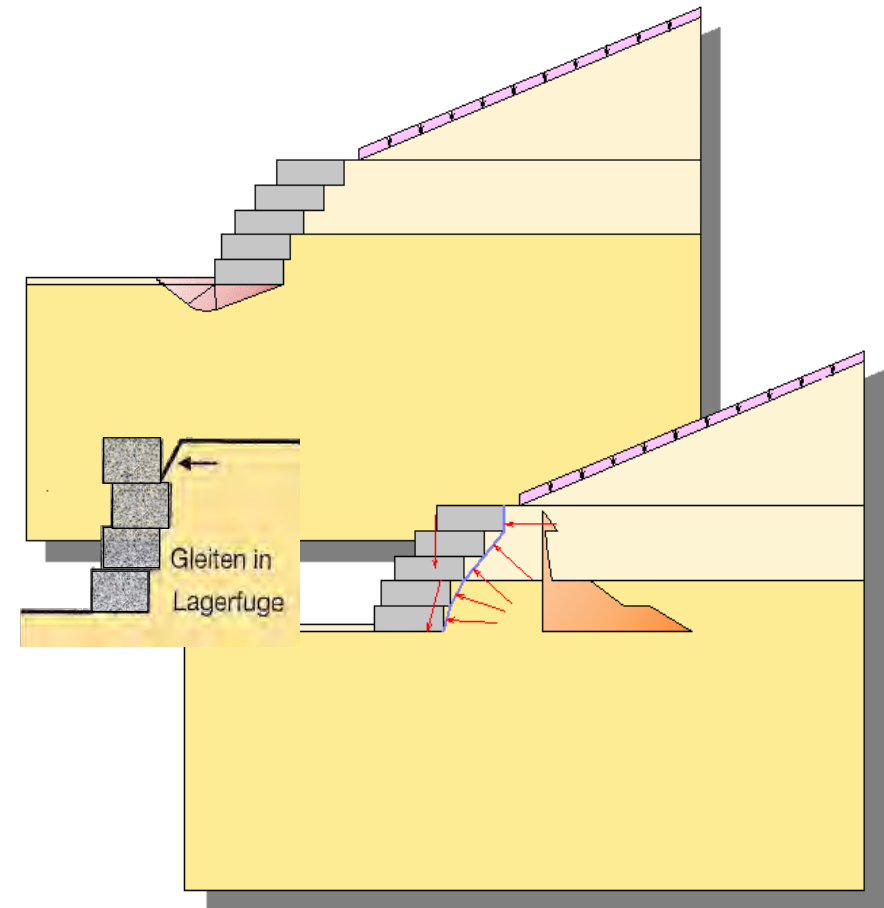
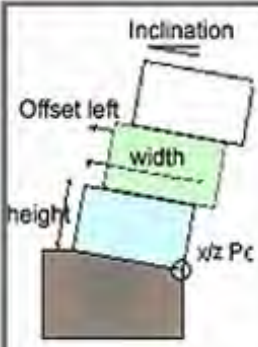


- Clearly arranged and efficient working interface
- Parameterisable, polygonal ground level and ground database
- Complete graphic-oriented input and editing
- Optimum control of all modifications
- Simple input of rectangular and polygonal segments
- Free selection of loads and water levels
- Geotechnical design according to DIN / EN 1997-1 with national annexes for DE, AT & CZ/SK
- Verifications of internal and external stability
- Element failure analysis for single gabions
- Clearly arranged and complete result output including graphics and preview functions



**Options gabion**

**Inclination**



Offset left:

width:

height:

$\gamma/z P_c$

**Selected Gabion element**

Width:   All equal

Height:   All equal

Distance left:   All equal

Weight:   All equal

Compr. strength:   All equal

delta S,k:   All equal

**Whole wall:**

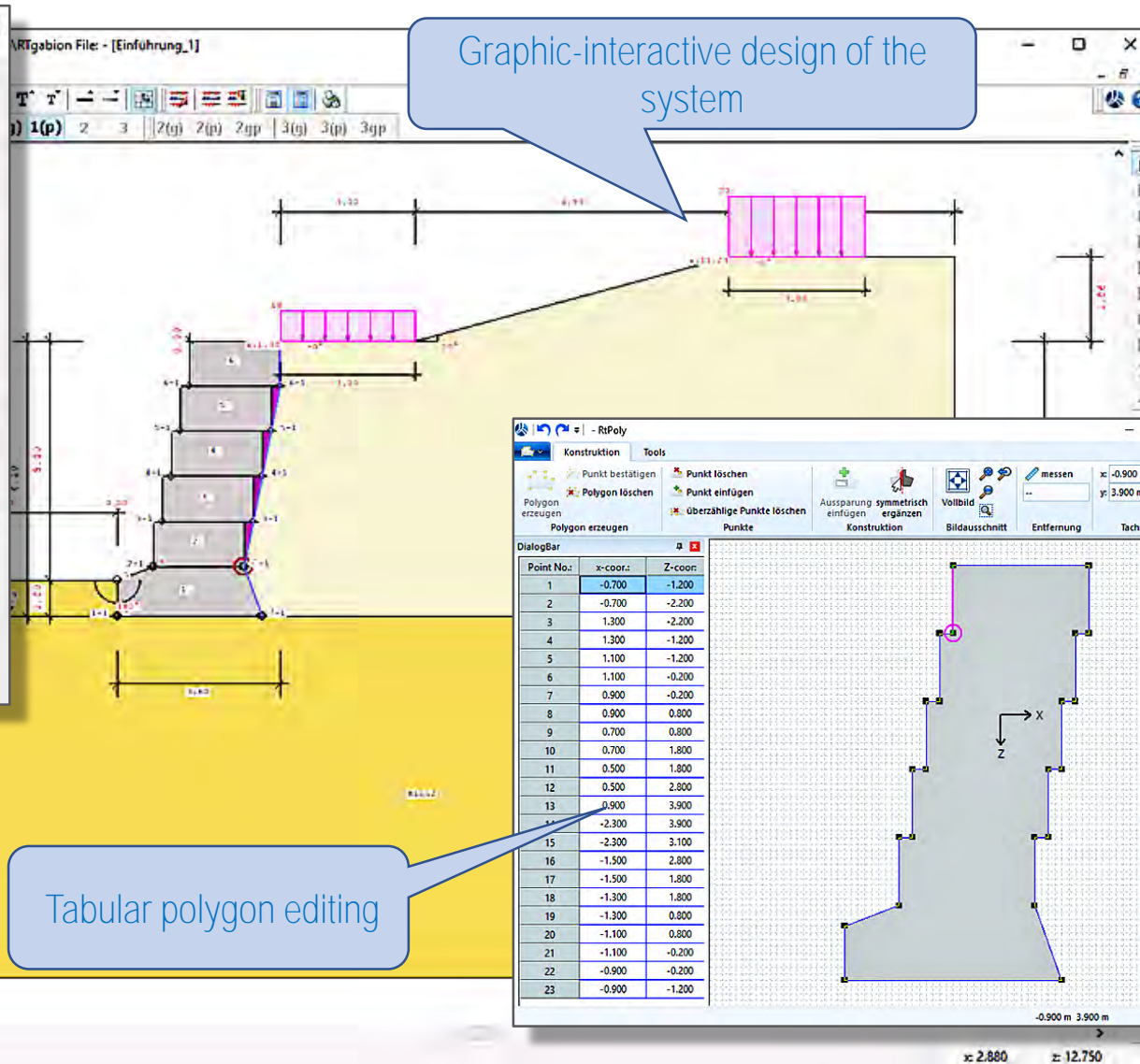
x-pos:  z-pos:  Inclination:

Automatical adjustment of the ground

Merge close points

Minimum point distance:

RTgabion File - [Einführung\_1]



Graphic-interactive design of the system

**- RrPoly**

Konstruktion Tools

- Punkt bestätigen
- Punkt löschen
- Polygon löschen
- Punkt einfügen
- Überzählige Punkte löschen
- Punkte
- Aussparung einfügen
- symmetrisch ergänzen
- Konstruktion
- Vollbild
- Bildausschnitt
- Entfernung
- Tacho

messen x: -0.900 m y: 3.900 m

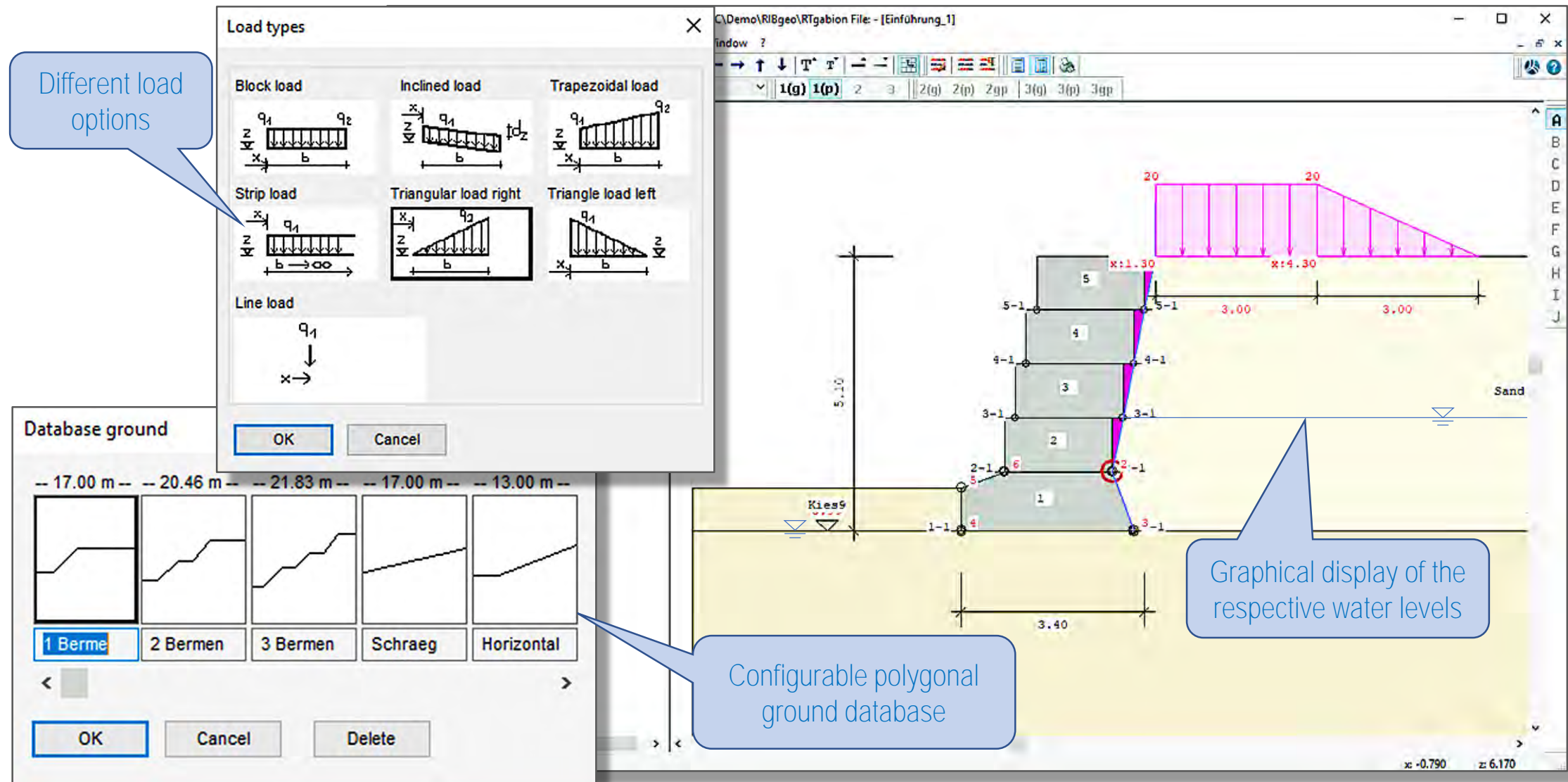
Point No.	x-coor.	Z-coor.
1	-0.700	-1.200
2	-0.700	-2.200
3	1.300	-2.200
4	1.300	-1.200
5	1.100	-1.200
6	1.100	-0.200
7	0.900	-0.200
8	0.900	0.800
9	0.700	0.800
10	0.700	1.800
11	0.500	1.800
12	0.500	2.800
13	-0.900	3.900
14	-2.300	3.900
15	-2.300	3.100
16	-1.500	2.800
17	-1.500	1.800
18	-1.300	1.800
19	-1.300	0.800
20	-1.100	0.800
21	-1.100	-0.200
22	-0.900	-0.200
23	-0.900	-1.200

Function detail: Define rectangle!

x: 2.880 z: 12.750

Automatic generation of gabions

Tabular polygon editing



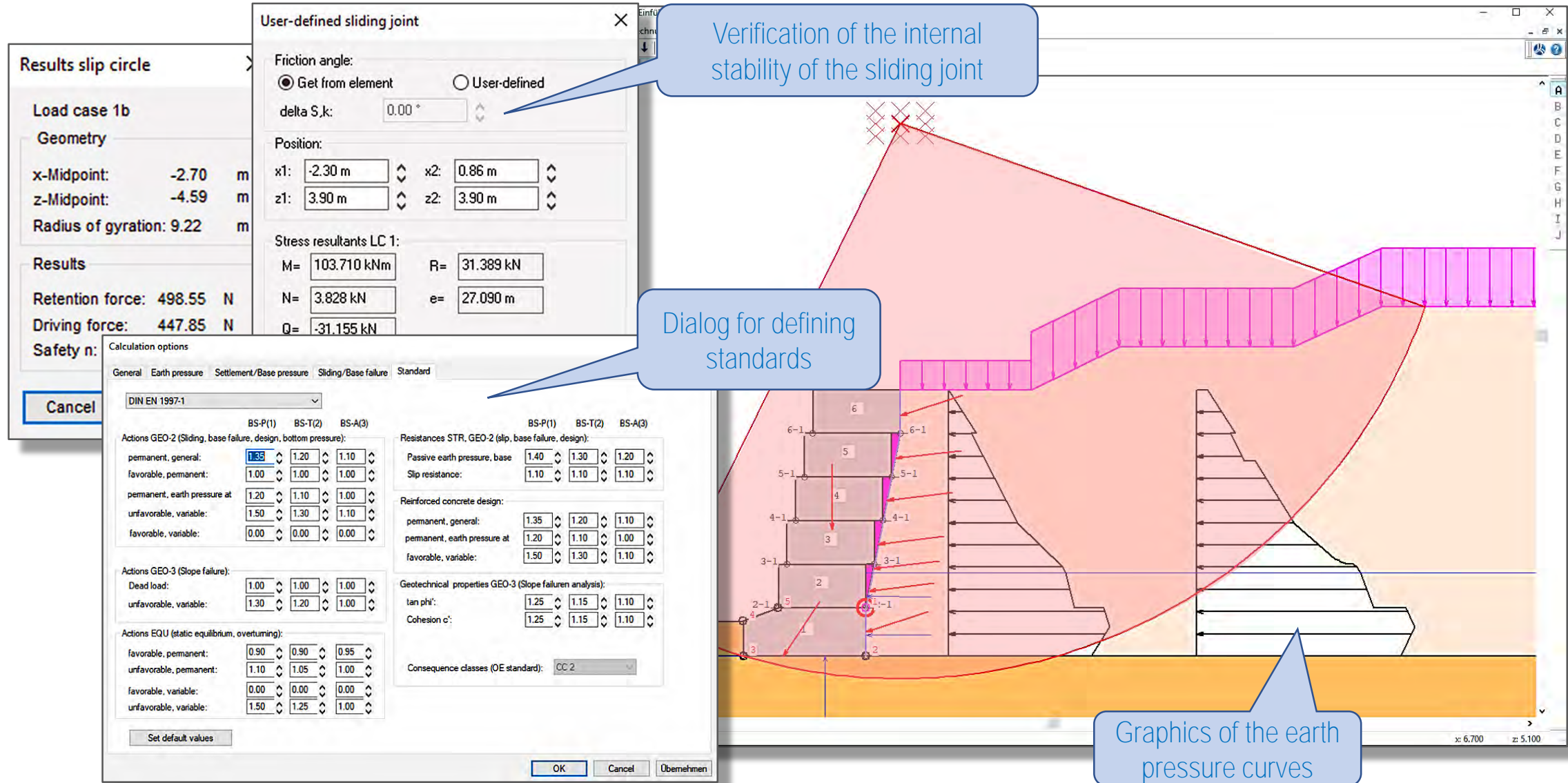
The screenshot displays the RIB software interface with several key components:

- Load types dialog:** A window titled "Load types" with a close button (X) in the top right. It contains six load type icons: Block load, Inclined load, Trapezoidal load, Strip load, Triangular load right, and Triangle load left. Below these is a "Line load" section with a coordinate system (x, z) and a load arrow. At the bottom are "OK" and "Cancel" buttons.
- Database ground dialog:** A window titled "Database ground" with a close button (X) in the top right. It shows a grid of ground profile options with elevations: -17.00 m, -20.46 m, -21.83 m, -17.00 m, and -13.00 m. The options are "1 Berme", "2 Bermen", "3 Bermen", "Schraeg", and "Horizontal". At the bottom are "OK", "Cancel", and "Delete" buttons.
- Main application window:** Titled "C:\Demo\RIBgeo\RTgabion File: - [Einführung\_1]". It shows a cross-section of a gabion structure with five levels (1-5) and a water table. A pink trapezoidal load is applied to the top surface. Dimensions include a total height of 5.10 m and horizontal segments of 3.00 m and 3.40 m. A "Kies9" layer is shown below the gabion. A coordinate system (x, z) is visible at the bottom right.

Callouts provide additional context:

- "Different load options" points to the "Load types" dialog.
- "Configurable polygonal ground database" points to the "Database ground" dialog.
- "Graphical display of the respective water levels" points to the water table line in the main application window.

# Different Calculation and Design Options



**Results slip circle**

Load case 1b

**Geometry**

x-Midpoint: -2.70 m  
z-Midpoint: -4.59 m  
Radius of gyration: 9.22 m

**Results**

Retention force: 498.55 N  
Driving force: 447.85 N  
Safety n:

**User-defined sliding joint**

Friction angle:  
 Get from element  User-defined  
delta S,k: 0.00 °

Position:  
x1: -2.30 m x2: 0.86 m  
z1: 3.90 m z2: 3.90 m

Stress resultants LC 1:  
M= 103.710 kNm R= 31.389 kN  
N= 3.828 kN e= 27.090 m  
Q= -31.155 kN

**Calculation options**

General Earth pressure Settlement/Base pressure Sliding/Base failure Standard

DIN EN 1997-1

BS-P(1) BS-T(2) BS-A(3)

Actions GEO-2 (Sliding, base failure, design, bottom pressure):

permanent, general:	1.05	1.20	1.10
favorable, permanent:	1.00	1.00	1.00
permanent, earth pressure at	1.20	1.10	1.00
unfavorable, variable:	1.50	1.30	1.10
favorable, variable:	0.00	0.00	0.00

Resistances STR, GEO-2 (slip, base failure, design):

Passive earth pressure, base	1.40	1.30	1.20
Slip resistance:	1.10	1.10	1.10

Reinforced concrete design:

permanent, general:	1.35	1.20	1.10
permanent, earth pressure at	1.20	1.10	1.00
favorable, variable:	1.50	1.30	1.10

Geotechnical properties GEO-3 (Slope failure analysis):

tan phi':	1.25	1.15	1.10
Cohesion c':	1.25	1.15	1.10

Consequence classes (OE standard): CC 2

Graphics of the earth pressure curves

Verification of the internal stability of the sliding joint

Dialog for defining standards

RtConfig  
File Export View ?

RTgabion Gabions V:18.0 01032018  
File: Einführung\_1  
Project name:  
Gabione mit Betonfundament

**System A**

**Used standards:**  
[DIN EN 1997-1](#)

Partial safety factor for actions and loadings:

Design situations:	B5-P (1q)	B5-T (2)	B5-A (3)
<b>STR/GEO-2: Verification for the nominal limit states:</b>			
permanent, general:	1.35	1.20	1.10
unfavorable variable:	1.50	1.30	1.10
permanent, earth pressure at rest:	1.20	1.10	1.00
<b>EQU: Proof of equilibrium</b>			
favorable, permanent:	0.90	0.90	0.95
unfavorable, permanent:	1.10	1.05	1.00

Table and graphics results

Calculation options

General Earth pressure Settlement/Base pressure Sliding/Base failure Standard

Type of earth pressure calculation:  
 Earth pressure computation acc. to Culm:  
 Active earth pressure  
 Earth pressure at rest  
 Increased active earth press.  
 Fraction of earth pressure at rest: 30 %

Earth pressure approach at:  
 Real wall backside  
 At the vertical section  
 At user-defined edge  
 For slip line approach the ground slope must be given.  
 Ground slope beta: 0.00 °

Earth pressure at rest:  
 Calculation according to Weissenbach  
 Conc factor n=3 (Fröhlich)  n=4

Calculation of the coefficient:  
 acc. to Simmer  DIN 4085-100  
 acc. to Siedeck  acc. to Werner

Consideration of cohesion:  
 Classical approach  
 According to DIN 4085  
 min Kah at cohesion: 0.180  Increase of minKah for slope

Area loads:  
 Iterative load calculation  
 Number of iterations: 5

Earth resistance:  
 Earth resistance considered in percent: 30 %

Angle of wall friction approach:  
 By soil layer parameters  
 Set delta to alfa  
 User-defined value  
 User-defined delta: 0 °

OK Cancel Übernehmen

Configurable result output

# Clear and verifiable result list with graphics

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**RTgabion Gabions** V:18.0 01022018  
 File: Einführung\_1  
 Project name: Gabions with re Four

**System A**

**Used standards:**  
 DIN EN 1997-1

Partial safety factor for actions and loadings:

Design situations:	BS-P(Lq)	BS-T(I2)	BS-A(3)
STR, GEO-1: Verification for the nominal limit states:			
permanent, general:	1.25	1.20	1.10
unfavorable, variable:	1.50	1.30	1.10
permanent, earth pressure at rest:	1.20	1.10	1.00
EQU: Proof of equilibrium			
favorable, permanent:	0.90	0.90	0.95
unfavorable, permanent:	1.10	1.05	1.00
favorable, variable:	0.90	0.90	0.90
unfavorable, variable:	1.50	1.25	1.00
GEO-3: Serviceability (Slip circle)			
Dead load:	1.00	1.00	1.00
unfavorable, variable:	1.30	1.20	1.00
STR, GEO-2: Resistances (slip, base failure, design)			
Earth resistance:	1.40	1.30	1.20
Slip resistance:	1.10	1.10	1.10
GEO-2: Geotechnical properties (Slip circle)			
tan phi':	1.25	1.15	1.10
Cohesion c':	1.25	1.15	1.10

Clear and complete results with graphics

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**Groundwater:**

Water pressure at wall

Groundwater right: 1.80 m  
 Groundwater left: 2.90 m

**Soil layers:**

**Soil layer parameters:**

Name	phi[°]	delta	Cohesion	gamma	gamma'	Es
BackfillingKies	30.00	0.00	0.00	20.00	10.00	0
Sand(mittel)	35.00	0.00	0.00	21.00	8.00	0
Kies1	35.00	23.23	0.00	22.00	10.00	0
Kies2	35.00	23.23	0.00	22.00	10.00	0

Page: 3

Consideration of different earth pressure methods for the internal and external stability analyses

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**Results:**

**Earth pressure:**

**BS-P(Iq):**

z[m]	sigma'z[kN/m²]	sigma'z0[kN/m²]
0.00	0.000	0.000
0.20	0.820	0.420
0.40	1.640	0.840
0.60	2.460	1.260
0.80	3.280	1.680
1.00	4.100	2.100

**BS-T(Iq):**

z[m]	sigma'z[kN/m²]	sigma'z0[kN/m²]
0.00	0.000	0.000
0.20	0.820	0.420
0.40	1.640	0.840
0.60	2.460	1.260
0.80	3.280	1.680
1.00	4.100	2.100

Graphic and table results of the earth pressure redistribution