

# CARD/1

The language of engineers



**Software field-tested**

Surveying, Road, Rail and Sewer Planning

## Software field-tested

Today, anybody who is an active participant in the design and planning of our infrastructure needs a high level of professionalism as well as the right tools, in order to find solutions and to analyse consequences.

**O**n the one hand, these tools must be easy to handle, so as to avoid losing sight of our objectives. On the other hand, all of the user's needs must be met along the way, in order to reshape our world in a responsible manner.

In an ideal world, these tools would provide final results at the touch of a button, thus significantly reducing the time, cost and effort required. Naturally they must be easily adapted so as to comply with any local or national standards and regulations. And the whole system must be affordable and offer long-term value.

CARD/1 is the ideal software for your design tasks around the world. The system is growing along with the needs of its users; its development continues apace.

This is your unique guarantee for the future.

### What makes the optimum solution stand out?

- economy
- technical excellence
- efficiency
- ease of use
- wide availability
- reliability
- lasting relationships with users
- client and user orientation
- training and support tailored to user needs  
project support and consultancy
- quick start (plug and play)
- comprehensive online documentation



技

CARD/1 is ideal for international use and is currently available in German, English, Polish, Russian and Chinese versions. Other languages will follow.

The optimum conditions for dealing efficiently with everyday tasks naturally include compatibility with all popular interfaces and widely used drawing systems such as AutoCAD.

**Y**ou will use CARD/1 for all your road and railway design projects, for all your land surveying tasks and for complex drainage projects too.

- port facilities
- airports
- motor-racing circuits
- dams
- waterways
- Magnetic levitation (Maglev/Transrapid) projects
- flood protection and prevention measures
- children's playgrounds
- green spaces
- waste disposal site planning
- urban planning and development
- 3D-project visualisation

When linking several different transport systems, editing functions which meet the needs of each are especially helpful. CARD/1 provides solutions for integrated editing of multi-modal transport infrastructure (road - rail - waterways).

# 术顾问





## Excellence with economy

With CARD/1, you only choose and pay for what you really need.

The modular structure allows individual programs to be carefully selected to match your task. If your field of activity expands, simply send us a further order, which will then be handled quickly and without bureaucracy.

In CARD/1, you are working without a scale factor (at a scale of 1:1). The software manages all data in a special separate database. You do not need to worry about where your project and the associated files are held. CARD/1 can, of course, be adapted to any local or national standards and regulations. Alternatively, we would be pleased to do that for you if you prefer.



Benin: Nokoue lagoon bridge, route design covering 3500 m including access roads.

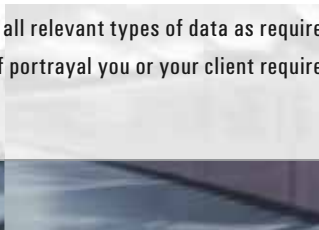
## Integration and fitness for purpose

From start to finish – from field measurement to complete plans – CARD/1 supports you with a high level of automation at every stage.

To this powerful system we have added data exchange features using standard CAD applications, GIS products and environmental expert systems. You are working with AutoCAD? No problem.

CARD/1 provides all your project data for direct onward processing in AutoCAD. All your required data – even where volumes are large – can, of course, be easily imported into your CARD/1 system: whether to import data directly from total stations, to read in ASCII files from floppy disks, to import data using popular interfaces such as DXF, DWG and DGN or to read in scanned plans, digital photographs or aerial photographs – everything is kept simple.

You can combine all relevant types of data as required, thus achieving whatever form of portrayal you or your client require, including 3D-visualisation.



Poland: Design of petrol station at Pomellen on the Polish A6 motorway close to the German border crossing.

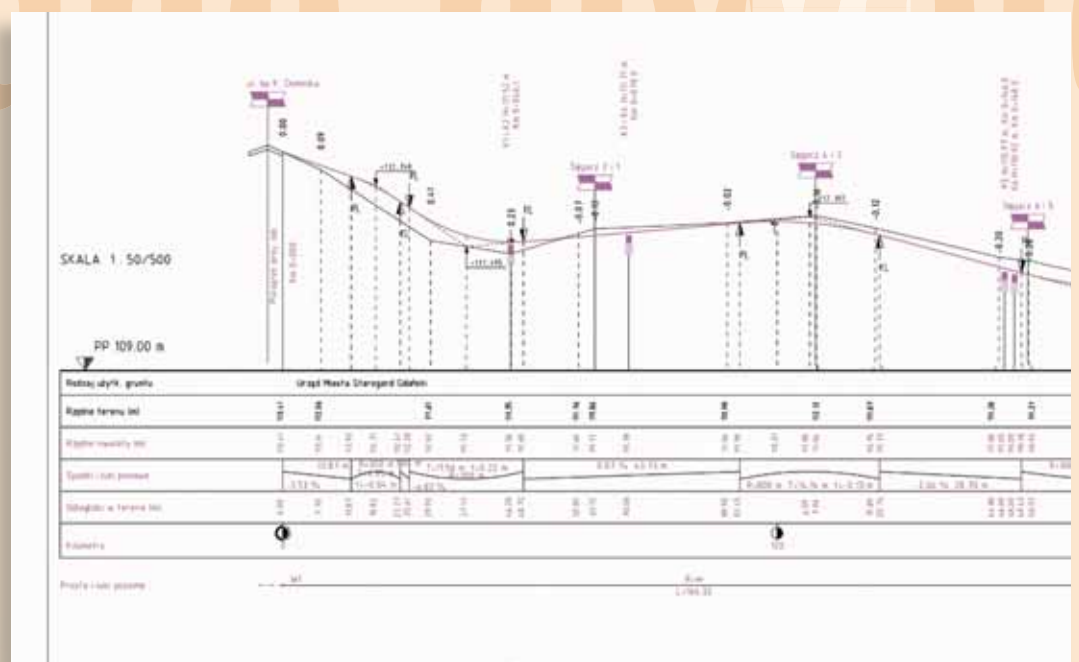


# Automation and efficiency

## Drainage

CARD/1 works with several well known, integrated, hydraulic calculation procedures for sewers, to assist your drainage calculations and drawings. Your engineer's office deals with water management tasks in residential areas? The creation of a public network documentation system, the development of a drainage master plan, the production of general sewer plans, the recalculation of an existing sewer network either in accordance with the time coefficient method or hydrodynamically, the dimensioning of stormwater tanks; all of these are only individual components of the whole task.

However, engineering practice requires solutions which are fully integrated into an overall system. CARD/1 therefore provides all the required data from the fields of land surveying, cadastre (land registration) and transport systems in order to edit projects and to produce maps and plans. The resulting synergy effects can be converted into decisive competitive advantages.



## Land surveying

CARD/1 is your expert assistant on all your surveying tasks, especially when using new techniques such as GPS.

The land survey process includes all the required survey computations. Amazingly simple, interactive-graphic editing functions are available to adjust control network measurements. You may like to know that our network calculation software has been certified by Deutsche Bahn AG.

Measurement data and coordinates from total stations and automatic levelling instruments are imported and processed correctly. You produce any kind of plans, or maps on particular themes? You will, of course, do that with CARD/1 using automated algorithms, and the output for all kinds of scales and types of display is generated at the touch of a button.

In contrast to the conventional electronic fieldbook, the graphic fieldbook facilitates your surveys on site, as your data is subject to an immediate graphic check. In addition, all existing project data is available to provide the context. It can also be used to calculate setting-out values. Motorised total stations can be directly controlled by the graphic fieldbook. This includes an automatic search for connecting points as well as target point tracking.

CARD/1 enables all problems to be solved immediately on site, thus effectively supporting your colleagues in the office.

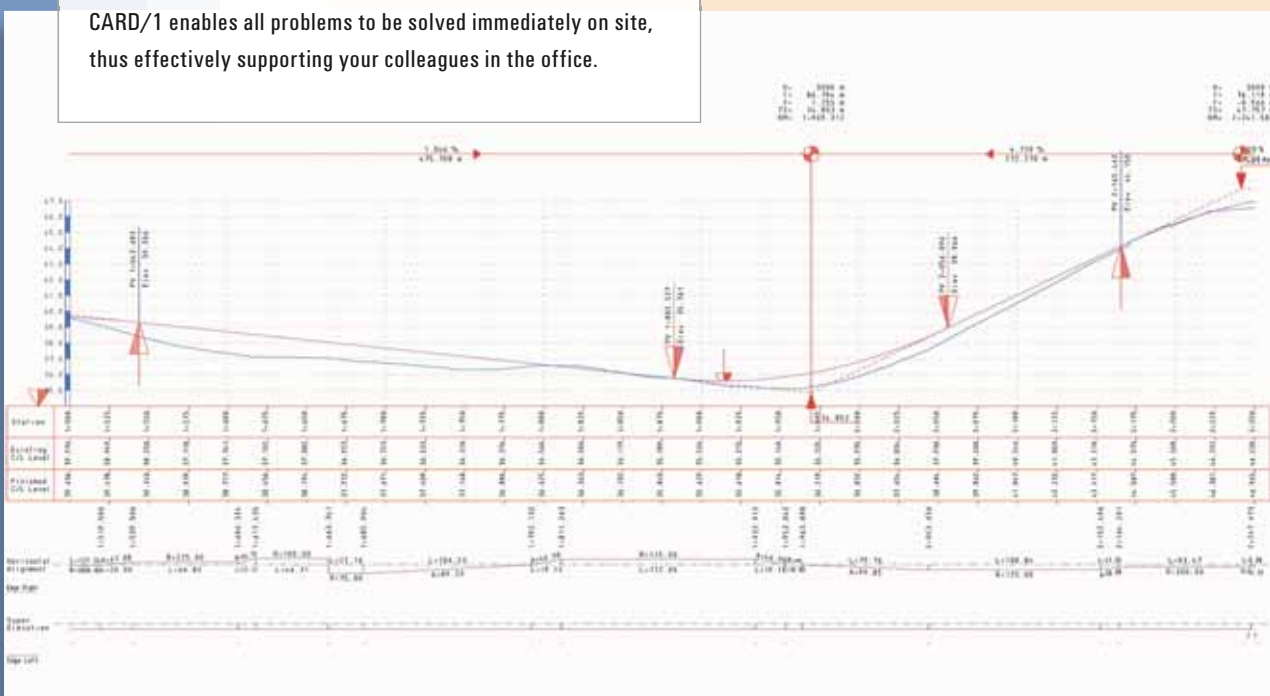
## Railways

Whether for a small private railway, a national rail network or a magnetic levitation project, CARD/1 is the leading system.

The decisive arguments in favour of the CARD/1 package are provided by its excellent three-dimensional route design options including all the components required for new high speed lines, conventional main lines, suburban and underground lines, tramways, regional networks and even Maglev. Deutsche Bahn AG regulations are integrated, together with the complete switch catalogue. This allows CARD/1 to calculate all switches automatically.

Use the software for new construction, upgrade and reconstruction/repair projects as well as associated facilities such as stations, noise protection and drainage works. Further applications include bus stations, park-and-ride (P+R) facilities, container terminals and freight transport centres.

The renovation and optimisation of existing railway lines has become a major activity. Geometrical design data is often unavailable for existing lines. CARD/1 helps here by automatically recovering horizontal and vertical alignment data from measured track points.



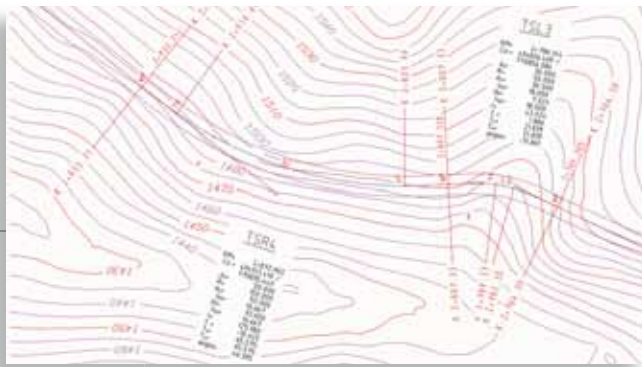
Senegal: Major reconstruction of an inner-city street in Dakar.



# Ease and convenience



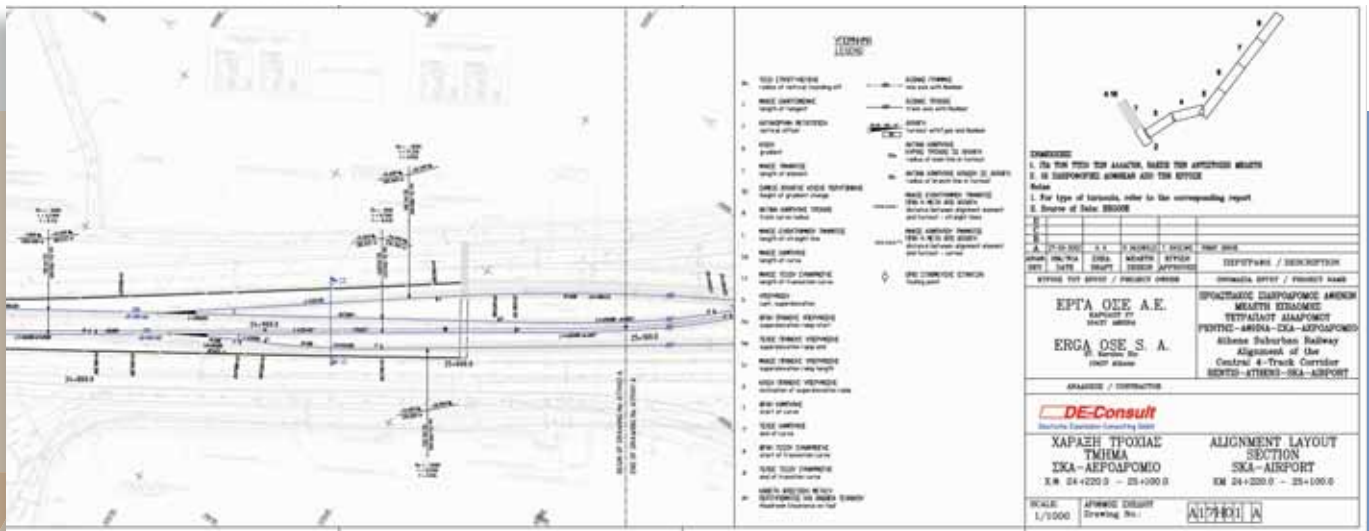
China: Pudong International Maglev station.



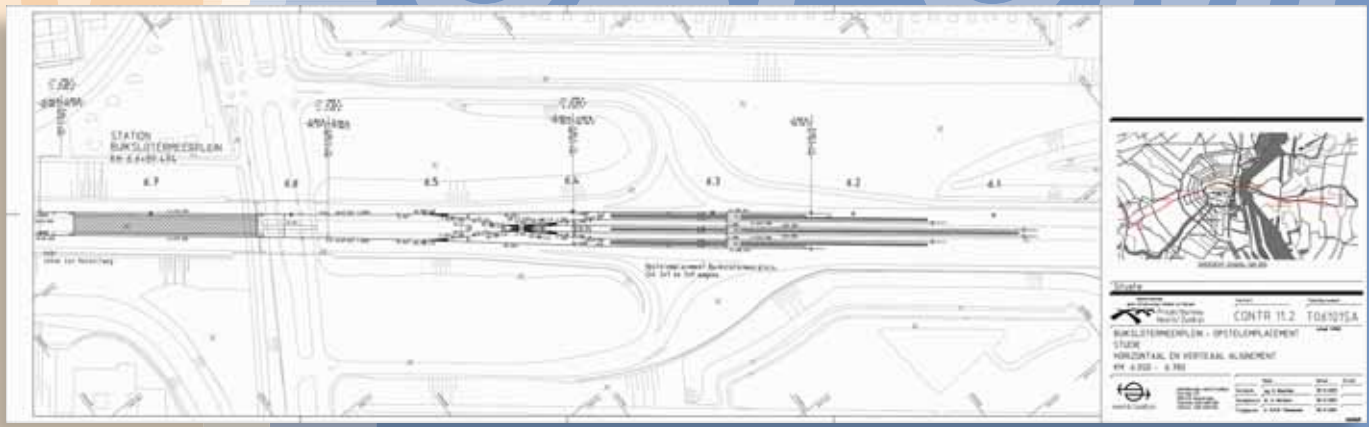
China: Preliminary design for road planning project in Xinjiang Province.



Turkey: Terminal loop of a tram line.



Greece: Suburban railway line in Athen.



The Netherlands: Amsterdam METRO.



CARD/1 offers the integrated automatic production of maps and plans. Whether for volume computations, site maps, height profiles, cross-sections, digital terrain models or switch elevation plans in any conceivable combination, plans and information at a wide range of scales can be output to any Windows printer.

## Safe and reliable design

Wherever data has to be available for checking, an appropriate list output is available. The whole package can be easily adapted to the requirements of different countries - by the user.

The current state of design projects can be presented digitally in clear and meaningful plans and in the digital design file by using CARD/1 eView at any time.

If, one day, you need any technical support, the CARD/1 team will be pleased to help you.



Germany: 3D-route simulation of a section of a road.



Germany: 3D-route simulation of a section of railway.

3D - route simulation

## The company

IB&T GmbH develops and markets the CARD/1 software. Together with its marketing partners, IB&T is currently attending to the needs of some 5400 satisfied national and international users - from Germany to China.

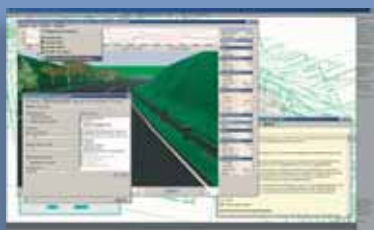
CARD/1 was first launched 19 years ago. The software was developed by IB&T GmbH owner and managing director, Diplom-Ingenieur Harry Basedow. This powerful CAD system has become established as a standard in the field of infrastructure design.

Today, 75 highly motivated and well qualified employees work together full-time to upgrade the software and to market it. The Head Office near Hamburg is assisted by a project development office in Halle and a number of subsidiaries both inside and outside Germany. IB&T gains additional expertise thanks to its cooperation with highly capable software development partners.

Please make use of our international service network: Together with our sales partners, we offer comprehensive training, expert technical support, hotline service and project support consultancy.



Russia: Inwecom technology fair in St. Petersburg.



The CARD/1 Russian version.



China: Hangfang Chen and her colleagues in the CARD/1 Xian office.



CARD/1 user-training in Xi'an.



Croatia: Road construction conference in Trogir.



Germany: The service team in the CARD/1 head office in Norderstedt.

We would like to express our thanks to the following companies:

- RRI BELLER Consult GmbH, Freiburg, Germany
- DIM design office, Szczecin, Poland
- Drogprojekt design office, Zielona Gora, Poland
- PINORD design office, Starogard Gdanski, Poland
- PCI Polyconsult Ingenieure, Senegal
- SMEDI, Shanghai, China
- SIEMENS, Berlin, Germany
- GI-CONSULT GmbH, Berlin, Germany
- DE-Consult GmbH, Berlin, Germany
- A+S Consult GmbH, Dresden, Germany
- BBCONSULT, Markt Bibart, Germany

**CARD/1 – near you****IB&T Ingenieurbüro Basedow & Tornow GmbH****IB&T Head Office Hamburg**

Thomas Tornow Haus- An'n Slagboom 51  
22848 Norderstedt  
Phone +49 (0) 40/5 34 12-0  
Fax +49 (0) 40/5 34 12-100  
Sales -400 · Training department -300  
info@card-1.com · www.card-1.com

**IB&T Berlin**

Ulmenallee 21 · 16356 Ahrensfelde  
Phone +49 (0) 30/93 55 41-40  
Fax +49 (0) 30/93 55 41-41  
info\_berlin@card-1.com · www.card-1.com

**IB&T Düsseldorf**

Rüdigerstraße 20 · 40472 Düsseldorf  
Phone +49 (0) 211/52 28 83-10  
Fax +49 (0) 211/52 28 83-99  
info\_duesseldorf@card-1.com · www.card-1.com

**IB&T Stuttgart**

Gaußstraße 3 · 73230 Kirchheim unter Teck  
Phone +49 (0) 70 21/7 40 49-0  
Fax +49 (0) 70 21/7 40 49-9  
info\_stuttgart@card-1.com · www.card-1.com

**IB&T Bayern**

Sandstraße 11 · 73431 Aalen  
Phone +49 (0) 73 61/5 28 71 25  
Fax +49 (0) 73 61/5 28 71 26  
info\_bayern@card-1.com · www.card-1.com

**IB&T Subsidiaries****GEO DIGITAL GmbH**

Rüdigerstraße 20  
40472 Düsseldorf  
Phone +49 (0) 211/52 28 83-0  
Fax +49 (0) 211/52 28 83-99  
info@geodigital.de · www.geodigital.de

**RZI Software GmbH**

Schupfer Straße 1  
90482 Nürnberg  
Phone +49 (0) 911/50 49 90-0  
Fax +49 (0) 911/50 49 90-20  
info@rzisoftware.de · www.rzi.de

**IB&T China**

VR China  
Xi'an CARD/1 Software Co., Ltd.  
Room 11404 · Kaichuangguoji Building  
31 Gaoxin Road · 710075 Xi'an  
Phone +86 (0) 29/88 38 60 22  
Fax +86 (0) 29/88 38 60 22 ext. 800  
info\_china@card-1.com · www.card-1.com.cn

**IB&T Partner****IB&T Partner Aachen**

Ingenieurbüro Dietmar Spotke  
Astenetweg 1 · 52078 Aachen  
Phone +49 (0) 241/92 26 38  
Fax +49 (0) 241/92 22 95  
info@spotke.de · www.spotke.de

**IB&T Partner Bad Bramstedt**

Ingenieurbüro Claus Leitzke  
Glückstädter Straße 39 · 24576 Bad Bramstedt  
Phone +49 (0) 41 92/89 79 20  
Fax +49 (0) 41 92/89 79 21  
info@icleitzke.de · www.card-1.com

**IB&T Partner Dresden**

IGM Interaktive Grafik Milde GmbH  
Winckelmannstraße 74 · 01728 Bannewitz  
Phone +49 (0) 351/4 00 05-0  
Fax +49 (0) 351/4 00 05-25  
info@igmilde.de · www.igmilde.de

**IB&T Partner GUS-Staaten**

A+S Consult GmbH Forschung und Entwicklung  
Vogesenweg 1 · 01309 Dresden  
Phone +49 (0) 351/3 12 13 30  
Fax +49 (0) 351/3 12 13 32  
info@apluss.de · www.card-1.ru

**IB&T Partner Österreich**

Moschitz cad+consulting  
Kleinsemmering 181 · A-8160 Gutenberg a.d. Raab  
Phone/Fax +43 (0) 3172/84 83  
office@moschitz.cc · www.card-1.at

**IB&T Partner Polen**

CARD/1-POL Sp. z o. o.  
Ul. Klajpedzka 3B/3 · PL-81-533 Gdynia  
Phone +48 (0) 58/5 11 01 61  
Fax +48 (0) 58/5 11 01 62  
card@card.pl · www.card.pl

**IB&T Partner Schweiz**

IngWare GmbH Bau-Informatik  
Seestraße 78 · CH-8703 Erlenbach  
Phone +41 (0) 19/10 34 34  
Fax +41 (0) 19/10 34 35  
info@ingware.ch · www.ingware.ch

**IB&T Partner Spanien**

geoconcept, s.l.  
C/ Dr. Lleonart, 11-bajo  
46100 Burjassot (Valencia)  
Phone +34 (0) 96 363 28 12  
Fax +34 (0) 96 364 62 39  
info@geoconcept.es

**IB&T Partner Ungarn**

Miklós Tok  
Märkische Straße 13 · 15569 Woltersdorf  
Phone +49 (0) 33 62/50 13 99  
Fax +49 (0) 32 22/10 637 52  
info\_ungarn@card-1.com · www.card-1.com