

Portable solutions with GEONIS server

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About Markus Schenardi

2001: Master Degree in Geomatics
Swiss Federal Institute of Technology, Zurich

2001-2010: Swissphoto Group
Head of IT, Project manager, WebGIS Hosting

Since 2010: Geocom Informatik AG

- Senior GIS Consultant
- Project manager
- Product owner for server and portable products



Geocom Informatik AG

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Geocom in a Nutshell

- 1995 Spin-Off of an engineering Company
- 2001 Change to ESRI ArcGIS technology
- 2010 Member of the Esri Deutschland Group
- 2010 Establishing Geocom Informatik GmbH for the German market
- 2013 Esri Platinum partner

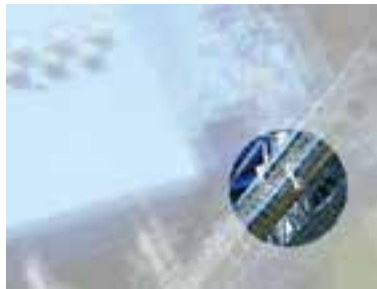
- Currently around 100 employees
- 6 Geocom offices in Switzerland and Germany
- Present with partners in more than 20 countries on all continents



Market segments



Energy



Plant Management



Cadastral Survey



Public Infrastructure

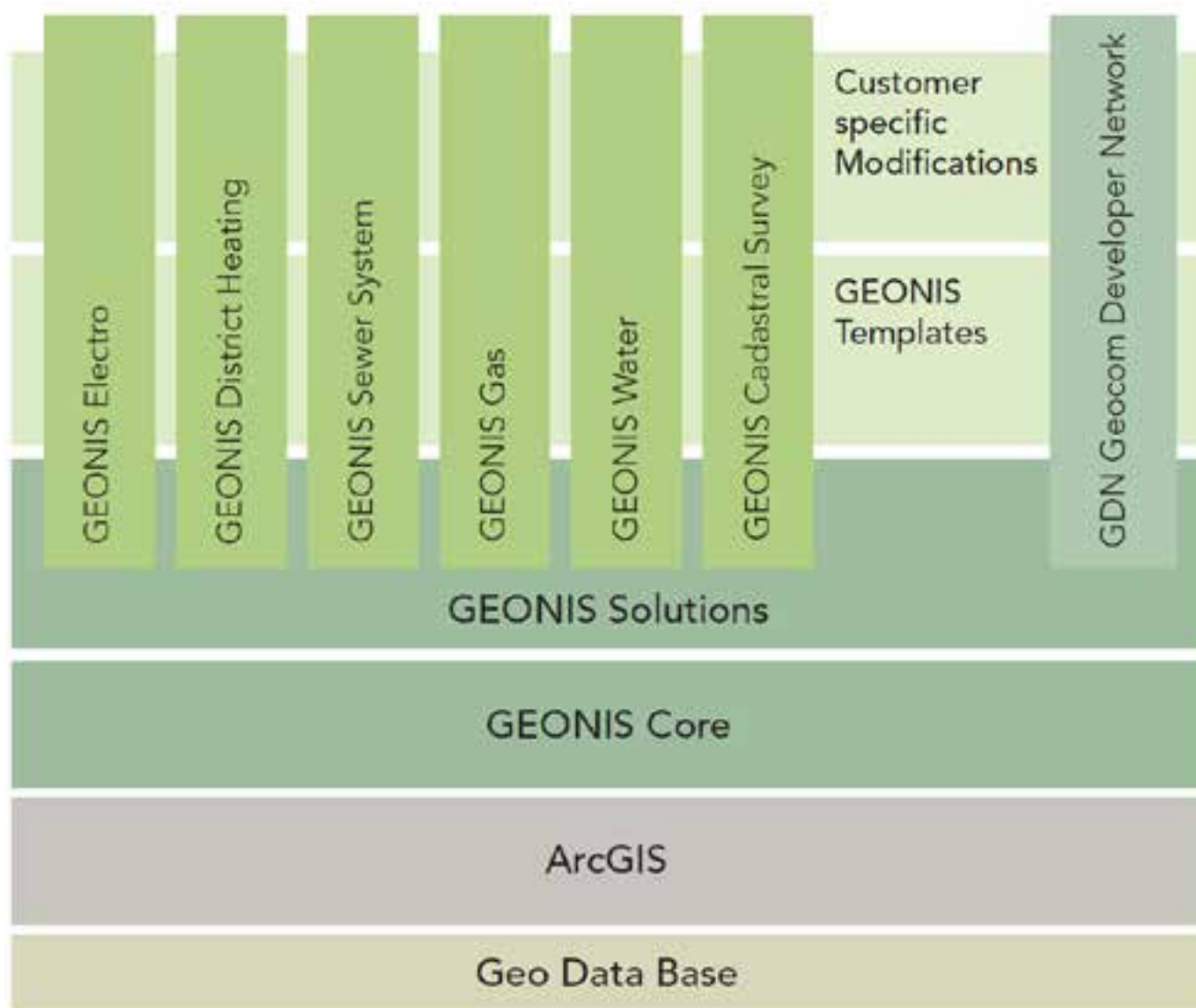


Transportation and
Logistic

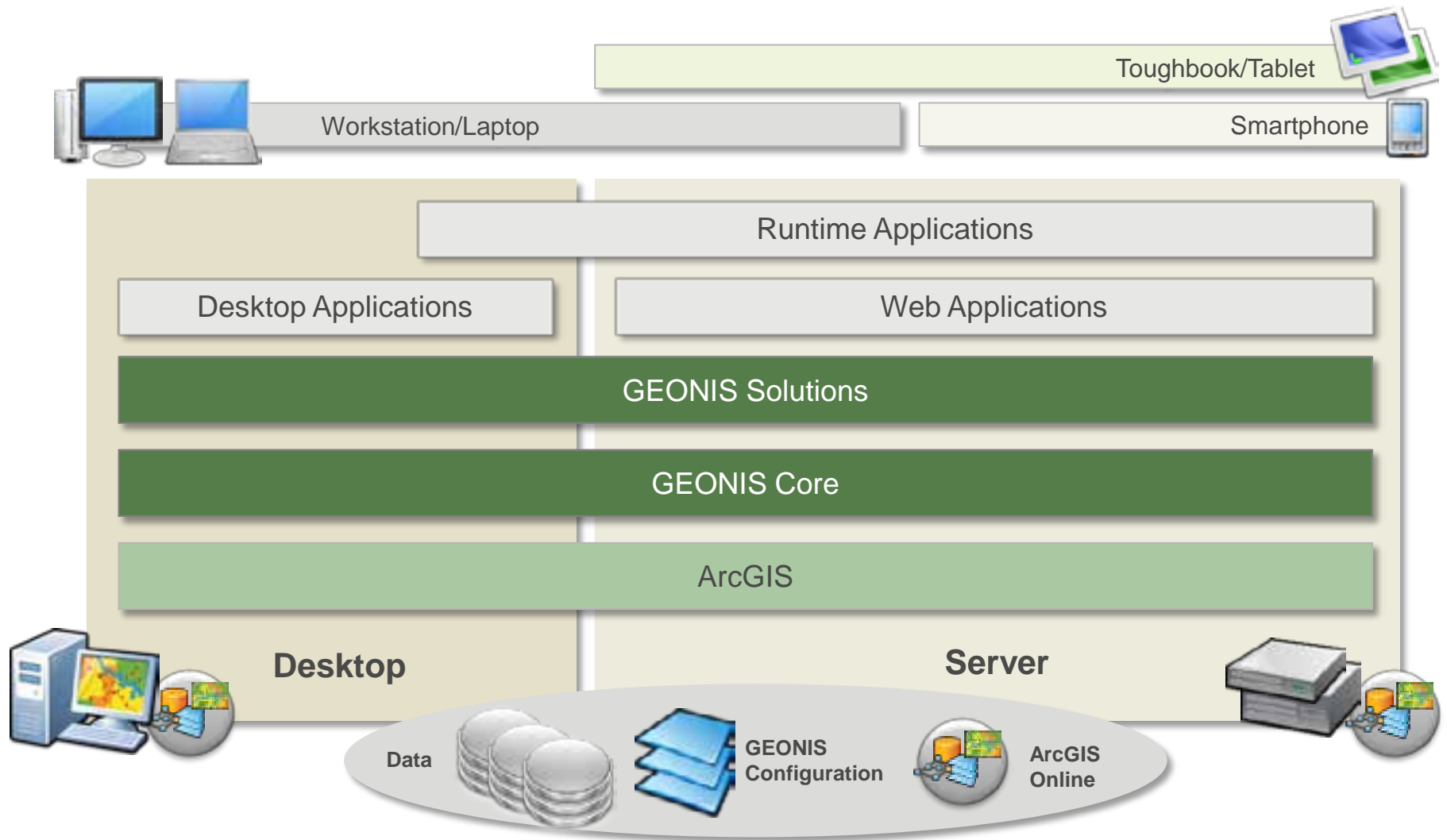
Overview GEONIS



GEONIS Core & Solutions



One Solution, Many Options

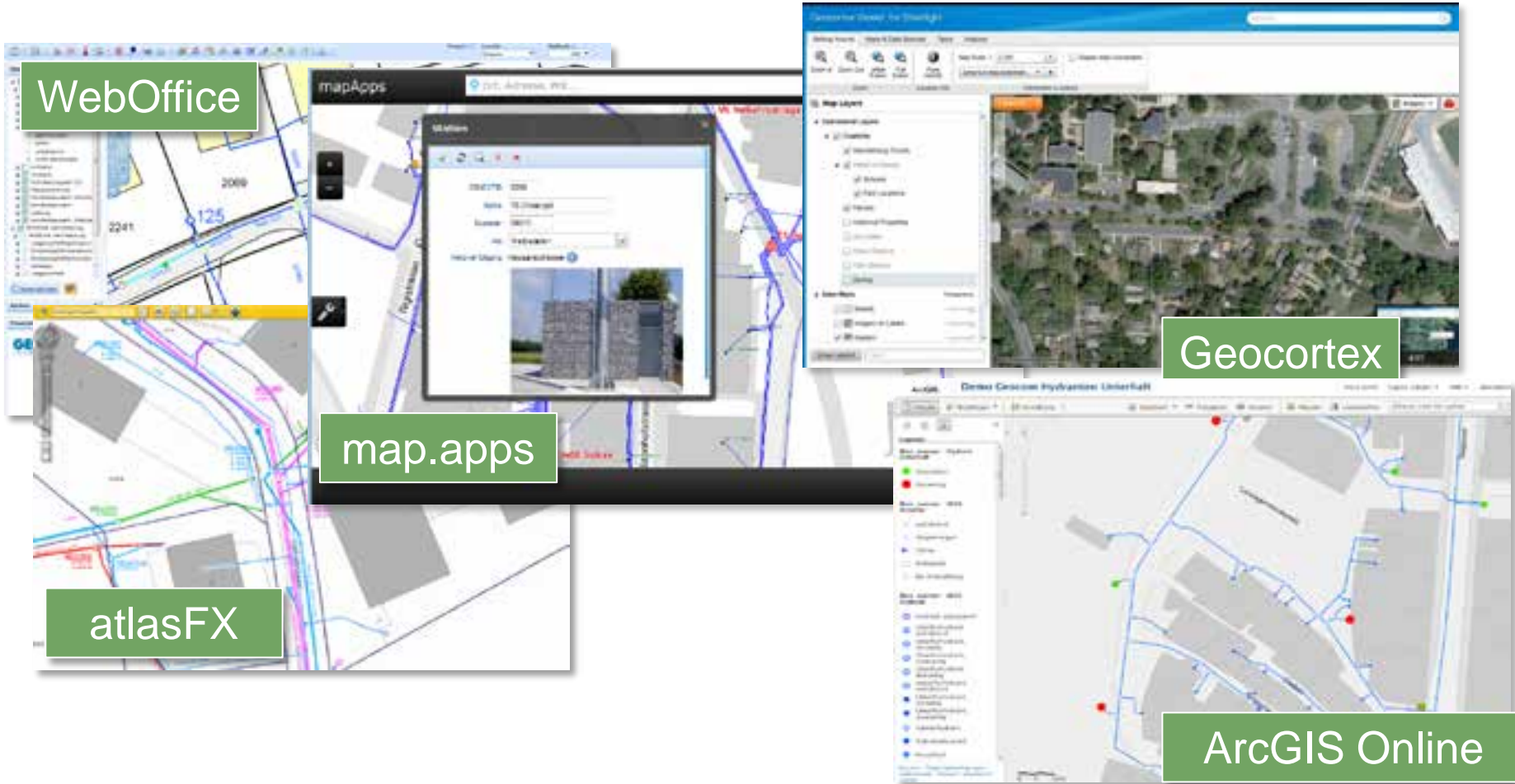


GEONIS server



Enrichment WebGIS with GEONIS Core Functionality

Any solution can be enriched with GEONIS Core functionality



GEONIS server 6

- Enrich any system with GEONIS capability
- Leverage information across the enterprise
- Implement projects faster and more elegant
- Choose your desired device and technology
- Extend GEONIS server with your own functionality
- Complete Services architecture (REST/SOAP), cloud-ready
- Compatible with ArcGIS for Server 10.2

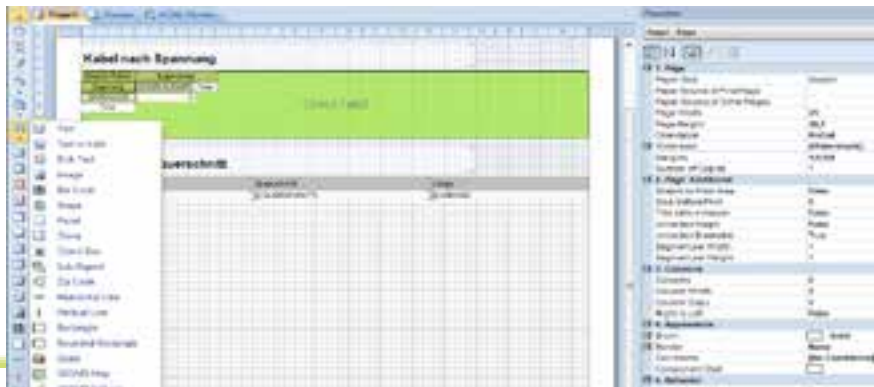


Selection of GEONIS server modules



GEONIS Reporting

- Delivers GEONIS report as pdf, word, excel, html etc.
- Uses GEONIS data provider to access one ore more Esri Geodatabases
- Includes maps, based on several map services (base map, operational layers)
- Configuration with GEONIS report editor



The image shows a screenshot of the GEONIS report viewer. The report is titled 'Datenblatt Projekt' (Project Data Sheet) and is for the project 'spc cablecom G0011'. The project name is 'TEST1' and the project number is '00'. The report includes a map of the project area and a breakdown of costs.

Projektname: TEST1
Projektnummer: 00
 Grundgeschätz: Fr. 1'100.00
 KEY: Fr. 1'070.00
 Schlüssel: Fr. 110.00
 Bewilligung: Fr. 282.00

Projektante Punkte

Anzahl	Bezeichnung	Preis pro Punkt	Kosten
2	Montageleistung	à Fr. 100.00 / 100	Fr. 200.00
1	Schacht 1000 mm Ø 1000 mm	à Fr. 800.00 / 100	Fr. 800.00
Total			Fr. 1'000.00

Projektante Linien

Länge	Bezeichnung	Preis pro Meter	Kosten
275.251 m	Optiken in Schutz Röhre Wasser	à Fr. 40.00 / 100	Fr. 11000.44
200.417 m	Kabelzug für 90 Pappeln in Schutzrohr 70 mm Kabel	à Fr. 12.00 / 100	Fr. 2406.00
Total			Fr. 13'406.44

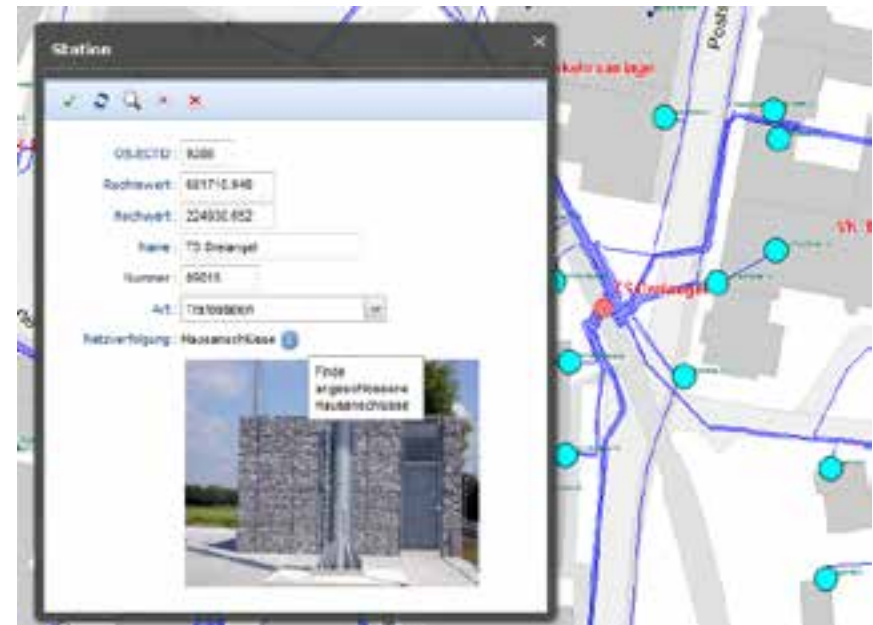
Zusammenfassung Projekt

Bezeichnung	Kosten
Grundgeschätz	Fr. 1'100.00
Projektante Punkte	Fr. 1'000.00
Projektante Linien	Fr. 13'406.44
Total (geschätzt)	Fr. 15'506.44

GEONIS Nettrace

- Runs nettrace on geometric networks
- Result:
 - Delivers resulting objects as JSON
 - Including geometry
- XML configuration

http://demo.geonisserver.com/GNS/latestStable/GEONIS.Server/nettrace/ele/ELE_DE_OWNER/query?where=networkid=finde_hausanschluesse_von_station%20and%20start_ids=2893%20and%20start_table=ele_station%20and%20result_table=ele_hausanschluss&returnGeometry=true



GEONIS Forms

Configure forms with xml

```
<edit title="Name" width="160">
  <field>name</field>
</edit>
<edit title="Number" required="true" width="70" left="190">
  <field>item_number</field>
</edit>
<edit title="Easting" width="80" readonly="true">
  <field>easting</field>
  <data_format format_type="float" format="0.000" />
</edit>
<edit title="Northing" width="80" left="55" readonly="true">
  <field>northing</field>
  <data_format format_type="float" format="0.000" />
</edit>
<edit title="Number of transformers" width="50" left="190">
  <field>number_transformers</field>
  <paste_object source_field="number_transformers" source_table="ele_station" />
</edit>
</group>
<section title="Data" name="data_1">
  <combobox title="Telephone" width="110" filter="idx is not null" order_field="idx">
    <field>phone</field>
    <lookup_table>ele_station</lookup_table>
    <lookup_key>code</lookup_key>
    <lookup_desc>description_e</lookup_desc>
    <paste_obj>ect source_field="phone" source_table="ele_station" />
  </combobox>
  <combobox title="Monitoring" width="110" left="100" filter="idx is not null" order_field="idx">
    <field>monitoring</field>
    <lookup_table>ele_station</lookup_table>
    <lookup_key>code</lookup_key>
    <lookup_desc>description_e</lookup_desc>
    <paste_object source_field="monitoring" source_table="ele_station" />
  </combobox>
  <combobox title="Key box" width="110" filter="idx is not null" order_field="idx">
```



Station

Save Cancel

Name
TS 3

Number *
3

Easting
2568635.846

Northing
5636404.198

Number of transformers
1

- ▼ Data
- ▼ Administrative
- ▼ Line/Area
- ▼ Detail diagram
- ▼ Maintenance
- ▼ Documents
- ▼ Metadata

GEONIS Forms

- Based on REST service “attributeeditor”
- Generic User interfaces for Browsers as part of the product
- Responsive design to be used on clients with different form factors

Anybody can build his own Interface based on the service

```
{
  title: "Hausanschluss",
  - components: [
    - {
      title: "Name / Nummer",
      width: 160,
      height: 63,
      ismultiline: false,
      refId: "95f8f0c9-98fb-91ab-59f5-1fd0297e236d",
      controlType: "GEditBoxUI"
    },
    - {
      title: "Bestimmung Lage",
      width: 110,
      refId: "ce8cc445-2d2e-bd7f-eala-fe51c7c6ad26",
      controlType: "GComboBoxUI"
    },
    - {
      title: "Status",
      width: 110,
      refId: "6844d9d3-a402-5942-755d-38e6d163e820",
      controlType: "GComboBoxUI"
    },
  ],
}
```

GEONIS rules engine

- Define **rules** that will be executed during editing your data
=> On edit, on delete, on add
- **Calculate** values inside one or across multiple tables/featureclasses:
 - $\langle \text{volume} \rangle = \langle \text{length} \rangle * \langle \text{width} \rangle * \langle \text{height} \rangle$
 - $\langle \text{Featureclass1.name} \rangle = \langle \text{featureclass2.objectname} \rangle$
 - Etc.
- **Manipulate** objects depending on other objects:
 - Deleted related object if main object is deleted
 - Automatically create Annotations
 - Etc.



Portable

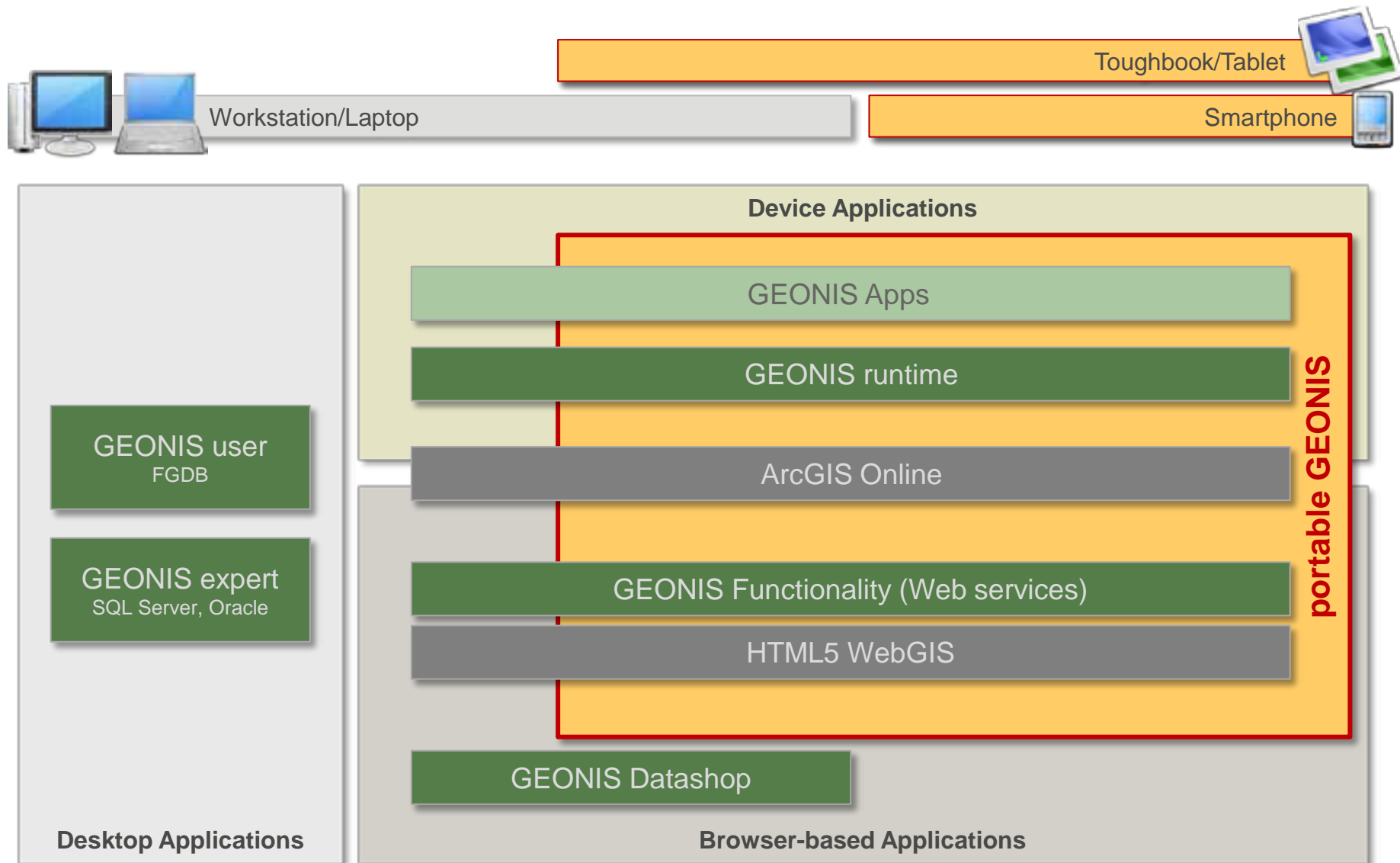


What does «portable» mean?

- Applications for mobile devices (Notebook, Toughbook, Tablet, Smartphone)
- Optimized user interface for small screens (4" - 11")
- Interactions with touch screen
- Online and/or offline usage



Portable GEONIS



A few samples of portable Solutions using GEONIS server

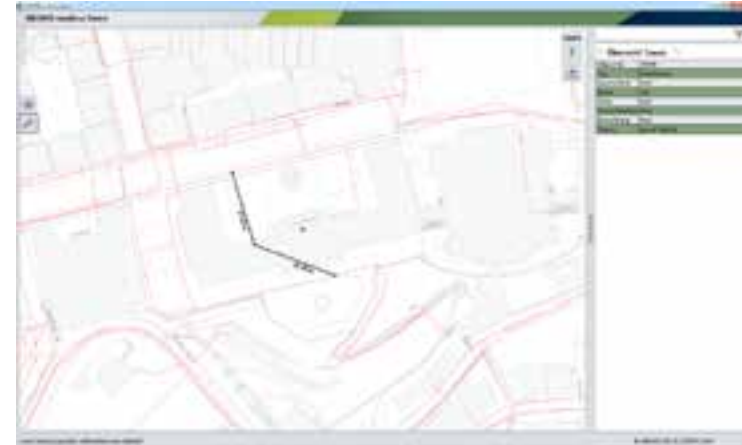


GEONIS runtime – offline solution

- Windows Application (.NET – WPF)
- Optimized for portable devices (Windows 7/8 Tablets)
- Offline (no server required)
- Data preparation: Export Map Packages and Tile Packages

Example: Replacement of printed maps

=> Save many 10'000Euros per year



Example

The screenshot displays the GEONIS runtime Demo interface. The main map area shows a street layout with red dashed lines representing cable routes. A specific route segment is highlighted in black, with two segments labeled '43,55 m' and '43,56 m'. A red dot is visible on the map, likely representing a specific point of interest or a station. The interface includes a 'Layers' panel on the right, a data table titled 'Übersicht Trasse', and a status bar at the bottom.

Übersicht Trasse	
Object ID	79080
Typ	Kabeltrasse
Querschnitt	Null
Reihe	0.4
Tiefe	Null
Schutzbediene	Null
Bemerkung	Null
Status	ausser Betrieb

Local service gasmas, vektordata was started

X: 600397.291 Y: 159447.640

map.apps

con•terra

map.apps (by conterra, Esri Deutschland Gruppe)

- Advanced HTML5 WebGIS Solution
- Framework to build simple and smart html5-apps based on bundles
- Map.apps Builder for simple configuration
- GEONIS server bundle to integrate GEONS functionality



map.apps

Responsive design



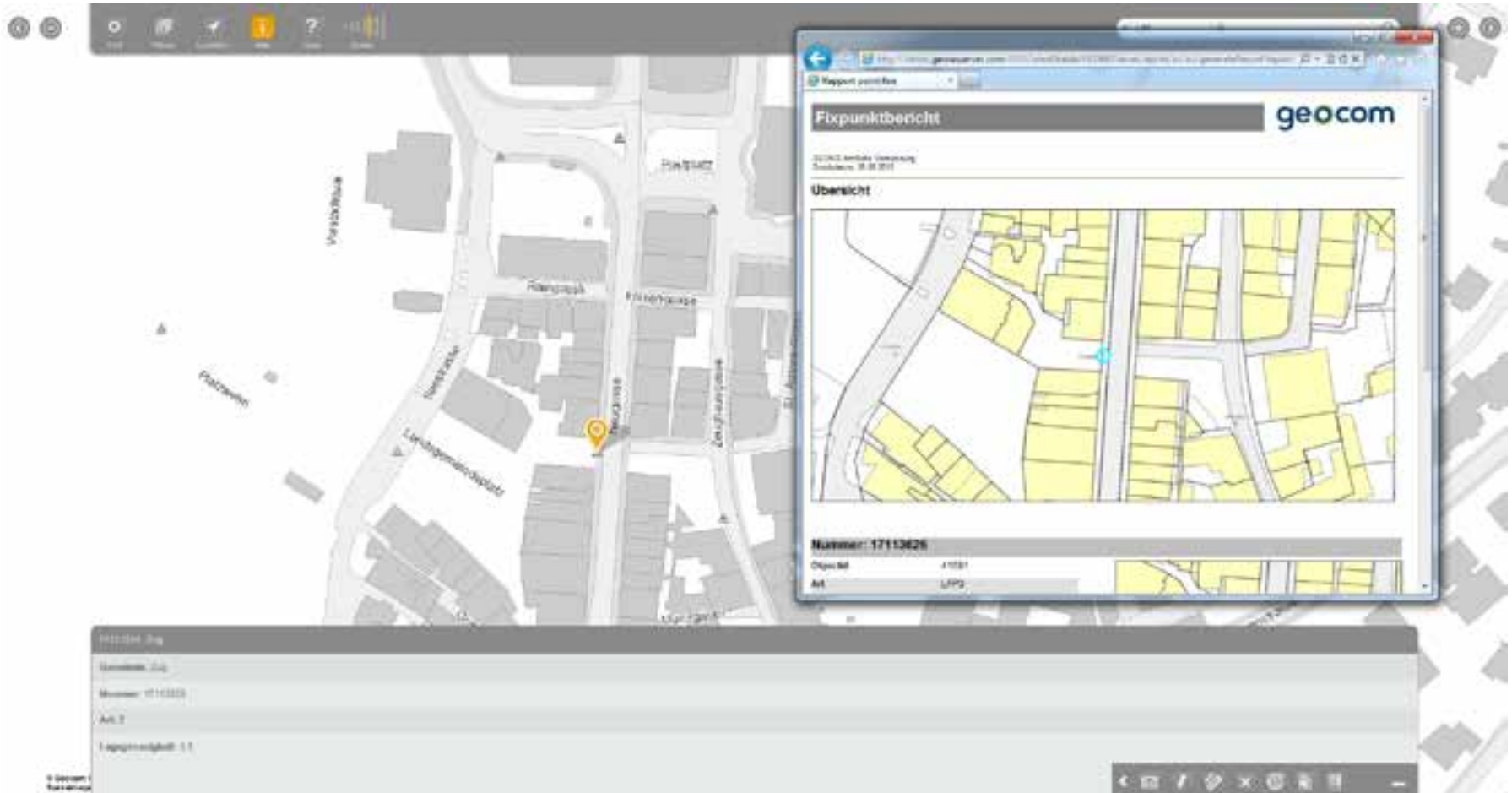
WebOffice



WebOffice

- Advanced HTML5 WebGIS Solution
- Different GUI options for desktop or mobile browsers
- Fully configurable
- **GEONIS server** delivers advanced functionality:
 - Forms
 - GEONIS behaviours
 - GEONIS Reports
 - nettrace
 - and more

WebOffice mobile



Thank you for your attention

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