La piattaforma Esri per la Digital Transformation del settore Utility

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World leader in Geographic Information Systems

- Founded in 1969
- Based in Redlands California
- Among top 5 largest private software companies in the world
Annual revenue $1.1 billion 2016 (Esri Inc.)

About 10,000 employees (Esri Inc + Distributors)

More than 1,600 partners

Global Distributors Network

81 distributors Distributed in 190 countries
350,000 + clients globally
Esri Italia

- Established in Rome in 1990
- Additional office in Milan and Cagliari
- About 100 employees
- ~2,000 Customers in Italy
- Esri Italia Users Conference is the greater geospatial event in Italy (~1500 attends in 2017)
THE SCIENCE OF WHERE

A Framework and Process

Transforming How We Think and Act . . .
. . . Creating a More Sustainable Future
The Science of Where Provides the Framework
For Managing, Analyzing, and Applying Geographic Information

Integrating People, Processes, Things, and Data About Them
ArcGIS Online
- Credit transactions
- Automatically updated
- No custom network data
- Max limits per solve

ArcGIS Enterprise
- Cost of Ownership
  - Hardware
  - Software
  - Data
  - Time
- Update yourself
- Custom network data
- Customize services
- SLA
Esri Italia Core Offering

• **ArcGIS Platform**  
  (ELA, Software, Maintenance and SaaS);

• **Professional Services**  
  (FFP and T&M, Certified Training);

• **Data and Content**  
  (street maps, imagery, demographics);

• **Geomatic Solutions**  
  (extraction of information products from Imagery data (Sat radar, drones, etc) and GNSS data).
Key Sectors

- Utilities
- Defense & Intelligence
- Local and Central Government
- Transportation
- Commercial
- Natural Resource
GIS and Digital Transformation in the Utility Industry – ACEA 2.0 Project User Case
Why Digital Transformation in Utility Sector?
Why digital transformation in Utilities?

- improve level of services;
- manage the assets (utilities network and infrastructure);
- integrate GIS with maintenance system and ERP;
- improve the network data quality;
- standardization of workflow;
- optimization of workforce field activities;
- build a monitoring system based on IOT data;
- build predictive maintenance models;
- build a decision support system based on real time data;
Acea User Case

- Acea is one of the leading Italian multiutility firms, managing and developing networks and services in the business areas of water, energy and the environment.

- Referring to the water utility market, ACEA in the past few years has acquired 9 water utility companies. Each of them used different Information Systems to manage GIS, WFM, CRM,....

- At the end of 2014 ACEA started its biggest project: ACEA2.0
ACEA2.0 aims to build a unique workflow and consequently a unique Information System for all its water utilities companies.

ACEA has chosen Esri and SAP for his technology revolutions.

In the new workflow GIS has a central role.

All network data born in GIS system;

The timeline of the project is 24 months January 2015 – January 2017)
Challenges of ACEA 2.0?

• speak all the same language (8 months to define utility network model);
• adopt the same workflow;
• change the work habits of the workforce;
• train workforce in order to use mobile application instead of piece of paper;
• optimize workforce with job rotation and organization changes;
• control the social impact of the project inside and outside the company;
• manage the relationship with the trade unions;
ACEA2.0: GIS Technical Goals

- Implementation of a unique GIS data model for the 9 companies
  - developed from the Esri Water Utility Model
  - 2 levels of representation of the network (network level and P&I level)
- Integration model with SAP PM
- Integration with SAP PM based on GEO.e Framework and SAP Hana
  - GIS is the master data for all SAP Function Locations
- Based on the ArcGIS Platform (v 10.3)
  - Portal for ArcGIS
  - Custom Add-ins Desktop
  - Web app based on WebApp Builder
  - Custom GIS Mobile App and its integration with SAP Work Manager
ACEA2.0: GIS Data Model

- Implementation of a unique GIS data model for the 9 companies and migration from different GIS
  - ATO2 from Esri
  - ATO5 from Esri
  - GORI from Intergraph
  - PBA from Smallworld
  - Acque from Smallworld
  - CREA from CAD
  - GESESA from CAD
  - Umbra from TopoBase
  - Fiora from PostGIS
ACEA2.0: GIS Data Model

- 2 levels of representation of the network (network level and P&I level)

- Network level: geometric network on the real position of the utility assets
- P&I level: geometric network to represent the schematic plant of the sites
ACEA2.0: Network Data Model
ACEA2.0: Integration model with SAP PM

- Based on GEO.e Framework
  - GIS is the master data for all the function locations of SAP PM
  - The number of function locations created in SAP in the initial migration is about 10,000

- SAP is the master data only for meters, which are managed in SAP Hana and published as map service
ACEA2.0: ArcGIS Platform

- Portal for ArcGIS
- Custom Add-ins Desktop
- Web app based on WebApp Builder
- Custom GIS Mobile App and its integration with SAP Work Manager

- 150 users (Desktop)
- 9,000 users (WEB)
- 1,800 users (Mobile)

SAP – GEO.e integration
SAP Hanna Connection

Portal

Server

3 Basemap custom Satellite Image
Conclusions

Ace a 2.0

Customers

WEB

Call Center

Walk-in office

App

Social

- INTEGRATED Processes
- REAL-TIME Operation

Metering and Billing

Create and issue Bill

SAP IS-U

SAP CRM

WorkForce Management

Operation

SAP WFM
THE SCIENCE OF WHERE