Presentation Plan

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General information about Azerbaijan and Azersu OSJC

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03 What makes the project unique?
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04 Results and Evaluations
General assessments about project
About Azerbaijan

- **Capital**: Baku
- **Area**: 86,600 km²  
  Water (%) 1.6%
- **Population**:  
  > 2011 estimate 9,165,000  
  > 1999 census 7,953,438  
  > Density 105.8/km²
- **GDP (PPP)**: 2011 estimate  
  > Total $93.055 billion  
  > Per capita $10,201
About Azersu OJSC

- **Head Office**: Baku
- **Service Area**: 86,600 km²
- **Customers**: 1,065 million
- **Length of water infrastructure**: 0,000 km
- **Length of wastewater infrastructure**: 0,000 km
- **Budget 2011**: 4 Billion USD
Azersu Investments

Investments

2010 2011 2012

Azersu OJSC
How can we manage this infrastructure?

- What are the assets that Azersu has?
- Where are they?
- Which kind of condition are they in?
- How are their efficiencies?
- What are their values?
- How many subscriber/citizen have they connection with?
- Is the potable water amount the same with the invoiced amount?
- How changes water loss rates among regions?
How can we manage this infrastructure?
The Solution: AzersuCIS Project

- The main collaboration platform for the Master Plan, SCADA and the other IT systems.

- Collect and store infrastructure data in a GIS system for better operation and maintenance of the infrastructure system.

AzersuCIS has a powerful, tested and proven « Urban Infrastructure and Environmental Management System » behind its Geographical Information System.
AzersuCİS Project
Goals of AzersuCIS Project

- **Powerful Data Production/Update/Reporting System**
- **Cost Optimization**
- **Institutionalization**
- **Service Quality Increment**
## Road Map of the Project

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<th>Activities/2012</th>
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G.I. System Analysis of AzersuCIS

Step 1
G.I. System Analysis of AzersuCIS

Step 1

1. AS-BUILT PROJECTS PREPERATION
2. CAD/GIS DATA INPUT/UPDATE ANALYSIS/REPORT
3. GIS/GEOWEB/ MOBILE PUBLISHING (WMS/WFS)
4. BUSINESS INTELLIGENCE (BI)

SPATIAL DATABASE
G.I. System Analysis of AzersuCIS

CONTRACTORS

- CONSTRUCTION DEPARTMENT
- BAKI WATER & SEWARAGE
- REGIONAL WATER AUTHORITIES

DEPARTMENT OF SURVEY

- 1 ASBUILT PROJECT (HARDCOPY)
  - GIS File (.CBS)
  - Pictures, Videos (CD-DVD)

DEPARTMENT OF GIS

ARCHIVE

ONLINE PUBLISHING

- 1 ASBUILT PROJECT (HARDCOPY)
Step 2

Design of Azersu GIS

- **CAD**
  - MicroStation/PowerDraft v8i
  - Bentley Map + VBA

- **GIS**
  - GeoSPATIAList
  - Bentley Map + VBA
  - PostgreSQL/POSTGIS

- **Design Model**
  - WaterCAD/GEMS
  - SewerCAD/GEMS
  - CivilStorm

- **GeoWEB/Mobile**
  - B. GeoWeb Publisher
  - Map Guide
  - Google Earth

**Spatial Database**

**MIS/ERP/CRM/SCADA**

**Web Services / SOA**
Bentley software were preferred as a main platform for all GIS and AECO (Architecture, Engineering, Construction, Operation) projects.

Using Bentley solutions, a real-time collaboration was ensured among the more than 100 AzersuCIS users in disparate locations.
Design of Azersu GIS
Development of Data input, update, analysis, reporting tools
Development of AsBuilt projects preparation software
Development of AsBuilt projects preparation software

Step: 4
Development of AsBuilt projects preparation software

Step : 4

Legend

Scale: 1/500

HARDCOPY (1 MAP + COORDINATE LIST)

PICTURES

VIDEOS

SOFTCOPY

.DCBS FILE

DVD
Development of AsBuilt projects preparation software

TRAINING VIDEOS

HELP DOCUMENTS
Archive data transformation into spatial database

ŞOLLAR-TRASSA WATER TRANSMISSION LINE
63 MAPS (1911)
Archive data transformation into spatial database
Development of vector and raster maps management system
Development of vector and raster maps management system
Development of vector and raster maps management system
Data input/update from remote locations
Development of GeoWeb / Mobile Applications
User trainings and deployment of GIS project
Why is AzersuCIS project unique?

1. **Open**: All attribute and geometry data are stored in database. You do not need to convert your data to any file formats.

2. **Secure**: User based security. All features and map grants can be managed user based.

3. **Integrated**: All IT systems are integrated with GIS. All departments can benefit from GIS. It also has GIS Desktop, web, mobile interfaces.

4. **Easy**: Easy to use and manage because of superior design. You can easily use or manage your GIS.

AzersuCIS has a powerful, tested and proven «Urban Infrastructure and Environmental Management System» behind its Geographical Information System.
Why is AzersuCIS project unique?

1. Open

All attribute and geometry data are stored in database. You do not need to convert your data to any file formats.

Single Data Source
Open, Flexible, Modular Architecture
Why is AzersuCIS different?

Secure

User based security. All features and map grants can be managed user based.
Why is AzersuCIS different?

All IT systems are integrated with GIS. All departments can benefit from GIS. It also has GIS Desktop, web, mobile interfaces.
Why is AzersuCIS different?

Easy to use and manage because of superior design. You can easily use or manage your GIS.

**Admin**
- All Features, maps, user grants can easily be set and managed from Admin interface.

**Integrated**
- All IT systems can be easily integrated to GIS.

**Client**
- Users can access and edit defined features, maps from their interfaces.

**Web/Mobile**
- All produced data can be published instantly from web or mobile devices.

User Friendly Interface Design
Why is the AzersuCIS project unique?

**FIRST GIS PROJECT with Bentley**
In Azerbaijan, there is no institutional GIS project yet. This project is groundbreaking and reference project which is built on top of Bentley and spatial database technologies. GIS will be implemented with Bentley products in Azersu. All contractors will prepare asbuilts with MicroStation.

**CAD&GIS Integration**
This project showed us that CAD and GIS can work together perfectly and also this is possible and necessary.

**INSTITUTIONAL**
The unique feature of this project is to have an institutional structure. All users of the project must be registered to the system first. Then they may be authorized to see/edit/report each of the maps and spatial features.
Why is the AzersuCIS project unique?

**EASY TO USE AND MANAGE**
This project has both CAD/GIS and GeoWEB platforms. User interfaces are all user friendly therefore it is so easy to use or manage of the system.

**HIGH LEVEL OF ROI**
Return on investment ratio of this project is so high. Productivity of users has increased visibly.

**NEW INNOVATIONS**
This project is unique and the biggest PostgreSQL/POSTGIS (spatial database) project which works on Bentley products.
Benefit of the project

Save Time & Money

Reduce cost, increase productivity

- **Increase on stakeholders satisfaction**: 60%
- **Integration of different settled units and teams**: 70%
- **Increase in process speed**: 50%
- **Increase on Staff Productivity**: 80%
- **Decrease in stationary, Blueprint, Photocopy, Transportation costs**: 100%

Saved money: 1.000.000 USD in 7 months
Saved Time: 5.000 capita/year

*These rates were calculated from Azersu resources.*
What technology innovation sets this project apart from others?
What technology innovation sets this project apart from others?

- User, location and function based authorizations, user performance tracing.
- User based features, maps visibility and functions control.
- Geo Messaging with spatial objects.
- Change Detection analysis with raster maps.
- Tracking of all inset/update/delete operations’ history on spatial object basis.
- Superior maps indexing/registration and map management functionality
- Multi-language support
- Spatial file database integration for AsBuilt projects
“CAD and GIS has never been so close with Bentley and spatial database technologies. AzersuCIS project showed us CAD and GIS can work together perfectly.

GIS doesn’t mean which software is the best! It is actually answering what you need to make your life easier. There is no end in GIS and so do in Bentley Solutions.”

Samir Ganili, IT Director, Azersu ASC