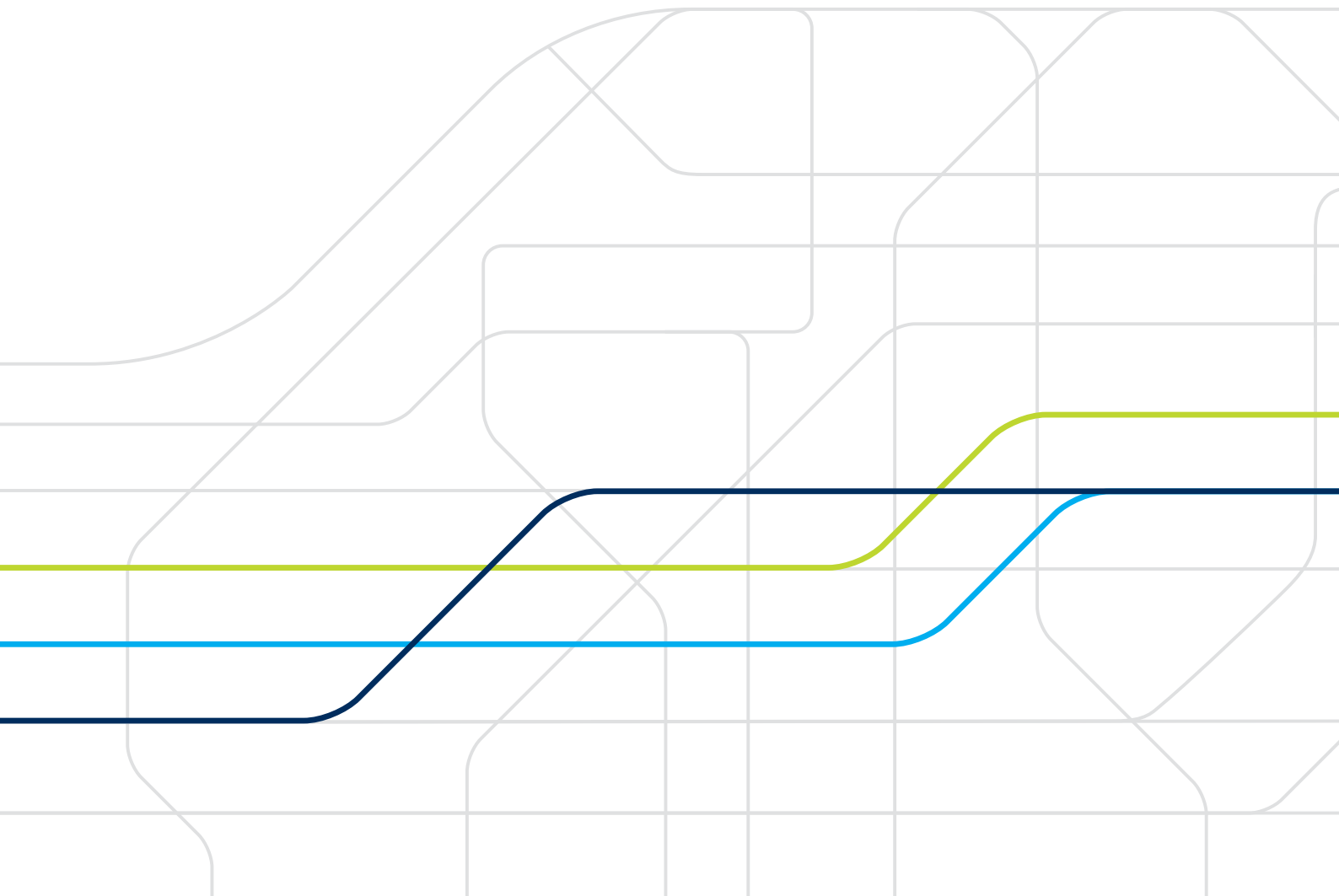
What can IT do for transport and the environment?

IT is dynamic – IVU develops
intelligent solutions for the
mobility of today and tomorrow.

UNDERSTANDING TRANSPORT
MOVING PEOPLE

Public transport helps cities thrive, from keeping people on the move to ensuring a high quality of life. Reliable IT systems ensure the efficient use of buses and trains.

Public transport connects us all. Millions of passengers worldwide use buses and trains every day to reach their destinations. To work or school, to meet friends or visit family - public transport brings people together. In an age of urbanisation and rapidly growing cities, underground trains, trams and bus connections provide a lifeline for modern society and form the foundation of liveable cities, while also supporting economic growth and sustainability.

Mobility is therefore subject to constant change. Whether horse-drawn carriage or metro: it has always been about getting from one place to another as quickly and easily as possible. Constant innovation is the very nature of public transport and IT and digitalisation offer the opportunity to transport people in completely new ways. IVU's systems support transport operators by offering optimal services and ensuring environmentally friendly mobility for the future.

IVU. SYSTEMS FOR VIBRANT CITIES.

■ According to United Nations estimates, around six billion people worldwide will be living in cities by 2050. IT is the key to efficient and environmentally friendly mobility in the world's metropolises.

WE UNDERSTAND WHAT MOVES YOU

Whether five or fifty vehicles, a dozen employees or ten thousand, two routes or two hundred – transport operators achieve remarkable things every day. We know the challenges facing bus and rail operators and help them to keep an eye on all requirements and optimally fulfil their tasks.

SERVICE PLANNING

The ideal service covers more than just the demand. IVU's solutions support both individual connections and entire routes.

RESOURCE PLANNING

Sophisticated algorithms speed up scheduling so that all vehicles and employees are in the right place at the right time.

RESOURCE DISPATCHING

Before the first buses and trains leave the depot, planners use IVU.suite to take care of the right vehicle workings and duties.

FLEET MANAGEMENT

To keep the traffic flowing, automated systems help the control centre to react quickly to disruptions, organise strengthening trips, and keep the situation under control.

■ Public transport is highly complex. IT and digitalisation help to maintain an overview, offer efficient transport services, and relieve the burden on cities.

TICKETING AND ONBOARD DEVICES

Modelling fares and setting prices, selling and invoicing tickets and analysing revenue – with IVU.suite, transport operators get everything from a single source.

INFORMATION AND ANALYTICS

IVU background systems record the position of the vehicles, calculate departure times, and inform passengers with exact real-time data.

ACCOUNTING

Ultimately, the IVU.suite consolidates all service data across all operations, analyses it and supports the accounting process with the public transport authority.

STANDARD SOFTWARE FOR
INDIVIDUAL REQUIREMENTS

IVU.suite

Integrated and from a single source – the IVU.suite offers bus and rail operators the right support for all tasks: from planning and scheduling to fleet management, ticketing, and passenger information through to the accounting of transport contracts. With the help of IVU.suite, transport operators plan routes, inform passengers, guarantee connections, control traffic lights, dispatch drivers, monitor fleets, sell tickets, collate data, and increase efficiency. Whether a complete solution or individual components – as a standard product, the IVU.suite can be integrated into a wide variety of system environments.

SERVICE PLANNING

Network and timetable planning

IVU.timetable
IVU.trainpath

Data integration

IVU.pool
IVU.integration

RESOURCE PLANNING

Vehicle scheduling

IVU.run

Personnel and duty scheduling

IVU.duty
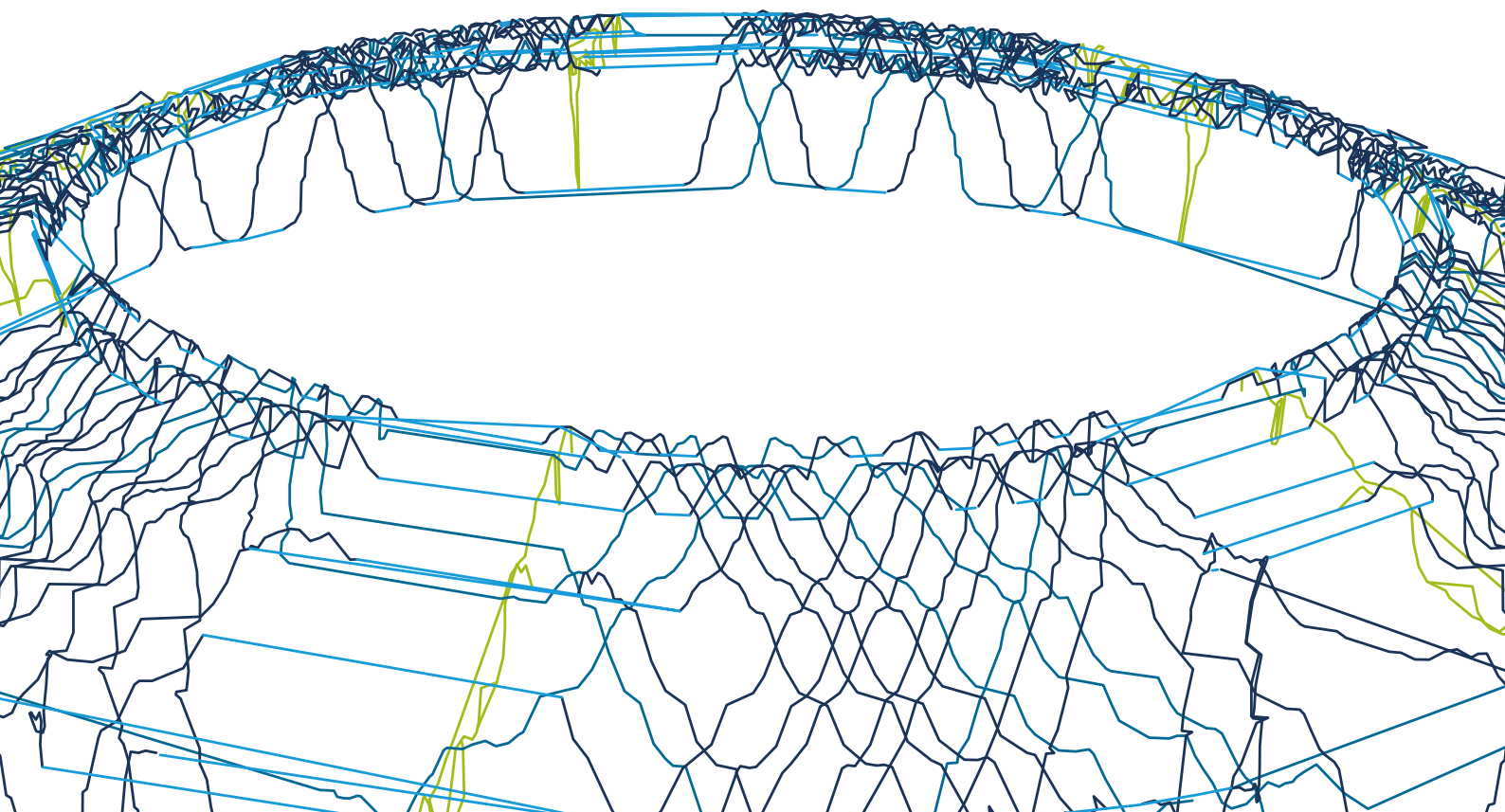
RESOURCE DISPATCHING	**FLEET MANAGEMENT**	**TICKETING AND ON-BOARD DEVICES**	**INFORMATION AND ANALYTICS**	**CONTROLLING**
Vehicle dispatch and depot management **IVU.**vehicle **IVU.**charge	Control centre **IVU.**fleet **IVU.**controlcentre	Tariff management and fare collection **IVU.**fare	Dynamic passenger information **IVU.**realtime **IVU.**journey	Accounting and reporting **IVU.**control
Personnel dispatch **IVU.**crew	Incident management **IVU.**incident	Ticket sales and inspection **IVU.**ticket	Big data and analytics **IVU.**data	
Mobile workplace **IVU.**pad	On-board software **IVU.**cockpit	Vehicle equipment **IVU.**box **IVU.**ticket.box **IVU.**validator		

+ OPTIMISATION & AUTOMATION

Built-in optimisation makes the IVU.suite particularly efficient. Smart algorithms help to master the complex requirements of a wide range of vehicles and propulsion types and make the most of the available resources. This makes it possible to create optimised and coordinated duty and vehicle working schedules automatically, to deploy vehicles and personnel efficiently and to react immediately to disruptions. This not only speeds up processes and reduces operating costs, but it is also good for the environment.

DIGITAL CHANGE –
GET AHEAD WITH IT SOLUTIONS

The everyday life of a transport operator is complex. Customers, service providers, employees – they all have high expectations that need to be taken into account. Numerous tasks need to be mastered to optimise operation: creating timetables, organising duties, setting fares, controlling fleets, managing data – and much more. Digitalisation and IT are helping to overcome these challenges and cultivate better public transport.

Photo: Fotolia (chombosan)

ALTERNATIVE PROPULSION SYSTEMS

Whether electric or with hydrogen – the IVU.suite maps all work processes relating to the use of alternative propulsion systems for buses and trains. The complete system efficiently combines the planning, deployment, and operation of mixed fleets as well as the analysis to optimise vehicle deployment. From battery-powered electric buses and trains to hydrogen fleets - all functions are available in a single interface.

CREATE FAIR DUTIES

The right employee in the right place at the right time. With the help of IVU solutions, transport operators can bring all employees exactly to where they are needed – whether to the driver's seat on the bus or train, to the lifting platform in the workshop, or to the office. IVU.suite knows the personnel's wishes and qualifications as well as the requirements of a duty. It uses these to create fair and balanced duties that are rule-compliant. This ensures efficiency and employee satisfaction.

Photo: IVU Traffic Technologies AG

EFFICIENT CONTROL OF AUTONOMOUS DRIVING

Autonomous driving enables cost-effective transport, but at the same time requires new skills from operators so autonomous vehicles are deployed correctly. To be able to control them efficiently alongside conventional human-driven vehicles, we have added powerful components to the IVU.suite, meaning that transport operators can now plan, charge, schedule, and control mixed fleets in a standardised way.

WIN TENDERS

When competing for new licences, numerous factors determine who is awarded the contract. Optimisation algorithms make the difference: they not only support day-to-day operations, but also facilitate business decisions. This allows scenarios to be calculated for route bundles that have not yet been won and used as the basis for an efficient service – in order to stay one carriage length ahead of the competition.

QUICKLY RECTIFY DISRUPTIONS

Delays, crowding, accidents, emergency calls - numerous events can disrupt operations. The IVU.suite helps dispatchers to react quickly and appropriately in any situation. The system monitors all aspects from the vehicle status and timetable situation to the current vehicle and personnel deployment. To provide passengers with reliable passenger information, IVU's rail control centre offers a fully integrated standard solution with an end-to-end digital workflow.

17 18 19 20 21 22 23 00 01 02 03

CHARGE
3189 3220 3221 3252 3253 3234
BGB5_02+7 PDL5_01+8 BGB5_02+7 PDL5_01+8 BGB5_02+7 PDL5_01+8 +3
WORKSHOP
B-H B-H PDL5.01 BGR BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H B-H B-H
16:19 18:09 18:31 18:59 19:21 19:50 20:01 20:21 20:55 21:12 21:45 22:05 22:26 00:17

CHARGE
KON 3261 3292 3293 3324 3325 3356 3357 REP 1
BGB5_02+3 PDL5_01+4 BGB5_02+3 TOR5_01+4 BGB5_02+3 +1 +1 +1
B-H B-H PDL5.01 BGR BGB PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB B-H
09 16:21 21:12 21:45 22:05 22:26 22:45 23:21 23:35 00:01 00:41 00:55 01:21 01:50 02:12 02:41

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16:19 17:21 17:41 17:50 18:01 12:21 18:55 19:21 19:55 20:01 20:21 20:55 21:12 21:45 22:05 22:26 22:55 23:21 23:35 00:01 00:17 01:21 01:50 02:12 03:01

WASH CHARGE KON
3245 3276 3277 3261 3209 3240 3241 3272
BGB5_02-1 PDL5_01+0 BGB5_02-1 PDL5_01+0 PSD5_01+0 BGB5_02-1
1+2 +2
PDL5.01 B-H B-H PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H
16:17 16:29 17:21 20:35 20:55 21:12 22:05 22:40 23:05 23:29 23:50 00:12 00:41 00:55 01:21 01:50 02:12 02:41

144 CHARGE REP 1 KON
3269 3300 3301 3332 3333 3264 3365 3412
BGB5_02-3 PDL5_01+4 BGB5_02-3
YOR B-H- B-H B-H B-H PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H
09 16:21 16:35 19:12 20:21 21:35 21:55 22:16 22:40 23:05 23:29 23:50 00:12 00:41 00:55 01:21 01:50 02:12 02:41

SLI5_03 SLI5_03 SLI5_01 SLI5_03 SLI5_03 SLI5_03 SLI5_03 SLI5_03 SLI5_03 SLI5_03 SLI5_03 SLI5_01 SLI5_03 SLI5_03 SLI5_03 SLI5_01 SLI5_03 SLI5_03 SLI5_03 SLI5_03
16:19 17:21 17:41 17:50 18:01 12:21 18:55 19:21 19:55 20:01 20:21 20:55 21:12 21:45 22:05 22:26 22:55 23:21 23:35 00:01 00:17 00:55 01:21 01:50 02:12 02:41 03:01 03:21

3148 CHARGE KON
3297 3397 3328 3329 3360 3361 3404 3405
RDL5_01+7 +7 YORS_01+5 BGB5_02-7 YORS_01+5 +5 +2 +2
PDL5.01 B-H- B-H B-H YOR YOR BGB BGB YOR BGB BGB YOR BGB BGB YOR BGB B-H-
17:12 17:35 22:01 22:17 22:45 23:11 23:35 00:05 00:21 00:50 01:21 01:50 02:12 02:41 03:01 03:21 03:43

3151 CHARGE KON
3272 3273 3204 3305 3336 3337 3369
YORS_01+2 +2 YORS_01+4 BGB5_02-5 BGB5_02+4 YORS_01+5
BGB YOR B-H- B-H BGB YOR YOR BGB BGB YOR YOR BGB BGB YOR BGB B-H-
17:21 17:45 20:55 21:12 21:45 22:05 22:26 22:55 23:21 23:35 00:01 00:17 00:55 01:21 01:50 02:12

CHARGE KON
3396 3397 343
B-M- B-H B-H BGB PDL5.01 BGB PDL5.01
16:55 17:21 17:45 01:50 02:12 02:41 03:01 03:21

Deployment restriction
DEF
CHARGE

3154
YORS_01+5
+2
BGB B
16:19

3129 3150 3161 3292 3293 3224 3225 CHARGE 3285 3316 3261 3348 3349 3384 3385
5_02+5 YOR5_01+4 BDB5_02+5 YOR5_01+4 BDB5_02+5 YOR5_01+4 BDB5_02+5 +7 BDB5_02+1 BDB5_02+5 +2
BGB BGB YOR YOR BGB BGB YOR YOR BGB B-H- B-H PDL5.01 BGB BGB PDL5.01 BGB 00:21 00:50 01:50 02:12 02:41 03:01 B-H-
16:19 17:21 17:41 17:50 18:21 18:55 19:21 19:55 20:01 20:21 20:55 22:15 22:45 23:11 23:35 00:05 00:21 00:50 03:21

3153 3164 3165 3196 3261 3228 3229 3260 CHARGE KON
3369 3416 3456
BDB5_02+5 PDL5_01+5 +5 BDB5_02+4 PDL5_01+5 +5 BDB5_02+4 PDL5_01+5 +5 BDB5_02+4 PDL5_01+5 +5
5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H- B-H YOR BGB BGB YOR BGB
16:11 17:15 17:30 17:45 17:50 18:01 18:45 19:15 19:40 19:50 20:21 20:45 21:12 21:45 01:40 02:01 02:31 02:50 03:11 03:36

3137 3168 3169 3200 3201 3232 3233 3264 CHARGE KON
3353 3392 3393 3444
BDB5_02+2 YORS_01-1 BDB5_02+2 YORS_01-1 BDB5_02+2 YORS_01+1 BDB5_02+2 YORS_01+1 +1
YOR BGB BGB YOR YOR BGB BGB YOR BGB YOR B-H- B-H YOR BGB BGB YOR YOR BGB BGB
16:19 17:21 17:41 17:50 18:21 18:55 19:21 19:55 20:01 20:21 20:55 21:40 21:45 00:55 01:21 01:40 02:11 02:31 02:50 03:11 03:36

3141 3272 3173 3204 3205 3236 3237 3268 WASH CHARGE
BDB5_02+0 PDL5_01+1 BDB5_02+0 PDL5_01+1 BDB5_02+0 PDL5_01+1 BDB5_02+0 PDL5_01+1 +1
H PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H- B-H B-H
16:19 17:21 17:41 17:50 18:01 18:45 18:55 19:21 19:55 20:01 20:21 20:55 21:12 21:45 22:05 22:26 22:55

3145 3173´6 3177 3208 3209 3240 3241 CHARGE KON
3381 3428 343
BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3 +3
B-H YOR BGB BGB YOR BGB BGB YOR BGB B-H- B-H YOR BGB BGB YOR
16:12 17:15 17:31 17:40 17:55 18:21 18:32 18:55 19:21 19:55 20:01 20:21 21:05 21:32 02:01 02:31 02:50 03:11 03:36

3149 3190 3191 3212 3213 3244 CHARGE KON
3273 3424 3425
BDB5_02+4 PDL5_01+5 BDB5_02+4 BDB5_02+4 PDL5_01+5 +5
B-H PDL5.01 BGB BGB PDL5.01 BGB BGB PDL5.01 BGB PDL5.01 B-H- B-H PDL5.01 BGB BGB PDL5.01 BGB PD
16:11 17:15 17:30 17:45 18:21 18:45 19:15 19:50 20:01 20:45 21:12 01:50 02:21 02:50 03:11 03:36

KON
3152 3134 3165 3216 3217 3248 3249 3280 CHARGE WORKSHOP KON 3413
BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 +5
B-H YOR BGB BGB YOR BGB BGB YOR BGB B-H- B-H B-H PDL5.01 BGB PD
17:15 17:31 17:40 17:55 18:21 18:32 18:55 19:21 19:55 20:01 20:21 20:45 21:32 22:05 22:26 00:40 02:01 02:31 02:50 03:11 03:36

GE KON
3256 3257 3288 3289 3220 3221 3252
YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3 YOR5_01+2 BDB5_02+3
B-H BGB YOR YOR BGB BGB YOR BGB BGB YOR B-H-
20:15 20:30 20:55 21:14 22:05 22:26 22:45 23:11 23:35 00:05 00:21 00:50 01:12 01:35

CHARGE KON
3281 3317 3313 3344 3345 3376 WASH
BDB5_02+3 YOR5_01+2 WFH_01+3
B-H YOR BGB BGB YOR BGB BGB YOR B-H-
22:05 22:26 22:45 23:11 23:35 00:05 00:21 00:50 01:12 01:35 01:55 02:21 03:11

04 05 06 07 08 09 10 11 12 13 14 15

CHARGE

CHARGE

CHARGE

04:00

CHARGE

CHARGE

CHARGE

| 3004 | 3005 | 3040 | 3080 | 3081 | 3104 | 3261 | 3136 |

B-H   BGB   YOR   BGB   YOR   BGB   YOR   BGB BGB   YOR   B-H-
08:40 08:55 09:21 09:45 10:05 10:21 10:50 11:12 11:30 11:45   12:17 12:45 13:12   13:50 14:15

CHARGE

| 3145 | 3176 |

B-H YOR   BGB   Y
14:02 14:25 14:50 15:11

| SLI5_03 | SLI5_03 | SLI5_01 | SLI5_03 | SLI5_03 | SLI5_03 | S |
12:11 12:35 13:05 13:30 13:55 14:21 14:45 15:01

| 3108 | 3109 | 3140 | | CHARGE

BGB   BGB   PDL5_01   BGB   PDL5_01 B-M-
12:05 12:17 12:45 13:12 13:30   14:02 14:25

| 3137 | 3168 |

B-H   YOR   BGB   BGB   YOR   Y
13:40 14:02   14:25 14:50   15:32

Trip number: 3004
From – To: BGB (06:18) – YOR (06:44)
Vehicle working   47
VEHType   **eCitaro**
**Route / vehicle
working route**   **300 / 300**
Duration (in min)   26
Distance (in km)   8,6

Mileage (km)   1.258
Range   66 (100+20)
Trip class   NT
Colour   Trip standard colour with allocation

SLI5_03 SLI5_01 SLI5_03 B-M-
04:00   04:21   04:45   05:12

CHARGE

B-M SLI5_01 SLI5_01 BMAH SLI5_01 SLI5_03 BMAH   SLI5_03 SLI5_01   SLI5_03 SLI5_03   SLI5_03 SLI5_03 SLI5_01 S
08:40 08:55 09:21 09:45 10:05 10:21 10:50 11:12 11:30   12:05 12:17   13:05   13:40 14:02 14:25 14:50 15:32

WASH   CHARGE

| 3141 | 3172 |

B-H PDL5_01 BGB BGB PDL
13:55 14:14 14:35 15:12

04:21

CHARGE

| 3016 | 3017 | 3052 | 3058 | 3098 | 3089 | 3112 | 3113 | 3144 |

B-H   BGB   YOR   BGB   YOR   BGB   YOR   BGB BGB   YOR   BGB BGB   YOR   B-H-
08:55 09:21 09:45 10:05 10:21 10:50 11:12 11:30 11:55   12:35 13:05   13:40   14:14 14:35

| 3149 | 318 |

B-H PDL5_01 BGB BG
14:14 14:35 15:12

| 2029 | 2036 | 2065 | 2064 | 2129 | 2104 | 2185 |

B-H   BALX5.01   BZOS   BALX5.03   BZOS BZOS   BALX5.03   BZOS BALX5.03   B-H-
10:11 10:29   10:55 11:19   11:45 12:05 12:17 12:45   13:12 13:30   14:02 14:25 14:50

| 3000 | 3001 | 3032 | 3033 | 3072 | 3073 | 3100 | 3101 | 3132 |

B-H   BGB   PDL5_01   BGB   PDL5_01   BGB   PDL5_01 BGB   BGB   PDL5_01   BGB   PDL5_01 B-H-
08:21 08:46 09:05 09:32 09:02   10:15 10:43 11:05 11:19 11:45 12:05 12:17 12:45   13:12   13:40 14:14

CHARGE

| 3437 | 3477 | 3513 | 3544 | 3545 |

BGB   PDL5.01   BGB   PDL5.01 BGB BGB PDL5.01   BGB   B-H-
04:00 04:21 04:45 05:12 05:35   06:16 06:50   07:12 07:35

| 3457 | 3492 | 3228 | 3529 |

BGR   BGB   YOR   BGB B-H-
04:00 04:21 04:45 05:12 05:35   06:16 06:50 07:02

CHARGE

CHARGE

| 3445 | 3484 | 3485 | 3520 |

BGB   YOR   BGB   YOR   BGB B-H-
04:05   04:45 05:12   05:42 06:16 06:50

| 3153 | 3 |

B-H YOR   BGB B
14:25 14:50 15:24

| 3024 | 3060 | 3061 | 3093 | 3116 | 3117 | 3148 | WORKSH

B-H   BGB   PDL5_01   BGB   PDL5 01   BGB PDL5 01   BGB PDL5_01   BGB PDL5_01   B-H- B-H-
09:05 09:32 09:52   10:15 10:43   14:50

| 3472 | 3473 | 3508 | 3509 | 3540 | 3541 |

BGB   YOR   BGB   YOR   BGB   YOR   BGB B-H-
04:00 04:21 04:45 05:12 05:35   06:16 06:50 07:02 07:21

CHARGE

| 3464 | 3465 | 3500 | 3501 | 3536 | 3537 |

BGB   PDL5.01   BGB   BGB BGB BGB   PDL5.01   BGB B-H-
04:00 04:21 04:45 05:12 05:35   06:16 06:50 07:02 07:21

CHARGE

| 452 | 3449 | 3488 | 3489 | 3261 | 3525 | 3549 |

PDL5.01   BGB   PDL5.01   BGB   BGB BGB BGB   PDL5.01   BGB B-H-
04:21 04:45 05:12   06:16 06:50 07:02 07:21 07:50

CHARGE

| 3029 | 3064 |

B-H   BGB   YOR   BGB
09:05 09:32 09:52 10:15 10:43

| BALX5.03 | | BALX5.03 | BZOS |
13:12 13:21 13:50 14:11 14:30 15:24

YOR YOR
14:50 15:24

| 3157 |

| 3161 |

B-H
14:30

CHARGE

| 3133 | 3164 | 31 |

B-H PDL5_01 BGB BGB PDL5_
13:21 13:40 13:50 14:30

IVU.suite

KEEPING
COMPLEXITY
MANAGEABLE.

IVU AT A GLANCE

IVU has been developing integrated IT systems for efficient and environmentally friendly public transport for over 40 years. In growing cities, people and vehicles are constantly on the move - a logistical challenge that requires intelligent and secure software systems. Based on the IVU.suite, we develop high-performance IT products for bus and rail operators. By working in close partnership with our customers, we achieve success with challenging projects and ensure reliable mobility in the world's metropolises.
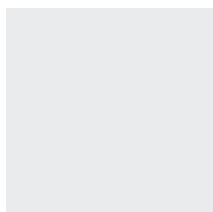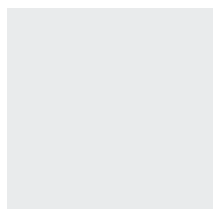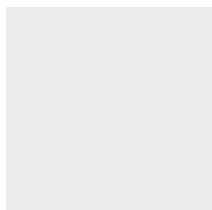
since **1976**

It all started with five young researchers from TU Berlin. Their goal: to improve public transport with the help of new software systems.

ISIN
744 850

IVU's international expansion began with its IPO in 2000. Today, our solutions are in demand worldwide.

1 Reference book

The reference book „IT-Systeme für Verkehrsunternehmen" ("IT Systems for Transport Operators") by former IVU board member Dr Gero Scholz is a definitive work on this topic.
ISBN: 978-3-89864-770-0
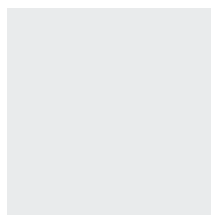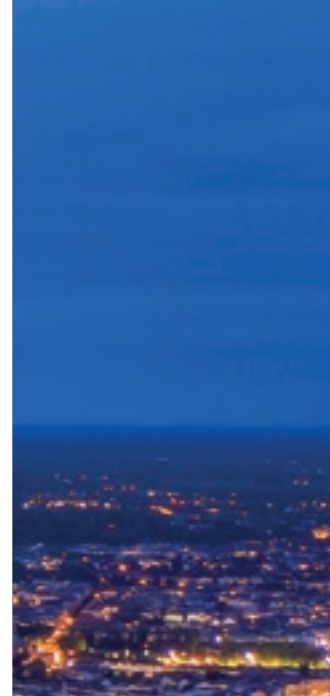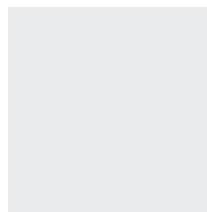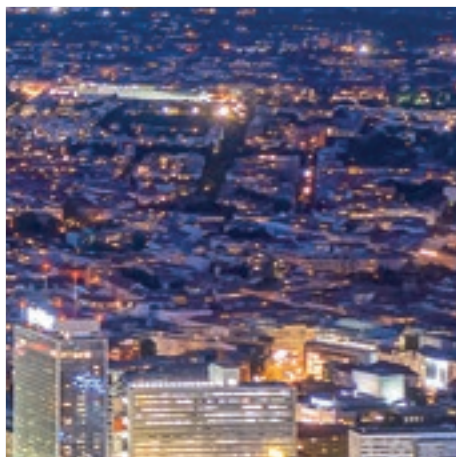
Photo: Shutterstock (immodium)

over **500** customers worldwide

With over a dozen locations, IVU is always close to its customers. No matter where, we speak their language and understand what they need.

more than **40** nationalities

Over 800 employees develop ideas, write software, implement projects and lead transport operators to success.

MADE IN GERMANY
USED WORLDWIDE

VIA Rail Canada

The Canadian state railway plans and schedules over 1,400 train drivers, train conductors and other on-board personnel, some of whom travel for several days.

ELIZABETH LINE

Standardised vehicle and duty scheduling in London – thanks to IVU.rail, MTR Elizabeth Line can create diagrams for vehicle and personnel scheduling and optimise timetables and duty schedules.

metrocali

MIO Cali has revolutionised local transport in the Colombian metropolis. The fleet control system for the BRT system comes from IVU.

ATU — AUTORIDAD DE TRANSPORTE URBANO PARA LIMA Y CALLAO

The operators of the transport system in Peru's capital Lima control over 600 buses with the IVU.cockpit on-board computer software and the IVU.fleet control centre.

iryo

ILSA is the first private rail transport operator with high-speed trains in Spain. ILSA relies on IVU.rail for the planning and dispatch of all vehicles and personnel.

Stockholm
Birmingham
Paris
Budapest
Madrid
Rom
Istanbul
Toronto
New York
Santiago

■ IVU-Locations

connect bus

The Norwegian transport operator relies on the IVU.suite to optimise its buses and ferries as well as deploy their personnel efficiently.

DB

Whether in long-distance or regional transport: Europe's largest railway operator benefits from a continuous process chain and standardised data management in the IVU systems.

WIENER LINIEN

The tram network in Austria's capital is the sixth largest in the world. Fleet control and dynamic passenger information are supplied by IVU.

PostAuto

The yellow buses with the characteristic three-tone horn are a Swiss institution – integrated, planned and dispatched with the IVU.suite.

TRENITALIA

Every day, the Italian state railway plans, optimises and schedules over 14,000 employees and 9,000 train trips in the IVU.cloud.

KEOLIS

Keolis determines the vehicle and personnel requirements for the rail and tram network with the help of IVU.rail and calculates scenarios for planned changes to Adelaide Metro's services.

Berlin
Utrecht
Hannover
Leipzig
Aachen
Frankfurt am Main
Wien
Olten

Hanoi

DE LIJN

The Belgian transport operator operates more than 3,200 buses and around 400 trams with the IVU.suite fleet management and real-time information system.

BEM

For the Bangkok metro lines MRT Blue Line and MRT Purple Line, which carry over 400,000 passengers a day, IVU provides the timetable planning, vehicle working scheduling, track occupancy planning, and duty scheduling as well as the personnel dispatch.

CLEVER MINDS
FOR COMPLEX PROJECTS

Over 800 employees are the face of IVU. They develop software and create concepts, implement systems and manage projects, optimise processes and advise customers. Their commitment and knowledge are what make IVU what it is, as well as their drive to solve multi-faceted challenges.

Behind every timetable, every duty, and every piece of real-time information are complex thematic issues. The optimisation of vehicle working and duty schedules requires precise algorithms that process millions of data records in a matter of seconds. Highly qualified specialists are needed to design these systems.

Around 80% of our employees have a university degree: software and project engineering, mathematics, transport sciences - people who think and act in a solution-orientated way, have challenging projects under control and lead them to success together with our customers.

www.ivu.com/**jobs**

■ IVU experts know what is important. Their expertise and versatility strengthen transport operators and ensure sustainability.
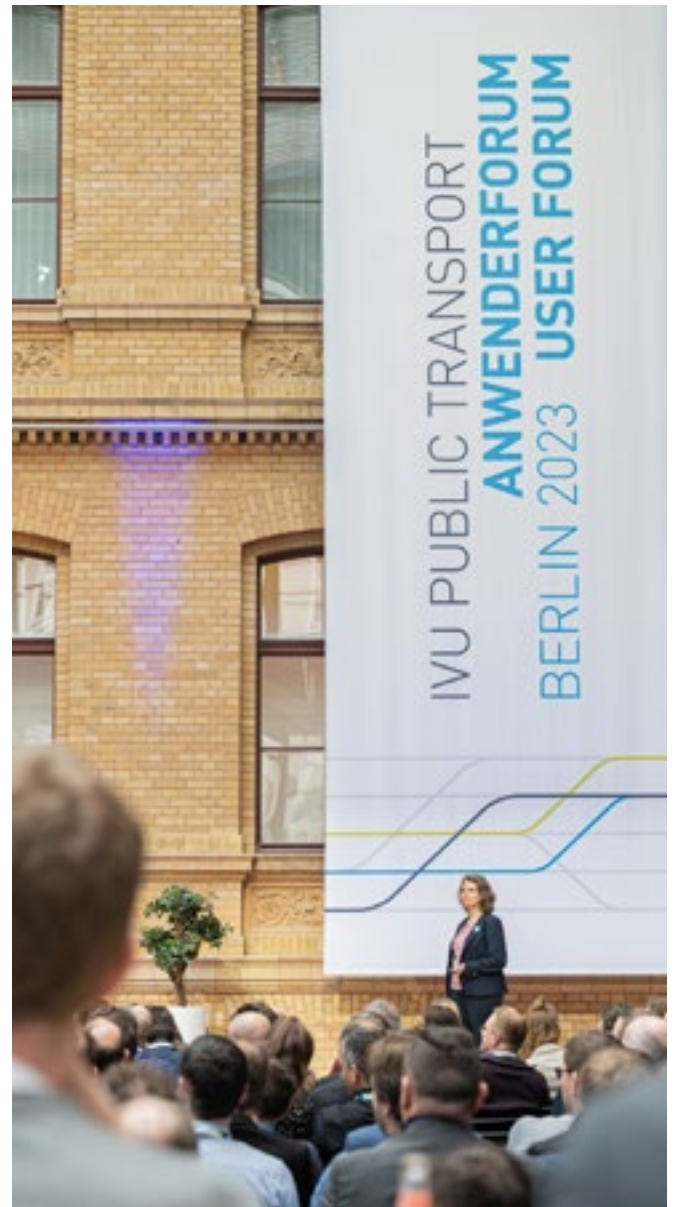
ACHIEVING SUCCESS TOGETHER

There are many steps between winning a concession and starting up the first vehicle. IVU is on hand as a reliable partner for its customers and helps them to keep all requirements manageable and complete all the necessary tasks as effectively as possible, including when operations are already up and running.

With IVU solutions, transport operators achieve more: They can establish an end-to-end digital workflow and integrate all operational areas – from planning through to driving personnel. Whether you use the complete IVU.suite or individual products, all data remains in one system. This ensures efficiency – on the road and in the control centre.

We know transport operators' tasks are as individual as the routes they operate. This is why the IVU.suite already contains everything that is required for successful bus and rail operations. One standard system for everything – which makes it quick and easy to implement.

Our customers are never left to face their challenges alone. Whether it's configuring interfaces, implementing projects quickly, hosting the IVU systems or providing technical support – together we find customised solutions for every need to ensure that buses and trains run reliably.
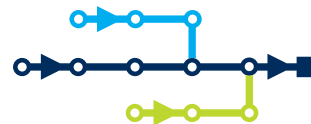
IVU.suite

The IVU.suite is IVU's standard solution. Thanks to its modular structure, it can be customised precisely to individual requirements, so that only the elements required by the customer are used.

IVU.integration

In an integrated world, software products never run in isolation. IVU.integration ensures that all systems work together optimally and data flows smoothly – from correct timetable printouts and connecting on-board computers and external products to analyses and statistics.

IVU.xpress

Every transport operator has its own identity and own ways of working. With the IVU.xpress implementation process, IVU.suite can run quickly and efficiently in all environments. This ensures plannable project execution from the start of the project and system design to the final roll-out.

■ Sustainable efficiency is based on consistent data flows. Integrated IT systems make it easier to optimise vehicle and personnel deployment and reduce emissions.

IVU.cloud

IVU.cloud allows IVU to take on full technical operations management for IVU.suite – from hosting and maintenance through to installation of updates. High-performance, highly available, secure and reliable: IVU.cloud remains fully scalable, so new links or routes can be added flexibly.
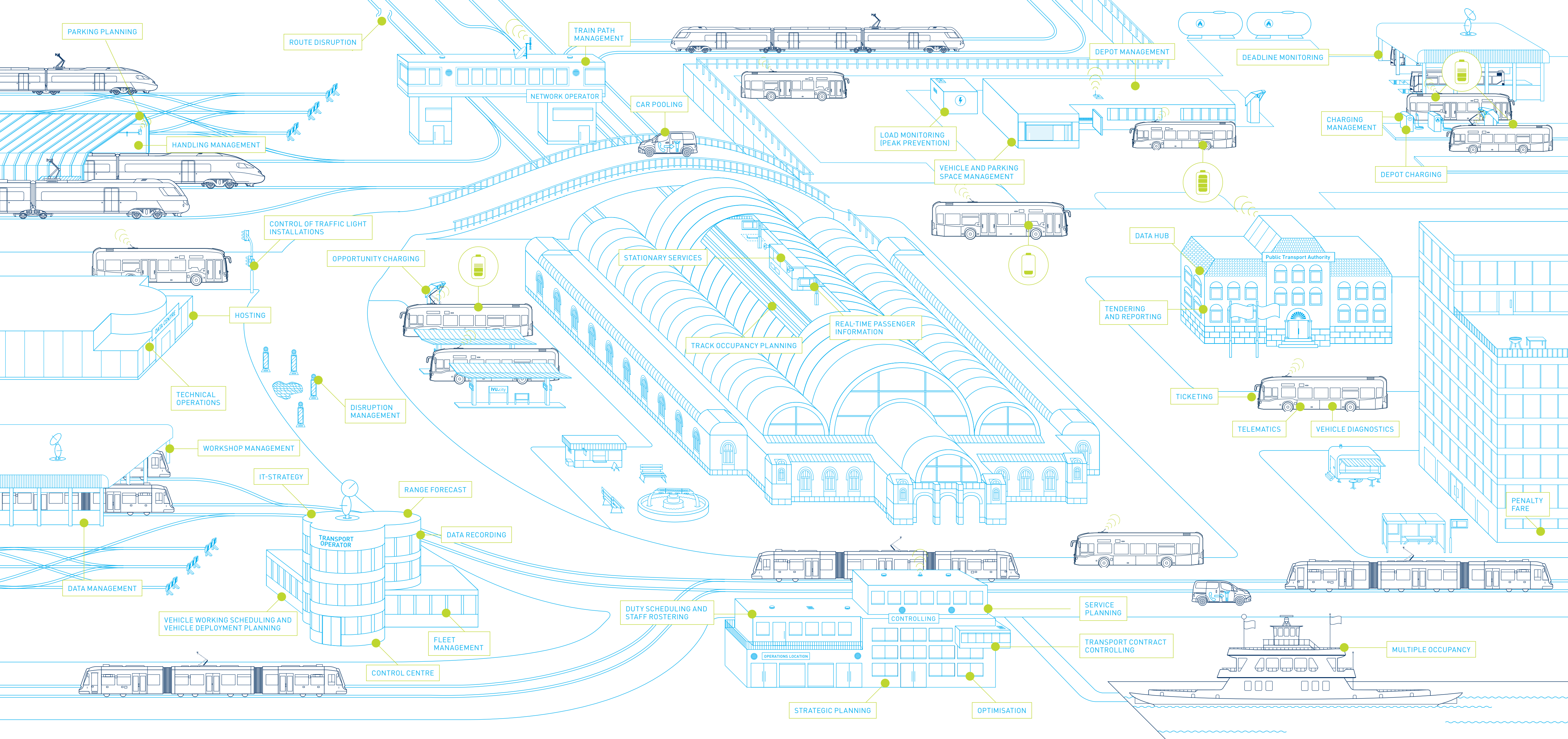
IVU.service

Successful IT projects are based on trust – one of IVU's core values. In both urban and regional transportation, we provide our customers with support throughout the entire project – and beyond. After successful initial operation, our Customer Service is always available as a contact partner to ensure that all vehicles always reach their destination.

IVU.consult

The IT consultancy IVU.consult supports transport operators in the targeted introduction, planning, and optimisation of software. Customers of IVU.consult GmbH can benefit from our expertise in the processes and special features of IT systems in public transport.

PARKING PLANNING

ROUTE DISRUPTION

TRAIN PATH MANAGEMENT

DEPOT MANAGEMENT

DEADLINE MONITORING

NETWORK OPERATOR

CAR POOLING

LOAD MONITORING (PEAK PREVENTION)

CHARGING MANAGEMENT

HANDLING MANAGEMENT

VEHICLE AND PARKING SPACE MANAGEMENT

DEPOT CHARGING

CONTROL OF TRAFFIC LIGHT INSTALLATIONS

OPPORTUNITY CHARGING

STATIONARY SERVICES

DATA HUB

HOSTING

REAL-TIME PASSENGER INFORMATION

TRACK OCCUPANCY PLANNING

TENDERING AND REPORTING

Public Transport Authority

TECHNICAL OPERATIONS

DISRUPTION MANAGEMENT

TICKETING

WORKSHOP MANAGEMENT

TELEMATICS

VEHICLE DIAGNOSTICS

IT-STRATEGY

RANGE FORECAST

DATA RECORDING

TRANSPORT OPERATOR

DATA MANAGEMENT

PENALTY FARE

VEHICLE WORKING SCHEDULING AND VEHICLE DEPLOYMENT PLANNING

FLEET MANAGEMENT

DUTY SCHEDULING AND STAFF ROSTERING

CONTROLLING

SERVICE PLANNING

TRANSPORT CONTRACT CONTROLLING

CONTROL CENTRE

OPERATIONS LOCATION

MULTIPLE OCCUPANCY

STRATEGIC PLANNING

OPTIMISATION

Shaping
the transport
of tomorrow
together.

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